

## PrizmDoc Viewer PDF



# PrizmDoc Viewer

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- [PrizmDoc Viewer Overview](#)
- [Release Notes](#)
- [Getting Started](#)
- [Administrator Guide](#)
- [Developer Guide](#)
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## Overview

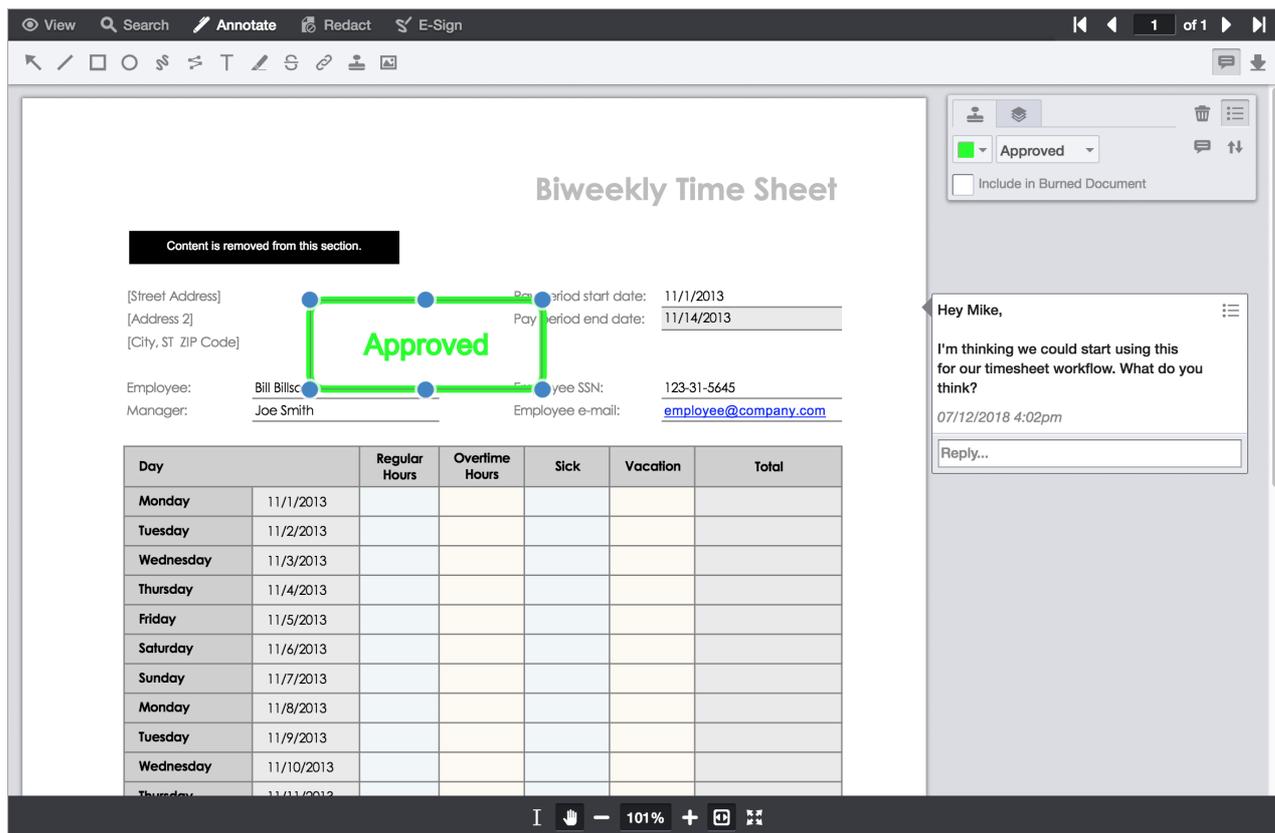
# PrizmDoc Viewer

## Introduction

PrizmDoc Viewer allows you to add powerful **document viewing** and **document conversion** functionality to your web applications.

## Document Viewing for the Browser

PrizmDoc Viewer includes an advanced HTML Viewer control which allows your users to view, search, annotate, redact, print, and download documents in **many different file formats**, right in their browser. They don't need to leave your application or install any custom software:



## Seamless Integration

Our viewer is designed for seamless integration with your web application. Key features, like search and redaction, can be easily turned on or off depending on your application's needs (see the **uiOptions Object**). If you don't like the out-of-the-box UI layout or style, you can **completely change it**. And since the viewer has an extensive **JavaScript API**, your application can programmatically control and respond to the viewer.

## Powerful Features

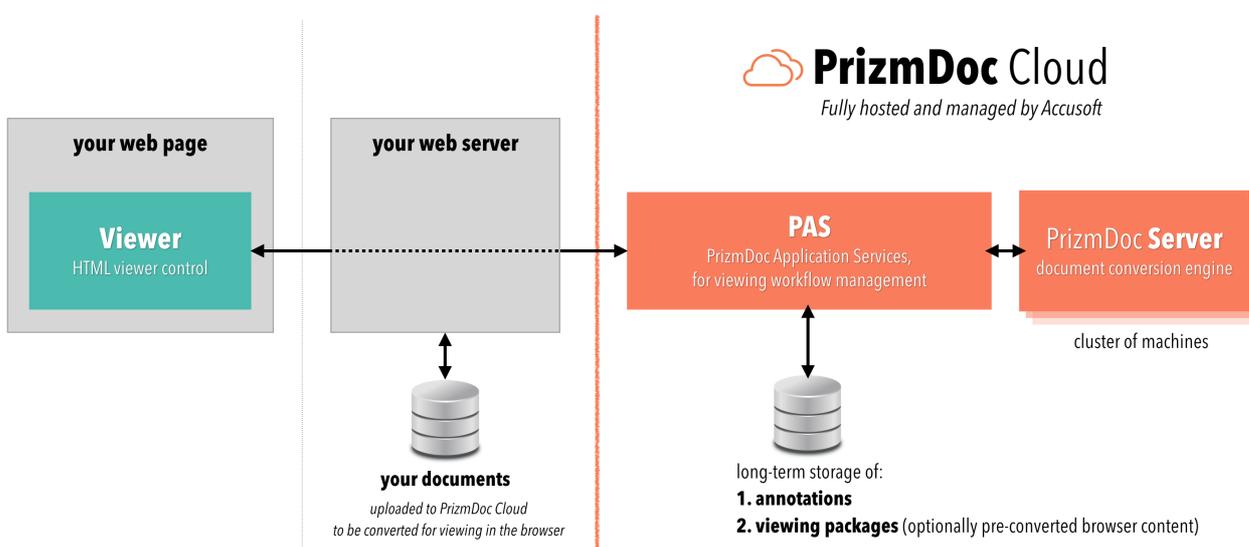
PrizmDoc Viewer offers powerful viewing features, including:

- The option to use **Microsoft Office** for high-fidelity rendering of Word, Excel, and PowerPoint files (included automatically with PrizmDoc Cloud)
- Support for **viewing and searching of large documents** with thousands of pages
- The ability to **review changes between two different Microsoft Word files**
- The option to **pre-convert document content in advance** for even faster viewing on the web

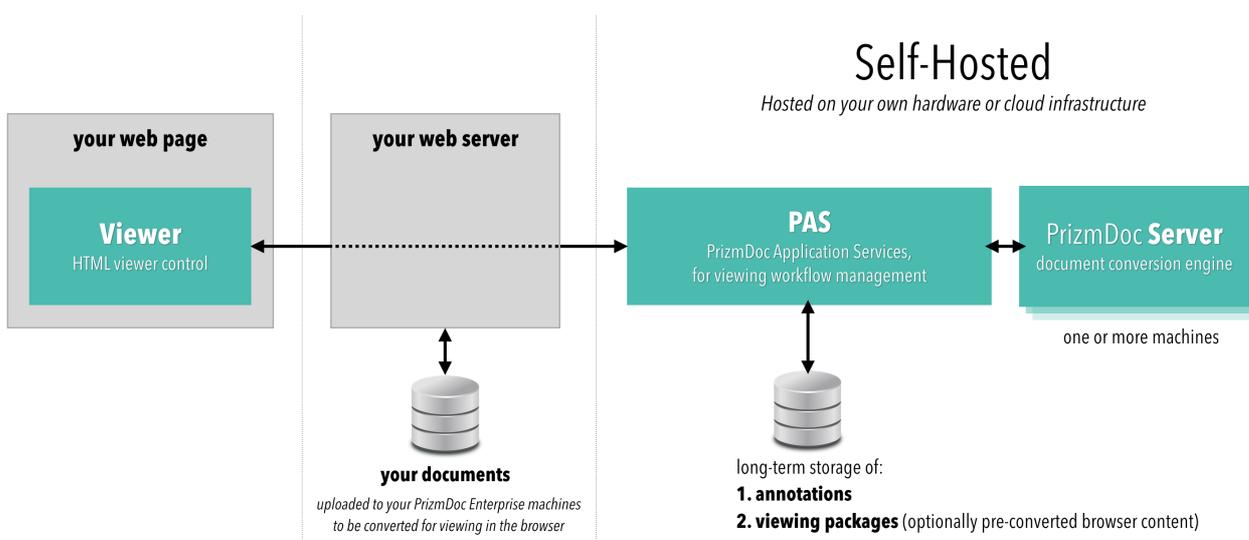
## Overall Architecture

Viewing functionality is powered by 1) the HTML Viewer control and 2) powerful REST APIs and server-side software.

The easiest way to get started is with **PrizmDoc Cloud**, where we fully host and manage the server-side pieces of PrizmDoc Viewer for you:



Of course, if you need to, you can self-host everything:



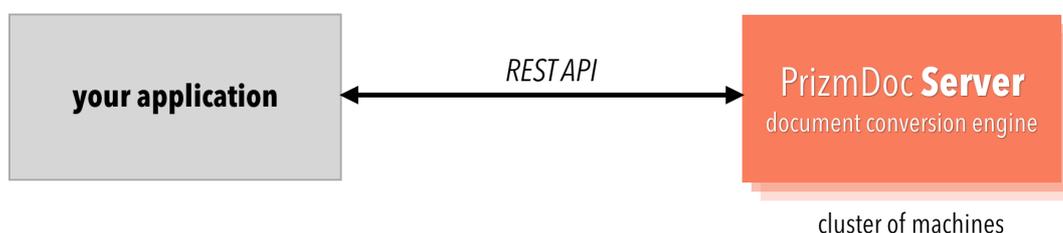
## Document Conversion

You can use PrizmDoc Viewer's **Content Conversion Service REST API** to easily:

- Convert from Office, PDF, Email, HTML, TIFF, PNG, JPEG, CAD, and **many other kinds of documents** to PDF, TIFF, PNG, JPEG, or SVG
- Use OCR to convert a non-searchable PDF or TIFF into a new, visually-identical PDF that supports full-text search
- Split and merge pages from multiple documents
- Apply headers, footers, or watermarks to a document

As with viewing, the conversion REST APIs offer the option to use **Microsoft Office** for high-fidelity conversion of Word, Excel, and PowerPoint files (included automatically with PrizmDoc Cloud).

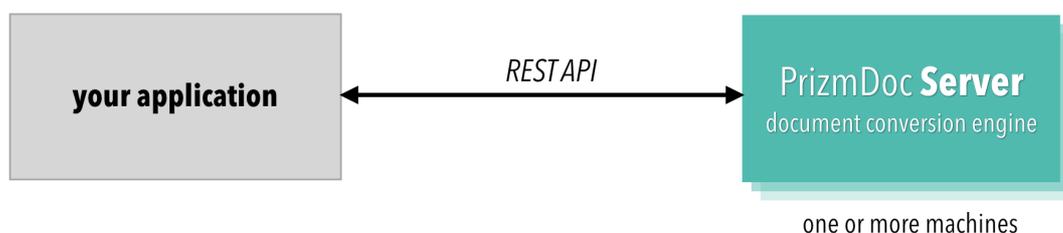
The easiest way to get started is with **PrizmDoc Cloud**, where we fully host and manage a powerful PrizmDoc Server cluster for you:



Of course, if you need to, you can self-host the server:

## Self-Hosted

*Hosted on your own hardware or cloud infrastructure*



## Supported File Formats

### Supported File Formats

This section represents a reference for every document and image file format supported by PrizmDoc.

PrizmDoc detects most of the formats automatically, except the formats with poor signature or no signature at all. Such formats are detected by the file extension.

## Document Formats

Format	File Extension	Supported by Microsoft Office renderer	Auto Detection
Adobe Portable Document format	*.pdf	No	Yes
Microsoft Word format	*.doc, *.dot	Yes	Yes
Microsoft Word Open XML format	*.docx, *.docm, *.dotx, *.dotm	Yes	Yes
Rich Text format	*.rtf	Yes	Yes
Microsoft Excel format	*.xls, *.xlt	Yes	Yes
Microsoft Excel Open XML format	*.xlsx, *.xlsm, *.xltx, *.xltm	Yes	Yes
Microsoft PowerPoint format	*.ppt, *.pot, *.pps	Yes	Yes
Microsoft PowerPoint Open XML format	*.pptx, *.pptm, *.potx, *.potm, *.ppsx, *.ppsm	Yes	Yes
Microsoft Visio Drawing format	*.vsd	No	Yes
Microsoft Visio XML Drawing format	*.vsdx, *.vsdm, *.vdx	No	Yes
OpenDocument Text format	*.odt, *.ott, *.fodt	No	Yes
OpenDocument Spreadsheet format	*.ods, *.ots, *.fods	No	Yes
OpenDocument Presentation format	*.odp, *.otp, *.fodp	No	Yes
OpenDocument Math Formula format	*.odf	No	Yes
OpenDocument Drawing format	*.odg, *.otg, *.fodg	No	Yes

## CAD Formats

Format	File Extension	Auto Detection
AutoDesk AutoCAD format (version 2.5 through 2014)	*.dwg, *.dxf	Yes
AutoDesk Design Web format	*.dwf	Yes
MicroStation Drawing format (V7 and V8)	*.dgn	Yes

Format	File Extension	Auto Detection
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## Web Formats

Format	File Extension	Auto Detection
HyperText Markup Language format	*.html, *.htm	Yes
Extensible HyperText Markup Language format	*.xhtml, *.xhtm	Yes

Most of the HTML files are auto-detected by searching for specific tags. Although html tags usually denote a web page, they neither guarantee that the file is a web page, nor they are required for rendering a file as a web page. Such incompliant files might not be recognized as HTML, but will still be rendered as HTML in case if they are identified as such by the file extension.

## Email Formats

Format	File Extension	Auto Detection
Microsoft Outlook format	*.msg	Yes
Outlook Express Email format	*.eml	No

EML files are not auto-detected, but identified by file extension because EML is a plain text in MIME format which does not allow reliable auto-detection. Currently PrizmDoc supports rendering of the following email headers: From, Subject, To, CC, BCC, Sent, Attached.

## Text Formats

Format	File Extension	Supported by Microsoft Office renderer	Auto Detection
Text format	*.txt	No	No
Comma-Separated Values format	*.csv	Yes	No

Text and CSV files are not auto-detected, but identified by file extension because both are plain text formats with no file signature. These formats however assume different rendering style. While Text is rendered plain, the CSV is rendered like a spreadsheet. We distinguish them by file extension.

## Medical Image Formats

Format	Compression	File Extension	Auto Detection
Digital Imaging & Communication in Medicine format	Uncompressed, JPEG, RLE	*.dcm, *.dicom, *.dcim, *.dicm	Yes

Currently PrizmDoc auto detects DICOM Specification Part 10 compliant files only. Auto-detection of the legacy DICOM files (without DICOM File Meta Information) is not supported, therefore the legacy DICOM files are detected by the file extension. Currently PrizmDoc does not support conversion of DICOM format to SVG.

## Image Formats

Format	Compression	File Extension	Auto Detection
Tagged Image File Format	Uncompressed, PackBits, Huffman, CCITT G3, CCITT G4, CCITT G32D, JPEG, Deflate, LZW	*.tif, *.tiff	Yes
JPEG File Interchange Format	JPEG	*.jpg, *.jpeg	Yes
JPEG 2000 File Format and Code Stream	JPEG 2000	*.jp2, *.jpc	Yes
Graphics Interchange Format	LZW	*.gif	Yes
Portable Network Graphics format	Deflate	*.png	Yes
Adobe Photoshop format	Uncompressed, Deflate, RLE	*.psd, *.psb	Yes
Microsoft Windows Bitmap format	Uncompressed, RLE	*.bmp, *.dib	Yes
Macintosh Metafile format	Uncompressed, RLE, JPEG	*.pct, *.pic, *.pict	Yes
Windows Metafile format (Windows only)	Uncompressed, RLE	*.wmf	Yes
Enhanced Metafile format (Windows only)	Uncompressed, RLE	*.emf	Yes
ZSoft Paintbrush PCX format	Uncompressed, RLE	*.pcx	Yes
ZSoft Paintbrush DCX format	Uncompressed, RLE	*.dcx	Yes

Format	Compression	File Extension	Auto Detection
Sun Raster Data format	Uncompressed, RLE	*.ras	Yes
Kodak Photo CD format	Uncompressed, Huffman	*.pcd	Yes
Truevision Targa format	Uncompressed, RLE	*.tga, *.tpic	Yes
Continuous Acquisition and Life-cycle Support format	CCITT G4	*.cal, *.cals	Yes
Icon Resource format	Uncompressed, RLE	*.ico	Yes
Windows Cursor format	Uncompressed, RLE	*.cur	Yes
NCR Image format	Uncompressed, CCITT G4	*.ncr	Yes
X Window Dump format	Uncompressed	*.xwd	Yes
Silicon Graphics Image format	Uncompressed, RLE	*.sgi	Yes
Wireless Bitmap format	Uncompressed	*.wbmp	Yes
Scitex Color Tone format	Uncompressed	*.sct	Yes
WordPerfect Graphics Metafile format	RLE	*.wpg	Yes
X Bitmap format	Uncompressed	*.xbm	Yes
Portable Bitmap format	Uncompressed	*.pbm	Yes
Portable Graymap format	Uncompressed	*.pgm	Yes
Portable Pixmap format	Uncompressed	*.ppm	Yes
Xerox 9700 Graphic format	Uncompressed	*.img	Yes
Dr. Halo format	RLE	*.cut	No

Currently Windows Metafile and Enhanced Metafile formats are only supported by PrizmDoc Server running on Windows platforms. These formats are not supported on Linux platforms. Dr. Halo (CUT) format cannot be reliably auto-detected due to its poor file signature, therefore it is identified by file extension. Currently PrizmDoc does not support conversion of CAL/CALS, CUR, DCX, IMG, PCT/PIC/PICT, PSD/PSB, RAS, TGA/TPIC and XWD formats to SVG.

## Viewer Requirements

### Supported Browsers

**CAUTION:** PrizmDoc Viewer uses webfonts. We highly recommend that you do not disable the webfonts in your browser. If you disable webfonts (via browser or ad blocker settings), PrizmDoc Viewer will fall back to a compatibility mode which will result in much slower document rendering and scrolling (a warning will be sent to the browser console).

We support the current version and one version back for the following browsers:

#### iOS

- Safari
- Google Chrome

#### Android

- Android Browser
- Google Chrome
- Mozilla Firefox

#### Windows

- Internet Explorer (v11 only)
- Microsoft Edge
- Google Chrome
- Mozilla Firefox

#### Mac OS

- Safari
- Google Chrome
- Mozilla Firefox

### Third-Party Dependencies

- jQuery 3.4.1
- Underscore 1.8.3
- (Full Viewer) jQuery.Hotkeys 0.8

## PrizmDoc Cells Overview

### Introduction

PrizmDoc Viewer's rendering of Excel files is similar to viewing a spreadsheet in print preview. In many cases, this view will suffice but it can be restrictive if you need to view values as well as formulas in a spreadsheet. If you need a more detailed viewing experience of Excel files, we have built an advanced spreadsheet viewer

called PrizmDoc Cells to give PrizmDoc Viewer users the ability to review Excel files exactly as they would appear in the native application.

You can analyze formulas, view charts and graphs, view multiple spreadsheets in a single workbook, and navigate without pagination. Spreadsheet content and cells can be searched using the search bar. Search term "hits" are highlighted in real-time as you type in the first character. With PrizmDoc Cells, you are able to view formulas as well as formula results, search for key data and words, and not be restricted to viewing dynamic data as a static image.

PrizmDoc Cells is offered as an option to PrizmDoc Viewer (both Self-Hosted and Cloud) and utilizes the PrizmDoc Content Conversion Service to produce the best fidelity possible when rendering charts and graphs embedded in a spreadsheet.

## Integration with PrizmDoc Viewer

For more information on obtaining and integrating PrizmDoc Cells into a PrizmDoc Viewer deployment, view the PrizmDoc Cells integration instructions with links to sample code [here](#).

## Evaluation and Deployment Licenses

For your convenience, PrizmDoc Cells automatically runs in evaluation mode without a license. When you are ready to deploy to production, a license will be required to run PrizmDoc Cells in your production environment. Contact [info@accusoft.com](mailto:info@accusoft.com) to obtain a production license.

# Accusoft Support

## Introduction

Have a question? Send us a technical support request from our [website](#).

The Accusoft Support Team can help with problems or questions you may have about the following:

- Installation
- Licensing
- Sample code
- Error handling
- General questions or help on how to use PrizmDoc Viewer

For information about Accusoft Support Plans, see [Support Plans](#) or call Accusoft at 813-875-7575.

Also, check out the following additional resources on our [website](#):

- [Online Demos](#)
- [Code Samples](#)
- [FAQs](#)

## Glossary

This section contains the following information for PrizmDoc Viewer:

- [Definitions](#)
- [New Terms](#)

## Definitions

### Introduction

The following table lists common terminology for components and important concepts of PrizmDoc Viewer and brief definitions of each, along with alternate names or abbreviations, and links to additional documentation.

Term	Also Known as...	Definition
Application Services	-	The component of PrizmDoc Viewer that provides application-level logic between PrizmDoc Server and the Viewer or the customer's web-tier. See <a href="#">PrizmDoc Application Services (PAS)</a> .
AutoRedaction Service	ARS	A component of PrizmDoc Server that creates markup XML for redactions on a document. See <a href="#">Performing Auto-Redaction</a> .
Central Configuration	Central Config	The configuration file for PrizmDoc Server. See <a href="#">Central Configuration</a> .
Cells	-	PrizmDoc Cells is our spreadsheet viewer that gives PrizmDoc Viewer users the ability to review Excel files exactly as they would appear in the native application.
Cloud Entry Point	CEP	The Load Balancer endpoint for requests to a cluster of PrizmDoc Server instances, to be routed to an appropriate instance.
Cluster Mode	-	A mode in which multiple instances of PrizmDoc Server execute simultaneously in a cluster, with individual Server Entry Points and a Cluster Entry Point that could route to any of them. See <a href="#">PrizmDoc Viewer Cluster Mode</a> .
Content Conversion Service	CCS	A component of PrizmDoc Server that provides document format conversion. See <a href="#">Convert Content with CCS</a> .
Email Conversion Service	ECS	A component of PrizmDoc Server that converts files from EML and MSG formats.
Email Processing Service	EPS	A component of PrizmDoc Server that extracts content from EML and MSG files.
Error Reporting Service	ERS	A component of PrizmDoc Server that logs errors originating from other PrizmDoc Server components. See <a href="#">Error Reporting</a> .

Term	Also Known as...	Definition
Format Detection Service	FDS	A component of PrizmDoc Server that identifies the format of a source document.
HTML Conversion Service	HTMLCS	A component of PrizmDoc Server that converts files from HTML formats.
Imaging Services	PCCIS	A component of PrizmDoc Server that handles the creation and management of viewing sessions.
Load Balancer	PLB	A component of PrizmDoc Server that routes requests to the correct component and balances loads across PrizmDoc Server instances in Cluster Mode.
Office Conversion Service	OCS	A component of PrizmDoc Server that converts files from Office and text formats.
PDF Conversion Service	PDFCS, Imaging Conversion Service	A component of PrizmDoc Server that converts files from PDF format.
PDF Processing Service	PDFPS	A component of PrizmDoc Server that handles text extraction and markup burning for PDF documents.
Prizm License Utility	PLU	A component of PrizmDoc Server that handles licensing of the product on installation. See <a href="#">Licensing</a> .
PrizmDoc Viewer	-	The full product composed the PrizmDoc Server, PrizmDoc Application Services (PAS), and the Viewer.
PrizmDoc Cloud	-	A PrizmDoc Server hosted by Accusoft. See <a href="#">PrizmDoc Server (PrizmDoc Cloud)</a> .
PrizmDoc Self-Hosted	-	PrizmDoc Viewer hosted on a customer's server. See <a href="#">Server Hosting Options</a> .
PrizmDoc Server	-	A back-end component of PrizmDoc Viewer that performs conversions and other manipulations of source files.
Raster Conversion Service	RCS	A component of PrizmDoc Server that converts files from raster formats.
Redaction Service	-	A component of PrizmDoc Server that handles the markup burning workflow.
Server Entry Point	SEP	The Load Balancer endpoint for requests to a specific PrizmDoc Server instance.
Vector	VCS	A component of PrizmDoc Server that converts files from vector formats.

Term	Also Known as...	Definition
Conversion Service		
Viewer	-	The front-end component of PrizmDoc Viewer that allows the uploading and display of documents through a browser. See Viewer.
Viewing Package	-	A cache of web-compatible content for a document immediately available for use in a Viewing Session.
Viewing Session	-	A resource that provides web-compatible content for an uploaded document.
Watchdog	-	A component of PrizmDoc Server that launches and monitors the health of other PrizmDoc Server components.
Web Tier	-	A customer's web tier application that interfaces with PrizmDoc Viewer.
Work File Service	WFS	A component of PrizmDoc Server that handles the uploading and storage of source documents.

## New Terms

### Introduction

The product names have been updated to the following:

- [PrizmDoc Viewer](#)
- [PrizmDoc Cloud](#)
- [PrizmDoc Self-Hosted](#)
- [PAS](#)
- [PrizmDoc Server](#)
- [Cloud Authentication](#)
- [The Viewer](#)

### PrizmDoc Viewer

Formerly referred to as:

- PrizmDoc

### PrizmDoc Cloud

Formerly referred to as:

- PrizmDoc Cloud-Hosted
- PrizmDoc Accusoft Cloud-Hosted
- Accusoft Cloud-Hosted Services

- Accusoft Cloud Services (ACS)
- Accusoft-Hosted Services

## PrizmDoc Self-Hosted

Formerly referred to as:

- PrizmDoc Enterprise

## PAS

Formerly referred to as:

- PrizmDoc Application Services
- Prizm Application Services

## PrizmDoc Server

**NOTE:** When using the PrizmDoc Server APIs, you will see `PCCIS` in the endpoint URL which is shorthand for PrizmDoc Server.

Formerly referred to as:

- PCC Backend Services
- PCC Imaging Services (PCCIS)
- PCC Services
- Prizm Backend Services
- Prizm Imaging Services
- Prizm Platform Services (PPS)
- Prizm Services

## Cloud Authentication

Formerly referred to as:

- PrizmDoc Cloud API

## The Viewer

Formerly referred to as:

- PrizmDoc Viewer
- Client Viewer
- Document Viewer
- HTML5 Application
- HTML5 Responsive Viewer
- HTML5 Viewer
- PCC Viewer
- Prizm Responsive Viewer
- The Viewing Client
- Viewer Application

- Viewer UI

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This section contains legal information for PrizmDoc Viewer:

- [Copyright Information](#)
- [Software License Agreement](#)
- [Third-Party Attributions](#)

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License: [http://changelogs.ubuntu.com/changelogs/pool/main/l/lsof/lsof\\_4.89+dfsg-0.1/copyright](http://changelogs.ubuntu.com/changelogs/pool/main/l/lsof/lsof_4.89+dfsg-0.1/copyright)

## node-fetch

The MIT License (MIT)  
Copyright (c) 2016 David Frank  
Download: <https://www.npmjs.com/package/node-fetch>  
License: <https://cdn.jsdelivr.net/npm/node-fetch@2.6.0/LICENSE.md>

## Node.js v12.16.1

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Download: <http://nodejs.org/dist/v12.16.1/>  
License: <https://github.com/nodejs/node/blob/v12.x/LICENSE>

## Legacy Samples

### as3crypto

Copyright (c) 2007 Henri Torgemane  
Download: <https://code.google.com/archive/p/as3crypto/>  
License: <http://as3crypto.googlecode.com/svn/trunk/as3crypto/LICENSE.txt>

### Google Translate API for .NET ( <http://code.google.com/p/google-api-for-dotnet/> )

Copyright (c) 2008-2009 iron9light  
Download: <http://code.google.com/p/google-api-for-dotnet/downloads/list>  
License: <http://www.opensource.org/licenses/mit-license.php>  
Other Terms: <https://cloud.google.com/translate/v2/terms>

### JSP Sample

Json library: Json is a Java library that can be used to convert Java Objects into their JSON representation. It can also be used to convert a JSON string to an equivalent Java object.  
Download: <https://code.google.com/p/google-son/>  
Version: 2.2.4  
License: <http://www.apache.org/licenses/LICENSE-2.0>

### SWFObject ( <https://github.com/swfobject/swfobject> )

Provided by code.google.com  
Download: <https://github.com/swfobject/swfobject>  
License: <http://www.opensource.org/licenses/mit-license.php>

## Windows Installer XML (Wi) toolset

Copyright (c) 2004, Outer Curve Foundation

Download: <https://wix.codeplex.com/releases/view/99514>

License: <http://opensource.org/licenses/ms-url>

## Release Notes

This section contains information on new features, improvements, fixes, and known issues for each release:

- [Release Notes v13.11](#)
- [Release Notes v13.10](#)
- [Release Notes v13.9](#)
- [Release Notes v13.8](#)
- [Release Notes v13.7](#)
- [Release Notes v13.6](#)
- [Release Notes v13.5](#)
- [Release Notes v13.4](#)
- [Release Notes v13.3](#)
- [Release Notes v13.2](#)
- [Release Notes v13.1](#)
- [Release Notes v13.0](#)
- [Known Issues](#)

## Release Notes v13.11

PrizmDoc Viewer v13.11 introduces the following:

- [New Features & Improvements](#)
- [Product Updates & Fixes](#)
- [Documentation Updates](#)

### 13.11 New Features and Improvements

- **Docker Images** - In addition to our traditional installers, we are now making PAS and PrizmDoc Server available as Docker images, making setting up a PrizmDoc Viewer backend dramatically easier. Refer to the following topics for more information:
  - [Evaluation with Docker](#)
  - [Deploying PrizmDoc Server with Docker](#)
  - [Deploying PAS with Docker](#)
- **PrizmDoc Server .NET SDK** - For .NET developers doing backend document processing with PrizmDoc Server, we now offer an official [PrizmDoc Server .NET SDK](#) as an open source NuGet package.
- **Installer Updates** - The Prizmdoc Server installer now allows in-place upgrades so that you no longer need to uninstall the previous version of PrizmDoc Server before installing the newest version.
- **Evaluate PrizmDoc Viewer Self-Hosted** - You can now evaluate PrizmDoc Viewer Self-Hosted without an installed license, making it easier to evaluate the product. PrizmDoc Server now automatically runs in a limited evaluation mode if started without a license. For more information, refer to the [Product Evaluation](#) section of the documentation.
- **PrizmDoc Viewer Raster Conversion Service** - Improved the PrizmDoc Viewer Raster Conversion Service to significantly reduce memory consumption and reduce the time it takes to generate raster tiles when viewing large image files.

## 13.11 Product Updates and Fixes

- Addressed an issue in the Email Processing Service (EPS) causing PrizmDoc Viewer to fail when converting or viewing MSG files with multiple levels of MSG attachments.
- Addressed an issue with the `PCCViewer.Viewer.destroy()` method throwing an error when it was used before the `ViewerReady` event was fired.
- Re-enabled in-place upgrades for the PrizmDoc Server so that you no longer need to uninstall the previous version of PrizmDoc Server before installing the newest version.
- Addressed an issue in the Raster Conversion Service (RCS) that caused PrizmDoc Viewer to fail when viewing huge 1-bit image files with more than 500,000,000 pixels.
- Addressed an issue in the Markup Burner API where applying `TextSelectionRedaction` markup with redactions located on several pages resulted in applying redaction rectangle mark(s) to the first page only in the PDF output as opposed to applying them to all affected pages as specified in the JSON markup.
- Support for Windows Server 2008 R2 was deprecated with PrizmDoc Viewer v13.7 and will soon be completely removed. PrizmDoc Viewer v13.11 is the final release to claim deprecated support for Windows Server 2008 R2. Future releases will no longer support Windows Server 2008 R2.
- Support for Ubuntu 14.04 LTS was deprecated with PrizmDoc Viewer v13.6 and will soon be completely removed. PrizmDoc Viewer v13.11 is the final release to claim deprecated support for Ubuntu 14.04 LTS. Future releases will no longer support Ubuntu 14.04 LTS.
- Addressed an issue in PrizmDoc Viewer services that caused PrizmDoc Viewer to render tiled TIFF images incorrectly, showing only the top left tile.
- Addressed an issue in PrizmDoc Viewer services that caused PrizmDoc Viewer to render 2-bit LZW-compressed TIFF images incorrectly on Linux.
- Addressed a vulnerability when rendering specific malformed TIFF, PNG, BMP and GEM images.

## 13.11 Documentation Updates

- Updates to the [Administrator Guide \(Self-Hosted\)](#) section:
  - [New overview content](#)
  - New topics about deploying with Docker:
    - [PrizmDoc Server with Docker](#)
    - [PAS with Docker](#)
    - [Minimal Backend Quick Start](#)
- Replaced the "Get an Evaluation License" section with the new [Product Evaluation](#) section which describes how PrizmDoc Viewer Self-Hosted can be used for evaluation.

## Release Notes v13.10

PrizmDoc Viewer v13.10 introduces the following:

- [New Features & Improvements](#)
- [Product Updates & Fixes](#)
- [Documentation Updates](#)

## 13.10 New Features and Improvements

- **New viewing option!** Accusoft has built an advanced spreadsheet viewer called [PrizmDoc Cells](#) to give PrizmDoc Viewer users the ability to review Excel files exactly as they would appear in the

native application. You can analyze formulas, view charts and graphs, view multiple spreadsheets in a single workbook, search for content, and navigate without pagination. For more detailed information on how to integrate PrizmDoc Cells, click [here](#).

- **Improved PrizmDoc Viewer performance when viewing specific CAD-like PDF documents.** PrizmDoc Server has been updated to produce more optimal SVG content for specific CAD-like PDF documents so that browsers will not freeze while rendering the content. The improvements lead to much higher browser responsiveness while zooming, panning, and annotation drawing operations in PrizmDoc Viewer. This optimization also slightly improves the thickness level of the rendered lines making it more accurate on display.
- **Updated client-side viewer to the latest version of jQuery.** We have updated the client-side viewer and samples to the latest official version of jQuery (v3.4.1), taking advantage of the most-recent updates and bug fixes.

## 13.10 Product Updates and Fixes

- Improved the download filename when a PAS viewing session `displayName` does not include a file extension. PrizmDoc Viewer will now add an automatically generated extension to the name specified by `displayName` if it does not include a file extension.
- Removed potential for broken PAS viewing session when `displayName` does not include a file extension.
- Addressed an issue in the Text Extraction service causing PrizmDoc Viewer text search to fail when viewing PDF documents containing Type 3 fonts that specify default font metrics and attributes using a font descriptor dictionary.
- Updated PrizmDoc Viewer services to predictively generate fully optimized SVG content ("`svgb`") when viewing files from the Chrome browser, instead of the partially-optimized SVG content ("`svga`"). This improves responsiveness of the viewer in the Chrome browser and reduces disk space usage on the server.
- Removed PrizmDoc Server RPM package dependency on `urw-fonts` containing incorrect configuration which led to inappropriate font substitution for the *'fantasy'* font family on CentOS 7.

## 13.10 Documentation Updates

- The [PrizmDoc Viewer End User Guide](#) is now available in both PDF and Microsoft Word formats on our website so that you can customize and redistribute it to your end users as needed.
- Added the new [Attachments](#) topic to the PrizmDoc PAS API Reference documentation.
- Added the new [How to upgrade PrizmDoc Viewer](#) topic to the Administrator Guide.
- Added the following note to the [Viewing Sessions > POST /PCCIS/V1/ViewingSession > Request Body > file](#) section: **NOTE:** *By default, "file" is not enabled as a valid `documentSource`. Enable "file" by adding it to the `viewing.sessionConstraints.documentSource.allowedValues` array in [Central Configuration](#).*
- Updated the [Viewing Sessions](#) topic with a complete list of available URLs in the PrizmDoc PAS API Reference documentation.
- Updated the following topics by adding introductory content: [Administrator Guide](#), [API Reference](#), [System Configuration](#), and [Security Guidance](#).
- Updated the [ViewerControl.deserializeMarks\(values\)](#) method description with an Example section.

## Release Notes v13.9

PrizmDoc Viewer v13.9 introduces the following:

- [New Features & Improvements](#)
- [Product Updates & Fixes](#)
- [Documentation Updates](#)

## 13.9 New Features and Improvements

- **The Viewer now gracefully falls back to non-optimized SVG when web fonts cannot be used.** PrizmDoc Viewer makes extensive use of dynamically-generated web fonts to optimize the SVG we send to the browser for viewing. In some customer environments, the browser is forbidden from using web fonts. In these environments, our viewer used to render a document with what looked like "garbled text." In this update, our viewer now automatically detects if font loading is possible and, if not, gracefully falls back to non-optimized SVG which does not require any fonts.
- **Improved text selection boundaries of OCR conversion output.** Previously, when using PrizmDoc Server's [Content Conversion Service REST API](#) to OCR a document and produce a text-searchable PDF, the bounding boxes of detected characters in the output document were sometimes too short. If text-based redactions were later applied to the output PDF document, the selected text may not have been entirely removed. With this update, the Content Conversion Service REST API will now OCR a document and produce bounding boxes of the correct height for detected characters, ensuring that subsequent text-based redactions are properly applied.
- **Updated bundled version of Java, now using AdoptOpenJDK instead of Oracle Java.** We have updated the bundled version of Java included in our product from Oracle Java 1.8.0\_181 to AdoptOpenJDK 1.8.0\_212, taking advantage of the most-recent security fixes in the JRE and moving to a Java runtime whose license will continue to permit unrestricted redistribution. Starting with version 13.9, Oracle Java will no longer be bundled with the product.

## 13.9 Product Updates and Fixes

- Addressed an issue in the Markup Burner API where a required font from the PrizmDoc Viewer installation (that is used by the text markup being burned) could not be found. This font initialization issue was specific to a case where the text markup (with that font) was burning for the first time after the PrizmDoc services initialization and resulted in the Markup Burner API failure.
- Addressed a PrizmDoc limitation of the MSO rendering engine (when viewing or converting specific Excel documents with a defined PrintArea), which produced an incorrect output with the default value of `fileTypes.excel.renderOnlyPrintArea` central config parameter.
- Addressed an issue within the Markup Burner API that was causing an unexpected grey background in the output PDF after burning in a Rectangle Redaction. This could occur when a Filled Rectangle redaction was applied over a PDF page that had a JPEG 2000 compressed image and the transparency area was set by the image mask (i.e a mask entry in the image dictionary).
- Addressed an issue in PrizmDoc Viewer which caused documents to display unreadable text when web fonts were disabled in the browser or ad blocker settings. PrizmDoc Viewer will now switch to a fallback mode in this case, which allows displaying of the document text correctly. Please note that fallback mode for disabled web fonts will result in slower document rendering and scrolling, so we highly recommend to keep the web fonts enabled in the browser.
- Addressed an issue in the PrizmDoc Content Conversion Service (CCS) (when performing optical character recognition (OCR) to convert a raster file to a searchable PDF document) that resulted in the height of the recognized text within the PDF output to be smaller and not match its image counterpart.
- Addressed an issue in the PrizmDoc Content Conversion Service (CCS) (when performing optical character recognition (OCR) to convert a GIF file with an unspecified resolution to a searchable PDF document) that caused the resulting PDF document to have incorrect page rotation.
- The "hosting options" dialog has been removed from the PrizmDoc Viewer client installer. The

PrizmDoc Viewer client installer now always uses a Self-Hosted hosting option. Please see [Choosing a Backend Hosting Option](#) for more information about different options for hosting the backend.

## 13.9 Documentation Updates

- Updated the topic to clarify [How to Enable Content Encryption in the Viewer](#).
- Updated the [PAS Configuration](#) topic with additional code examples under the Configuring Storage section.
- Updated the topic [Work with Viewing Packages](#) to clarify the Raster Content and Watermark properties.
- Updated all of the Linux and Windows installation and Licensing topics to include the following: **NOTE:** *If you have an updated license, you must restart PAS and PrizmDoc Server in order to use the new license.*
- Updated the [Adjust Caching Parameters](#) and [Implement Caching Strategies](#) topics with new steps on how to manually delete the cache and the following: **NOTE:** *If you set the cache to 1 day, the timer will start over if someone accesses a file that is in the cache.*
- Updated the [Getting Started](#) topic with the following: **IMPORTANT:** *Scripts must be loaded in the specified order as shown below.*

## Release Notes v13.8

PrizmDoc Viewer v13.8 introduces the following enhancements/improvements and product updates/fixes:

- [New Features](#)
- [Product Improvements](#)
- [Product Updates & Fixes](#)
- [Beta Features](#)
- [Documentation Updates](#)

## 13.8 New Features

- **Support for [Windows Server 2019](#).**
- **New [Plain Text Redactors API](#).** The PrizmDoc Server REST API has long supported the ability to burn-in redactions to a document, producing a redacted PDF via the [markupBurners REST API](#). In this release, we're introducing a [plainTextRedactors REST API](#) which allows you to similarly produce *plain text* output. In the output plain text, a special `<Text Redacted>` placeholder is used to denote that one or more characters of the original plain text has been redacted. Any document you've been redacting with the [markupBurners](#) API can be similarly redacted to plain text with the new [plainTextRedactors API](#).

## 13.8 Product Improvements

- **New and improved [getting started guide](#).** We've completely re-written our getting started guide, making it easier than ever to understand how PrizmDoc Viewer works and how to integrate it into your web application. Additionally, this new getting started guide explains how you can leverage [PrizmDoc Cloud](#) to accelerate your evaluation, avoiding the need to install any of the backend server-side software when all you want to do is evaluate the viewer.
- **New samples on [GitHub](#).** We've published great new introductory samples for [node.js](#), [ASP.NET](#), and [Java / Spring](#) on GitHub. These samples are deliberately minimal, designed to give developers

a clear, concise example of how PrizmDoc Viewer actually integrates with a web application.

- **Client-side viewer resources now available on GitHub.** The client-side viewer resources are now available outside of the “Client Installer.” If you need to download the pre-built viewer assets (JavaScript, CSS, fonts, etc.), or if you need to make deep customizations to the viewer UI and rebuild it yourself, you can now get all of these resources on GitHub at <https://github.com/Accusoft/prizmdoc-viewer>.
- **Support for Japanese Reiwa era in OpenDocument file formats as well as in LibreOffice rendering mode.**

## 13.8 Product Updates and Fixes

- Addressed an issue where the expected cursor did not display when hovering over marks on pages scrolled into view.
- Addressed a low-performance issue with reading PDF documents having hexadecimal characters in their dictionary objects.
- Addressed an issue in the Markup Burner API where redacting a rotated raster image would apply the redaction mark over the image as expected but did not remove the image from the burned PDF output of the redacted document.
- Addressed an issue in the Markup Burner API with the following criteria: if you were redacting a raster image on a PDF page that had been rotated and cropped for display, the redaction would apply over the raster image as expected; however, when the output was saved to PDF, the redacted part of the image was not removed.
- Addressed an issue where JSON markup generated by [PrizmDoc Server Redaction Creator API](#) could not be loaded into the viewer.

## 13.8 Beta Features

- Added support for controlling the default minimum time for the created viewing package content to remain available via a new property `defaults.viewingPackageLifetime` in [PAS Configuration](#). This is a beta feature that is not officially supported by Accusoft and its behavior can be changed at any time in a future version of the product.
- Added Microsoft Azure Blob Storage support for documents, image stamps, markups, form definitions and viewing packages in [PAS Configuration](#). This is a beta feature that is not officially supported by Accusoft and its behavior can be changed at any time in a future version of the product.

## 13.8 Documentation Updates

- **PrizmDoc Cloud non-default system configuration values are now documented.** The PrizmDoc Server [Central Configuration](#) documentation and the [PAS Configuration](#) documentation now note whenever Accusoft's PrizmDoc Cloud is using a value which differs from the out-of-box product default and what the custom value is.
- **Removed legacy configuration information from the documentation.** All legacy configuration topics that were deprecated in v13.7 have been removed in this release: Format Detection Configuration & Use, Adjust Vector Conversion Settings for Optimal Performance, and Customize Text File Encoding for PrizmDoc Server.

## Release Notes v13.7

PrizmDoc Viewer v13.7 introduces the following enhancements/improvements and product updates/fixes:

- [New Features](#)
- [Product Improvements](#)
- [Product Updates & Fixes](#)
- [Beta Features](#)
- [Documentation Updates](#)

## 13.7 New Features

- **Support for [Ubuntu 18.04 LTS](#).**
- **JSON support in the [PrizmDoc Server Redaction Creator API](#).** Previously, the Redaction Creator API only created the PrizmDoc legacy XML format for text matching a Regular Expression. This was inconsistent since JSON markup layer is used in all other areas of PrizmDoc. For more information on how to use JSON redaction markup created by the new functionality, review the following topics: [Use the Markup JSON Schema](#) and [Markup JSON Specification](#).

## 13.7 Product Improvements

- **Improved stability of PrizmDoc Server running on Linux** by updating Mono run-time components to address possible unresponsiveness of PCC Imaging Services when loading configuration settings on start up.
- **Improved MSO conversion service's resistance to faulty conversion transactions** by properly detecting and recycling its child processes without having to become unhealthy and restart the service.
- **Improved the consistency of the burn-in operation performed over the text redaction markup for every character regardless of its glyph outline.** Now, a character becomes redacted if the redaction area overlaps the character's glyph area (calculated by width \* height) by 40% or more.
- **Improved the cursor behavior in the viewer to better indicate the effect of using the mouse.** In supported browsers, the grab cursor is now displayed when the hand pan tool is selected. The cursor no longer changes when hovering over a mark if the selected mouse tool does not support mark selection. If the selected mouse tool does support mark selection, the move cursor is displayed over a mark only if the mark is selectable.

## 13.7 Product Updates and Fixes

- Support for Windows Server 2008 R2 was deprecated with PrizmDoc Viewer v13.7 and will soon be completely removed. Future releases will no longer support Windows Server 2008 R2.
- Addressed an issue where the installed samples are not able to build when following the provided README steps due to a missing folder and misplaced assets.
- Addressed the Markup Burner issue with text annotations containing tabulation characters that were incorrectly converted to white square characters in the output PDF upon burn in. We are now replacing tabulations with spaces for more accurate fidelity in the output PDF.
- Addressed a PrizmDoc limitation of the MSO rendering engine causing the conversion process to fail on any PowerPoint document once the MS PowerPoint instance becomes unresponsive.
- Addressed issues where PrizmDoc's file downloading APIs failed to download files which had non-ASCII characters in file names, or corrupted filenames during the downloading. These APIs now use an RFC 8187 compliant Content-Disposition header in their responses to correctly support such file names. The only exception is GET /PCCIS/V1/WorkFile/{fileId}, which continues to use the simpler ASCII-only syntax when using an automatically generated file name. This was done to preserve backward compatibility for customers who use PrizmDoc Client package v13.6 or older.
- Addressed incorrect recycling of MSO conversion service's child processes upon the service's

startup, which could result in a faulty conversion transaction making the entire MSO conversion service permanently unhealthy.

- Addressed incorrect location of text redaction markups over bulleted text in PDF output to match what appears in the viewer.
- Addressed an issue within the Markup Burner API that resulted in a duplicate Redaction Rectangle mark in the output PDF. This would occur when applying a Filled Rectangle redaction over a PDF with the transparency area defined by the image mask (a mask entry in the image dictionary).
- Addressed PAS host header translation issue which made it impossible to route requests from PAS to PrizmDoc when there is a load balancer in between them. Now, PAS sets the outgoing request host header to PrizmDoc host value.
- Corrected an issue in the Viewer UI that allowed the user to select the "Exact Phrase" option which is not a viable option for Wildcard search. The Exact Phrase option is now disabled in Wildcard search.
- Updated the Search Tasks API to accept a JSON body of up to 1MB in size. Previously, this value was set to 100KB which could have resulted in "Invalid JSON" errors for valid JSON bodies that were greater than this value.
- Addressed the Markup Burner API issue occurring when attempting to redact text in the text block immediately following a previously redacted block in the source PDF document.
- Addressed an issue where in some cases the last page of a document was blank when printed.

## 13.7 Beta Feature for Evaluation

- **Content Conversion Service (CCS) now provides the ability to convert PDF documents to MS Word (DOCX) documents.** This functionality requires the [Microsoft Office rendering mode](#) to be enabled by the MSO feature in your license key. This is a beta feature that is not officially supported by Accusoft and its behavior can be changed at any time in a future version of the product, but we are happy to collect and review any feedback you can provide about this feature. The API to convert to MS Word (DOCX) documents should be used for evaluation purposes only and should not be used in production deployments. Note that this API may undergo change prior to feature completion. Please refer to the [API guide](#) for the details on how to evaluate this feature.

## 13.7 Documentation Updates

- **Legacy PrizmDoc Server configuration documentation has been removed.** This legacy documentation information had been marked as deprecated for many releases. We strongly recommend that you use [Central Configuration](#). If you need to access legacy configuration documentation, please refer to an archived version of the [documentation](#).

## Release Notes v13.6

PrizmDoc Viewer v13.6 introduces the following enhancements/improvements and product updates/fixes:

- [New Features](#)
- [Product Improvements](#)
- [Product Updates & Fixes](#)

## 13.6 New Features

- **JSON support in the [PrizmDoc PAS MarkupBurner API](#) and [PrizmDoc Server MarkupBurner API](#).** Previously, the MarkupBurner API only accepted the PrizmDoc legacy XML format for

annotations and redactions. This was not very convenient and sometimes confusing since we use JSON markup layer in all other areas of PrizmDoc. For more information on the new functionality, review the following topics: [Use the Markup JSON Schema](#) and [Markup JSON Specification](#).

## 13.6 Product Improvements

- **Smoother page scrolling, faster page loading in the viewer.** When a user is scrolling through a document, sometimes pages will delay loading causing the user to wait for the next/previous page to load. With this update, the document scrolling is smooth and next/previous pages load immediately providing a more responsive user experience.
- **Faster conversion with Microsoft Office.** We've rewritten the task scheduler inside the Microsoft Office Conversion Service (MSOCS) to improve performance. The Office Conversion Service uses MSOCS to process its requests when the MSO option has been licensed, using multiple workers that execute in parallel. There are now a larger number of workers in both services, keeping more documents resident in memory simultaneously, while continuing to have the same amount of execution concurrency (so as to not overwhelm the server). This means that document reloading by the workers happens less frequently, gaining performance overall.
- **Improved PDF fidelity.** Improved PDF rendering service to address multiple PDF rendering fidelity issues including, but not limited to: more accurate color rendering, raster images rendering, text rendering (including math symbols), rendering of linearized PDF documents, as well as rendering of write protected PDF documents.

## 13.6 Product Updates and Fixes

- Addressed an issue where the Document Compare API detected an inaccurate number of differences in documents containing tracked changes that were unaccepted.
- Addressed a PrizmDoc limitation of the MSO rendering engine causing the conversion process to fail when converting an empty Excel document.
- Modified PrizmDoc logging so that the header and footer data is not recorded in the log files when appending a specified header or footer to a document's pages with the use of PrizmDoc CCS API for enhanced security and user privacy.
- Modified PrizmDoc PAS logging so that email attachment names are not recorded in the log files (when rendering email documents with attachments) for enhanced security and user privacy.
- Addressed PrizmDoc PAS issue that caused the viewingPackageCreator process to hang when uploading the output page artifacts to S3 storage (when the size of the artifacts exceeds 20 MB).
- Support for Ubuntu 14.04 LTS has been deprecated with PrizmDoc Viewer v13.6 and will soon be completely removed. Future releases will no longer support Ubuntu 14.04 LTS.
- Addressed an **XSS** vulnerability when displaying the context menu for Text Hyperlink Annotations in the Viewer. Prior to the fix, a malicious script could be injected into the URL value for a Text Hyperlink Annotation and executed when the context menu for the annotation was displayed. The fix ensures that the URL value is properly escaped during construction of the HTML to display the context menu for the Text Hyperlink Annotation in the Viewer.

## Release Notes v13.5

PrizmDoc Viewer v13.5 introduces the following enhancements/improvements and product updates/fixes:

- [New Product Name](#)
- [Enhancements & Improvements](#)
- [Product Updates & Fixes](#)

- [Documentation Updates](#)

## New Product Name

- **Product name changed from *PrizmDoc* to *PrizmDoc Viewer*.** To accommodate our growing number of products, we have changed the name of this product to *PrizmDoc Viewer*. And we are excited to announce that *PrizmDoc* is now a suite of products which includes *PrizmDoc Viewer* and the all-new *PrizmDoc Editor*!

## 13.5 Enhancements and Improvements

- **Improved visual rendering of 1-bit raster documents** by adding upscale image dimensions preventing quality degradation for files with asymmetric resolutions.
- **Smaller PrizmDoc Server log files.** We have updated PrizmDoc Server logging to eliminate redundant information from console logs, decreasing their size.
- **Support for Unicode filenames in email attachments.** We have improved support for detecting and listing email attachments with names using RFC 8187 encoding in EML documents to provide broader support of email attachment types.
- **Added rendering support for UTF-7-encoded email.** Added rendering for UTF-7-encoded email document content that includes email message body, headers, and attachment names to support a broader range of UTF encoding types.
- **PAS now accepts a full database connection string,** allowing Microsoft SQL Server customers the ability to enable database-specific features like connection encryption.
- Security improvements:
  - Addressed XXE vulnerability in PrizmDoc Server.
  - Upgraded PrizmDoc Server to the latest version of Java 8 to take advantage of security fixes within the JRE.

## 13.5 Product Updates and Fixes

- Addressed the issue with all conversions from raster to searchable PDF that failed at the same time (when reaching a certain number of concurrent conversions).
- Addressed incorrect rendering of Pantone colors on Windows when viewing PDF documents.
- Updated PrizmDoc Viewer installation instructions to ensure accuracy (see details below under Documentation Updates section).
- Addressed an issue where PrizmDoc Viewer was unable to load OpenXML Word documents (containing invalid external file references) when running in LibreOffice rendering mode.
- Resolved an issue where burning a document using XML annotations for hyperlinks and setting the fillColor value to 0, for black, would instead render the hyperlink in a default blue color.
- Addressed PrizmDoc Viewer email processing service, PDF processing service and MS Office converter logging to rotate the corresponding log files according to the logging.daysToKeep setting in the Central Config file.
- Addressed an issue to prevent freehand annotations with a width and height of 0 from being created. Previously, a user could create an empty annotation that would cause errors when the document is downloaded and opened in Adobe Viewer.
- Updated ViewerControl API double-click handling to use the dblclick event (instead of the mouseup event and a timer) to fix issues with double-click handling in IE v11.

## 13.5 Documentation Updates

## The "What's New?" section is now called Release Notes

- The "What's New" section has been renamed and updated to include sections for Product Updates/Fixes, Enhancements, and [Known Issues](#) (formerly located in the Release Notes on the website).

## New Topics

- [What's New? > Known Issues](#)

## Updated Topics

- [Administrator Guide > Troubleshoot > Linux](#)
- [Administrator Guide > Troubleshoot > Windows](#)
- [PrizmDoc Overview > Legal > Third-Party Attributions](#)
- Fixed misspelling in topic: [API Reference > PrizmDoc E-Signature Viewer API > Module: event-store](#).
- Removed extra characters that were not needed in topic: [API Reference > PrizmDoc E-Signature Viewer API > Module: template-name-header](#).
- Fixed incorrect formatting in topic: [API Reference > Viewer API > PCCViewer.Mark](#).

## Release Notes v13.4

PrizmDoc Viewer v13.4 introduces the following enhancements/improvements and product updates/fixes:

- [Enhancements & Improvements](#)
- [Product Updates & Fixes](#)

## 13.4 Enhancements and Improvements

- **Improved stability under load.** Conversion performance has been enhanced to avoid system degradation in high-volume periods.
- **Lower CPU usage when converting large Microsoft Excel documents.**
- **Faster conversion of Microsoft Office documents.** We've optimized the system to more efficiently convert multiple Office documents, even in periods of heavy usage.

## 13.4 Product Updates and Fixes

- Addressed an issue where vector content was not completely removed when a document was redacted and downloaded as a PDF.
- Addressed a PDF redaction issue that was causing the grid lines (representing tables in the PDF document) to disappear.
- Addressed potential XSS vulnerability concerns with the Viewer.
- Addressed potential XSS vulnerability concerns with the PDF Processing Service.
- Addressed a PDF redaction issue that was causing parts of a document to disappear.
- Fixed an issue where images within a document were having redactions applied to them when they should not been applied. This occurred when burning redactions into documents on machines using LibreOffice and when the redaction overlaid any portion of a referenced image (on a page within the document) in which the image was not displayed.

- Addressed an Office document conversion issue (running in the LibreOffice rendering mode) to disallow non HTTP and HTTPS protocols when rendering content of WEBSERVICE formula in Excel and OpenDocument Spreadsheet documents.
- Addressed a rendering fidelity issue with semi-transparent PDF elements that were previously rendered opaque.
- Addressed a rendering fidelity issue with PDF highlighter annotations that were previously rendered opaque.
- Updated Office Conversion Service to fix a bug related to document affinity that would sometimes prevent a worker from switching to a new document at the correct time. This would result in new tasks waiting until all work on a particular document was completed.
- Addressed a problem with internal links that were not clickable in a recurring Word document footer when rendered using LibreOffice mode.
- Addressed a PDF redaction issue that caused parts of a document to disappear.
- Significantly improved loading time for certain PDF documents created by a third-party recognition server previously resulting in a page load timeout.
- Addressed a rendering fidelity issue with MSG files (with an RTF body) causing an extra line of text to show up in the message body.
- Addressed an issue with missing libjpeg dependency in PrizmDoc Viewer RPM package when installing on the CentOS 7 platform.
- Resolved an issue in handling miter operators used within PDFs that could cause some redactions to fail to burn into the document.
- Addressed an issue with the rendering of email files that contain Rich Text body (with embedded content) stored in raw binary format.

## Release Notes v13.3

PrizmDoc Viewer v13.3 introduces the following new features and product updates/fixes:

- [New Features](#)
- [Product Updates & Fixes](#)

### 13.3 New Features

#### Improved Rendering of Microsoft Excel Documents

- **New Excel rendering and pagination options.** PrizmDoc Viewer can now paginate and render Microsoft Excel documents while preserving the original page dimensions and margins specified in the document (matching the Page Layout rendering mode of Microsoft Excel). This is a non-default rendering option, which needs to be explicitly turned on. For more information, refer to the [Central Configuration](#) topic.

#### Improved Customization and Integration

- **Easier initialization of the viewer.** We've updated the Viewer's gulp build to produce a new `viewerCustomizations.js` that contains the required customization objects to instantiate the viewer control. This allows you to build the customizations once and then easily integrate them into your web app, regardless of the server-side language you're using. Previously, our Viewer samples dynamically built these objects at runtime in the particular server-side language of the sample. This approach made it hard to integrate this code into your own web application (especially if you used a language not covered by our samples).

## Improved Office Conversion Service Task Scheduler Performance for LibreOffice Users

- **Faster conversion of Office documents.** We've rewritten the task scheduler inside the Office Conversion Service (OCS) to improve performance. OCS processes its requests with multiple workers that execute in parallel. There are now a larger number of workers, keeping more documents resident in memory simultaneously, while continuing to have the same amount of execution concurrency (so as to not overwhelm the server). This means that document reloading by the workers happens less frequently, gaining performance overall.

## 13.3 Product Updates and Fixes

- **Improved redaction area text wrapping.** Previously, text that did not fit within the redaction area overflowed beneath the redaction upon downloading (burning). Now, when downloading a document, PrizmDoc Viewer will wrap the text, breaking the line on the space characters in the text and attempting to center the text both vertically and horizontally within the redaction area. When there is a single line of text without spaces, it will truncate the characters of the line of text that do not fit. All of these alterations are designed to mirror the behavior of the redaction reason text seen in the Viewer when viewing, previewing, or printing.
- Added instructions to the online help for how to customize Excel document view settings to match rendering in PrizmDoc Cloud.
- Implemented rendering for inline attachments embedded in the binary HTML body of MSG email files.
- Addressed incorrect rendering of email body content and attachments stored as an encapsulated message with the syntax of "RFC 822 message".
- Updated the MongoDB service, used internally for text searching, to respect the Central Configuration `cache.directory` property. The old cache location can be safely deleted to free disk space if desired:
  - The Windows directory is: `C:\Prizm\services\mongo-manager-service\bin\mongodb\data`
  - The Linux directory is: `/usr/share/prizm/services/mongo-manager-service/bin/mongodb/data`
- Improved the cache cleanup algorithm to be more predictable.
- Modified the MongoDB installation that we use internally to no longer use the default password.
- Addressed incorrect page count calculation specific to the rendering of Excel files (with the disabled "Show Page Breaks" display option) using MSO rendering mode.
- Increased concurrency of Office Conversion Service when processing tasks with LibreOffice on Linux platforms. Response times now degrade more gradually after the service load reaches full capacity.

## Release Notes v13.2

PrizmDoc Viewer v13.2 introduces the following new features and product updates/fixes:

- [New Features](#)
- [Product Updates & Fixes](#)

## 13.2 New Features

### Security Features

- **PrizmDoc Server now supports TLS 1.1 and TLS 1.2 for outgoing HTTPS requests.**
- **Option to disable rendering of externally-referenced HTML content.** We've added a server-side configuration option called, `security.htmlRendering.blockExternalContent`, to control whether or not externally-referenced HTML content, such as images and iframes, will be blocked. This option affects any source document file type which uses HTML, including HTML, EML, and MSG.

## Full Redaction of Vector Images

- **Support for full redaction of vector images** by removing the vector content completely from the output document.

## Online Help

- The [PrizmDoc Cloud License & AWS](#) topic has been updated to better explain this licensing option.

## 13.2 Product Updates and Fixes

### Fidelity

- **Improved rendering of email.** Corrected fidelity issues when rendering plain text EML files with non UTF-8 encoded message body.
- **Improved rendering of Microsoft Word documents using merge fields.** Corrected a fidelity issue when rendering Microsoft Word documents with merge fields used for dynamic document creation. Merge field placeholders would be rendered instead of the actual field data.
- **Improved rendering of Microsoft Word Table of Contents.** Addressed a fidelity issue where incorrect rendering of Table of Contents for specific Microsoft Word files with table of contents titles that do not have heading styles applied.
- **Improved rendering of Microsoft Word figure numbers.** Corrected a fidelity issue when rendering Microsoft Word documents with figure numbers containing automatic sequence number fields.
- **Improved rendering of Microsoft Word documents with chart links to external files.** Corrected a rendering issue where Microsoft Word documents that contain charts with links to external files would not render for viewing or convert to JPEG.

### Performance

- **Faster merging of PDF documents.** Improved the performance of merging PDF documents (which now take 4-5 seconds instead of taking up to 10 minutes previously).
- **Faster rendering of Microsoft Word documents under load.** Improved the performance of rendering and viewing Microsoft Word documents with fields by 12% over PrizmDoc Viewer v13.1 for high volume runs.
- **Faster restart time.** Improved PDF Conversion Service restart logic for faster recycle and restoration of its dependency processes which previously could take as long as 5 minutes.

### Security

- Corrected a security issue where PrizmDoc Viewer would capture information that could be sensitive when processing emails and record that information in the PrizmDoc Viewer service log files.
- Addressed a service recovery issue when converting an Excel document with a very high number of rows fails to render (millions of rows).
- Corrected a conversion issue where certain Microsoft Word and PowerPoint documents that were

converted to PDF using PrizmDoc Viewer would generate a PDF that had issues with text (so that selecting, copying and pasting into another document would produce partial text of the original document).

## Release Notes v13.1

PrizmDoc Viewer v13.1 introduces the following new features and product updates/fixes:

- [New Features](#)
- [Product Updates & Fixes](#)

### 13.1 New Features

#### Document Compare

**Support for Document Comparison feature for Linux platforms.** It is important to note that the Microsoft Word document comparison feature uses the Microsoft Office Conversion (MSO) add-on option for PrizmDoc Server running on Windows and therefore requires the PrizmDoc Server running on Linux to be configured to connect to PrizmDoc Server running on Windows.

#### Content Conversion Service

**OCR option to produce text-searchable PDF.** [Content Conversion Service](#) (CCS) now provides the ability to perform optical character recognition (OCR) to convert a raster file or a scanned PDF file to a searchable PDF document. The resulting PDF document will contain the original image and the recognized text in a separate invisible layer, with each text character position matching its image counterpart. This will allow you to search, select and copy the text in the resulting PDF document.

The Content Conversion Service's feature that performs OCR (to convert a raster file to a searchable PDF document) does not support CentOS 6 and Red Hat Enterprise Linux 6 platforms.

#### Rendering Updates

**Email contents now rendered with time zone information.** We've updated the rendering of email to support the Date and Time header fields of MSG and EML files with the corresponding time zone. When an end user views emails in the Viewer, they will be able to see what time zone the date and time correspond to.

#### Performance Improvements

- **Faster first page load times in the viewer.** First page of content in the Viewer loads faster now, especially for large Microsoft Office documents.
- **Faster page loading when scrolling.** Page content loads more quickly when scrolling through a document in the Viewer.
- **Faster retrieval of document text.** Eliminated the occasional slowness in getting document text.

#### Viewer Touch Experience Improvements

- **Improved touch support.** The Viewer touch experience (for phones, tablets, and other touch devices) has been improved with product updates and behavioral improvements.

#### PrizmDoc Application Services (PAS)

- **S3 support.** PAS now supports Amazon S3 for storage of all of its artifacts, including viewing packages and annotation layers.

## Documentation Updates

With PrizmDoc Viewer v13.1, the PrizmDoc Cloud documentation has been added to the PrizmDoc Viewer help file. You can see the new updates here:

- [Cloud Authentication](#)

## 13.1 Product Updates and Fixes

### Viewer

- **Improved memory usage.** Memory usage in the Viewer has been improved in situations where the same web page is used to view multiple documents without recycling the Viewer.

### PAS

- **Stability improvements.** The stability of viewing package creation has been improved due to architectural changes.

### PrizmDoc Server

- Addressed incorrect rendering of Chinese/Taiwanese date format fields within Excel documents when running through LibreOffice rendering mode.
- Addressed problem with opening specific Outlook Email attachments with explicitly specified "filename" fields as .msg.
- Addressed problem with opening specific MSG files (with raw HTML body) in the Viewer.

## Release Notes v13.0

PrizmDoc Viewer v13.0 introduces the following new features and product updates/fixes:

- [New Features](#)
- [Product Updates & Fixes](#)

## 13.0 New Features

### Document Comparison Overview

**Comparison rendering of two Microsoft Word documents.** We now provide the ability to compare Microsoft Word documents. You can now create a viewing session using two different Microsoft Word documents as input and see a single comparison view of the two documents in the viewer. This comparison view will note whenever text has been added, changed, or removed, when formatting as changed, etc., just as Microsoft Word does with its "Track Changes" feature. For more information on how to use the new Document Compare functionality, refer to the following topics:

- Overview of [Document Compare](#)
- [Work with Document Comparison](#) Programmatically
- [Perform Document Comparison](#)

## Image Tools

**Image tools in the viewer.** We've added new image tools to the viewer, allowing you to adjust things like contrast or line darkness right in the browser.

## Support for New Operating Systems

- Support for [Ubuntu 16.04 LTS](#).
- Support for [Windows Server 2016](#).

## Native SVG Icons

**Native SVG icon support.** The Viewer has been upgraded to support native SVG icons. This will simplify replacing default icons with your own versions.

## Online Help

- The [Deployment Licensing](#) section has been updated and clarified to help you understand all of your licensing options. A new topic covers the purpose of the [Prizm Licensing Utility](#).

## 13.0 Product Updates and Fixes

### PrizmDoc Server

- Addressed incorrect page count and rendering content issues with MS Word documents (with track changes turned on when using the MSO rendering engine).
- Resolved incorrect rendering of AAA/AAAA Excel date/time formatting when using the LibreOffice rendering engine.

## Known Issues

### Known Issues

The following items are either currently under investigation by the Accusoft Engineering organization or provide further information regarding PrizmDoc Viewer. Should you require an updated status on any of these items, please contact [Accusoft Customer Support](#).

- [Installer](#)
- [PrizmDoc Viewer](#)
- [PrizmDoc Server](#)

### Installer

Please note the following important information about the PrizmDoc Viewer installer:

- Currently, the path PrizmDoc Viewer is installed to on Windows cannot exceed 64 characters total. Longer paths are rejected by the installer.
- When installing PrizmDoc Viewer on Windows, the account used to start the PrizmDoc service requires a password to be defined. Without a password, the Installer will not be able to proceed.

## PrizmDoc Viewer

- When evaluating PrizmDoc Viewer Self-Hosted without an installed license, the informative dialogs indicating the product is running in evaluation mode and notifying about evaluation limitations may not show in IE browsers.
- Safari browser may truncate long file names (containing 96 or more ASCII characters or 27 or more non-ASCII characters) when downloading source files from PrizmDoc viewer. This issue only exists when connecting to PrizmDoc Viewer via http/1.1 protocol (with or without https). Setting up an http/2 proxy in front of PrizmDoc viewer avoids the issue. See also Safari bug report [47914517](#).
- Border of graphic elements may not render for specific PDF documents.
- Starting from 13.6 release some PDF documents may render slightly shifted compared to previous versions of PrizmDoc.
- Raster images using CMYK colorspace in PDF documents may be rendered with a slightly different color.
- If you print large documents (100+ pages) from the Viewer, you may run into browser memory constraints that are beyond our control. We recommend downloading large documents as a PDF and then printing them.
- Currently, burning markup into PDF documents that contain XFA fields is unsupported. Attempting to burn markup into XFA documents will result in an error.
- Burning markup into PDF documents that contain AcroForm fields is unsupported. Attempting to burn AcroForm fields in PDF documents will leave those field values unchanged.
- There are known limitations when trying to use Quick Actions to redact large search result sets that are over hundreds of results.
- With some browsers the E-Signature Viewing Client performance could be impacted when the number of fields in the document is more than 1,300.
- Note that we have modified the default properties for several marks when creating them via the API. As long as you are setting mark properties, such as color and line width, this should not affect your code.
- There are known issues with E-Signing when working on iOS devices that can cause the screen to move erratically when moving from field to field. This does not keep the experience from being usable, but it can be disconcerting while using.
- There are limitations to using the Full-Page Redactions mouse tool on a mobile device.
- When requesting raster page content, a '500' error may appear in the network log. As part of performance improvements, the viewer now always requests SVG content first. If SVG content is not available, a '500' error will be communicated and the client will then request raster content. Although this does not negatively affect the viewer behavior, this will be changed in a future release to handle the request differently.
- When printing a document in Firefox or Safari, embedded images may be truncated or missing in some cases.
- When printing a document in Chrome, images may be printed with a black background when the background should be transparent.
- PDF files with embedded raster images in the Indexed color space using CMYK palette might not display with the correct colors in the Viewing Client after conversion to SVG.
- Search results returned in the Viewing Client for PDF documents may not be highlighted in cases where the PDF contains image over text results. In this case, content will be returned in the Search results tab, but the highlighted search terms will not be displayed in the page view when navigating to the appropriate page. In this case, a message will be displayed indicating that the page does not support text highlighting. This will be improved in future versions.
- It is recommended that the document cache be cleared prior to upgrading PrizmDoc Viewer. Failure to clear the cache will result in the inability to search documents in the Viewing Client that have been cached in prior versions of PrizmDoc Viewer.

- When printing documents with the Viewing Client in Safari browser on Windows, blank pages are sometimes created, causing extra pages in the document.
- PrizmDoc Viewer does not currently perform text-extraction and search on PDF annotation markup within PDF documents. This annotation markup includes Text and FreeText annotation types as specified in the PDF reference guide.
- PrizmDoc Viewer does not currently provide full support for searching and extracting text which reads from right-to-left (like Arabic and Hebrew), which may cause the search and text extraction results to display such text in wrong left-to-right direction.

## PrizmDoc Server

- If you are using Viewing Packages in PAS and upgrading from a version prior to 13.1, you must upgrade your database schema. See the setting up your database topic for more information on how to upgrade PAS.
- The Content Conversion Service does not support conversion of DICOM files to a searchable PDF document format.
- The Content Conversion Service does not support conversion of transparent TIFF files to a searchable PDF document format.
- The Content Conversion Service's feature that performs optical character recognition (OCR) to convert a raster file to a searchable PDF document does not support CentOS 6 and Red Hat Enterprise Linux 6 platforms.
- If the PDFPS microservice exceeds the open file descriptor limit, then PrizmDoc Viewer will restart the PDFPS microservice.
- The Document Compare feature is designed for comparing different revisions originating from the same.
- PrizmDoc Viewer services render 2-bit LZW-compressed TIFF images incorrectly on Windows.

## Getting Started

### Getting Started with Document Viewing

Welcome to PrizmDoc Viewer!

This getting started guide will walk you through what it takes to integrate a viewer into your web application. When you are through, you should be able to render a viewer in any page of your web application and have it display actual document content.

Let's get started!

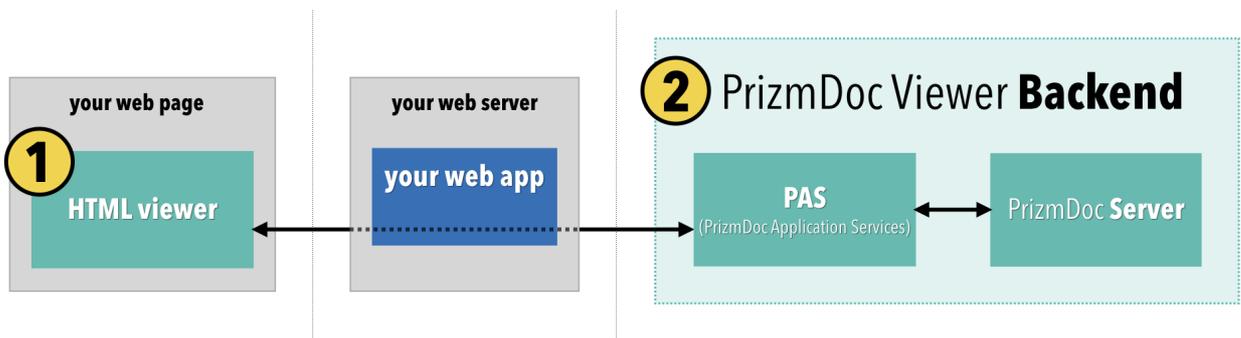
- [Architecture Overview](#)
- [Illustrating the Viewing Sequence](#)
- [Sample Applications](#)
- [1. Integrating the Viewer](#)
- [2. Choosing a Backend and Creating a Viewing Session](#)
- [3. Setting Up the Reverse Proxy](#)

## Architecture Overview

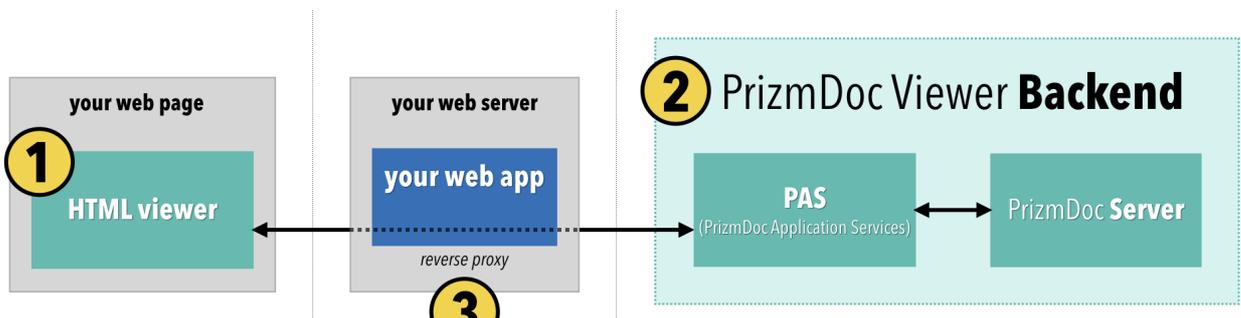
### Architecture Overview

There are two main sides of the PrizmDoc Viewer architecture:

1. The HTML **viewer** itself, running in the browser
2. A powerful **backend** which converts document pages to SVG for viewing in the browser



Sitting between these two pieces is your web server, acting as a **reverse proxy** for the viewer to ask the backend for the pages it needs to display:





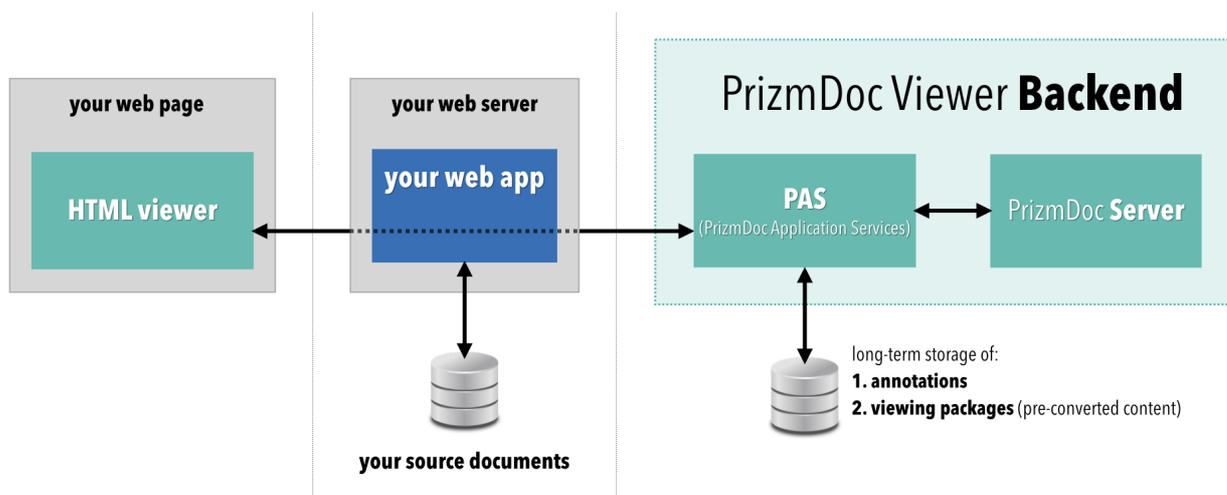
To integrate PrizmDoc Viewer into your web application, you'll need all three of these pieces:

1. the **HTML viewer** itself (a collection of static JavaScript, CSS, font, and image files)
2. a PrizmDoc Viewer **backend**
3. a **reverse proxy** that allows the viewer to request content from the backend

We'll walk you through setting all of this up in the rest of this guide. But first, it helps to have a more detailed understanding of how the pieces work together.

## For Viewing, Call PAS

The backend is made up of two tiers, **PAS** (PrizmDoc Application Services) and **PrizmDoc Server**:



PAS and PrizmDoc Server are independent. Each runs on its own host or port, and each has its own REST API.

- **PrizmDoc Server** (on the far right) is the technical heart of the product, the actual engine that converts pages of a document to SVG. It is compute intensive and has no permanent storage.
- **PAS** does not do any conversion work. Instead, it is a layer in front of PrizmDoc Server which is responsible for other viewing concerns, such as saving and loading of annotations or long-term caching of pre-converted content. Like your web application, PAS has privileged access to storage that you own (like a file system or database).

**For viewing, your web application should only make REST API calls to PAS.** PAS will then make calls to PrizmDoc Server on your behalf to ensure the conversion work is done. The only time your application should call PrizmDoc Server directly is when you need to perform *non-viewing* work, such as converting a file or burning annotations into a document.

## Next Steps

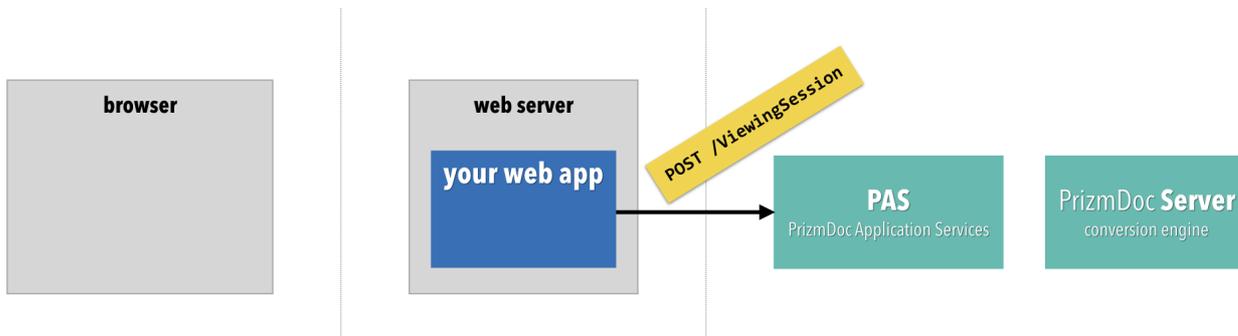
Next, let's [take a closer look at how these pieces actually work together when your web application needs to display a document to your user.](#)

# Illustrating the Viewing Sequence

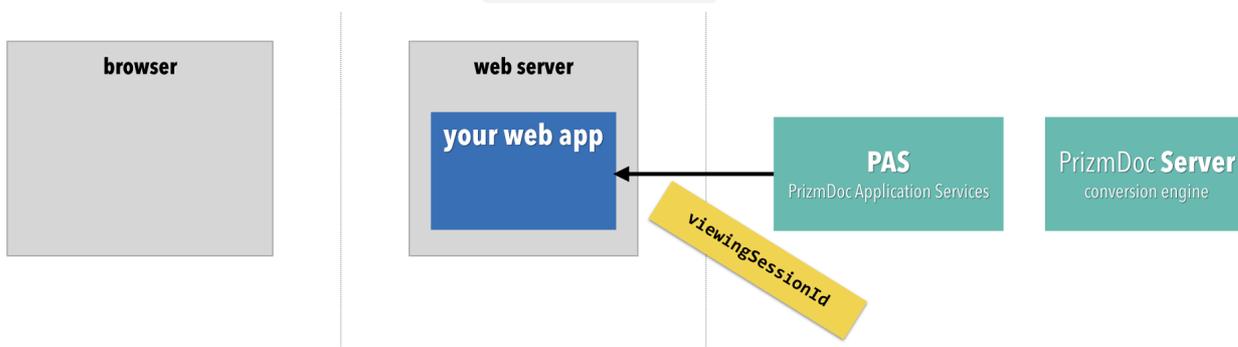
## Illustrating the Viewing Sequence

When your web application needs to render an HTML page containing a viewer, there is a sort of “dance” that occurs between the browser and the backend, with your web application sitting in the middle between the two. Here is how it typically goes:

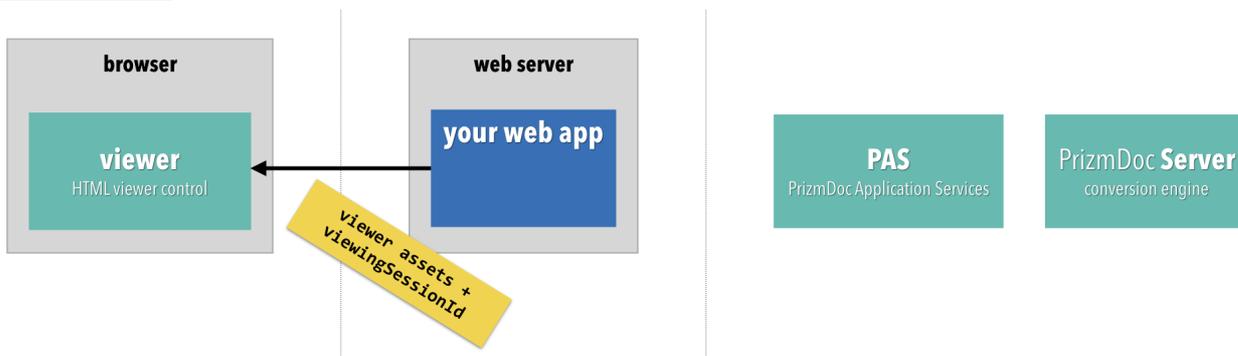
First, your web application POSTs to PAS to create a new *viewing session*:



PAS responds to your web application with a new `viewingSessionId`:

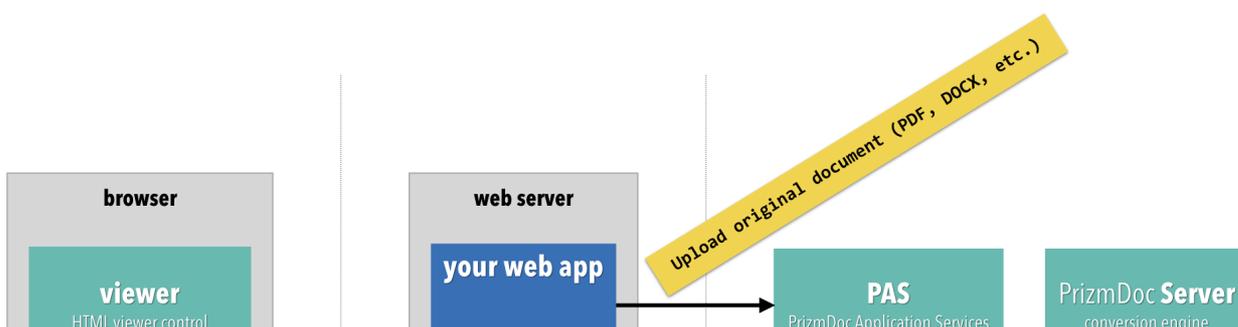


Now, at this point, the document conversion hasn't even started yet. However, you have enough information that your web application can go ahead and render the page HTML with the viewer, configuring it to use the `viewingSessionId` that was returned:



This allows the browser to start rendering the viewer UI as soon as possible.

Next, your web application should upload the original source document to PAS so that the backend can start converting the document:

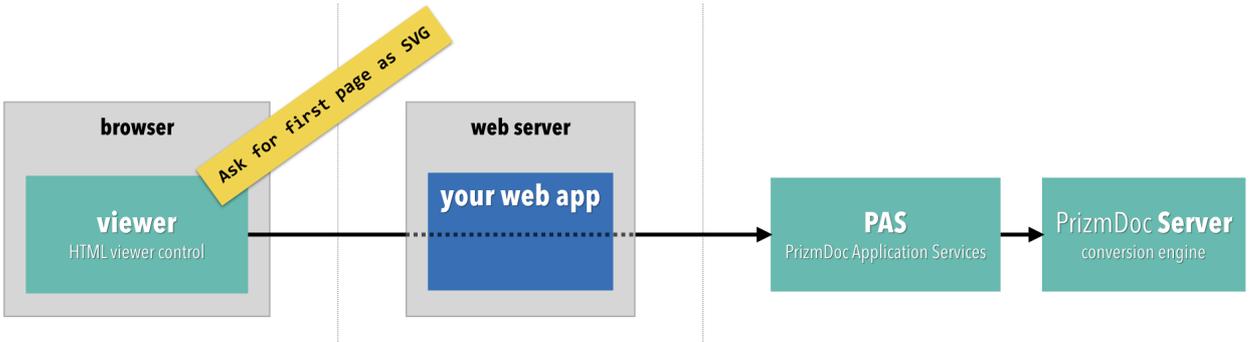




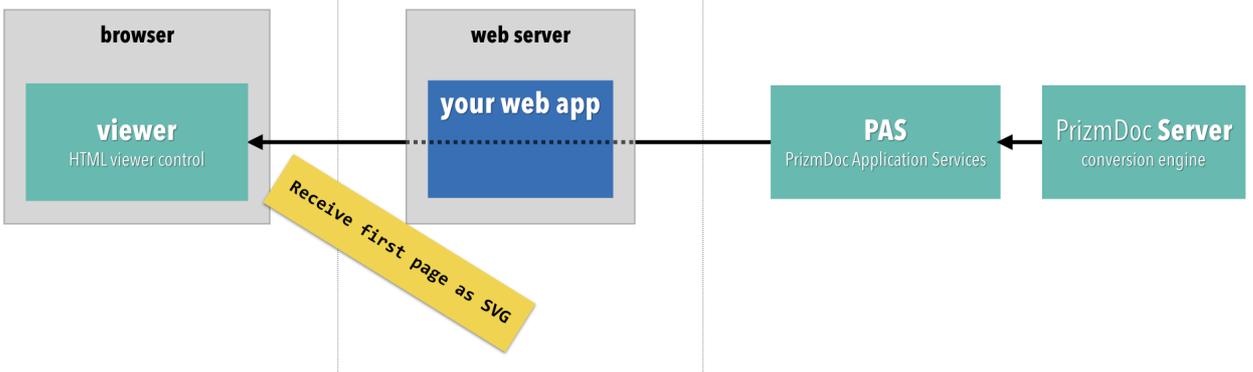
As soon as the source document is received, PAS hands it off to PrizmDoc Server where the document pages are converted, one by one, to SVG. And, as soon as a page is converted, it can be delivered to the browser (even if the remaining pages are still being converted):



Meanwhile, as soon as it has been loaded in the browser, the viewer begins repeatedly asking PAS (proxied through your web server) for the first page of document content ("Can I have the first page now? Can I have the first page now?"):

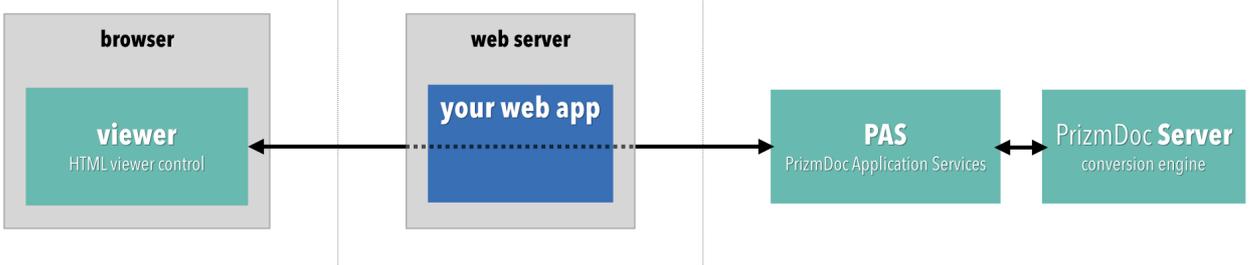


As soon as the first page of SVG content is available, PAS returns it and the viewer displays it to the end user:



Of course, all of this happens very quickly, allowing your users to start viewing and interacting with the document as fast as possible.

As the end user continues to interact with the document, the viewer will make additional requests to PAS for document content as needed:



viewer continues to request content as needed

## Next Steps

To actually see this happening with real code, [take a look at some of our "hello viewer" sample applications](#). These are great starting points that you can easily set up and run on your own development machine.

If you're ready to start integrating the viewer into an existing web application, move on to [part 1](#) of this three-part guide.

## Sample Applications

### Sample Applications

The fastest way to start experimenting with PrizmDoc Viewer is with one of our minimal "hello viewer" sample applications:

- [Node.js](#)
- [C#](#)
- [Java](#)

These are extremely simple web applications which do nothing more than load a single document in the browser with PrizmDoc Viewer, but they make it easy to see all of the pieces working together in real code.

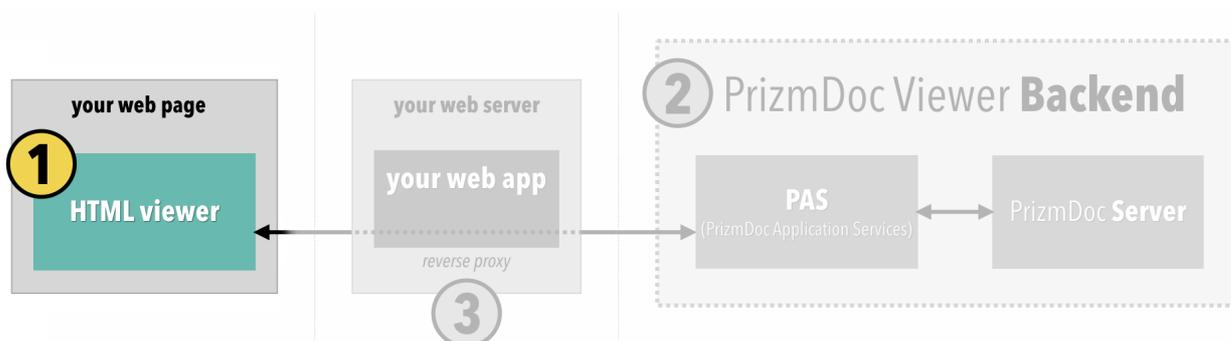
## Next Steps

For a detailed walk-through of how to integrate viewing into an existing web application, move on to [part 1](#) of this three-part guide.

## 1. Integrating the Viewer

### 1. Integrating the Viewer

First, we'll need to add the viewer itself into your web application:



By the end of this section your web application should be able to display an empty viewer.

## Update Your Web Application to Serve the Static Files Needed by the Viewer

There are a set of static JavaScript, CSS, font, and image files which define the viewer UI. You'll need to add these to your web application in such a way that the browser can GET them.

You can download the static files needed for the viewer here:

- [viewer-assets.zip](#)

Unzip that file and **move the unzipped viewer-assets directory and all of its contents into your web application at a place where the files can be served statically**. For example, perhaps you configure your web application to map the route `viewer-assets/` to the unzipped viewer-assets directory which you just added to your application. Make sure to include all of the files and folders as defined in the ZIP file, including all of the fonts and images. This is important for all the parts of the viewer UI to display correctly.

## Integrate the Viewer Into a Page

To include the viewer in a particular page of your web application, you'll need to:

1. Add boilerplate code in the `<head>` of your page to include the required JavaScript and CSS.
2. Declare a `<div>` somewhere in your HTML as the placeholder for the viewer.
3. Call a JavaScript function which creates the viewer at the location of the specified `<div>`.

### 1. Include the required JavaScript and CSS

**IMPORTANT:** *Scripts must be loaded in the specified order as shown below.*

Assuming you have set up your web application to serve the static JavaScript and CSS files at `viewer-assets/`, you would add the following to the `<head>` of your HTML:

```
<!-- Ensures the viewer works best across various browsers and devices -->
<meta http-equiv="Content-Type" content="text/html; charset=utf-8">
<meta name="viewport" content="width=device-width, initial-scale=1, maximum-scale=1
user-scalable=no"/>
<meta http-equiv="X-UA-Compatible" content="IE=edge" />

<!-- CSS required by the viewer -->
<link rel="stylesheet" href="viewer-assets/css/normalize.min.css">
<link rel="stylesheet" href="viewer-assets/css/viewer.css">

<!-- JS required by the viewer -->
<script src="viewer-assets/js/jquery-3.4.1.min.js"></script>
<script src="viewer-assets/js/jquery.hotkeys.min.js"></script>
<script src="viewer-assets/js/underscore.min.js"></script>
<script src="viewer-assets/js/viewercontrol.js"></script>
<script src="viewer-assets/js/viewer.js"></script>
<script src="viewer-assets/js/viewerCustomizations.js"></script>
```

**NOTE:** *If your static files are hosted at a path other than `viewer-assets/`, adjust accordingly.*

### 2. Declare a `<div>` placeholder for the viewer

Somewhere in your HTML, at the location where you want the viewer to appear, add a placeholder div with a unique id, like this:

```
<div id="viewerContainer" />
```

Make sure you style the width and height of the div to be the dimensions you want used for the viewer.

### 3. Create the viewer

Finally, instantiate the viewer with a JavaScript call like this:

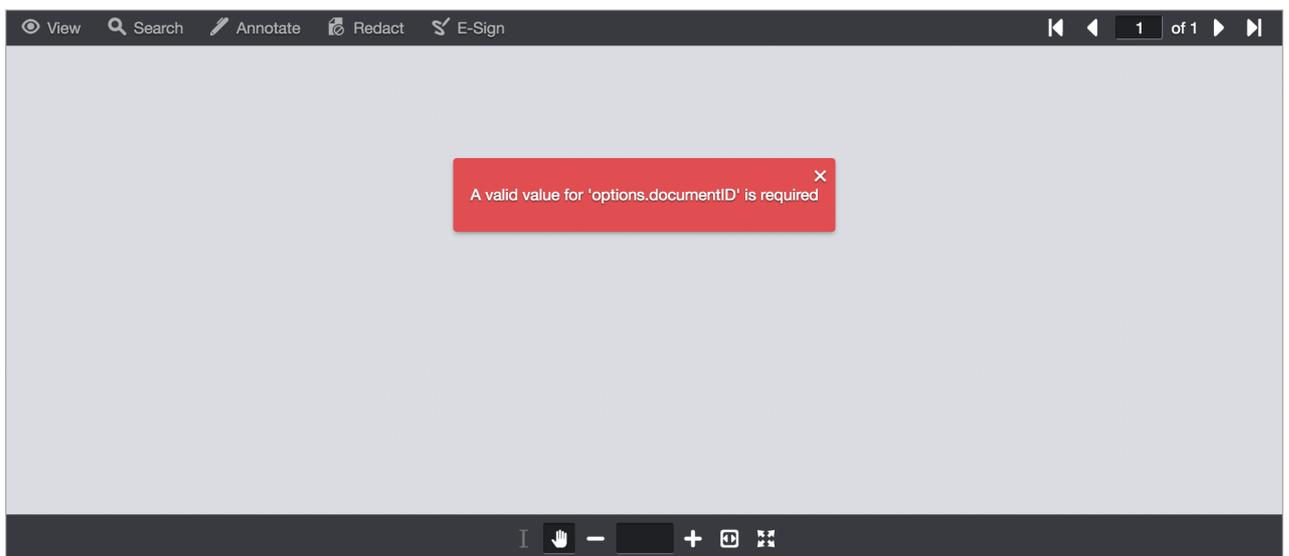
```
<script type="text/javascript">
  $(function() {
    $('#viewerContainer').pccViewer({
      //documentID:      'TODO: We'll handle this in part 2',
      imageHandlerUrl:  '/pas-proxy',
      viewerAssetsPath: 'viewer-assets',
      resourcePath:     'viewer-assets/img',
      language:         viewerCustomizations.languages['en-US'],
      template:         viewerCustomizations.template,
      icons:            viewerCustomizations.icons,
      annotationsMode: "LayeredAnnotations"
    });
  });
</script>
```

**NOTE:** If your static files are hosted at a path other than `viewer-assets/`, adjust `viewerAssetsPath` and `resourcePath` accordingly.

You'll notice that the `documentID` has not been set yet. We'll get to that soon.

### What We Have So Far

At this point, if you run your web application and view the page in a browser, you should see the viewer UI with the following error:



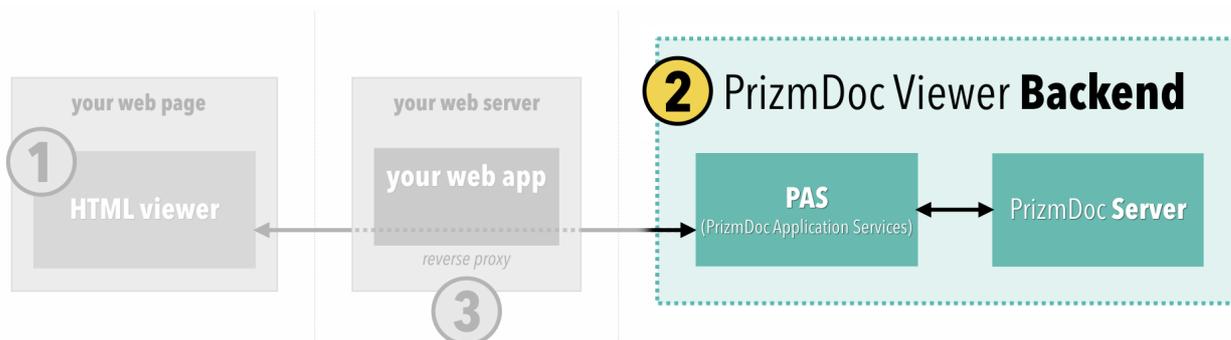
The error is occurring because we have not yet connected the viewer to a backend *viewing session*. We'll do that now in [part 2](#).

## 2. Choosing a Backend & Creating a Viewing Session

### 2. Choosing a Backend and Creating a Viewing Session

Next, we need to work with the backend to create a *viewing session*: the “thing” on the backend that is responsible for converting the document and the “thing” the viewer will ask for converted SVG.

In order to do that, we need access to a running backend:



In this section, we will explain:

- the options you have for hosting a backend
- how to create a new *viewing session*
- how to connect a viewer to an associated *viewing session*
- how to provide the source document to the *viewing session*

By the end of this section, the viewer will begin to show a loading indicator (though document content won’t load quite yet).

### Choosing a Backend Hosting Option

You have several options for hosting the backend:

1. **PrizmDoc Cloud.** Accusoft fully-manages a backend which is shared by multiple customers. You pay only for transactions which you use (e.g. documents viewed or processed). *This is the easiest way to get started.*
2. **Private Cloud.** Accusoft deploys a backend for your dedicated use in the cloud and then fully-manages the backend for you. You pay annually for the average number of servers we run for you. This is another easy way to get started. If you’re interested in this option, [contact Sales](#).
3. **Self-Hosted.** You deploy and manage the backend yourself on your own hardware. Data never leaves your network. You pay annually based on the number of machines you run PrizmDoc Server on. For more information, see the [Self-Hosted Backend Administrator Guide](#).

If you’re new to setting up a backend, [PrizmDoc Cloud](#) is the easiest way to get started. Just sign up, get your API key, and you’re done. Your backend is ready. You can always switch to a private cloud or self-hosted option later if you need to.

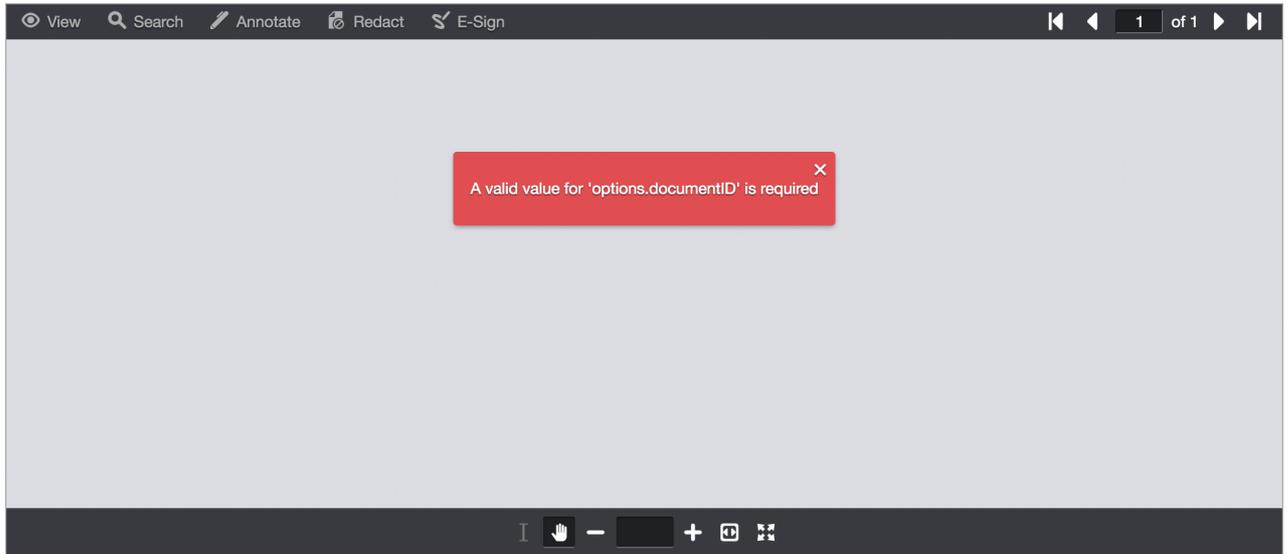
### About Viewing Sessions

Every viewer instance running in a browser must be associated with a backend *viewing session*. In other words, **any time you create a new viewer, you must first create a new backend *viewing session*.**

The *viewing session* is the “thing” on the backend that is responsible for converting the original document to SVG for viewing in the browser, and it is the “thing” the viewer talks to in order to ask for document content (“Hey backend, I

need page 9 for *viewing session XYZ...*").

This is why, at the end of [part 1](#), the viewer was giving us an error:

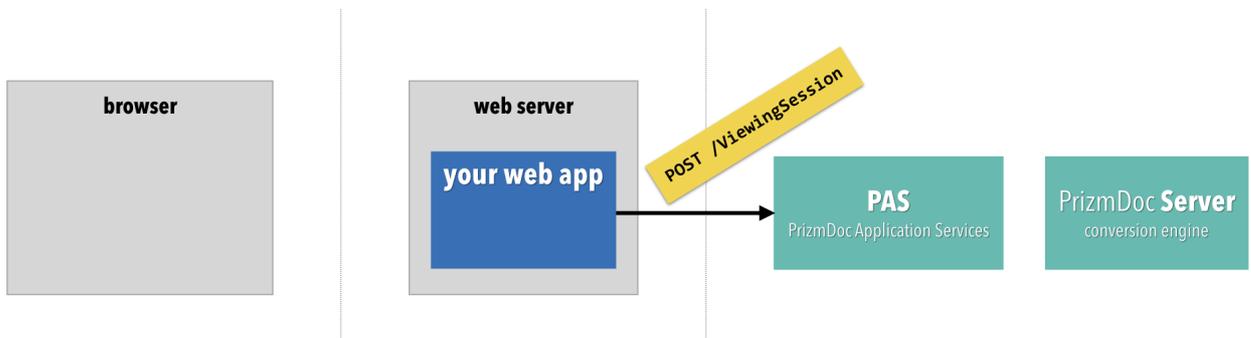


That error is the viewer's way of saying "Hey, you forgot to give me the id of my *viewing session*! I have no way to ask the backend for content."

Let's fix this.

## Creating the Viewing Session

Before rendering HTML with the viewer and sending it to the browser, your web application must first send a POST request to PAS to create a new *viewing session*:



If you're using [PrizmDoc Cloud](#), the HTTP request to create a *viewing session* looks like this:

```
POST https://api.accusoft.com/prizmdoc/ViewingSession
Acs-Api-Key: YOUR_API_KEY
Content-Type: application/json

{
  "source": {
    "type": "upload",
    "displayName": "UNIQUE_NAME_OF_THE_DOCUMENT_TO_BE_VIEWED"
  }
}
```

**NOTE:** If you're using a self-hosted backend:

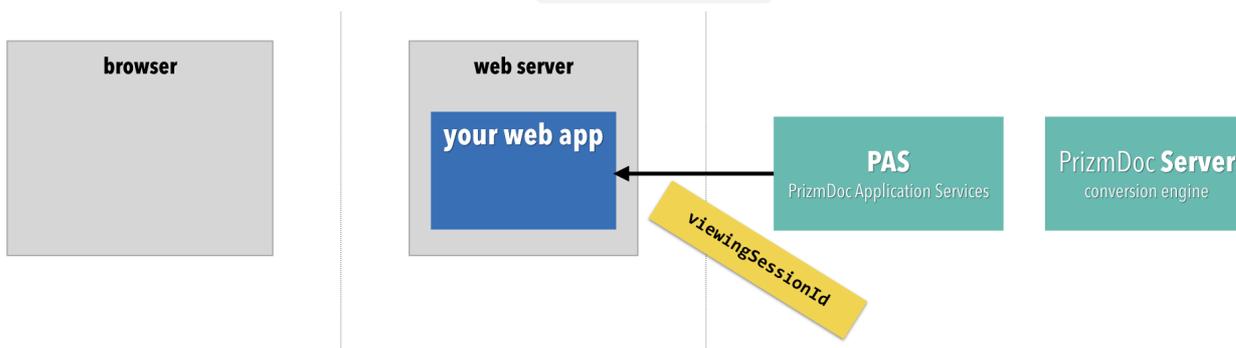
- Replace `https://api.accusoft.com/prizmdoc` with your actual PAS base URL (such as `http://localhost:3000`)
- Omit the `Acs-Api-Key` request header (needed for PrizmDoc Cloud)

Let's break this down:

- The `source` object tells PAS information about the original source document.
- `source.type` tells PAS how you intend to provide the source document. The value of "upload" means that you will be *uploading* the source document to PAS in a subsequent HTTP request, associating it with this *viewing session* (there are other options available, but "upload" is the one we recommend almost all of the time).
- Finally, `source.displayName` is a required option when `source.type` is set to "upload", and it must be a unique name for the document.

**NOTE:** To optimize backend performance, `source.displayName` must be unique for the binary contents of the document you will upload. You should NEVER use the same "displayName" value for two different source documents.

PAS will create a new *viewing session* and reply with its `viewingSessionId`:

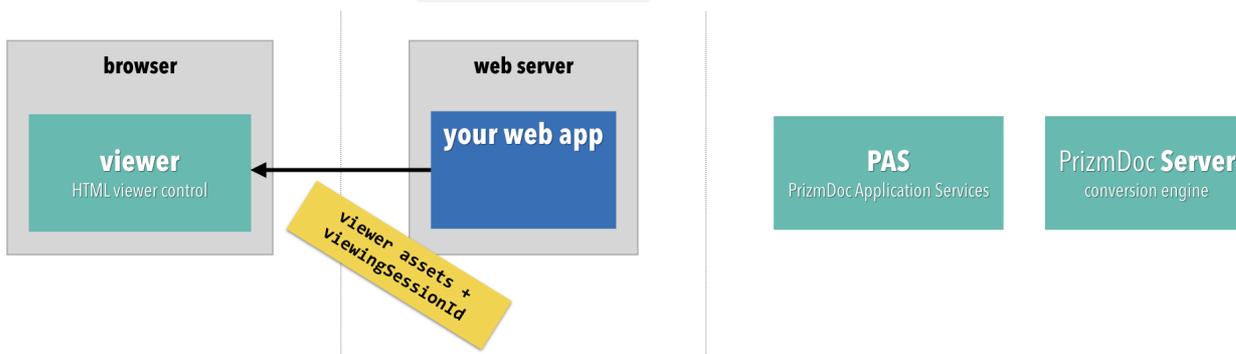


```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "viewingSessionId": "XYZ..."
}
```

## Connecting the Viewer to the Viewing Session

At this point, we've created a new "empty" *viewing session* and we have its unique `viewingSessionId`. PAS is still waiting on us to upload the source document. However, before we do that, we can go ahead and render the HTML with a viewer, configuring it to use this new `viewingSessionId`:



We construct the viewer just as we did before in [part 1](#), but **this time we will provide a value for the required `documentID` property which the viewer was complaining about** (the viewer API calls it `documentID` and the PAS REST API calls it `viewingSessionId`, but they are the same thing):

```
<script type="text/javascript">
  $(function() {
    $('#viewerContainer').pccViewer({
      documentID:      'XYZ...',
      imageHandlerUrl: '/pas-proxy',
      viewerAssetsPath: 'viewer-assets',
      resourcePath:    'viewer-assets/img',
      language: viewerCustomizations.languages['en-US'],
      template: viewerCustomizations.template,
      icons:          viewerCustomizations.icons,
      annotationsMode: "LayeredAnnotations"
    });
  });
</script>
```

## Uploading the Source Document to Begin Document Conversion

Finally, after rendering the HTML and sending it to the browser, your web application needs to actually upload the source document to PAS, associating it with the *viewing session*.

If you're using [PrizmDoc Cloud](#), the HTTP request to upload the source document looks like this:

```
PUT https://api.accusoft.com/prizmdoc/ViewingSession/u{viewingSessionId}/SourceFile
Acs-API-Key: YOUR_PRIZMDOC_CLOUD_API_KEY

<<file bytes>>
```

**NOTE:** *If you're using a self-hosted backend:*

- Replace `https://api.accusoft.com/prizmdoc` with your actual PAS base URL (such as `http://localhost:3000`)
- Omit the `Acs-API-Key` request header (needed for PrizmDoc Cloud)
- Add the required `Accusoft-Secret` header with the value of your PAS `secretKey`

If your document is accepted, PAS will reply right away with a simple `200 OK`:

```
HTTP/1.1 200 OK
```

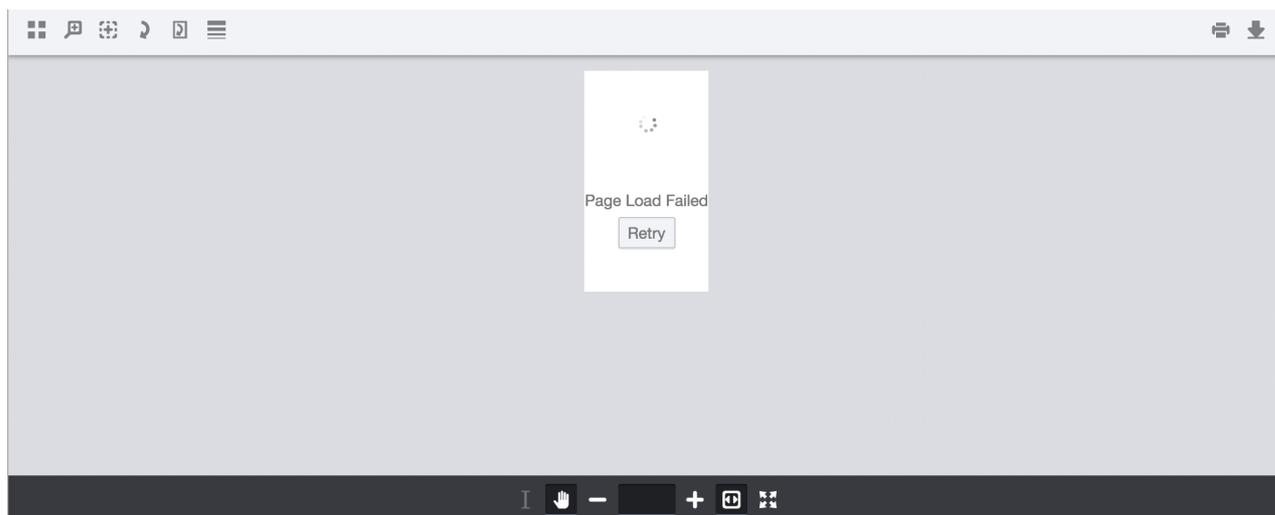
This just means that your document has been accepted and the conversion process has begun.

## What We Have So Far

The viewer has a real `viewingSessionId`, and the backend is actually converting the document for viewing in the browser. And the viewer is now trying to ask the backend for converted document content.

If you run your web application now, the viewer should show a loading indicator. However, you'll also notice a "Page Load Failed" message and no content actually appears:



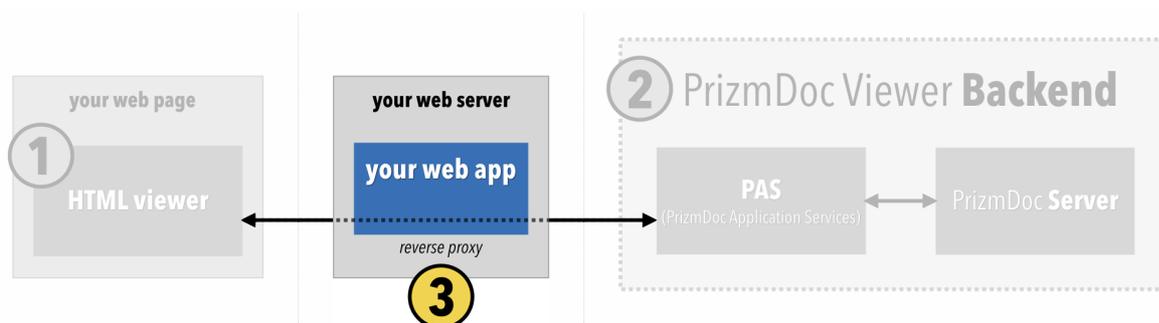


That's because the viewer's requests to the backend aren't actually getting through yet. We'll fix that next in [part 3](#).

## 3. Setting up a Reverse Proxy

### 3. Setting Up the Reverse Proxy

Finally, we need to set up a simple reverse proxy so that the viewer can make GET requests *through* your web server to the backend:



By the end of this section, the viewer should actually display real document content.

### Configuring the Viewer's Reverse Proxy Route

When we constructed the viewer, there was a special `imageHandlerUrl` property which we set to the value `/pas-proxy`:

```
<script type="text/javascript">
  $(function() {
    $('#viewerContainer').pccViewer({
      documentID: 'XYZ...',
      imageHandlerUrl: '/pas-proxy',
      viewerAssetsPath: 'viewer-assets',
      resourcePath: 'viewer-assets/img',
      language: viewerCustomizations.languages['en-US'],
      template: viewerCustomizations.template,
      icons: viewerCustomizations.icons,
      annotationsMode: "LayeredAnnotations"
    });
  });
</script>
```

`imageHandlerUrl` is just the base URL that the viewer should use when it makes GET requests to PAS for document content.

The viewer makes a variety of GET requests to PAS, such as:

- GET `/Page/q/0?DocumentID=uXYZ...&Scale=1`
- GET `/Document/q/Attributes?DocumentID=uXYZ...`
- GET `/Document/q/0-0/Text?DocumentID=uXYZ...`
- etc.

When the viewer makes those requests, it will use the `imageHandlerUrl` as the base URL for all of those requests. Since we set the value to `/pas-proxy`, the actual requests it makes will look like this:

- GET `/pas-proxy/Page/q/0?DocumentID=uXYZ...&Scale=1`
- GET `/pas-proxy/Document/q/Attributes?DocumentID=uXYZ...`
- GET `/pas-proxy/Document/q/0-0/Text?DocumentID=uXYZ...`
- etc.

Notice that these requests to `/pas-proxy/*` are still going to your web server. We still need to set up a reverse proxy for this `/pas-proxy/*` route to ensure that all such HTTP requests are forwarded to PAS.

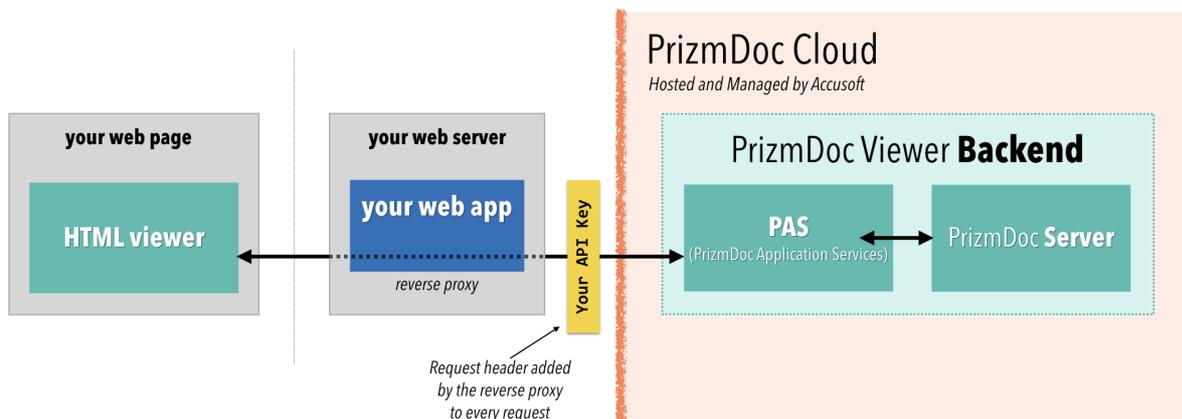
## The Reverse Proxy and Your PrizmDoc Cloud API Key

If you're using [PrizmDoc Cloud](#), your reverse proxy has an important responsibility: it must add your PrizmDoc Cloud API key to each HTTP request before sending it along to the backend.

Every HTTP request made to PrizmDoc Cloud *must* be authenticated with an API key provided in a request header named `Acsc-Api-Key`.

However, you need to keep your API key private. It's what gives you access to everything within PrizmDoc Cloud, and it's what we use to determine how many billable transactions you've performed. To avoid people abusing your account and incurring unwanted charges, you should **never** send your API key to the browser. Instead, this responsibility should be handled by your reverse proxy.

So, the viewer will send GET requests to your web application. Your reverse proxy will accept the request, add the API key header, and then forward the request along to PrizmDoc Cloud:



## Setting Up a Reverse Proxy

There are lots of options for setting up a reverse proxy. Fundamentally, you need to decide whether to set up your reverse proxy 1) as part of your application code or 2) as part of an external web server, like [nginx](#) or [IIS](#). We offer examples of both. Pick one that most-closely matches what you need:

- [Setting Up a Reverse Proxy Within Your Web Application](#)
  - [node.js](#)
  - [ASP.NET](#)

- [Java / Spring](#)
- [Setting Up a Reverse Proxy Outside of Your Web Application](#)
  - [nginx](#)
  - [IIS](#)

## Setting Up a Reverse Proxy Within Your Web Application

### node.js

If you're using [node.js](#) and [express](#), you can use a package like [http-proxy-middleware](#).

**NOTE:** For a complete example application, check out our [Hello PrizmDoc Viewer with node.js and HTML sample on GitHub](#).

Here is how you would set up a `/pas-proxy` route:

```
const express = require('express');
const proxy = require('http-proxy-middleware');

const app = express();

app.use(proxy('/pas-proxy', {
  pathRewrite: {
    '^/pas-proxy': '', // remove the /pas-proxy prefix when forwarding
    target: 'https://api.accusoft.com/prizmdoc', // PAS base URL
    changeOrigin: true, // necessary to convert from HTTP to HTTPS
    headers: {
      'Acs-API-Key': 'YOUR_API_KEY' // for PrizmDoc Cloud
    }
  }
}));
```

And that's how you can configure your express application to proxy all `GET /pas-proxy/*` requests to PAS!

Once you've set that up, you can [skip ahead to the conclusion](#).

### ASP.NET

If you're using ASP.NET, you can use [SharpReverseProxy](#), an OWIN middleware package available on [nuget](#).

**NOTE:** For a complete example application, check out our [Hello PrizmDoc Viewer with .NET and HTML sample on GitHub](#).

Within the `Configure` method of your `Startup.cs`, here is how you would set up a `/pas-proxy` route:

```
app.UseProxy(new List<ProxyRule> {
  new ProxyRule {
    Matcher = uri => uri.AbsolutePath.StartsWith("/pas-proxy/"),
    Modifier = (req, user) =>
    {
      // Create a corresponding request to the actual PAS host
      var match = Regex.Match(req.RequestUri.PathAndQuery, "/pas-proxy/(.+)");
      var path = match.Groups[1].Value;
      var pasBaseUri = new Uri("https://api.accusoft.com/prizmdoc/");
      req.RequestUri = new Uri(pasBaseUri, path);

      // For PrizmDoc Cloud
      req.Headers.Add("Acs-API-Key", "YOUR_API_KEY");
    }
  }
}, result =>
{
  Logger.LogDebug($"Proxy: {result.ProxyStatus} Url: {result.OriginalUri} Time: {result.Elapsed}");
  if (result.ProxyStatus == ProxyStatus.Proxied)
  {
```

```
        Logger.LogDebug($"          New Url: {result.ProxiedUri.AbsoluteUri} Status:
{result.HttpStatusCode}");
    }
});
```

And that's how you can configure your ASP.NET application to proxy all `GET /pas-proxy/*` requests to PAS.

Once you've set that up, you can [skip ahead to the conclusion](#).

## Java / Spring

In a Java Spring application you can use [Netflix Zuul](#).

**NOTE:** For a complete example application, check out our [Hello PrizmDoc Viewer with Java and HTML sample on GitHub](#).

Your `application.properties` will define the information Zuul needs to set up a reverse proxy route for `/pas-proxy`:

```
prizmdoc.pas.baseUrl=https://api.accusoft.com/prizmdoc/
prizmdoc.cloud.apiKey=YOUR_API_KEY

# ===== Proxy all requests from /pas-proxy/* to PAS =====
ribbon.eureka.enabled=false
zuul.routes.pas-proxy.path=/pas-proxy/**
zuul.routes.pas-proxy.url=${prizmdoc.pas.baseUrl}
zuul.routes.pas-proxy.stripPrefix=true
```

Your main `Application.java` will look like this:

```
package myapp;

import org.springframework.boot.SpringApplication;
import org.springframework.boot.autoconfigure.SpringBootApplication;
import org.springframework.cloud.netflix.zuul.EnableZuulProxy;
import org.springframework.context.annotation.Bean;
import sample.pasProxy.AddApiKeyRequestHeaderFilter;

@EnableZuulProxy
@SpringBootApplication
public class Application {
    public static void main(String[] args) {
        SpringApplication.run(Application.class, args);
    }
}
```

If you're using [PrizmDoc Cloud](#), you'll need to also make sure that your API key is added as a request header before requests are forwarded to the backend. You can do that by setting up a Zuul "pre" filter Spring component:

```
package myapp;

import javax.servlet.http.HttpServletRequest;
import com.netflix.zuul.context.RequestContext;

import org.slf4j.Logger;
import org.slf4j.LoggerFactory;
import org.springframework.beans.factory.annotation.Value;

import com.netflix.zuul.ZuulFilter;

/**
 * Ensures that the PrizmDoc Cloud API key, if defined, is injected
 * as a request header before proxied requests are sent to PAS.
 *
 * Netflix Zuul will execute this "pre" filter before sending the request on to PAS,

```

```

allowing
 * this class to inject the configured PrizmDoc Cloud API key.
 *
 * See https://spring.io/guides/gs/routing-and-filtering/
 */
@Component
public class AddApiKeyRequestHeaderFilter extends ZuulFilter {

    private static final Logger log =
LoggerFactory.getLogger(AddApiKeyRequestHeaderFilter.class);

    @Value("${prizmdoc.cloud.apiKey:#{null}}")
    private String apiKey;

    @Override
    public String filterType() {
        return "pre";
    }

    @Override
    public int filterOrder() {
        return 0;
    }

    @Override
    public boolean shouldFilter() {
        return true;
    }

    @Override
    public Object run() {
        RequestContext ctx = RequestContext.getCurrentContext();
        HttpServletRequest request = ctx.getRequest();

        if (apiKey != null) {
            ctx.addZuulRequestHeader("Acs-Api-Key", apiKey);
        }

        log.info("Proxying {} {}", request.getMethod(), request.getRequestURL());

        return null;
    }
}

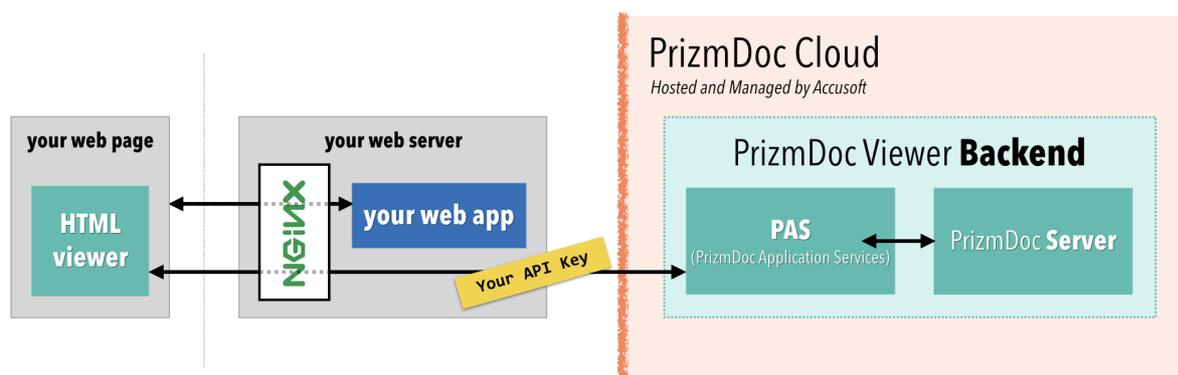
```

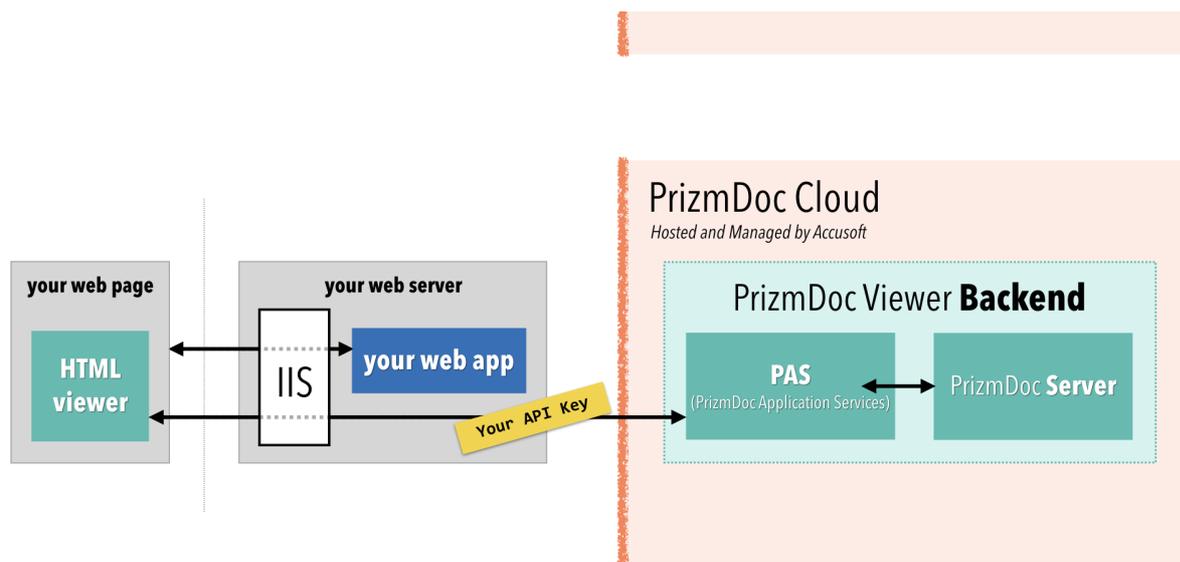
And that's how you can configure your Java Spring application to proxy all `GET /pas-proxy/*` requests to PAS.

Once you've set that up, you can [skip ahead to the conclusion](#).

## Setting Up a Reverse Proxy Outside of Your Web Application

In a production application, it's common to keep the reverse proxy concern outside of your application code, using something like nginx or IIS in front of your web application:





With this approach, all incoming traffic goes to nginx or IIS and then, based on the URL, gets routed either to your web application or to PAS.

Assuming you already have nginx or IIS in front of your web application, this section will explain how to configure an additional reverse proxy rule to route all `GET /pas-proxy/*` requests to PAS.

### nginx

Within your nginx config file, you can easily add a `location` directive to a `server` defining a reverse proxy route to PAS:

```
location /pas-proxy/ {
    # Limit to GET requests (which is all the viewer needs)
    limit_except GET {
        deny all;
    }

    # For PrizmDoc Cloud:
    proxy_set_header Acs-Api-Key YOUR_API_KEY;

    # PAS base URL
    proxy_pass https://api.accusoft.com/prizmdoc/;
}
```

Note carefully the trailing slashes in the example above! They are important.

And that's how you configure nginx to proxy all `GET /pas-proxy/*` requests to PAS.

Once you've set that up, you can [skip ahead to the conclusion](#).

### IIS

This section will walk you through setting up a reverse proxy route in IIS.

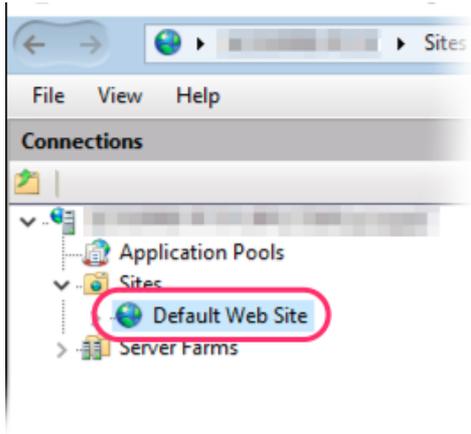
First, make sure you have these IIS extensions installed:

- [URL Rewrite](#)
- [Application Request Rerouting](#)

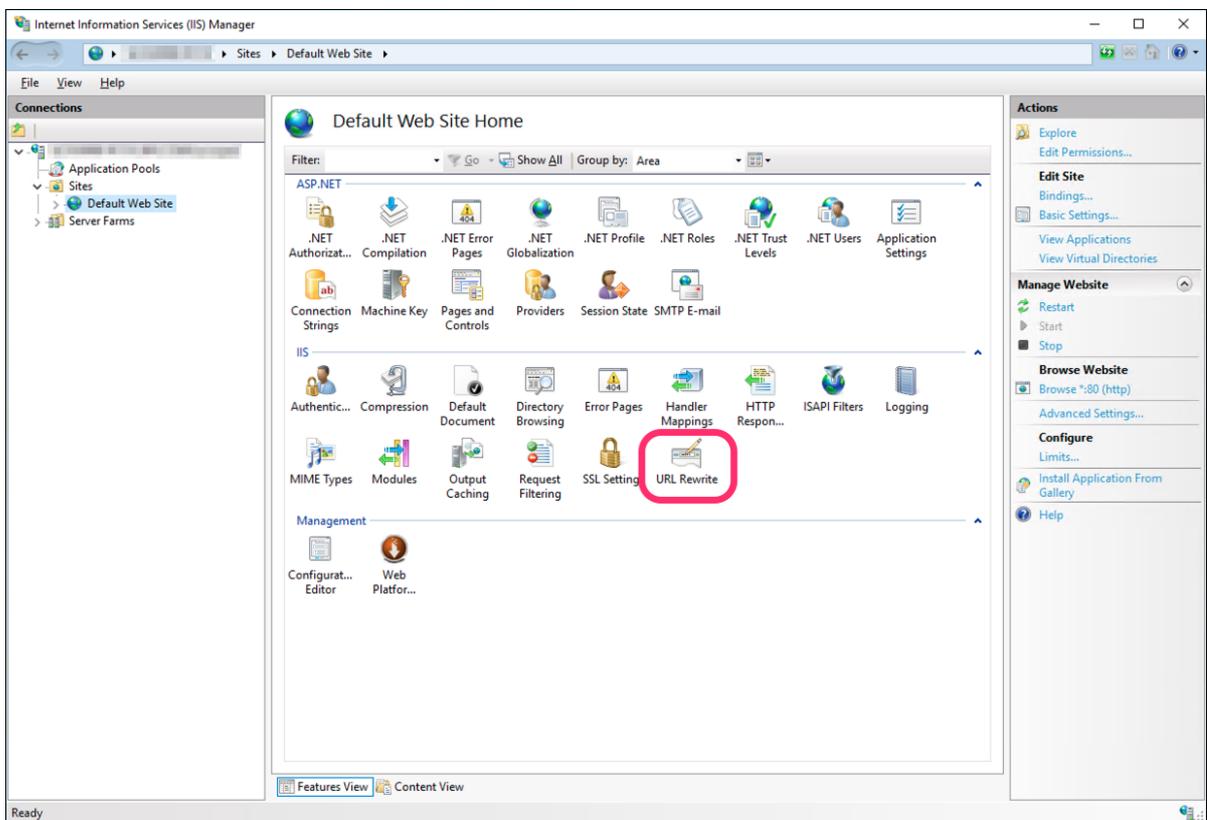
Next, we need to actually define the reverse proxy rule for your Site or Application in IIS. This sort of rule can only be applied at the Site or Application level. Let's walk through how to set this up:

1. Select the Site or Application you want to modify, such as **Default Web Site**:

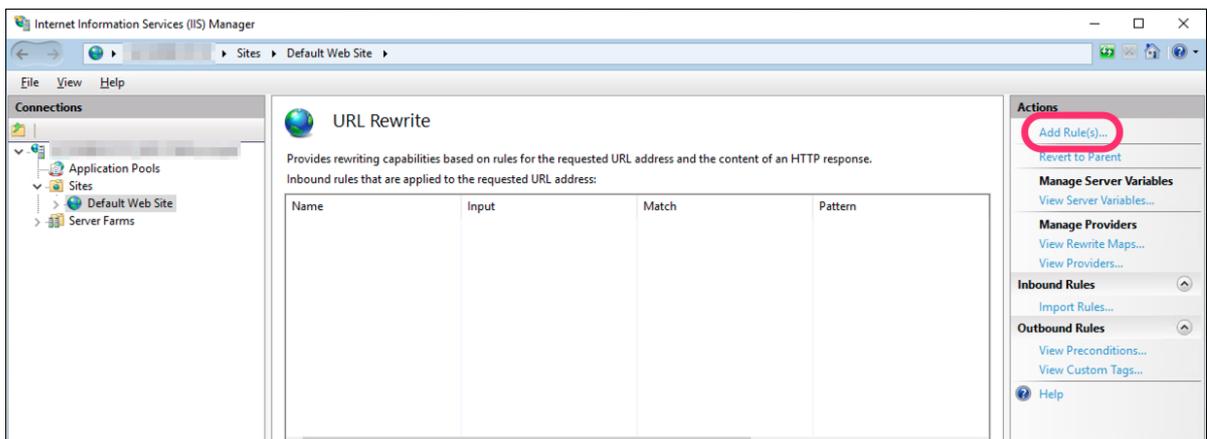


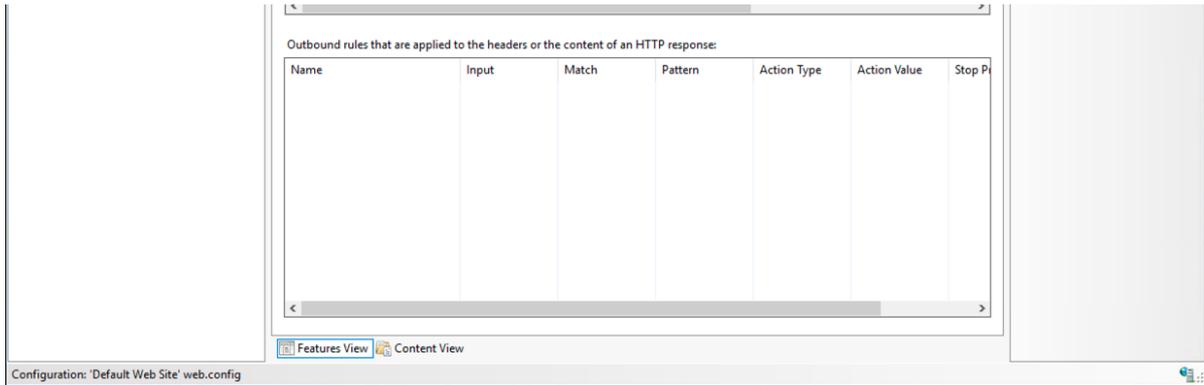


2. Open the **URL Rewrite** feature:

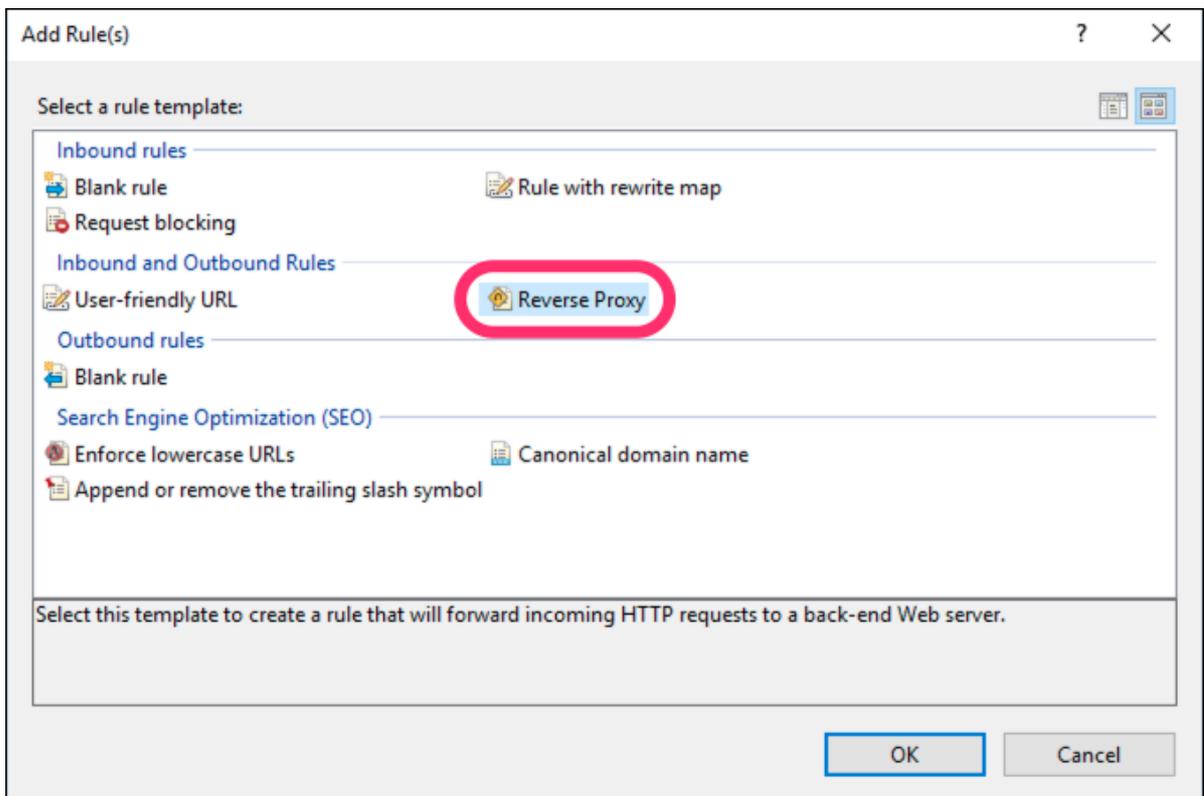


3. Click **Add Rule(s)...**



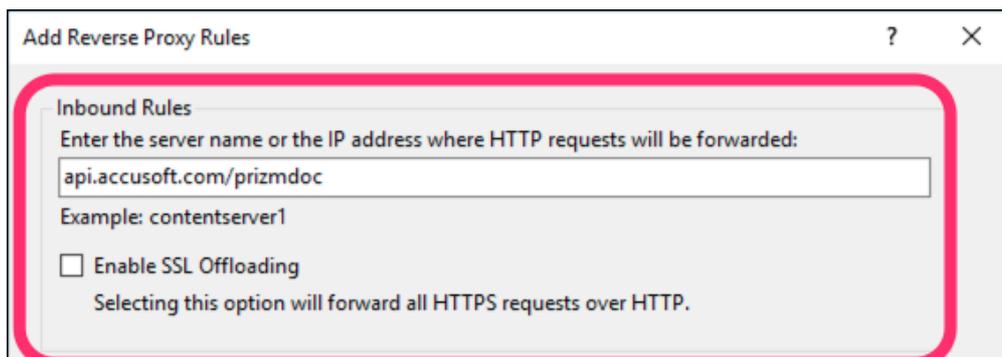


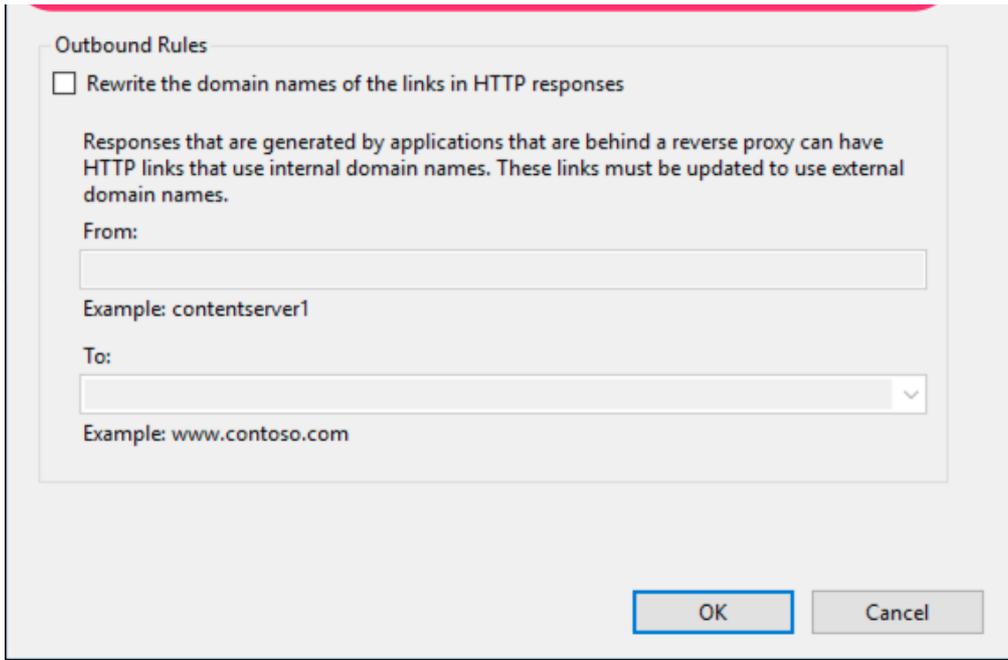
4. Choose the **Reverse Proxy** template:



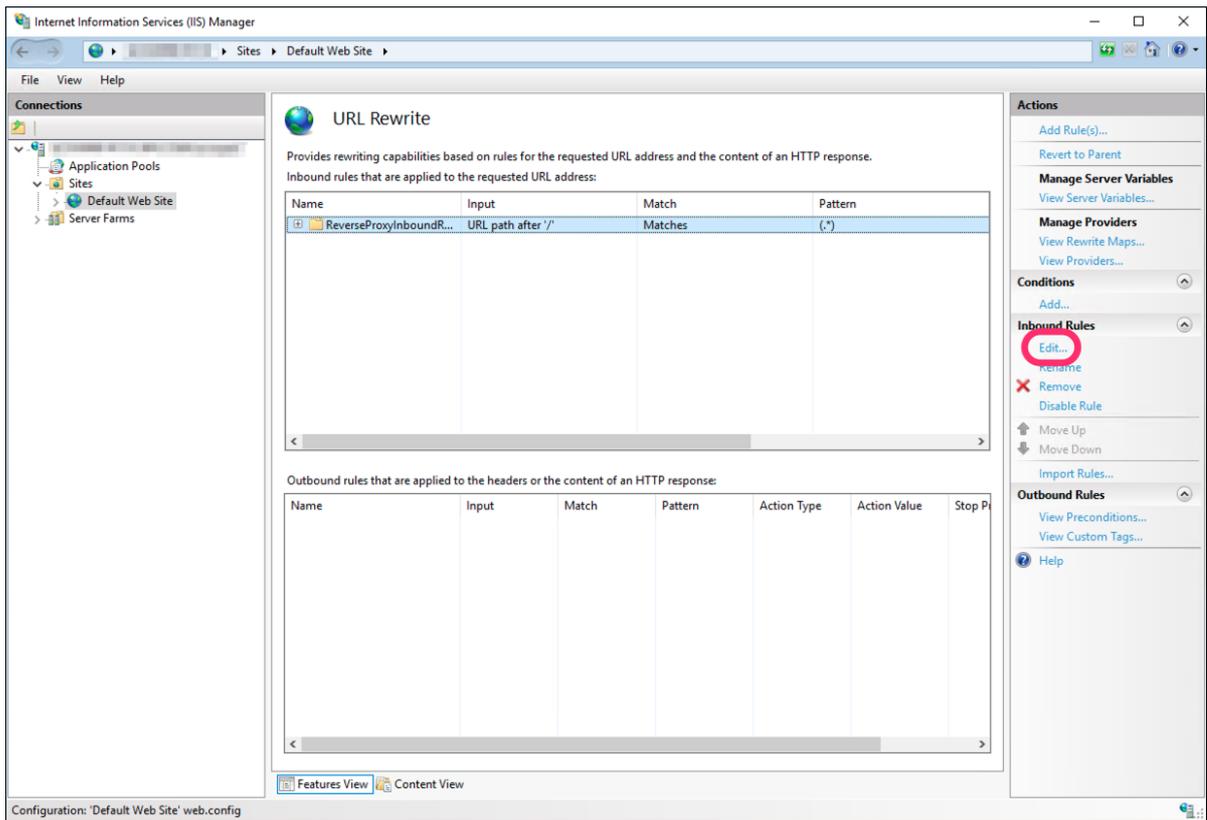
5. In the dialog:

- Enter a **value** for your PAS host. If you're using PrizmDoc Cloud for your backend, use the value `api.accusoft.com/prizmdoc` for now.
- Uncheck the **Enable SSL Offloading** checkbox.
- Click **OK** to create the new rule.



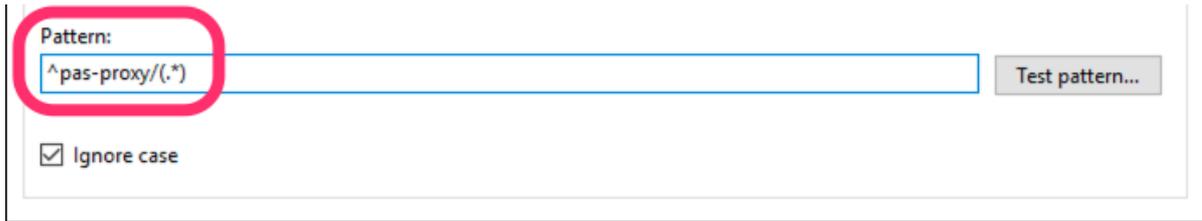


6. Now, click **Edit...** to further modify the rule you just created:

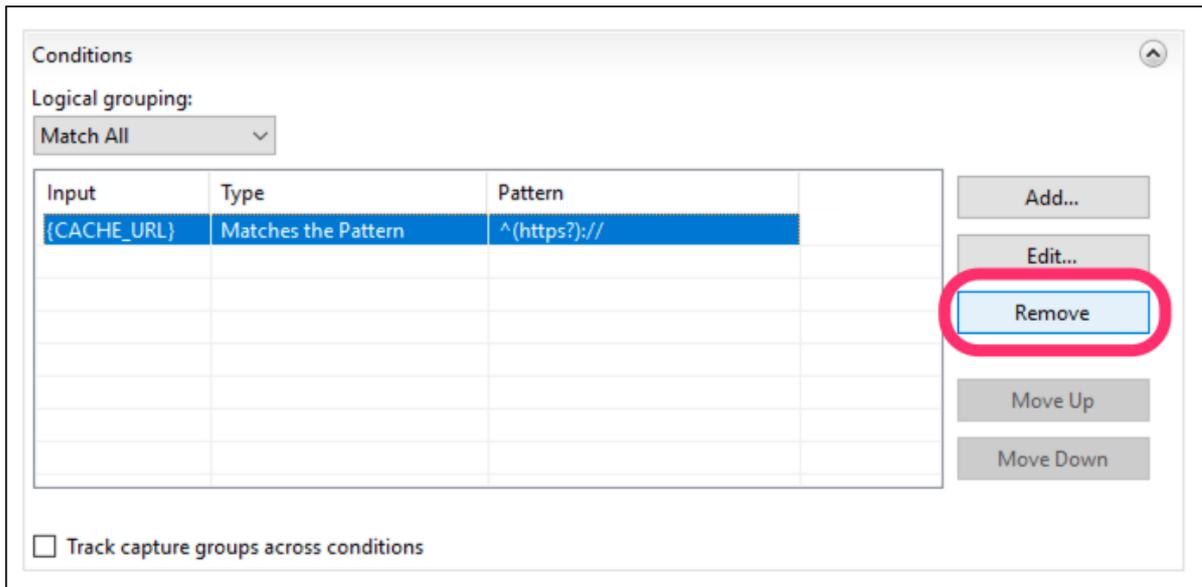


7. Under **Match URL**, change the **Pattern** value to `^pas-proxy/(.*)`

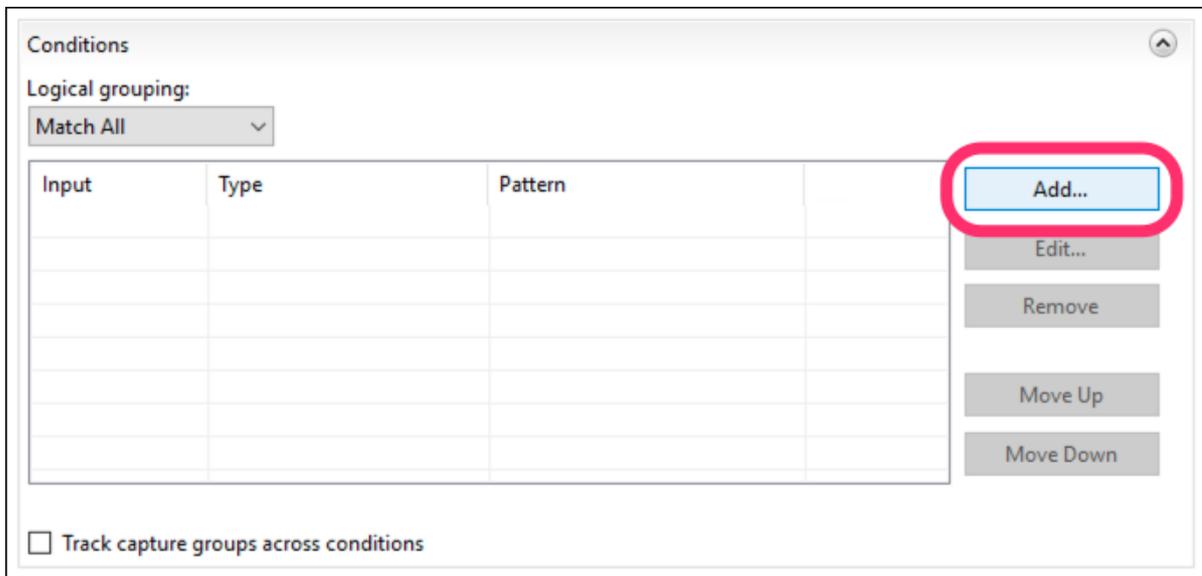




8. Under **Conditions**, click **Remove** to delete the default `{CACHE_URL}` rule that was created:

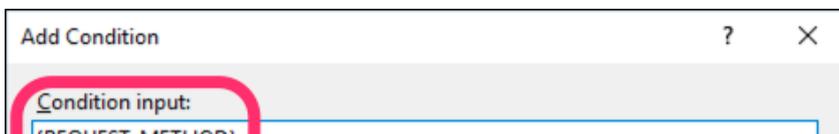


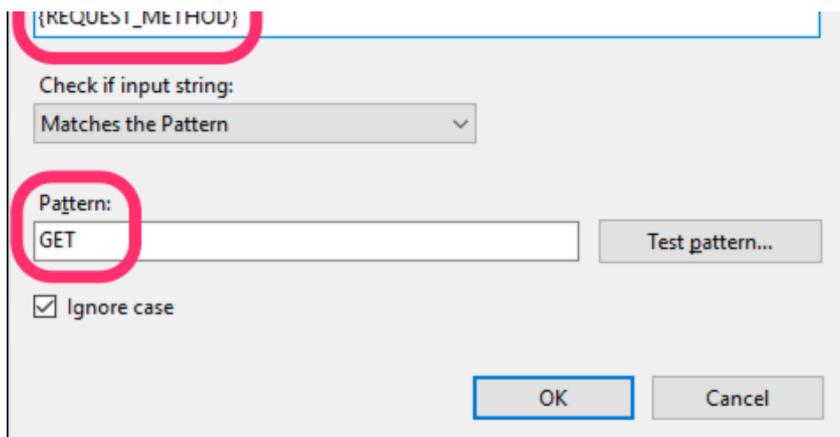
9. Next, we should limit this rule to only apply to GET requests (which is all the viewer needs). So click **Add...**



10. In the dialog:

- Set **Condition input** to `{REQUEST_METHOD}`
- Set **Pattern** to `GET`





{REQUEST\_METHOD}

Check if input string:  
Matches the Pattern

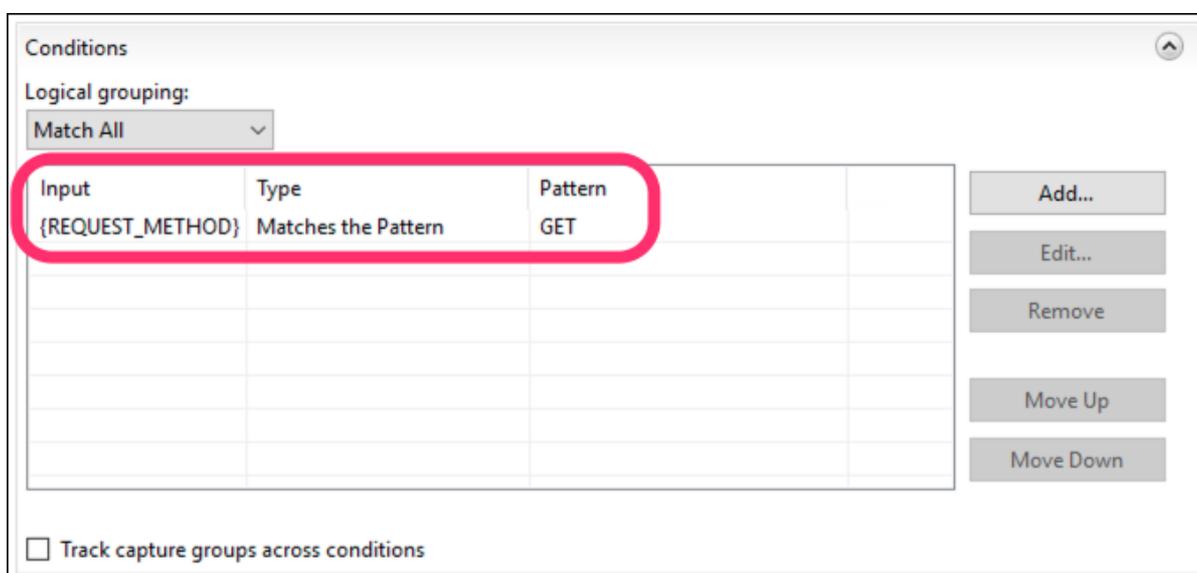
Pattern:  
GET

Test pattern...

Ignore case

OK Cancel

- Click **OK** to create the condition. Your **Conditions** list should now look like this:



Conditions

Logical grouping:  
Match All

Input	Type	Pattern
{REQUEST_METHOD}	Matches the Pattern	GET

Add...  
Edit...  
Remove  
Move Up  
Move Down

Track capture groups across conditions

11. At the bottom of the page, under **Action**, adjust the **Rewrite URL** to your actual PAS base URL, using `https` if possible.

- The default **Rewrite URL** value begins with `{C:1}` to dynamically use `http` or `https` based on the original request. But, if your PAS instance is running on HTTPS, you should replace `{C:1}` with `https` to ensure that all requests to PAS are over HTTPS.
- If you're using PrizmDoc Cloud for your backend, change the **Rewrite URL** to `https://api.accusoft.com/prizmdoc/{R:1}`:



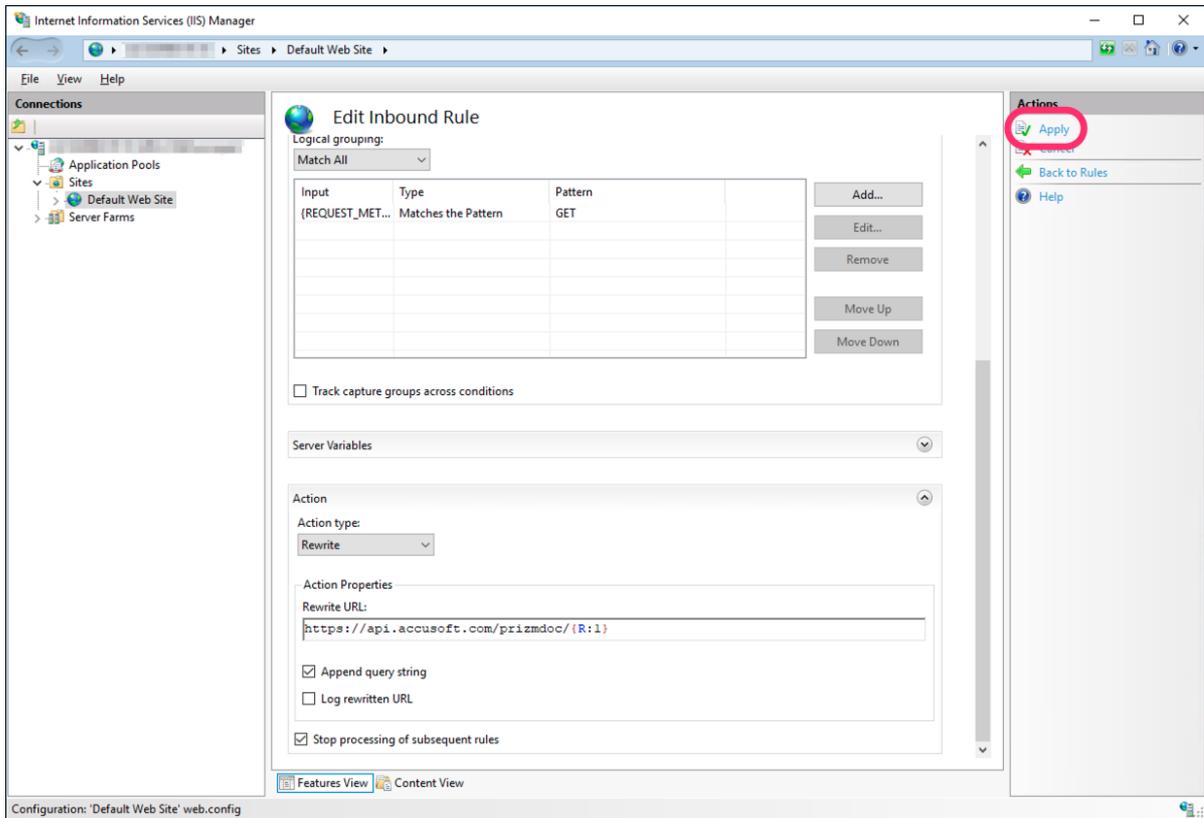
Action

Action type:  
Rewrite

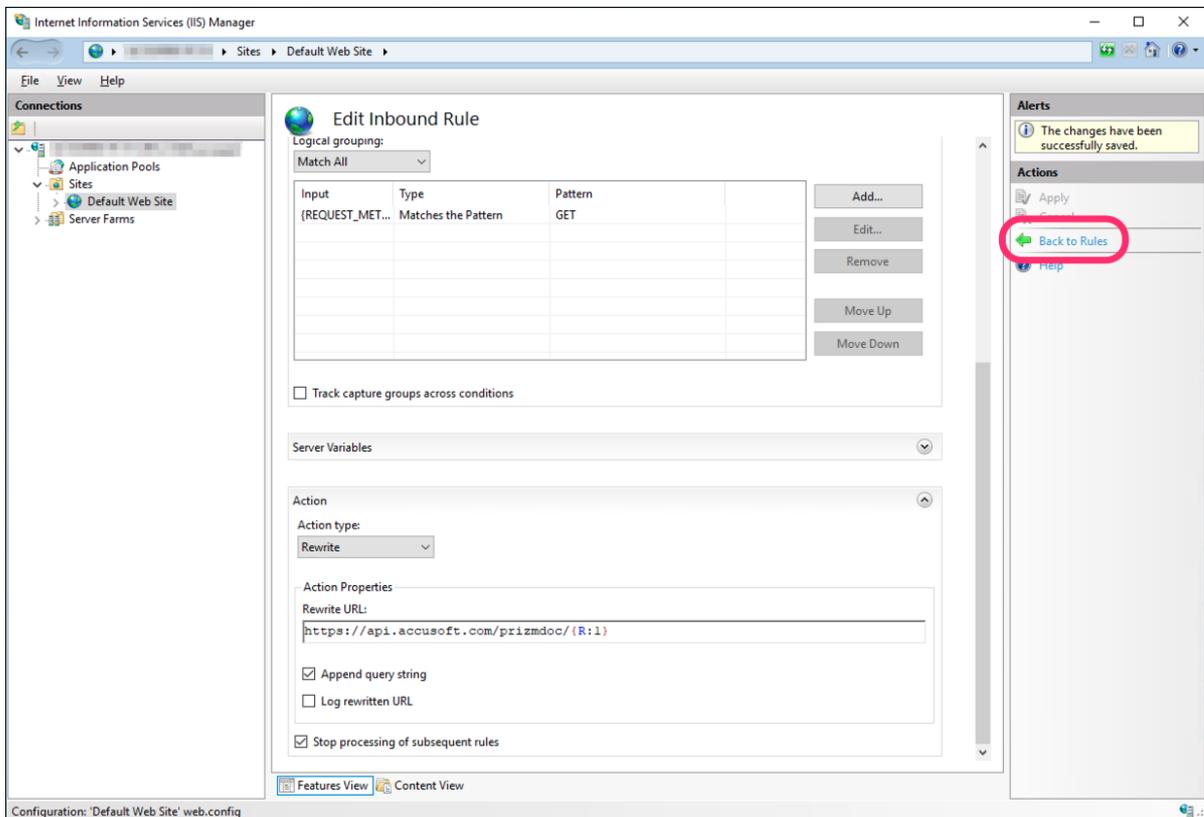
Rewrite URL:  
https://api.accusoft.com/prizmdoc/{R:1}

Append query string  
 Log rewritten URL  
 Stop processing of subsequent rules

12. Click **Apply** to save your changes to the rule:



13. Click **Back to Rules**:



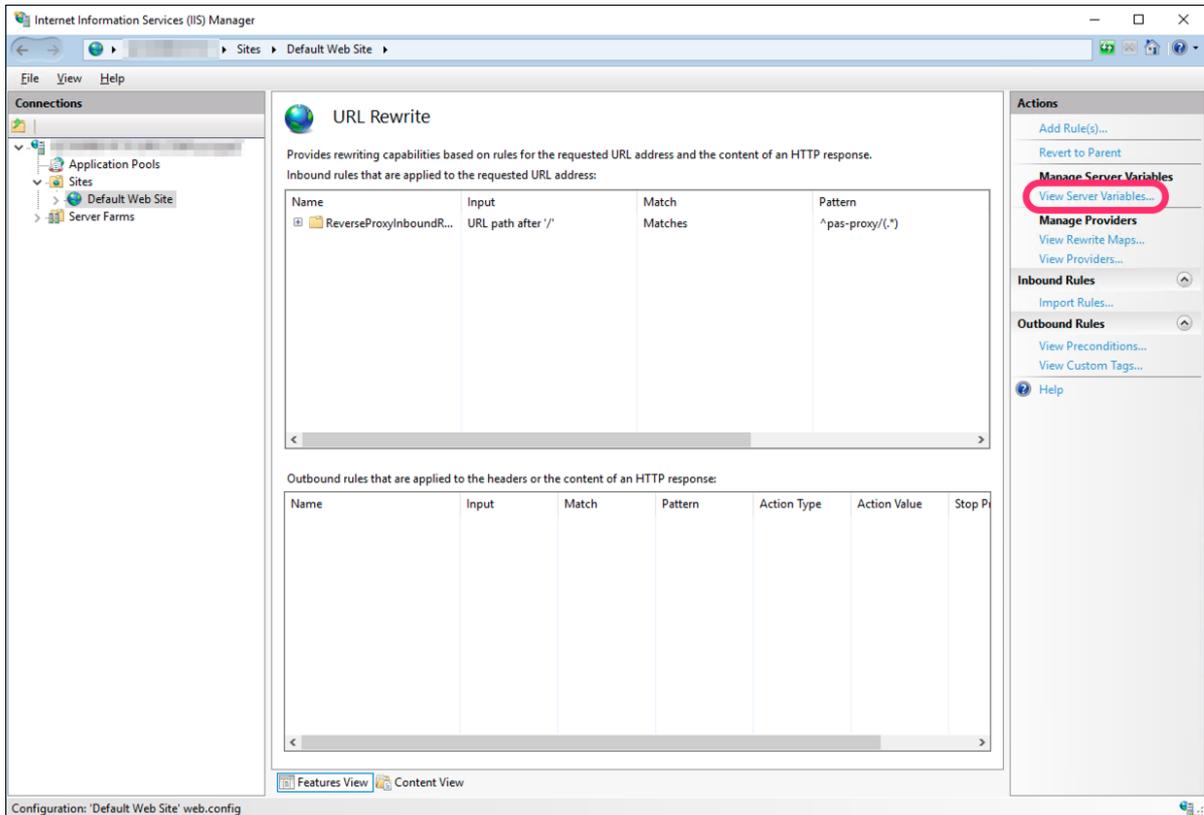
Finally, if you're using PrizmDoc Cloud for your backend, you need to ensure the reverse proxy adds your API key to every

request before it sends it along to PAS. PrizmDoc Cloud requires that your API key be provided via an HTTP request header named `ACS_API_KEY`. With IIS, you can achieve this by setting an IIS *server variable* named `HTTP_ACS_API_KEY` to your actual API key value (the URL Rewrite module will add a request header for any server variable beginning with `HTTP_`, basing the header name on the rest of the server variable name; see the [URL Rewrite module docs](#) for more information).

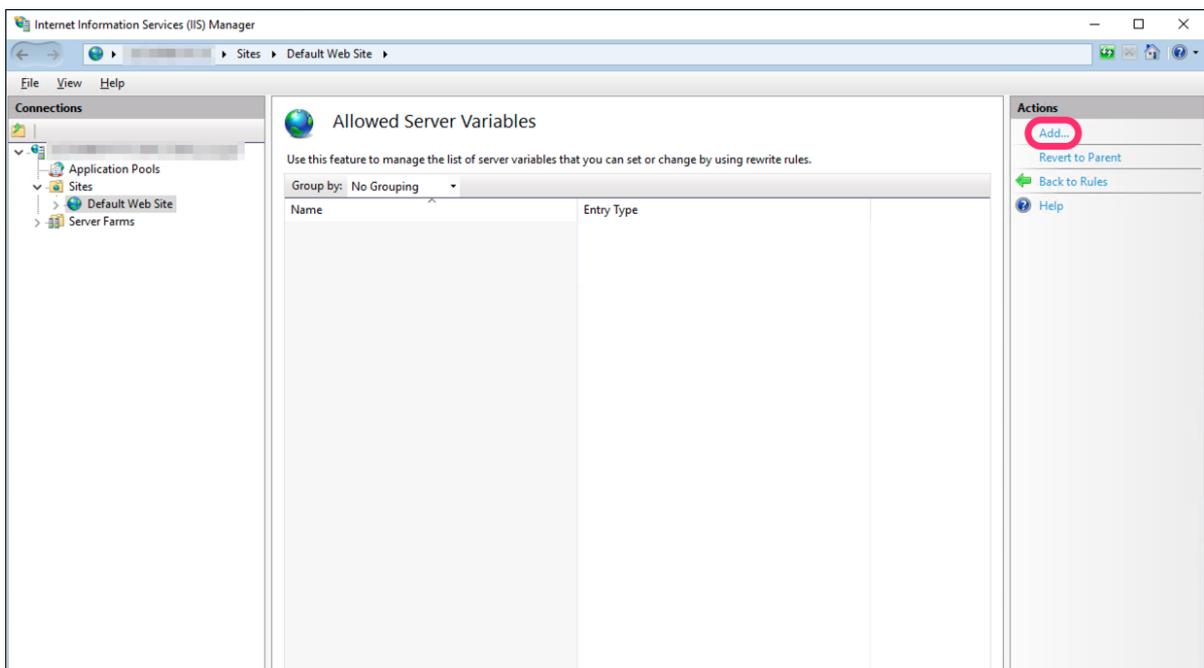
Setting up this server variable is a two-step process.

First, we need to define the `HTTP_ACS_API_KEY` server variable so we can actually use it.

1. On the URL Rewrite module screen, click **View Server Variables...**



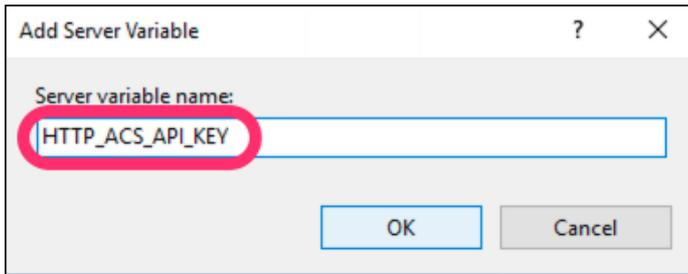
2. Click **Add...**



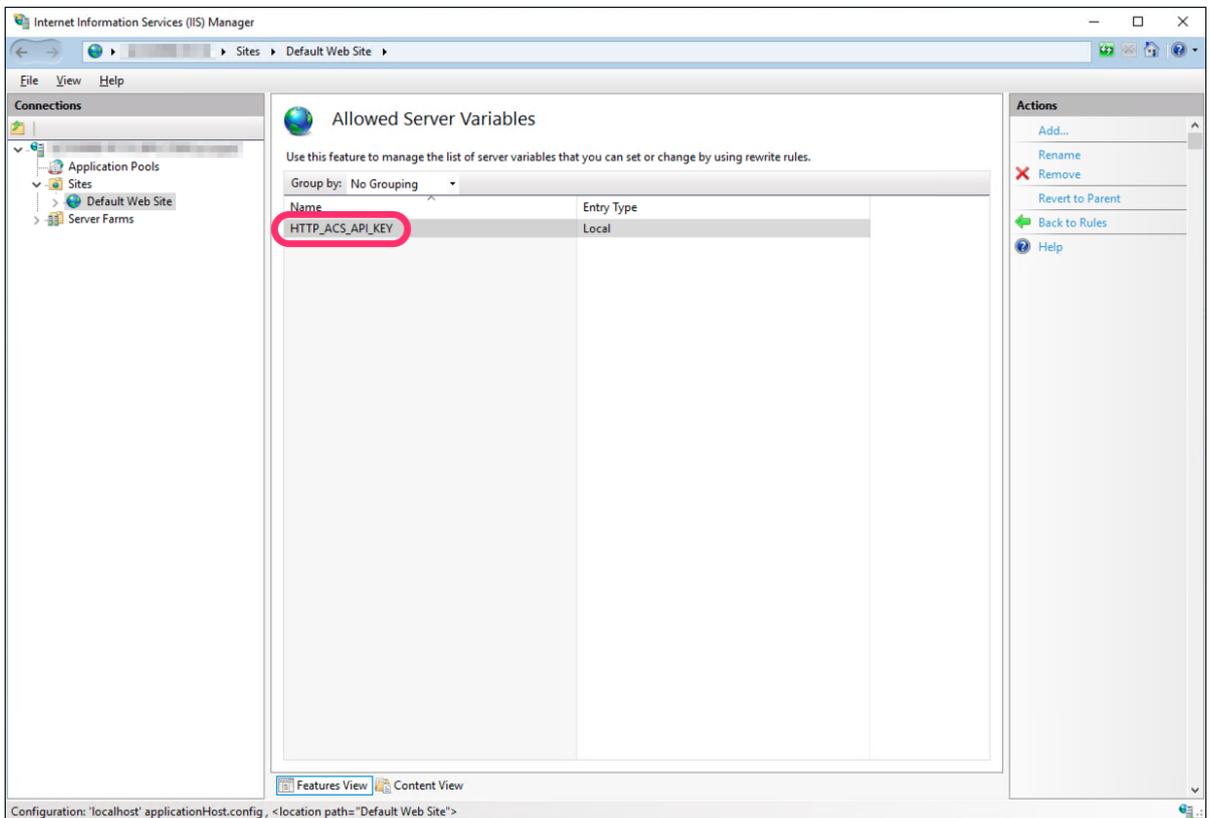


3. In the dialog:

- Set the **Server variable name** to `HTTP_ACS_API_KEY`:

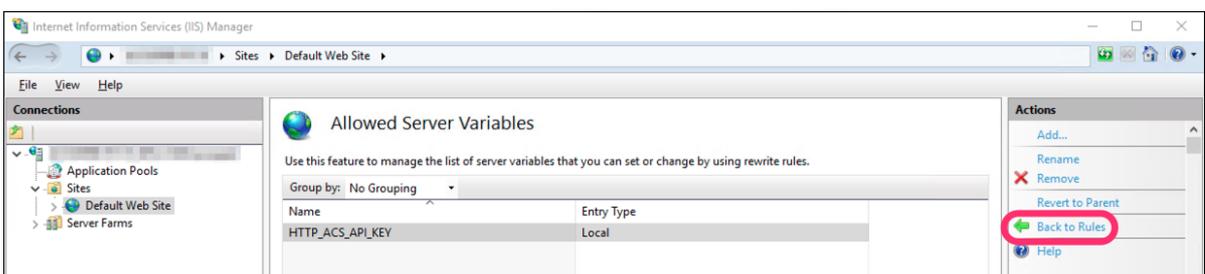


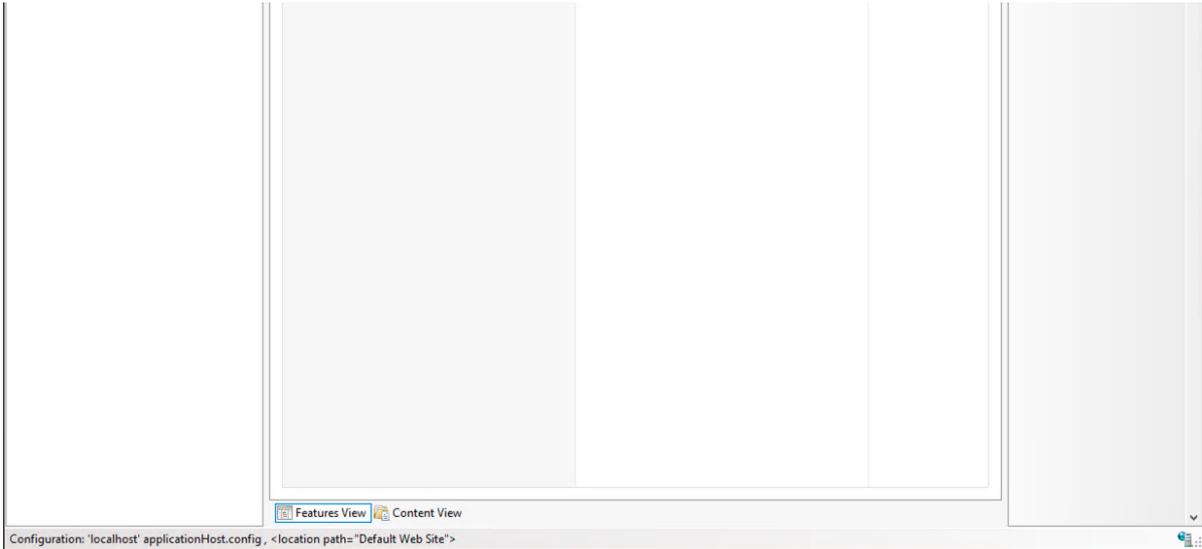
- Click **OK**. The **Allowed Server Variables** screen should now look like this:



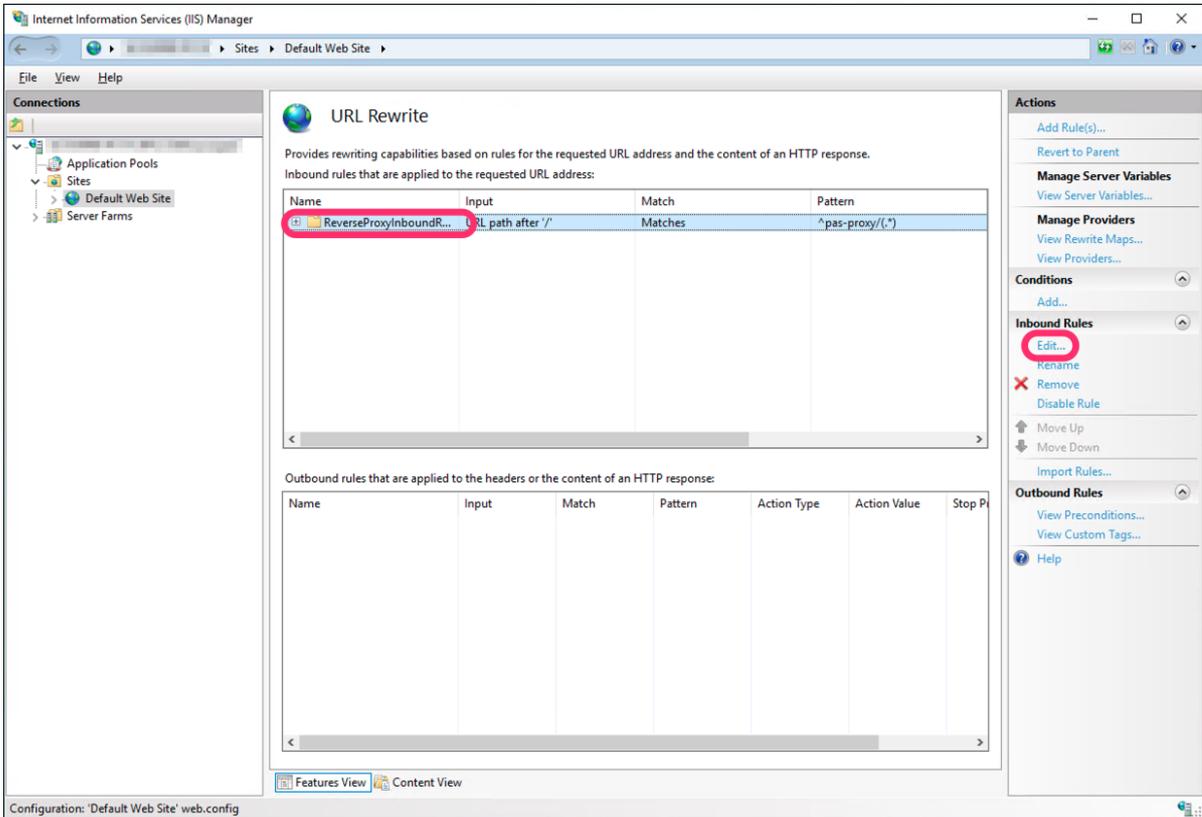
Now that we've allowed this variable, we need to actually use it in our reverse proxy.

1. Click **Back to Rules** to return to the list of URL Rewrite rules:

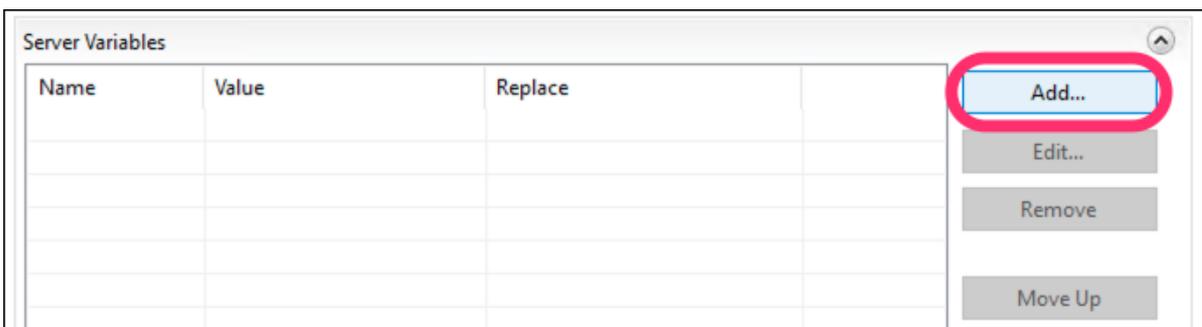


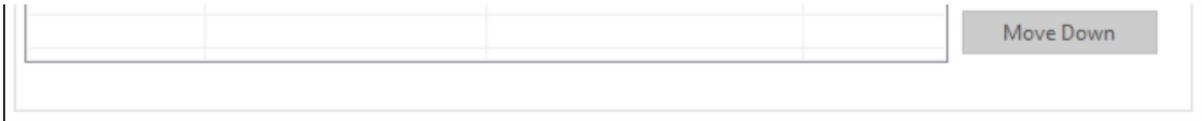


2. Select the reverse proxy rule we created earlier, then click **Edit...**



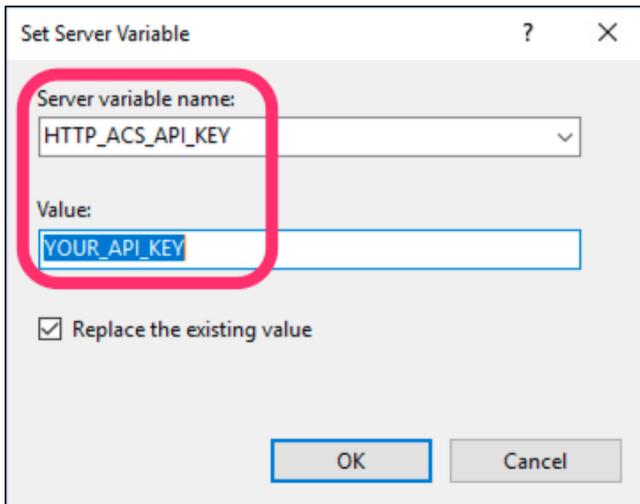
3. Expand **Server Variables** and click **Add...**



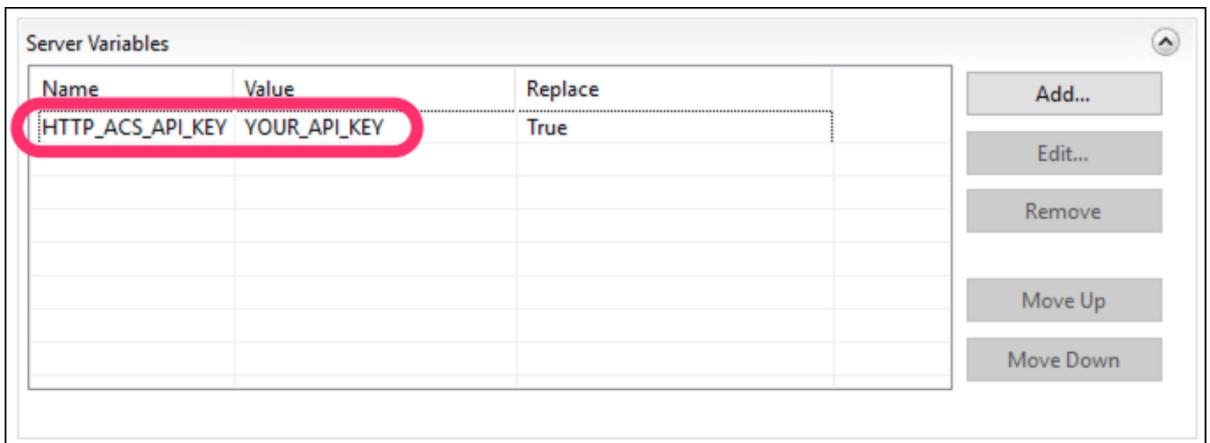


4. In the dialog:

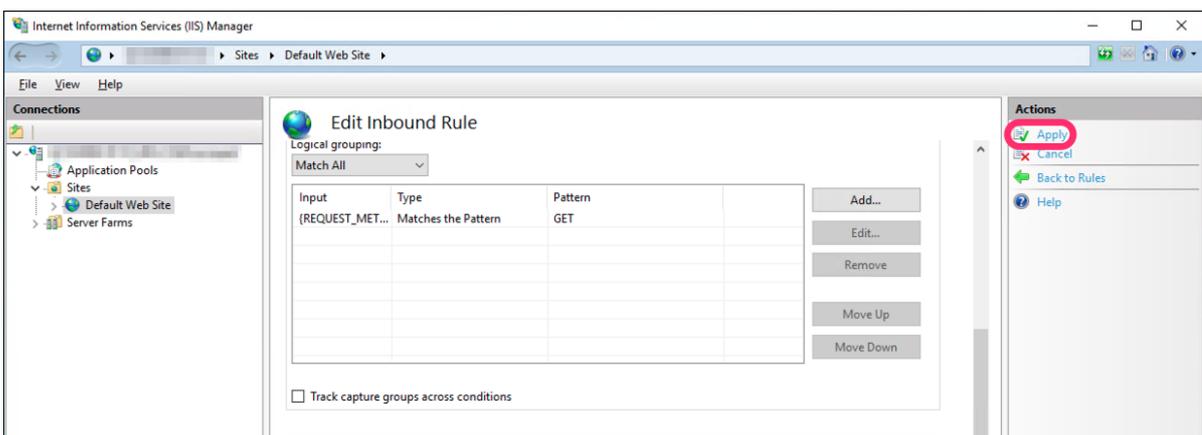
- Set **Server variable name** to `HTTP_ACS_API_KEY`
- Set **Value** to your actual API key

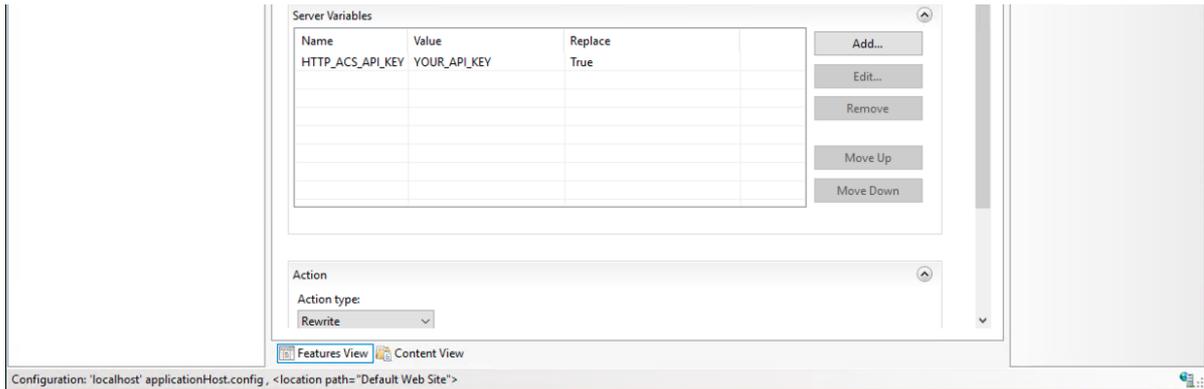


- Click **OK** to create this new server variable, which will add an `acs-api-key` request header to every request before forwarding it on to PAS. Your **Server Variables** list should now look like this:



5. Click **Apply** to save your changes to the rule:

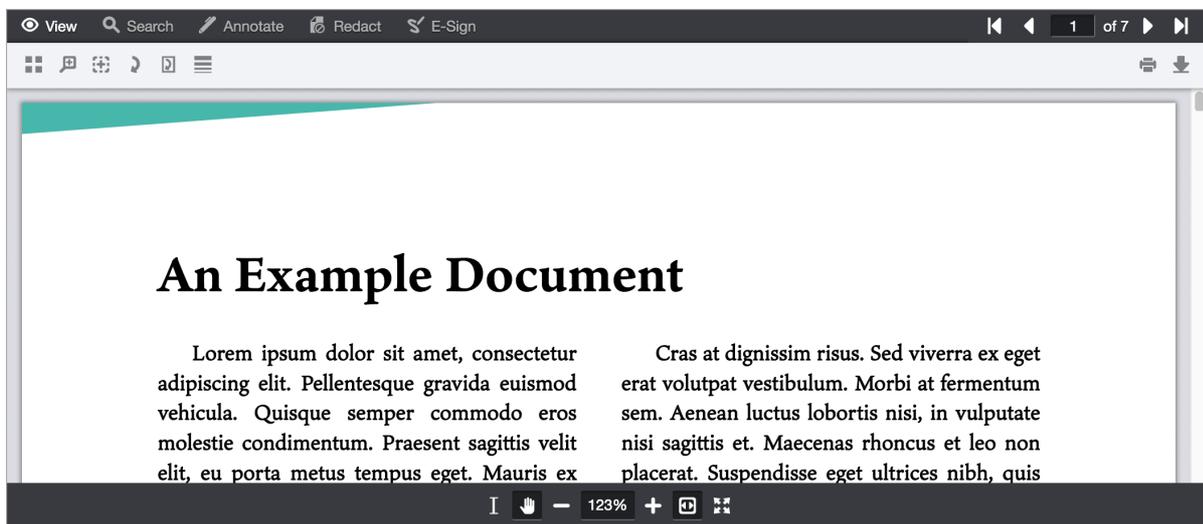




That's it! You've now configured your IIS site or application to proxy all `GET /pas-proxy/*` requests to PAS.

## What We Have Now

If you've configured everything correctly, your web application should now display a viewer with actual document content:



Congratulations, you've integrated PrizmDoc Viewer into your application!

## Samples

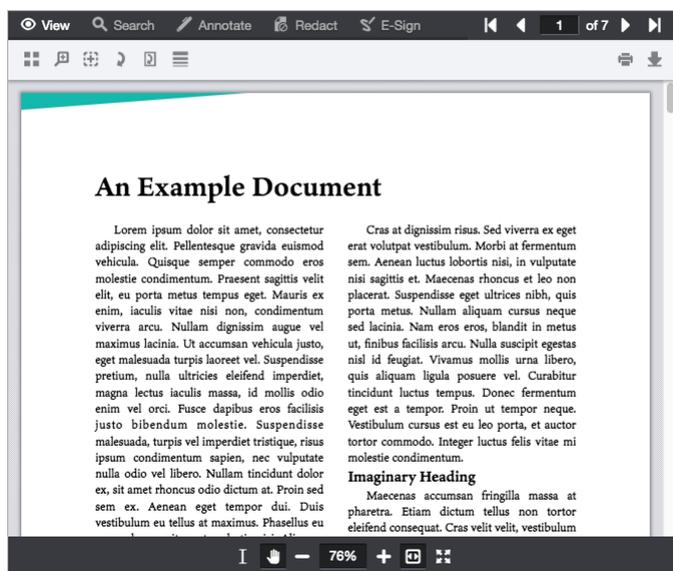
### Samples

#### "Hello Viewer" Samples

The "Hello Viewer" samples are introductory samples designed to help you, as a developer, be able to clearly see the fundamentals of integrating PrizmDoc Viewer into a web application. When they run, they show a simple page with a single viewer displaying an example document:

##### Hello PrizmDoc Viewer!

This is a minimal node.js express application which loads a document in the browser with PrizmDoc Viewer, like this:

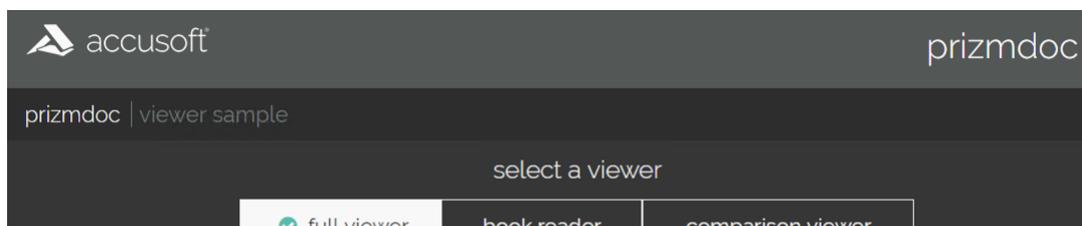


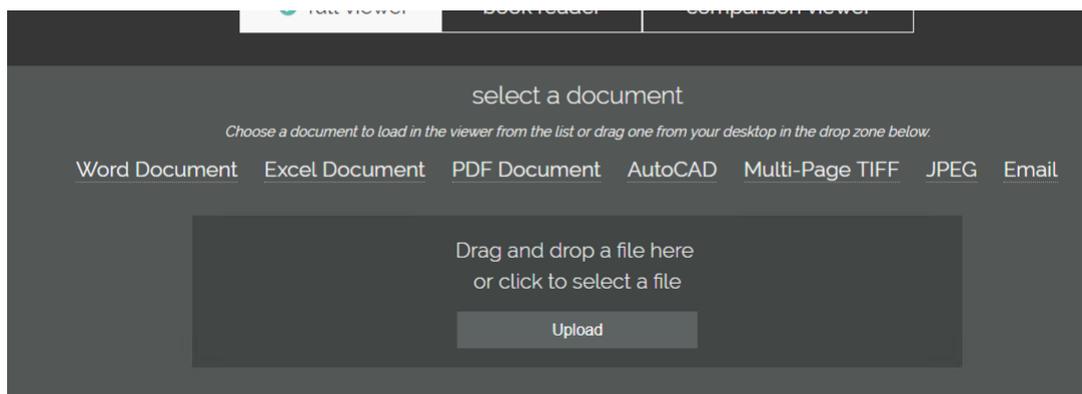
These samples are available on GitHub for several popular server-side programming languages and web application frameworks:

- [node.js & express](#)
- [ASP.NET Core](#)
- [Java & Spring](#)

#### Legacy Samples

If you are self-hosting your PrizmDoc viewer backend, we have some additional legacy samples which you may find useful (these samples assume you are self-hosting the backend and are not currently designed to be easily configured with our cloud-hosted backend options). These legacy samples are included in the "Client Installer" (one of the two installers you must run when setting up your self-hosted backend).





The legacy samples each demonstrate a variety product functionality within a single web application. These samples are available for the following server-side frameworks:

- [ASP.NET MVC](#)
- [ASP.NET WebForms](#)
- [JSP](#)
- [PHP](#)

Click on any of the links above for instructions on how to setup the sample web application.

## Legacy ASP.NET MVC Sample

### Legacy ASP.NET MVC Sample

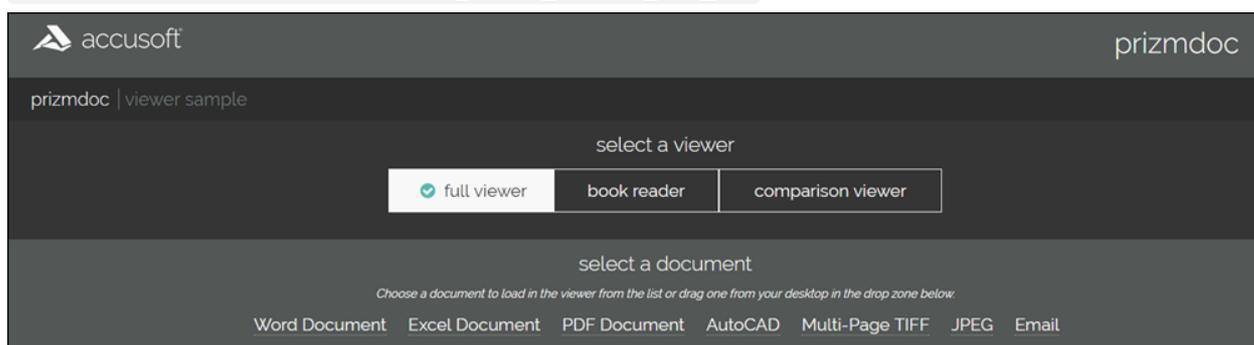
#### Installation

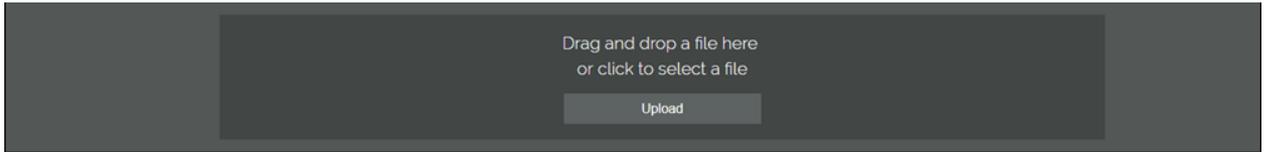
1. Ensure that Microsoft's Internet Information Service (IIS) is enabled on the computer that will be running the .NET MVC 5 sample. For steps on how to enable IIS, go to the [How to Enable Internet Information Services](#) page.
2. Ensure that .NET 4.5 is installed. You can download it from the [Microsoft .NET Framework](#) page.
3. Run the "[Client Installer](#)".
4. During installation, make sure the following features are selected to be installed:

- **Legacy Samples**
- **PAS (PrizmDoc Application Services)**
- **Configure ASP.NET Samples with IIS**
- **Re-register ASP.net 4.0 with IIS**

5. After installation, open this URL to make sure the legacy sample is running:

`http://localhost:18000/PrizmDoc_HTML5_Viewer_NET_MVC`





## Overview

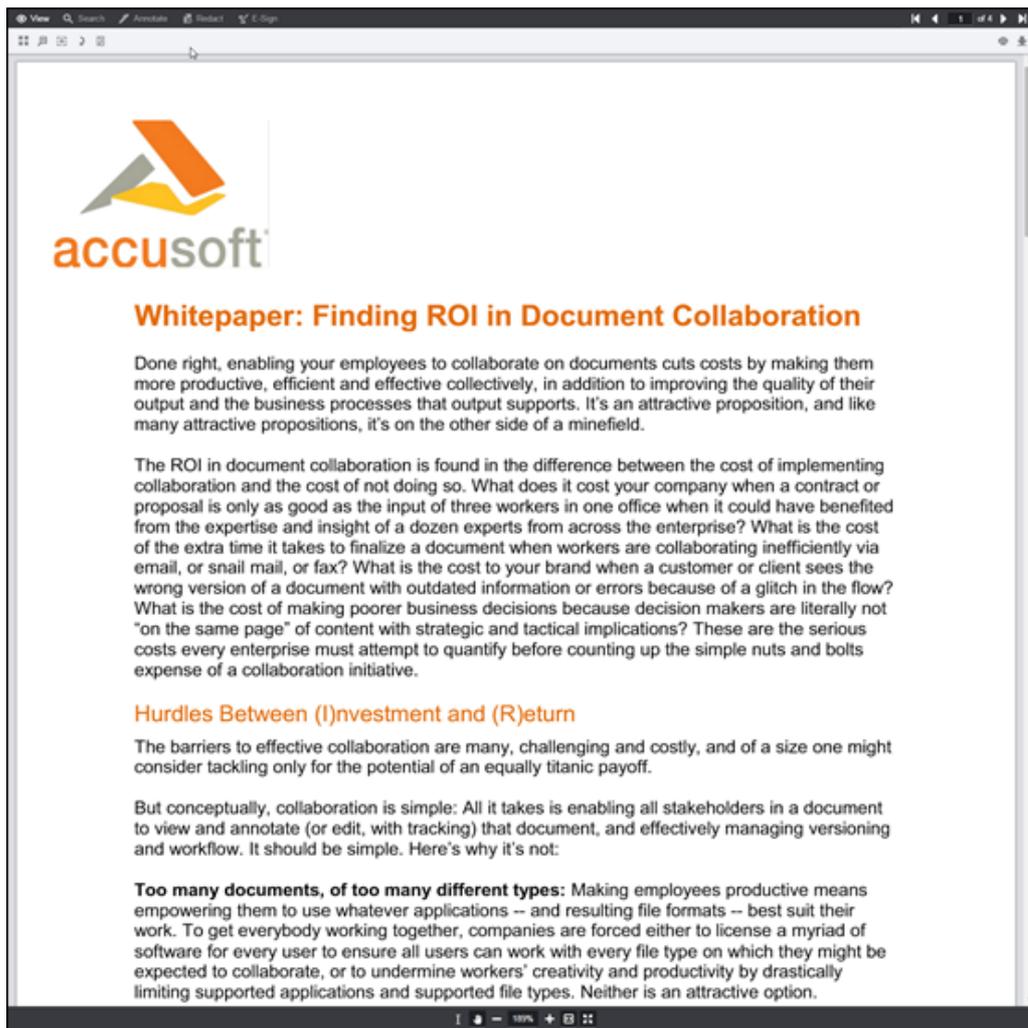
1. From the splash page you have three options:

Choice of viewer:

- You can choose to load either the **Full Viewer**, **Book Reader** or the **Comparison Viewer**.  
Select a sample document -OR- upload a document:
- You can choose any of the 5 sample documents (Word, PDF, CAD, Tiff, or JPEG)
- Or, you can upload a document from an arbitrary location on your computer. Note that dragging and dropping a file on this page is not supported in Internet Explorer 8.

2. Full Viewer:

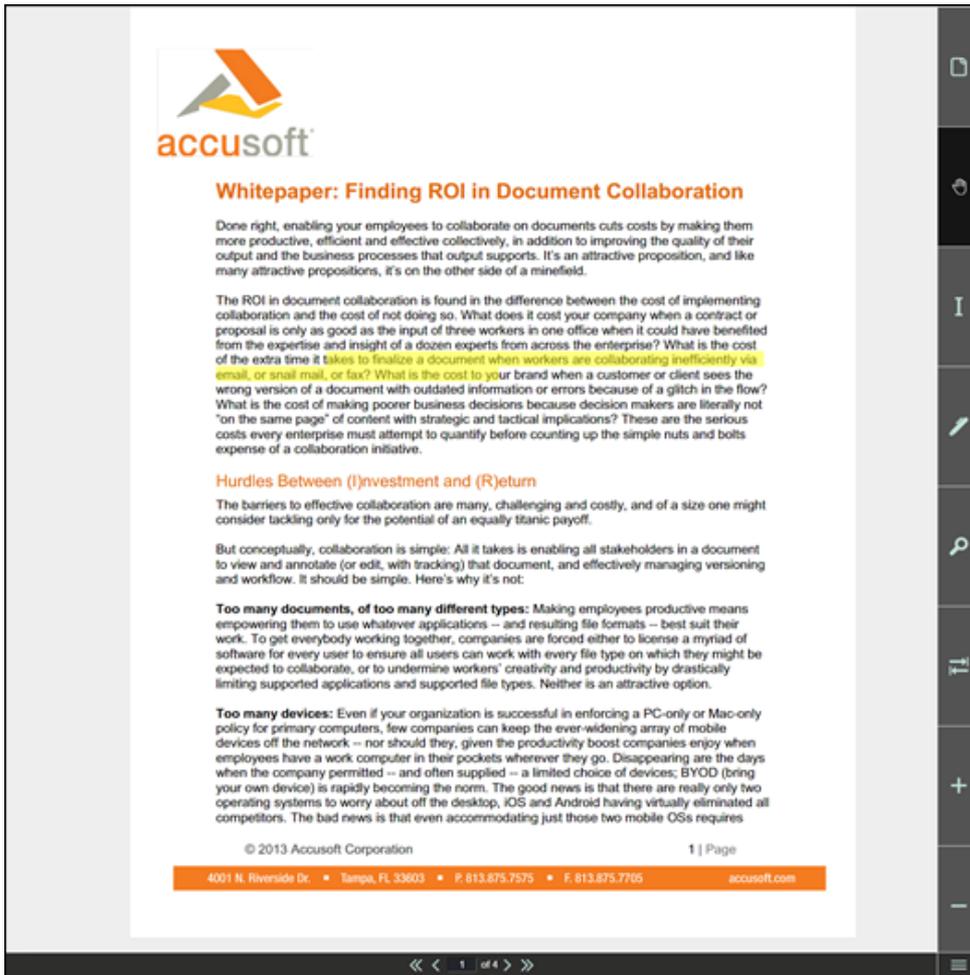
If you select **Full Viewer** on the splash page, then documents will be viewed with the full-featured, out-of-the-box Viewer:



3. Book Reader:

If you select **Book Reader** on the splash page, then documents will be viewed with the book reader. The book

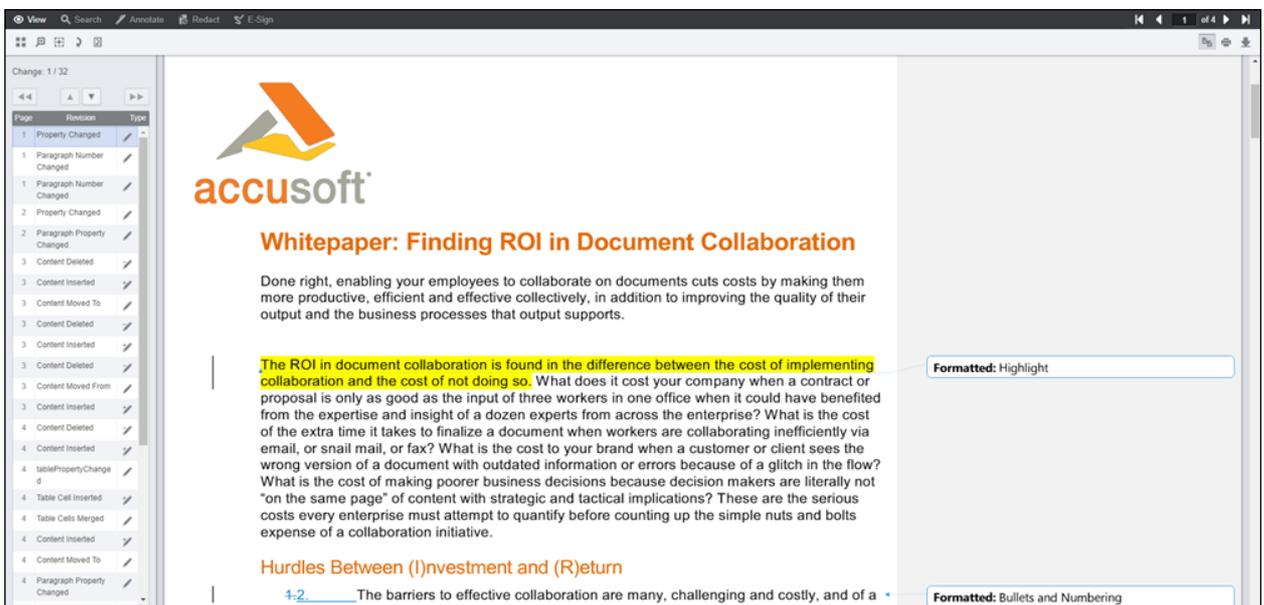
reader demonstrates how the Viewer can be heavily customized:



#### 4. Comparison Viewer

**NOTE:** This feature requires a *Microsoft Office* enabled PrizmDoc Viewer License.

If you select **Comparison Viewer** on the splash page, then you can upload two Word (.doc or .docx) files to be compared in the Viewer. The Comparison Viewer shows how two Word documents can be reviewed and compared using PrizmDoc Viewer:



## Sample Directory Structure

The legacy ASP.NET MVC sample is installed at `C:\prizm\Samples\dotnet\mvc`. This folder contains all the MVC related folders (Models, Views and Controllers), all the Visual Studio related files and our different viewers which are located on the **viewers** folder.

### PccViewerServices Route

In `App_Start/RouteConfig.cs` you will find one special route called `PccViewerServices`. This route will catch all requests made to the application that start with `pcc/`. The `{\*pathInfo}` fragment is very important as it will be needed by our Controller later on.

### PccController

The `PccController` handles the requests from the route in the previous section. It simply passes the `pathInfo` information to our own route handler which will handle the request appropriately.

**NOTE:** If you are interested in seeing how we handle the requests, please take a look at the source code in `Modes/PccViewer`.

### Folder contents: viewers/full-viewer-sample

**NOTE:** The full viewer (with the `comparisonMode` configuration parameter set to `true`) is used for document comparison.

File / Folder	Description
viewer-assets folder	Contains the essential JavaScript, CSS, fonts, and images that make up the Viewer.
viewer-assets/src folder	Contains Less, icons, languages, and HTML templates that can be used to build the Viewer CSS and customizations. This folder is non-essential, and does not need to be re-distributed.
viewer-assets/Gulpfile.js	Contains Gulp tasks to build the Viewer Less, icons, and HTML templates. This file is non-essential and does not need to be re-distributed.
viewer-assets/package.json	A file used by npm (a package manager). It defines the dependencies installed by npm, which are required to run Gulp and compile the Viewer Less, icons, and HTML templates. This file is non-essential and does not need to be re-distributed.
predefinedSearch.json	This data file contains information defining search queries that will appear as selectable items in the full viewer. <b>NOTE:</b> This file is consumed by the page <code>Default.aspx</code> and the JSON is injected into the HTML that is returned by <code>Default.aspx</code> . Ultimately, the predefined search terms are provided as a JavaScript hash, when the Viewer is created.
redactionReason.json	This data file contains information defining redaction reasons that are available in the Viewer. <b>NOTE:</b> This file is consumed by the page <code>Default.aspx</code> and the JSON is injected into the HTML that is returned by <code>Default.aspx</code> . Ultimately, the redaction reasons are provided as a JavaScript hash, when the Viewer is created.

### Folder contents: viewers/book-reader-sample

File / Folder	Description
viewer-assets folder	Contains the essential JavaScript, CSS, fonts, images, language data, and templates (HTML) that make up the book reader viewer.
viewer-assets/less	Contains less that can be used to build the book reader CSS. This folder is non-essential,

File / Folder	Description
folder	and does not need to be re-distributed.
viewer-assets/Gruntfile	Contains Grunt tasks to build the reader less. This file is non-essential and does not need to be re-distributed.
viewer-assets/package.json	A file used by npm (a package manager). It defines the dependencies installed by npm, which are required to run Grunt and compile the less.
viewer-assets/selection.json	A file used by the IcoMoon application to generate the icons in the book reader viewer. If you need to add an icon to the Viewer, you can add the icon to this file and use the IcoMoon application ( <a href="https://icomoon.io">https://icomoon.io</a> ) to generate a new icon font. This file is non-essential and does not need to be re-distributed.
viewer-assets/js/sample-config.js	Contains references to the assets, web tier, and language files used by the Viewer in this sample.

### Folder contents: `viewers/e-signer-sample`

File / Folder	Description
modules folder	Contains uncompiled assets of the Viewer. These files will be compiled to <code>viewer-assets/js/bundle.js</code> and <code>viewer-assets/css/bundle.css</code> by the build process defined in <code>Gulpfile.js</code> . The files in this folder are non-essential and do not need to be re-distributed.
viewer-assets folder	Contains the essential JavaScript, CSS, fonts, images, language data, and templates (HTML) that make up the Viewer.
Gulpfile.js	Contains Gulp tasks to build the viewer js and css files. This file is non-essential and does not need to be re-distributed.
viewer-assets/package.json	A file used by npm (a package manager). It defines the dependencies installed by npm, which are required to run Gulp and compile the Viewer assets. This file is non-essential and does not need to be re-distributed.
index.html	The default page for the sample. This page calls the pcc.ashx handler to start a viewing session with PAS and then the page loads the Viewer.
webpack.config.js	Webpack configuration file. This file contains all the settings for the webpack module bundler. We use webpack to compile all the files in the modules folder to the <code>bundle.js</code> and <code>bundle.css</code> that are found in the <code>viewer-assets</code> folder.

### Folder contents: `viewers/template-designer-sample`

File / Folder	Description
modules folder	Contains uncompiled assets of the Viewer. These files will be compiled to <code>viewer-assets/js/bundle.js</code> and <code>viewer-assets/css/bundle.css</code> by the build process defined in <code>Gulpfile.js</code> . The files in this folder are non-essential and do not need to be re-distributed.
viewer-assets folder	Contains the essential JavaScript, CSS, fonts, images, language data, and templates (HTML) that make up the Viewer.

File / Folder	Description
Gulpfile.js	Contains Gulp tasks to build the viewer js and css files. This file is non-essential and does not need to be re-distributed.
viewer-assets/package.json	A file used by npm (a package manager). It defines the dependencies installed by npm, which are required to run Gulp and compile the Viewer assets. This file is non-essential and does not need to be re-distributed.
index.html	The default page for the sample. This page calls the pcc.ashx handler to start a viewing session with PAS and then the page loads the Viewer.
webpack.config.js	Webpack configuration file. This file contains all the settings for the webpack module bundler. We use webpack to compile all the files in the modules folder to the bundle.js and bundle.css that are found in the viewer-assets folder.

## Configuration with pcc.config

The file `pcc.config` is used to configure the resources and storage used by the Viewer web tier. This file can be found in the root of the sample folder. This file is self-documenting, but a little information about the configuration options is given below.

Option	Description
<DocumentPath>	The sample pulls named documents from this location. The <code>DocumentPath</code> must have read/write permissions in order for the file drag and drop functionality of the splash page to work.
<PrizmApplicationServicesScheme>	Specifies the scheme ( <code>http</code> or <code>https</code> ) to use when connecting with PAS.
<PrizmApplicationServicesHost>	Specifies the host to use when connecting with PAS.
<PrizmApplicationServicesPort>	Specifies the port to use when connecting with PAS.

## Development Information

The legacy ASP.NET MVC sample has the following requirements for development:

- Visual Studio 2012 or later
- .NET 4.5 or later

# Legacy ASP.NET WebForms Sample

## Legacy ASP.NET WebForms Sample

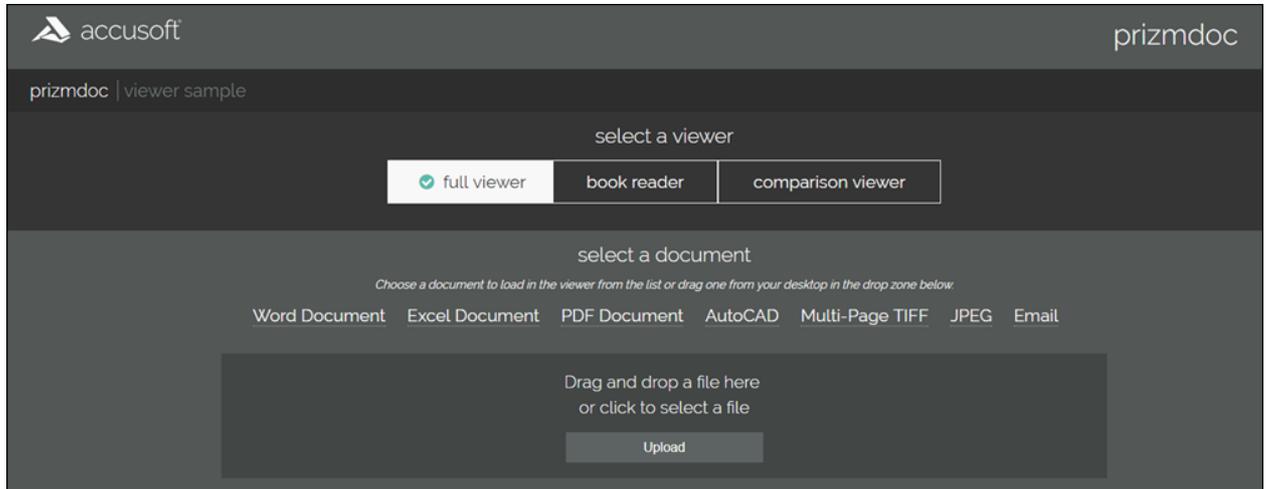
### Installation

1. Prior to installation, ensure Microsoft's Internet Information Service (IIS) and ASP.NET 4.0+ are enabled on the computer that will be running the .NET Web Forms sample.
2. Run the "[Client Installer](#)".
3. During installation, make sure the following features are selected to be installed:
  - **Legacy Samples**
  - **PAS (PrizmDoc Application Services)**

- **Configure ASP.NET Samples with IIS**
- **Re-register ASP.net 4.0 with IIS**

4. After installation, open this URL to make sure the legacy sample is running:

`http://localhost:18000/PrizmDoc_HTML5_Viewer_NET_WEBFORMS`



## Overview

1. From the splash page you have three options:

Choice of Viewer:

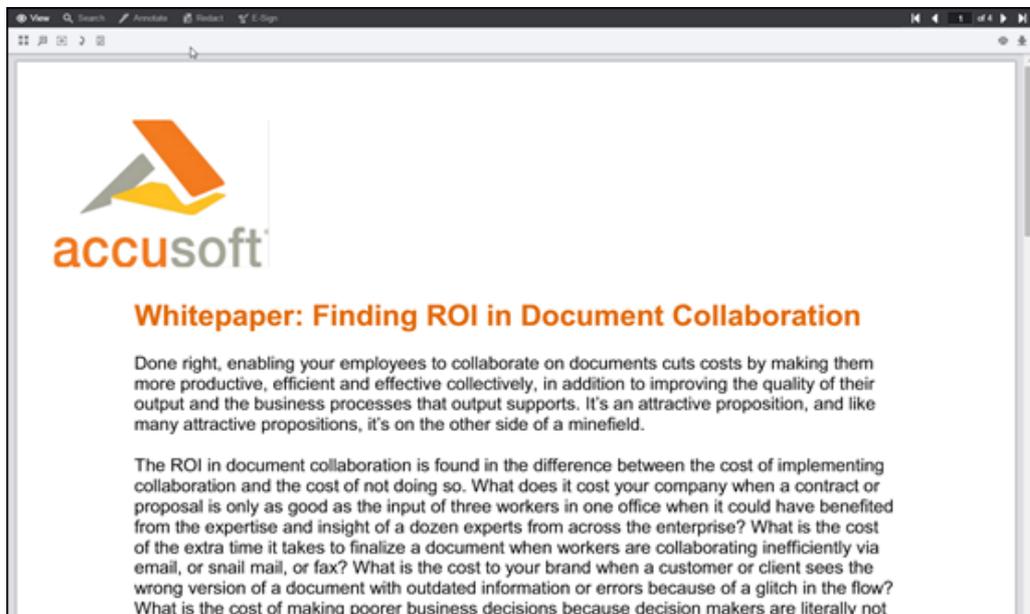
- You can choose to load either the **Full Viewer**, the **Book Reader**, or the **Comparison Viewer**.

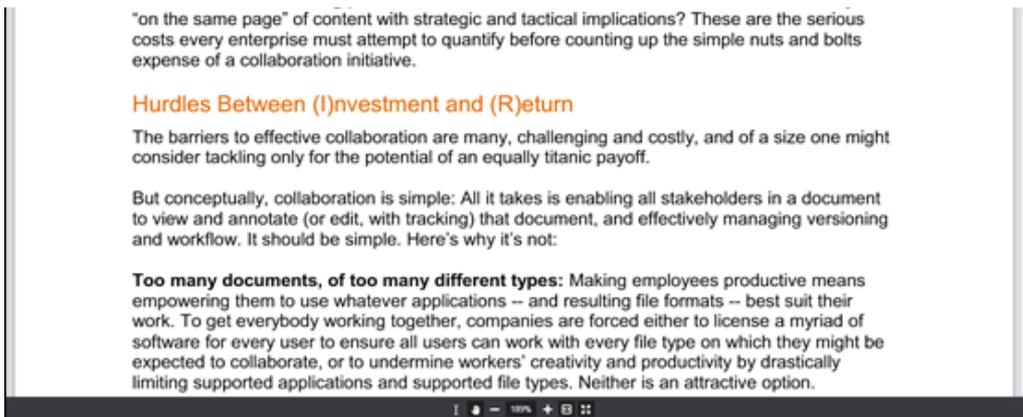
Select a sample document -OR- upload a document:

- You can choose any of the 5 sample documents (Word, PDF, CAD, Tiff, or JPEG).
- Or, you can upload a document from an arbitrary location on your computer. Note that dragging and dropping a file on this page is not supported in Internet Explorer 8.

2. Full Viewer

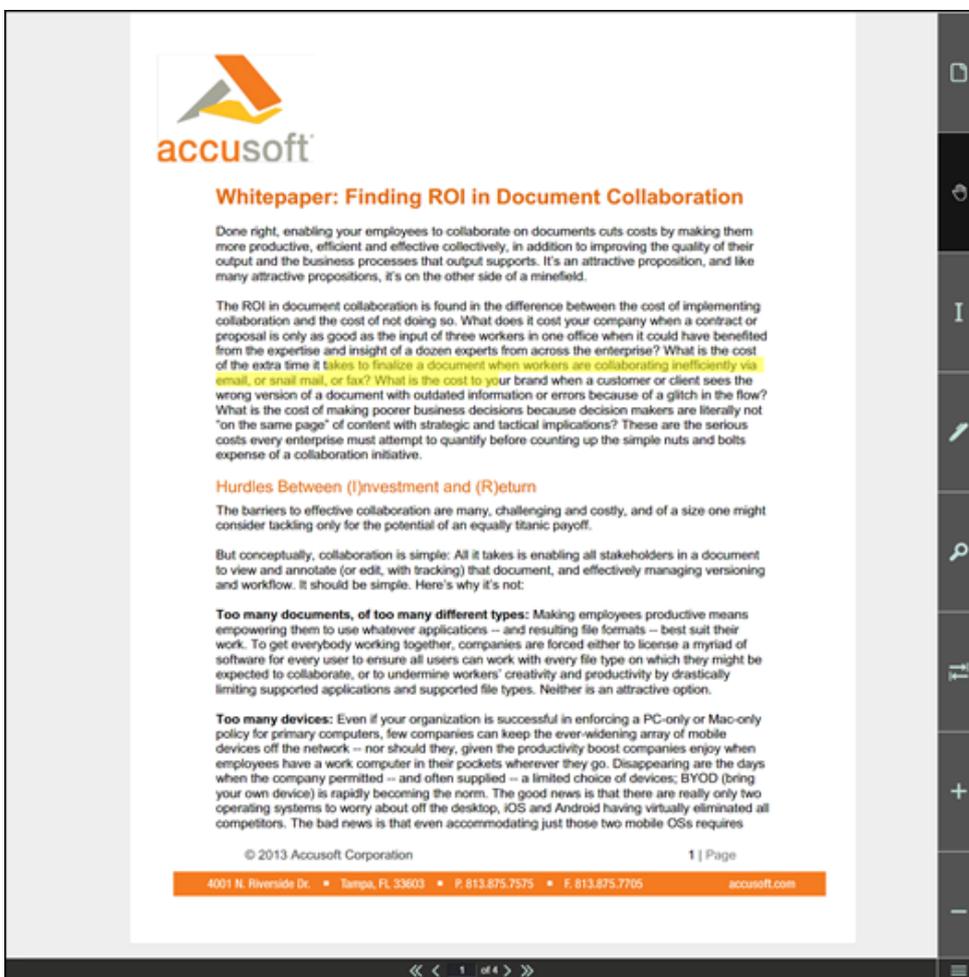
If you select Full Viewer on the splash page, then documents will be viewed with the full-featured, out-of-the-box responsive Viewer:





### 3. Book Reader

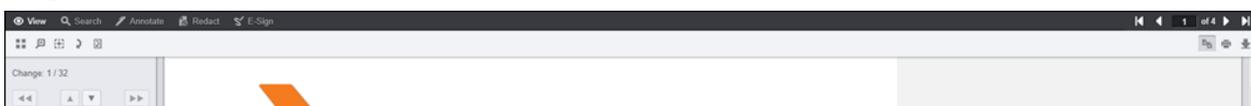
If you select **Book Reader** on the splash page, then documents will be viewed with the book reader. The Book Reader demonstrates how the Viewer can be heavily customized:

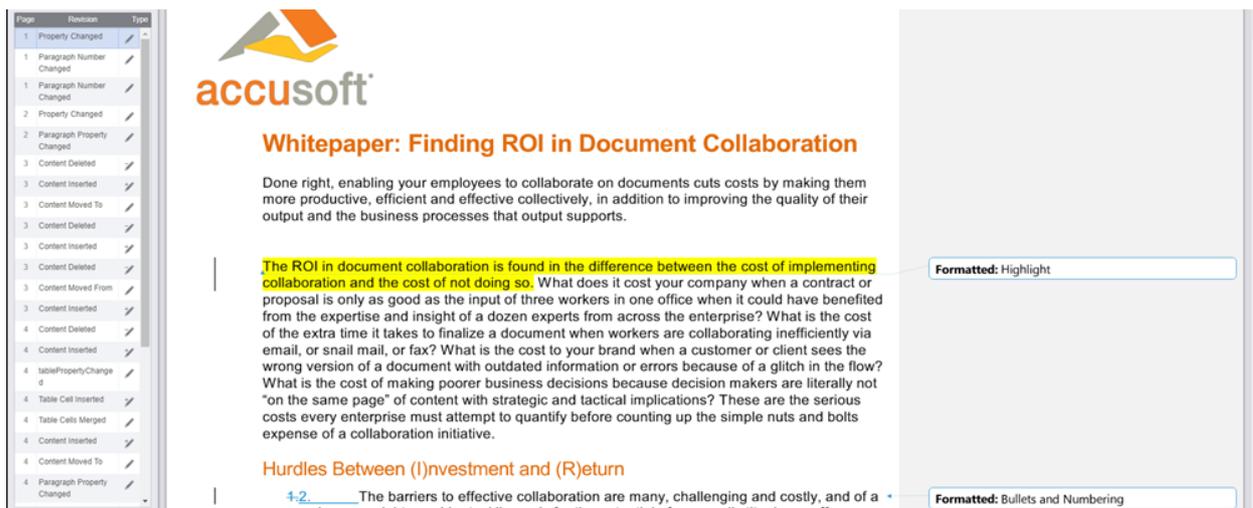


### 4. Comparison Viewer

**NOTE:** This feature requires a *Microsoft Office enabled PrizmDoc Viewer License*.

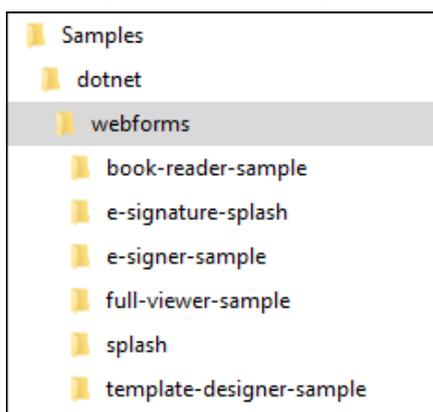
If you select **Comparison Viewer** on the splash page, then you can upload two Word (.doc or .docx) files to be compared in the Viewer. The Comparison Viewer shows how two Word documents can be reviewed and compared using PrizmDoc Viewer:





## Directory Structure

The samples are installed at `C:\prizm\Samples\dotnet\webforms`. This folder contains 6 sub-folders, one folder for each of the four samples (full Viewer, book reader, e-signer and the e-signer template designer) and two folders for the splash pages (main splash page and the e-sign splash page):



Each of the sample folders are completely self-contained, meaning that they contain all of the files needed to run the sample. Furthermore, with the exception of a few project files and build files, the sample folders contain only the files needed to run the sample.

## Folder contents: `full-viewer-sample`

**NOTE:** The full viewer (with the `comparisonMode` configuration parameter set to `true`) is used for document comparison.

File / Folder	Description
App_Code folder	Contains classes that support the communication between the Viewer and PAS. While the code for the classes can be modified as needed, modifications should be done with care. See <code>PrizmApplicationServices.cs</code> to see how we integrate the sample with PAS and see <code>PccConfig.cs</code> to see how we load the <code>pcc.config</code> configuration file. The files in this folder are essential and must be re-distributed to run the full Viewer.
viewer-assets folder	Contains the essential JavaScript, CSS, fonts, and images that make up the Viewer.
viewer-assets/src folder	Contains Less, icons, languages, and HTML templates that can be used to build the Viewer CSS and customizations. This folder is non-essential, and does not need to be re-distributed.

File / Folder	Description
viewer-assets/Gulpfile.js	Contains Gulp tasks to build the Viewer Less, icons, and HTML templates. This file is non-essential and does not need to be re-distributed.
viewer-assets/package.json	A file used by npm (a package manager). It defines the dependencies installed by npm, which are required to run Gulp and compile the Viewer Less, icons, and HTML templates. This file is non-essential and does not need to be re-distributed.
viewer-webtier folder	Contains files that implement the ASP.NET layer of communication between the Viewer and PAS.
viewer-webtier/pcc.ashx	This file handles all incoming requests from the Viewer. This file simply uses the <code>App_Code/PrizmApplicationServices.cs</code> class to forward all requests to PAS.
viewer-webtier/pcc.config	Defines the connection settings for PAS.
Default.aspx, Default.aspx.cs	The default page for the sample. This page loads the full Viewer.
web.config	Contains IIS settings.
predefinedSearch.json	This data file contains information defining search queries that will appear as selectable items in the full Viewer. <b>NOTE:</b> This file is consumed by the page <code>Default.aspx</code> and the JSON is injected into the HTML that is returned by <code>Default.aspx</code> . Ultimately, the predefined search terms are provided as a JavaScript hash, when the Viewer is created.
redactionReason.json	This data file contains information defining redaction reasons that are available in the Viewer. <b>NOTE:</b> This file is consumed by the page <code>Default.aspx</code> and the JSON is injected into the HTML that is returned by <code>Default.aspx</code> . Ultimately, the redaction reasons are provided as a JavaScript hash, when the Viewer is created.)
Global.asax	The <code>Global.asax</code> file, also known as the ASP.NET application file, is a file that contains code for responding to application-level events raised by ASP.NET or by <code>HttpModules</code> . The <code>Global.asax</code> file resides in the root directory of an ASP.NET-based application. We use this file to initialize our <code>PccConfig</code> class.
full-viewer-sample.sln	Visual Studio solution file to open the sample.

### Folder contents: book-reader-sample

File / Folder	Description
App_Code folder	Contains classes that support the communication between the Viewer and PAS. While the code for the classes can be modified as needed, modifications should be done with care. See <code>PrizmApplicationServices.cs</code> to see how we integrate the sample with PAS and see <code>PccConfig.cs</code> to see how we load the <code>pcc.config</code> configuration file. The files in this folder are essential and must be re-distributed to run the full Viewer.
viewer-assets folder	Contains the essential JavaScript, CSS, fonts, images, language data, and templates (HTML) that make up the book reader viewer. This file is non-essential and does not need to be re-distributed.
viewer-assets/less	Contains less that can be used to build the book reader CSS. This folder is non-essential,

File / Folder	Description
folder	and does not need to be re-distributed.
viewer-assets/Gruntfile	Contains Grunt tasks to build the reader LESS definitions. This file is non-essential and does not need to be re-distributed.
viewer-assets/package.json	A file used by npm (a package manager). It defines the dependencies installed by npm, which are required to run Grunt and compile the less.
viewer-assets/selection.json	A file used by the IcoMoon application to generate the icons in the book reader Viewer. If you need to add an icon to the Viewer, you can add the icon to this file and use the IcoMoon application ( <a href="https://icomoon.io">https://icomoon.io</a> ) to generate a new icon font. This file is non-essential and does not need to be re-distributed.
viewer-webtier folder	Contains files that implement the ASP.NET layer of communication between the Viewer and PAS.
viewer-webtier/pcc.ashx	This file handles all incoming requests from the Viewer. This file simply uses the <code>App_Code/PrizmApplicationServices.cs</code> class to forward all requests to PAS
viewer-webtier/pcc.config	Defines the connection settings for PAS.
index.html	The default page for the sample. This page calls the <code>pcc.ashx</code> handler to start a viewing session with PAS and then the page loads the Viewer.
sample-config.js	Contains references to the assets, web tier, and language files used by the Viewer in this sample.
web.config	Contains IIS settings.
Global.asax	The <code>Global.asax</code> file, also known as the ASP.NET application file, is a file that contains code for responding to application-level events raised by ASP.NET or by <code>HttpModules</code> . The <code>Global.asax</code> file resides in the root directory of an ASP.NET-based application. We use this file to initialize our <code>PccConfig</code> class.
book-reader-sample.sln	Visual Studio solution file to open the sample.

### Folder contents: e-signer-sample

File / Folder	Description
App_Code folder	Contains classes that support the communication between the Viewer and PAS. While the code for the classes can be modified as needed, modifications should be done with care. See <code>PrizmApplicationServices.cs</code> to see how we integrate the sample with PAS and see <code>PccConfig.cs</code> to see how we load the <code>pcc.config</code> configuration file. The files in this folder are essential and must be re-distributed to run the full Viewer.
modules folder	Contains uncompiled assets of the Viewer. These files will be compiled to <code>viewer-assets/js/bundle.js</code> and <code>viewer-assets/css/bundle.css</code> by the build process defined in <code>Gulpfile.js</code> . The files in this folder are non-essential and do not need to be re-distributed.
viewer-assets folder	Contains the essential JavaScript, CSS, fonts, images, language data, and templates (HTML) that make up the Viewer.
Gulpfile.js	Contains Gulp tasks to build the viewer JS and CSS files. This file is non-essential and does

File / Folder	Description
	not need to be re-distributed.
<code>viewer-assets/package.json</code>	A file used by npm (a package manager). It defines the dependencies installed by npm, which are required to run Gulp and compile the viewer assets. This file is non-essential and does not need to be re-distributed.
<code>viewer-webtier</code> folder	Contains files that implement the ASP.NET layer of communication between the Viewer and PAS.
<code>viewer-webtier/pcc.ashx</code>	This file handles all incoming requests from the Viewer. This file simply uses the <code>App_Code/PrizmApplicationServices.cs</code> class to forward all requests to PAS
<code>viewer-webtier/pcc.config</code>	Defines the connection settings for PAS.
<code>index.html</code>	The default page for the sample. This page calls the <code>pcc.ashx</code> handler to start a viewing session with PAS and then the page loads the Viewer.
<code>web.config</code>	Contains IIS settings.
<code>webpack.config.js</code>	Webpack configuration file. This file contains all the settings for the webpack module bundler. We use webpack to compile all the files in the modules folder to the <code>bundle.js</code> and <code>bundle.css</code> that are found in the <code>viewer-assets</code> folder.
<code>Global.asax</code>	The <code>Global.asax</code> file, also known as the ASP.NET application file, is a file that contains code for responding to application-level events raised by ASP.NET or by <code>HttpModules</code> . The <code>Global.asax</code> file resides in the root directory of an ASP.NET-based application. We use this file to initialize our <code>PccConfig</code> class.
<code>e-signer-sample.sln</code>	Visual Studio solution file to open the sample.

### Folder contents: `template-designer-sample`

File / Folder	Description
<code>App_Code</code> folder	Contains classes that support the communication between the Viewer and PAS. While the code for the classes can be modified as needed, modifications should be done with care. See <code>PrizmApplicationServices.cs</code> to see how we integrate the sample with PAS and see <code>PccConfig.cs</code> to see how we load the <code>pcc.config</code> configuration file. The files in this folder are essential and must be re-distributed to run the full Viewer.
<code>modules</code> folder	Contains uncompiled assets of the Viewer. These files will be compiled to <code>viewer-assets/js/bundle.js</code> and <code>viewer-assets/css/bundle.css</code> by the build process defined in <code>Gulpfile.js</code> . The files in this folder are non-essential and do not need to be re-distributed.
<code>viewer-assets</code> folder	Contains the essential JavaScript, CSS, fonts, images, language data, and templates (HTML) that make up the Viewer.
<code>Gulpfile.js</code>	Contains Gulp tasks to build the viewer js and css files. This file is non-essential and does not need to be re-distributed.
<code>viewer-assets/package.json</code>	A file used by npm (a package manager). It defines the dependencies installed by npm, which are required to run Gulp and compile the Viewer assets. This file is non-essential and does not need to be re-distributed.
<code>viewer-webtier</code> folder	Contains files that implement the ASP.NET layer of communication between the Viewer and

File / Folder	Description
	PAS.
viewer-webtier/pcc.ashx	This file handles all incoming requests from the Viewer. This file simply uses the <code>App_Code/PrizmApplicationServices.cs</code> class to forward all requests to PAS
viewer-webtier/pcc.config	Defines the connection settings for PAS.
index.html	The default page for the sample. This page calls the <code>pcc.ashx</code> handler to start a viewing session with PAS and then the page loads the Viewer.
web.config	Contains IIS settings.
webpack.config.js	Webpack configuration file. This file contains all the settings for the webpack module bundler. We use webpack to compile all the files in the modules folder to the <code>bundle.js</code> and <code>bundle.css</code> that are found in the <code>viewer-assets</code> folder.
Global.asax	The <code>Global.asax</code> file, also known as the ASP.NET application file, is a file that contains code for responding to application-level events raised by ASP.NET or by <code>HttpModules</code> . The <code>Global.asax</code> file resides in the root directory of an ASP.NET-based application. We use this file to initialize our <code>PccConfig</code> class.
template-designer-sample.sln	Visual Studio solution file to open the sample.

## Configuration with `pcc.config`

The file `pcc.config` is used to configure the connection settings between the web tier and PAS. The file can be found at: `<sample-folder-name>/viewer-webtier/pcc.config`. This file is self-documenting, but a little information about the configuration options is given below.

Option	Description
<code>&lt;DocumentPath&gt;</code> (Only in splash pages)	The sample pulls named documents from this location. The <code>DocumentPath</code> must have read/write permissions in order for the file drag and drop functionality of the splash page to work.
<code>&lt;PrizmApplicationServicesScheme&gt;</code>	Specifies the scheme ( <code>http</code> or <code>https</code> ) to use when connecting with PAS.
<code>&lt;PrizmApplicationServicesHost&gt;</code>	Specifies the host to use when connecting with PAS.
<code>&lt;PrizmApplicationServicesPort&gt;</code>	Specifies the port to use when connecting with PAS.

## Development Information

The legacy ASP.NET WebForms sample has the following requirements for development:

- Visual Studio v2010 or later
- .NET 4.0 or later

## Legacy JSP Sample

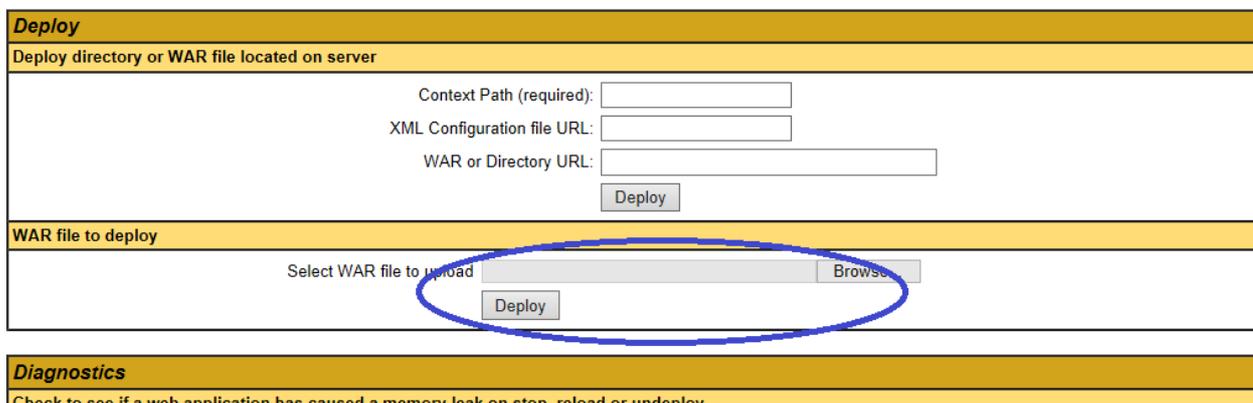
### Legacy JSP Sample

## Installation

This topic contains steps for how to install the legacy JSP sample on Linux and Windows.

**NOTE:** JDK 1.7 and JRE 1.7+ are required.

1. Run the appropriate "Client Installer" for your OS, [Windows](#) or [Linux](#).
2. Install [Apache Tomcat](#).
3. After installation is complete, launch **Tomcat Manager**.
4. In the WAR file to deploy section, select **Choose File**.
5. Select `PCCSample.war` file to upload from the installation location:
  - For Windows: `C:\Prizm\Samples\jsp\target`
  - For Linux: `/usr/share/prizm/Samples/jsp/target`
6. Click **Deploy**:



The screenshot shows the Tomcat Manager interface. The 'Deploy' tab is active. Under the 'WAR file to deploy' section, there is a text input field labeled 'Select WAR file to upload' and a 'Browse...' button. A blue oval highlights this section. Below the input field is a 'Deploy' button. The 'Deploy directory or WAR file located on server' section above it contains fields for 'Context Path (required)', 'XML Configuration file URL', and 'WAR or Directory URL', each with a corresponding input field and a 'Deploy' button.

7. PrizmDoc Server web tier will be deployed on your Tomcat server. The deployed app may be found in the following location:
  - For Windows: `C:\Program Files\Apache Software Foundation\Tomcat 7.0\webapps`
  - For Linux: `/var/lib/tomcat7/webapps`
8. Give read/write permissions to the "Documents" folder, the "markup" folder and the "markupLayerRecords" folder. Give read permissions to the "imageStamp" folder. These folders are installed on the following location:
  - For Windows: `C:\Prizm\Samples\`
  - For Linux: `/usr/share/prizm/Samples`
9. Now you can browse to `http://localhost:8080/PCCSample` in your browser to see the JSP sample. See the [JSP Directory Structure](#) for more information on where these files are located.

## Configure JSP Web Tier with SELinux

If you are running the JSP Web Tier on Security-Enhanced Linux you may experience issues when loading documents in the Viewer. The Web Tier needs to contact the PrizmDoc Server but SELinux disallows Tomcat processes from making outbound connections by default. You can run the following command to make the Tomcat domain permissive and allow the Web Tier to function normally with Tomcat:

```
semanage permissive -a tomcat_t
```

## Overview

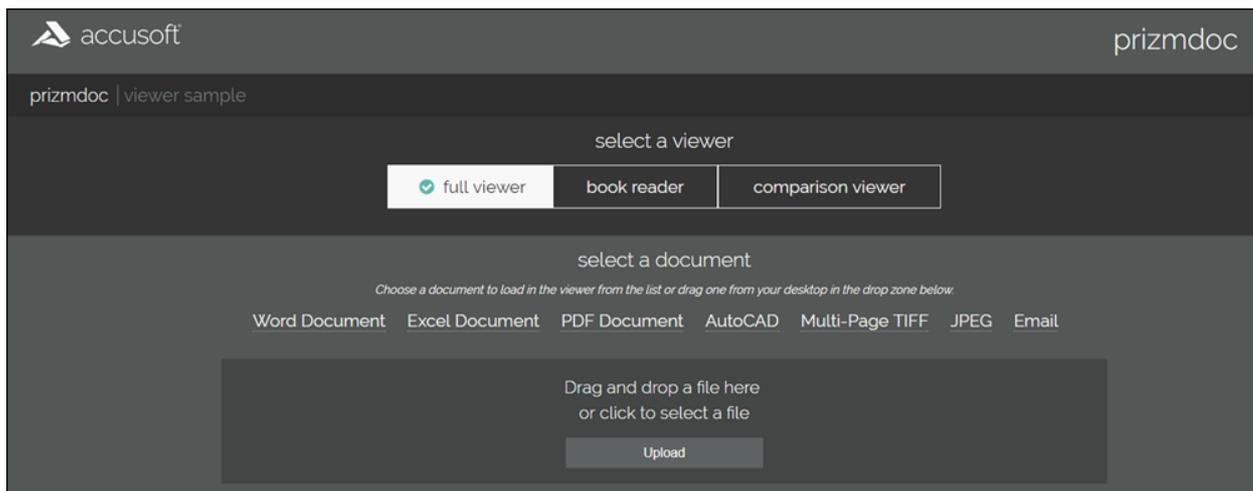
From the splash page you have three options:

1. Choice of Viewer:

- You can choose to load either the **Full Viewer**, the **Book Reader**, or the **Comparison Viewer**.

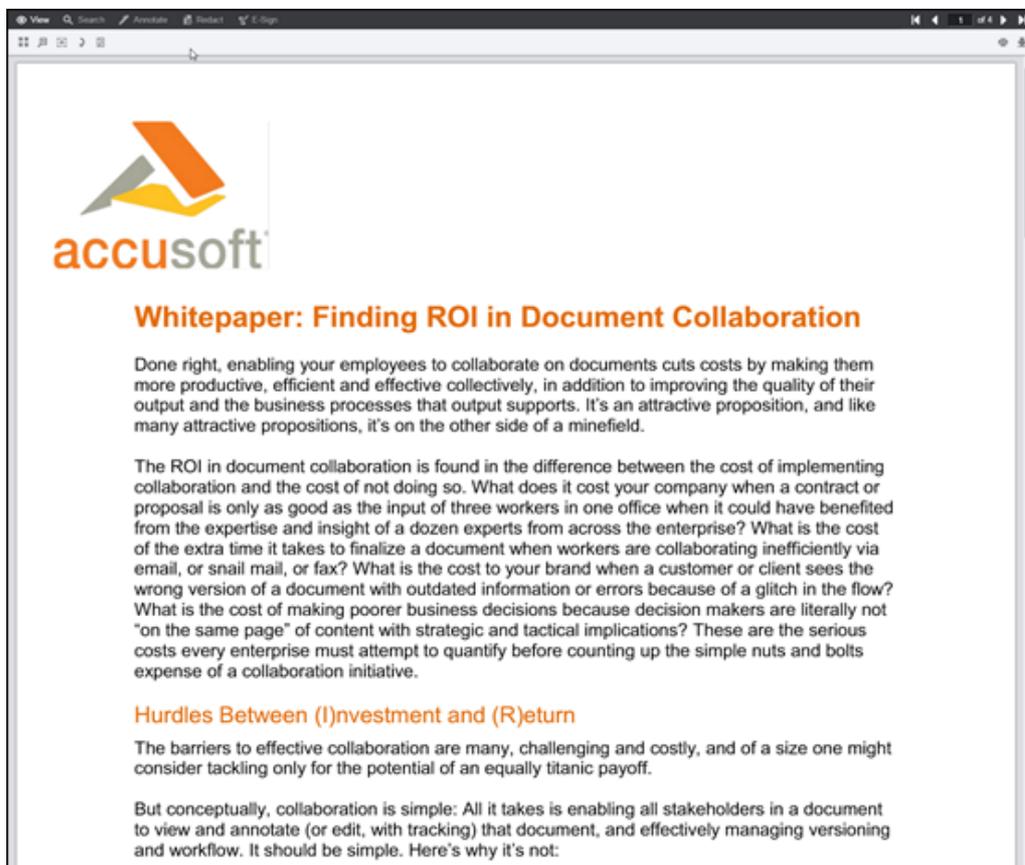
Select a sample document -OR- upload a document:

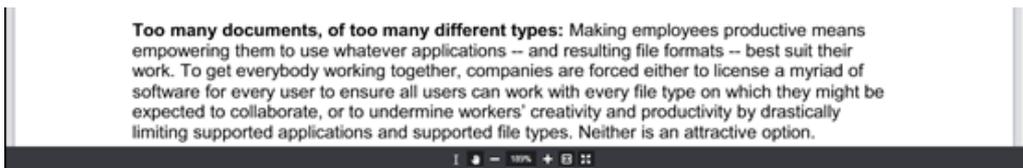
- You can choose any of the 5 sample documents (Word, PDF, CAD, Tiff, or JPEG).
- Or, you can upload a document from an arbitrary location on your computer. Note that dragging and dropping a file on this page is not supported in Internet Explorer 8.



2. Full Viewer:

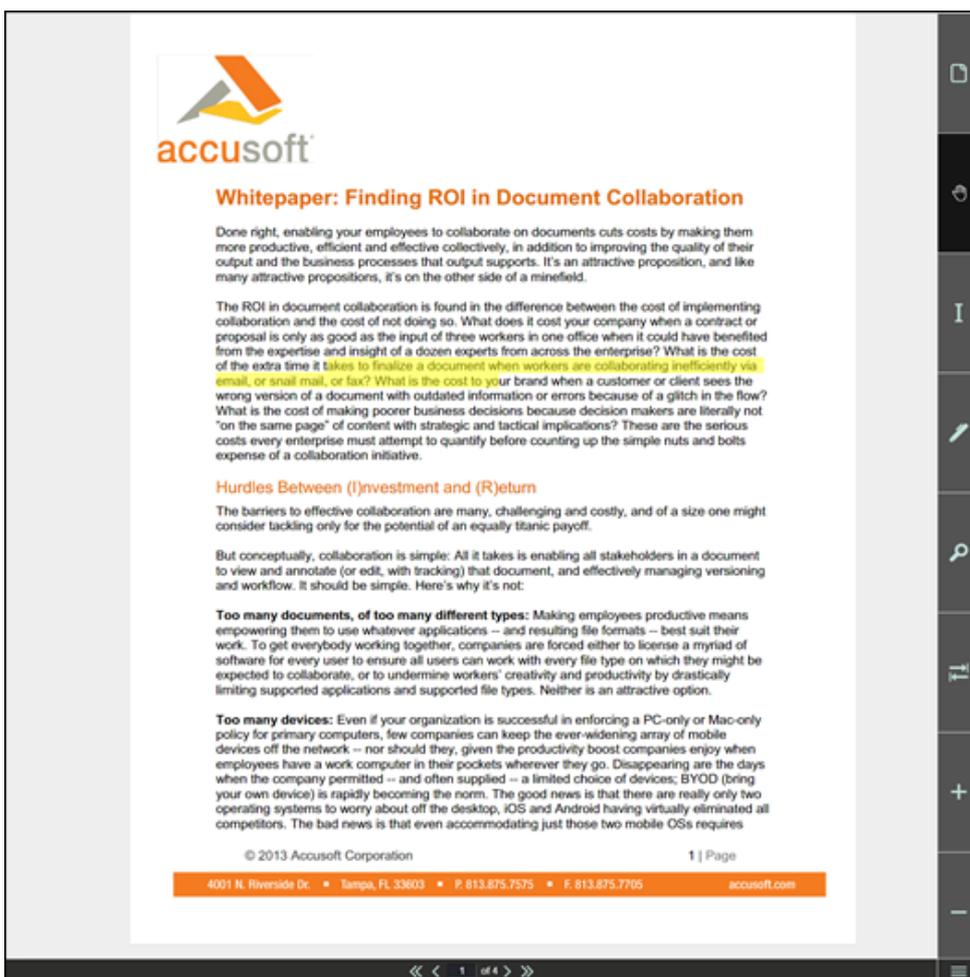
If you select **Full Viewer** on the splash page, then documents will be viewed with the full-featured, out-of-the-box responsive Viewer:





### 3. Book Reader:

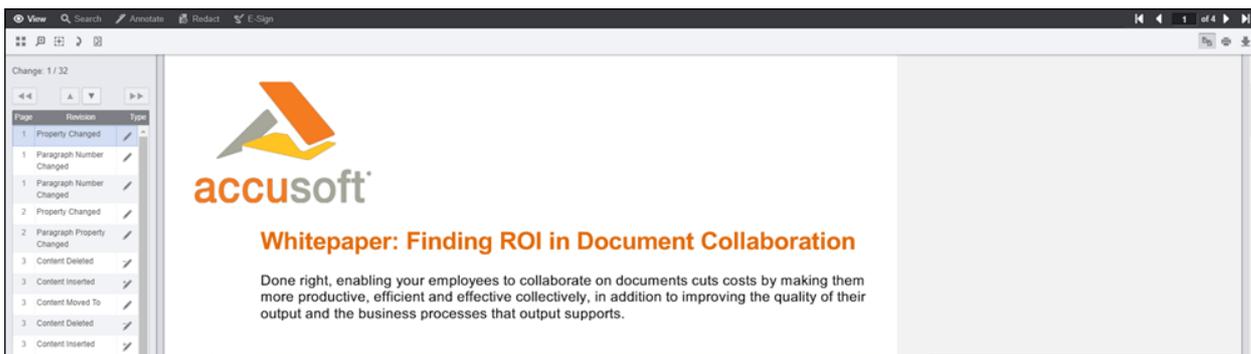
If you select **Book Reader** on the splash page, then documents will be viewed with the book reader. The book reader demonstrates how the Viewer can be heavily customized:

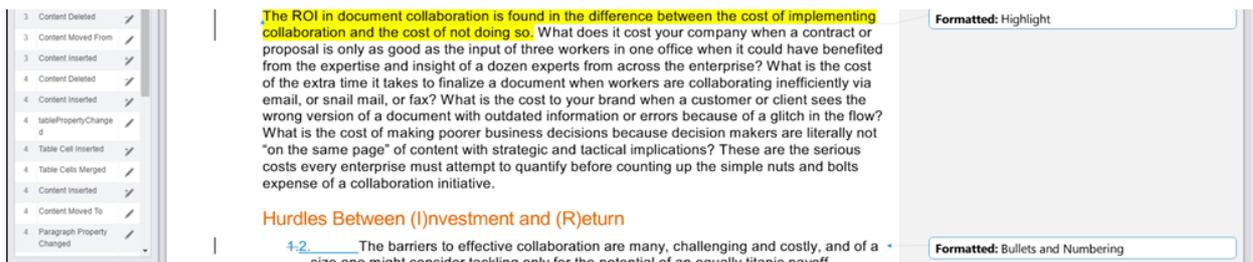


### 4. Comparison Viewer

**NOTE:** This feature requires a *Microsoft Office* enabled PrizmDoc License.

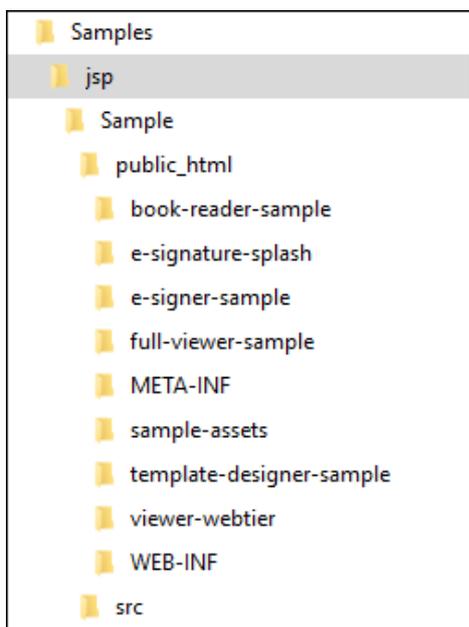
If you select **Comparison Viewer** on the splash page, then you can upload two Word (.doc or .docx) files to be compared in the Viewer. The Comparison Viewer shows how two Word documents can be reviewed and compared using PrizmDoc:





## JSP Directory Structure

The jsp samples are installed under /usr/share/prizm/Samples/jsp/Sample/public\_html. This folder contains 6 sub-folders, one folder for each of the four samples (full Viewer, book reader, e-signer and e-signer template designer) and two folders for the splash pages (main splash page and the e-sign splash page):



Each of the sample folders are completely self-contained, meaning that they contain all of the files needed to run the sample. Furthermore, with the exception of a few project files and build files, the sample folders contain only the files needed to run the sample.

### Folder contents: common

File / Folder	Description
src/com/accusoft/pccis/sample/pas and src/com/accusoft/pccis/sample/html5	Contains classes that support the communication between the Viewer and PrizmDoc Application Services. While the code for the classes can be modified as needed, modifications should be done with care.
public_html/WEB-INF/web.xml	Contains web tier settings. Some of these settings define the connection for the PrizmDoc Application Services. See more on the <b>Configuration with web.xml</b> section below.

### Folder contents: full-viewer-sample

**NOTE:** The full viewer (with the comparisonMode configuration parameter set to true) is used for document comparison.

File / Folder	Description
viewer-assets folder	Contains the essential JavaScript, CSS, fonts, and images that make up the Viewer.
viewer-assets/src folder	Contains Less, icons, languages, and HTML templates that can be used to build the Viewer CSS and customizations. This folder is non-essential, and does not need to be re-distributed.
viewer-assets/Gulpfile.js	Contains Gulp tasks to build the Viewer Less, icons, and HTML templates. This file is non-essential and does not need to be re-distributed.
viewer-assets/package.json	A file used by npm (a package manager). It defines the dependencies installed by npm, which are required to run Gulp and compile the Viewer Less, icons, and HTML templates. This file is non-essential and does not need to be re-distributed.
viewer-webtier folder	Contains files that implement the jsp layer of communication between the Viewer and the PrizmDoc Application Services.
viewer-webtier/pas.jsp	Handles all requests from the Viewer and forwards them to the PrizmDoc Application Services.
index.jsp	The default page for the sample. The Viewer's code gets loaded by this page.
predefinedSearch.json	This data file contains information defining search queries that will appear as selectable items in the full Viewer. <b>NOTE:</b> This file is consumed by the page <code>index.jsp</code> and the JSON is injected into the HTML that is returned by <code>index.jsp</code> . Ultimately, the predefined search terms are provided as a JavaScript hash, when the Viewer is created.
redactionReason.json	This data file contains information defining redaction reasons that are available in the Viewer. <b>NOTE:</b> This file is consumed by the page <code>index.jsp</code> and the JSON is injected into the HTML that is returned by <code>index.jsp</code> . Ultimately, the redaction reasons are provided as a JavaScript hash, when the Viewer is created.

### Folder contents: `book-reader-sample`

File / Folder	Description
viewer-assets folder	Contains the essential JavaScript, CSS, fonts, images, language data, and templates (HTML) that make up the book reader Viewer.
viewer-assets/less folder	Contains less that can be used to build the Viewer CSS. This folder is non-essential, and does not need to be re-distributed.
viewer-assets/Gruntfile.js	Contains Grunt tasks to build the viewer less. This file is non-essential and does not need to be re-distributed.
viewer-assets/package.json	A file used by <b>npm</b> (a package manager). It defines the dependencies installed by npm, which are required to run Grunt and compile the less.
viewer-assets/selection.json	A file used by the IcoMoon application to generate the icons in the book reader Viewer. If you need to add an icon to the Viewer, you can add the icon to this file and use the IcoMoon application ( <a href="https://icomoon.io">https://icomoon.io</a> ) to generate a new icon font. This file is non-essential and does not need to be re-distributed.
viewer-webtier folder	Contains files that implement the jsp layer of communication between the book reader Viewer and the PrizmDoc Application Services.

File / Folder	Description
viewer-webtier/pas.jsp	Handles all requests from the Viewer and forwards them to the PrizmDoc Application Services.
index.html	The default page for the sample. The Viewer's code gets loaded by this page.
sample-config.js	Contains references to the assets, web tier, and language files used by the Viewer in this sample.

#### Folder contents: e-signer-sample

File / Folder	Description
viewer-assets folder	Contains the essential JavaScript, CSS, fonts, images, language data, and templates (HTML) that make up the book reader Viewer.
modules folder	Contains uncompiled assets of the Viewer. These files will be compiled to <code>viewer-assets/js/bundle.js</code> and <code>viewer-assets/css/bundle.css</code> by the build process defined in <code>Gulpfile.js</code> . The files in this folder are non-essential and do not need to be re-distributed.
Gulpfile.js	Contains Gulp tasks to build the viewer js and css files. This file is non-essential and does not need to be re-distributed.
viewer-assets/package.json	A file used by npm (a package manager). It defines the dependencies installed by npm, which are required to run Gulp and compile the Viewer assets. This file is non-essential and does not need to be re-distributed.
viewer-webtier folder	Contains files that implement the jsp layer of communication between the book reader Viewer and the PrizmDoc Application Services.
viewer-webtier/pas.jsp	Handles all requests from the Viewer and forwards them to the PrizmDoc Application Services.
index.html	The default page for the sample. This page loads the Viewer.
webpack.config.js	Webpack configuration file. This file contains all the settings for the webpack module bundler. We use webpack to compile all the files in the modules folder to the <code>bundle.js</code> and <code>bundle.css</code> that are found in the <code>viewer-assets</code> folder.

#### Folder contents: template-designer-sample

File / Folder	Description
viewer-assets folder	Contains the essential JavaScript, CSS, fonts, images, language data, and templates (HTML) that make up the book reader Viewer.
modules folder	Contains uncompiled assets of the Viewer. These files will be compiled to <code>viewer-assets/js/bundle.js</code> and <code>viewer-assets/css/bundle.css</code> by the build process defined in <code>Gulpfile.js</code> . The files in this folder are non-essential and do not need to be re-distributed.
Gulpfile.js	Contains Gulp tasks to build the viewer js and css files. This file is non-essential and does not need to be re-distributed.
viewer-	A file used by npm (a package manager). It defines the dependencies installed by npm,

File / Folder	Description
assets/package.json	which are required to run Gulp and compile the Viewer assets. This file is non-essential and does not need to be re-distributed.
viewer-webtier folder	Contains files that implement the jsp layer of communication between the book reader Viewer and the PrizmDoc Application Services.
viewer-webtier/pas.jsp	Handles all requests from the Viewer and forwards them to the PrizmDoc Application Services.
index.html	The default page for the sample. This page loads the Viewer.
webpack.config.js	Webpack configuration file. This file contains all the settings for the webpack module bundler. We use webpack to compile all the files in the modules folder to the bundle.js and bundle.css that are found in the viewer-assets folder.

### Configuration with web.xml

The file `web.xml` is used to configure the connection settings between the web tier and PrizmDoc Application Services. The file can be found at: `public_html/WEB-INF/web.xml`. This file is self-documenting, but a little information about the configuration options is given below.

Option	Description
DocumentPath	The sample pulls named documents from this location. The <code>DocumentPath</code> must have read/write permissions in order for the file drag and drop functionality of the splash page to work.
PrizmApplicationServicesScheme	Specifies the scheme ( <code>http</code> or <code>https</code> ) to use when connecting with PAS.
PrizmApplicationServicesHost	Specifies the host to use when connecting with PAS.
PrizmApplicationServicesPort	Specifies the port to use when connecting with PAS.

All settings are configured using the `<context-param/>` element. Here is an example of how it would look on the `web.xml` file:

#### Example

```
<context-param>
  <description>Prizm Application Services Scheme</description>
  <param-name>PrizmApplicationServicesScheme</param-name>
  <param-value>http</param-value>
</context-param>
```

## Legacy PHP Sample

### Legacy PHP Sample

#### Supported PHP Versions

The legacy PHP sample requires PHP version 5.4 or higher.

## Linux Installation

1. Run the "Client Installer". The installation will place the PHP samples in the following directory: **/usr/share/prizm/Samples/php**.
2. Install Apache and PHP. Refer to the directions that are specific to your distribution.
3. Add the following to the Apache configuration:

```
Alias /pccis_sample /usr/share/prizm/Samples/php
<Directory /usr/share/prizm/Samples/php>
AllowOverride All
Require all granted
</Directory>
```

4. On the command line, first check that the configuration file validates:

**NOTE:** The command you use depends on the version of Apache you are using.

```
apache2ctl configtest
```

5. Then restart the Apache service to read the configuration changes:

```
apache2ctl restart
```

6. Give read/write permissions to the "Documents" folder, the "markup" folder and the "markupLayerRecords" folder. Give read permissions to the "imageStamp" folder. These folders are installed to: `/usr/share/prizm/Samples` on Linux. For more information, see the "Configuration with `pcc.config`" section below.
7. Test the sample application in a browser. The following will route you directly to the Viewer sample splash page:  
`http://myservername:port/pccis_sample/splash`

## Install Considerations

**NOTE:** Support for Ubuntu 14.04 LTS was deprecated with PrizmDoc Viewer v13.6 and will soon be completely removed. PrizmDoc Viewer v13.11 is the final release to claim deprecated support for Ubuntu 14.04 LTS. Future releases will no longer support Ubuntu 14.04 LTS.

### Ubuntu

For Ubuntu users: In Ubuntu 13 and up, the `php_curl` module was unbundled from the default PHP install. This module is required by the PHP sample, and should be installed separately, as such:

#### Example (Ubuntu 14.04)

```
sudo apt-get install php5-curl
```

#### Example (Ubuntu 16.04)

```
sudo apt-get install php-curl
```

## Example (Ubuntu 18.04)

```
sudo apt-get install php-curl
```

Depending on how you install PHP, you may need to install the PHP XML addition, as such:

## Example (Ubuntu 16.04)

```
sudo apt-get install php7.0-xml
```

## Example (Ubuntu 18.04)

```
sudo apt-get install php7.0-xml
```

## Apache

Depending on how you install PHP for Apache, you may need to install the Apache PHP addition, as such:

## Example (Ubuntu 14.04)

```
sudo apt-get install libapache2-mod-php5
```

## Example (Ubuntu 16.04)

```
sudo apt-get install libapache2-mod-php
```

## Example (Ubuntu 18.04)

```
sudo apt-get install libapache2-mod-php
```

## Configure PHP Web Tier with SELinux

When running PHP Web Tier on Security-Enhanced Linux you may experience issues with loading documents in the Viewer, and may see the following errors in Apache's log files: `PHP Warning: file_get_contents(<URL>): failed to open stream: Permission denied.`

The Web Tier needs to contact the PrizmDoc Server but SELinux disallows Apache processes from making outbound connections by default. You can run the following command to make the Apache domain permissive and allow the Web Tier to function normally with Apache:

## Example

```
setsebool -P httpd_can_network_connect 1
```

Similarly, when attempting to upload a document, the PHP application may appear unresponsive. When reviewing the document upload response in your browser's console, you may see a `403 Forbidden` error. Security-Enhanced Linux prevents the PHP / Apache HTTP application from writing to the file system by default. You can run the following command to set the `httpd_sys_rw_content_t` policy for the Samples directory:

## Example

```
chcon -R -t httpd_sys_rw_content_t /usr/share/prizm/Samples/
```

## Windows Installation

By default, the PHP sample is installed to `C:\Prizm\Samples\php`.

### IIS

Install IIS, along with the CGI component, and then install and configure PHP. The instructions and installer provided on the IIS site are now old and outdated, as they install PHP version 5.3. Instead, install the latest version of PHP using the Web Platform Installer. If using an already configured server, make sure you are using PHP version 5.4 or higher.

To configure the sample:

1. Note the **location** of the PHP sample as described above. If you changed the default install location, note the comparable sample in the install location you specified.
2. Open the **IIS Manager**.
3. In the Sites list, select the **site** you want to add the PHP sample to, such as "Default Web Site". Right-click on it and select "**Add Virtual Directory...**".
4. In the Alias field, type the **URL path** you want to use for the sample. We will use `pccis_sample` as an example here.
5. In the Physical Path field, use the location we noted above. Click **OK** to create the virtual directory.

Now you can browse to `http://localhost/pccis_sample/splash` in your browser to see the PHP sample.

### Apache

Install Apache, or an Apache stack like XAMPP or WAMP server, and a supported version of PHP.

To configure the sample:

1. Note the **location** of the PHP sample as described above. If you changed the PrizmDoc default install location, note the comparable sample in the install location you specified.
2. Open the **httpd.conf** file of your Apache install.
3. In the block starting with `<IfModule alias_module>`, add the following to the end of the block:

## Example

```
# PCC PHP sample alias
Alias /pccis_sample "C:/Prizm/Samples/php"
<Directory "C:/Prizm/Samples/php">
Allow from all
Require all granted
</Directory>
```

4. Restart **Apache** so that it picks up the new settings.

Now you can browse to `http://localhost/pccis_sample/splash` in your browser to see the PHP sample.

## Optional Configuration

By default, PHP has a small file size upload. If you need to be able to upload larger files through the splash page, you may need to change the following values in the `php.ini` file of your PHP installation:

### Example

```
upload_max_filesize = 1000M
post_max_size = 1000M
```

This sets the file upload to 1GB, which should be enough to test most files through the splash page. These settings may be too high for a production service, so adjust those accordingly when deploying to production.

## Configure PHP Web Tier with SELinux

When running PHP Web Tier on Security-Enhanced Linux you may experience issues with loading documents in the Viewer, and may see the following errors in Apache's log files: `PHP Warning: file_get_contents(<URL>): failed to open stream: Permission denied`

The reason for this is that the Web Tier needs to contact the PrizmDoc Server. By default SELinux disallows Apache processes from connecting out. You can run the following command to allow the web tier to function:

### Example

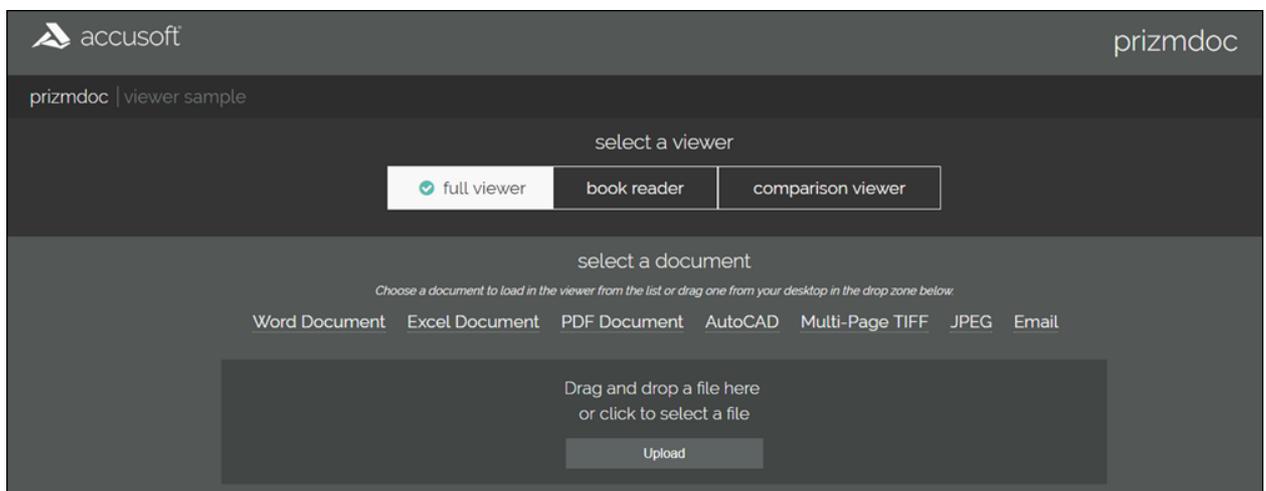
```
setsebool -P httpd_can_network_connect 1
```

## Browsing the Sample

From the splash page you have three options:

1. Choice of Viewer: you can choose to load either the **Full Viewer**, the **Book Reader**, or the **Comparison Viewer**.
2. Select a sample document - OR - upload a document:

You can choose any of the 5 sample documents (Word, PDF, CAD, Tiff or JPEG). Or, you can upload a document from an arbitrary location on your computer. Note that dragging and dropping a file on this page is not supported in Internet Explorer 8.



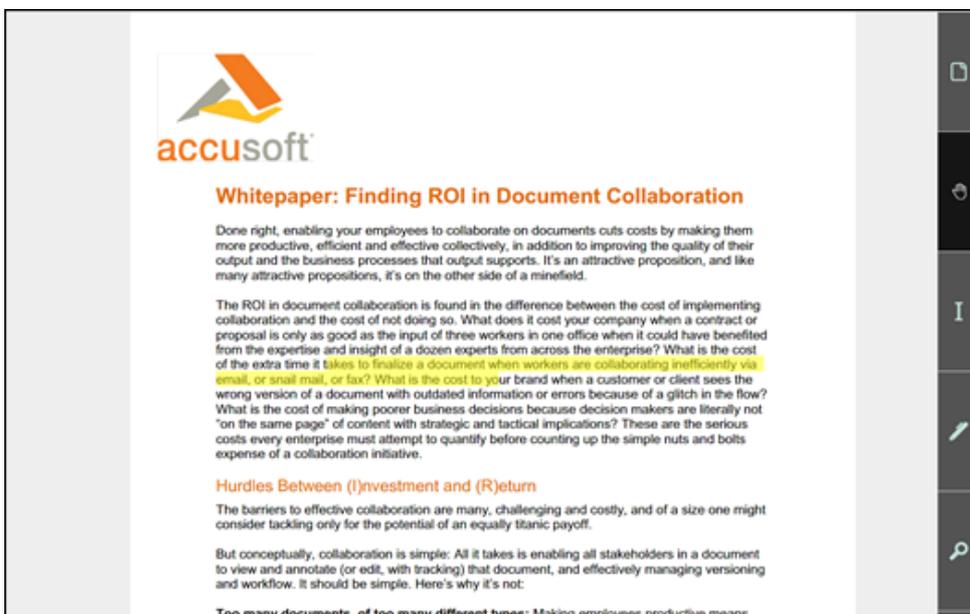
3. Full Viewer:

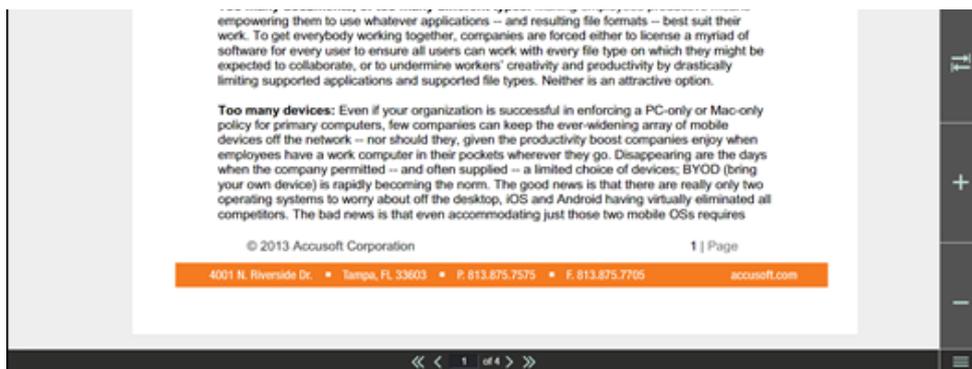
If you select **Full Viewer** on the splash page, then documents will be viewed with the full-featured, out-of-the-box responsive Viewer:



#### 4. Book Reader:

If you select **Book Reader** on the splash page, then documents will be viewed with the book reader. The book reader demonstrates how the Viewer can be heavily customized:

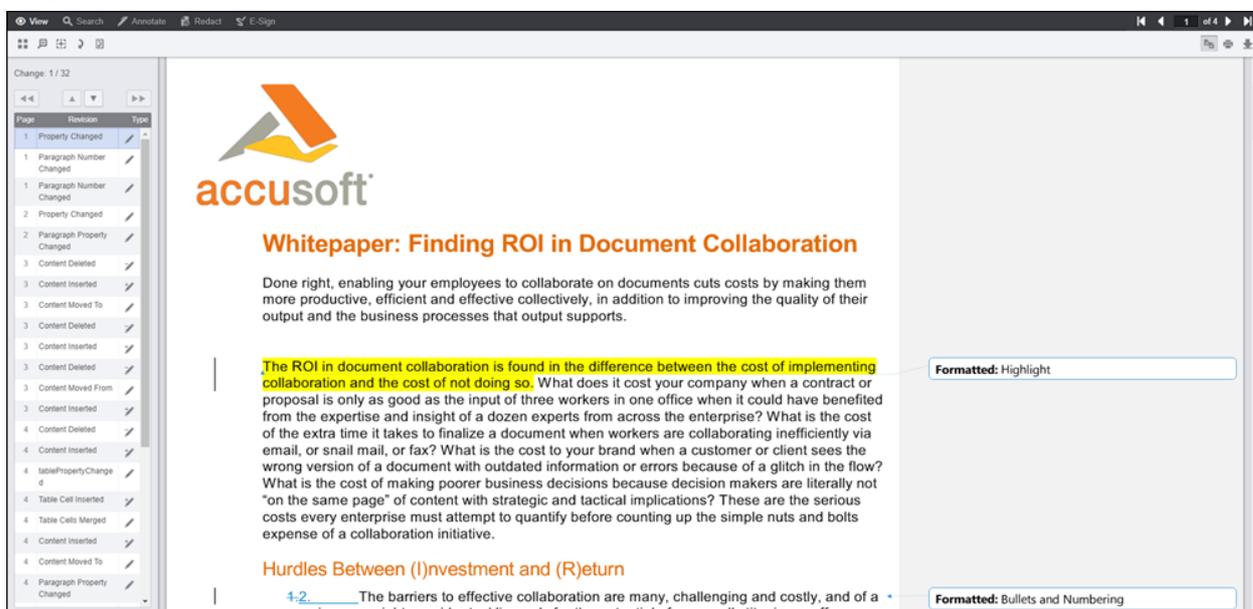




## 5. Comparison Viewer

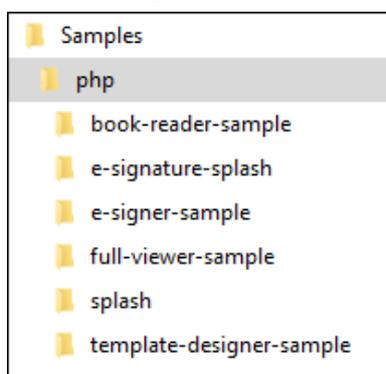
**NOTE:** This feature requires a *Microsoft Office* enabled PrizmDoc License.

If you select **Comparison Viewer** on the splash page, then you can upload two Word (.doc or .docx) files to be compared in the Viewer. The Comparison Viewer shows how two Word documents can be reviewed and compared using PrizmDoc:



## Directory Structure

This folder contains 6 sub-folders, one folder for each of the four samples (full Viewer, book reader, e-signer and e-signer template designer) and two folders for the splash pages (main splash page and the e-sign splash page):



Each of the sample folders are completely self-contained, meaning that they contain all of the files needed to run the sample. Furthermore, with the exception of a few project files and build files, the sample folders contain only the files needed to run the sample.

**Folder contents: full-viewer-sample**

**NOTE:** The Full Viewer (with the `comparisonMode` configuration parameter set to `true`) is used for document comparison.

File / Folder	Description
viewer-assets folder	Contains the essential JavaScript, CSS, fonts, and images that make up the Viewer.
viewer-assets/src folder	Contains Less, icons, languages, and HTML templates that can be used to build the Viewer CSS and customizations. This folder is non-essential, and does not need to be re-distributed.
viewer-assets/Gulpfile.js	Contains Gulp tasks to build the Viewer Less, icons, and HTML templates. This file is non-essential and does not need to be re-distributed.
viewer-assets/package.json	A file used by npm (a package manager). It defines the dependencies installed by npm, which are required to run Gulp and compile the Viewer Less, icons, and HTML templates. This file is non-essential and does not need to be re-distributed.
viewer-webtier folder	Contains files that implement the php layer of communication between the Viewer and the PrizmDoc Application Services.
viewer-webtier/pas.php	Handles all requests from the Viewer and forwards them to the PrizmDoc Application Services.
viewer-webtier/pcc.config	Defines the connection settings for the PrizmDoc Application Services.
viewer-webtier/PccViewer/Config.php	This class parses the <code>pcc.config</code> file and provides methods for easily reading its parameters.
index.php	The default web starting page in this sample. The Viewer's code gets loaded by this page.
.htaccess	Contains Apache web server settings.
predefinedSearch.json	This data file contains information defining search queries that will appear as selectable items in the full Viewer.
redactionReason.json	This data file contains information defining redaction reasons that are available in the Viewer.

**Folder contents: book-reader-sample**

File / Folder	Description
viewer-assets folder	Contains the essential JavaScript, CSS, fonts, images, language data, and templates (HTML) that make up the book reader Viewer.
viewer-assets/less folder	Contains less that can be used to build the Viewer CSS. This folder is non-essential, and does not need to be re-distributed.
viewer-assets/Gruntfile.js	Contains Grunt tasks to build the viewer less. This file is non-essential and does not need to be re-distributed.
viewer-assets/package.json	A file used by <b>npm</b> (a package manager). It defines the dependencies installed by npm, which are required to run Grunt and compile the less.
viewer-assets/selection.json	A file used by the IcoMoon application to generate the icons in the book

File / Folder	Description
	reader Viewer. If you need to add an icon to the Viewer, you can add the icon to this file and use the IcoMoon application ( <a href="https://icomoon.io">https://icomoon.io</a> ) to generate a new icon font. This file is non-essential and does not need to be re-distributed.
viewer-webtier folder	Contains files that implement the php layer of communication between the book reader Viewer and the PrizmDoc Application Services.
viewer-webtier/pas.php	Handles all requests from the Viewer and forwards them to the PrizmDoc Application Services.
viewer-webtier/pcc.config	Defines the connection settings for the PrizmDoc Application Services.
viewer-webtier/PccViewer/Config.php	This class parses the pcc.config file and provides methods for easily reading its parameters.
index.html	The default page for the sample. This page loads the Viewer.
sample-config.js	Contains references to the assets, web tier, and language files used by the Viewer in this sample.
.htaccess	Contains Apache web server settings.

### Folder contents: e-signer-sample

File / Folder	Description
viewer-assets folder	Contains the essential JavaScript, CSS, fonts, images, language data, and templates (HTML) that make up the book reader Viewer.
modules folder	Contains uncompiled assets of the Viewer. These files will be compiled to viewer-assets/js/bundle.js and viewer-assets/css/bundle.css by the build process defined in Gulpfile.js. The files in this folder are non-essential and do not need to be re-distributed.
Gulpfile.js	Contains Gulp tasks to build the viewer js and css files. This file is non-essential and does not need to be re-distributed.
viewer-assets/package.json	A file used by npm (a package manager). It defines the dependencies installed by npm, which are required to run Gulp and compile the Viewer assets. This file is non-essential and does not need to be re-distributed.
viewer-webtier folder	Contains files that implement the php layer of communication between the book reader Viewer and the PrizmDoc Application Services.
viewer-webtier/pas.php	Handles all requests from the Viewer and forwards them to the PrizmDoc Application Services.
viewer-webtier/pcc.config	Defines the connection settings for the PrizmDoc Application Services.
viewer-webtier/PccViewer/Config.php	This class parses the pcc.config file and provides methods for easily reading its parameters.
index.html	The default page for the sample. This page loads the Viewer.
.htaccess	Contains Apache web server settings.
webpack.config.js	Webpack configuration file. This file contains all the settings for the webpack module bundler. We use webpack to compile all the files in the modules folder to the bundle.js and bundle.css that are found in the viewer-assets

File / Folder	Description
	folder.

### Folder contents: `template-designer-sample`

File / Folder	Description
<code>viewer-assets</code> folder	Contains the essential JavaScript, CSS, fonts, images, language data, and templates (HTML) that make up the book reader Viewer.
<code>modules</code> folder	Contains uncompiled assets of the Viewer. These files will be compiled to <code>viewer-assets/js/bundle.js</code> and <code>viewer-assets/css/bundle.css</code> by the build process defined in <code>Gulpfile.js</code> . The files in this folder are non-essential and do not need to be re-distributed.
<code>Gulpfile.js</code>	Contains Gulp tasks to build the viewer js and css files. This file is non-essential and does not need to be re-distributed.
<code>viewer-assets/package.json</code>	A file used by npm (a package manager). It defines the dependencies installed by npm, which are required to run Gulp and compile the Viewer assets. This file is non-essential and does not need to be re-distributed.
<code>viewer-webtier</code> folder	Contains files that implement the php layer of communication between the book reader Viewer and the PrizmDoc Application Services.
<code>viewer-webtier/pas.php</code>	Handles all requests from the Viewer and forwards them to the PrizmDoc Application Services.
<code>viewer-webtier/pcc.config</code>	Defines the connection settings for the PrizmDoc Application Services.
<code>viewer-webtier/PccViewer/Config.php</code>	This class parses the <code>pcc.config</code> file and provides methods for easily reading its parameters.
<code>index.html</code>	The default page for the sample. This page loads the Viewer.
<code>.htaccess</code>	Contains Apache web server settings.
<code>webpack.config.js</code>	Webpack configuration file. This file contains all the settings for the webpack module bundler. We use webpack to compile all the files in the modules folder to the <code>bundle.js</code> and <code>bundle.css</code> that are found in the <code>viewer-assets</code> folder.

### Configuration with `pcc.config`

The file `pcc.config` is used to configure the connection settings between the web tier and PrizmDoc Application Services. The file can be found at: `<sample-folder-name>/viewer-webtier/pcc.config`. This file is self-documenting, but a little information about the configuration options is given below.

Option	Description
<code>&lt;DocumentPath&gt;</code> (Only in splash pages)	The sample pulls named documents from this location. The <code>DocumentPath</code> must have read/write permissions in order for the file drag and drop functionality of the splash page to work.
<code>&lt;PrizmApplicationServicesScheme&gt;</code>	Specifies the scheme ( <code>http</code> or <code>https</code> ) to use when connecting with PAS.
<code>&lt;PrizmApplicationServicesHost&gt;</code>	Specifies the host to use when connecting with PAS.
<code>&lt;PrizmApplicationServicesPort&gt;</code>	Specifies the port to use when connecting with PAS.

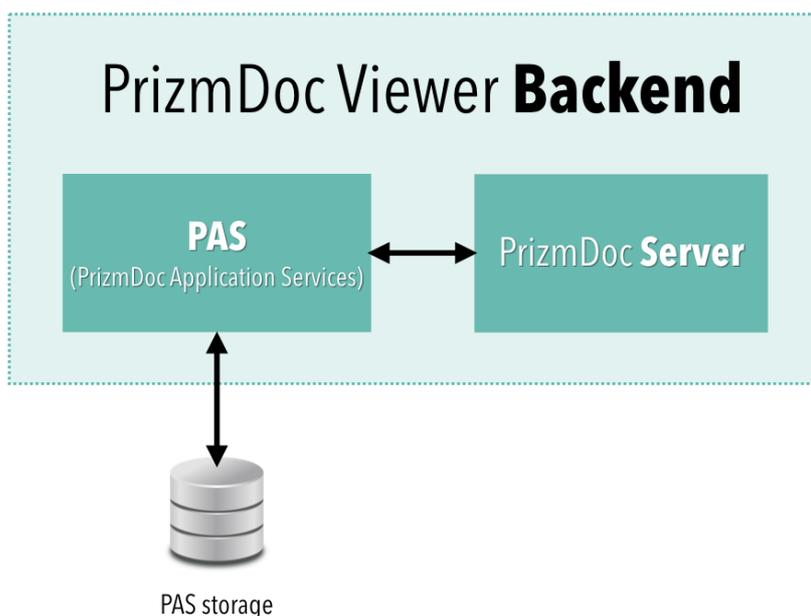
## Administrator Guide

### Administrator Guide (Self-Hosted)

This section explains how to deploy and administer your own self-hosted PrizmDoc Viewer backend.

#### Architecture Overview

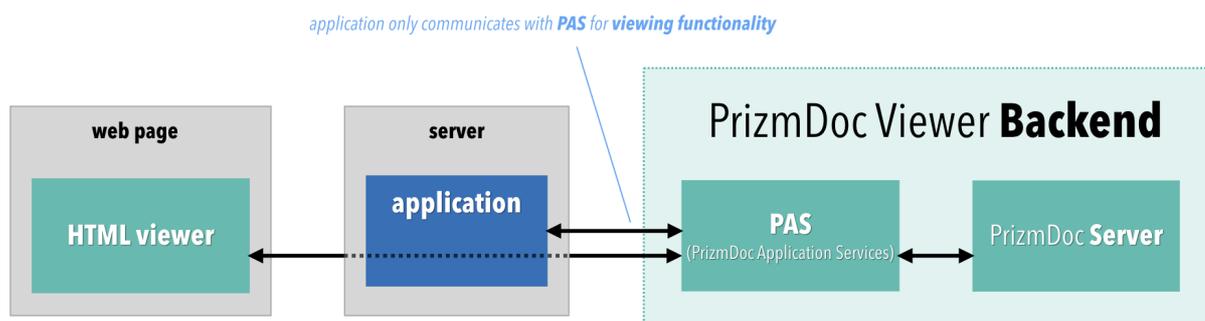
The PrizmDoc Viewer backend is comprised of two tiers, PAS and PrizmDoc Server:



- **PrizmDoc Server**, the technical heart of the product, is a document processing and conversion engine. It is compute intensive but has no permanent storage.
- **PAS** is a layer in front of PrizmDoc Server responsible for viewing concerns, such as saving and loading of annotations. As such, PAS requires access to a storage system which you manage (there are several supported options; see more below).

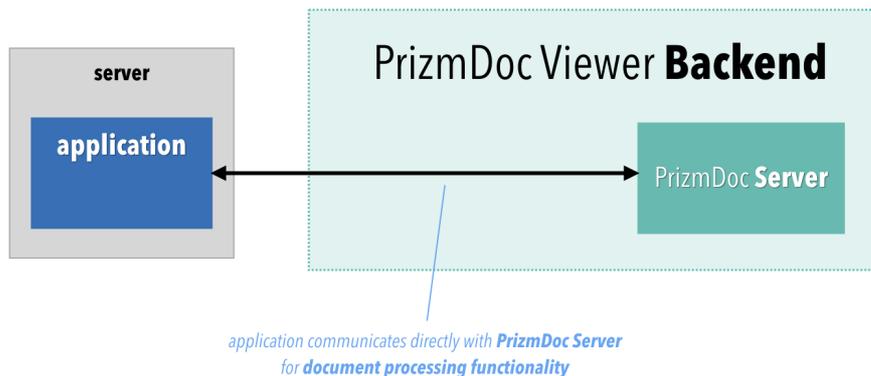
An application can send REST API requests to *both* of these tiers:

- For **viewing**, an application will send HTTP requests to PAS (and PAS will, in turn, send requests to PrizmDoc Server):



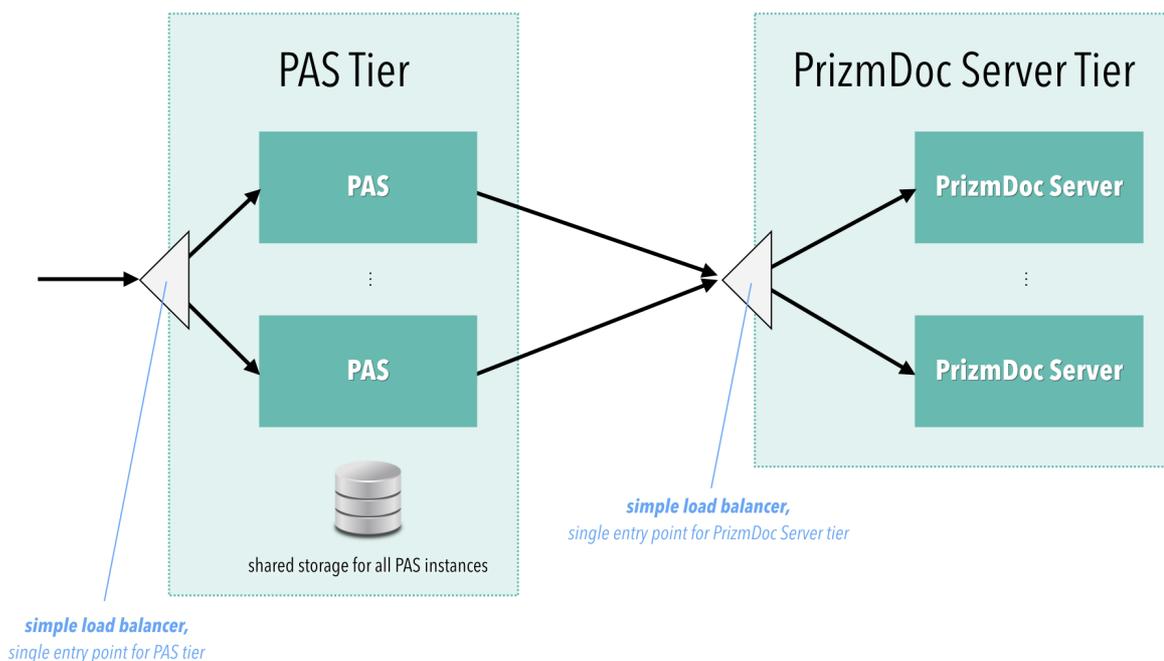
- For **document processing** (like file conversion or redaction), an application will send HTTP requests directly to

PrizmDoc Server:



## Load Balancing and Cluster Management

It is common in a production deployment to run multiple instances of PAS and PrizmDoc Server. The PAS and PrizmDoc Server tiers are conceptually independent, and each should be fronted by a load balancer of your choice:



Application developers needing to make PAS or PrizmDoc Server REST API calls should only send their requests to the load balancer sitting in front of the tier they are calling.

For PAS, any incoming request to the PAS tier can be routed to any PAS instance. You can use any off-the-shelf load balancer in front of your PAS instances (there is no need for anything like sticky sessions). Any PAS instance is capable of directly handling any request.

For PrizmDoc Server, the process is similar. Any incoming request to the PrizmDoc Server tier can be sent to any PrizmDoc Server instance. You can use any off-the-shelf load balancer in front of your PrizmDoc Server instances (there is no need for anything like sticky sessions). However, this is not because any PrizmDoc Server is capable of *directly* handling a request. Rather, this is because PrizmDoc Server instances are capable of routing any incoming request to the correct PrizmDoc Server instance in the cluster (the instance where document processing is actually occurring).

In order for PrizmDoc Server's automatic routing to work correctly, each PrizmDoc Server instance **MUST** have an up-to-date, accurate list of all of the instances in the PrizmDoc Server cluster. Each time you add or remove PrizmDoc Server instances to your cluster, you must inform each instance that the server list has changed (you can do this with a REST API call to each instance). For more information about this, see [Cluster Server Environments > PrizmDoc Server](#).

## Supported Storage Options for PAS

Your PAS instances will need to be configured to use some sort of shared storage. PAS supports several options for this:

- File system (such as network attached storage)
- Microsoft SQL Server
- MySQL
- Amazon S3
- Azure Blob Storage (beta)

For more information, see [PAS Configuration](#).

## Licensing

Self-hosted licensing is based upon your use of PrizmDoc Server. Each PrizmDoc Server instance you run must be configured with your license key (PAS instances do not require a license key to run).

For your convenience, PrizmDoc Server automatically runs in evaluation mode without a license. Please note that in evaluation mode some features and functions may be disabled, images may be displayed with a watermark on them and occasionally dialogs may be posted reminding you that PrizmDoc Viewer is in evaluation mode. When you are ready to deploy to production, a license will be required to run PrizmDoc Server in your production environment. Contact [info@accusoft.com](mailto:info@accusoft.com) to obtain a deployment license. For more information, see [Deployment Licensing](#).

## Deployment Options

For both PAS and PrizmDoc Server, we offer ready-to-run Docker images as well as Windows and Linux installers.

### PAS

For PAS, deploying is easiest with Docker, and we recommend you use the PAS Docker image if possible.

	PAS Pre-Installed
Docker	Yes
Windows Installer	No
Linux Installer	No

To use the PAS Docker image, see [Install PAS > Using Docker](#).

To install PAS directly on Windows, see [Install PAS > Install on Windows](#).

To install PAS directly on Linux, see [Install PAS > Install on Linux](#).

### PrizmDoc Server

For PrizmDoc Server, deploying is easiest with Docker, and we recommend you use the PrizmDoc Server Docker image if possible.

It largely depends on whether you need to render with Microsoft Office. If you do, then your only option is to deploy to a Windows machine with our Windows installer. However, if you plan to use PrizmDoc Server's built-in LibreOffice rendering, you can use any of our deployment options, including the Docker image.

	PrizmDoc Server Pre-Installed	Office Rendering
Docker	Yes	LibreOffice
Windows Installer	No	LibreOffice or <b>Microsoft Office</b>
Linux Installer	No	LibreOffice

To use the PrizmDoc Server Docker image, see [Install PrizmDoc Server > Using Docker](#).

To use the PrizmDoc Server Windows installer, see [Install PrizmDoc Server > Install on Windows](#).

To use the PrizmDoc Server Linux installer, see [Install PrizmDoc Server > Install on Linux](#).

## Minimal Backend Quick Start

If you just want to quickly setup a single instance of PAS and PrizmDoc Server running on a single machine (perhaps for evaluation), check out our [Minimal Backend Quick Start](#).

## Evaluating with Docker

We have a [public Docker image](#) which makes it easy to evaluate PrizmDoc Viewer on a single machine: `accusoft/prizmdoc-viewer-eval`.

Running this image will:

1. Start a demo web application at `http://localhost:8000` where you can easily explore the viewer and its features using your own documents.
2. Start a complete PrizmDoc Viewer backend which you can begin using for local development of your application.

**NOTE:** The `accusoft/prizmdoc-viewer-eval` Docker image is only suitable for evaluation and local development. It is not suitable for a production deployment. You'll want to use the `accusoft/prizmdoc-application-services` and `accusoft/prizmdoc-server` Docker images instead. See the [Admin Guide](#) for more information.

## Minimum Required Hardware Resources

Before running, you **MUST** make sure that you've configured Docker to use the following minimum hardware resources:

- CPUs: **2**
- Memory: **7.50 GB**

If you try to run the image with fewer CPUs or less memory, it may not function correctly.

## Starting

First, pull the latest version of the `accusoft/prizmdoc-viewer-eval` image:

```
docker pull accusoft/prizmdoc-viewer-eval:latest
```

Then, start a running container:

```
docker run --rm -p 8888:8888 -p 3000:3000 -p 18681:18681 -e  
ACCEPT_EULA=YES --name prizmdoc-viewer-eval accusoft/prizmdoc-viewer-  
eval:latest
```

## Optional: Providing a License Key

The example above starts PrizmDoc Viewer without a license key in a limited evaluation mode. If you would like to do a full-featured evaluation of the product, contact [info@accusoft.com](mailto:info@accusoft.com) for a license. If you have a license, you can provide it by setting two extra environment variables,

`LICENSE_SOLUTION_NAME` and `LICENSE_LICENSE_KEY`:

```
docker run --rm -p 8888:8888 -p 3000:3000 -p 18681:18681 -e
ACCEPT_EULA=YES -e LICENSE_SOLUTION_NAME=YOUR_SOLUTION_NAME -e
LICENSE_KEY=YOUR_LICENSE_KEY --name prizmdoc-viewer-eval
accusoft/prizmdoc-viewer-eval:latest
```

Just replace `YOUR_SOLUTION_NAME` and `YOUR_LICENSE_KEY` with the actual values.

## Wait for Everything to Finish Starting

It will take a minute or two for the PrizmDoc Viewer backend to fully start. Eventually, you should see something like this:

```
=====
PrizmDoc Server is running at:
http://localhost:18681

PAS (PrizmDoc Application Services) is running at:
http://localhost:3000

Demo application will be started at:
http://localhost:8888
=====

Starting the demo application...

> prizmdoc-viewer-eval-demo@1.0.0 start /demo
> NODE_ENV=production node main.js

Application running at http://localhost:8888
```

Once you see this, the container is fully up and running.

## Using the Demo

After starting, you can view the demo app at `http://localhost:8888` and start exploring the viewer and its features with your own documents.

## Developing Against the Backend

Additionally, you can use the PrizmDoc Viewer backend for local development of your own application. See the [Getting Started Guide](#) and [sample applications](#) for examples of how to begin.

When configuring your application:

- PAS will be running at `http://localhost:3000`

- The PAS secret key will be `mysecretkey`
- PrizmDoc Server will be running at `http://localhost:18681`

## Stopping

To stop the running Docker container, just use Ctrl+C in the same terminal where the container is running.

Alternately, you can stop the container by name: `docker stop prizmdoc-viewer-eval`

# Security Guidance

## Introduction

This topic covers the essential items that you should consider before deploying your application. For example, how **PrizmDoc Server** is designed, **ports** that need to be open for single-server and cluster modes, PrizmDoc Server **administration**, and creating **secure viewing sessions**.

## PrizmDoc Server

PrizmDoc Server is designed to run as an internal web service. Take steps to ensure that PrizmDoc Server is not accessible to end-users or the public internet by configuring a firewall in front of PrizmDoc Server to block access to the port it is using.

## Ports

The following default ports should be open to access PrizmDoc Server:

### Single-server Mode

- **18681** – PrizmDoc Server Entry Point (SEP) default port

### Cluster Mode

- **18681** – PrizmDoc Server Cloud Entry Point (CEP) default port
- **18682** – PrizmDoc Server Entry Point (SEP) default port

**NOTE:** *PrizmDoc Server uses a number of ports for internal purposes and must not be accessible from outside of the server.*

## PrizmDoc Server Administration

PrizmDoc Server includes a **Health Status API** to request real-time information about the state and health of the system. A sample **ASP.NET web application** is also included in the Windows installation that takes advantage of the Health Status API and demonstrates potential use cases.

The Health Status API provides information that can be helpful in diagnosing problems. However, it also contains sensitive information such as document information and specific processing tasks. Because of this, the ASP.NET WebForms sample or any application accessing the Health Status API of PrizmDoc Server should not be accessible to end-users or the public internet.

## Secure Viewing Sessions

The [central configuration](#) file contains properties that can help prevent users from setting inappropriate values to try and attack the PrizmDoc Server, which could render performance problems with the server. These values are properties in the **ViewingSessionProperties** object that a client-user passes to PrizmDoc Server to start a viewing session.

The file paths for the Central Configuration file are:

- **Linux:** /usr/share/prizm/prizm-services-config.yml
- **Windows:** C:\Prizm\prizm-services-config.yml

**NOTE:** The default installation directory is: C:\Prizm.

For more information on creating secure viewing sessions, refer to the following topics:

- [Enabling Content Encryption](#)
- [Viewing Sessions API](#)

The following configuration properties put limits on viewing session properties sensitive to abusive attacks:

### Central Configuration Properties Example

```
# Defines the min and max allowed values for the countOfInitialPages viewing
# session creation option.
#
# viewing.sessionConstraints.countOfInitialPages.min: 0
# viewing.sessionConstraints.countOfInitialPages.max: 10

# A regex which defines the pattern of an acceptable value for the
# documentExtension viewing session creation option.
#
# viewing.sessionConstraints.documentExtension.regex: ".\*"

# A regex which defines the pattern of an acceptable value for the
# externalId viewing session creation option.
#
# viewing.sessionConstraints.externalId.regex: ".\*"

# Defines the list of allowed values for the serverCaching viewing session
# creation option.
#
# Must be an array with one or more of the following strings:
#
# "none" - Allow REST API callers to create a new viewing session with
# caching
#           explicitly disabled.
#
# "full" - Allow REST API callers to create a new viewing session with
# caching
#           explicitly enabled.
#
# viewing.sessionConstraints.serverCaching.allowedValues: \["none","full"\]

# Defines the list of allowed values for the alwaysUseRaster viewing session
# creation option.
#
# Must be an array with one or more of the following values:
#
```

```
# false - Allow REST API callers to create a new viewing session which will
#         generate both raster and vector page content. Ideal for modern
#         browsers.
# true - Allow REST API callers to create a new viewing session which will
#        only generate raster content; vector content will not be
#        generated.
#        This is useful for some older browsers.
#
# viewing.sessionConstraints.render.alwaysUseRaster.allowedValues: \[false\]
```

## Configure our Top Features

### Introduction

As an Administrator, the following list helps you configure our top features:

- **Sizing Your Server** - Review general guidance on the factors that will impact performance so you can plan your deployment and ensure you have sufficient hardware to handle your needs.
- **Licensing** - Review your options for licensing so you can make the best choice for your needs.
- **Enable Content Encryption** - Content encryption must be enabled in the Viewer and in the PrizmDoc Server; it is disabled by default. Enabling content encryption in the Viewer is straightforward and performed by an option passed to the Viewer constructor or jQuery plugin.
- **Configure PAS** - The Prizm Application Services (PAS) use a **central configuration** file to determine, among other things, where to find documents, where to store logs and how to connect to a database.
- **Using Central Configuration** - PrizmDoc Server can be configured using a central configuration file for both Windows and Linux.
- **Configure Microsoft Office Conversion Connectivity** - PrizmDoc Viewer provides Microsoft Office Conversion connectivity for PrizmDoc Servers running on Linux.
- **Pre-convert Documents/Viewing Packages:**
  - **Run Database Scripts - Set up your database for use with PAS.**
  - **Set up Viewing Packages** - A Viewing Package is a cached version of a document that the Viewer will use when viewing a document. Viewing a document from a Viewing Package significantly reduces the load on PrizmDoc Server and allows you to serve many more users per minute than you could otherwise.

## Upgrade PrizmDoc Viewer

### Introduction

This topic covers the details you need to upgrade PrizmDoc Server and PrizmDoc Viewer.

**IMPORTANT:** Before starting, **make a backup** of the following configuration files so you can use them as a reference when re-configuring the new version after installation. This should be done **before you run the PrizmDoc installer**, as all configuration files will be replaced with new ones (resetting them to their default configuration):

- Prizm Server Configuration: prizm\prizm-services-config.yml

- Prizm Client Configuration (Windows): prizm\pas\pcc.win.yml
- Prizm Client Configuration (Linux): /usr/share/prizm/pas/pcc.nix.yml
- ServiceHost Configuration: prizm\PCCIS\ServiceHost\pcc.config

## How To Upgrade

1. Download the **latest version** of PrizmDoc Server and PrizmDoc Viewer Client for your operating system from [PrizmDoc Viewer: Current Builds](#).
2. Install **PrizmDoc Server** first, and then the **PrizmDoc Client**. This will perform an in-place upgrade of the **PrizmDoc Server** and the **PrizmDoc Client** to the new version.
3. At the end of the server installation, the install may request a reboot.
4. Make a **backup** of your new configuration files as listed above.
5. Modify each of the **new configuration files** and make the same changes that you had in the older configuration files.

**NOTE:** Do not just replace the new configuration files with the older version of the configuration files, as new configurations may have been introduced in the new version and they would be lost.

6. Restart the **Prizm Services** and **Prizm Application Services** to ensure the newly configured file changes take effect.

**NOTE:** If either service fails to start with an error after modifying the configuration files, replace the configuration files with the original copy of the configuration files and try making the changes again.

**NOTE:** If you are using viewing packages and have an existing database, we provide additional scripts in the `\prizm\pas\db` folder to modify your existing database. For example, if you are upgrading from PrizmDoc 12.x to PrizmDoc 13.x, we provide an additional script called `addTenantId` to add a new field to one of the existing tables.

## Sizing Servers

This section contains the following information:

- [PrizmDoc Server Sizing](#)
- [PrizmDoc Application Services \(PAS\)](#)

## PrizmDoc Server Sizing

### Overview

This topic provides some general guidance on the factors that will impact performance of PrizmDoc Server so that you can adequately plan your deployment to ensure that you have sufficient hardware to handle your needs. You should consider the type of documents that you will be processing and based on the information provided below, adjust our recommendations accordingly to fit your use-case. If you have more specific questions regarding your specific usage of PrizmDoc Server, please contact our [Support team](#).

- [How Content Can Affect These Recommendations](#)
- [How Hardware Can Affect System Performance](#)
- [Example Server Configurations](#)
- [Additional Considerations for Pre-Conversion Services](#)

## How Content Can Affect These Recommendations

PrizmDoc Server can process many different types of files. The majority of files processed by PrizmDoc Server displayed in the Viewer are PDF, Microsoft Office formats (Word, PowerPoint, and Excel), and scanned images. The system is capable of processing many file types outside of this basic set. For benchmarking purposes, we focus on processing the more commonly used formats.

The content of files can vary greatly, and their construction can affect PrizmDoc Server's ability to process them. Any of the factors mentioned below could cause file processing and rendering time to deviate from the performance expected from a basic document set.

### Document Elements

The number of elements that exist within a file will affect how quickly the PrizmDoc Server services can convert the content in the necessary viewing format. CAD Drawings and PDF Documents using path elements to represent CAD data will contain many elements and require more time to convert. Elements within a file are not limited to the path elements, but text content can also be a factor.

### Image Size

Images can be content on their own, but images are also embedded into PDF and Office files. The size of the images that the system needs to process can affect the system's ability to load the content being supplied. As the size of the image(s) increases, the amount of time needed to process the content increases. For example, the PDF standard allows for images to be stored within the file, while only displaying a small portion of the image. While the image may appear to be small in size, the information stored in the file can be larger than expected.

### File Size

Uploading a file to the server before it can be processed will take some time. The size of a file can also be representative of the complexity of the file. As the file size increases, the amount of time to transfer and load the data will increase.

### File Types

Certain file types, by their nature, may contain more of the above defined factors. CAD drawings will contain many line and path elements to represent the information that is needed. As these files grow in size, they will contain more data and require more processing for the system to generate content for display.

## How Hardware Can Affect System Performance

There is not one single piece of hardware that will address the performance concerns that you might have. In order to avoid under-utilizing your hardware, Accusoft recommends keeping these different characteristics in balance within your environment.

### Disk IO

In its default configuration on common hardware of the day, the biggest limiting resource for PrizmDoc Server is most likely to be disk IO. PrizmDoc Server caches a considerable amount of data on a local drive consisting of document data, both original and converted, as well as state and other information.

As the load increases on a server, the data being written and read from disk will continue to grow with each new request. We often see customers proposing hardware configurations that possess high-end CPUs but only a single, ~7200 RPM Hard Disk Drive. A single IO device in this situation can quickly become overburdened, causing the queue length for the IO device to grow to the point where much of the actual time used for document conversions is spent waiting for IO requests. There are options today that can greatly improve IO transfer rates:

- **SSD drives:** A good option to minimize the IO wait time, allowing for the use of high-end multi-core processors to extract the most performance out of PrizmDoc Server.
- **Shared Memory Drive (Linux):** In this case, a chunk of the available RAM is shared and appears as a mounted file system. This storage is not persistent, but this is acceptable for the PrizmDoc Server cache with the understanding that PrizmDoc Server will reconvert documents to rebuild the cache if it is deleted.

Maximizing the number of Disk I/O operations your system can perform will be the most beneficial investment you can make in order to allow the system hosting PrizmDoc Server to perform at its peak.

## CPU

The CPU is another resource that should be considered when determining hardware requirements for PrizmDoc Server. Assuming PrizmDoc Server performance is not bottlenecked by Disk IO (either SSD, Shared Memory, or other Disk IO optimization is in use), the ideal range for CPU usage is about 60% total, across all available logical cores. The 60% target is a guideline to where system activity should be for the system to be at peak productivity.

## RAM

We recommend each server have 4GB of memory per logical core and no less than 16GB total memory. If you intend to use a RAM Disk or Shared Memory Volume, you'll need to account for that separately.

## Example Server Configurations

The throughput expressed in this document is defining the number of unique documents the system can convert for viewing per minute. If a document has already been converted for display and is cached, the system resources needed to transfer that data are minimal and are not considered in these estimates. The documents included in the recommendation represent a standard mix of Office and PDF files ranging in size from a few pages to few hundred pages.

### Minimum Recommendation

- Windows: 5 per minute
- Linux: 10 per minute

### Hardware Details

- Logical Cores: 4
- Memory: 16GB
- Hard Drive Type: SSD
- AWS: m5.xlarge

## Moderate Recommendation

- Windows: 10 per minute
- Linux: 18 per minute

### Hardware Details

- Logical Cores: 8
- Memory: 32GB
- Hard Drive Type: SSD
- AWS: m5.2xlarge

## High-End Recommendation

- Windows: 15 per minute
- Linux: 30 per minute

### Hardware Details

- Logical Cores: 16
- Memory: 64GB
- Hard Drive Type: SSD
- AWS: m5.4xlarge

## Additional Considerations for Pre-Conversion Services

When enabling the [Work with Viewing Packages](#) feature, there are additional considerations for hardware requirements. Since the Viewing Package creation process creates all of the necessary artifacts that a future Viewing Session may require, it is much more computationally and resource expensive than an on-demand Viewing Session. As a general rule-of-thumb, creating a Viewing Package is about as resource intensive as having 5 concurrent users trying to view a document that has been uploaded for an on-demand Viewing Session.

When creating a Viewing Package, PrizmDoc will begin generating all of the artifacts for the document that is uploaded (e.g., svg, text, etc.). This is fundamentally different from on-demand Viewing Session creation in that PrizmDoc will only generate the artifacts that are immediately needed for viewing. Since everything is being converted at once, this puts additional strain on the PrizmDoc Back-end Services.

# PrizmDoc Application Services (PAS)

## Introduction

The [PrizmDoc Application Service](#) (PAS) can run on a wide variety of server configurations. It will automatically scale to utilize available cores, and payload data is streamed as much as possible to reduce RAM usage. It is typically external dependencies like the PrizmDoc Server, which PAS uses for process-heavy conversions that can affect its perceived responsiveness.

PAS may also be [configured to run on multiple servers](#). This, combined with modest hardware requirements, means that smaller, low-cost servers can be used and scaled horizontally (more servers are added) when additional capacity is needed.

## Network Throughput

Many requests handled by PAS will result in a HTTP request to PrizmDoc Server. If PAS and PrizmDoc Server are hosted on separate servers, it is important to have good network throughput between nodes for optimal performance.

## Example Server Configurations

The following minimum requirements can reasonably support 500 native PAS requests per second. A native PAS request is one that PAS handles entirely and does not depend on a supporting resource like PrizmDoc Server to fulfill the request.

### Minimum Requirements

- Logical Cores: 1
- Memory: 0.5 GB (Linux) / 1 GB (Windows)
- Drive Type: SSD
- AWS: t2.nano (Linux) / t2.micro (Windows)

### Suggested Requirements

- Logical Cores: 2
- Memory: 4 GB (Linux) / 8 GB (Windows)
- Drive Type: SSD
- AWS: t2.medium (Linux) / t2.large (Windows)

## Additional Considerations for Pre-Conversion Services

When enabling the [Viewing Packages](#) feature, there are additional considerations for hardware requirements. This feature requires a database and will cause PAS to make additional HTTP requests to PrizmDoc Server, increase Disk IO, and execute queries against the database.

## Network Throughput

If the database is hosted on a separate server, it is important to have good network throughput between nodes for optimal performance.

## File Storage

PAS will use the file system to store all artifacts of a viewing package which increases the amount of storage needed by the service. The amount of storage needed is very closely tied to the number of active viewing packages and the types of documents being viewed. For example, a viewing package of a 100 page document requires several times the storage that a 1 page document needs. Likewise, a document page that contains drawings and images will consume more storage than a page with just text. Testing with a representative set of sample documents is recommended to understand the file storage requirements of a specific application.

## Database

PAS will store various bits of metadata about each viewing package in the configured database. The total amount of data stored for a viewing package in the database partly depends on the number of pages in the source document. However, the metadata size is not currently affected by the content of individual

pages. Again, testing with a representative set of sample documents is recommended.

## Example Server Configurations

The following minimum requirements can reasonably support 5 simultaneous viewing package creation processes per logical core. However, viewing package creation is heavily dependent on PrizmDoc Server for generating content. As PAS instances are scaled up, the supporting PrizmDoc Server instances must be scaled up appropriately to avoid overloading them. Additionally, the overall number of simultaneous viewing package creation processes should be throttled to avoid overburdening the system.

### Minimum Requirements

- Logical Cores: 2
- Memory: 4 GB (Linux) / 8 GB (Windows)
- Drive Type: SSD
- AWS: t2.medium (Linux) / t2.large (Windows)

### Suggested Requirements

- Logical Cores: 2
- Memory: 8 GB
- Drive Type: SSD
- AWS: m4.large

## Product Evaluation

This section contains the following information:

- [Command Line Mode](#)
- [Download Product for Evaluation](#)
- [Upgrade to a Deployment License](#)

## Command Line Mode

### PrizmDoc Viewer Evaluation

The Prizm Licensing Utility (PLU) can be used in the command-line mode for switching to evaluation mode.

### Switching to evaluation mode

#### Usage

eval

#### Examples

The following example demonstrates switching to evaluation mode:

```
java.exe -jar plu.jar eval
```

```
C:\Prizm\plu>java.exe -jar plu.jar eval  
The product has been configured for evaluation.
```

## Download Product for Evaluation

### Introduction

When evaluating PrizmDoc Viewer Self-Hosted, you will need to:

1. Open a browser, go to [Try PrizmDoc Viewer Your Way](#), and select **Start Your Free Trial**.
2. Under the **Self-Hosted** option, click [Try it Now](#).
3. Fill out the form. Once complete, a confirmation page will display with your download links. You will also receive an email if you need to access them at a later date. **NOTE:** *You will need to download both the Server and Client installers to host your own PrizmDoc Viewer backend.*
4. Click on **Download Server** to install the PrizmDoc Server first. Follow the [Install PrizmDoc Server](#) instructions. Note that during installation, you will be prompted to either evaluate the product, or enter your purchased license details.
5. After you have finished downloading and installing the PrizmDoc Server, go back to the **Download PrizmDoc Viewer** page and click **Download Client**.
6. Follow the instruction to [Install PAS](#).

**NOTE:** *In evaluation mode some features and functions may be disabled, images may be displayed with a watermark on them, and occasionally dialogs may be posted reminding you that PrizmDoc Viewer is in evaluation mode.*

## Upgrade to a Deployment License

### Introduction

After you have completed your evaluation of PrizmDoc Viewer Self-Hosted and are ready to upgrade to a Deployment License, follow these steps:

1. Review the types of [Deployment Licenses](#) available.
2. Contact the [Accusoft Sales Department](#) to purchase your Deployment License.
3. To install your Deployment License, refer to the in-depth [Deployment Licensing](#) section.

## Deployment Licensing

### Introduction

This topic covers deployment licensing options for PrizmDoc Viewer. By answering a few questions, this section will help you pick the licensing that works best for you!

- [Types of Licensing & Requirements](#)
- [Which type of licensing do you need?](#)
- [How many systems are you installing PrizmDoc Viewer on?](#)
- [Does the system to be licensed need an Internet connection?](#)
- [Do I need an Access Key?](#)
- [Do you want to run a silent installation?](#)
- [Do you want to license a specific feature, such as MS Office Conversion or Form-field Detector?](#)
- [Licensing Glossary](#)

## Types of Licensing and Requirements

The following table provides guidance for the different types of licensing and the associated requirements:

Node-Locked License	OEM License	Cloud License
<b>Internet Connection:</b> - With or without Internet connection	<b>Internet Connection:</b> - Not required	<b>Internet Connection:</b> - Required
<b>License Type:</b> - Annual (expires after 1 year) - Perpetual (never expires)	<b>License Type:</b> - Annual (expires after 1 year) - Perpetual (never expires)	<b>License Type:</b> - Lease-based number of licensed cores
<b>Access Key:</b> - Annual - required - Perpetual - not required	<b>Access Key:</b> - Not required	<b>Access Key:</b> - N/A

## Which type of licensing do you need?

There are three types of licenses, with two time-frames:

### Three types of licenses:

- **Node-locked license** - Designed for when your applications will run on a relatively small number of machines. Each of the machines will be assigned a license that is tied to the system's hardware.
- **OEM license** - Special deployment licenses that unlock the functionality and do not expire. Please contact [Accusoft Sales](#) to discuss which license is best for you. **IMPORTANT:** *This type of license **doesn't require** an Internet connection.*
- **Cloud license** - Is a lease-based license which limits server execution based on a maximum number of licensed cores. This option is available if you plan to host PrizmDoc Viewer in Amazon Web Services (AWS). **IMPORTANT:** *This type of license **requires** an Internet connection.*

### Two time-frames:

- **Annual license** - Expires after 1 year. For Annual Licenses, the use of an Access Key is required. If you have multiple licenses that expire on different days, the Access Key will allow you to differentiate between the licenses and ensure that the product will expire on the expected date. If an Access Key is not provided for an Annual License, the Prizm Licensing Utility (PLU) will use the next license available in your licensing "pool".

- **Perpetual license** - Doesn't expire. For Perpetual Licenses, the use of an Access Key is not required.

## How many systems are you installing PrizmDoc Viewer on?

- If you have a **limited number** of physical systems that you want to install PrizmDoc Viewer on, then you will want a Node-locked license. Please review our website for [PrizmDoc Viewer pricing](#). After obtaining the deployment licenses, follow the [Node-locked licensing instructions](#).
- If you have **more than a limited number** of systems that you want to install PrizmDoc Viewer on, then you will want an OEM license. Please contact [Accusoft Sales](#) to discuss which license is best for you. After obtaining the deployment licenses, follow the [OEM licensing instructions](#).
- If you intend to deploy to AWS, then you will want an Accusoft Cloud License. Please review our website for [PrizmDoc Viewer pricing](#). After obtaining the deployment licenses, follow the [Cloud licensing instructions](#).

## Does the system to be licensed need an Internet connection?

- **OEM Licensing** A connection to the Internet is **not** required.
- **Cloud License** - A connection to the Internet is **always** required.
- **Node-Locked:**
  - If you have a connection to the Internet, follow the [Node-locked instructions](#).
  - If you do not have a connection to the Internet, follow the [Node-Locked instructions](#), steps 1-9 and then continue with the [Node-locked without an Internet Connection instructions](#).

The following table provides an easy reference for the license types; whether or not an Internet connection is required for license activation, and whether or not an Internet connection is required at product runtime:

License Type	Internet Required for License Activation	Internet Required at Product Runtime
OEM	Not required	Not required
Cloud License	Not required	Required
Node-Locked	Preferred, but may also be activated when disconnected from the Internet	Not required

## Do I need an Access Key?

- If you have an **annual Node-Locked license** (with or without an Internet connection), the Access Key **is required**.
- If you have a **perpetual Node-Locked license** (with or without an Internet connection), the Access Key **is not required**.
- If you have an **OEM license**, the Access Key **is not required**.

## Do you want to run a silent installation?

- **Yes** - Follow the [Command-Line Mode instructions](#).

## Do you want to license a specific feature, such as MS Office Conversion or Form-field Detector?

- **Yes** - Review the [Feature Licensing](#) topic.

## Licensing Glossary

This section covers general licensing terms at Accusoft and specific licensing terms for PrizmDoc Viewer:

### Accusoft

General licensing categories and models available at Accusoft.

### PrizmDoc Viewer-specific

Licensing terms that are specific to PrizmDoc Viewer:

- **Access Key** - All licenses are assigned a unique identifier known as an Access Key. Access Keys are associated with the organization that purchased the license. Access Keys may be required for your deployment.
- **Annual License** - A license that must be renewed every year. This can apply to both OEM and Node-locked licenses. For Annual Licenses, the use of an Access Key is required. If you have multiple licenses that expire on different days, the Access Key will allow you to differentiate between the licenses and ensure that the product will expire on the expected date. If an Access Key is not provided for an Annual License, the Prizm Licensing Utility (PLU) will use the next license available in your licensing "pool".
- **Cloud Licensing** - A lease-based licensing implementation which limits server execution based on a maximum number of licensed cores.
- **Configuration File** - When you purchase a Node-locked license, you must download a configuration file from the Customer Portal. The configuration file contains information about the license for a specific platform and version. It is used by the PLU to activate licenses on your machines.
- **Customer Cloud Portal** - Create a free account to access the Customer Cloud Portal where you can get your license key and easily track your usage of Accusoft's APIs.
- **Feature Licensing** - The ability to purchase specific features that are offered for PrizmDoc Viewer, for example, Microsoft Office Conversion, Form Field Detector and Document Compare.
- **License Key** - Each license has a unique key associated with it that uniquely identifies your company, product, version, edition, and platforms, and, in some cases, the hardware for which the license is valid.
- **Licensing Pool** - A collection of all the licenses you have purchased and they are organized into pools of a specific platform and version. When you install the product, a license is pulled from the licensing pool.
- **Node-locked Licensing** - Contains a mechanism that activates a license for a particular system. Each installation has a unique license that is pulled from a pool of licenses that your organization has purchased. When the license key is generated, it contains hardware information that identifies the system on which the license is to be installed.
- **OEM Deployment Licenses** - Special deployment licenses that unlock the functionality and do not expire. Please contact [Accusoft Sales](#) to discuss which license is best for you.
- **Perpetual License** - A license that has been negotiated with Accusoft sales to be an ongoing license that does not expire. This can apply to both OEM and Node-locked licenses. For Perpetual Licenses, the use of an Access Key is not required.
- **Prizm Licensing Utility** (Prizm Licensing Utility) - A component of PrizmDoc Server that handles licensing of the product during installation. The PLU is designed to assist with all licensing options. For example, you can use the PLU to apply a new annual license to a machine with an existing license or troubleshoot installation issues.
- **PrizmDoc Server Admin Page** - Location (<http://localhost:18681/admin>) where you can check and see if the back-end services are healthy and running. It also shows your license information. The PrizmDoc Admin Server Page is located on the Start menu, under Accusoft.
- **Solution Name** - A name assigned by Accusoft to the deployment licenses you have purchased.
- **Test License (User Acceptance Server)** - Please [contact Sales](#) if you would like to have a license to use for testing purposes.

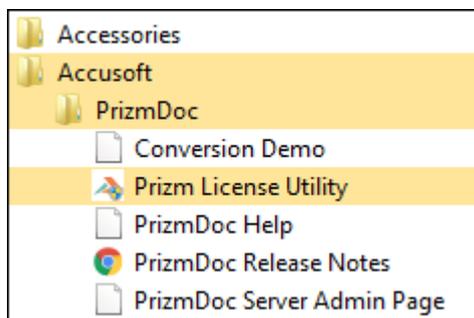
## Prizm Licensing Utility

### Overview

The Prizm Licensing Utility (PLU) is a component of the PrizmDoc Server that handles the evaluation mode and deployment licensing of PrizmDoc Viewer. The PLU is designed to assist with all licensing options, for example:

- Apply a new Deployment License for **Node-Locked** and **OEM** installations
- Apply a **new annual** Deployment License to a machine with an existing license

You can open the PLU by going to the Start menu:



## Node-Locked Licensing

### Overview

This topic covers how to obtain your licensing information, download and install PrizmDoc Viewer, and complete your registration. Note that the Prizm Licensing Utility (PLU) is designed to assist you with all the licensing options, so you will see other licensing options on the dialog boxes. This topic covers only the node-locked licensing instructions for the Viewer and Server distributions.

**NOTE:** Node-locked licensing **requires** an Internet connection.

**NOTE:** If you have an updated license, you must re-start PAS and PrizmDoc Server in order to use the new license.

#### 1. Obtain Licensing Information

When you signed up to evaluate PrizmDoc Viewer, you received an email with your Software Registration Information. The email message will contain a link to the Customer Portal, where you can obtain your licensing information for PrizmDoc Viewer. You will need to obtain the following information from the **Customer Licensing Portal**:

- **Solution Name** - This string is used to validate the configuration file.
- **Configuration File** - This file contains the information the Prizm Licensing Utility (PLU) requires in order to obtain a license for your system.
- **Access Key** - If you purchased several licenses, the Access Key is used to denote a *specific license* within the "pool" of purchased licenses. If this value is not provided, the Prizm Licensing Utility (PLU) will use the next license in your pool of licenses. If you purchased an *Annual License of PrizmDoc Viewer*, it is required that you supply an Access Key. If you have multiple licenses that expire on different days, the Access Key will allow you to differentiate between the licenses and ensure that the product will expire on the expected date.

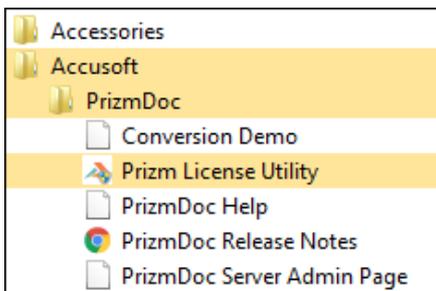
#### 2. Download and Install the Product

**NOTE:** If you have already installed the product for evaluation or other purposes you can skip this step.

The PrizmDoc Viewer product can be downloaded from the Accusoft web site: [PrizmDoc Viewer](#). After you have downloaded the appropriate product installer, run the installer according the version's installation instructions.

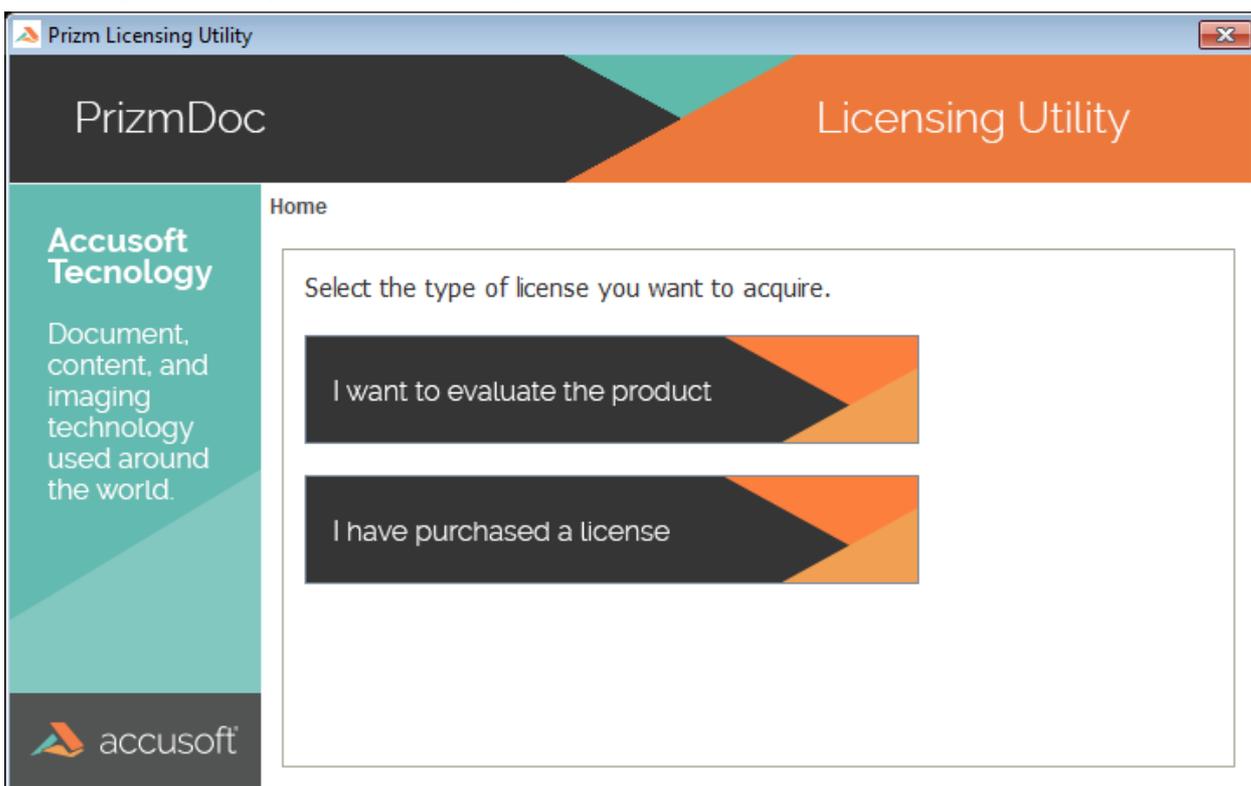
### 3. Run the Prizm Licensing Utility (PLU)

The installer will run the Prizm Licensing Utility (PLU) automatically as one of the final steps in the installation process. If the installer completed successfully, but you did not see the Prizm Licensing Utility, or closed it accidentally, you can launch the utility from the following location:



### 4. Select Deployment Option

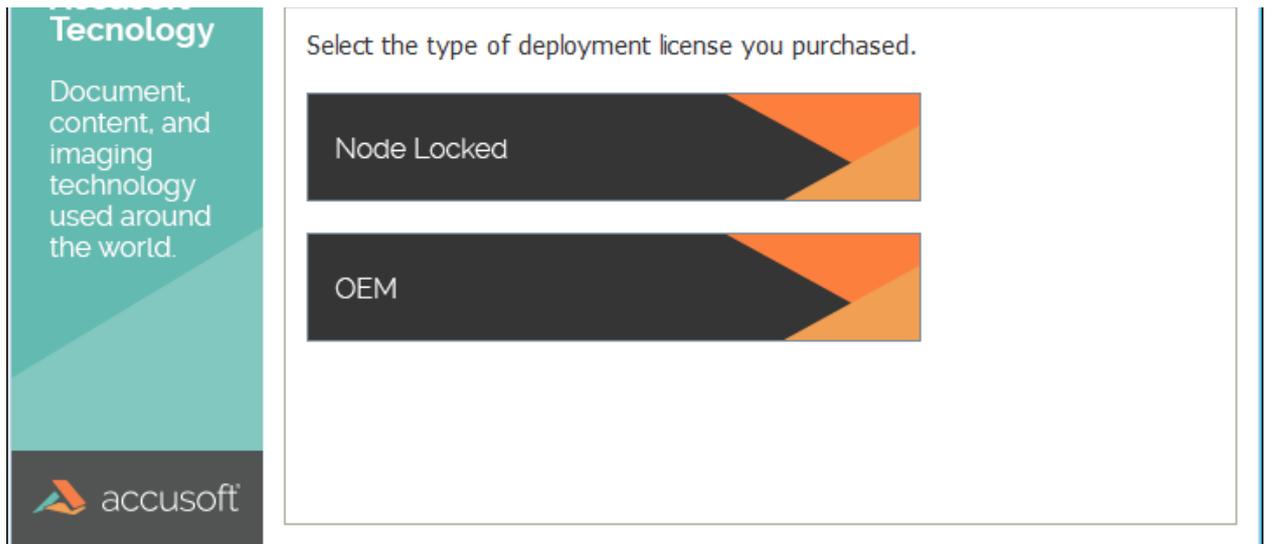
The Prizm Licensing Utility (PLU) provides options for both Evaluation and obtaining Deployment licensing. For this walk-through, we're using Deployment Licensing, so click the **I have purchased a license** button:



### 5. Select Node-Locked Option

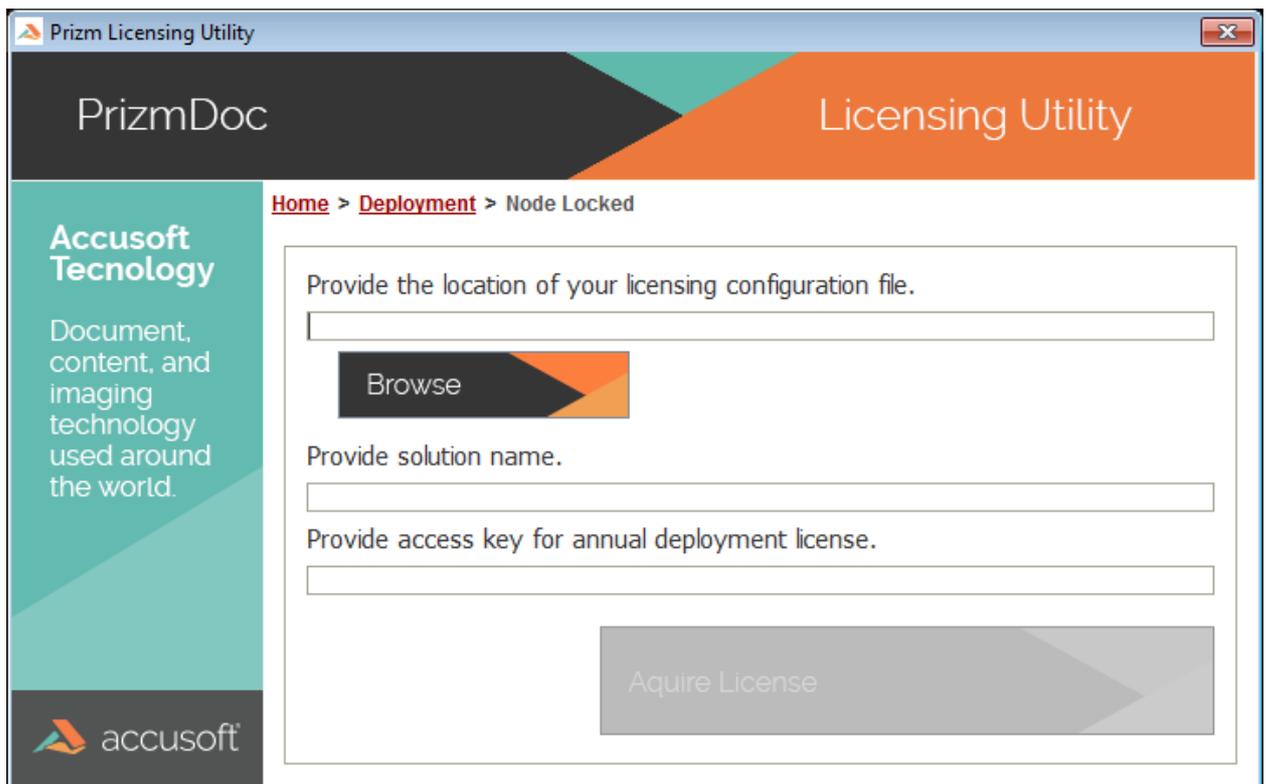
Click the **Node-Locked** option:





## 6. Provide Configuration File

In Step 1 above, you acquired a **Configuration file**. Specify the path to the file directly using the text box, or browse to the file using the **Browse** option:

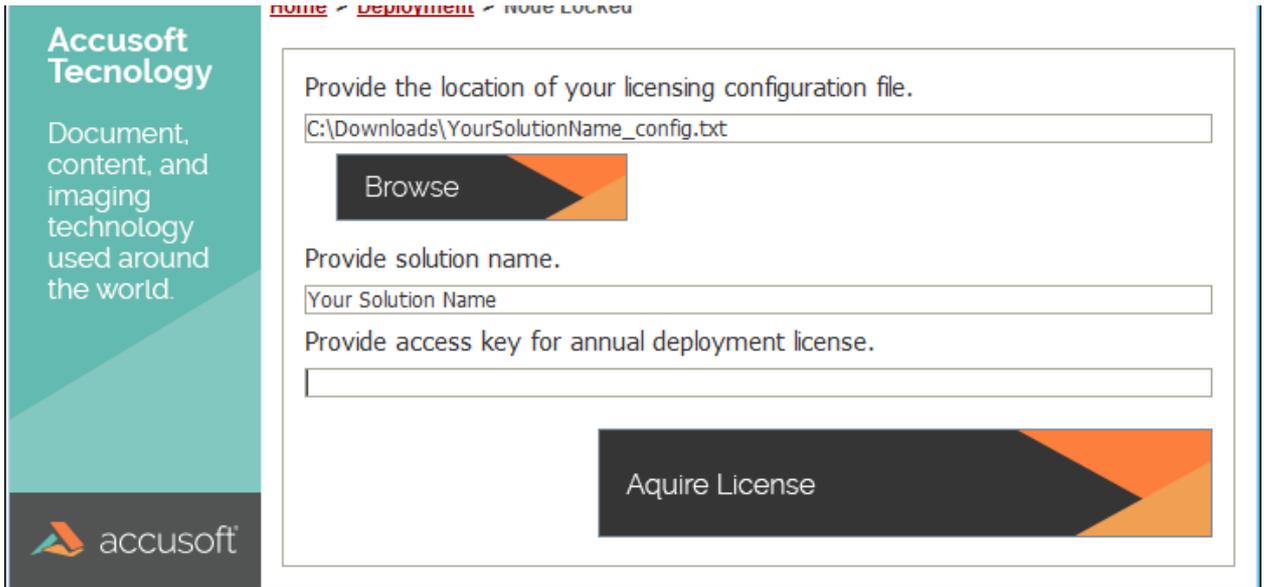


## 7. Enter Solution Name

In Step 1 above, you acquired the **Solution Name**. Enter the value that was assigned to your distribution into the text box below:

**NOTE:** This field is case-sensitive.





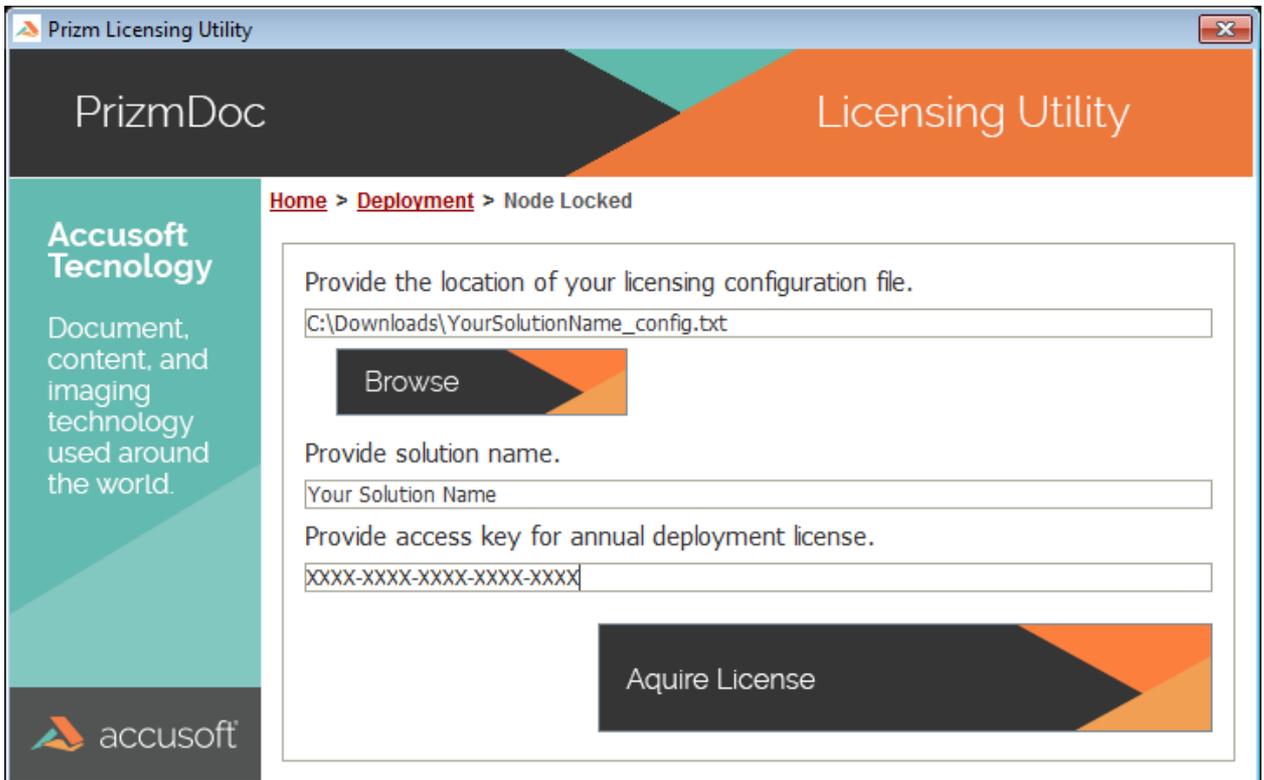
## 8. Enter your Access Key

**The use of an Access Key is required for Annual Licenses.** If you have multiple licenses that expire on different days, the Access Key will allow you to differentiate between the licenses and ensure that the product will expire on the expected date.

**NOTE:** The Access Key is a unique identifier for each distribution license purchased and may be required for your deployment.

For Annual Licenses, the use of an Access Key is required. If you have multiple licenses that expire on different days, the Access Key will allow you to differentiate between the licenses and ensure that the product will expire on the expected date. If an Access Key is not provided for an Annual License, the Prizm Licensing Utility (PLU) will use the next license available in your licensing "pool".

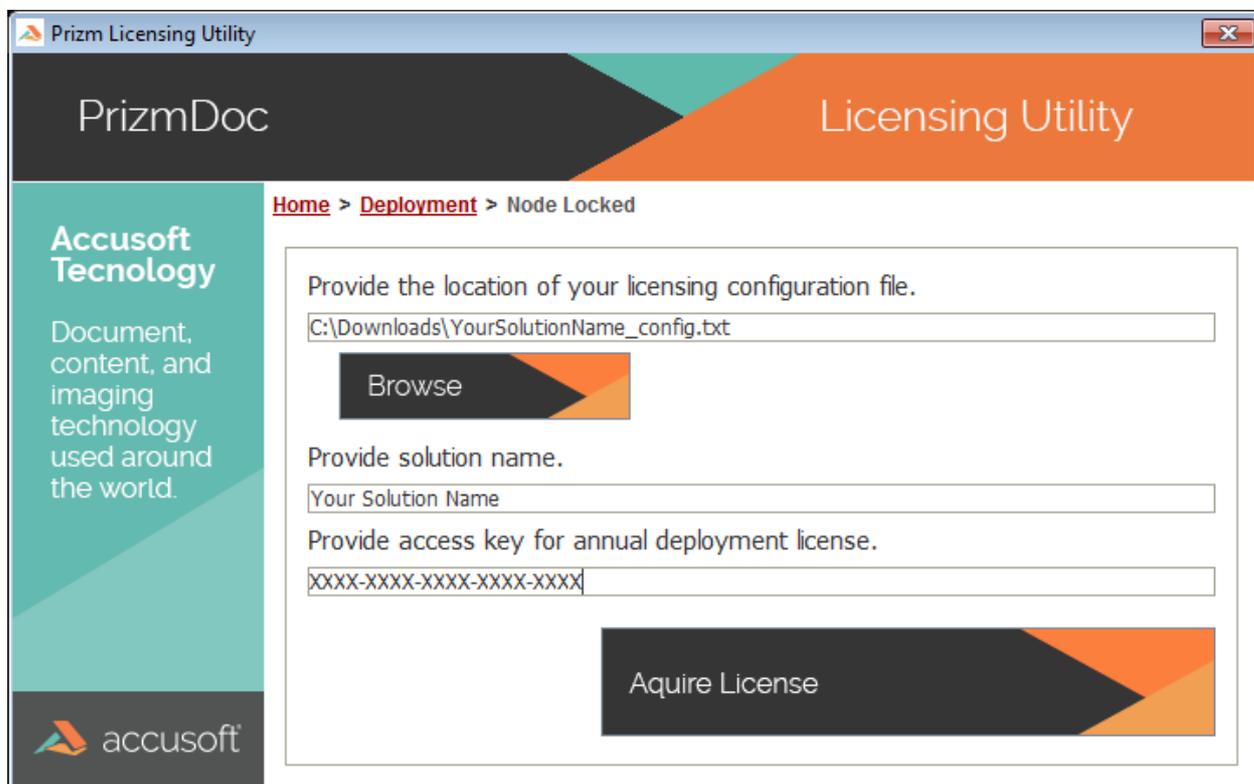
For Perpetual Licenses, the use of an Access Key is not required.



## 9. Acquire a License

Once all of the information has been provided, click the **Acquire License** button to register your system with Accusoft.

**NOTE:** If your system does not have Internet access to reach the Accusoft Licensing Services, then the Prizm Licensing Utility (PLU) will fail to register your system. In this case, you will need to follow the manual registration instructions: [Node-locked without an Internet Connection](#).



The screenshot shows the Prizm Licensing Utility (PLU) window. The title bar reads "Prizm Licensing Utility". The main window has a header with "PrizmDoc" on the left and "Licensing Utility" on the right. Below the header is a navigation breadcrumb: "Home > Deployment > Node Locked". On the left side, there is a sidebar with the Accusoft logo and the text "Document, content, and imaging technology used around the world." The main content area contains the following fields and buttons:

- Field: "Provide the location of your licensing configuration file." with the value "C:\Downloads\YourSolutionName\_config.txt" and a "Browse" button.
- Field: "Provide solution name." with the value "Your Solution Name".
- Field: "Provide access key for annual deployment license." with the value "XXXX-XXXX-XXXX-XXXX-XXXX".
- A large "Acquire License" button at the bottom right.

## 10. Registration Complete

Your system has been licensed for use. If you purchased an Annual License, the Prizm Licensing Utility (PLU) will display the expiration date for the license which was acquired.

## 11. Restart PrizmDoc Server

Restart PrizmDoc Server for the licensing changes to take effect. See [Start & Stop PrizmDoc Server](#) for instructions.

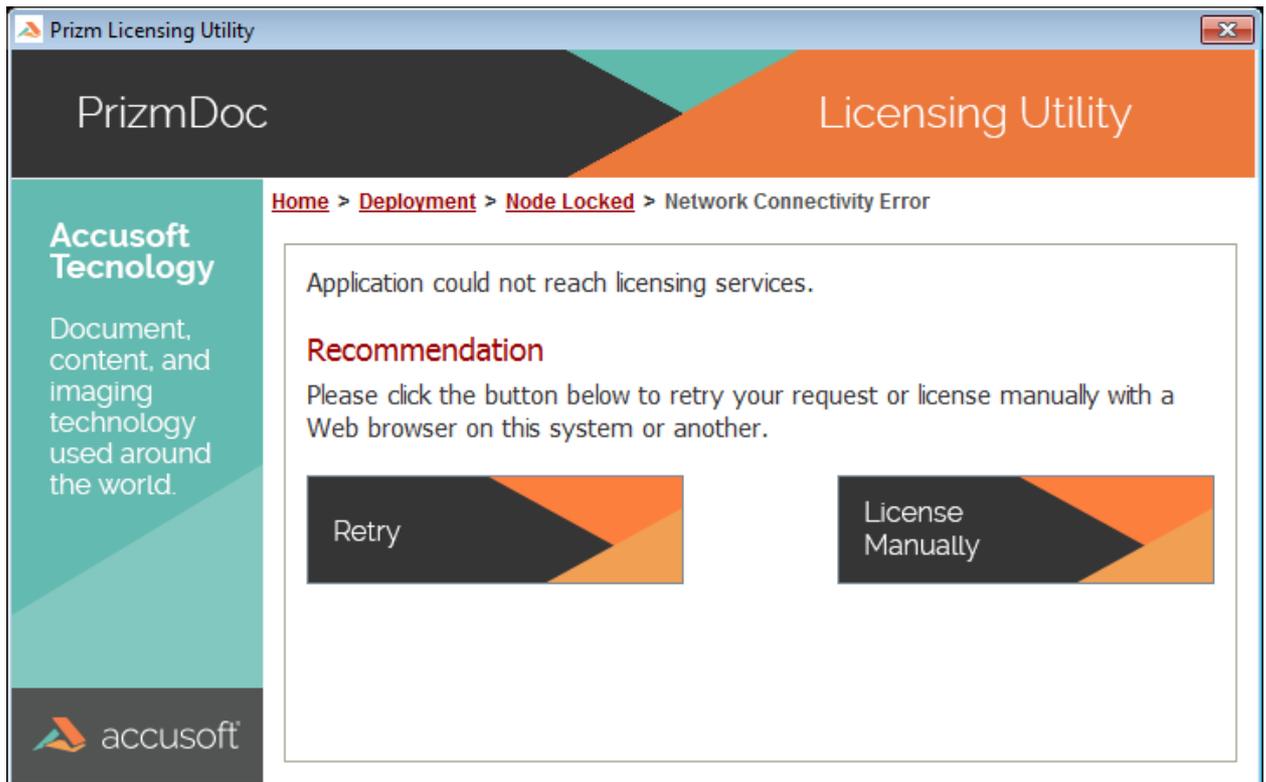
# Node-Locked Licensing without an Internet Connection

## Important Information

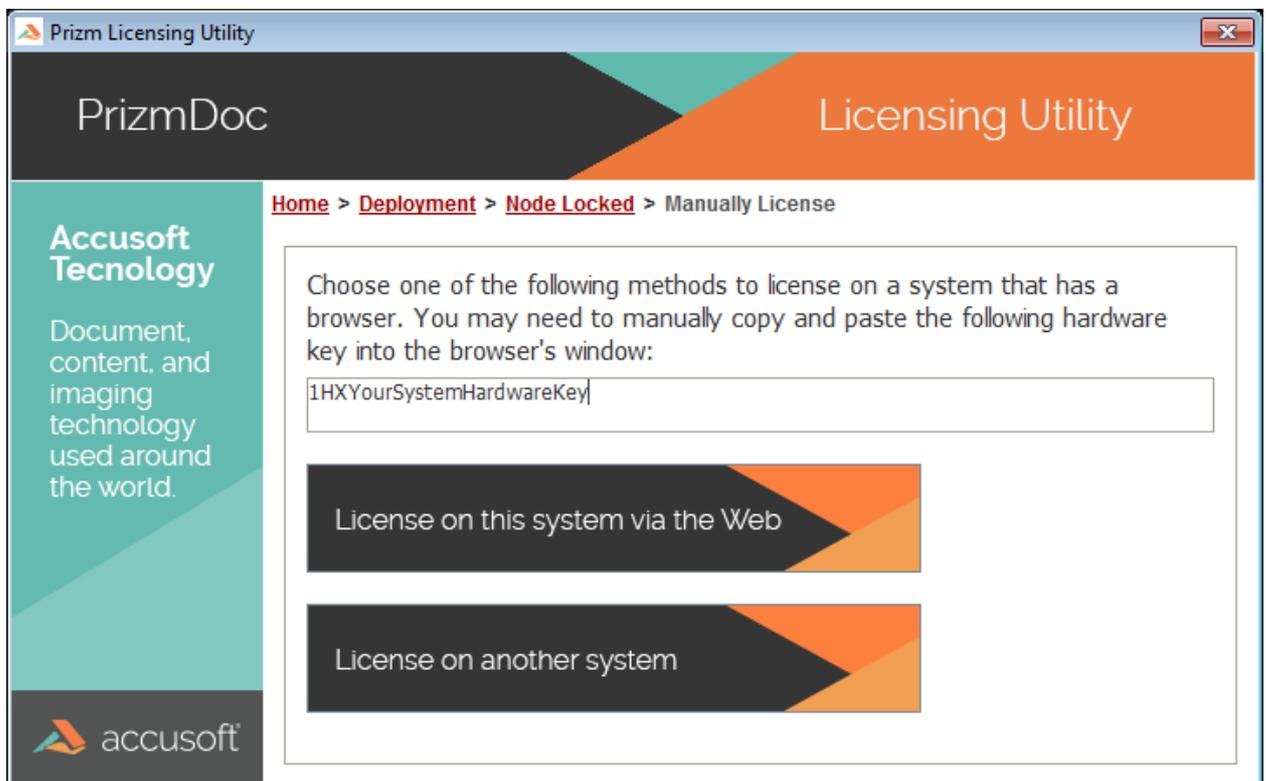
This topic is a **continuation** of the topic, [Deployment Licensing > Node-Locked](#) and assumes you have completed Steps 1-9 in that topic. Note that an **Access Key is required for all Node-Locked licenses** (with or without an Internet connection).

This topic covers how to obtain your node-locked licensing information and complete your registration **without an Internet connection**.

1. If the Prizm Licensing Utility (PLU) is not able to contact the Accusoft Licensing Services, a dialog box will display stating that the "application could not reach the licensing services". You will have the option to retry the registration or to "License Manually". Select the **License Manually** option to proceed:



2. The Manually License dialog box will display a text box with your system **Hardware Key**. This key is used to identify your system during the registration process. This key will need to be supplied to the Accusoft Licensing Center in order to obtain a license to register the system. Using your mouse or keyboard select all of the text within the text box and copy it to the clipboard. (The shortcut keys of Ctrl+C will copy the selected data to the clipboard.)



3. Next, you will need to go to the Accusoft Licensing Center to obtain your license. The URL to this website is provided by the Prizm Licensing Utility (PLU),

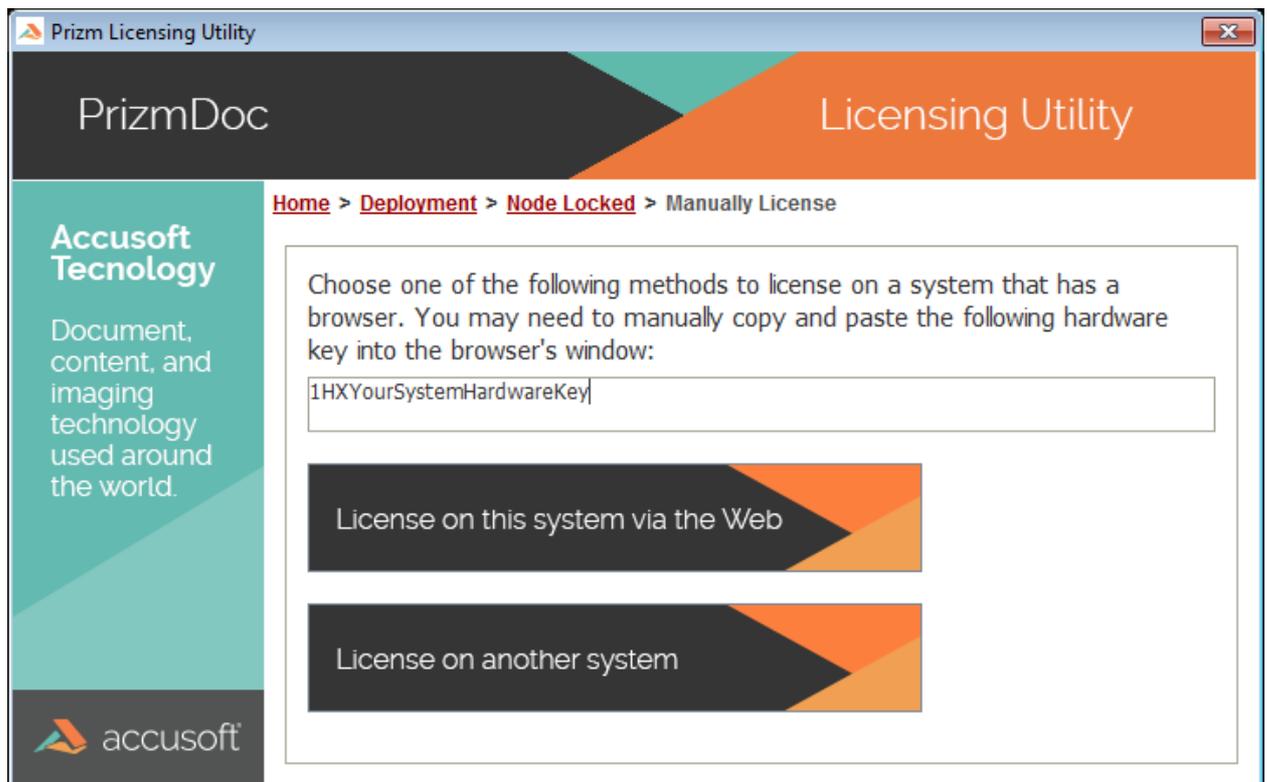
<https://licensing.accusoft.com/v1/WebDeployUser/WebDeployUser.aspx>. You have two options for getting this URL:

### License on this system via the Web

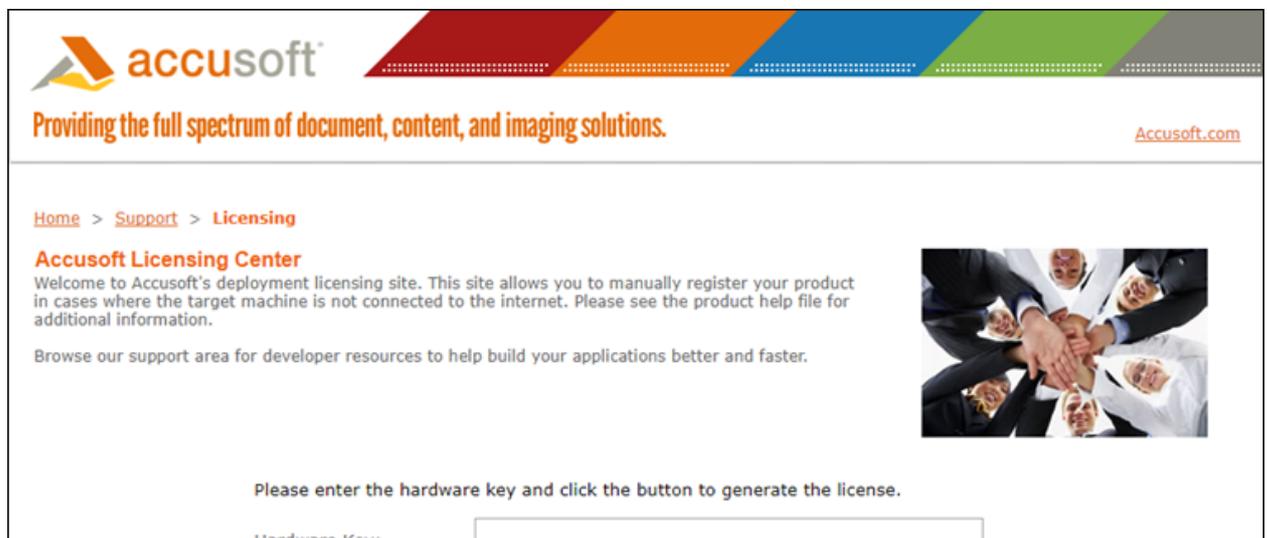
Choosing this option will open the default web browser on your machine and navigate directly to the Accusoft Licensing Center. This option is recommended if, for example, your organization allows access to the public Internet only within the web browser through the use of proxy servers.

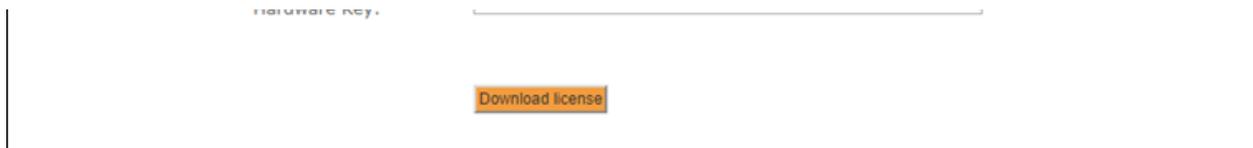
### License on another system

Choosing this option will create an Internet Shortcut file (.URL). This is a simple text file that contains the full URL to the Accusoft Licensing Center website. In Windows environments, these files can be double-clicked to open the default web browser and navigate directly to the Accusoft Licensing Center website. If this action does not work in your environment, simply open the file in a text editor, copy the URL, and paste it into the address bar of your web browser. This option is recommended if the system being registered does not have any connection to the Internet.



4. Once you have navigated your web browser to the Accusoft Licensing Center, you will need to paste your Hardware Key into the text box labeled **Hardware Key** (use the shortcut keys Ctrl + V to paste the Hardware Key):





5. Click **Download License** to have the Accusoft Licensing Center generate a license for your system. The license will be created and sent to your system as a text file.
6. Enter the License into the Prizm Licensing Utility (PLU) by copying and pasting the license information into the text box. Click **Apply License** to apply the License on the current system.

**NOTE:** If the Prizm Licensing Utility (PLU) was closed after you left it to go to the Accusoft Licensing Center, restart the application and perform all the previous steps to return to this screen in the Prizm Licensing Utility. You do not need to repeat the steps on the Accusoft Licensing Center web site.

## OEM Licensing

### Overview

This topic describes how to register an OEM Deployment license for PrizmDoc Viewer. An OEM license is a special type of license that allows additional flexibility in certain situations such as deployments within commercial products. Please contact [Accusoft Sales](#) to discuss which license is best for you.

- [Linux](#)
- [Windows](#)

**NOTE:** OEM licensing **does not require** an Internet connection.

**NOTE:** If you have an updated license, you must re-start PAS and PrizmDoc Server in order to use the new license.

### Linux

1. If you have not already done so, install PrizmDoc Viewer (refer to the [installation instructions](#)).
2. Make sure you are logged in as **root** to the machine.
3. Change to the installation location: **/usr/share/prizm** and run **setup.sh**. This will run the **Prizm Licensing Utility (PLU)** and configure PrizmDoc for its first run:

**NOTE:** *setup.sh* launches the Prizm License Utility (PLU), which is a GUI application. Depending on how you have X11 configured, you might need to run 'xhost +' as the logged in user to allow the PLU launched by the root user to access X11. You can disable X11 access for root by executing 'xhost -' when you are done.

### Example

```
cd /usr/share/prizm
sudo ./setup.sh
Select the type of license you want to acquire:
    1) Evaluation \[e\]
    2) Deployment \[d\]
Choose 1 or 2: d
Select the type of deployment license you have:
    1) Node Locked \[n\]
    2) OEM \[o\]
Choose 1 or 2: o
Provide the solution name: <MySolutionName>
Provide the OEM license key provided to you: 2.0...
Your deployment license was acquired successfully.
./scripts/pccis.sh start
```

```
Starting Prizm Content Connect Information Services...
Starting PCCIS Watchdog process...
PCCIS Watchdog has been started correctly.
```

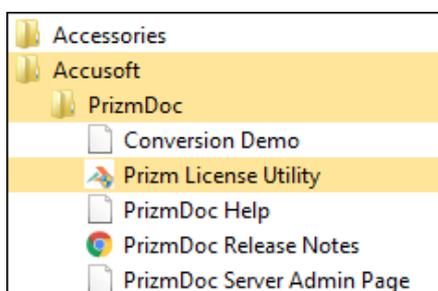
4. For a production installation, you will want to configure where log files are stored. If you need more information, refer to the Logging section in the [Central Configuration](#) topic.
5. If you are licensed to use the Microsoft Office Conversion add-on for PrizmDoc Servers running on Linux, you need to configure your server as described in the [Configure Microsoft Office Conversion Connectivity](#) topic.
6. Open ports in your firewall according to the [Security Guidance](#) topic.
7. Open the PrizmDoc Services Status page and verify the PrizmDoc Services are running.
8. You can now begin using the product.

## Windows

1. Ensure **PrizmDoc Server** has been installed:
  - If you have previously evaluated the product and would like to use an OEM Deployment license on the same system, there is nothing additional you need to install and you can skip to Step 2.
  - If you have previously evaluated the product and would like to use an OEM Deployment license on a *different* system, you can use the same PrizmDoc Server installer which you downloaded for evaluation. Simply run the installer on the new system and then proceed to Step 2.
  - If you have not previously evaluated PrizmDoc Viewer or you do not have access to the installer, please follow the steps in the [Evaluation](#) topic, and then proceed to Step 2 below.

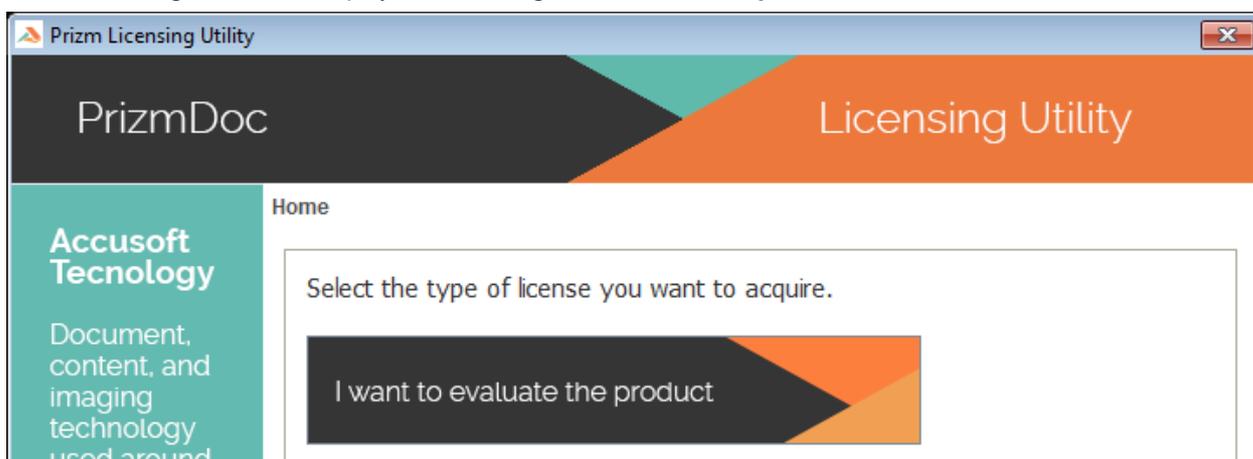
2. Run the **Prizm Licensing Utility**:

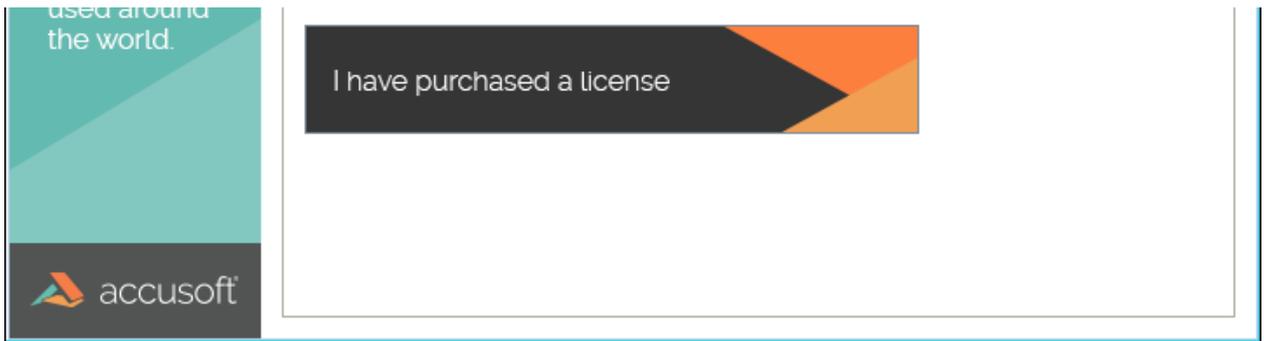
The installer should run the Prizm Licensing Utility (PLU) automatically as one of the final steps in the installation process. If the installer completed successfully, but you did not see the Prizm Licensing Utility, or if you did not need to run the installer, the Prizm Licensing Utility can be accessed from the Start Menu at the location shown below:



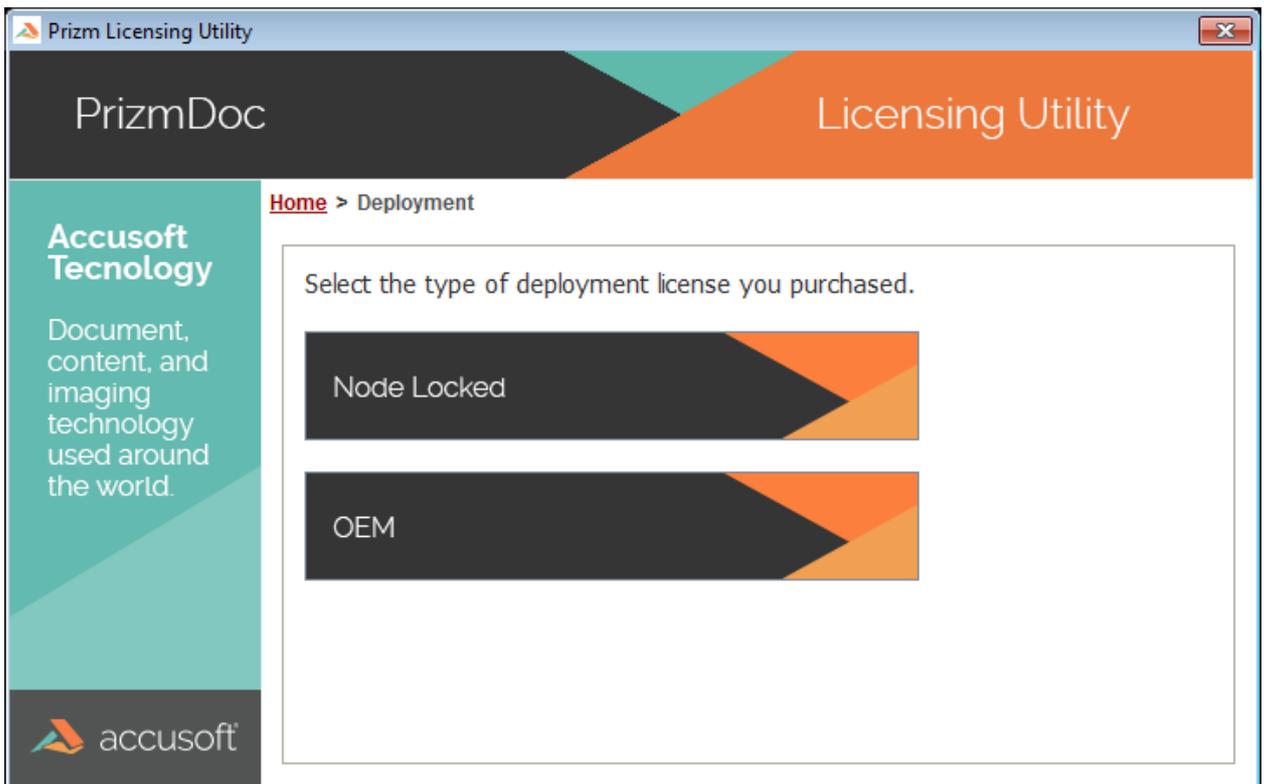
3. Select the **Deployment Option**:

Once running, the Prizm Licensing Utility will provide options for Evaluation and obtaining Deployment licensing. This walk-through uses OEM Deployment licensing, so click the **I have purchased a license** button:

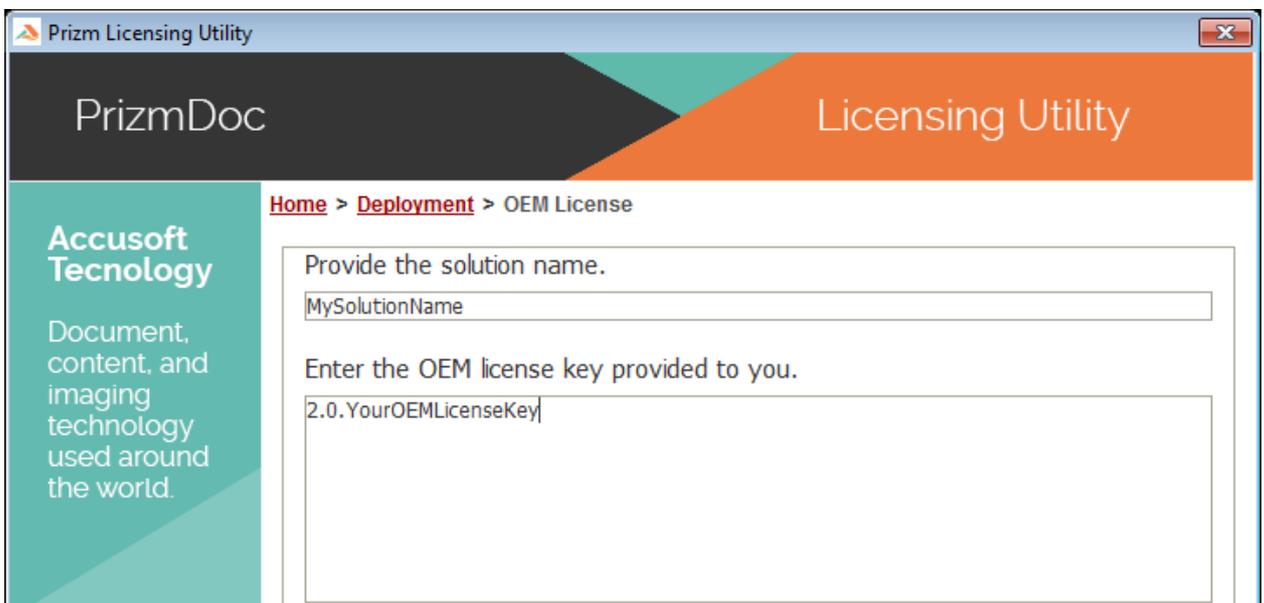


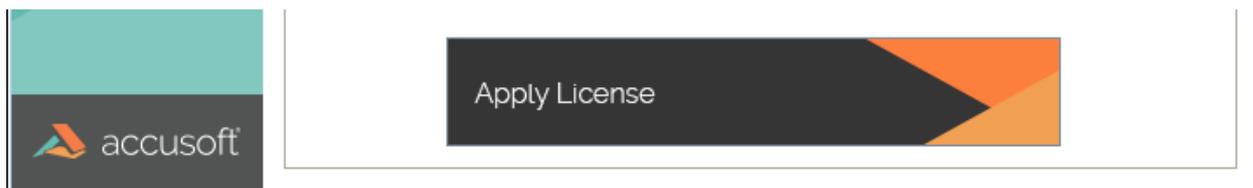


4. Click the **OEM** button:

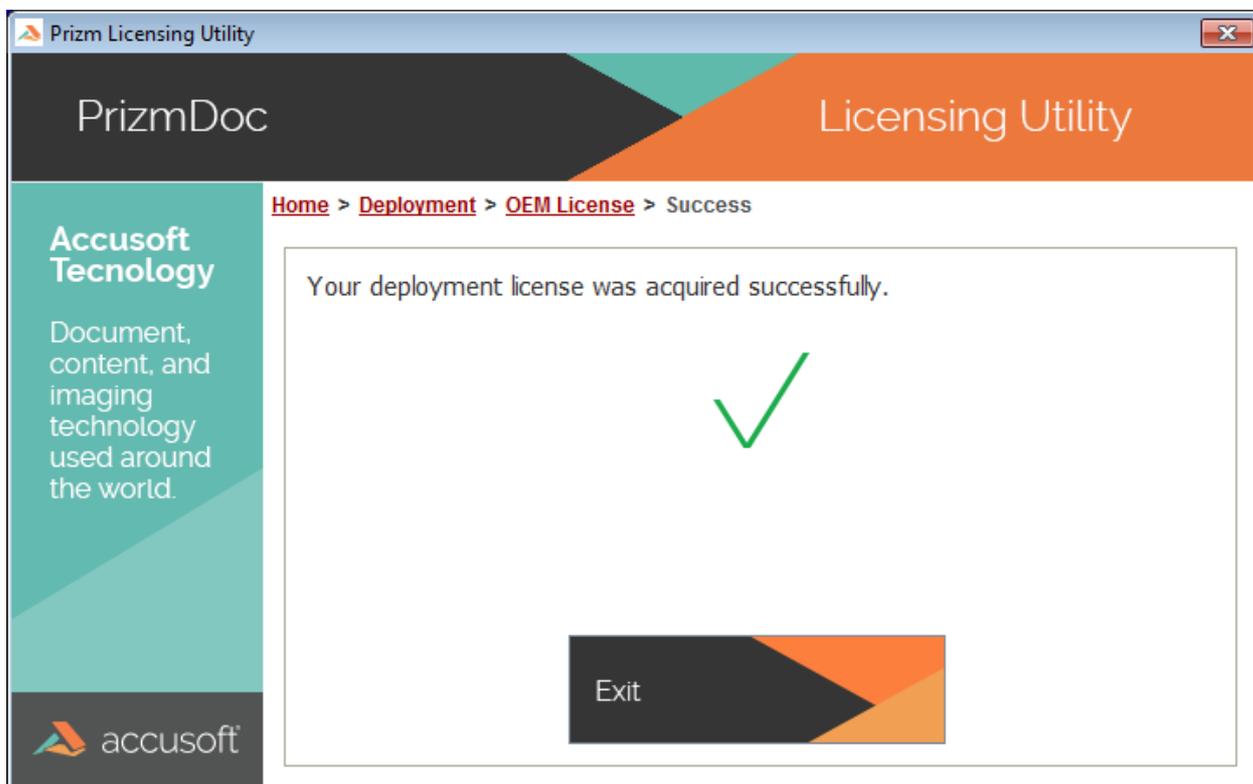


5. Enter your **Solution Name** and **OEM License Key** values, and then click **Apply License**:





6. Once your OEM Deployment license is registered, you will see the message below:



7. Click the **Exit** button to quit the Prizm Licensing Utility and begin using the product.

## PrizmDoc Cloud License & AWS

### Overview

PrizmDoc Cloud Licensing is designed for customers who need the ability to scale or upgrade their servers at any moment. You can easily and flexibly **use PrizmDoc Server across a paid number of total logical cores**. Just pay for the peak number of *logical cores* you will need (also known as virtual cores, virtual processors, vCPUs, etc.) and then use your Cloud License for every server you deploy into your cluster. As long as the total number of logical cores in your cluster does not exceed the limit you paid for, you can add, remove, or upgrade servers at any time, whether you are running one server or one thousand.

PrizmDoc Cloud Licensing only requires your servers to be able to communicate with AWS S3 for licensing enforcement. It makes no demands on where your servers reside. You can run your servers in any of the popular cloud providers, like Amazon, Azure, or Google Cloud, or **you can even use your own servers on local hardware or VMs**. As long as each of the servers in your cluster can communicate with AWS S3, you can use a PrizmDoc Cloud License.

To use a Cloud License, you need to provide an S3 bucket to PrizmDoc with read, write, and delete permissions:

listObjects

- [AWS S3 listObjects docs](#)

- Requires [s3:ListBucket](#)

putObject

- [AWS S3 putObject docs](#)
- Requires [s3:PutObject](#)

deleteObjects

- [AWS S3 deleteObjects docs](#)
- Requires [s3:DeleteObject](#)

At runtime, each of the PrizmDoc Server instances in your cluster will read and write extremely-small, temporary files into this bucket as part of licensing enforcement.

## Setting Up Cloud Licensing

To set up cloud licensing, you will need to do the following:

1. Set up your **Amazon S3 Account** and **S3 bucket**.
2. Purchase **cloud-based licensing** from Accusoft.
3. Obtain a **License Key** from Accusoft by providing your Amazon S3 bucket name.
4. Configure the **Amazon S3** credentials.
5. Install your **Accusoft License** Key using the OEM Licensing instructions.

The sections below provide additional information for each step.

### 1 - Set up your Amazon S3 Account and S3 Bucket

First, you must have an [Amazon AWS account](#) in order to create an S3 bucket. Log into your AWS account console and create an [S3 bucket](#) which PrizmDoc can read and write to at runtime. See the [Amazon S3 documentation](#) for more information on setting up an S3 bucket and acquiring credentials.

**NOTE:** We recommend that you create a **dedicated** AWS user and bucket with read/write credentials.

### 2 - Purchase a Cloud License for PrizmDoc Self-Hosted

To purchase a PrizmDoc Cloud License, [contact Sales](#).

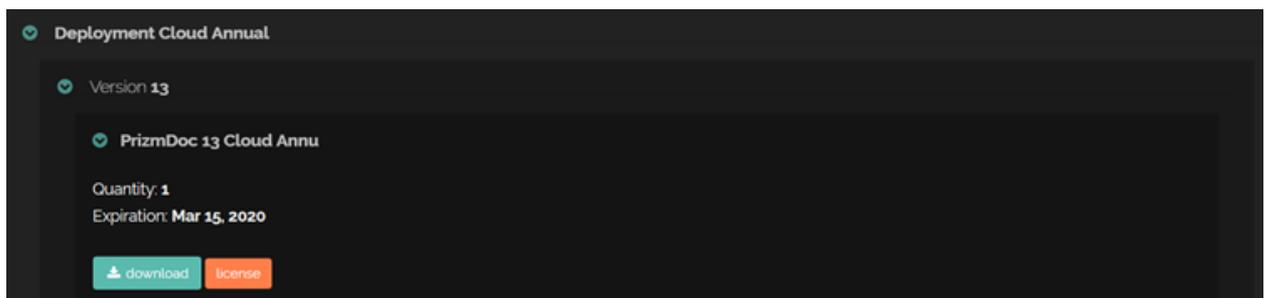
During purchase, specify the maximum number of logical cores to be provided by the license. Make sure to account for production, support, and any ongoing development usage; you may want to consider purchasing separate licenses for both production and development.

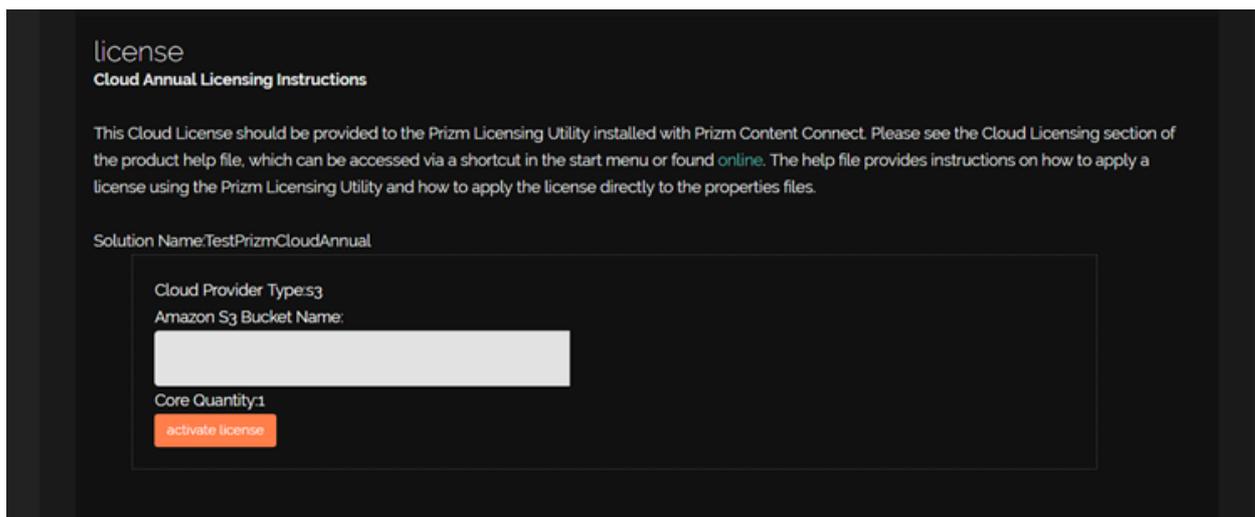
### 3 - Obtain a License Key from Accusoft

Once purchased, visit the [Accusoft Customer Portal](#) to view your purchased license and provide the S3 bucket name that you will use for Cloud Licensing. After providing your S3 bucket name, your Cloud License key will be given to you.

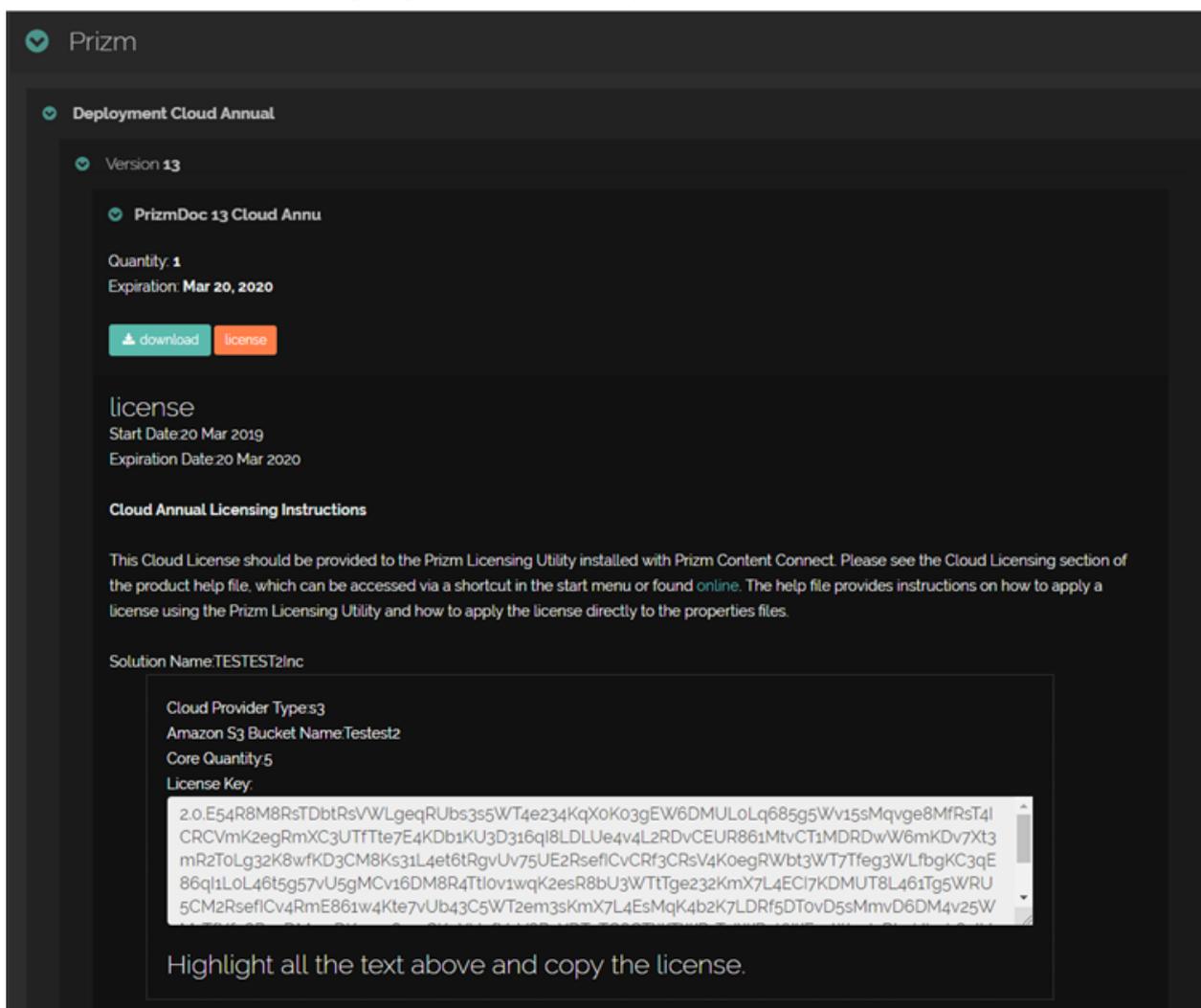
**NOTE:** It is your responsibility to provide a valid S3 bucket and to ensure that you have the proper credentials to access that bucket.

1. Enter your **Amazon S3 bucket** name in the field provided and click **Activate License**:





2. Select and copy **all of the text** in the License Key field below. This is your activated license key and you will need to **save it** for later use when configuring PrizmDoc Viewer on your server:



3. Click **Download** to go to the product download page and download your product.
4. Continue with **Section 4** below.

## 4 - Configure Amazon S3 Credentials

When running PrizmDoc with a Cloud License on your server, it will require access to the Amazon S3 bucket you provided when your license was generated. It is important to note that PrizmDoc requires no knowledge of your S3 credentials. PrizmDoc accesses Amazon S3 assuming that your credentials have been provided using one of the methods defined in the [Amazon SDK documentation](#) that do not require explicitly providing them to the API. As shown below, using method 1, 2, or 3 will provide access to AWS S3.

If you are new to Amazon Web Services (AWS), you should familiarize yourself with the [Security Credentials](#) to get an overview.

There are three options for configuring your AWS credentials for cloud licensing. They are listed in the order of recommendation:

1. Configure **IAM roles for Amazon EC2** (if running on EC2), or
2. Configure the **Shared Credentials File** (`~/.aws/credentials`), or
3. Configure **Environment Variables**.

**NOTE:** When setting credentials, be sure that the user under which the PrizmDoc service is running is the same user for which you are configuring the credentials. For example, consider the case where you configure the credentials for your personal user, but PrizmDoc is running as the root user. In this case the service will start, but then shut down shortly after because the root user will be unable to access the S3 bucket specified in your Cloud License key.\*

Examples using IAM Roles are beyond the scope of this topic, but if your cluster is running on AWS EC2 instances, you can find information about IAM Roles and their configuration in the [Amazon IAM documentation](#).

An example using method 2 above, Shared Credentials Files, are shown below. You can configure a shared credentials file for the user under which PrizmDoc will execute:

In both Linux and Windows, the credentials file content is the same.

## Example Credentials File Content

```
[default]
aws_access_key_id = your_access_key_id
aws_secret_access_key = your_secret_access_key
```

Credential files are stored under an `.aws` directory for the user under which PrizmDoc is executing. The credential file paths below are for an example called: `prizmdocuser`.

### In Linux

```
/home/prizmdocuser/.aws/credentials
```

### In Windows

```
C:\Users\prizmdocuser\.aws\credentials
```

Examples using method 3 above, Environment Variables, are shown below. You can configure your server to export the credentials to the environment for the user under which PrizmDoc will execute:

### In Linux

Exporting environment variables under Linux is usually done in the user's `.profile` file in their home directory (e.g. for a user named `prizmdocuser` these would be added to `/home/prizmdocuser/.profile`).

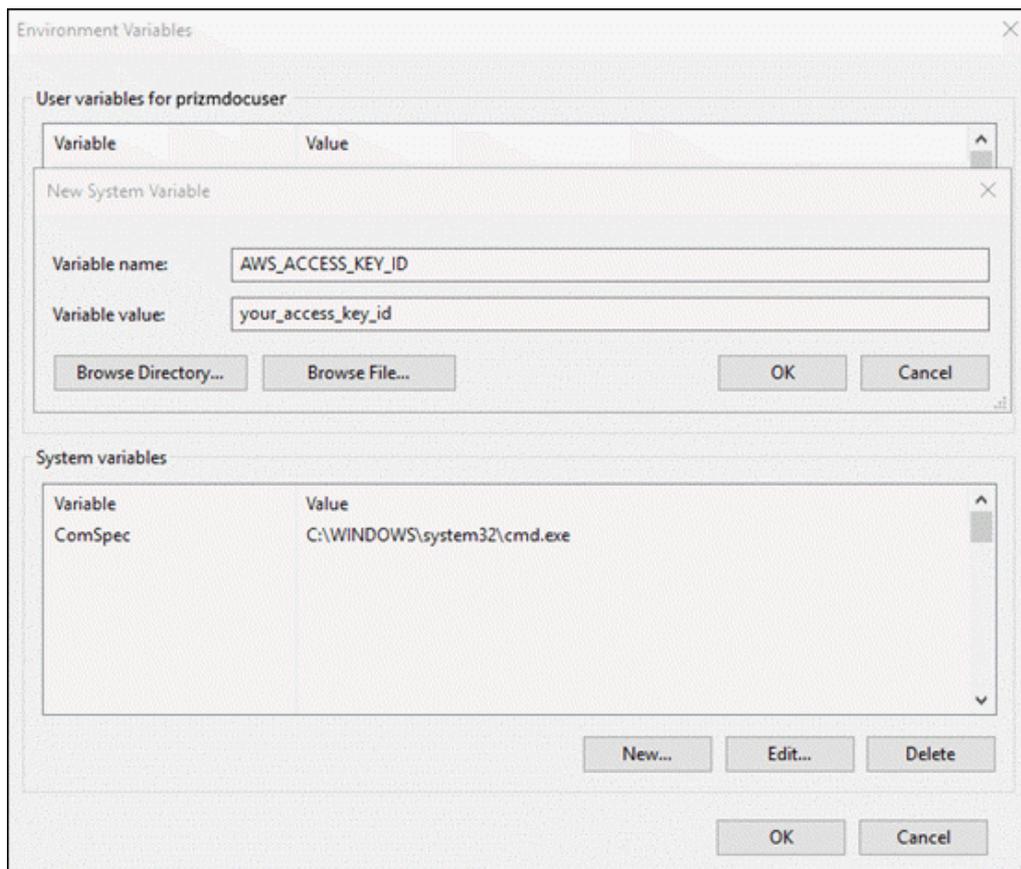
### Example

```
export AWS_ACCESS_KEY_ID=your_access_key_id
export AWS_SECRET_ACCESS_KEY=your_secret_access_key
```

## In Windows

Exporting environment variables under Windows is done in the Environment Variables control panel under the System Properties.

## Example



## 5 - Install Your License Key as an "OEM License"

### For both Linux and Windows

1. After configuring the credentials for Amazon S3, go to the [OEM Licensing](#) topic.
2. Refer to Linux or Windows section within the topic and follow the instructions to install the license key.

## Command Line Mode

### Introduction

The Prizm Licensing Utility (PLU) can be used in the command-line mode for obtaining and installing deployment licenses.

**NOTE:** If you have an updated license, you must re-start PAS and PrizmDoc Server in order to use the new license.

## Obtaining and Installing a License from the Service

### Usage

```
deploy get <configuration file> <solution name> \[<access key> outputUrl\]
```

### Parameters

- **<configuration file>** – Path to the deployment configuration file. **Required.**
- **<solution name>** – Solution name for deployment licensing. **Required.**
- **<access key>** – Access key for annual deployment licensing. **Required.**
- **<outputUrl>** – A flag to output URL that can be used for licensing through the web portal in case of connectivity error. Can also be used if you are offline or have no Internet access. *Optional.*

### Examples

The following example demonstrates obtaining and installing a deployment license:

```
java.exe -jar plu.jar deploy get "C:\Path to\YourSolutionName_Config.txt" "Your Solution Name"
```

The following example demonstrates obtaining and installing a deployment license with the access key:

```
java.exe -jar plu.jar deploy get "C:\Path to\YourSolutionName_Config.txt" "Your Solution Name" Your-Access-Key
```

The following example demonstrates obtaining and installing a deployment license with error handling to automatically output a URL to be used for licensing through the web portal. The URL should be opened from a browser on a computer with network connectivity. The URL will provide a license key:

```
java.exe -jar plu.jar deploy get "C:\Path to\YourSolutionName_Config.txt" "Your Solution Name" outputUrl
```

## Getting a License from the Web Portal using outputUrl

If you are licensing a server that does not have access to the Internet, you can use the following example to set it up.

1. On the machine that does not have access to the Internet, enter the following command:

```
java.exe -jar plu.jar deploy get "C:\Path to\YourSolutionName_Config.txt" "Your Solution Name" Your-Access-Key outputUrl
```

The outputUrl is shown below highlighted in white:

```
C:\Prizm\plu>java.exe -jar plu.jar deploy get "C:\Path to\Your Config.txt" "YourSolutionName" Your-Access-Key outputUrl
https://licensing.accusoft.com/v1/WebDeployUser/WebDeployUser.aspx?16XTX23TT38QE85C6X33HR0tqh0yDCMPSKq50aMej265M8SWM908
TIM969cEjEcgStH50ajaWg80
```

2. Copy the **URL** to a file, save it to a USB flash drive, and take it to a machine that has access to the Internet.
3. Copy the **URL** from the file on the USB flash drive and paste it into a browser. The following page is displayed:

[Home](#) > [Support](#) > [Licensing](#)

### Accusoft Licensing Center

Welcome to Accusoft's deployment licensing site. This site allows you to manually register your product in cases where the target machine is not connected to the internet. Please see the product help file for additional information.

Browse our support area for developer resources to help build your applications better and faster.



Please enter the hardware key and click the button to generate the license.

Hardware Key:

16XTX23TT38QE85C6X33HR0tqh0yDCMP5Kq50aMej265M85WM9C

[Download license](#)

4. Click *Download license* button to download the license file.
5. Save the downloaded file on the USB flash drive, and take it back to the machine without Internet access.
6. Copy the **License text** from the file on the USB flash drive and enter it in the command line and run the following command:

```
java.exe -jar plu.jar deploy write "Your Solution Name"  
2.0.YourLicenseKeyTextFromUSBFlashDrive
```

7. The machine now has a deployment license installed.

## Installing a License Generated through the Web Portal

### Usage

```
deploy write <solution name> <license key>
```

### Parameters

- **<solution name>** – Solution name for deployment licensing. **Required.**
- **<license key>** – License key generated through the web portal. **Required.**

### Examples

The following example demonstrates installing a deployment license generated through the web portal:

```
java.exe -jar plu.jar deploy write "Your Solution Name" 2.0.YourDeploymentLicenseKey
```

## Installing the OEM License

### Usage

```
deploy write <solution name> <license key>
```

## Parameters

- `<solution name>` – Solution name for OEM licensing. **Required.**
- `<license key>` – OEM license key. **Required.**

## Examples

The following example demonstrates installing an OEM license:

```
java.exe -jar plu.jar deploy write "Your OEM Solution Name" 2.0.YourOemLicenseKey
```

# Feature Licensing

## Overview of PrizmDoc Viewer Feature Licensing

PrizmDoc Viewer feature licensing options provide customization and cost optimization so that you can decide which features are important for your customers. Please note that this section applies to PrizmDoc Viewer Self-Hosted installations only. PrizmDoc Cloud already includes all of these features.

The following features can be licensed separately:

- **Microsoft Office Conversion** - Microsoft Office Conversion provides native rendering of Word, Excel, and PowerPoint documents for those needing Office documents to render exactly as they would in Microsoft Office. For configuration details, refer to the following topics:
  - [Working with PrizmDoc Viewer > Developer Guide > PrizmDoc Server > How To > Natively Render Microsoft Office Documents](#)
- **Form Field Detector** - PrizmDoc Viewer automatically detects forms in both PDF and Raster documents.
  - Refer to the following APIs for the Form Field Detector:
    - [PAS API > Developer Reference > Form Extractors](#)
    - [PrizmDoc Server API > Developer Reference > Form Extractors](#)
    - [E-Signature API > Module: form-extraction](#)

The following feature can be licensed separately starting in PrizmDoc Viewer v13.1 and higher:

- **OCR** - PrizmDoc Viewer's Content Conversion Service recognizes text in Raster documents and produces searchable PDF files. For API details, refer to the following topics:
  - [API Reference > PrizmDoc Server API > Content Conversion Service](#)

## Licensing

If you are an existing customer:

- You will need to upgrade to v12.0 or higher in order to take advantage of the new Microsoft Office Conversion and Form Field Detector features. Note that in order to use the Microsoft Office Conversion feature, you must have a Microsoft Office product (Microsoft Office 2013 or 2016 Standard Edition) installed and licensed on your server prior to installing PrizmDoc Viewer. Contact [Sales](#) to purchase a license key that includes the features that you want. Refer to the following

section for details on [Getting Started with PrizmDoc Viewer](#).

- You will need to upgrade to v13.1 in order to take advantage of the new OCR feature.
- If you already have the necessary version installed and want to enable additional features, contact [Sales](#) to purchase a license key that includes the features that you want. Once you have the right license key, repeat the licensing step you did during initial installation, supplying the new license key, and restart the PrizmDoc Viewer service. That way you don't need to reinstall the product. For information about the steps, refer to the appropriate help sections: [Getting Started with PrizmDoc Viewer](#), [Deployment Licensing](#), [Starting & Stopping PrizmDoc Server](#).

If you are a new customer:

- Contact [Sales](#) to purchase a license key that includes the features that you want. Note that in order to use the Microsoft Office Conversion feature, you must have a Microsoft Office product (Microsoft Office 2013 or 2016 Standard Edition) installed and licensed on your server prior to installing PrizmDoc Viewer. Refer to the following section for details on [Getting Started with PrizmDoc Viewer](#).

## Install PrizmDoc Server

This section covers how to deploy an instance of PrizmDoc Server:

- [Using Docker](#)
- [Installing on Windows](#)
  - [Windows Requirements & Supported Environments](#)
  - [Install on Windows](#)
  - [Registry Changes](#)
  - [Natively Render MSO Documents](#)
  - [Unattended Install & Uninstall](#)
  - [Uninstall PrizmDoc Server on Windows](#)
- [Installing on Linux](#)
  - [Linux Requirements & Supported Environments](#)
  - [Install on Linux](#)
  - [Install Asian Fonts](#)
  - [Install on a Headless Environment](#)
  - [Uninstall PrizmDoc Server on Linux](#)
- [Checking PrizmDoc Server Health](#)
- [Configuring a Cluster](#)

## Using Docker

### Using Docker

This section explains how to deploy a PrizmDoc Server instance using the official PrizmDoc Server docker image, available on Docker Hub as [accusoft/prizmdoc-server](#).

### Requirements

To run PrizmDoc Server as a Docker container, you simply need a Docker host (a machine with Docker installed). See the [Docker documentation](#) for more information.

## 1. Create a PrizmDoc Server config file

Before you can run PrizmDoc Server, you'll need a config file. We've included a special `init-config` command in our Docker image which you can use to create an initial config file.

### Windows (PowerShell)

First, make sure you've created a `config` directory on your host file system. This will be the directory where your new config file will be created:

```
mkdir config
```

Then, use the Docker image's `init-config` command to create a new PrizmDoc Server config file:

```
docker run --rm -e ACCEPT_EULA=YES --volume $pwd/config:/config  
accusoft/prizmdoc-server init-config
```

This will create a new PrizmDoc Server config file on your Windows host filesystem at `.\config\prizm-services-config.yml`.

### Linux (bash)

Use the `init-config` command to create a new PrizmDoc Server config file:

```
docker run --rm -e ACCEPT_EULA=YES --volume $(pwd)/config:/config  
accusoft/prizmdoc-server init-config
```

This will create a new PrizmDoc Server config file on your host filesystem at `./config/prizm-services-config.yml`.

## 2. Configure your license

To start an instance of PrizmDoc Server, you need a license key from Accusoft. If you don't have a license, contact [info@accusoft.com](mailto:info@accusoft.com).

To configure the license, set the values of `license.solutionName` and `license.key` in your PrizmDoc Server config file (`prizm-services-config.yml`).

**NOTE:** On a Linux system, because the config file was created by a Docker container, you will need to either edit the config file as root or change the owner of the file before editing it.

For more information about configuring PrizmDoc Server, see [Configuring PrizmDoc Server](#).

## 3. Start PrizmDoc Server

If you are using the default configuration, you can start PrizmDoc Server like so:

### Windows (PowerShell)

First, create a directory on your host file system to store log files:

```
mkdir logs
```

Then, start a `prizmdoc-server` container:

```
docker run --rm --env ACCEPT_EULA=YES --publish 18681:18681 --volume $pwd/config:/config --volume $pwd/logs:/logs --name prizmdoc-server accusoft/prizmdoc-server
```

### Linux (bash)

Start a `prizmdoc-server` container:

```
docker run --rm --env ACCEPT_EULA=YES --publish 18681:18681 --volume $(pwd)/config:/config --volume $(pwd)/logs:/logs --volume $pwd/data:/data --name prizmdoc-server accusoft/prizmdoc-server
```

In the examples above:

- `--rm` ensures the container is automatically deleted when it stops.
- `--env ACCEPT_EULA=YES` indicates you have accepted the [PrizmDoc Viewer license agreement](#).
- `--publish 18681:18681` publishes the container's `network.publicPort` port to the host. If you enable clustering (`network.clustering.enabled: true`), you will also want to publish the `network.clustering.clusterPort` (18682 in a default configuration).
- `--volume $(pwd)/config:/config` maps a host config directory into the container. Your local config directory must contain the `prizm-services-config.yml` config file created earlier.
- `--volume $(pwd)/logs:/logs` maps a local logs directory into the container. After the container stops, the logs will remain in this directory.
- `--volume $(pwd)/data:/data` (Linux only) maps a local data directory into the container. After the container stops, the data will remain in this directory. Because PrizmDoc Server uses memory-mapped files when writing to the data directory, and because Docker only supports memory-mapped file access to a mapped volume on a Linux host, **setting up this particular volume is only supported on a Linux docker host**.
- `--name prizmdoc-server` sets the name of the running container.
- `accusoft/prizmdoc-server` is the image that should be run.

If you want to start the Docker container in the background, add the `-d` option to `docker run` to run the container in disconnected mode.

## 4. Check PrizmDoc Server has finished starting and is healthy

It may take several minutes for PrizmDoc Server to finish starting. But, once fully started, `GET /PCCIS/V1/Service/Current/Health` should return HTTP 200, indicating PrizmDoc Server is healthy (while starting, this request will return nothing or an error).

## Windows (PowerShell)

```
Invoke-WebRequest -Uri  
http://localhost:18681/PCCIS/V1/Service/Current/Health
```

Should eventually output something like:

```
StatusCode      : 200  
StatusDescription : OK  
Content         : {79, 75}  
RawContent      : HTTP/1.1 200 OK  
                 X-Server-Chain: 2b95007f011f  
                 X-Server-Response-Time: 0  
                 Connection: keep-alive  
                 Transfer-Encoding: chunked  
                 Date: Thu, 21 Nov 2019 17:01:04 GMT  
Headers         : {[X-Server-Chain, 2b95007f011f], [X-Server-Response-  
Time, 0], [Connection, keep-alive], [Transfer-Encoding, chunked]...}  
RawContentLength : 2
```

*NOTE: It may take several minutes for PrizmDoc Server to start. You will not get a 200 result until PrizmDoc Server has fully started.*

## Linux (bash)

```
curl -i http://localhost:18681/PCCIS/V1/Service/Current/Health
```

Should eventually output something like:

```
HTTP/1.1 200 OK  
X-Server-Chain: 69a6d22f90b9  
X-Server-Response-Time: 1  
Date: Wed, 20 Nov 2019 20:25:31 GMT  
Connection: keep-alive  
Transfer-Encoding: chunked  
  
OK
```

*NOTE: It may take several minutes for PrizmDoc Server to start. You will not get a 200 result until PrizmDoc Server has fully started.*

## Troubleshooting: Check the admin status page

If you're not getting a 200 response at all, try checking the PrizmDoc Server admin status page in a browser:

```
http://localhost:18681/admin
```

## 5. Stopping the container

You can stop your named container with:

```
docker stop prizmdoc-server
```

## Install on Windows

This section contains the following information:

- [Windows Requirements & Supported Environments](#)
- [Install on Windows](#)
- [Registry Changes](#)
- [Natively Render MSO Documents](#)
- [Unattended Install & Uninstall](#)
- [Uninstall PrizmDoc Server on Windows](#)

## Windows Requirements & Supported Environments

### Introduction

This section provides information about the system requirements for PrizmDoc Server when using the PrizmDoc Viewer Self-Hosted installation:

**TIP:** PrizmDoc Viewer is only supported on 64-bit operating systems.

### PrizmDoc Server

PrizmDoc Server is a suite of RESTful APIs that control document conversion processes. It requires significant memory and processing power.

### Supported Operating Systems

#### Windows

**NOTE:** Support for Windows Server 2008 R2 was deprecated with PrizmDoc Viewer v13.7 and will soon be completely removed. PrizmDoc Viewer v13.11 is the final release to claim deprecated support for Windows Server 2008 R2. Future releases will no longer support Windows Server 2008 R2.

**NOTE:** When using Windows Server 2016 or Windows Server 2019, you must use the Desktop Experience version. The core version doesn't contain the components needed for PrizmDoc.

Operating System	Support Started in PrizmDoc Viewer Release
Windows Server 2008 R2 SP1	Prior to v9.0
Windows Server 2012	Prior to v9.0

Operating System	Support Started in PrizmDoc Viewer Release
Windows Server 2012 R2	Prior to v9.0
Windows Server 2016 with Desktop Experience	v13.0
Windows Server 2019 with Desktop Experience	v13.8

## System Requirements

Windows Microsoft .NET Framework 4.0

## Hardware Requirements

Requirements vary greatly based on usage and it is generally a good idea to find what best fits your expected usage. The [Sizing Guide](#) is a good place to start understanding what resources PrizmDoc Server uses and how to optimize them for your needs.

## Requirements

### .NET 4.0 Framework

In order to install the PrizmDoc Server on a Windows system, the following item needs to be installed and available before the installer is run:

- **.NET 4.0 Framework:** The Windows Service that starts PrizmDoc Viewer and the PrizmDoc Server are built targeting the .NET 4.0 framework.

### Microsoft Office Conversion

In order to use the Microsoft Office Conversion (MSO) rendering feature on a Windows system, the following components are required to be installed and available before the installer is run:

- Microsoft Office 2013 or 2016 Standard Edition (not included in the PrizmDoc Server distribution and licensed separately) and the corresponding Windows Updates.
- [Microsoft XPS Document Writer](#) printer driver.
- [Ink and Handwriting Services](#) feature from the Server Manager.

**NOTE:** The installed copy of Microsoft Office **must be activated** in order for PrizmDoc Viewer's Microsoft Office Conversion Service to work properly. If the installed copy of Microsoft Office is not licensed, not activated, or an expired or trial version, then Microsoft Office will not work with PrizmDoc Viewer. Also note that subscription-based Microsoft Office versions like Office 365 must be downloaded as a desktop version in order to work with PrizmDoc Viewer.

**NOTE:** If you are running PrizmDoc Viewer in cluster mode, **all servers** in the Windows MSO cluster **must use the same version** of Microsoft Office.

## Install on Windows

### Windows Installation

## Registry Changes

The installer may make changes to the registry and require a reboot, if the registry is not pre-configured. For more information about this, see [Registry Changes](#) for more detailed information.

## Cloud Deployment

Before saving an image of a system, onto which a future non-interactive installation of PrizmDoc Server will occur, perform the [Before Installation](#) steps (below) and [configure the registry](#) manually.

## Before Installation

These actions must be taken before PrizmDoc Server is installed, regardless of whether the installation is interactive or non-interactive.

**IMPORTANT:** Make sure you **back up your configuration files before upgrading** from any previous versions of PrizmDoc.

**NOTE:** If you have an updated license, you must re-start PAS and PrizmDoc Server in order to use the new license.

All the required components listed below must be installed and manually configured prior to installation.

## Configure Rendering With Microsoft Office

If your license includes the MSO Conversion feature, which allows the server to render Microsoft Office documents natively with Microsoft Office, follow the pre-installation steps to [Natively Render Microsoft Office Documents](#).

## Installation

To install PrizmDoc Server on your own Windows server, follow these steps:

1. Download **PrizmDoc Server** from the [website](#).
2. Double-click on the **PrizmDocServer-xx** application file to launch the installer (where xx represents the version). Click **Install PrizmDoc Server**.
3. Carefully read the information contained in the License Agreement form before making a decision to accept the terms of the License Agreement. Choose **I accept the terms in the License Agreement** to accept the conditions outlined in the License Agreement and then click the **Next** button to continue the installation (or click **Cancel** to exit the installation process).
4. If your machine does not meet the [PrizmDoc Server minimum system requirements](#), a dialog displays indicating the requirements that are not met. (You may choose to continue installation, but may experience poor performance.) Click **Next**.
5. The Installation Path dialog is displayed. Specify the **destination directory** where the PrizmDoc product should be installed or choose the default installation destination directory, then click **Next**.
6. Specify the **login account** (account name and password) that PrizmDoc Server will run under. Please note that the "login account" should have enough privileges to start Windows Service - it should have **Log on as a service** user right. If you are using the Microsoft Office Conversion (MSO) add-on, please make sure that the "login account" is a real user account with **Administrator** rights. Running PrizmDoc under the LocalSystem user or another Microsoft Windows integrated

service account is not supported for this option. Please consider the cases below for the "login account" and the Microsoft Office installation account:

- The "login account" is **the same** administrative account that has been used for the installation of Microsoft Office on the system - no additional steps are required.
  - The "login account" is **not the same** administrative account that has been used for the installation of Microsoft Office on the system. Before installing PrizmDoc, make sure to log into the "login account" and run Microsoft Word, Excel, and PowerPoint applications once so that the corresponding registry keys for Microsoft Office are created for the "login account".
7. Click **Install** to continue. The Installation dialog is displayed with a progress bar. While PrizmDoc Server is installing, you can click on the links to review the **Release Notes**, **Online Demos** or **Code Examples**.
  8. Part way through the installation, the installer will launch the **PrizmDoc Licensing Utility**. Select **I want to evaluate the product**.
  9. The Evaluation Success dialog is displayed. Click **Exit** to return to the installation process.
  10. After the **PrizmDoc Licensing Utility** completes, the installer will continue setting up your system with PrizmDoc Server.
  11. Once the configuration is complete, the Installation Complete dialog is displayed. There will be an option to launch the PrizmDoc Documentation and Release Notes if you wish to view them directly after the installation. You will also have the option to restart your server. If you select the **Restart Now** checkbox, your system will restart. If you don't want to restart your server, click **Finish** to exit the Installer.
  12. If you purchased PrizmDoc with the Microsoft Office Conversion service, continue to the next section below. If you did not purchase PrizmDoc with the Microsoft Office Conversion service, then your installation is complete.
  13. It is important to block specific Windows firewall ports to prevent SMB traffic from leaving the configured Windows instance. The following outbound ports should be blocked: TCP: 137, 138, 139, 445 and UDP: 137, 138. Please refer to the [Microsoft guidelines](#) for blocking specific firewall ports to prevent SMB traffic.

Future planning: for a production installation of PrizmDoc on Windows, you can improve your performance by enabling Gzip compression.

## Registry Changes

### Registry Changes

The PrizmDoc installer will modify the registry to increase the size of the non-interactive heap, allowing the Prizm service to create more than the default number of child processes to run its micro-services.

If the registry already contains a value greater than necessary, no changes to the registry will be made. If the registry is modified, and PrizmDoc is un-installed, the original registry values will be replaced.

### Interactive Installation

A manual heap size value adjustment process is not required when the PrizmDoc Windows Server installer is running in its interactive UI mode, where it will make all of the necessary registry changes and require a system reboot.

Due to a known issue with the installer, it might not ask for a reboot after the installation, so please make sure to reboot the system manually. This issue will be addressed in the future release.

## Non-Interactive Installation

In order to avoid a system reboot when installing PrizmDoc Server for Windows in non-interactive mode, such as for cloud-based systems using auto-deployment, the cloud image must have its registry modified as described below.

## Registry Changes

**Registry Key:** HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Control\Session Manager\SubSystems

**Value:** Windows

The value is a complex, space separated set of system wide settings, one of which is named "**SharedSection**". This is a comma-separated string value containing 3 numeric values that may look like: SharedSection=1024,20480,768.

The third numeric value is a non-interactive desktop heap size in kilobytes, which must be set to the Heap Size Value (see table below) corresponding to the number of CPU cores in the server:

CPU Cores	Instance Count	Heap Size Multiplication Factor	Heap Size Value
1	1	1	768 (default)
2, 3	Number of Cores	2	1536
4 <= Cores < 8	4	2	1536
8	8	3	2304
12	12	4	3072
16	16	5	3840
20	20	6	4608
24	24	7	5376
28	28	8	6144
32	32	9	6912

The heap size value is calculated from the default size by applying a heap size multiplier corresponding to the number of CPU cores available on the server.

The instance count indicates the number of Office document converter processes the Office Conversion service will handle when using the MSO option.

# Natively Render MSO Documents

## Natively Render Microsoft Office Documents

Accusoft offers a Microsoft Office Conversion (MSO) add-on option for PrizmDoc Server running on Windows. The Microsoft Office Conversion service allows you to have native rendering of Microsoft documents in PrizmDoc's Viewer, Content Conversion and MarkupBurner services. Available as an add-on licensed option to your PrizmDoc Windows product, this enhanced rendering offers a solution for companies who have a business requirement of native rendering of Microsoft Office documents. Please refer to [Supported File Formats](#) section for complete list of document formats supported by MSO.

The MSO conversion option is triggered by a license key that includes the MSO feature. The MSO feature can be purchased in addition to the standard features of your PrizmDoc Server license.

The MSO conversion option utilizes Microsoft Office rendering capabilities and therefore requires the components listed in the [Windows Requirements](#) section to be available on the system. Please follow all the required [Windows Installation](#) steps to let the PrizmDoc Server installer successfully pre-configure the system.

## Pre-Installation Steps

1. The Microsoft Office Conversion Service requires the Microsoft XPS Document Writer printer driver to be installed for the best conversion performance and rendering fidelity of MS Excel documents. The PrizmDoc's installation process sets the Microsoft XPS Document Writer to be the default printer driver on the system. Note that if you need to re-install Microsoft XPS Document Writer, follow the steps in the [Microsoft XPS Document Writer Installation](#) section below.
2. Specifically for Windows Server systems, it is important to note that the Microsoft PowerPoint rendering support within Microsoft Office requires you to enable the "**Ink and Handwriting Services**" desktop experience feature from the **Server Manager**.
3. The installed copy of Microsoft Office **must be activated** in order for PrizmDoc's Microsoft Office Conversion Service to work properly. Not licensed, not activated, or an expired or trial version of Microsoft Office will not work with PrizmDoc.
4. PrizmDoc Server requires the **login account** (account name and password) that it will run under. Please consider the cases below for the "login account" and the Microsoft Office installation account:
  - The "login account" is **the same** administrative account that has been used for the installation of Microsoft Office on the system - no additional steps are required.
  - The "login account" is **not the same** administrative account that has been used for the installation of Microsoft Office on the system. Before installing PrizmDoc, make sure to log into the "login account" and run Microsoft Word, Excel, and PowerPoint applications once so that the corresponding registry keys for Microsoft Office are created for the "login account".
5. If you are running PrizmDoc in cluster mode, **all servers** in the Windows MSO cluster **must use the same version** of Microsoft Office.
6. Print Spooler service **must be enabled** for the **login account** in order for the [Microsoft XPS Document Writer](#) (see section below) to work properly.

## Microsoft XPS Document Writer Installation Steps

Please note that Microsoft XPS Document Writer comes pre-installed on most Windows systems. However, if the Microsoft XPS Document Writer is not installed on your system, or in case it was previously removed, it must be installed back on the system using the following steps:

1. Click **Start** and select **Devices and Printers**.
2. Click **Add Printer**.
3. Choose **Add a Local Printer**.
4. Select **Use an Existing Port**.
5. Select **XPS Port** and click **Next**.
6. In the manufacturer list, choose **Microsoft**.
7. On the right side, choose the latest version of the XPS document writer and click **Next**.
8. Choose "**Use the driver that is currently installed**", click **Next**.
9. Select the option "**Do Not Share Printer**", then click **Next**.
10. Check the box for "**Set as the default printer**", then click **Finish**.

**If the XPS Port is not available, perform the following steps:**

1. Click **Add a Printer**.
2. Choose **Add a Local Printer**.
3. Select **Create a New Port**.
4. Select **Local Port**, then click **Next**.
5. In the "**Enter a Port Name**" field, type in **XPS Port**, then click **OK**.
6. In the Manufacturer list, choose **Microsoft**.
7. On the right side, choose the latest version of the XPS Document Writer, then click **Next**.
8. Choose "**Use the driver that is currently installed**", click **Next**.
9. Printer name should be **Microsoft XPS Document Writer**, then click **Next**.
10. Select the option "**Do Not Share Printer**", then click **Next**.
11. Check the box for "**Set as the default printer**", then click **Finish**.

In order to achieve the best performance and fidelity, and avoid potential rendering issues with MS Excel documents, it is important to make sure the Microsoft XPS Document Writer is configured as the default printer for the user which is configured to run the PrizmDoc service.

## Unattended Install & Uninstall

### Introduction

The PrizmDoc Server Windows installer can be installed unattended, however certain properties must be set:

**IMPORTANT:** PrizmDoc requires a clean installation when migrating from a version earlier than v12.0. You must first uninstall any previous versions of PrizmDoc and reboot your system. Only then should you install PrizmDoc v12.0 or later. Make sure you back up your configuration files before uninstalling any previous versions of PrizmDoc. Once you have installed v12.0, you do not need to uninstall if you want to migrate to v12.1 or later.

Property	Description	Default
ServiceUser	Required - The service account user name. This defines what user the PrizmDoc Server should run as. It should be in the format DOMAIN\USER. If you are using the Microsoft Office Conversion (MSO) add-on, please make sure that the required "ServiceUser" parameter value corresponds to a real user account with Administrator rights. Running PrizmDoc Server under the LocalSystem user or another Microsoft Windows integrated service account is not supported for this option.	None
ServicePassword	Required - The password for the ServiceUser.	None
InstallFolder	Optional - The base installation directory for the product.	"C:\Prizm"

## Unattended Install

To start the unattended install:

1. The PrizmDocServer.exe can be used to launch the installer and specify the above parameters in silent mode. Open a command line prompt as an Administrator, change to the folder where the .exe is located, and run the following (note that the values shown below for ServiceUser and ServicePassword are examples, and you will need to change them to specify your ServiceUser and ServicePassword):

### Example

```
> PrizmDocServer.exe ServiceUser=accusoft.com\PrizmUser  
ServicePassword=mdppassword -s -l output.log
```

**NOTE:** The *-s* flag is required to trigger silent mode and prevent the UI from opening. Leaving this out will open the UI.

The *-l output.log* flag is optional. If specified, it will output a log of the entire install process to a file using the specified name for the filename. For a complete install, this will output 3 files. If the install fails, include these files in bug reports.

2. You may wish to run this with the start command to wait for completion, otherwise the install will start in the background and on a console or script, it will return immediately.

### Example

```
> start /wait PrizmDocServer.exe ServiceUser=accusoft.com\PrizmUser  
ServicePassword=mdppassword -s -l output.log
```

3. After which the PLU can be used to retrieve a license, for example:

**Example**

```
C:\Prizm\java\jre8\bin\java.exe -jar C:\Prizm\plu\plu.jar deploy get
C:\path\to\License_Config.txt "License Solution Name"
```

**NOTE:** For more details on command line parameters to the licensing utility, refer to the Prizm License Utility section [Command Line Mode](#).

4. Next, the service needs to be started. See the [Getting Started with PrizmDoc Viewer > Starting & Stopping PrizmDoc Server > Windows](#) for more information on stopping and starting the service.

**Example**

```
> net start prizm
```

5. PrizmDoc Server should now be installed, licensed and started.

**NOTE:** When installing from the command line on Windows, the use of 8.3 notation to specify the install directory is not supported. While this may result in an error free install, some services may not start as expected.

## Silent Uninstall

You can use the -u flag as shown below to silently uninstall PrizmDoc Server on Windows:

**Example**

```
> PrizmDocServer.exe -s -u -l output.log
```

## Uninstall PrizmDoc Server on Windows

To uninstall Prizm from your Windows system, please perform the following steps:

1. Run **Add/Remove Programs**, or select **Programs and Features** from the Control Panel, or **Apps & features** from Settings.
2. Choose **PrizmDoc Server** from the list of installed applications.
3. Click the **Uninstall** button.
4. You will be prompted to confirm your desire to remove the product, answer affirmatively to continue.
5. The Uninstaller will start and remove PrizmDoc Server from your system.

You may be prompted to reboot your system in order to completely remove the PrizmDoc Server.

## Install on Linux

This section contains the following information:

- [Linux Requirements & Supported Environments](#)
- [Install on Linux](#)
- [Install Asian Fonts](#)
- [Install on a Headless Environment](#)
- [Uninstall PrizmDoc Server on Linux](#)

## Linux Requirements & Supported Environments

### Introduction

This section provides information about the system requirements for PrizmDoc Server when using the PrizmDoc Viewer Self-Hosted installation:

**NOTE:** PrizmDoc Viewer is only supported on 64-bit operating systems.

### PrizmDoc Server

PrizmDoc Server is a suite of RESTful APIs that control document conversion processes. It requires significant memory and processing power.

### Supported Operating Systems

#### Linux

**NOTE:** Support for Ubuntu 14.04 LTS was deprecated with PrizmDoc Viewer v13.6 and will soon be completely removed. PrizmDoc Viewer v13.11 is the final release to claim deprecated support for Ubuntu 14.04 LTS. Future releases will no longer support Ubuntu 14.04 LTS.

Operating System	Support Started in PrizmDoc Viewer Release
CentOS 6	Prior to v9.0
CentOS 7	v12.1
Red Hat Enterprise Linux 6	Prior to v9.0
Red Hat Enterprise Linux 7	v12.1
Ubuntu 14.04 LTS	v10.3
Ubuntu 16.04 LTS	v13.0
Ubuntu 18.04 LTS	v13.7

## Hardware Requirements

Requirements vary greatly based on usage and it is generally a good idea to find what best fits your expected usage. The [Sizing Guide](#) is a good place to start understanding what resources PrizmDoc Server uses and how to optimize them for your needs.

## Required Libraries

- libbz2.so.1
- libc.so.6
- libcairo.so.2
- libcups.so.2
- libdbus-glib-1.so.2
- libdl.so.2
- libexpat.so.1
- libfontconfig.so.1
- libfreetype.so.6
- libgcc\_s.so.1
- libgif.so.4
- libGL.so.1
- libjpeg.so.62
- libm.so.6
- libnsl.so.1
- libopenjpeg.so.2
- libpixman-1.so.0
- libpng12.so.0
- libpthread.so.0
- librt.so.1
- libstdc++.so.6
- libthread\_db.so.1
- libungif.so.4
- libuuid.so.1
- libX11.so.6
- libXau.so.6
- libxcb.so.1
- libXdmcp.so.6
- libXext.so.6
- libXi.so.6
- libXinerama.so.1
- libxml2.so.2
- libXrender.so.1
- libXtst.so.6
- libz.so.1
- linux-vdso.so.1

**NOTE:** PrizmDoc Server requires x86-64 versions of the libraries listed above.

To verify that the required libraries are installed, use "ldconfig" as shown in the following example:

### Example

```
\# ldconfig -p | grep libcairo
libcairo.so.2 (libc6,x86-64) => /lib64/libcairo.so.2
```

## Required Libraries (Ubuntu 16.04, 18.04)

The following packages are included in the prizmdoc\_server<version>.amd64.deb.tar.gz package which is located in the 'packages' subfolder:

- libgif4\_4.1.6-11+deb8u1\_amd64.deb
- libopenjpeg2\_1.3+dfsg-4.8\_amd64.deb

## Install on Linux

### Introduction

PrizmDoc installation is designed to be very straightforward for Linux environments. Follow the steps provided in this section.

**IMPORTANT:** PrizmDoc **requires a clean installation** when migrating from a version earlier than v12.0. You must first **uninstall any previous versions of PrizmDoc and reboot your system**. Only then should you install PrizmDoc v12.0 or later. **Make sure you back up your configuration files before uninstalling any previous versions of PrizmDoc.** Once you have installed v12.0, you do not need to uninstall if you want to migrate to v12.1 or later.

**NOTE:** PrizmDoc relies on a fontconfig package that is not shipped with the product and that might be missing from some distributions of Ubuntu. This was resolved by adding automated checks in the PrizmDoc 13.0 installation scripts. As a workaround for older versions of PrizmDoc, we recommend installing the fontconfig package manually by using `sudo apt-get install fontconfig`.

**NOTE:** If you have an updated license, you must re-start PAS and PrizmDoc Server in order to use the new license.

- [Verify the System's Locale](#)
- [Step 1 - Download PrizmDoc Server](#)
- [Step 2 - Unpack & Install the Downloaded Archive](#)
- [Step 3 \(Optional\) - Including PrizmDoc Services to the Boot Sequence](#)
- [Step 4 - Configure](#)
- [Step 5 - Verify that the Installation was Successful](#)
- [How to Install Common Certificate Authority Root Certificates on Linux](#)

Some steps may be specific to a particular Linux distribution; these steps will be labeled as being specific to one of the following:

- "Red Hat / CentOS Linux Distributions"
- "Ubuntu Linux Distributions"

Make sure you log in as **root** to the machine.

### Verify the System's Locale

1. To ensure your system's locale is specified, run the command:

#### Example

```
locale
```

2. If the LC\_ALL entry is not set, you must specify it with the following:

### Example

```
export LC_ALL="en_US.UTF-8"
sudo localedef -v -c -i en_US -f UTF-8 en_US.UTF-8
```

## Step 1 - Download PrizmDoc Server

**IMPORTANT:** Before you download PrizmDoc, note that packages are only available for 64-bit systems. Also, you will need to purchase a license key or request a Trial Evaluation by filling out the following form: [www.accusoft.com/products/prizm-content-connect-pcc/get-self-hosted/](http://www.accusoft.com/products/prizm-content-connect-pcc/get-self-hosted/).

Once you have purchased a license key or filled out the form for a Trial Evaluation, you can download PrizmDoc by:

1. Following the link provided in the response email and selecting the desired Linux Distribution.  
OR
2. Downloading directly to the Linux server using the 'wget' command for the specific distribution as shown below:

### NOTES:

1. **You must substitute the version of the package you are using in the code examples below.** For example, if you are using v11.0, then specify "11.0" instead of "<version>". If the version is a hot fix, you will also need to specify the hot fix number, for example, "11.0.1".
2. **Instructions assume that one already has 'wget' installed on the server OS.**

### Red Hat Enterprise Linux, CentOS (prior to v7) and Similar Older Linux Distributions

#### Example

```
wget
http://products.accusoft.com/PrizmDoc/<version>/prizmdoc_server_<version>.x86_64.rpm.tar.gz
```

### Red Hat Enterprise Linux and CentOS v7 (and later)

#### Example

```
wget
http://products.accusoft.com/PrizmDoc/<version>/prizmdoc_server_<version>.RHEL7.tar.gz
```

### Ubuntu Linux Distributions

#### Example

```
wget
http://products.accusoft.com/PrizmDoc/<version>/prizmdoc_server_<version>.amd64.deb.tar.gz
```

## Generic .tar.gz Distribution

### Example

```
wget
http://products.accusoft.com/PrizmDoc/<version>/prizmdoc_server_<version>.x86_64.tar.gz
```

For license questions, fill out the form at <http://www.accusoft.com/contact/>.

## Step 2 - Unpack and Install the Downloaded Archive

Open a command line and change to the location where you downloaded the tarball. Use the following command line examples appropriate for your distribution to:

1. Decompress and unpack the downloaded file. After you have unpacked the archive, the contents will have been decompressed into a directory named **prizmdoc\_server\_<version>.<arch>[.rpm].deb**.
2. Change to the unpacked directory and install the packages.

## Red Hat, CentOS, and Older Linux Distributions

The following example is for Red Hat, CentOS, and older Linux distributions:

### Example

```
tar -xzvf prizmdoc_server_*.tar.gz
cd prizmdoc_server_*
yum install --nogpgcheck *.rpm
```

## Ubuntu Linux Distributions

The following example is for Ubuntu Linux distributions:

### Example

```
tar -xzvf prizmdoc_server_*.deb.tar.gz
cd prizmdoc_server_*.deb

# Note for Ubuntu 14.04, you do not need to run the following commands.
# For Ubuntu 16.04 and 18.04, you must run the following commands before installing
PrizmDoc.

sudo dpkg -i packages/*.deb
sudo dpkg -i *.deb

# Note that 'dpkg' does not resolve dependencies automatically, so please ignore
possible errors.
# If there are errors about missing dependencies, invoke the following commands to
install
# the dependencies and complete the configuration of the packages.

sudo apt-get update
sudo apt-get -f install
```

## Generic .tar.gz Distribution

We also provide a generic .tar.gz package. Please review the [System Requirements and Supported Environments](#) topic to ensure compatibility. You will also need to install the **dependencies** described in the [Requirements](#) section. Once the dependencies are installed, you can install the **.tar.gz** with the following commands as root:

### Example

```
tar -xzvf prizmdoc_server_*.tar.gz
cd prizmdoc_server_*
ls prizm-*.tar.gz | xargs -n1 tar xzf
cp -R prizm /usr/share/
```

Add symbolic links to the fonts directory and update the system fonts cache to enable the usage of installed fonts by PrizmDoc services.

### Example

```
ln -s /usr/share/prizm/modules/poppler/fonts/accusoft_prizm_fonts.conf
/etc/fonts/conf.d/99-accusoft_prizm_fonts.conf
fc-cache -f
```

## Step 3 (Optional) - Including PrizmDoc Services to the Boot Sequence

You can configure PrizmDoc Services to start/stop together with the system in two steps:

1. Create a symbolic link to **/usr/share/prizm/scripts/pccis.sh** in the **/etc/init.d/** directory:

### Example

```
ln -s /usr/share/prizm/scripts/pccis.sh /etc/init.d/pccis
```

2. Register PrizmDoc Services as an init script, so that it is managed by the system. This step is platform-dependent.

### Red Hat, Fedora, CentOS, and Older Linux Distributions

#### Example

```
chkconfig --add pccis
```

### Ubuntu Linux Distributions

#### Example

```
update-rc.d pccis defaults
```

Once this is done, the system should stop PrizmDoc Services when rebooting or shutting down, and will start again when

the server boots up.

### Excluding PrizmDoc Services from the Boot Sequence

If you want to prevent PrizmDoc Services from starting/stopping together with the system, you need to revert Step 2 from the section above. This can be performed as follows:

#### Red Hat, Fedora, CentOS, and Older Linux Distributions

##### Example

```
chkconfig --del pccis
```

#### Ubuntu Linux Distributions

##### Example

```
update-rc.d -f pccis remove
```

## Step 4 - Configure

1. Continuing as **root**, change to the installation location: **/usr/share/prizm** and run **setup.sh**. This will run the **Prizm Licensing Utility (PLU)** and configure PrizmDoc for its first run:

**NOTE:** *setup.sh* launches the Prizm License Utility (PLU), which is a GUI application. Depending on how you have X11 configured, you might need to run 'xhost +' as the logged in user to allow the PLU launched by the root user to access X11. You can disable X11 access for root by executing 'xhost -' when you are done.

##### Example

```
cd /usr/share/prizm
sudo ./setup.sh
Select the type of license you want to acquire:
    1) Evaluation [e]
    2) Deployment [d]
Choose 1 or 2: d
Select the type of deployment license you have:
    1) Node Locked [n]
    2) OEM [o]
Choose 1 or 2: o
Provide the solution name: <MySolutionName>
Provide the OEM license key provided to you: 2.0...
Your deployment license was acquired successfully.
./scripts/pccis.sh start
Starting Prizm Content Connect Information Services...
Starting PCCIS Watchdog process...
PCCIS Watchdog has been started correctly.
```

2. For a production installation, you will want to configure where log files are stored. See the Logging section in the [Central Configuration](#) topic.
3. If you are licensed to use the Microsoft Office Conversion add-on for PrizmDoc Servers running on Linux, you need to configure your server as described in the topic: [Configure Microsoft Office Conversion Connectivity](#).
4. Open ports in your firewall according to the [Security Guidance](#).

## Step 5 - Verify that the Installation was Successful

1. Open the PrizmDoc Services Status Page as described in the [Checking PrizmDoc Server Health](#) topic and verify the PrizmDoc Services are running.
2. Your installation is now complete.

## How to Install Common Certificate Authority Root Certificates on Linux

The following commands should all be run as root. Additionally, if prompted for addition/removal permission, then yes/no should be entered as the response.

There are a few options for installing SSL certificates. In all cases, the certificates are stored in `/usr/share/.mono/certs/`.

### Install Mozilla's root CA certificates

You can do it with `cert-sync` tool, which synchronizes the Mono SSL certificate store against your OS certificate store:

#### Ubuntu Linux Distributions

```
/usr/share/prizm/mono/64/bin/cert-sync /etc/ssl/certs/ca-certificates.crt
```

#### Red Hat and CentOS Linux Distributions

```
/usr/share/prizm/mono/64/bin/cert-sync /etc/pki/tls/certs/ca-bundle.crt
```

**NOTE:** Your distribution might use a different path to the CA certificates file, if it's not derived from one of those.

### Install the CA certificates that are provided by your operating system

Distributions will generally contain CA certificates already, to be used by various tools. They will be stores in a `ca-bundle.crt` file. You can import those certificates using mono's `certmgr` utility, as such:

```
awk 'BEGIN {c=0;} /BEGIN CERT/{c++} { print > "cert." c ".crt"}' < /etc/ssl/certs/ca-bundle.crt  
find . -name 'cert.*.crt' -exec sudo /usr/share/prizm/mono/64/bin/certmgr -add -c -m Trust {} \;
```

**NOTE:** this will split the bundle file into individual certificate files and import each certificate. It is best to execute this from an empty directory in order to avoid file conflicts. The individual certificates can be deleted after the import.

### Install individual certificate files

If you already have a list of custom certificates you need to trust, you can import each certificate file, as such:

```
/usr/share/prizm/mono/64/bin/certmgr -add -c -m Trust /path/to/certificatefile
```

# Install Asian Fonts

## Introduction

This section contains important information for installing Asian fonts:

- [Red Hat & CentOS](#)
- [Ubuntu](#)

## Red Hat and CentOS

### Version 6

In the RHEL 6 / CentOS 6 release, the language font group packages are no longer available. Instead, these releases have "groupinstall" lists which bundle multiple packages together. In order to see all language packages available through this interface, you can type the following command:

#### Example

```
# yum grouplist
```

This will output all group packages, the last section of which is "Available Language Groups". Note that some packs may already be installed, in which case, they will be visible under "Installed Language Packs" at the top of the list. In this case, "chinese-fonts" is now "Chinese Support".

To install this package, run the following command:

#### Example

```
# yum groupinstall "Chinese Support"
```

To install all languages listed in the help file, run the following commands:

#### Example

```
# yum groupinstall "Chinese Support"  
# yum groupinstall "Japanese Support"  
# yum groupinstall "Korean Support"  
# yum groupinstall "Kannada Support"  
# yum groupinstall "Hindi Support"
```

### Version 7

In the RHEL 7 / CentOS7 release, the language font group packages are no longer available. Instead, these releases have "groupinstall" lists which bundle multiple packages together. There is a single Fonts package which includes support for these languages:

## Example

```
# yum groupinstall Fonts
```

## Ubuntu

By default, Asian language support is not installed on Ubuntu systems. In order to properly render documents with Asian fonts, support for corresponding languages should be installed.

To install Japanese language support, run following commands:

## Example

```
# sudo apt-get install language-pack-ja  
# sudo apt-get install japan*
```

To install Chinese language support, run following commands:

## Example

```
# sudo apt-get install language-pack-zh  
# sudo apt-get install chinese*
```

To install Korean language support, run following commands:

## Example

```
# sudo apt-get install language-pack-ko  
# sudo apt-get install korean*
```

And finally, you will need to add additional fonts:

## Example

```
# sudo apt-get install fonts-arphic-ukai fonts-arphic-uming fonts-  
ipafont-mincho fonts-ipafont-gothic fonts-unfonts-core
```

**NOTE:** If PrizmDoc Viewer was running when you installed language/font support, you must restart PrizmDoc Viewer in order to apply the changes.

## Install on a Headless Environment

## Install on a Headless Environment

Use the following steps to install PrizmDoc in a Linux headless environment:

**IMPORTANT:** PrizmDoc **requires a clean installation** when migrating from a version earlier than v12.0. You must first uninstall any previous versions of PrizmDoc and reboot your system. Only then should you install PrizmDoc v12.0 or later. **Make sure you back up your configuration files before uninstalling any previous versions of PrizmDoc.** Once you have installed v12.0, you do not need to uninstall if you want to migrate to v12.1 or later.

**NOTE:** If you have an updated license, you must re-start PAS and PrizmDoc Server in order to use the new license.

- [Verify the System's Locale](#)
- [Step 1 - Download PrizmDoc](#)
- [Step 2 - Unpack & Install the Downloaded Archive](#)
- [Step 3 - Configure](#)
- [Step 4 - Verify that the Installation was Successful](#)

Make sure you log in as **root** to the machine. All command lines preceded by the '>' sign are the example output of that command, where applicable.

## Verify the System's Locale

1. To ensure your system's locale is specified, run the command:

### Example

```
locale
```

2. If the LC\_ALL entry is not set, you must specify it with the following:

### Example

```
export LC_ALL="en_US.UTF-8"  
sudo localedef -v -c -i en_US -f UTF-8 en_US.UTF-8
```

## Step 1 - Download PrizmDoc

**IMPORTANT:** Before downloading PrizmDoc, be aware that packages are only available for 64-bit systems.

Before downloading PrizmDoc, you will need to purchase a license key or request a Trial Evaluation by filling out the following form: [www.accusoft.com/products/prizm-content-connect-pcc/get-self-hosted/](http://www.accusoft.com/products/prizm-content-connect-pcc/get-self-hosted/).

Once you have purchased a license key or filled out the form for a Trial Evaluation, you can download PrizmDoc by:

1. Following the link provided in the response email and selecting the desired Linux Distribution.  
OR
2. Downloading directly to the Linux server using the 'wget' command for the specific distribution as shown below:

### NOTES:

- a. **You must substitute the version of the package you are using in the code examples below.** For example, if you are using v11.0, then specify "11.0" instead of "<version>". If the version is a hot fix, you will also need to specify the hot fix number, for example, "11.0.1".
- b. **Instructions assume that 'wget' has already been installed** on the server OS.

### Red Hat Enterprise Linux, CentOS (prior to v7) and Similar Older Linux Distributions

#### Example

```
wget  
http://products.accusoft.com/PrizmDoc/<version>/prizmdoc_server_<version>.x86_64.rpm.tar.gz
```

## Red Hat Enterprise Linux and CentOS v7 (and later)

### Example

```
wget
http://products.accusoft.com/PrizmDoc/<version>/prizmdoc_server_<version>.RHEL7.tar.gz
```

## Ubuntu Linux Distributions

### Server Example

```
wget
http://products.accusoft.com/PrizmDoc/<version>/prizmdoc_server_<version>.amd64.deb.tar.gz
```

## Generic .tar.gz Distribution

### Server Example

```
wget
http://products.accusoft.com/PrizmDoc/<version>/prizmdoc_server_<version>.x86_64.tar.gz
```

For license questions, fill out the form at <http://www.accusoft.com/contact/>.

## Step 2 - Unpack & Install the Downloaded Archive

Open a command line and change to the location where you downloaded the tarball. Use the following command line examples appropriate for your distribution to:

1. Decompress and unpack the downloaded file. After you have unpacked the archive, the contents will have been decompressed into directories named: **prizmdoc\_client\_<version>.<arch>[.rpm|.deb]** and **prizmdoc\_server\_<version>.<arch>[.rpm|.deb]**.
2. Change to the unpacked directory and install the packages.

### Red Hat, CentOS, and Older Linux Distributions

The following example is for Red Hat, CentOS, and older Linux distributions:

#### Viewer Example

```
tar -xzvf prizmdoc_client_*.tar.gz
cd prizmdoc_client_*
yum install --nogpgcheck *.rpm
```

#### Server Example

```
tar -xzvf prizmdoc_server_*.tar.gz
cd prizmdoc_server_*
yum install --nogpgcheck *.rpm
```

The Prizm installer does not install them automatically. Please **manually** download these packages and then install them using --nogpgcheck flag as follows:

### Example

```
yum install --nogpgcheck ./openjpeg-libs-1.3-7.el5.x86_64.rpm
yum install --nogpgcheck ./pixman-0.22.0-2.2.el5_10.x86_64.rpm
```

### Ubuntu Linux Distributions

The following example is for Ubuntu Linux distributions:

### Viewer Example

```
tar -xzvf prizmdoc_client_*.deb.tar.gz
cd prizmdoc_client_*.deb
sudo dpkg -i *.deb
# 'dpkg' does not resolve dependencies automatically, so please ignore possible errors, if
you did not install required dependencies yet, and invoke next commands
sudo apt-get update
sudo apt-get -f install
```

### Server Example

```
tar -xzvf prizmdoc_server_*.deb.tar.gz
cd prizmdoc_server_*.deb
sudo dpkg -i *.deb
# 'dpkg' does not resolve dependencies automatically, so please ignore possible errors, if
you did not install required dependencies yet, and invoke next commands
sudo apt-get update
sudo apt-get -f install
```

### Generic .tar.gz Distribution

We also provide a generic .tar.gz package. Please review the [System Requirements and Supported Environments](#) topic to ensure compatibility. You will also need to install the **dependencies** described in the [Requirements](#) section. Once the dependencies are installed, you can install the **.tar.gz** with the following commands as root:

### Viewer Example

```
tar -xzvf prizmdoc_client*.tar.gz
cd prizmdoc_client_*
ls prizm-*.tar.gz | xargs -n1 tar xzf
cp -R prizm /usr/share/
```

### Server Example

```
tar -xzvf prizmdoc_server*.tar.gz
cd prizmdoc_server_*
ls prizm-*.tar.gz | xargs -n1 tar xzf
cp -R prizm /usr/share/
```

3. Add symbolic links to the fonts directory and update system fonts cache to enable the usage of installed fonts by PrizmDoc services.

## Server Example

```
ln -s /usr/share/prizm/modules/poppler/fonts/accusoft_prizm_fonts.conf  
/etc/fonts/conf.d/99-accusoft_prizm_fonts.conf fc-cache -f
```

## Step 3 - Configure

1. Run the following commands to initiate setup:

### Example

```
cd /usr/share/prizm  
sudo ./setup.sh
```

The setup script will now invoke a text-based wizard for licensing:

**NOTE:** To configure PrizmDoc for evaluation run the following command:

### Example

```
./setup.sh eval
```

If you already have a license for PrizmDoc, you can use one of the other licensing options, detailed in the [Command Line Mode Licensing](#) section of the help.

2. To confirm the licensing has succeeded, run the following command, which will output your license key:

### Example

```
cat ./prizm-services-config.yml | grep license.key  
> license.key=<long string>
```

## Step 4 - Verify that the Installation was Successful

1. Open the PrizmDoc Services Status Page as described in the [Checking PrizmDoc Server Health](#) topic and verify the PrizmDoc Services are running.
2. Your installation is now complete.

# Uninstall PrizmDoc Server on Linux

## Introduction

To uninstall PrizmDoc from your Linux system, perform the following steps:

Make sure you log in as **root** to the machine.

1. Stop the service:

**NOTE:** This will depend on where the product is installed. The command for default installations will look like the following:

```
/usr/share/prizm/scripts/pccis.sh stop
```

2. Remove the installed files:

**Ubuntu:**

```
apt-get purge prizm-services.*
```

**NOTE:** This will remove all configuration files. If you would like to keep configuration files you can instead run `apt-get remove prizm-services.*` however this will leave behind configuration files and may cause issues in the future. You may want to create a backup of configuration files before purging as an alternative.

**Red Hat/CentOS:**

```
yum remove prizm-services*
```

**IMPORTANT:** This will not properly execute if run in a directory with files matching the wildcard, for example, the `/usr/share/prizm/` directory or the directory where the downloaded Prizm services `.deb` or `.rpm` files are located.

**Generic Package:**

Remove symbolic links to the fonts directory and update system fonts cache.

```
rm /etc/fonts/conf.d/99-accusoft_prizm_fonts.conf  
fc-cache -f**
```

Remove PrizmDoc Server files.

```
rm -rf /usr/share/prizm/bin  
rm -rf /usr/share/prizm/conf  
rm -rf /usr/share/prizm/consul  
rm -rf /usr/share/prizm/java  
rm -rf /usr/share/prizm/libreoffice  
rm -rf /usr/share/prizm/libs  
rm -rf /usr/share/prizm/modules  
rm -rf /usr/share/prizm/mono  
rm -rf /usr/share/prizm/node.js  
rm -rf /usr/share/prizm/pccis  
rm -rf /usr/share/prizm/plu  
rm -rf /usr/share/prizm/schemas  
rm -rf /usr/share/prizm/scripts  
rm -rf /usr/share/prizm/services  
rm -rf /usr/share/prizm/src
```

**NOTE:** There may be temporary files left behind, like log and cache files, because they are not part of the installation packages. You may leave the temporary files or review them before deleting them.

## Check PrizmDoc Server Health

### PrizmDoc Viewer Services Status Page

You can view the PrizmDoc Viewer Services Status page by browsing to one of the following locations on each server where you installed the PrizmDoc Server:

- For single-server mode - <http://server:18681/admin>
- When clustering is enabled - <http://server:18682/admin>

Home Contact

accusoft

Prizm Services Status **Running**  Auto-Refresh

License Status	licensed as 'PrizmDoc12'
PCC Version	12.3
OS	Unix 3.10.0.514
Start Time	2017-04-11T12:54:26.3143870Z
Instance ID	plt-12

#### Internal Services

Service	Status
PCC Imaging Services	✓
PCC Error Reporting Service	✓
PCC Imaging Conversion Service	✓
PCC PDF Processing Service	✓
PCC Raster Conversion Service	✓
PCC Vector Conversion Service	✓
PCC Html Conversion Service	✓
PCC Work File Service	✓
PCC Office Conversion Service	✓
PCC Format Detection Service	✓
PCC AutoRedaction Service	✓
PCC Redaction Service	✓
PCC Email Processing Service	✓
PCC Email Conversion Service	✓
PCC Content Conversion Service	✓
document-conversion-service	✓
form-extraction-service	✓

mongo-manager-service	✓
configuration-service	✓
licensing-service	✓
health-service	✓
process-state-service	✓
raster-form-extraction-service	✓
text-service	✓

It may take several minutes for PrizmDoc Server to become completely healthy. The page will auto-refresh as PrizmDoc Server comes online.

Also note that 'PCC' means the 'PrizmDoc Viewer' services in the example above.

## Configure a Cluster

### Introduction

Setting up multiple servers is not required for evaluation purposes.

However, if you are interested in installing and configuring PrizmDoc Server on multiple servers, this topic provides an overview with links to specific how-to instructions.

### Setup Options

PrizmDoc Server default installation and configuration is designed with the intent to handle all requests and processing on a single server; however, running a single server will limit the bandwidth available for fulfilling requests. To address that problem, PrizmDoc Server can be installed on multiple servers and configured to route requests among them.

A cluster installation follows the same process as a single-server installation with some additional configuration steps once installation and licensing have been completed.

For an overview of how Cluster Mode works and steps to configure your server for cluster use, please see our [Cluster Mode](#) introduction. If you're an existing customer and already familiar with Cluster Mode, you can find information on our [Cluster Management API](#) here.

With a cluster configuration, there are special considerations for optimizing PrizmDoc Server's performance by configuring viewing sessions to use cached content. To learn more about relying on PrizmDoc Server's caching and to configure its use, see our topic on [Optimizing Cache Performance](#).

Some of the APIs also require special consideration when used with Cluster Mode. In Cluster Mode, each server handles a request from start to finish. For that reason, some requests (for example Work File, Markup Burner, and Content Conversion requests) will require an Affinity Token. For more information on Affinity Tokens, and the steps required to use those APIs in Cluster Mode, please see our [Affinity Tokens & Cluster Mode](#) topic.

## Install PAS

This section covers how to deploy an instance of PAS:

- [Using Docker](#)
- [Installing on Windows](#)
  - [Windows Requirements & Supported Environments](#)
  - [Unattended Install & Uninstall](#)
- [Installing on Linux](#)
  - [Linux Requirements & Supported Environments](#)
  - [Uninstall on Linux](#)
- [Checking the Connection to PrizmDoc Server](#)

## Using Docker

### Using Docker

This section explains how to deploy a PAS instance using the official PAS docker image, available on Docker Hub as [accusoft/prizmdoc-application-services](#).

Note that PAS requires a connection to PrizmDoc Server. For the rest of this section, we assume that you already have a PrizmDoc Server instance or tier deployed. If that's not the case, you might be interested in our [Minimal Backend Quick Start](#) which explains how you can quickly deploy a single instance of PAS and PrizmDoc Server together.

### Requirements

To run PAS as a Docker container, you simply need a Docker host (a machine with Docker installed). See the [Docker documentation](#) for more information.

### 1. Create a PAS config file

Before you can run PAS, you'll need a config file. We've included a special `init-config` command in our Docker image which you can use to create an initial config file.

#### Windows (PowerShell)

First, make sure you've created a `config` directory on your host file system. This will be the directory where your new config file will be created:

```
mkdir config
```

Then, use the Docker image's `init-config` command to create a new PAS config file:

```
docker run --rm -e ACCEPT_EULA=YES --volume $pwd/config:/config  
accusoft/prizmdoc-application-services init-config
```

This will create a new PAS config file on your Windows host filesystem at `.\config\pcc.nix.yml`.

#### Linux (bash)

Use the Docker image's `init-config` command to create a new PAS config file:

```
docker run --rm -e ACCEPT_EULA=YES --volume $(pwd)/config:/config
accusoft/prizmdoc-application-services init-config
```

This will create a new PAS config file on your host filesystem at `./config/pcc.nix.yml`.

## 2. Customize your PAS config file

You will need to customize the contents of the `pcc.nix.yml` file for your PAS deployment.

**NOTE:** On a Linux system, because the config file was created by a Docker container, you will need to either edit the config file as root or change the owner of the file before editing it.

Typically, you need to:

- Change the `secretKey` to your own value (see [PAS Configuration](#) for more information).
- Configure your connection to PrizmDoc Server by updating the `pccServer` properties:

```
pccServer.hostName: your-prizmdoc-server-host
pccServer.port: 18681
pccServer.scheme: http
```

- Configure your storage options.

For more information, see [PAS Configuration](#).

## 3. Start PAS

Assuming you have configured PAS to run on port `3000` and use `./config`, `./logs`, and `./data` directories, you can start PAS like so:

### Windows (PowerShell)

First, create directories for logs and data:

```
mkdir logs
mkdir data
```

Then, start a `pas` container:

```
docker run --rm --env ACCEPT_EULA=YES --publish 3000:3000 --volume
$(pwd)/config:/config --volume $(pwd)/logs:/logs --volume $(pwd)/data:/data --name
pas accusoft/prizmdoc-application-services
```

### Linux (bash)

Start a `pas` container like so:

```
docker run --rm --env ACCEPT_EULA=YES --publish 3000:3000 --volume
$(pwd)/config:/config --volume $(pwd)/logs:/logs --volume $(pwd)/data:/data
--name pas accusoft/prizmdoc-application-services
```

In the examples above:

- `--rm` ensures the container is automatically deleted when it stops.
- `--env ACCEPT_EULA=YES` indicates you have accepted the [PrizmDoc Viewer license agreement](#).
- `--publish 3000:3000` publishes the container's port to the host. This assumes PAS was configured to use port 3000. If you have configured PAS to use a different port, adjust accordingly.
- `--volume $(pwd)/config:/config` maps a host config directory into the container. Your local config directory must contain the `pcc.nix.yml` config file created earlier.
- `--volume $(pwd)/logs:/logs` maps a local logs directory into the container. After the container stops, the logs will remain in this directory.
- `--volume $(pwd)/data:/data` maps a local data directory into the container. After the container stops, the data will remain in this directory and can be used again when restarting the container.
- `--name pas` sets the name of the running container.
- `accusoft/prizmdoc-application-services` is the image that should be run.

If you want to start the Docker container in the background, add the `-d` option to `docker run` to run the container in disconnected mode.

## 4. Check PAS health

After starting PAS, `GET http://localhost:3000/health` should return HTTP 200, indicating PAS is healthy. If you visit this URL in a browser, you should see "OK" in the body of the page.

### Windows (PowerShell)

```
Invoke-WebRequest -Uri http://localhost:3000/health
```

Should output something like:

```
StatusCode      : 200
StatusDescription : OK
Content         : {79, 75}
RawContent      : HTTP/1.1 200 OK
                  Connection: keep-alive
                  Content-Length: 2
                  Date: Thu, 21 Nov 2019 17:49:35 GMT

                  OK
Headers         : {[Connection, keep-alive], [Content-Length, 2], [Date,
Thu, 21 Nov 2019 17:49:35
                  GMT]}
RawContentLength : 2
```

## Linux (bash)

```
curl -i http://localhost:3000/health
```

Should output something like:

```
HTTP/1.1 200 OK
Date: Wed, 20 Nov 2019 20:00:39 GMT
Connection: keep-alive
Content-Length: 2

OK
```

## 5. Check PAS's connection to PrizmDoc Server

After starting PAS, `GET http://localhost:3000/servicesConnection` should return HTTP 200, indicating PAS is configured correctly to make requests to PrizmDoc Server. If you visit this URL in a browser, you should see "OK" in the body of the page.

## Windows (PowerShell)

```
Invoke-WebRequest -Uri http://localhost:3000/servicesConnection
```

Should output something like:

```
StatusCode      : 200
StatusDescription : OK
Content         : {79, 75}
RawContent      : HTTP/1.1 200 OK
                  Connection: keep-alive
                  Content-Length: 2
                  Date: Thu, 21 Nov 2019 17:50:11 GMT

                  OK
Headers         : {[Connection, keep-alive], [Content-Length, 2], [Date,
Thu, 21 Nov 2019 17:50:11
                  GMT]}
RawContentLength : 2
```

## Linux (bash)

```
curl -i http://localhost:3000/servicesConnection
```

Should output something like:

```
HTTP/1.1 200 OK
Date: Wed, 20 Nov 2019 20:00:39 GMT
Connection: keep-alive
Content-Length: 2
```

```
OK
```

## 5. Stopping the container

You can stop your named container with:

```
docker stop pas
```

## Install on Windows

### Installing PAS on Windows

PAS is delivered as part of the "PrizmDoc Client" installer.

**NOTE:** If you have an updated license, you must re-start PAS and PrizmDoc Server in order to use the new license.

To install PAS, follow these steps:

1. Download the "**PrizmDoc Client**" installer from the [website](#).
2. Double-click on the **PrizmDocClient-xx** application file to launch the installer (where xx represents the version). Click **Install PrizmDoc Client**.
3. Carefully read the information contained in the License Agreement form before making a decision to accept the terms of the agreement. Choose **I accept the terms in the License Agreement** to accept the conditions outlined in the License Agreement and then click **Next** to continue the installation (or click **Cancel** to exit the installation process).
4. The Select Features dialog is displayed. The Select Features dialog allows you to define what components of PrizmDoc Viewer you want to install:
  - **Legacy Samples** – Installs various legacy samples.
  - **PAS (PrizmDoc Application Services)** - Installs PAS.
  - **Configure ASP.NET Samples with IIS** - This option is only available if both IIS and ASP.NET 4.0+ are present.
  - **Re-register ASP.net 4.0 with IIS** - This option is only available if both IIS and ASP.NET 4.0+ are present.

Once you have made your selections, click **Next** to continue.

5. If you are installing the PAS (PrizmDoc Application Services), you have the option to enter the PrizmDoc Viewer **server address** to test the connection. The default PrizmDoc Server address is shown in the text field. You may also skip this step, and configure the server address manually later on.

Enter the **server address** for your PrizmDoc Server into the text field provided. Click **Test** to verify access to your PrizmDoc Server.

A valid URL for the PrizmDoc Server will include http or https, a domain name, and a port number.

Click **Next** to continue the installation.

6. The Installation Path dialog is displayed. Specify the **destination directory** where the Viewer should be installed, or choose the **default installation destination directory**, then click **Next**.
7. The Account Information dialog is displayed. Here you define the Windows user account that will be used to run PAS.  
During installation, when specifying a Windows user account for PAS, you **MUST** choose a user which has Administrator privileges. Otherwise, the installation will fail.
8. Once you have entered in all of the appropriate information, click **Install** to continue.
9. Once installation is done, click **Finish** to exit the Installer.
10. Go to [Check the Connection to PrizmDoc Server](#) to make sure PAS is correctly connected to PrizmDoc Server.

## Windows Requirements & Supported Environments

### PAS Windows Requirements & Supported Environments

PAS is only supported on 64-bit operating systems. PAS requires significant network throughput and disk I/O, but very little processing power.

**NOTE:** Support for Windows Server 2008 R2 was deprecated with PrizmDoc Viewer v13.7 and will soon be completely removed. PrizmDoc Viewer v13.11 is the final release to claim deprecated support for Windows Server 2008 R2. Future releases will no longer support Windows Server 2008 R2.

Operating System	Support Started in PrizmDoc Viewer Release
Windows Server 2008 R2 SP1	Prior to v9.0
Windows Server 2012	Prior to v9.0
Windows Server 2012 R2	Prior to v9.0
Windows Server 2016 with Desktop Experience	v13.0
Windows Server 2019 with Desktop Experience	v13.8

### Hardware Requirements

Requirements vary greatly based on usage and it is generally a good idea to find what best fits your expected usage. The [Sizing Guide](#) is a good place to start understanding what resources PAS uses and how to optimize them for your needs.

# Unattended Install & Uninstall

## Unattended Installation of PAS on Windows

PAS is delivered as part of the "PrizmDoc Client" installer. This installer can be run unattended.

**NOTE:** If you have an updated license, you must re-start PAS and PrizmDoc Server in order to use the new license.

There are two required properties:

- `ServiceUser` - **Required.** Windows account which the PAS service should be run with. Must be in the format `DOMAIN\USER`.
- `ServicePassword` - **Required.** Password for `ServiceUser`.

There are several optional properties:

- `InstallFolder` - Base installation directory for the product. Default is `"C:\Prizm"`.
- `SelectedClientFeatures` - Features to install. Can be either empty or a comma-separated list of values containing any of the following:
  - `"HTML5Viewer"`
  - `"LocalFileViewerFeature"`
- `IISConfigureSamples` - Whether to configure the samples with IIS or not. Set to `"1"` for yes and set to an empty string for no. Default is `"1"`.
- `IISReregister` - Whether to re-register ASP.NET v4 with IIS or not. Set to `"1"` for yes and set to an empty string for no. Default is `"1"`.
- `SelectedPASFeatures` - Can be set to `"ALL"` to include PAS features or set to an empty string to not include them. Default is `"ALL"`.

Finally, you can also specify how PAS should connect to PrizmDoc Server. If you do, you must provide all three of the following properties:

- `PrizmScheme` - PrizmDoc Server protocol. Value may be either `"HTTP"` or `"HTTPS"`.
- `PrizmHost` - PrizmDoc Server hostname or IP address.
- `PrizmPort` - PrizmDoc Server port.

## Install on Linux

### Installing PAS on Linux

PAS is delivered as part of the "PrizmDoc Client" installation package (available as deb, rpm, and generic Linux).

Some steps are specific to a particular Linux distribution; these steps will be labeled as being specific to one of the following:

- Red Hat / CentOS Linux Distributions
- Ubuntu Linux Distributions

**NOTE:** Make sure you log in as **root** to the machine.

**NOTE:** If you have an updated license, you must re-start PAS and PrizmDoc Server in order to use the new license.

## Step 1 - Download the "PrizmDoc Client" Installation Package Appropriate for Your Linux Distribution

**NOTE:** Packages are only available for 64-bit systems.

Before downloading the "PrizmDoc Client" package, you will need to purchase a license key or request a Trial Evaluation by filling out the appropriate form at [www.accusoft.com](http://www.accusoft.com).

Once you have filled out the form for a Trial Evaluation, you can download the "PrizmDoc Client" package by doing one of the following:

- Following the link provided in the response email and selecting the desired Linux distribution.
- Downloading directly to the Linux server using the **wget** command for the specific distribution as shown below:

**TIP: You must substitute the version of the package you are using in the code examples below.** For example, if you are using v13.8, then specify "13.8" instead of "<version>". If the version is a hot fix, you will need to also specify the hot fix number, for example, "13.8.1".

### Red Hat Enterprise Linux / CentOS v7 and Later

```
wget
http://products.accusoft.com/PrizmDoc/<version>/prizmdoc_client_<version>.x86_64.rpm.tar.gz
```

### Red Hat Enterprise Linux / CentOS v6 and Earlier (and Similar Older Linux Distributions)

```
wget
http://products.accusoft.com/PrizmDoc/<version>/prizmdoc_client_<version>.x86_64.rpm.tar.gz
```

### Ubuntu

```
wget
http://products.accusoft.com/PrizmDoc/<version>/prizmdoc_client_<version>.amd64.deb.tar.gz
```

### Generic .tar.gz

```
wget
http://products.accusoft.com/PrizmDoc/<version>/prizmdoc_client_<version>.x86_64.tar.gz
```

## Step 2 - Unpack & Install the Downloaded Archive

Open a command line and change to the location where you downloaded the tarball. Use the following command line examples appropriate for your distribution to:

1. Decompress and unpack the downloaded file. After you have unpacked the archive, the contents will have been decompressed into a directory named **prizmdoc\_client\_<version>.<arch>[.rpm|.deb]**.
2. Change to the unpacked directory and install the packages.

### Red Hat, CentOS, and Older Linux Distributions

```
tar -xzvf prizmdoc_client_*.rpm.tar.gz
cd prizmdoc_client_*.rpm
yum install --nogpgcheck *.rpm
```

## Ubuntu

```
tar -xzvf prizmdoc_client_*.deb.tar.gz
cd prizmdoc_client_*.deb
sudo dpkg -i *.deb
# 'dpkg' does not resolve dependencies automatically, so please ignore possible
errors, if you did not install required dependencies yet, and invoke next commands
sudo apt-get update
sudo apt-get -f install
```

**NOTE:** For Ubuntu 16.04 and 18.04, the `php-xml` package additional dependency must be installed. The Prizm installer does not install it automatically. Please manually install this package as follows:

```
sudo apt-get update
sudo apt-get install php-xml
```

## Generic .tar.gz Distribution

We also provide a generic `.tar.gz` package. Please review the [System Requirements and Supported Environments](#) topic to ensure compatibility. You will also need to install the **dependencies** described in the [Requirements](#) section. Once the dependencies are installed, you can install the **.tar.gz** with the following commands as root:

```
tar -xzvf prizmdoc_client_*.tar.gz
cd prizmdoc_client_*
ls prizm-*.tar.gz | xargs -n1 tar zxf
cp -R prizm /usr/share/
```

1. Go to the [Samples](#) topic for instructions on how to configure the connection between:
  - Your Viewer web tier and PAS and,
  - between PAS and PrizmDoc Server.

## Step 3 (Optional) - Add PAS to the Boot Sequence

You can configure PAS to start/stop together with the system in two steps:

1. Create a symbolic link to `./pas/pm2/pas.sh` in the `/etc/init.d/` directory:

```
ln -s /usr/share/prizm/pas/pm2/pas.sh /etc/init.d/pas
```

2. Register PAS as an init script, so that it is managed by the system. This step is platform-dependent.

## Red Hat, Fedora, CentOS, and Older Linux Distributions

```
chkconfig --add pas
```

## Ubuntu

```
update-rc.d pas defaults
```

Once this is done, the system should stop PAS when going to reboot or shutdown, and will be started again when booting the server.

## Excluding PAS from the Boot Sequence

If you want to prevent PAS from starting/stopping together with the system, you need to revert Step 2 from the section above. This can be performed as follows:

## Red Hat, Fedora, CentOS, and Older Linux Distributions

```
chkconfig --del pas
```

## Ubuntu

```
update-rc.d -f pas remove
```

# Linux Requirements & Supported Environments

## PAS Linux Requirements & Supported Environments

PAS is only supported on 64-bit operating systems. PAS requires significant network throughput and disk I/O, but very little processing power.

**NOTE:** Support for Ubuntu 14.04 LTS was deprecated with PrizmDoc Viewer v13.6 and will soon be completely removed. PrizmDoc Viewer v13.11 is the final release to claim deprecated support for Ubuntu 14.04 LTS. Future releases will no longer support Ubuntu 14.04 LTS.

Operating System	Support Started in PrizmDoc Viewer Release
CentOS 6	Prior to v9.0
CentOS 7	v12.1
Red Hat Enterprise Linux 6	Prior to v9.0
Red Hat Enterprise Linux 7	v12.1
Ubuntu 14.04 LTS	v10.3
Ubuntu 16.04 LTS	v13.0
Ubuntu 18.04 LTS	v13.7

## Hardware Requirements

Requirements vary greatly based on usage and it is generally a good idea to find what best fits your expected usage. The [Sizing Guide](#) is a good place to start understanding what resources PAS uses and how to optimize them for your needs.

# Uninstall on Linux

## Uninstalling PAS on Linux

To uninstall PAS from your Linux system, perform the following steps:

Make sure you log in as **root** to the machine.

1. Stop the service, depending upon where you installed. This will usually be:

```
/usr/share/prizm/pas/pm2/pas.sh stop
```

2. Next remove the installed files:

### Ubuntu:

```
apt-get remove prizm-contentconnect prizm-pas
```

### Red Hat/CentOS:

```
yum remove prizm-contentconnect prizm-pas
```

### Generic Package:

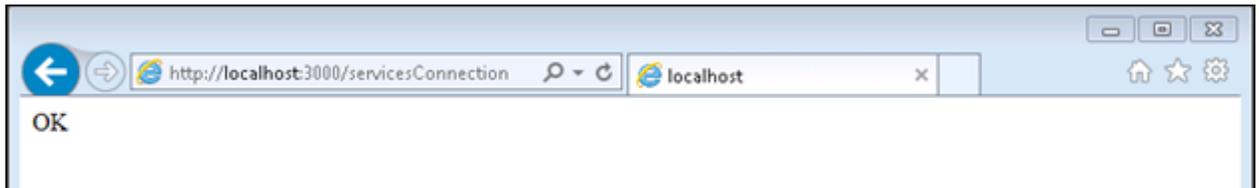
```
rm -rf /usr/share/prizm/LocalFileViewer
rm -rf /usr/share/prizm/Samples/Documents
rm -rf /usr/share/prizm/Samples/FormDefinitions
rm -rf /usr/share/prizm/Samples/imageStamp
rm -rf /usr/share/prizm/Samples/jsp
rm -rf /usr/share/prizm/Samples/markup
rm -rf /usr/share/prizm/Samples/markupLayerRecords
rm -rf /usr/share/prizm/Samples/php
rm -rf /usr/share/prizm/Samples/viewingPackages
rm -rf /usr/share/prizm/viewer
rm -rf /usr/share/prizm/pas
```

**NOTE:** There may be temporary files left behind, like log and cache files, because they are not part of the installation packages. You may leave the temporary files or review them before deleting them.

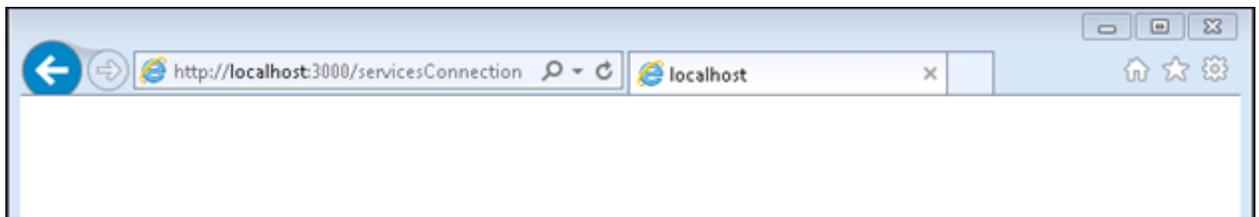
## Check the Connection to PrizmDoc Server

PAS has a simple URL that you can use to verify the connection to PrizmDoc Server:

1. On the machine where you installed PAS, open your web browser and navigate to `http://localhost:3000/servicesConnection`. If you have changed the default port from **3000**, use the correct port for your instance of PAS.
2. If the connection is active, you will see **OK** on the page:



If the connection is not available, you will see a blank screen:



For more information, refer to the [Troubleshooting](#) section.

## System Configuration

### Introduction

As the Admin for PrizmDoc Viewer, this section covers common configuration options you will want to consider:

#### Configure PrizmDoc Application Services (PAS)

- [PAS Configuration](#) - Configuration options for finding documents, storing logs, and connecting to a database.
- [PAS Database Administration & Maintenance](#) - Information on configuring PAS to communicate with your database.
- [How & When to use CORS](#) - Steps for configuring PAS to enable CORS.

#### Configure PrizmDoc Server

- [Central Configuration](#) - Information for configuring the cache, fidelity, file types, licensing, logging, networking, process Ids, resource usage, security, user documents, viewing, work files, and PrizmDoc Cloud default values.
- [Implement Caching Strategies](#) - Discussion of cache management, optimizing cache performance, and cache strategy scenarios.
- [Adjust Caching Parameters](#) - Information to consider for setting cache lifetime, location, and reuse.
- [Change Encryption Keys for Public use Token Generation](#) - How to configure your own encryption keys (a security best practice).

- [Configure Microsoft Office Conversion](#) - How to configure a Linux deployment of PrizmDoc Server to delegate all Microsoft Office conversion work to a separate Windows deployment of PrizmDoc Server which has Microsoft Office installed.
- [Substitute Fonts for Office Rendering Fidelity](#) - Description of how PrizmDoc Server's logic selects the right font for rendering and recommendations for installing additional font packages.
- [Upgrade from Legacy Configuration](#) - How to migrate from legacy configuration to the new, single, central configuration file.

## Configure PAS

This section contains the following information:

- [PAS Configuration](#)
- [PAS Database Administration & Maintenance](#)
- [How & When to use CORS](#)

## PAS Configuration

### PrizmDoc Application Services Configuration

The PrizmDoc Application Services (PAS) use a central configuration file to determine, among other things, where to find documents, where to store logs and how to connect to a database.

Note that PrizmDoc Cloud uses a specific default value that differs from the self-hosted default value: `defaults.viewingSessionTimeout` is 5h. This is the only value that differs between PrizmDoc Cloud and self-hosted for PAS configuration.

### Configuration File Location

On Windows, assuming a default installation, the configuration file is located at `C:\Prizm\pas\pcc.win.yml`.

On Linux, assuming a default installation, the configuration file is located at `/usr/share/prizm/pas/pcc.nix.yml`.

### Default Configuration

Among other things, the config file includes the `port`, `secretKey`, `logs.path`, `defaults.viewingSessionTimeout`, and `defaults.viewingPackageLifetime` properties.

`port` defines the port that PAS will use to listen to its HTTP connection.

`secretKey` defines a shared secret value which must be provided in requests to critical [PAS REST API](#) routes (typically non-GET routes that modify data). If you host your PAS server on the public internet, callers must provide this value via an `Accusoft-Secret` request header in order for many of the REST API routes to function. **To keep your application as secure as possible, we strongly recommend you change the default value of this property to a unique string that only your application uses.**

`logs.path` determines the location on the local filesystem where the logs for PAS will be stored.

`defaults.viewingSessionTimeout` is the length of time that a viewing session remains usable. For

example, "20m" indicates viewing sessions will timeout after 20 minutes.

`defaults.viewingPackageLifetime` is the minimum time for the created viewing package content to remain available. If missing, the value is considered to be 24 hours. If set to 0, viewing package content will remain available perpetually. This value could be overridden by the `input.viewingPackageLifetime` property in individual viewingPackageCreators requests when starting a new viewing package creator process. This is a beta feature that is not officially supported by Accusoft and its behavior can be changed at any time in a future version of the product.

The value of the above two properties must be an integer, followed by "s", "m", "h", or "d". The suffixes stand for second, minute, hour, or day, respectively. There should not be any space characters between the number and suffix.

**NOTE:** For PrizmDoc Cloud, the default value for `defaults.viewingSessionTimeout` is 5h.

## Configuring the PrizmDoc Server Connection

The connection to your desired PrizmDoc Server, whether Self-Hosted or Cloud, can be configured through the `pccServer` object, which has the following properties:

- `pccServer.hostName` - the hostname to use to connect to PrizmDoc Server.
- `pccServer.port` - the port on the above hostname to connect to.
- `pccServer.scheme` - the scheme to use to communicate with PrizmDoc Server. This can be set to `http` or `https`.
- `pccServer.apiKey` - the API Key that PAS should use if you are using the PrizmDoc Cloud Server. This value will be ignored for a PrizmDoc Self-Hosted Server.

## Configuring Storage

There are various data entities stored or accessed by PAS, as noted by comments in the config file. All of these can be configured separately.

Each storage entity will have a name, such as `documents` or `markupLayerRecords`, and each named entity will have a `.storage` property, such as `documents.storage`. This property defines the kind of storage that will be used. The supported values are as follows:

- `"filesystem"` - Store on the local filesystem or network attached storage that has been mapped to a local drive or folder. For any data entity configured to be stored on the filesystem, the following additional properties are required:
  - `.path` - Folder location where the data should be stored. On Windows, this can also include environment variables. If these paths are changed from the default values, PrizmDoc must be granted write permissions for them to function.
- `"database"` - Store inside the configured database. See [Configuring the database](#) below for more details.
- `"S3"` - Store files in S3 Buckets. For any data entity configured to be stored in S3 Buckets, the following additional properties are required:
  - `.s3BucketName` - Name of the bucket that you would like to store the specified data entity type. This bucket must be unique across all of Amazon S3 services and must be created in your S3 dashboard.
  - `.path` - Base "key" the data should be organized into. S3 uses keys as its directory structure. This must have no starting / and no trailing /.
- `"azureBlobStorage"` - This is a beta feature that stores files in Microsoft Azure Blob Storage. For any data entity configured to be stored in Azure blob storage, the following additional properties are required:

- `.azureBlobStorageConnectionString` - Connection string to the Microsoft Azure Blob Storage.
- `.azureBlobStorageContainerName` - Name of the container in the Microsoft Azure Blob Storage that you would like to store the specified data entity type.
- `.path` - Sub-key of the `.azureBlobStorageContainerName` where the data should be stored.

**NOTE:** Not all storage entities are compatible with all storage providers. Checking for these values is done on start up and an informative error will be logged to the PAS log, `{installDir}/logs/pas`, in the case of a mismatch.

## Additional S3 Notes:

You must handle Amazon Web Services credentials in one of the available ways that are provided on the following pages:

### Loading credentials in Node.js from IAM Roles for EC2:

<http://docs.aws.amazon.com/sdk-for-javascript/v2/developer-guide/loading-node-credentials-iam.html>

### Loading credentials from a shared credentials file:

<http://docs.aws.amazon.com/sdk-for-javascript/v2/developer-guide/loading-node-credentials-shared.html>

### Loading credentials from environment variables:

<http://docs.aws.amazon.com/sdk-for-javascript/v2/developer-guide/loading-node-credentials-environment.html>

## Examples

```
documents.storage: "filesystem"
documents.path: "/usr/share/prizm/Samples/Documents"
```

```
documents.storage: "filesystem"
documents.path: "C:\\Docs\\Docs"
```

```
documents.storage: "filesystem"
documents.path: "\\servername\sharename\docs\docs"
```

```
markupLayerRecords.storage: "filesystem"
markupLayerRecords.path:
"%ALLUSERSPROFILE%\Accusoft\Prizm\MarkupLayerRecords"
```

```
viewingPackagesData.storage: "database"
```

```
documents.storage: "s3"
documents.s3BucketName: "myS3Bucket"
```

```
documents.path: "Samples/Documents"
```

```
documents.storage: "azureBlobStorage"  
documents.azureBlobStorageConnectionString: "AccountName=..."  
documents.azureBlobStorageContainerName: "pas"  
documents.path: "Documents"
```

**NOTE:** some data entities have limitations on the kind of storage that they can be stored in. If PAS is misconfigured, it will not start correctly. It's best to keep a copy of the defaults so that you can revert them if you need to.

## Legacy Mode

Legacy Mode refers to being able to open markup files that were created using one of the Web Tier Samples available before the release of PAS. To work correctly, it needs to be enabled on `documents`, `markupXml`, and `markupLayerRecords`, as such:

```
documents.legacyMode: true  
markupXml.legacyMode: true  
markupLayerRecords.legacyMode: true
```

If you do not need this feature -- for example, if PAS is the first time you are using markup files -- you can turn this off by setting all values to `false`, which will provide a small performance gain when working with the markup APIs. Note that all markup files created by PAS itself, regardless of whether `legacyMode` was on or off, will be compatible with PAS when `legacyMode` is off.

## Feature Toggles

Some features in PAS are behind feature flags, and they can be turned on or off. This is done through `feature.*` options in the config file. The values can be set to:

- `enabled` - turns the feature on
- `disabled` - turns the feature off

You can also remove the specific feature configuration value altogether in order to observe the default behavior for that feature. The list of features is:

- `viewingPackages` - default: `disabled` - Enables Pre-Conversion Services and APIs, which allow you to pre-convert documents and cache on-demand document views in PAS, improving the speed at which documents can be viewed, as well as reducing the processing time in PrizmDoc Server for repeat document views.

## Example

```
feature.viewingPackages: enabled
```

## Configuring the Database

**IMPORTANT:** A database is required in order to use Viewing Packages. This feature is disabled by default and will need to be turned on. Without turning Viewing Packages on, PAS will not use a database, or even check for its existence in the configuration.

PAS requires configuration to a database, allowing it to store some of its data there. It will not start correctly without having a correctly configured and accessible database. The following config properties are available in PAS to support that:

- `database.adapter` - the type of database being used. The following values are supported:
  - `sqlserver` - Microsoft SQL Server
  - `mysql` - MySQL
- `database.connectionString` - the connection string to the database.
  - For Microsoft SQL Server, you can use either a classic connection string or a URI-based connection string.
  - For MySQL, you must use a URI-based connection string.

### Microsoft SQL Server Examples

```
database.adapter: sqlserver
database.connectionString: "Server=tcp:prizm-
server.database.host,1433;Database=prizmdb;User ID=prizm-
user;Password=password;Encrypt=True"
```

```
database.adapter: sqlserver
database.connectionString: "mssql://prizm-user:password@prizm-
server.database.host:1433/prizmdb?encrypt=true"
```

### MySQL Example

```
database.adapter: mysql
database.connectionString: "mysql://prizm-user:password@prizm-
server.database.host:3306/prizmdb"
```

Alternately, instead of specifying a `database.connectionString`, you can use the following older options to connect to the database:

- `database.host` - the hostname to use to communicate with the database.
- `database.port` - the port to use to communicate with the database.
- `database.user` - the user to use when connecting to the database.
- `database.password` - the password for the specified user.
- `database.database` - the database name to use on the database server.

But we strongly recommend you use `database.connectionString` instead as it is more flexible.

### Configuring Cross-Origin Resource Sharing

While you can set up CORS quite easily through your web server, PAS also supports settings CORS headers directly. It is exposed through the `cors` config object, as such:

- `cors.enabled` - whether to set CORS headers. Supported values are `true` or `false`.
- `cors.allowedOrigins` - an array of the exact origin values to support. Not including this value will cause all CORS requests to be denied. This array will be used to determine the `Access-Control-Allow-Origin` header.
- `cors.exposedHeaders` (optional) - an array of headers keys to allow the browser to read. This value is configured to include headers returned by PAS by default.

## Example

```
cors.enabled: true
cors.allowedOrigins: [ "http://example.com", "https://example.com" ]
```

## PAS Database Administration & Maintenance

### Introduction

A database must be provided to PAS in order to use the Pre-Conversion Services feature. You can see a list of supported databases in the [PAS Configuration](#) topic. After configuring PAS with the correct information, some databases, like Microsoft SQL Server, will require that a script is run in order to set up the correct tables for that database. You can find out more information about this in the topic for [setting up your database](#). Please note that PAS itself will only require read/write access to the database; running the mentioned scripts will require access to create and migrate tables.

### Maintaining the Database

While directly reading, linking, or otherwise using the data stored in the database by PAS is discouraged, you will still need to do regular administrative tasks, such as taking proper snapshots and backups of the data in order to prevent and mitigate data loss.

In the event of data loss that requires recovery from a backup (both for the database or the local file storage) PAS has an API to validate viewing packages and their state. For more information, refer to the [Viewing Packages API](#).

### Product and Database Updates

As the Pre-Conversion (Viewing Packages) feature is updated in future releases, the product will contain the necessary logic or scripts to transition existing tables and data to the new format, if a schema change is necessary. You can find out more information on updating PAS in the topic for [setting up your database](#).

## How & When to use CORS

### Do you need to use CORS?

We actually recommend an application design that **does not** require CORS.

While it is true that the Viewer, running in the browser, needs a way to send requests to PAS, we recommend you set up a dedicated reverse proxy route as part of your web application (or web server) which allows the Viewer to make requests to the same origin (domain) from which the web page itself was loaded. Our [Getting Started section](#) explains this sort of deployment in a lot more detail. We recommend you read through that first if you have not already.

That said, if you want your viewer instances in the browser to send requests directly to your PAS deployment running on a different domain (origin), it is possible. To do this, you'll need to explicitly configure PAS to enable CORS:

1. Modify the **CORS settings** within your PAS configuration file. Refer to the topic, [PAS Configuration](#), for more information.
2. Restart **PAS** for the changes to take effect. Refer to the topic, [Starting & Stopping PAS](#), for more information.
3. Update the **imageHandlerUrl** in the viewer initialization options to point directly to the publicly accessible PAS entry point. For more information on viewer configuration options, refer to the topic, [Initialization Parameters](#).

**NOTE:** *There is no native support for CORS in Internet Explorer 8 and 9.*

## Configure the PrizmDoc Server

This section contains the following topics to help you configure the PrizmDoc Server:

- [Central Configuration](#)
- [PCCIS Configuration](#)
- [Implement Caching Strategies](#)
- [Adjust Caching Parameters](#)
- [Change Encryption Keys for Public use Token Generation](#)
- [Configure Microsoft Office Conversion Connectivity](#)
- [Substitute Fonts for Office Rendering Fidelity](#)
- [Upgrade from Legacy Configuration](#)

### Central Configuration

#### Central Configuration

Configure PrizmDoc Server using the services configuration file for both Windows and Linux.

The configuration file will perform environment variable expansion in path values. The environment variable must be contained within a quoted string and enclosed with the % character. For example, "%ALLUSERSPROFILE%" or "%my\_path%/subpath" are both valid paths containing environment variables which will be expanded at runtime.

**NOTES:**

1. Given the default installation directory, the paths for the Central Configuration file are:
  - **Linux:** /usr/share/prizm/prizm-services-config.yml
  - **Windows:** C:\Prizm\prizm-services-config.yml
2. After making any changes to the configuration files, you need to [restart the PrizmDoc Server](#).
3. PrizmDoc Server uses central configuration by default (that is, watchdog.config contains the paths.central\_config\_file property, whose value is a path to the central configuration file relative to the PrizmDoc Server install directory).

The following options are available for configuration within the central configuration file:

**NOTE:** PrizmDoc Cloud uses specific default values that differ from the self-hosted default values as noted in the PrizmDoc Cloud Default Values section below.

- [Cache](#)
- [Fidelity](#)
- [File Types](#)
- [License](#)
- [Logging](#)
- [Network](#)
- [Process Ids for API Process Resources](#)
- [Resource Usage](#)
- [Security](#)
- [User Documents](#)
- [Viewing](#)
- [Work Files](#)
- [PrizmDoc Cloud Default Values](#)

#### Cache

Property	Default Value	Supported Values	Description
cache_directory	<install_dir>/cache e.g.: /usr/share/prizm/cache C:\Prizm\cache	Any valid path to a directory with read and write permissions.	Directory where cache data is stored.

## Fidelity

Property	Default Value	Supported Values	Description
fidelity.svgMaxImageSize	8000	Any integer greater than 0	For source documents which contain images, ensures that the images in the SVG delivered to the browser do not exceed a particular pixel width and/or height. For example, a value of 8000 would ensure that any images in a PDF whose width or height were greater than 8000 pixels would be down-sampled before the image was added to the final SVG. A typical value is 8000.  The default value for this property is configurable. The out-of-box configuration uses a default value of 8000.  Use 0 to disable the optimization.
fidelity.vectorBackgroundColor.view.default	white	CSS color name, e.g. "gray", or a hex RGB value, e.g. #FFFFFF	Defines the background color for viewing CAD documents if the background is not specified in the document. Also defines the background color for converting CAD documents to SVG, PNG, JPEG and TIFF. Please note, DGN documents define their background color, so this property does not affect them. Use fidelity.vectorBackgroundColor.view.override to define background color, ignoring the background color specified in the document.
fidelity.vectorBackgroundColor.view.override	none	CSS color name, e.g. "gray", or a hex RGB value, e.g. #FFFFFF, or "none"	Defines the background color for viewing CAD documents, ignoring the background specified in the document. Also defines the background color for converting CAD documents to SVG, PNG, JPEG and TIFF, ignoring the background specified in the document. Overrides fidelity.vectorBackgroundColor.view.default.
fidelity.vectorTolerance	0.3	A positive Floating point value with a minimum value of 0.0 and a maximum value of 10.0	For CAD documents, controls how much path simplification is allowed. The path simplification algorithm will merge points which are "close together" to create an optimized SVG. You can think of this value as defining what "close together" means. A typical value is 0.3. Higher values introduce more simplification, but also more distortion. The value cannot be greater than 10.0.  The default value for this property is configurable. The out-of-box configuration uses a default value of 0.3.  Use 0 to disable the optimization.
fidelity.msOfficeDocumentsRenderer	"auto"	One of the following strings: "auto", "libreoffice", and "msoffice"	Specifies the renderer to use with Microsoft Office documents.  When set to "auto", PrizmDoc decides which renderer to use based on the MSO feature license state. If the MSO feature is present, then the Microsoft Office renderer will be used. Otherwise, Libreoffice will be used.  When set to "libreoffice", PrizmDoc will be using the Libreoffice renderer. If you are intending to use the Libreoffice renderer permanently on a server that does not have Microsoft Office installed, please contact Accusoft <a href="#">Sales</a> or <a href="#">Customer Support</a> , to obtain the license key with MSO feature disabled.  When set to "msoffice", PrizmDoc will be using the Microsoft Office renderer, if the MSO feature is enabled in the license key, otherwise the licensing error will be reported.  The parameter affects only Microsoft Office documents, RTF and CSV files. Other documents will continue to be rendered with LibreOffice.  For a complete list of supported file types see <a href="#">Supported File Formats</a> .  <b>NOTE:</b> For PrizmDoc Cloud, the default value for fidelity.msOfficeDocumentsRenderer is "msoffice".
fidelity.msOfficeCluster.host	""	A valid IP address or hostname	This value is used to enable Microsoft Office Conversion connectivity for PrizmDoc servers running on Linux.  Set this value on a PrizmDoc server running on Linux to the hostname (or the IP of a single PrizmDoc server, or a load balancer of a cluster running on Windows) to utilize the Microsoft Office Conversion service running on Windows to have native rendering of Microsoft documents in PrizmDoc.
fidelity.msOfficeCluster.port	0	Any open HTTP port on the server	This value is used to enable Microsoft Office Conversion connectivity for PrizmDoc servers running on Linux.  Set this value on a PrizmDoc server running on Linux to the public port of a single PrizmDoc server (or a load balancer of a cluster running on Windows) to utilize the Microsoft Office Conversion service running on Windows to have native rendering of Microsoft documents in PrizmDoc.  To connect to a single server specify network.publicPort parameter of the remote server.  To connect to a load balancer specify network.clustering.clusterPort parameter of the cluster.

## File Types

Property	Default Value	Supported Values	Description
fileTypes.pdf.pageBoundaries	mediaBox	One of the following strings: "mediaBox", "cropBox"	Controls which set of page boundaries should be used when interacting with PDF files. The PDF format specification defines five separate "Page Boundaries" that control various aspects of the imaging process. PrizmDoc Server supports "Media box" or "Crop box" to convert a source PDF document image.
fileTypes.excel.margins.mode	remove	One of the following strings: "preserve", "remove"	Controls how the page margins should be handled in Excel documents.  "preserve" - Preserve (do not remove) document pages margins. Requires that fileTypes.excel.pagination.dimensions.mode be set to "preserve" and the Office documents renderer to be set to Microsoft Office (see fidelity.msOfficeDocumentsRenderer for more details).  "remove" - Remove all margins from the document pages. Requires that fileTypes.excel.pagination.dimensions.mode be set to "override".  <b>NOTE:</b> Changing this setting can affect rendered layout and page count.  <b>NOTE:</b> For PrizmDoc Cloud, the default value for fileTypes.excel.margins.mode is "preserve".
fileTypes.office.disableExternalHyperlinks	false	true, false	Controls whether the external hyperlinks are enabled or disabled when viewing or converting Microsoft Office documents to PDF.  false - All external hyperlinks are enabled. true - All external hyperlinks are disabled.
fileTypes.excel.pagination.enabled	true	true, false	Controls whether or not pagination is enabled for Excel documents.  true (paginated mode) - Each Excel sheet is divided into a number of pages, such that each page fits into a specific size. false (non-paginated mode) - Each Excel sheet, irrespective of its size, is rendered onto a single page. If the number of columns and/or rows is large, then this might result in very small and unreadable output.  <b>NOTE:</b> Changing this setting can affect rendered layout and page count.
fileTypes.excel.pagination.dimensions.mode	override	One of the following strings: "preserve", "override"	Controls which pagination mode to use if pagination is enabled for Excel documents (fileTypes.excel.pagination.enabled is set to "true").  "preserve" - Use the page dimensions specified in the Excel file. Requires that fileTypes.excel.margins.mode be set to "preserve" and the Office documents renderer to be set to Microsoft Office (see fidelity.msOfficeDocumentsRenderer for more details).  "override" - Ignore the page dimensions of the Excel file and instead always use the following settings in this config file:  fileTypes.excel.pagination.dimensions.minWidth, fileTypes.excel.pagination.dimensions.maxWidth, fileTypes.excel.pagination.dimensions.minHeight, fileTypes.excel.pagination.dimensions.maxHeight Requires that fileTypes.excel.margins.mode be set to "remove".  <b>NOTE:</b> For PrizmDoc Cloud, the default value for fileTypes.excel.pagination.dimensions.mode is "preserve".
fileTypes.excel.pagination.dimensions.minWidth	"11.0in"	String consisting of a positive number followed by "in"	Controls the minimum page width for pagination of Excel files when fileTypes.excel.pagination.dimensions.mode is set to "override".

Property	Default Value	Supported Values	Description
fileTypes.excel.pagination.dimensions.maxWidth	"22.0in"	String consisting of a positive number followed by "in"	Controls the maximum page width for pagination of Excel files when fileTypes.excel.pagination.dimensions.mode is set to "override".
fileTypes.excel.pagination.dimensions.minHeight	"8.5in"	String consisting of a positive number followed by "in"	Controls the minimum page height for pagination of Excel files when fileTypes.excel.pagination.dimensions.mode is set to "override".
fileTypes.excel.pagination.dimensions.maxHeight	"17.0in"	String consisting of a positive number followed by "in"	Controls the maximum page height for pagination of Excel files when fileTypes.excel.pagination.dimensions.mode is set to "override".
fileTypes.excel.renderGridlines	true	true, false	Specifies whether or not the Excel gridlines in all worksheets of the workbook should be rendered.
fileTypes.excel.renderOnlyPrintArea	false	true, false	Specifies whether the print areas defined in Excel workbook are to be honored or not. When set to "true", only the content defined within the print areas will be rendered. When set to "false", the content that goes beyond print areas will be rendered as well. <b>NOTE:</b> For PrizmDoc Cloud, the default value for fileTypes.excel.renderOnlyPrintArea is "true".
fileTypes.excel.renderHeadersAndFooters	true	true, false	Specifies whether or not headers and footers of an Excel workbook should be rendered. When set to "true", even if the original document is missing the headers and footers, a space for headers and footers shall be reserved when rendering an Excel document.
fileTypes.excel.renderHiddenContent	true	true, false	Specifies whether or not the hidden rows, hidden columns, and whole spreadsheets that are hidden in the original Excel workbook are to be rendered.

## License

Property	Default Value	Supported Values	Description
license.solutionName	None (Required)	Valid solution name string	PrizmDoc Server solution name.
license.key	None (Required)	Valid license key string	PrizmDoc Server license key.

## Logging

Property	Default Value	Supported Values	Description
logging.directory	<install_dir>/logs e.g.: /usr/share/prizm/logs C:\Prizm\logs	Any valid path to a directory with write permissions.	Directory where all log files will be stored. PrizmDoc Server is made up of several different processes, each of which create and maintain their own logs. The logs are invaluable for diagnosing issues with PrizmDoc Server if they arise. If you find yourself in this situation, please see the topic <a href="#">Packaging Log Files for Product Support</a> to expedite your support request.
logging.daysToKeep	7	Any natural number	The number of rotated logs to keep in addition to the active log file. Logs are rotated each day at midnight (UTC). <b>NOTE:</b> This value does not currently apply to all services. Some services will always keep 7 rotated logs. Logs with 7 day archives: <ul style="list-style-type: none"> <li>• AutoRedactionService.log</li> <li>• FormatDetectionService.log</li> <li>• HTMLConversionService.log</li> <li>• OfficeConversionService.log</li> <li>• PDFConversionService.log</li> <li>• RasterConversionService.log</li> <li>• VectorConversionService.log</li> </ul>

## Network

Property	Default Value	Supported Values	Description
network.publicPort	None (Required)	Any open HTTP port on the server	The public port the REST API will be available on. The chosen port must be accessible by all servers that need to call the PrizmDoc Viewer APIs.
network.internalStartingPort	None (Required)	Any open HTTP port on the server	The product requires a range of 200 ports which are reserved for its own internal use. This setting defines the starting port of that range (e.g. a value of 19000 means that ports 19000 through 19199 would be reserved for use by the product). These ports must not be accessible from outside of the server, for security reasons.
network.clustering.enabled	false	true, false	Set to true to enable cluster mode.
network.clustering.clusterPort	-	Any open HTTP port on the server	The port used to route requests to other servers in the cluster. This port needs to be exposed to the other servers in the cluster.
network.clustering.servers	-	Array containing hostnames or ip addresses of other servers within the cluster.	The server list can be set once via config, or repeatedly at runtime via a REST API call. Setting the list of servers here is useful if you have a static set of machines that will not change.

## Process Ids

Property	Default Value	Supported Values	Description
processIds.lifetime	"20m"	Formatted Value, see Description	The length of time that a redaction creator, markup burner, content converter, form extractor, search context, search task or plain text redactor process remains usable. This must be an integer, followed by "s", "m", "h", or "d". The suffixes stand for second, minute, hour, or day, respectively. There should not be any space characters between the number and suffix. For example, "20m" indicates viewing sessions will timeout after 20 minutes. Please see the topic <a href="#">Implement Caching Strategies</a> for more details. <b>NOTE:</b> For PrizmDoc Cloud, the default value for processIds.lifetime is 5h.

## Resource Usage

Property	Default Value	Supported Values	Description
resourceUsage.pccis.instances	3	Any integer greater than 0	The number of PCCIS ASP.NET application instances to run concurrently.
resourceUsage.ocs.numInstances	"auto"	Any integer greater than 0, or the string "auto"	The number of office conversion service instances to run concurrently, or "auto" to let the product choose an appropriate value. We recommend using the default value of "auto". If you do provide a specific value, it should not be set higher than the number of physical cores available on your server.
resourceUsage.ocs.numThreads	"auto"	Any integer greater than 0, or the string "auto"	The number of threads each instance should create to handle document processing requests, or "auto" to let the product choose an appropriate value. We recommend using the default value of "auto". If you do provide a specific value, it should not be higher than 2 x ocs.instances.
resourceUsage.ocs.numPorts	"auto"	Any integer greater than 0, or the string "auto"	The number of ports which can be used internally for communication with the office conversion instances, or "auto" to let the product choose an appropriate value. We recommend using the default value of "auto". If you do provide a specific value, it should be no higher than 4 x ocs.instances.

## Security

Property	Default Value	Supported Values	Description
security.aesEncryption.key	"E9rU73Iz2vd0he8Ls/hD8A=="	Base64 encoded value of a byte array representing an AES key with a size of 128, 192 or 256 bits.	The AES encryption key used to create external viewing session IDs. The external viewing session ID is a AES encrypted, Base64 encoded value of a string in the format of: <internal ID>/<server's host name>/<Auth-Token header value> Internal ID: This value is a unique GUID that is internally created by PCCIS for each new viewing session. Server's Host Name: Aptly named, this value is the hostname of the server on which PCCIS is running. Auth-Token Header Value: If the "Auth-Token" HTTP header exists in the initial POST request to create a viewing session, its value will be used here. Otherwise, "accusoft" is used. This value is useful if you have the need to store an authorization token for each viewing session which a proxy might need. See <a href="#">PrizmDoc Cluster Management</a> for more details.
security.aesEncryption.iv	"jTN2X8jybtfa2fzps6mylQ=="	Base64 encoded value of a byte array representing an AES initialization vector with a size of 128 bits.	The AES encryption initialization vector (iv) used to create external viewing session IDs.
security.htmlRendering.blockExternalContent	false	true, false	When rendering any source document which uses HTML content, controls whether or not externally-referenced content, such as images and iframes, will be blocked. This option affects any source document file type which uses HTML, including HTML, EML, and MSG. <b>NOTE: Changing this setting can affect rendered layout and page count.</b> false - When rendering HTML, issue network requests for externally-referenced content in images, iframes, etc., and include that content in the final output. Any URL accessible from this machine may be loaded and included in the final output. true - When rendering HTML, block externally-referenced content in images, iframes, etc. No network requests will be issued when rendering HTML and the final output will only include the content that is directly-present in the source HTML.

## User Documents

Property	Default Value	Supported Values	Description
userDocuments.directory	<install_dir>/cache/ UserDocuments e.g.: /usr/share/prizm/cache C:\Prizm\cache\ UserDocuments	Any valid path to a directory with read permissions.	A directory that contains your documents for use when the documentSource viewing session property is set to "file".

## Viewing

Property	Default Value	Supported Values	Description
viewing.allowDocumentDownload	false	true, false	Controls whether or not the REST API will accept requests to download the source document for a given viewing session.
viewing.sessionLifetime	"20m"	Formatted Value, see Description	The length of time that a viewing session remains usable. This must be an integer, followed by "s", "m", "h", or "d". The suffixes stand for second, minute, hour, or day, respectively. There should not be any space characters between the number and suffix. For example, "20m" indicates viewing sessions will timeout after 20 minutes. Please see the topic <a href="#">Implement Caching Strategies</a> for more details. <b>NOTE: For PrizmDoc Cloud, the default value for viewing.sessionLifetime is 5h.</b>
viewing.cacheLifetime	"1d"	Formatted Value, see Description	The length of time that a document is cached and can be potentially reused by other new viewing sessions. This must be an integer, followed by "s", "m", "h", or "d". Those suffixes stand for second, minute, hour, or day, respectively. There should not be any space characters between the number and suffix. For example, "1d" indicates that data will be cached for up to one day. Please see the topic <a href="#">Implement Caching Strategies</a> for more details. <b>NOTE: If the amount of time specified by viewing.cacheLifetime is shorter than the amount of time specified by viewing.sessionConstraints.minSecondsAvailable.max, the viewing.cacheLifetime will be changed at runtime to match the amount of time specified by viewing.sessionConstraints.minSecondsAvailable.max. If you change this value to decrease the cache lifetime, make sure that you also adjust the viewing.sessionConstraints.minSecondsAvailable.max value to represent the same or shorter amount of time.</b> <b>NOTE: For PrizmDoc Cloud, the default value for viewing.cacheLifetime is 43h.</b>
viewing.contentEncryption.enabled	false	true, false	Controls whether or not content is encrypted by the back end before being transmitted to a Viewer. The Viewer will decrypt the content in the browser. This is useful for DRM, making it more difficult to copy protected content that has been delivered to the browser.
viewing.sessionConstraints.documentSource.allowedValues	["api", "http"]	Array which contains one or more of the following strings: "api", "http", "file"	Creates a value filter that will be applied to the "documentSource" JSON property when creating a new viewing session to ensure appropriate values are being set. If the actual property value fails to match the filter, an error will be returned and the viewing session will not be created. Allowing a combination of document sources here enables you to create viewing sessions with different sources on the fly without needing to modify this config file. This property is one of several that can be used to limit unwanted values from being used within the JSON properties of the initial POST request to create a viewing session. These filter values are useful to prevent mistaken or malicious values from being sent that could affect server behavior. <b>NOTE: For PrizmDoc Cloud, the default value for viewing.sessionConstraints.documentSource.allowedValues is "api".</b>
viewing.sessionConstraints.countOfInitialPages.min	0	Any natural number	Minimum allowed value for the "countOfInitialPages" JSON property when creating a new viewing session. Together with <a href="#">viewing.sessionConstraints.countOfInitialPages.max</a> create a range filter that will be applied to ensure appropriate values are being set. If the actual property value fails to match the filter, an error will be returned and the viewing session will not be created. This property is one of several that can be used to limit unwanted values

Property	Default Value	Supported Values	Description
<code>viewing.sessionConstraints.countOfInitialPages.max</code>	10	Any natural number not less than <code>viewing.sessionConstraints.countOfInitialPages.min</code>	<p>from being used within the JSON properties of the initial POST request to create a viewing session. These filter values are useful to prevent mistaken or malicious values from being sent that could affect server behavior.</p> <p>Maximum allowed value for the "countOfInitialPages" JSON property when creating a new viewing session.</p> <p>Together with <code>viewing.sessionConstraints.countOfInitialPages.min</code> create a range filter that will be applied to ensure appropriate values are being set. If the actual property value fails to match the filter, an error will be returned and the viewing session will not be created.</p> <p>This property is one of several that can be used to limit unwanted values from being used within the JSON properties of the initial POST request to create a viewing session. These filter values are useful to prevent mistaken or malicious values from being sent that could affect server behavior.</p>
<code>viewing.sessionConstraints.documentExtension.regex</code>	".*"	Valid regular expression using the .NET Regular Expression Language	<p>Creates a regex filter that will be applied to the "documentExtension" JSON property when creating a new viewing session to ensure appropriate values are being set. If the actual property value fails to match the filter, an error will be returned and the viewing session will not be created.</p> <p>This property is one of several that can be used to limit unwanted values from being used within the JSON properties of the initial POST request to create a viewing session. These filter values are useful to prevent mistaken or malicious values from being sent that could affect server behavior.</p>
<code>viewing.sessionConstraints.externalId.regex</code>	".*"	Valid regular expression using the .NET Regular Expression Language	<p>Creates a regex filter that will be applied to the "externalId" JSON property when creating a new viewing session to ensure appropriate values are being set. If the actual property value fails to match the filter, an error will be returned and the viewing session will not be created.</p> <p>This property is one of several that can be used to limit unwanted values from being used within the JSON properties of the initial POST request to create a viewing session. These filter values are useful to prevent mistaken or malicious values from being sent that could affect server behavior.</p>
<code>viewing.sessionConstraints.pageContentEncryption.allowedValues</code>	["default"]	An array with either one or all of the following strings: "default", "enabled", "disabled"	<p>Creates a value filter that will be applied to the "pageContentEncryption" JSON property when creating a new viewing session to ensure appropriate values are being set. If the actual property value fails to match the filter, an error will be returned and the viewing session will not be created.</p> <p>This property is one of several that can be used to limit unwanted values from being used within the JSON properties of the initial POST request to create a viewing session. These filter values are useful to prevent mistaken or malicious values from being sent that could affect server behavior.</p>
<code>viewing.sessionConstraints.serverCaching.allowedValues</code>	["none","full"]	An array with one or more of the following strings: "none", "full"	<p>Creates a value filter that will be applied to the "serverCaching" JSON property when creating a new viewing session to ensure appropriate values are being set. If the actual property value fails to match the filter, an error will be returned and the viewing session will not be created.</p> <p>This property is one of several that can be used to limit unwanted values from being used within the JSON properties of the initial POST request to create a viewing session. These filter values are useful to prevent mistaken or malicious values from being sent that could affect server behavior.</p> <p>Please see the topic <a href="#">Implement Caching Strategies</a> for more details.</p>
<code>viewing.sessionConstraints.render.alwaysUseRaster.allowedValues</code>	[false]	An array with one or more of the following values: true, false	<p>Creates a value filter that will be applied to the "render.html5.alwaysUseRaster" JSON property when creating a new viewing session to ensure appropriate values are being set. If the actual property value fails to match the filter, an error will be returned and the viewing session will not be created.</p> <p>This property is one of several that can be used to limit unwanted values from being used within the JSON properties of the initial POST request to create a viewing session. These filter values are useful to prevent mistaken or malicious values from being sent that could affect server behavior.</p>
<code>viewing.sessionConstraints.minSecondsAvailable.max</code>	86400	Any integer greater than 0	<p>This configuration property provides a maximum value that can be used for the option 'minSecondsAvailable'. The value is a positive number and represents seconds. When this value is set to zero, the ViewingSession timeout will be used for validation of the minSecondsAvailable option in the POST /ViewingSession. The default will be 86400 seconds (1 day). This option is available for PrizmDoc version 12.0 or greater.</p>

## Work Files

Property	Default Value	Supported Values	Description
<code>workFiles.directory</code>	<code>cache.directory/WorkFileCache</code>	Any valid path to a directory with read and write permissions.	Directory where work files are stored.
<code>workFiles.lifetime</code>	"1d"	Formatted Value, see Description	<p>The length of time that a workfile remains usable. This must be an integer, followed by "s", "m", "h", or "d". The suffixes stand for second, minute, hour, or day, respectively. There should not be any space characters between the number and suffix. For example, "20m" indicates viewing sessions will timeout after 20 minutes.</p> <p>Please see the topic <a href="#">Implement Caching Strategies</a> for more details.</p>

## PrizmDoc Cloud Default Values

PrizmDoc Cloud uses specific default values that differ from self-hosted default values as noted below:

- `fidelity.msOfficeDocumentsRenderer: "msoffice"`
- `processIds.lifetime: 5h`
- `fileTypes.excel.margins.mode: "preserve"`
- `fileTypes.excel.pagination.dimensions.mode: "preserve"`
- `fileTypes.excel.renderOnlyPrintArea: "true"`
- `viewing.cacheLifetime: 43h`
- `viewing.sessionConstraints.documentSource.allowedValues: "api"`
- `viewing.sessionLifetime: 5h`

# PCCIS Configuration

## PCCIS Configuration

This topic covers how to configure the PCCIS service of PrizmDoc Server. Most of the parameters are updated automatically as discussed in the [Central Configuration](#) topic. However, some parameters can be updated manually to configure viewing of large documents. The default timeout values might not be enough when viewing large documents, so the parameters described in this topic offer a way to increase those values.

### NOTES:

- Given the default installation directory, the paths for the Central Configuration file are:
  - **Linux:** /usr/share/prizm/pccis/ServiceHost/pcc.config
  - **Windows:** C:\Prizm\PCCIS\ServiceHost\pcc.config
- After making any changes to the configuration files, you need to [restart the PrizmDoc Server](#).

The following options are available for configuration within the PCCIS configuration file:

Property	Default Value	Supported Values	Description
PageInteractiveTimeout	25000	An integer recommended to be between 5000 (5 seconds) and 120000 (2 minutes)	When PCCIS receives a request for page-level content or other data, this is the number of milliseconds that PCCIS will wait for that information to become available before the request times out and returns an error.
DocumentInteractiveTimeout	50000	An integer recommended to be between 30000 (30 seconds) and 300000 (5 minutes)	When PCCIS receives a request for document-level data like page count, this is the number of milliseconds that PCCIS will wait for that information to become available before the request times out and returns an error.
DocumentAcquisitionTimeout	25000	An integer recommended to be between 5000 (5 seconds) and 120000 (2 minutes)	When PCCIS is responsible for downloading the source document directly from a specified HTTP location (documentSource viewing session property equals "http"), this is the number of milliseconds that request will wait before timing out.
InternalOperationTimeout	100000	An integer recommended to be between 100000 (100 seconds) and 300000 (5 minutes)	When PCCIS begins the conversion for a document, it has InternalOperationTimeout milliseconds to complete all of the conversion and text extraction operations. If this timeout is reached, the viewing session will be stopped because a valid document was not obtained.
RetainContextOnHealthIssue	false	true, false	A flag indicating whether the context

Property	Default Value	Supported Values	Description
			<p>(recently-processed work) should be saved when the service becomes unhealthy. Normally, this should be false, but you can set it to true to preserve documents that cause problems. When this is true, and only when the service transitions from healthy to unhealthy, the source documents and cached work will not be expired and deleted. This allows them to be reprocessed to see if they caused the health problem.</p> <p><b>IMPORTANT</b> Note that if you stop and restart PCCIS, it will no longer preserve the files and may delete them.</p>

## Implement Caching Strategies

### Introduction

This topic covers common questions and recommendations to consider when implementing your caching strategy:

- [Why does PrizmDoc Server Cache Files?](#)
- [What is the Cost of the PrizmDoc Server Cache?](#)
- [How do I Optimize Cache Performance?](#)
- [Cache Strategies and Tradeoff Scenarios](#)
- [Summary](#)

### Why does PrizmDoc Server Cache Files?

The power behind PrizmDoc Services' ability to deliver viewable web content quickly and efficiently lies with its cache management. Viewing a multipage document requires that each document page be converted into a web compatible format such as JPEG, PNG or ideally SVG (which gives the highest fidelity upon scaling). Unfortunately, the conversion process is not instantaneous, which means there is some delay before a page can be made viewable. Because PrizmDoc Server assumes a document will be viewed by more than one person over multiple sessions, it converts all the pages into web viewable intermediate objects that are stored in its cache folders.

The conversion process begins when the viewing session is started or with the first request to view a document page by a given viewing session. Typically, the viewable page data that is generated will then be made available to any subsequent request for the same pages, reducing the time to view to only the time it takes to download the page data to the browser. To summarize, the cached files help deliver viewing performance because the viewing objects are pre-generated and stored in the cache folders.

### What is the Cost of the PrizmDoc Server Cache?

The cached files require storage on some media device for some period of time. Cached files created for viewing may take up a considerable amount of space, so there is a need to have some control on the growth of the cache files. Fortunately, PrizmDoc Server does provide ways to deal with the storage usage demand of the cache with options for controlling both where the files are stored, and how long they are stored there. In fact, the cache contains different purposed folders which can be relocated to different devices which can spread the cache burden out to different devices if necessary.

## How do I Optimize Cache Performance?

The majority of the PrizmDoc Server cache is made up of pre-generated document pages which are readily available on demand. Caching these files is already a help in performance when the same document is viewed repeatedly. While there are three configurable cache folders locations, placing certain ones on more responsive media can result in better viewing experience with less burden on the server hosting the PrizmDoc Server service. The use of solid state drives (SSD) or Shared Memory (Linux only) minimizes input/output (I/O) latency and access times for cached files but these storage devices are typically much more confined in storage capacity.

## Cache Strategies and Tradeoff Scenarios

Several scenarios are proposed below with purposed cache configuration solutions. The user should be familiar with the [central configuration](#) file settings as outlined in [Central Configuration Options](#). Along with the central configuration file, there is a property in the JSON object which the application posts when requesting a new viewing session from PrizmDoc Server (refer to the [How To Adjust Caching Parameters for PrizmDoc Server](#) topic).

The default settings in the central configuration file will cause viewing sessions to timeout after 20 minutes, and cached files to expire after one day. Also by default, the PrizmDoc Server cache folders will all be created within the same parent directory on the root drive. These default settings give a reader 20 minutes to read a document once the viewing session is started. After that time period, a new viewing session will need to be created for them to continue reading the document, either by refreshing their browser, or another mechanism you implement in your application.

The next time the same document is viewed, PrizmDoc Server will simply deliver the viewing objects that were created in the first viewing session to the same reader, or to any other reader viewing the same document, for about 24 hours after the first viewing session was created. When a reader (same or new) requests to read the document a day later, the cache process starts over because PrizmDoc will have already deleted the cached pages and will have to re-generate all the viewable content of the document again.

**NOTE:** *If you set the cache to 1 day, the timer will start over if someone accesses a file that is in the cache.*

To manually delete the cache:

1. Stop the **Prizm service**.
2. Go to the **cache folder**: (On Windows: C:\Prizm\cache. On Linux: /usr/share/prizm/cache).
3. You can delete all files and folders **within the cache folder**.
4. Start the **Prizm service** again. PrizmDoc will generate a new cache.

The file paths for the Central Configuration file are:

- **Linux:** /usr/share/prizm/prizm-services-config.yml
- **Windows:** C:\Prizm\prizm-services-config.yml

**NOTE:** *The default installation directory is: C:\Prizm.*

### Scenario 1:

Viewing response appears slow even with caching enabled as lots of readers are interested in viewing the document.

## Solution:

Set the `cache.directory` setting in the central configuration file to a faster SSD device or with Linux environments, set the content to a folder of the Shared Memory device (i.e. `/dev/shm`).

### Example for Shared Memory Device

```
cache.directory: /dev/shm/Accusoft/Prizm/
```

The above setting in central configuration sets the cache directories to folders in Shared Memory on a Linux OS environment. Being faster than standard disk drives, PrizmDoc Server response will be typically quicker with less overall stress on the server to deliver viewing content.

## Scenario 2:

Viewing Clients are getting errors and the storage device used for the PrizmDoc Server cache is showing errors because the devices are full.

## Solution:

Depending on available storage capacity of the selected device, the cache expiration period specified by `viewing.cacheLifetime` in central configuration may need to be shortened to accommodate cache load. Please note that the time period for `viewing.cacheLifetime` should not be any shorter than the `viewing.sessionLifetime` time period. Otherwise, the `viewing.sessionLifetime` will take precedence and the cache expiration period will be forced to the same value. The `viewing.sessionLifetime` time period can be shortened but at the penalty of reducing the amount of time a user has to read a document in a single viewing session.

Rather than changing the viewing session timeout period, try changing the size of the (fast) storage device.

### Example for Quicker Cache Cleanup

```
viewing.sessionLifetime: 15m  
viewing.cacheLifetime: 20m
```

The above settings set the viewing session timeout to 15 minutes and the life expectancy of any cached file to 20 minutes. After approximately 35 to 45 minutes, the cached files for a given document will be deleted. The exact time of cleanup can vary based on the scheduled nature of the cleanup processes and current load on the server.

## Scenario 3:

Your application views a lot of large documents and users are not able to read them in time before they get a viewing session timeout error.

## Solution:

The default setting in the central configuration file for `viewing.sessionLifetime` is 20 minutes. It can be increased to a larger value but that means PrizmDoc Server will have more resources to track at any given moment which could affect performance and host server capacity.

## Example of Longer Viewing Session Duration

```
viewing.sessionLifetime: 1h
viewing.cacheLifetime: 1d
```

The above settings increase the ability for users to peruse a given document for an hour. Cache resources for the document will be removed 25+ hours later. As above, there is variability for cache cleanup based on the scheduled nature of the cleanup processes and current load on the server.

## Scenario 4:

The documents served are fairly random and not typically shared with others.

Or:

The image is watermarked uniquely for each Viewer and should not be shared.

## Solution:

In this scenario, the cache resources are not likely to be needed except for the initial user. There is a property in the JSON object which the application posts when requesting a new viewing session from PrizmDoc Server that can be used to disable caching on a per-viewing-session basis. The property, `serverCaching`, should be set explicitly to the string value `none` when the application requests a POST operation to get a new viewing session ID. Each document uploaded to PrizmDoc Server will be converted without PrizmDoc Server looking for an existing copy of the document. After the viewing session times out, the cached items for the document will be removed on a predetermined schedule which should be fairly quick because no other viewing sessions are using the data. For example:

## Example

```
POST /ViewingSession
{
  ...
  "serverCaching": "none",
  ...
}
```

After the viewing session timeout, the cache items should be removed fairly soon.

## Summary

The PrizmDoc Server cache provides a mechanism to deliver document content in a timely matter. However, each application is different and may tax server resources differently or have more demanding requirements. Balancing resource constraints against user experience can be a difficult task that may require compromises. Faster hardware, more specifically high speed storage devices, coupled with an understanding of the options for adjusting how the PrizmDoc Server cache behaves should allow you to reach a desired level of performance while maintaining a good user experience.

# Adjust Caching Parameters

## Introduction

When PrizmDoc Server receives a request to view a new document, also called a viewing session, it begins creating various artifacts associated with it and stores these artifacts on disk for a specified amount of time. These artifacts include such things as the original document, document metadata, and converted content used for viewing the document in a browser. We collectively refer to these artifacts as the PrizmDoc Server cache. This topic discusses various cache parameters that control things like cache lifetime, location, and reuse:

- [Cache Lifetime](#)
- [Cache Location](#)
- [Cache Reuse](#)

## Cache Lifetime

The cache lifetime, or the amount of time cached files will exist on disk before being deleted for each new document, is controlled by two parameters, `viewing.sessionLifetime` and `viewing.cacheLifetime`. These parameters are found in the central configuration file.

The file paths for the Central Configuration file are:

- **Linux:** `/usr/share/prizm/prizm-services-config.yml`
- **Windows:** `C:\Prizm\prizm-services-config.yml`

**NOTE:** *The default installation directory is: C:\Prizm.*

### Example

```
viewing.sessionLifetime: 20m
viewing.cacheLifetime: 1d
```

The session lifetime is the length of time that a viewing session remains usable. For example, this is the amount of time that a user can view and interact with a document in their browser before the document becomes unavailable. This value must be an integer followed by "s", "m", "h", or "d". The suffixes stand for second, minute, hour, or day, respectively. There should not be any space characters between the number and suffix. The example above indicates viewing sessions will timeout after 20 minutes.

The cache lifetime is the length of time that a document is cached and can be potentially reused by other new viewing sessions. This value must be an integer followed by "s", "m", "h", or "d". The suffixes stand for second, minute, hour, or day, respectively. There should not be any space characters between the number and suffix. The example above indicates that document data will be cached for one day.

**IMPORTANT:** *If `viewing.sessionConstraints.minSecondsAvailable.max` is set to a value greater than `viewing.cacheLifetime` in the central configuration file the cache lifetime will be overwritten by the `minSecondsAvailable.max` value. This configuration property provides a maximum value that can be used for the option 'minSecondsAvailable' in the POST `/ViewingSession`. The value is a positive number and represents seconds. When this value is set to zero, the `ViewingSession` timeout will be used. The default is 86400 seconds (1 day).*

The total cache lifetime of a document can be calculated by adding the session lifetime value to the maximum of either the session lifetime or cache lifetime.

This can be expressed as the following formula:

**Total Cache Lifetime = Session Lifetime + max(Session Lifetime, Cache Lifetime)**

The above formula will provide the approximate lifetime of a cached document because there is scheduling variability that can increase the actual time. This variability is caused partly by the periodic nature of which the cache cleanup processes are run. Also, if the server is under high load, the cleanup processes may be delayed so as not to consume additional resources.

**NOTE:** If you set the cache to 1 day, the timer will start over if someone accesses a file that is in the cache.

To manually delete the cache:

1. Stop the **Prizm service**.
2. Go to the **cache folder**: (On Windows: C:\Prizm\cache. On Linux: /usr/share/prizm/cache).
3. You can delete all files and folders **within the cache folder**.
4. Start the **Prizm service** again. PrizmDoc will generate a new cache.

See the [Caching Strategies](#) topic for details and recommendations for the viewing session timeout and cache expiration period values in your application.

## Cache Location

The directories that PrizmDoc Server uses for caching are user-configurable. To change them, you will need to set the `cache.directory` parameter in the central configuration file. Cached files will be stored in subdirectories of this location.

### Example

```
cache.directory: /usr/share/prizm/cache
```

See the [Caching Strategies](#) topic for details and recommendations on cache locations and types of storage media.

## Cache Reuse

Consider the case where a viewing session is created in PrizmDoc Server, and PrizmDoc Server performs the work to convert the original source document to a format that is suitable for viewing in a browser. Now consider the case where multiple users are viewing the same document one or more times. PrizmDoc Server can leverage the cache in this case so that the document is converted only once but can be served for future viewing sessions using identical documents. The result is very fast viewing times for users and decreased processing time for servers.

PrizmDoc Server enables cache reuse by default. This property can be controlled per viewing session and is adjustable using the JSON properties of the initial POST request sent to PrizmDoc Server to create a viewing sessions.

### Example

```
POST http://localhost:18681/Prizm Services/V1/ViewingSession {
  "externalId": "MyDocumentName.pdf",
  "serverCaching": "Full",
```

```
"render":
{
  "html5":
  {
    "alwaysUseRaster":false
  }
}
```

In the example above, the `serverCaching` property is set to a value of `Full`, which enables the reuse of the cache for multiple viewing sessions. This is the default value, so not including `serverCaching` at all would yield the same result. We recommend this feature to obtain the best performance.

To disable reuse of the cache, set `serverCaching` to a value of `None`. This means that any new viewing sessions will need to convert the source document into viewable content even if the same document has been converted during a previous viewing session. Also, because no other viewing session will be reusing the converted document, the document data associated with viewing session will typically be deleted immediately after the viewing session expires.

## Change Encryption Keys for Public use Token Generation

### Introduction

As part of the normal operation of the PrizmDoc Server API, ID values and tokens are created and provided to the user for use in the public API. Some of these values contain embedded information used for request routing which can include host names, IP addresses and ports of the servers hosting the PrizmDoc Server. This network information should only be relative to internally accessible servers. Nonetheless, the PrizmDoc Server will encrypt the information whenever it is embedded in public-use tokens using AES symmetric encryption and further encode the ciphertext to Base64 to create the new ID or token.

The PrizmDoc Server API ships configured with a default AES key and Initialization Vector (IV) so PrizmDoc Server will work "out-of-the-box". However, **it is recommended that you replace the default encryption values with those of your choosing** to maintain the highest level of security. The following steps describe how to fully replace the default AES keys with your own.

### Step 1: Obtain an AES Key and Initialization Vector (IV)

1. First, you will need an **AES key** and **IV** that is unique to your organization. Following the AES standard, the key value can be 128, 192 or 256 bits and the IV value must be 128 bits.
2. Once you have the key and IV, they must both be **Base64** encoded so that they are in a format which can be easily stored in the configuration files of the PrizmDoc Server.
3. With a **Base64 encoded AES key** and **IV value** you can now begin updating the configuration files.

### Step 2: Update the Central Configuration File

The file paths for the Central Configuration file are:

- **Linux:** /usr/share/prizm/prizm-services-config.yml
- **Windows:** C:\Prizm\prizm-services-config.yml

**NOTE:** The default installation directory is: C:\Prizm.

1. Open the **central config file**.
2. Set the **security.aesEncryption.key** and **security.aesEncryption.iv** properties to the Base64 encoded values you created in Step 1.
3. Save and exit the config file.
4. After making any changes to the configuration files, you need to **restart PrizmDoc Viewer**.

## Configure Microsoft Office Conversion Connectivity

### Introduction

PrizmDoc Viewer provides Microsoft Office Conversion connectivity for PrizmDoc Servers running on Linux. While the Microsoft Office Conversion add-on requires PrizmDoc Server running on Windows, it is possible to configure PrizmDoc Servers running on Linux to utilize the Microsoft Office Conversion service to have native rendering of Microsoft documents in PrizmDoc Viewer.

Please see [Windows Requirements](#) and [Windows Installation](#) sections for information regarding installation of PrizmDoc Viewer with the Microsoft Office Conversion service.

The following steps describe how to enable Microsoft Office connectivity on the Linux server.

### Single Server Mode

#### Linux Server Configuration

1. An **MSO enabled license** is required for the Microsoft Office Conversion connectivity for PrizmDoc Servers running on Linux.
2. Configure the following **two parameters** in the [prizm-services-config.yml](#):

##### **fidelity.msOfficeCluster.host**

Set this value on a PrizmDoc Server running on Linux to the hostname or the IP of a single PrizmDoc Server running on Windows. By setting this value, you can use the Microsoft Office Conversion service running on Windows to have native rendering of Microsoft documents in PrizmDoc Viewer.

##### **fidelity.msOfficeCluster.port**

Set this value on a PrizmDoc Server running on Linux to the public port of a single PrizmDoc Server running on Windows specified by the `network.publicPort` parameter of the remote server. By setting this value, you can use the Microsoft Office Conversion service running on Windows to have native rendering of Microsoft documents in PrizmDoc Viewer.

3. Restart **PrizmDoc Viewer**.

Note that if the `/etc/hosts` file of the Linux machine is either empty, or contains only localhost entry, such as:

```
127.0.0.1 localhost
```

the Linux server might not be able to connect to the Windows server. Make sure that the network of the Linux machine is configured properly. For instance, the `/etc/hosts` file should contain at least 2 entries:

```
127.0.0.1 localhost
127.0.0.1 <hostname-of-your-machine>
```

## Cluster Mode

### Linux Server Configuration

1. An **MSO enabled license** is required for the Microsoft Office Conversion connectivity for PrizmDoc Servers running on Linux.
2. Please configure following **two parameters** in the `prizm-services-config.yml`:

#### **fidelity.msOfficeCluster.host**

Set this value on a PrizmDoc Server running on Linux to the hostname or the IP of a load balancer of a cluster running on Windows to utilize the Microsoft Office Conversion service running on Windows to have native rendering of Microsoft documents in PrizmDoc Viewer.

#### **fidelity.msOfficeCluster.port**

Set this value on a PrizmDoc Server running on Linux to the public port of a load balancer of a cluster running on Windows specified by 'network.clustering.clusterPort' parameter of the cluster to utilize the Microsoft Office Conversion service running on Windows to have native rendering of Microsoft documents in PrizmDoc Viewer.

3. Restart **PrizmDoc Viewer**.

Note that if the `/etc/hosts` file of the linux machine is either empty, or contains only localhost entry, such as:

```
127.0.0.1 localhost
```

the Linux server might not be able to connect to the Windows cluster. Please make sure, that the network of the linux machine is configured properly. For instance, the `/etc/hosts` file should contain at least 2 entries:

```
127.0.0.1 localhost
127.0.0.1 <hostname-of-your-machine>
```

### File Formats

After performing the configuration steps above, a PrizmDoc Server running on Linux will convert all Microsoft Office documents through the Microsoft Office Conversion renderer from the PrizmDoc Server running on Windows.

Please refer to the [Supported File Formats](#) section for the information on the exact file formats supported by the Microsoft Office Conversion renderer.

## Substitute Fonts for Microsoft Office Rendering Fidelity

## Introduction

PrizmDoc Server uses a sophisticated logic to select the right font for accurate text rendering within Microsoft Office documents. The logic to locate and use the appropriate font(s) can be broken down into the following sequence:

1. PrizmDoc Server looks for pre-configured font substitutions, provided by PrizmDoc Viewer out-of-the-box. The configuration file defining the substitution in JSON format is located here:
2. **Windows:** `<install_directory>/conf/OfficeConversionService.Font.Windows.config`
3. **Linux:** `<install_directory>/conf/OfficeConversionService.Font.Linux.config`
4. PrizmDoc Server looks for the exact font match within the local PrizmDoc Viewer fonts directory containing the fonts installed by the PrizmDoc Viewer distribution.
5. PrizmDoc Server looks for the exact font match in the system fonts directory.
6. If none of the steps above solved the substitution, the PrizmDoc Server will dynamically look for the most appropriate font substitution within the PrizmDoc Viewer local and system fonts using the font metrics. This step might provide less accurate results due to the specifics of certain fonts. Therefore, when dealing with a wide range of fonts and languages, it is recommended to install additional font packages. Specifically on Linux systems, such packages as "msttcorefonts" can be helpful to improve substitution of MS core fonts.

For Asian language support on Linux systems, make sure to install corresponding language support in addition to the installed Asian fonts. Refer to the [Install Asian Fonts](#) topic for more information.

## Upgrade from Legacy Configuration

### Introduction

This information in this topic will help you upgrade to [Central Configuration](#) from the deprecated legacy configuration:

To use Central Configuration, `watchdog.config` must contain the `paths.central_config_file` property whose value is a path to the central configuration file relative to the PrizmDoc Server install directory. This is the default setting, but if you are migrating from legacy configuration, you should verify that this property is set correctly.

The following table maps the legacy file and property that corresponds to each central config property:

The file paths for the Central Configuration file are:

- **Linux:** `/usr/share/prizm/prizm-services-config.yml`
- **Windows:** `C:\Prizm\prizm-services-config.yml`

**NOTE:** The default installation directory is: `C:\Prizm`.

Central Configuration Property	Legacy Configuration File	Legacy Configuration Property	Special Transfer instructions
<code>license.solutionName</code>	<code>watchdog.config</code>	<code>license.solutionName</code>	-
<code>license.key</code>	<code>watchdog.config</code>	<code>license.key</code>	-
<code>network.publicPort</code>	<code>watchdog.config</code>	<code>cep_port</code> OR <code>sep_port</code> , see instructions	If running in cluster mode, the central config value corresponds to <code>cep_port</code> . If it is running in single-server mode, it corresponds to <code>sep_port</code> instead.
<code>network.internalStartingPort</code>	<code>watchdog.config</code>	<code>internal_starting_port</code>	-
<code>network.clustering.enabled</code>	<code>watchdog.config</code>	<code>server_mode</code>	A central config value of true corresponds to a server mode of "multi", and false corresponds to "single".
<code>network.clustering.clusterPort</code>	<code>watchdog.config</code>	<code>sep_port</code> , see instructions	The central config value maps to <code>sep_port</code> only if running in cluster mode.
<code>network.clustering.servers</code>	<code>watchdog.config</code>	<code>cep_servers</code>	Reduce the <code>cep_servers</code> array to an array of only the addresses of each server. The port of each will be assumed to be <code>network.clustering.clusterPort</code> .
<code>security.aesEncryption.key</code>	<code>plb/pcc.config</code> , <code>redaction.config</code> , <code>workfile.config</code> , <code>contentconversion.config</code>	<code>ViewingSessionEncryptionKey</code> OR <code>encryptionKey</code> OR <code>affinityTokenKey</code> , depending on file	-
<code>security.aesEncryption.iv</code>	<code>plb/pcc.config</code> , <code>redaction.config</code> , <code>workfile.config</code> , <code>contentconversion.config</code>	<code>ViewingSessionEncryptionIv</code> OR <code>encryptionIv</code> OR <code>affinityTokenIv</code> , depending on file	-
<code>logging.directory</code>	<code>watchdog.config</code>	<code>paths.app_log_dir</code>	Join the elements of <code>paths.app_log_dir</code> into a path string.

Central Configuration Property	Legacy Configuration File	Legacy Configuration Property	Special Transfer instructions
logging.daysToKeep	watchdog.config, plb/pcc.config	logging.streams.count, workfileService.logging.count, redactionService.logging.count, fileViewer.logging.count, contentConversionService.logging.count, errorReportingService.logging.count, OR logging.count, depending on file	-
cache.directory	servicehost/pcc.config	DocumentPath, GroupStateFolder, TempcachePath	-
workFiles.directory	watchdog.config	workfileService.workfileCache.path	-
workFiles.lifetime	watchdog.config	workfileService.workfileCache.expirationPeriod	-
userDocuments.directory	servicehost/pcc.config	UserDocumentFolder	-
processIds.lifetime	watchdog.config	redactionService.cache.expirationPeriod, contentConversionService.cache.expirationPeriod	-
viewing.allowDocumentDownload	servicehost/pcc.config	EnableSourceDocumentDownload	-
viewing.sessionLifetime	servicehost/pcc.config	ViewingSessionTimeout	-
viewing.cacheLifetime	servicehost/pcc.config	CacheExpirationPeriod	-
viewing.contentEncryption.enabled	servicehost/pcc.config	EncryptPageContent	-
viewing.sessionConstraints.documentSource.allowedValues	servicehost/pcc.config	ViewingSessionPropertyDocumentSource	Split ViewingSessionPropertyDocumentSource into an array of allowed sources.
viewing.sessionConstraints.countOfInitialPages.min	servicehost/pcc.config	ViewingSessionPropertyCountOfInitialPages	Set the central config value to the min value from ViewingSessionPropertyCountOfInitialPages.
viewing.sessionConstraints.countOfInitialPages.max	servicehost/pcc.config	ViewingSessionPropertyCountOfInitialPages	Set the central config value to the max value from ViewingSessionPropertyCountOfInitialPages.
viewing.sessionConstraints.documentExtension.regex	servicehost/pcc.config	ViewingSessionPropertyDocumentExtension	-
viewing.sessionConstraints.externalId.regex	servicehost/pcc.config	ViewingSessionPropertyExternalId	-
viewing.sessionConstraints.pageContentEncryption.allowedValues	servicehost/pcc.config	ViewingSessionPropertyPageContentEncryption	Set the central config value to an array of the values allowed by ViewingSessionPropertyPageContentEncryption.
viewing.sessionConstraints.serverCaching.allowedValues	servicehost/pcc.config	ViewingSessionPropertyServerCaching	Set the central config value to an array of the values allowed by ViewingSessionPropertyServerCaching.
viewing.sessionConstraints.render.alwaysUseRaster.allowedValues	servicehost/pcc.config	Html5RenderAcceptableRasterValue	Set the central config value to an array of the values allowed by Html5RenderAcceptableRasterValue.
fileTypes.pdf.pageBoundaries	PDFConversionService.<Platform>.config	useCropBox	Set the central config value to "cropBox" if useCropBox is true, or "mediaBox" if it is false.
fileTypes.excel.pagination.enabled	watchdog.config	officeConversionService.excelPagination	-
fileTypes.excel.pagination.dimensions.minWidth	watchdog.config	officeConversionService.excelPageWidthMin	Add 'in' to the end of the value in watchdog.config.
fileTypes.excel.pagination.dimensions.maxWidth	watchdog.config	officeConversionService.excelPageWidthMax	Add 'in' to the end of the value in watchdog.config.
fileTypes.excel.pagination.dimensions.minHeight	watchdog.config	officeConversionService.excelPageHeightMin	Add 'in' to the end of the value in watchdog.config.
fileTypes.excel.pagination.dimensions.maxHeight	watchdog.config	officeConversionService.excelPageHeightMax	Add 'in' to the end of the value in watchdog.config.
fileTypes.office.disableExternalHyperlinks	watchdog.config	officeConversionService.disableExternalHyperlinks	-
fidelity.msOfficeDocumentsRenderer	watchdog.config	officeConversionService.msOfficeDocumentsRenderer	-
resourceUsage.pccis.instances	watchdog.config	pccis_instances, see instructions	Set the central config value equal to the number of objects in the pccis_instances array.
resourceUsage.ocs.numInstances	watchdog.config	officeConversionService.officeInstanceCount -	-
resourceUsage.ocs.numThreads	watchdog.config	officeConversionService.threadCount	-
resourceUsage.ocs.numPorts	watchdog.config	officeConversionService.officePortCount	-

## Start & Stop PAS

This section contains the following information:

- Linux
- Windows

# Linux

## Introduction

The included script `./pas/pm2/pas.sh` can be used to start and stop the PrizmDoc Application Services (PAS). The following examples assume the default install location. If you did not install it to the default location, replace `/usr/share/prizm` with the location to which you installed it.

## Start

### Example

```
/usr/share/prizm/pas/pm2/pas.sh start
```

## Stop

### Example

```
/usr/share/prizm/pas/pm2/pas.sh stop
```

**TIP:** If you created a symbolic link to `./pas/pm2/pas.sh` in the `/etc/init.d/` directory, you can use the `service` command to manage PAS instead of invoking the script directly. That way if you don't need PAS to automatically start/stop, you can complete the first step to more easily manage it.

The syntax is as follows:

### Example

```
service pas start|stop|restart|status
```

# Windows

## Method 1: From the Windows Service

On Windows, the PrizmDoc Application Services (PAS) should ideally be started/stopped from the Windows service management console. As part of the PrizmDoc Viewer installation, the service should be configured to start automatically. If you need to start, stop, or restart, use the following instructions:

1. Log onto the system using an account with administrator privileges.
2. Click **Start** > **Run**.
3. Type **services.msc**.
4. Press **Enter**.

5. Find **PAS** in the list of services, and right-click on the service to access the context menu.
6. To Start the Service: Click **Start** and wait for the service to start. The status should update to "started" (this option will only be available if the service is not running).
7. To Stop the Service: Click **Stop** in the right-click menu and wait for the service control dialog. The status will be updated to be blank (this option will only be available if the service is already started).
8. To Restart the Service: Click **Restart** and wait for the service control dialog (this option will only be available if the service is already started).

## Method 2: From the Command Line

If access to the control panel is not available, services can also be started/stopped from the command line using the following commands:

### Example

```
net start "Prizm Application Services"  
net stop "Prizm Application Services"
```

## Service Logs

The PAS Windows service will log certain status messages to the Windows Event Log. These messages can be helpful in diagnosing problems while starting and stopping the service. To view the Windows Event Log, use the following instructions:

1. Log onto the system using an account with administrator privileges.
2. Click **Start > Run**.
3. Type **eventvwr**.
4. Press **Enter**.
5. Expand **Applications and Services Logs**.
6. Click **PAS**.

## Start & Stop PrizmDoc Server

This section contains the following information:

- [Linux](#)
- [Windows](#)

## Linux

### Introduction

The included script `./scripts/pccis.sh` can be used to start and stop the Watchdog service, which will bring up the PrizmDoc Server as defined in the configuration files. The following examples assume the default install location. If you did not install it to the default location, replace `/usr/share/prizm` with the location to

which you installed it.

## Start

### Example

```
/usr/share/prizm/scripts/pccis.sh start
```

## Stop

### Example

```
/usr/share/prizm/scripts/pccis.sh stop
```

## Including PCCIS to the Boot Sequence

You can also configure PCCIS to be started / stopped together with the system in 2 steps:

1. Create a symbolic link to the `./scripts/pccis.sh` in `/etc/init.d/` directory:

### Example

```
ln -s /usr/share/prizm/scripts/pccis.sh /etc/init.d/pccis
```

2. Register PCCIS as an init script, so that it is managed by the system. This step is platform-dependent.

## RedHat / CentOS

### Example

```
chkconfig --add pccis
```

## Ubuntu

### Example

```
update-rc.d pccis defaults
```

Once done, the system should stop PCCIS, when going to reboot (runlevel 6) or shutdown (runlevel 0). It will also not be started, when booting in single-user mode (runlevel 1 - usually used for system recovery). PCCIS will be started in all other cases (runlevels 2 - 5).

**TIP:** Normally, there shouldn't ever be a need to change these defaults, but in case there is, you can use the

mentioned commands to adjust the order of executing relative to other init scripts as well as runlevel manually:

## Example

```
update-rc.d pccis start|stop NN runlvl [runlvl] [...]  
chkconfig [--level <levels>] <name> <on|off|reset|resetpriorities>
```

**TIP:** After the first step, you can use the **service** command to manage PCCIS instead of invoking the script directly. That way even if you don't need PCCIS to be automatically started / stopped, you may want to complete the first step to be able to more easily manage it. The syntax is as follows:

## Example

```
service pccis start|stop|restart|status
```

## Excluding PCCIS from the Boot Sequence

If you want to prevent PCCIS from starting / stopping together with the system, you need to revert Step 2 from the section above. It is done as follows:

### RedHat / CentOS

#### Example

```
chkconfig --del pccis
```

### Ubuntu

#### Example

```
update-rc.d -f pccis remove
```

## Windows

### Method 1: From the Windows Service

On Windows, the PrizmDoc Server should ideally be started/stopped from the Windows service management console. As part of the PrizmDoc Server installation, the service should be configured to start automatically. If you need to start, stop, or restart, use the following instructions:

1. Log onto the system using an account with administrator privileges.

2. Click **Start > Run**.
3. Type **services.msc**.
4. Press **Enter**.
5. Find **Prizm** in the list of services, and right-click on the service to access the context menu.
6. To Start the Service: Click **Start** and wait for the service to start. The status should update to "started" (this option will only be available if the service is not running).
7. To Stop the Service: Click **Stop** in the right-click menu and wait for the service control dialog. The status will be updated to be blank (this option will only be available if the service is already started).
8. To Restart the Service: Click **Restart** and wait for the service control dialog (this option will only be available if the service is already started).
9. Click **Start > Run**.
10. Type **inetmgr**.
11. Press **Enter**.
12. Find **PrizmDoc Web Site** under Sites in the tree view to the left.
13. Select that node and find options to start/stop/restart in the pane to the right.

## Method 2: From the Command Line

If access to the control panel is not available, services can also be started/stopped from the command line using the following commands:

### Example

```
net start Prizm
net stop Prizm
```

## Service Logs

The Prizm Windows service will log certain status messages to the Windows Event Log. These messages can be helpful in diagnosing problems while starting and stopping the service. To view the Windows Event Log, use the following instructions:

1. Log onto the system using an account with administrator privileges.
2. Click **Start > Run**.
3. Type **eventvwr**.
4. Press **Enter**.
5. Expand Applications and Services Logs.
6. Click **Prizm**.

## Cluster Server Environments

This section contains the following information:

- **PrizmDoc Server**
  - [Optimize Cache Performance for Cluster Mode](#)
  - [Affinity Tokens & Cluster Mode](#)

- [PrizmDoc Application Services \(PAS\)](#)
  - [Optimize Cache Performance for Cluster Environments](#)
  - [Run PAS on Clusters](#)

## PrizmDoc Server

### Introduction

The PrizmDoc Services are designed to run out-of-the-box on a single server. In the single-server mode, the PrizmDoc Services are listening on port 18681 by default and fulfilling requests entirely on the same server. There is no additional configuration to run in single-server mode. This mode is recommended if you have only one server hosting the PrizmDoc Services.

If your application requires more bandwidth or processing power than one server can handle, the PrizmDoc Services provide a mode that enables request load balancing and routing across multiple servers hosting PrizmDoc Server. This topic discusses the requirements and considerations for running the PrizmDoc Services in cluster mode.

Additional topics that support cluster mode:

- [Optimizing Cache Performance for Cluster Mode](#)
- [Affinity Tokens & Cluster Mode](#)

### Cluster Mode

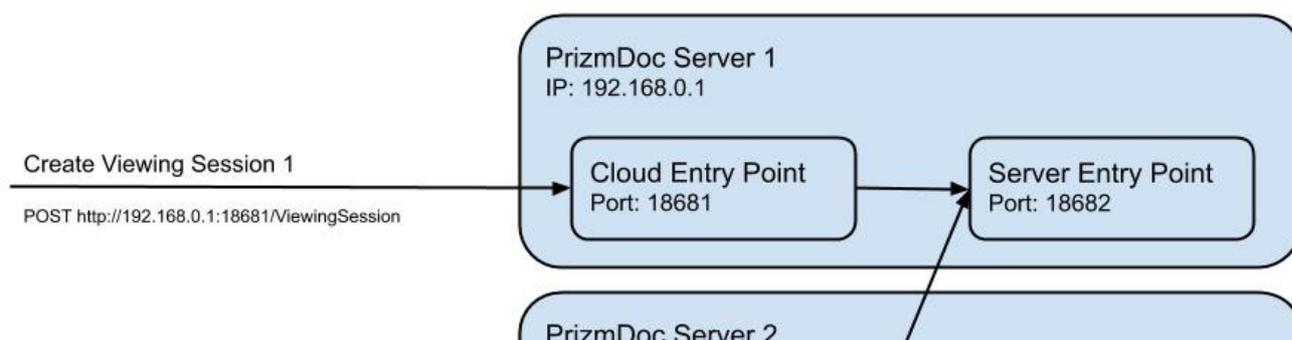
Before getting into the details of cluster mode, it's important to understand two things about how the PrizmDoc Server generates and serves content:

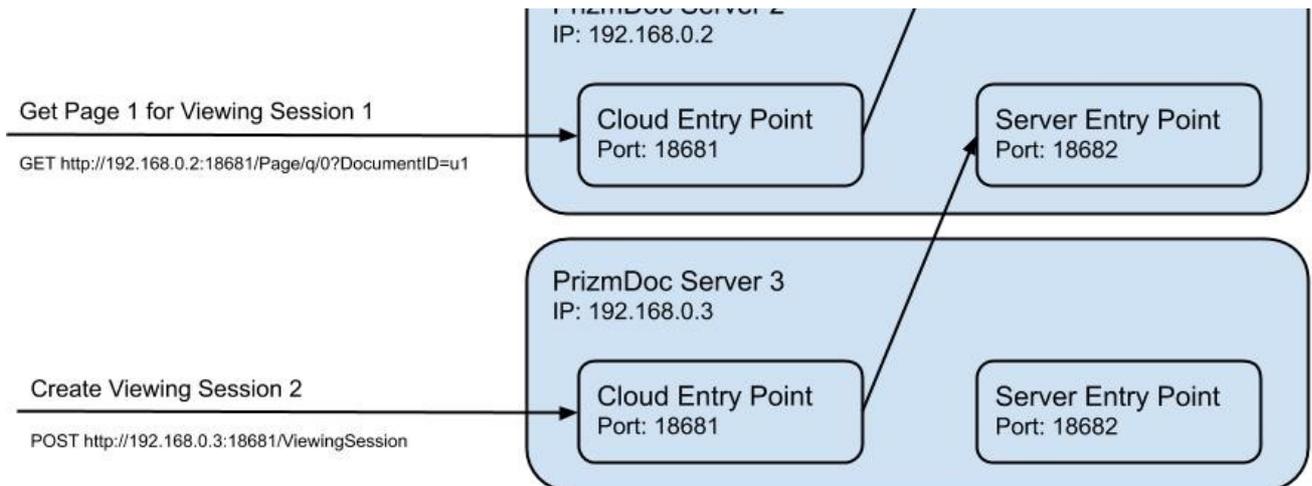
- The majority of requests the PrizmDoc Server handles are centered on document conversions or manipulations. These processes can be computationally expensive, so the PrizmDoc Server attempts to conserve as much CPU resources as possible by caching content as it's created.
- Cached content is only stored locally on the server where it was created and it is directly tied to a specific resource created by the RESTful web service. Requests for existing resources must be handled by the PrizmDoc Server on the server that originally created it, otherwise errors will occur.

### How It Works

The cluster mode of the PrizmDoc Server works by creating a new entry point on each server hosting the PrizmDoc HTTP Service. This new entry point becomes responsible for routing requests to the correct PrizmDoc Server, as well as load balancing requests for new RESTful web service resources over all the PrizmDoc Servers in the node.

Consider the diagram below which depicts an architecture that employs 3 servers hosting the PrizmDoc HTTP Service within a node. Looking deeper, notice that each server is hosting two entry points:





The Server Entry Point (SEP) will be listening on port 18682 by default. This is the main PrizmDoc HTTP Service entry point for the server. It is responsible for routing requests to the internal services running on the server. It is also the same entry point that handles requests from your application in single-server mode. However, in cluster mode your application should not send requests directly to the SEP, but instead the requests should be made to the Cloud Entry Point.

The Cloud Entry Point (CEP) will be listening on port 18681 by default. In cluster mode, the CEP is responsible for routing requests to the correct PrizmDoc Server. If you are creating a new RESTful web service resource, the CEP will direct that request to a PrizmDoc Server it chooses.

If you are working with an existing resource, the CEP will ensure that the request is forwarded on to the server which originally created the resource. Any CEP can route any request to the correct server. This allows you to use a simple load balancer in front of your PrizmDoc Servers; simply have the load balancer send incoming requests to any CEP on any server and the CEP's will ensure that the requests are routed to the appropriate machine.

## Step 1 - Configuration

After installation, the PrizmDoc HTTP Service will be running in single-server mode. To enable cluster mode:

1. Stop the **PrizmDoc Server**.
2. Open the **Central Configuration file** in a text editor.

The file paths for the Central Configuration file are:

- **Linux:** /usr/share/prizm/prizm-services-config.yml
- **Windows:** C:\Prizm\prizm-services-config.yml

**NOTE:** The default installation directory is: C:\Prizm.

3. Set the `network.clustering.enabled` value to `true`, and make sure the `network.publicPort` and `network.clustering.clusterPort` values exist and are assigned to valid port numbers:

```
network.clustering.enabled: true

network.clustering.clusterPort: 18682 # Server Entry Point for every server
in the cluster

network.publicPort: 18681 # Cloud Entry Point
```

4. Optionally, set the `network.clustering.servers` value to an array of address values corresponding to each PrizmDoc Server on the network node. For example:

```
network.clustering.servers: ["192.168.0.1", "192.168.0.2", "192.168.0.3"]
```

5. Save and close the **Central Configuration file**.

6. Start the **PrizmDoc Server**.

**NOTE:** If your application makes requests to the PrizmDoc service from another server, ports 18681 and 18682 (or other port values you choose) will need to be opened in the firewall for each server hosting the PrizmDoc service.

## Step 2 - Start-Up

Once the PrizmDoc HTTP Service has been configured and is running on each server, there is one more critical step you must perform before the Cloud Entry Points will be able to handle requests successfully.

In this step you will inform the Cloud Entry Point on each PrizmDoc Server of the other available PrizmDoc Servers in the same network node. This list allows any CEP to route requests for existing resources to the correct PrizmDoc Server that originally created it, as well as load balance requests for new resources across all servers.

The list of servers is set by a HTTP PUT request to each Cloud Entry Point. Below is an example of the request that would be sent to each Cloud Entry Point (given the sample architecture shown in the diagram above):

### Example

```
PUT http://192.168.0.1:18681/PCCIS/V1/Service/Properties/Servers {
  "servers": [
    {
      "address": "192.168.0.1",
      "port": "18682"
    },
    {
      "address": "192.168.0.2",
      "port": "18682"
    },
    {
      "address": "192.168.0.3",
      "port": "18682"
    }
  ]
}
```

This request would be repeated for the remaining two PrizmDoc Servers, the only change being the port specified in the HTTP request.

If the `network.clustering.servers` value was set in the **Central Configuration file** during the configuration step, the list of servers will automatically be initialized to this list on start-up. It may still be overridden by a HTTP PUT request to the Cloud Entry Point, but will initialize to the configured value again on subsequent start-ups unless the `network.clustering.servers` value is changed in the **Central Configuration file**.

## Step 3 - Scaling

When PrizmDoc Servers are added or removed from the node, it is important that the list of servers held by each Cloud Entry Point is updated to reflect the servers that are actually active. Otherwise, requests will begin failing when routed to a server that does not exist, and new servers will not receive their fair share of new requests because not every PrizmDoc Server in the node is aware of them.

Keeping the server lists updated is a matter of repeating the requests described in the **Start-up** section above, only with updated JSON data that includes the new list of active servers.

## Optimize Cache Performance for Cluster Mode

### Introduction

Viewing Session resources require a number of conversions to create content that is suitable for viewing. Caching the converted content plays a large role in the performance of the PrizmDoc Server when handling requests for a Viewing Session. In single-server mode, caching is the most optimized because all converted content is available to the PrizmDoc Services on that server. As requests for new viewing sessions are received, the new documents are examined to locate existing content that may already be created if the same document was used in a previous viewing session.

In cluster mode, the PrizmDoc Services on each server maintain their own cache data, separate from other PrizmDoc Servers. Cache data is not shared across servers. Because of this, the effort to convert the same document will likely be duplicated on multiple PrizmDoc Servers if you have a situation where users are frequently viewing the same document more than once.

To counteract this side-effect of cluster mode, the PrizmDoc Services provide a way to increase the chances that a request for a new viewing session will be sent to the same PrizmDoc Server that may have already converted the same document. This is done by providing a "hint" value in a HTTP header of the request to create new viewing sessions. Below is an example request that sets this header:

### Example

```
POST http://192.168.0.1:18681/PCCIS/V1/ViewingSession Accusoft-Affinity-
Hint: my-unique-document-name.docx
{
  "tenantId": "my application name",
  "externalId": "my-unique-document-name.docx",
  "render": {
    "html5": {
      "alwaysUseRaster": false
    }
  }
}
```

The Accusoft-Affinity-Hint header should only be specified in the HTTP request that creates a new viewing session.

It is important to note that the value used in this header should uniquely identify the document. A document name or a unique ID from a database are good options. Using the same value for documents that are not identical will unbalance the requests across the PrizmDoc Servers as it will cause a single server to be favored for all requests that contain the same hint value.

Note that the Accusoft-Affinity-Hint header is unnecessary when creating a viewing session through the PAS API. Refer to the [PAS Services Cluster Environments](#) topic for more information on cache optimization for PAS.

# Affinity Tokens & Cluster Mode

## Introduction

This topic covers requests for work files, markup burners, redaction creators, and content converters that require affinity tokens.

In cluster mode only, requests for WorkFile, MarkupBurner, RedactionCreator, and ContentConverter resources require an additional bit of data, called an affinity token, to ensure they are routed correctly by the Cloud Entry Point (CEP). The affinity token is a Base64 encoded string that contains encrypted information necessary to route related requests to the same PrizmDoc Server. Getting related requests to the same server is critical as the necessary data is cached locally.

In cluster mode, the PrizmDoc Server API will automatically generate an affinity token when it receives a POST request for a new ViewingSession, WorkFile, MarkupBurner, RedactionCreator or ContentConverter resource and return it in the response. Once you have obtained an affinity token, you will need to pass this in with related requests using the "Accusoft-Affinity-Token" HTTP custom header. In the case of a ViewingSession, the affinity token is only required when retrieving or setting the source document WorkFile ID for that session.

The following example request and response sequence demonstrates how an affinity token is used to burn markup into a document. Notice how all requests, (except the first request), use the same affinity token even for subsequent POST requests.

## Example

```
// 1. Create first work file, the source PDF document to burn-in markup.
POST http://192.168.0.1:18681/PCCIS/V1/WorkFile?FileExtension=pdf Content-
Type: application/octet-stream
[binary data]
200 OK
Content-Type: application/json
{
  "fileId": "5qTYa3gzN9gYUb5SzqUhqg",
  "affinityToken": "rcqmuB9pAa8+4V7fh01SXzawy/YMQU1g81LdNDe517w="
}
// 2. Create the second work file, the XML markup to burn-in.
// Pass in the affinity token generated from the previous request so that
this
// XML data is stored on the same PCC server. POST
http://192.168.0.1:18681/PCCIS/V1/WorkFile?FileExtension=xml Accusoft-
Affinity-Token: rcqmuB9pAa8+4V7fh01SXzawy/YMQU1g81LdNDe517w=
Content-Type: application/xml
[xml data]
200 OK
Content-Type: application/json
{
  "fileId": " o1bLJwFGxf9QGuTkYrOqig",
  "affinityToken": "rcqmuB9pAa8+4V7fh01SXzawy/YMQU1g81LdNDe517w="
}
// 3. Create the markup burner resource, again on the same PCC server where
we created
// the work files in the previous requests. POST
http://192.168.0.1:18681/PCCIS/V1/MarkupBurner Content-Type:
application/json
Accusoft-Affinity-Token: rcqmuB9pAa8+4V7fh01SXzawy/YMQU1g81LdNDe517w=
{
```

```

    "input": {
      "documentFileId": "5qTYa3gzN9gYUb5SzqUhqg",
      "markupFileId": "01bLJwFGxf9QGUTkyrOqig"
    }
  }
}
200 OK
Content-Type: application/json
{
  "processId": "Rr64ma-U_HseoPrs6y0iiw",
  "expirationDateTime": "2014-12-03T18:30:49.460Z",
  "input": {
    "documentFileId": "5qTYa3gzN9gYUb5SzqUhqg",
    "markupFileId": "01bLJwFGxf9QGUTkyrOqig"
  },
  "state": "processing",
  "percentComplete": 0,
  "affinityToken": "rcqmuB9pAa8+4V7fh01SXzawy/YMQU1g81LdNDe517w="
}
// 4. Get status of markup burning process until state is "complete". GET
http://192.168.0.1:18681/PCCIS/V1/MarkupBurner/Rr64ma-U_HseoPrs6y0iiw
Accusoft-Affinity-Token: rcqmuB9pAa8+4V7fh01SXzawy/YMQU1g81LdNDe517w=
200 OK
Content-Type: application/json
{
  "processId": "Rr64ma-U_HseoPrs6y0iiw",
  "expirationDateTime": "2014-12-03T18:30:49.460Z",
  "input": {
    "documentFileId": "5qTYa3gzN9gYUb5SzqUhqg",
    "markupFileId": "01bLJwFGxf9QGUTkyrOqig"
  },
  "state": "complete",
  "percentComplete": 100,
  "output": {
    "documentFileId": "5ufb3ytUb1BxxgSUAk_G9Q"
  },
  "affinityToken": "rcqmuB9pAa8+4V7fh01SXzawy/YMQU1g81LdNDe517w="
}
// 5. Get the burned document once the markup burning process is complete
GET http://192.168.0.1:18681/PCCIS/V1/WorkFile/5ufb3ytUb1BxxgSUAk_G9Q
Accusoft-Affinity-Token: rcqmuB9pAa8+4V7fh01SXzawy/YMQU1g81LdNDe517w=
200 OK
Content-Type: application/pdf
[binary data]

```

Likewise, the following request and response sequence demonstrates how an affinity token is used in a content conversion workflow:

#### Example

```

// 1. Create first work file, the source PDF document to be converted. POST
http://192.168.0.1:18681/PCCIS/V1/WorkFile?FileExtension=docx Content-Type:
application/octet-stream
[binary data]
200 OK
Content-Type: application/json
{
  "fileId": "5qTYa3gzN9gYUb5SzqUhqg",
  "affinityToken": "rcqmuB9pAa8+4V7fh01SXzawy/YMQU1g81LdNDe517w="
}

```

```
}
// 2. Create the content converter process. Pass in the affinity token
generated
// from the previous request so that resource is stored on the same PCC
server. POST http://192.168.0.1:18681/v2/contentConverters Accusoft-
Affinity-Token: rcqmuB9pAa8+4V7fh0lSXzawy/YMQU1g8lLdNDe5l7w=
{
  "input": {
    "src": {
      "fileId": 5qTYa3gzN9gYUb5SzqUhqg
    },
    "dest": {
      "format": "pdf"
    }
  }
}
200 OK
Content-Type: application/json
{
  "input": {
    "src": {
      "fileId": 5qTYa3gzN9gYUb5SzqUhqg
    },
    "dest": {
      "format": "pdf" ",
      "pdfOptions": {
        "forceOneFilePerPage": false
      }
    }
  },
  "expirationDateTime": "2015-12-17T20:38:39.796Z",
  "processId": "ElkNzWtrUJp4rXI5YnLUgw",
  "state": "processing",
  "percentComplete": 0,
  "affinityToken": "rcqmuB9pAa8+4V7fh0lSXzawy/YMQU1g8lLdNDe5l7w="
}
// 3. Get status of content conversion process until state is "complete".
GET http://192.168.0.1:18681/v2/contentConverters/ElkNzWtrUJp4rXI5YnLUgw
Accusoft-Affinity-Token: rcqmuB9pAa8+4V7fh0lSXzawy/YMQU1g8lLdNDe5l7w=
200 OK
Content-Type: application/json
{
  "input": {
    "src": {
      "fileId": 5qTYa3gzN9gYUb5SzqUhqg
    },
    "dest": {
      "format": "pdf",
      "pdfOptions": {
        "forceOneFilePerPage": false
      }
    }
  },
  "expirationDateTime": "2015-12-17T20:38:39.796Z",
  "processId": "ElkNzWtrUJp4rXI5YnLUgw",
  "state": "complete",
  "percentComplete": 100,
  "output": {
    "results": [
      {
        "fileId": "KOrSwaqsguevJ97BdmUbXi",
        "src": [{ "fileId": 5qTYa3gzN9gYUb5SzqUhqg, "pages": 1-3" }]
      }
    ]
  }
}
```

```
    }
  ]
}
"affinityToken": "rcqmuB9pAa8+4V7fh0lSXzawy/YMQU1g8lLdNDe5l7w="
}
// 4. Get the converted document once the content conversion process is
complete GET
http://192.168.0.1:18681/PCCIS/V1/WorkFile/KOrSwaqsguevJ97BdmUbXi Accusoft-
Affinity-Token: rcqmuB9pAa8+4V7fh0lSXzawy/YMQU1g8lLdNDe5l7w=
200 OK
Content-Type: application/pdf
[binary data]
```

## PrizmDoc Application Services (PAS)

This section contains the following information:

- [Optimize Cache Performance for Cluster Environments](#)
- [Run PAS on Clusters](#)

## Optimize Cache Performance for Cluster Environments

### Introduction

PrizmDoc Application Services (PAS) utilizes cache locations that don't need to be on the same server. If multiple PAS servers are in use, they can be configured to use the same central filesystem and database so that cached data is shared between servers.

A given Viewing Session is cached by either PrizmDoc Server or by PAS depending on how it was created. Sessions created using a documentId are stored in PAS' central cache as a [pre-converted viewing package](#). As these sessions are not cached in PrizmDoc Server, they will not be directly accessible through the PrizmDoc Server API.

### Example

```
POST http://localhost:3000/ViewingSession Content-Type: application/json
{
  "source": {
    "type": "document",
    "fileName": "sample.doc"
    "documentId": "doc_9495837910qc"
  }
}
```

Viewing packages can be created either explicitly via the [Pre-Conversion API](#) or, as in the above example, implicitly by providing a documentId in the [Viewing Session API](#).

Sessions created without a documentId are not stored as viewing packages and are cached by PrizmDoc Server as normal according to the server configuration and request parameters.

## Example

```
POST http://localhost:3000/ViewingSession Content-Type: application/json
{
  "source": {
    "type": "document",
    "fileName": "sample.doc"
  }
}
```

**NOTE:** If PrizmDoc Server is running in Cluster Mode, PAS handles the use of affinity hints internally and does not require the user to perform anything additional for optimized PrizmDoc Server cache performance.

## Run PAS on Clusters

### Introduction

PrizmDoc Application Services (PAS) is designed to scale out well. By default, it will run multiple threads on a single machine whenever it is capable, and it can be installed to run on multiple machines easily. You will need to do the following in order to run PAS on multiple servers:

- Install the PAS component on all machines that you would like to use.
- On each machine, configure all filesystem-based storage in the PAS configuration file to point to a shared location. It is recommended that you use a shared Network Attached Storage (NAS) device that is accessible to all PAS instances.
- On each machine, [find the correct PAS configuration file](#), and adjust the settings so that each instance of PAS is pointing to the same PrizmDoc Server or PrizmDoc Cloud entry point.

You can find out more about configuring PrizmDoc Server with a cloud entry point for a cluster environment in the [PrizmDoc Viewer Cluster Mode](#) topic.

Make sure to re-start PAS after every configuration change, in order for the changes to take effect.

### Load Balancing

There is no special consideration for load balancing several PAS servers. Any request can be routed to any instance of PAS, and you can use any off-the-shelf load balancer to handle the routing.

## Troubleshoot

This section contains the following information:

- [Linux](#)
- [Windows](#)
- [Check the System's Health](#)

- [Connection Issues](#)
- [Error Reporting](#)
  - [Accusoft Policy on Log Changes](#)
  - [Search Tips](#)
  - [Packaging Log Files for Product Support](#)
- [Form Field Detector Error Messages](#)
- [Working Effectively with Large Documents](#)

## Linux

### Introduction

This topic covers troubleshooting tips for PrizmDoc. Note that this topic does not cover issues related to custom web-tier implementations.

### The Viewer isn't Working (Check the PrizmDoc Server)

The following section contains basic troubleshooting steps limited to the PrizmDoc Server.

1. Verify that the **PrizmDoc Server** is running. Check the **health** of the PrizmDoc Server:

If you are using PrizmDoc v10.x or later, this can be found at:

<http://localhost:18681/admin>

Your license status will be displayed at the top:

License Status	licensed as 'PrizmDoc12'
PCC Version	12.2
OS	Unix 3.13.0.36

If you are using PrizmDoc v9.x, this can be found at:

<http://localhost:18681/PCCIS/V1/Service/Current/Info>

The health of the services will be displayed (which will display the same data in JSON format).

**NOTE:** The "License Status" and "PCC Version" may differ on your system from the example above. Note that "OS" will be your version of Linux.

2. If you find that some of the services are unhealthy (and you have checked permissions, login and password of the service user, and are using a known valid license), there are two primary reasons for this:

#### The System has Limited Resources

The system resources for a machine running PrizmDoc are described in [Sizing Servers](#). Please note that PrizmDoc will require at least a few gigabytes free while running and no conversions are taking place. If your system has PrizmDoc installed and idles with 1-2GB free RAM, then the services will run into stability issues.

## The Cache is Corrupted or Inaccessible

A common problem is not running or installing PrizmDoc Server as the root user, which is a requirement for running PrizmDoc on a Linux server. Correcting this will solve permission related issues while accessing the cache. To clear a potentially corrupted cache manually, use the following steps:

1. Run: **`/usr/share/prizm/scripts/pccis.sh stop`**
2. Delete the contents of: **`/usr/share/prizm/cache/`**
3. Start up PrizmDoc Server: **`/usr/share/prizm/scripts/pccis.sh start`**

Another common issue is that either PrizmDoc Application Services (PAS) or PrizmDoc Server isn't running.

To check that PAS is running:

1. Navigate to: **`/usr/share/prizm/pas/pm2`**
2. Run: **`./pas.sh status`**

To check that the PrizmDoc Server is running:

1. Navigate to: **`/usr/share/prizm/scripts`**
2. Run: **`./pccis.sh status`**

If the steps above have been checked and the Admin page shows that PrizmDoc is unlicensed, then the license key will need to be verified by Accusoft Support at [support@accusoft.com](mailto:support@accusoft.com). You can find the current license key in **`/usr/share/prizm/prizm-services-config.yml`**:

```
license.solutionName: PrizmDoc12
license.key: 2.0.E6Aorkh8...
```

In the example above, the license key is "2.0.E6Aorkh8..." To locate your license key, copy everything after "license.key:" and send your **full license key** to Accusoft Support.

**NOTE:** Your solutionName and license key may differ from the example above.

If everything seems to be functioning, and a file is still not displayed in the Viewer, there may be an issue with the conversion of the specific file. If this is the case, send the file to [support@accusoft.com](mailto:support@accusoft.com) for evaluation and submission to our engineering team.

## Windows

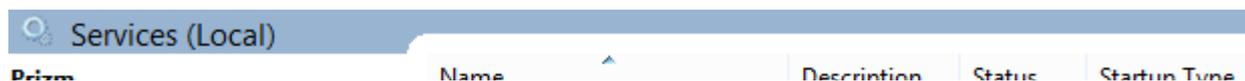
### Introduction

This topic covers troubleshooting tips for PrizmDoc. Note that this topic does not cover issues related to custom web-tier implementations.

### The Viewer isn't Working (Check the PrizmDoc Server)

The following section contains basic troubleshooting steps limited to the PrizmDoc Server.

1. Verify that the **PrizmDoc Server** is running:

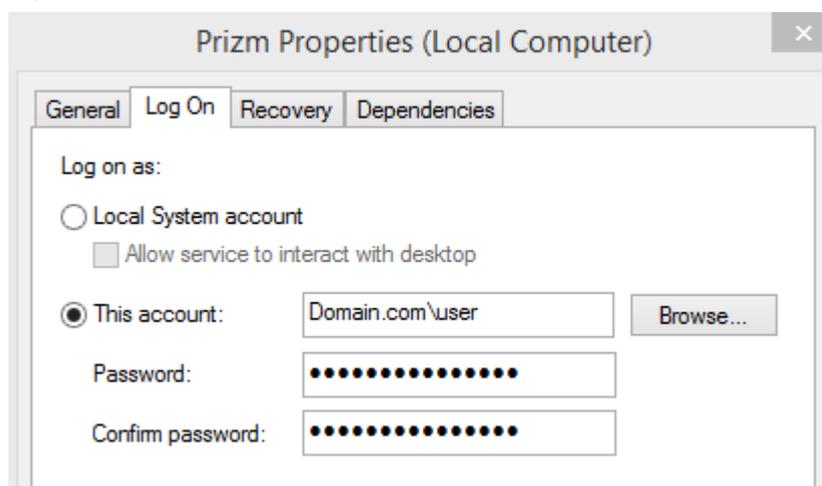


Prizm	name	Description	Status	Startup type
<a href="#">Stop</a> the service <a href="#">Restart</a> the service	Prizm	Runs the Pri...	Running	Automatic
	PrizmDemo	Runs the Pri...	Running	Automatic
	Problem Reports and Soluti...	This service ...		Manual

- Verify that the **PrizmDoc Application Service (PAS)** is running (if your application is using PAS):

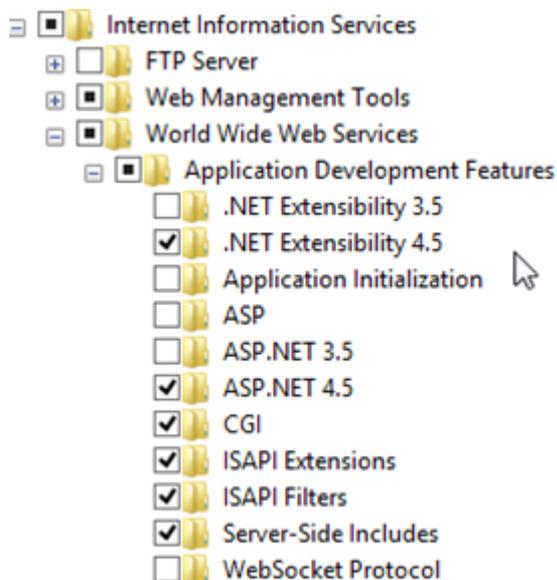
PrizmDemo	2892	PrizmDemo	Running
PrizmApplicationServices	17812	Prizm Application Services	Running
Prizm	5760	Prizm	Running

- Verify that the "Log On As" user for the PrizmDoc Server has not recently had a password change. Right-click **Properties** and re-enter the **user password**:



- Navigate to **C:\ProgramData\Accusoft** and make sure that the user from Step 2 above has full permissions to the folders under **Prizm**:
  - Right-click the **Prizm folder** and select **Properties**.
  - Navigate to the **Security Tab**.
  - Select **Advanced**.
  - Select **Change permissions** (if required).
  - Make sure that the user from Step 2 above has **Full Control**.
  - Be sure to select **Replace all child object permission entries with inheritable permission entries from this object** to avoid discrepancy.
  - Apply any changes that were made.
- Open the **Internet Information Services (IIS) Manager**.
- Check that the **PrizmDoc Service Web Site** is running with its application pool.
  - The actions menu on the right-hand side will show if it is running.
  - Click on **Basic Settings** in the action menu to see the application pool set.
  - After verifying the **pool name**, go to **Application Pools**.
  - Verify that the **application pool** is started.
  - If the Application pool identity is a **user**, and that user is different from the one checked for the Windows PrizmDoc Service, verify that the password and permissions are set in the same way as Step 3 above.

- f. Open the **Windows Features** and check that **.NET Framework 4.5 Advanced Series** is currently installed.
7. Also, check that the **ASP.NET 4.5 Application development features** are enabled under **Internet Information Services**:



8. Check the **health** of the PrizmDoc Server.

If you are using PCC v10.x or later, this can be found at:

<http://localhost:18681/admin>

Your license status will be displayed at the top:

License Status	licensed as 'PCC10'
PCC Version	10.4
OS	Microsoft Windows NT 6.3.9600.0

If you are using PCC v9.x, this can be found at:

<http://localhost:18681/PCCIS/V1/Service/Current/Info>

The health of the services will be displayed (which will display the same data in JSON format).

9. If you find that some of the services are unhealthy (and you have checked permissions, login and password of the service user, and are using a known valid license), there are two primary reasons for this:

#### System has Limited Resources

The system resources for a machine running PrizmDoc are described in [Sizing Servers](#). Please note that PrizmDoc will require at least a few gigabytes free while running and no conversions are taking place. If your system has PrizmDoc installed and idles with 1-2GB free RAM, then the services will run into stability issues.

#### The Cache is Corrupted or Inaccessible

Step 3 above is the most common issue for this, however clearing the cache is good practice. To clear the cache manually, use the following steps:

1. Stop the **Windows PrizmDoc Server**.
2. Delete the contents of **C:\Prizm\Cache**.
3. Start up the **Windows PrizmDoc Server**, and restart **IIS**.

If Steps 1 through 9 above have been checked and the Admin page shows that PrizmDoc is unlicensed, then the license key will need to be verified by Accusoft Support at [support@accusoft.com](mailto:support@accusoft.com). You can find the current license key in **C:/Prizm/prizm-services-config.yml**:

```
5 license.solutionName: PCC10
6 license.key: 2.0.EAWgWs2X4Aeb3Fes8sU1fA4FfVjYTKfAUA
7
```

Your license key will be everything after the equal sign on **Line 6**. Copy and send your **full key** to Accusoft Support.

## Check that PAS is able to Connect to PrizmDoc Server

### Example

```
GET http://localhost:3000/servicesConnection
```

Returns the status of PAS connectivity to the PrizmDoc Server, whether local or configured through Accusoft Services.

### Successful Response

#### Example

```
200 OK
```

```
OK
```

This response shows that the connection to PrizmDoc Server is successful, but does not take into account whether or not those services are healthy. If you need to check the health of the services, please make a call to them directly.

### Error Responses

#### Example

```
580
```

The response shows that PAS is not properly configured to communicate with PrizmDoc Server.

If everything seems to be functioning, and a file is still not displayed in the Viewer, there may be an issue with the conversion of the specific file. If this is the case, send the file to [support@accusoft.com](mailto:support@accusoft.com) for evaluation and submission to our engineering team.

## My Documents are Loading Slowly

### Question

Why are my documents loading slowly in the Viewer when PrizmDoc Server is installed on a Windows 2016 server?

### Answer

When Windows Defender is enabled for Real-Time scanning, this may impact performance. If you disable Windows Defender Real-Time scanning, the performance issue should resolve immediately.

## Check the System's Health

### Introduction

While a PrizmDoc Server does its best to keep itself up and running, it is possible for a PrizmDoc Server to become unhealthy, in which case you must restart PrizmDoc Viewer (typically by rebooting the server).

To check whether or not a server is healthy, simply send an HTTP **GET** request to **/PCCIS/V1/Service/Current/Health**. If the server is healthy, **HTTP 200** will be returned; if unhealthy, **HTTP 500** will be returned. Note that if PrizmDoc Viewer has just started, HTTP 500 may be returned for a short time until the system has completely started up.

### Cluster Mode: Use the CEP

If you are running in cluster mode, send your request to the Cloud Entry Point (CEP), typically running on port 18681:

#### Example

```
GET server:18681/PCCIS/V1/Service/Current/Health
```

### Single-Server Mode: Use the SEP

If you are running in single-server mode, send your request to the Server Entry Point (SEP), typically running on port 18681:

#### Example

```
GET server:18681/PCCIS/V1/Service/Current/Health
```

### HTTP Response

- **HTTP 200** - Server is healthy and running normally.
- **HTTP 500** - Server is unhealthy and must be restarted (or PrizmDoc Viewer is still starting up).

### Additional Information

Refer to the API topic, [Health Status](#) for more information on checking the health of PrizmDoc Server.

## Connection Issues

## Introduction

To troubleshoot connection issues between the Viewer and the backend, choose the scenario below based upon your implementation for backend processing:

### PrizmDoc Viewer (Self-Hosted) to PrizmDoc Cloud (Backend)

#### Troubleshooting Connection Issues

If there is an issue with your connection, there are a few steps you can take to troubleshoot:

1. Locate your **PrizmDoc Application Services (PAS) config file**. Assuming the standard install location, this would be **C:\Prizm\pas\pcc.win.yml** on Windows and **/usr/share/prizm/pas/pcc.nix.yml** on Linux.
2. Look at the values set for the **pccServer.hostName**, **pccServer.port**, and **pccServer.scheme** to ensure the following (the **pccServer.apiKey** should be set to your API key):
  - **pccServer.hostName:** `"api.accusoft.com"`
  - **pccServer.port:** `443`
  - **pccServer.scheme:** `"https"`
3. If the values for these parameters are correct, try restarting **PAS**. Refer to [Starting & Stopping PAS](#) for instructions, and try again.

If you are still unable to verify your connection to the PrizmDoc Cloud, please contact [Accusoft Support](#).

### PrizmDoc Viewer (Self-Hosted) to PrizmDoc Server (Self-Hosted Backend)

#### Troubleshooting Connection Issues

If there is an issue with your connection, there are a few steps you can take to troubleshoot:

1. Locate your **PrizmDoc Application Services (PAS) config file**. Assuming the standard install location would be **C:\Prizm\pas\pcc.win.yml** on Windows and **/usr/share/prizm/pas/pcc.nix.yml** on Linux.
2. Look at the values set for the **pccServer.hostName**, **pccServer.port**, and **pccServer.scheme** to confirm they are correct:
  - **pccServer.hostName** should specify the machine where you installed PrizmDoc Server.
  - **pccServer.port** should specify the port that PrizmDoc Server is using, which is `18681` by default for both single-server mode and **cluster mode**. If the settings are not correct, update them and try again.
3. If the values for these parameters are correct, try restarting **PAS**. Refer to [Starting & Stopping PAS](#) for instructions, and try again.

If you are still unable to verify your connection to PrizmDoc Server, please contact [Accusoft Support](#).

## Form Field Detector Error Messages

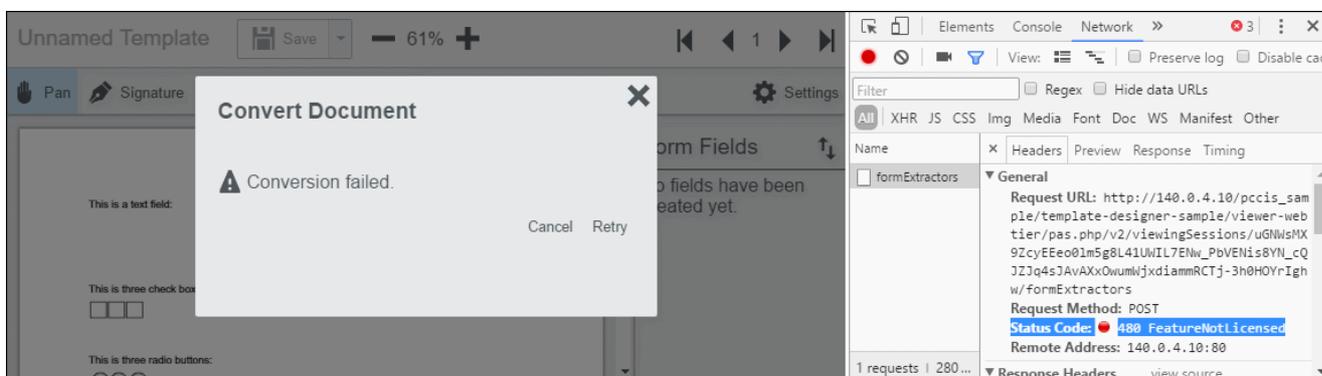
### Introduction

To distinguish between a generic Form Field Detector error and when the feature is not licensed, open **Developer tools** in your browser, select the **Network** tab and click the **Retry** button. If your license key doesn't include the Form Field Detector feature, you will see the following Status Code:

### Example

```
Status Code: 480 FeatureNotLicensed
```

with the following JSON body: {errorCode:"FeatureNotLicensed"} as shown below:



If you want to enable the feature, refer to the topic [Overview of PrizmDoc Viewer Feature Licensing](#) for more details. If you don't want to enable the feature, click "Continue Without Converting" the next time the dialog appears prompting you to convert the document.

## Error Reporting

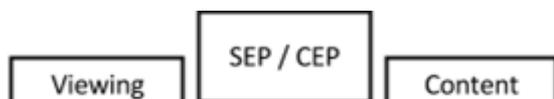
### Introduction

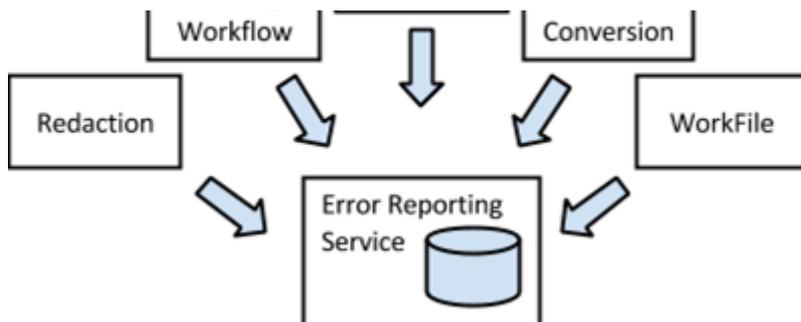
This section contains the following information:

- [Accusoft Policy on Log Changes](#)
- [Search Tips](#)
- [Packaging Log Files for Product Support](#)

PrizmDoc Server is composed of a number of micro-services each responsible for some small processing task related to document conversion and viewing. Consequently, an error may occur while processing a small piece of a document and may not be readily apparent to the user.

While it is a simple task for one service to report an error to a calling service, it is not always appropriate to present that error information to the end user. The Error Reporting Service provides a centralized log into which all services report errors with the overall goal of simplifying system troubleshooting:





## Error Reporting Configuration

Errors are reported to a log file located in the directory containing the other service log files by default:

- **Linux:** /usr/share/prizm/logs/PccErrors.log
- **Windows:** C:\Prizm\logs\PccErrors.log

These locations, as well as the number of daily logs to retain, can be found in the [central configuration](#) file. The file paths for the Central Configuration file are:

- **Linux:** /usr/share/prizm/prizm-services-config.yml
- **Windows:** C:\Prizm\prizm-services-config.yml

**NOTE:** The default installation directory is: C:\Prizm.

## Error Report Entries

The error log file may contain two type of entries: Errors and Relations. Errors entries describe a specific error event reported by a service and can be used to diagnose issues with a document or service. Relations describe the relationship between two resources and are used to help diagnose an error in which the cause was the result of a failure from another related resource. These are described in further detail below.

## Error Entries

An example Error entry is shown below:

### Example

```

{
  "gid": "duw97iCztVvreTmqRZdgOw",
  "service": "ImagingServices",
  "resourceType": "ViewingSession",
  "resourceId": "
3eHY2Fq1gNyHo3i2kx2zJQ38YvNPcQMG4CowwC_71cZ1jRN116k48PxBkPkAkGd0xWHXjWmkhdQoRw
",
  "relevance": 100,
  "errorCode": "DocumentRequiresAPassword",
  "time": "2015-04-28 20:27:25.0473",
  "errorId": "f00hLsu_v8TimZm88w1b6w"
}
  
```

Error Entry	Description
gid	This is the Global ID assigned to each new request. It uniquely identifies operations resulting from the original request.
service	This is the name of the service which reported the error.
resourceType	This describes the resource related to the error. Examples include ContentConverter, WorkFile, MarkupBurner, RedactionCreator.
resourceId	This is the unique resource identifier (i.e. ViewingSessionId).
relevance	<p>This indicates the importance of the error:</p>
errorCode	This is the error code reported by the service. This will be a PascalCased string briefly describing the error.
time	This is the time at which the error was reported.
errorId	This is a unique errorId assigned to the error by the Error Reporting Service.

## Relation Entries

An example relation entry is shown below:

### Example

```
{
  "gid": "duw97iCztVvreTmqRZdgOw",
  "service": "ImagingServices",
  "resourceType": "ViewingSession",
  "resourceId": "
3eHY2FqlgNyHo3i2kx2zJQ38YvNPcQMG4CowwC_71cZ1jRN1DEF0UbuRl6k48P,
  "relation": "RedirectedViewingSession",
  "relationResourceId":
"gRrJ8ay0jV6wBXiqMjxmB4epUrsd7KqVdtsD_BtwAZbhYBVpb4P2ksm0_kcByugmA",
  "relationId": "EjA6CpDhFuTMP3sTAvMhyA"
}
```

Relation Entry	Description
gid	This is the Global ID assigned to each new request. It uniquely identifies operations resulting from the original request.
service	This is the name of the service which reported the relation.
resourceType	This describes the resource associated with the relation. Examples include ContentConverter, WorkFile, MarkupBurner, RedactionCreator.
resourceId	This is the unique resource identifier (i.e. ViewingSessionId).
relation	This describes the related resource. (i.e. RedirectedViewingSession).
relationResourceId	This is the unique related resource identifier (i.e. ViewingSessionId).
relationId	This is a unique relationId assigned to the error by the Error Reporting Service.

## Accusoft Policy on Log Changes

### Introduction

Accusoft is moving towards using JSON as the format for each log line. This makes it easier for us to programmatically analyze log data to improve the product. While it is possible to write your own programs that analyze our log data, please be aware that raw log data may change from release to release, and that logged events may be added, removed, or changed in a variety of ways. Specifically:

- New log events may be added.
- New properties may be added to existing log events.
- Existing log events may no longer be logged.
- Existing properties may be removed from existing log events.
- The minimum level of an existing log event (10 for TRACE, 20 for DEBUG, 30 for INFO, etc.) may change.

Additionally, log files that do not currently use JSON as their logging format will be replaced at some point by JSON logging.

## Search Tips

### Introduction

The examples below show methods for locating errors in the Error Reporting Service logs. While the examples here use command-line based searches, the same results can be achieved with your favorite text editor or other search tool.

### Searching for a Specific Relevance

Errors that can be resolved directly by a user will have a high relevance (typically 90 or 100). It is useful to filter the PccErrors.log for entries with a specific relevance. The examples below show command line operations to list errors with relevance 100 on both Windows and the Linux Bash shell.

#### On Windows

```
C:> findstr /L "relevance":100" C:\ProgramData\Accusoft\Prizm\Logs\PccErrors.log
```

### On Linux Bash

```
$> grep 'relevance":100' /usr/share/prizm/logs/PccErrors.log
```

An example of an entry with relevance 100 is shown below:

#### Example

```
{ "gid": "13CbzVdHZ/wqVKLCZmfq9A", "time": "2015-05-14
19:26:25.9842", "resourceType": "ViewingSession", "resourceId": "190054e9-574f-4b83-ae86-
d30c0c7e2c1c", "relevance": 100, "errorCode": "DocumentRequiresAPassword", "service":
"ImagingServices", "errorId": "3SgxE5MseBEo1bECEMSETA" }
```

In this case, the user has attempted to view a document requiring a password without providing the password.

## Searching for a Viewing Session

If an error occurs during a particular viewing session, the cause of the problem may be reported in the Error log. The errors for a particular viewing session can be found first by searching for the viewing session ID.

### On Windows

```
C:> findstr /L "sugq5PRxDV4ERAbAQLgpRzKjbKrHp868m6zN2QG-wBFHO3ZX-SIhJ3GIJA8FK4WZzB2DjiJ_gZWTAUdyKeqBcw"
C:\ProgramData\Accusoft\Prizm\Logs\PccErrors.log
```

### On Linux Bash

```
$> grep sugq5PRxDV4ERAbAQLgpRzKjbKrHp868m6zN2QG-wBFHO3ZX-SIhJ3GIJA8FK4WZzB2DjiJ_gZWTAUdyKeqBcw
/usr/share/prizm/logs/PccErrors.log
```

Example results from the query are shown below:

#### Example

```
{ "gid": "13CbzVdHZ/wqVKLCZmfq9A", "time": "2015-05-14
19:26:25.9834", "resourceType": "ViewingSession", "resourceId":
"sugq5PRxDV4ERAbAQLgpRzKjbKrHp868m6zN2QG-wBFHO3ZX-SIhJ3GIJA8FK4WZzB2DjiJ_gZWTAUdyKeqBcw", "relation":
"ViewingSessionId", "relationResourceId": "190054e9-574f-4b83-ae86-
d30c0c7e2c1c", "service": "ImagingServices", "relationId": "HsayMuoWcABqBDsN6yR9Vg" }
```

Notice the second ID: "190054e9-574f-4b83-ae86-d30c0c7e2c1c". This is the internal ID for a viewing session. A search for this ID will locate any errors associated with the viewing session.

## Searching for Related Resources

After a record has been identified, it is useful to determine if any related error records were reported. This can be achieved by searching the log for the resource ID.

### On Windows

```
C:> findstr /L "190054e9-574f-4b83-ae86-d30c0c7e2c1c" C:\ProgramData\Accusoft\Prizm\Logs\PccErrors.log
```

### On Linux Bash

```
$> grep 190054e9-574f-4b83-ae86-d30c0c7e2c1c /usr/share/prizm/logs/PccErrors.log
```

Example results from the query are shown below:

#### Example

```
{ "gid": "13CbzVdHZ/wqVKLCZmfq9A", "time": "2015-05-14
19:26:25.9842", "resourceType": "ViewingSession", "resourceId": "190054e9-574f-4b83-ae86-
d30c0c7e2c1c", "relevance": 100, "errorCode": "DocumentRequiresAPassword", "service": "ImagingServices", "errorId":
"3SgxE5MseBEo1bECEMSETA" }
```

```
{
  "gid": "13CbzVdHZ/wqVKLCZmfq9A", "time": "2015-05-14
  19:26:25.9834", "resourceType": "ViewingSession", "resourceId": "sugq5PRxDV4ERAbAQLgpRzKjbKrHp868m6zN2QG-
  wBFHO3ZX-
  SIhJ3GIJA8FK4WZzB2DjiJ_gZWTAUdyKeqBcw", "relation": "ViewingSessionId", "relationResourceId": "190054e9-
  574f-4b83-ae86-
  d30c0c7e2c1c", "service": "ImagingServices", "relationId": "HsayMuoWcABqBDsN6yR9Vg" }

{
  "gid": "13CbzVdHZ/wqVKLCZmfq9A", "time": "2015-05-14 19:26:25.9843", "resourceType":
  "ViewingSession", "resourceId": "190054e9-574f-4b83-ae86-
  d30c0c7e2c1c", "relation": "SourceDocumentWorkFile", "relationResourceId": "JAQ6o9ck1VM2ohFf5xiI6g", "service":
  "ImagingServices", "relationId": "nXI4pNPhXmS2Idb8vui1LQ" }
```

Notice the third record: "JAQ6o9ck1VM2ohFf5xiI6g". This reported relation record indicates the workfile requiring the password. Now that the workfile ID has been identified, it is possible to determine the actual file from the WorkfileService.log.

## Searching Other Logs

Once the workfile ID is known, it possible to search WorkfileService.log for location of the actual file which caused the error.

### On Windows

```
C:> findstr /L JAQ6o9ck1VM2ohFf5xiI6g C:\ProgramData\Accusoft\Prizm\Logs\WorkfileService.log
```

### On Linux Bash

```
$> grep JAQ6o9ck1VM2ohFf5xiI6g /usr/share/prizm/logs/WorkfileService.log
```

Example results from the query are shown below:

#### Example

```
{
  "name": "WorkfileService", "hostname": "ip-10-182-110-214", "pid": 7345, "taskid": 24003,
  "gid": "Fa7Uay+IjZqa53pgSF9ueA", "level": 30, "type": "WorkfileRepository", "contentsName":
  "/usr/share/prizm/cache/WorkfileCache/JAQ6o9ck1VM2ohFf5xiI6g/WorkfileContents.pdf", "msg":
  "Creating content write stream", "time": "2015-05-14T19:26:25.872Z", "v": 0 }

{
  "name": "WorkfileService", "hostname": "ip-10-182-110-214", "pid": 7345, "taskid": 24003,
  "gid": "Fa7Uay+IjZqa53pgSF9ueA", "level": 30, "type": "WorkfileRepository", "workfile":
  "/usr/share/prizm/cache/WorkfileCache/JAQ6o9ck1VM2ohFf5xiI6g/WorkfileContents.pdf", "msg":
  "Workfile content created", "time": "2015-05-14T19:26:25.872Z", "v": 0 }

{
  "name": "WorkfileService", "hostname": "ip-10-182-110-214", "pid": 7345, "taskid": 24003,
  "gid": "Fa7Uay+IjZqa53pgSF9ueA", "level": 30, "reqBegin": true, "req": { "method": "POST", "path": "/FDS/detect",
  "port": 38503, "data":
  { "src": "/usr/share/prizm/cache/WorkfileCache/JAQ6o9ck1VM2ohFf5xiI6g/WorkfileContents.pdf" } },
  "msg": "", "time": "2015-05-14T19:26:25.872Z", "v": 0 }

{
  "name": "WorkfileService", "hostname": "ip-10-182-110-214", "pid": 7345, "taskid": 24004,
  "gid": "13CbzVdHZ/wqVKLCZmfq9A", "level": 30, "taskBegin": true, "parent": { "name": "PCCIS", "pid": 8130,
  "taskid": 2519 }, "reqAccepted": true, "req":
  { "method": "GET", "path": "/PCCIS/V1/WorkFile/JAQ6o9ck1VM2ohFf5xiI6g",
  "port": 19020 }, "msg": "", "time": "2015-05-14T19:26:25.908Z", "v": 0 }

{
  "name": "WorkfileService", "hostname": "ip-10-182-110-
  214", "pid": 7345, "taskid": 24004, "gid": "13CbzVdHZ/wqVKLCZmfq9A", "level": 30, "type": "WorkfileService",
  "workfileId": "JAQ6o9ck1VM2ohFf5xiI6g", "msg": "Begin: getWorkfile", "time": "2015-05-
  14T19:26:25.908Z", "v": 0 }

{
  "name": "WorkfileService", "hostname": "ip-10-182-110-
  214", "pid": 7345, "taskid": 24004, "gid": "13CbzVdHZ/wqVKLCZmfq9A", "level": 30, "type":
  "WorkfileService", "workfile": { "id": "JAQ6o9ck1VM2ohFf5xiI6g", "expirationDateTime": "2015-05-
  15T19:26:25.871Z", "fileExtension": "pdf", "_version": 1, "cacheEnabled": false, "fileFormat": "pdf" },
  "msg": "Workfile retrieved", "time": "2015-05-14T19:26:25.908Z", "v": 0 }
```

The following section in the record shows the location of the file:  
/usr/share/prizm/cache/WorkfileCache/JAQ6o9ck1VM2ohFf5xiI6g/WorkfileContents.pdf".

## Packaging Log Files for Product Support

### Introduction

This section describes where to find the PrizmDoc Viewer log files and where to send them for support.

### Linux

With a default installation of PrizmDoc Viewer, and with the logging settings left to their out-of-box defaults, you can find all of the log files in this directory:

```
/usr/share/prizm/logs/
```

If you need to send PrizmDoc Viewer log files to Accusoft Support, simply create a gzipped tarball containing everything in that directory.

**NOTE:** We encourage you to use Google Drive or Dropbox links. For additional options, please see the [Support Tickets](#) section of the Accusoft Customer Portal.

### Windows

With a default installation of PrizmDoc Viewer, and with the logging settings left to their out-of-box defaults, you can find all of the log files in these two directories:

```
C:\Prizm\logs  
%ALLUSERSPROFILE%\Accusoft\Prizm\Logs
```

If you need to send PrizmDoc Viewer log files to Accusoft Support, simply create one or more zip files containing everything in these two directories.

**NOTE:** We encourage you to use Google Drive or Dropbox links. For additional options, please see the [Support Tickets](#) section of the Accusoft Customer Portal.

## Developer Guide

### Introduction

PrizmDoc Viewer was designed with ultimate flexibility for developers. With a completely customizable user interface and a powerful set of APIs for PrizmDoc Server, we provide numerous options to ensure that PrizmDoc Viewer meets your needs.

- [Customizing the Viewer](#)
- [Using the Viewer API](#)
- [The Two Backend Tiers](#)

### Customizing the Viewer

There are several options to customize the Viewer based on your use case.

#### Using the Viewer Out-of-the-Box

The Viewer is designed to work out-of-the-box with only a few lines of integration code to write on your web tier. You may be able to integrate the Viewer into your web application with little or no customization needed.

#### Customizing through Configuration

If you need to make minor modifications to the Viewer, customizing through configuration is the simplest option. You can customize the Viewer by modifying the [uiElements](#) to control which tabs are displayed, as well as several other useful customizations.

For example, you may want to disable your users' ability to print and download documents. Initializing the Viewer with pre-defined search terms and localization can also be handled via client configuration. You can also control how pages are displayed for different sized documents through configuration. Modifying through configuration options means that you don't have to change the actual viewer code, minimizing integration time needed with future PrizmDoc Viewer releases.

#### Customizing the User Interface

The Viewer is designed using an open markup approach; all of the HTML and .css is open and customizable. This allows you to treat the Viewer either as an out-of-box product fully supported by Accusoft or as sample code. By taking the sample code approach, you can start with our complete Viewer and modify the Viewer code as needed, from minor tweaks to a complete re-design of the interface. Of course, with this approach, you will incur some overhead when merging customizations with future versions of [PrizmDoc Viewer](#).

The Viewer markup is made up of a number of HTML "template" files. The [template files](#) help segment the UI components and make it easier for you to focus on areas of the Viewer that you need to modify. Simple customizations such as rearranging, removing, or renaming tabs can be done very quickly by modifying the main template ([viewerTemplate.html](#)). From there, you can add, remove, or change anything in the Viewer UI, including designing a completely custom interface using the Viewer API. Additionally, we expose an unminified, unobfuscated JavaScript library that allows you to edit the business logic and behavior of the Viewer (see [Developer Guide > Customizing the Viewer > Modifying viewer.js](#)).

### Using the Viewer API

The Viewer API permits programmatic control over the Viewer. Most API functionality is exposed by the ViewerControl - the core component of the Viewer. The Viewer UI/chrome builds off of the API members of the ViewerControl.

It is required to use the Viewer API for:

- Modifying the behavior of the Viewer (beyond simple configuration)
- Augmenting the behavior of the Viewer
- Building custom Viewer menus

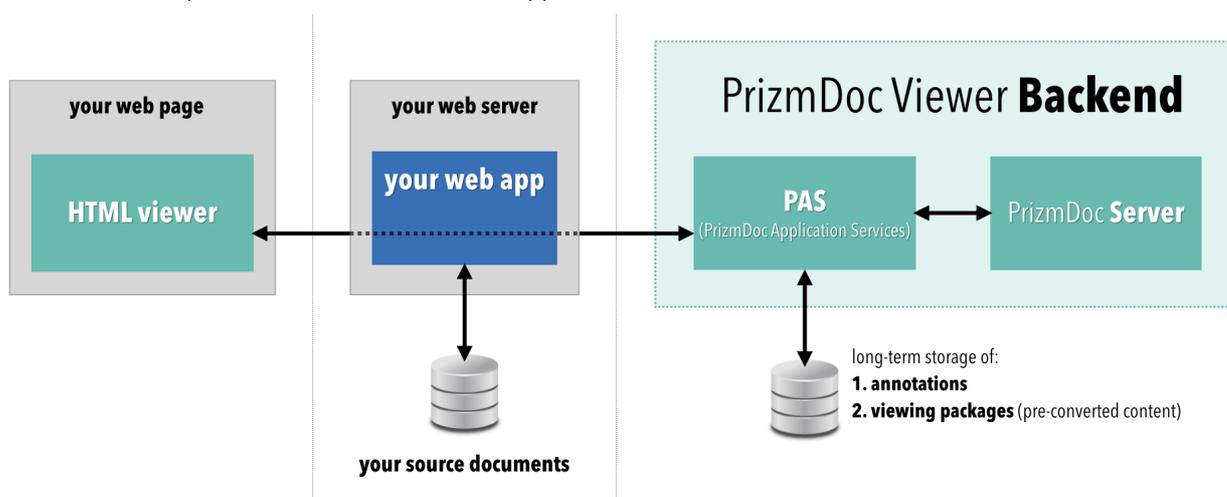
The Viewer API is *not* required for:

- Customizing the Viewer's layout or style
- Adding or removing tabs
- Moving or removing buttons and other inputs

For more information about the Viewer API, refer to the [API Reference](#) documentation.

## The Two Backend Tiers

The backend is made up of two tiers, **PAS** (PrizmDoc Application Services) and **PrizmDoc Server**:



PAS and PrizmDoc Server are independent. Each runs on its own host or port, and each has its own REST API.

- **PrizmDoc Server** (on the far right) is the technical heart of the product, the actual engine that converts pages of a document to SVG. It is compute intensive and has no permanent storage.
- **PAS** does not do any conversion work. Instead, it is a layer in front of PrizmDoc Server which is responsible for other viewing concerns, such as saving and loading of annotations or long-term caching of pre-converted content. Like your web application, PAS has privileged access to storage that you own (like a file system or database).

**For viewing functionality, your web application should only need to make REST API calls to PAS.** PAS will make calls to PrizmDoc Server on your behalf to ensure the conversion work is actually done.

**For automated document processing, your web application can use the powerful PrizmDoc Server REST API directly.** For example, you can leverage the PrizmDoc Server REST API to convert files, combine files, burn markup or redactions into a file, and more.

## PAS

For more information about **PAS**, see:

- The [PrizmDoc Application Services](#) section in this developer guide.
- The [PAS REST API reference](#).

## PrizmDoc Server

For more information about **PrizmDoc Server**, see:

- The [PrizmDoc Server](#) section in this developer guide.
- The [PrizmDoc Server REST API reference](#).

## Implement our Top Features

### Introduction

This topic is a quick reference for you to review our top features and decide which ones you want to implement:

- **Customize the Viewer** - There are several ways to customize the Viewer, from quick integrations with minimal configuration to complete control over the Viewer API. You can create a chrome-less viewer or create your own custom controls including page navigation, zooming, thumbnails, searching, and printing. The following levels of customization are available:
  - **Level 1 - Out-of-the-Box** - By adding the [jQuery plugin](#) to your web application with minimal code, you can use the full features of the Viewer with no customization necessary.
  - **Level 2 - Customize Using Configuration Parameters** - The Viewer has a number of configuration options that allow you to control basic functions like tab display and localization just by launching the Viewer using [Initialization Parameters](#) and [uiElements](#). For many developers, the flexibility provided here will be sufficient.
  - **Level 3 - Simple Interface Customization** - By having an open markup and UI template design, minor customization such as moving, hiding, and renaming UI elements can be done by modifying [HTML templates](#). You can also inject your own code to add additional functionality and workflow.
  - **Level 4 - Advanced Customization** - With a complete viewer API, you may opt to do advanced customization, including building your own viewer from the ground up. See the [Developer Guide](#) for more details.
- **Annotate Documents** - A complete set of annotation tools including text commenting, image stamps, highlights, hyperlink, and polyline annotations and more.
- **Redact Documents** - Auto-redact features that are perfect for eDiscovery, research, and other collaborative applications where security is a top priority.
- **View Large Documents** - Minimize the load time and optimize performance for viewing and searching large documents. Server-side search reduces memory load in the Viewer, increasing performance of large document search results.
- **Pre-Convert Documents** - Use the Pre-conversion API in PrizmDoc Application Services (PAS) to experience nearly instantaneous viewing of documents.
- **Natively Render Microsoft Office Documents** - A valuable Microsoft Office Conversion (MSO) feature that provides true native viewing of Word, Excel, and PowerPoint documents.
- **Detect PDF AcroForm or Raster File** - The RESTful API quickly and accurately auto-detects form fields to convert existing documents into fillable forms that are simple to fill out and sign. Convert text, checkbox, and signature fields on AcroForm documents or automatically detect text fields from scanned TIFF or bitmap documents, creating interactive fillable form fields.
- **Document Comparison** - Document comparison is the process of cross-checking new versions of a document against previous versions so that you can see the changes. These changes could include formatting modifications such as font or spacing changes, grammatical changes, or the addition or omission of words, sentences, clauses or paragraphs. For more details on how to implement Document Comparison, refer to the following topics:
  - [Work with Document Comparison](#) Programmatically
  - [Perform Document Comparison](#)

# Work Effectively with Large Documents

## Introduction

This section gives high-level guidelines to achieve fast end-user interaction with source documents that contain hundreds or even thousands of pages.

## Use Viewing Packages to Pre-Convert Content Whenever Possible

The most important thing you can do to make large documents load quickly in the browser is to make sure the document content has already been converted for viewing in the browser before an end user starts to view it. This is especially true for Microsoft Office documents.

If you are using PrizmDoc Application Services (PAS), you can take advantage of our [Viewing Packages](#) feature to comprehensively pre-convert an entire document for fast viewing in the browser. Once created, a viewing package persists until you explicitly delete it, and it allows PAS to simply return static content for any page of a document, even if the document has thousands of pages.

If you are not yet taking advantage of PAS (that is, you are communicating directly to the back-end PrizmDoc Server to create your viewing sessions), consider adding [PAS](#) to your environment to take advantage of the [Viewing Packages](#) feature.

If you are not familiar with how the browser, your web tier, PAS, and the back-end PrizmDoc Server work together, refer to the [PrizmDoc Overview](#).

## Use Server-Side Search to View Large Documents

Ideally, the Viewer would perform a client-side search whenever possible and a server-side search whenever necessary. In reality, we make an educated guess based on page count. By default, our Viewer will perform a client-side search if a document contains no more than 80 pages; otherwise, the Viewer will offload the search work to the server. For many kinds of documents, this arbitrary 80-page threshold works fine. However, if you are using documents of 80 pages or fewer with a substantial amount of text, or if your end user's browser is particularly memory constrained, you may find that this default is not aggressive enough in offloading search work to the server.

When constructing a viewer control, you can use the [ViewerControlOptions](#) `searchMethodPageCountThreshold` property to adjust the maximum number of pages a document can have before the Viewer switches to server-side search. Additionally, you can use the `searchMethodType` property to force the Viewer to only use server-side search (or only use client-side search).

The [Viewing Sessions](#) `serverSideSearch` property determines whether server-side text searching will be available for a document and is the default value.

## Viewer

This section contains the following information:

- [Architecture & Design](#)
  - [Design Basics](#)
  - [Architecture Basics](#)
- [Integrate PrizmDoc Viewer Releases with Your Code](#)

- [Configure the Viewer](#)
  - [Configuration Options](#)
    - [Initialization Parameters](#)
    - [uiElements](#)
    - [Use Pre-Loaded Search Parameters](#)
    - [Configure the Skinny Comments Panel](#)
    - [Define the View Mode](#)
    - [Digital Rights Management Configuration](#)
    - [Enable Content Encryption](#)
    - [How to use Pre-Defined Search](#)
    - [Localize the Viewer](#)
    - [Use a Custom Resource Path](#)
    - [Add Custom Image Stamps](#)
- [How to Customize the Viewer](#)
  - [Add a Custom Button](#)
  - [Add Keyboard Shortcuts](#)
  - [Build a Custom User Interface](#)
  - [Change the Position of the Menu Bar](#)
  - [Create a Custom Mouse Tool](#)
  - [Create a Custom Tab](#)
  - [Customize the Markup](#)
  - [Customize the Mouse Tools](#)
  - [Customize the Styles](#)
  - [Disable the Print Button](#)
  - [Scroll the Viewer Programmatically](#)
  - [Reorganize Menus](#)
  - [Set the Initial Zoom Factor](#)
  - [Subscribe to Events](#)
  - [Work with Annotations](#)
    - [Change Annotation Default Values](#)
    - [Load Annotations from the Web Tier](#)
    - [Work with Annotation Layers](#)
    - [Work with Annotations Programmatically](#)
  - [Work with Document Comparison Programmatically](#)
- [Modify viewer.js](#)

## Architecture & Design

The Viewer offers the following features out of the box:

- A responsive UI
- A jQuery plugin for embedding the full Viewer
- Configuration options
- A customizable UI
- An API

- Reusable core component

## Responsive UI

The Viewer's responsive UI is designed for phone, tablet, and desktop users. A single UI implementation adapts to the viewport size of the device or element in which it is embedded.

## jQuery Plugin

A jQuery plugin is used to embed the full-featured, responsive Viewer on the page.

### Example

```
$("#myDiv").pccViewer(pluginOptions);
```

## Configuration

The Viewer UI and behavior can be configured when the Viewer is embedded, using JavaScript parameters.

### Example

```
var pluginOptions = {  
  documentID : "1234abcd",  
  encryption : false,  
  viewMode : "EqualWidthPages"  
}
```

Configurable options include:

- Disabling tabs
- DRM features
- Localization
- Rendering options
- Encryption
- Default tool settings
- Pre-defined search

## Customizable UI

If the Viewer needs to be customized more than configuration options allow, all UI code is open-source and can be modified to suit customization needs.

The open-source Viewer code is separated into CSS files, template HTML files, and JavaScript. The code leverages custom HTML attributes and Underscore.js' templating system in-order to maintain separation of concerns.

## API

The Viewer API offers complete control over the Viewer. The API allows callers to augment, customize, or automate the end user's experience with the Viewer.

The API functionality covers:

- Creating and destroying the Viewer
- Events
- Page navigation
- Zooming and fitting content
- Mark (annotation and redaction) CRUD
- Markup saving and loading
- Customizing mouse tools
- Searching document text
- Printing
- Getting page and document attributes

#### Example

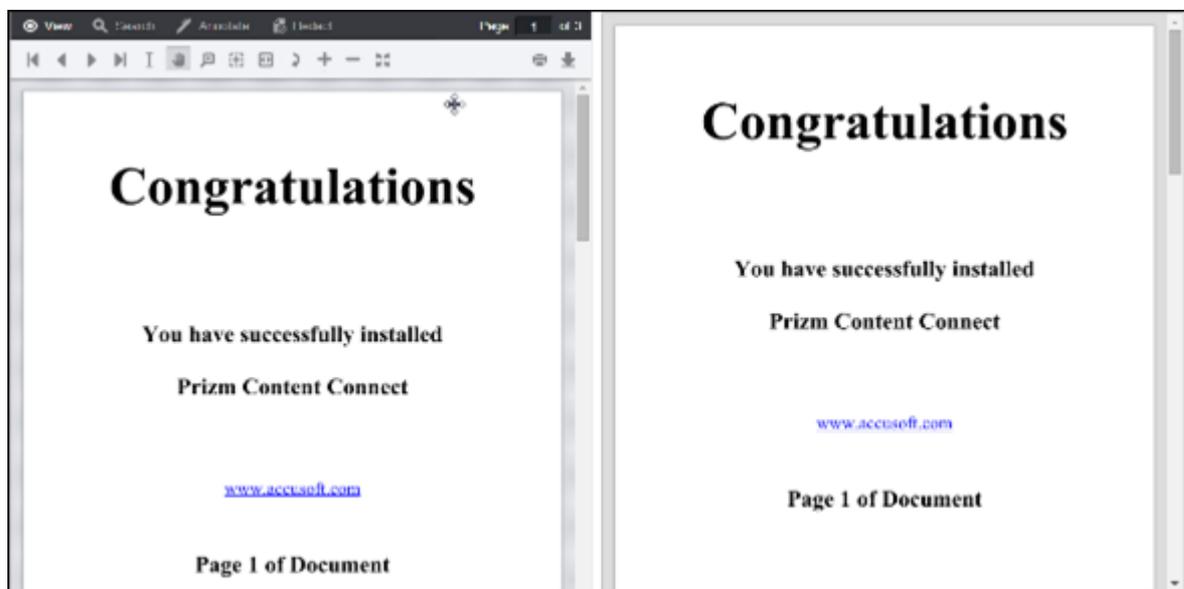
```
var api = $("#myDiv").pccViewer(pluginOptions).viewerControl;  
api.on("PageCountReady", function() {  
    api.changeToLastPage();  
});
```

## Reusable Core Component

The core component used by the Viewer for rendering the document is the ViewerControl.

The ViewerControl is a component that can be used independent of the full Viewer; it can be directly embedded into a page and used for building a fully custom UI.

- The only UI of the ViewerControl is the page list, which allows scrolling through a document.
- The ViewerControl exposes the API for programmatic control.

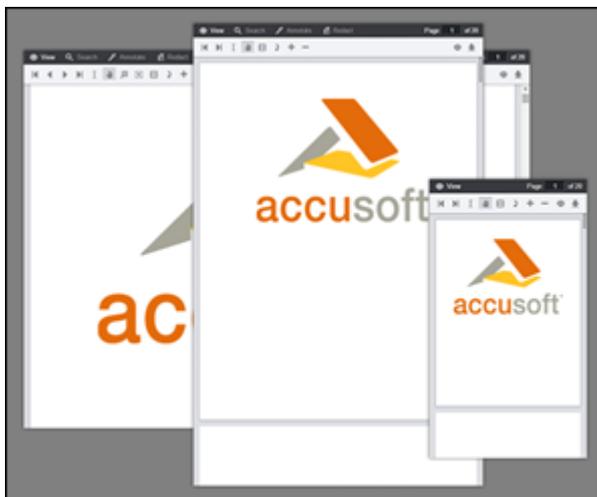


 Left example above: embedding the full Viewer using the jQuery plugin. Right example above: embedding the ViewerControl alone.

The ViewerControl does not have dependencies on third party libraries.

## Design Basics

The Viewer interface was designed to adapt to any size viewport. Rather than targeting specific devices, the Viewer will fit to the maximum screen size on any device whether it is a desktop, tablet, or phone.



## Media Queries

The Viewer utilizes CSS3 Media Queries (<http://www.w3.org/TR/css3-mediaqueries/>) with expressions using min-width and max-width to adjust the layout of navigation and dialogs.

## Breakpoints

The Media Query Breakpoints, defined in viewer.css, are set according to the Viewer layout. On smaller viewports the tab navigation collapses into a menu and some tools are hidden. On larger viewports the dialogs transform from horizontal to a vertical layout to utilize screen real estate. The breakpoints are as follows:

### Example

```
/* Target modern browsers that support media queries */
@media (min-width: 0) {}
/* Mobile & Tablet Sizes, collapse navigation tabs into menu */
@media (max-width: 767px) {}
/* Desktop Sizes */
@media (min-width: 768px) {}
```

 Media Queries are not supported in Internet Explorer 8 and no Media Query polyfills are used in this regard. All Internet Explorer 8 specific styles are in legacy.css.

## Changing the Breakpoint

To change the breakpoint from the default 768px you will need to change this in two places:

1. In viewer.css, under the comment "viewport breakpoints", look for the following expressions:

### Example

```
@media (max-width: 767px) {}
```

```
@media (min-width: 768px) {}
```

2. In viewer.js look for the variable **tabBreakPoint**; this is used in viewer.js to collapse the tab navigation on smaller viewports:

#### Example

```
this.tabBreakPoint = 767;
```

## Legacy Support

⚠ Media Queries are not supported in Internet Explorer 8 and no Media Query polyfills are used in this regard. All Internet Explorer 8 specific styles are in legacy.css. Since Media Queries are not supported, if you add styles within a Media Query block in viewer.css you will also need to add this to legacy.css.

## Grid System

The Viewer uses a basic grid system to assist with the UI layout. Through a series of rows and columns the layout can scale dynamically. Rows are used to create horizontal groups of columns. Columns are created by defining the number of twelve columns you will span. For example, three columns would use three divs with a class of **.pcc-col-4**:

#### Example

```
<div class="pcc-row">
  <div class="pcc-col-4">Left</div>
  <div class="pcc-col-4">Center</div>
  <div class="pcc-col-4">Right</div>
</div>
```

**.pcc-col-\*** classes are active in small viewports and **.pcc-lg-col-\*** classes only take effect in larger viewports:

#### Example

```
<div class="pcc-row">
  <!--
  These two divs will span one column on small viewports but
  split to two columns on larger viewports
  -->
  <div class="pcc-col-12 pcc-lg-col-6">Left</div>
  <div class="pcc-col-12 pcc-lg-col-6">Center</div>
</div>
```

There are also **.pcc-hide** and **.pcc-show** classes which can be used to toggle content across breakpoints:

#### Example

```
<div class="pcc-row">
  <!-- This button will only appear on larger viewports -->
  <button class="pcc-hide pcc-show-lg">Left</button>
  <!-- This button will only appear on smaller viewports -->
  <button class="pcc-show pcc-hide-lg">Center</button>
```

</div>

## Polyfills

There are a few polyfills used to provide support for modern browser features:

- **HTML5 Shiv** (<https://github.com/aFarkas/html5shiv>) - The HTML5 Shiv enables use of HTML5 sectioning elements in legacy Internet Explorer and provides basic HTML5 styling for Internet Explorer 6-9, Safari 4.x (and iPhone 3.x), and Firefox 3.x.
- **Normalize** (<http://necolas.github.io/normalize.css/>) - Normalize provides better cross-browser consistency in the default styling of HTML elements.

## Components

The Viewer is made up of a number of UI components:



- **Tab Navigation** - The set of tabs that distinguishes different aspects of the Viewer functionality.
- **Tab Pane** - The tools specific to each tabset. This can be configured to display horizontally or vertically.
- **Status Bar** - Displays the page number and allows you to jump to a specific page.
- **Dialog** - Menu area for extended options and settings.
- **Context Menu** - Menu that allows you to change properties of annotations.
- **Page List** - The viewer control that renders the document.

The styles for these components are in viewer.css with exception to Page List, those styles are defined in

viewercontrol.css.

## Templates

You can change the markup of the Viewer UI components by editing the templates. The templates are HTML files ending in \*.Template.html. The templates are consumed using the Underscore.js Template utility function. Variables and JavaScript conditions can be used within the templates using ERB syntax. For more information see the Underscore documentation at <http://underscorejs.org/#template>.

For a complete list of templates, refer to the [HTML Templates](#) topic.

## Disabling Tabs

To disable one of the navigation tabs you could comment out the HTML in the templates or pass one of the following configuration parameters to the jQuery viewer plugin:

### Example

```
var pluginOptions = {
  uiElements: {
    redactTab: false
  }
};
```

# Architecture Basics

## Architecture Basics

The Viewer has a multi-tier architecture, which is used to achieve a simple out-of-the box and customizable experience.

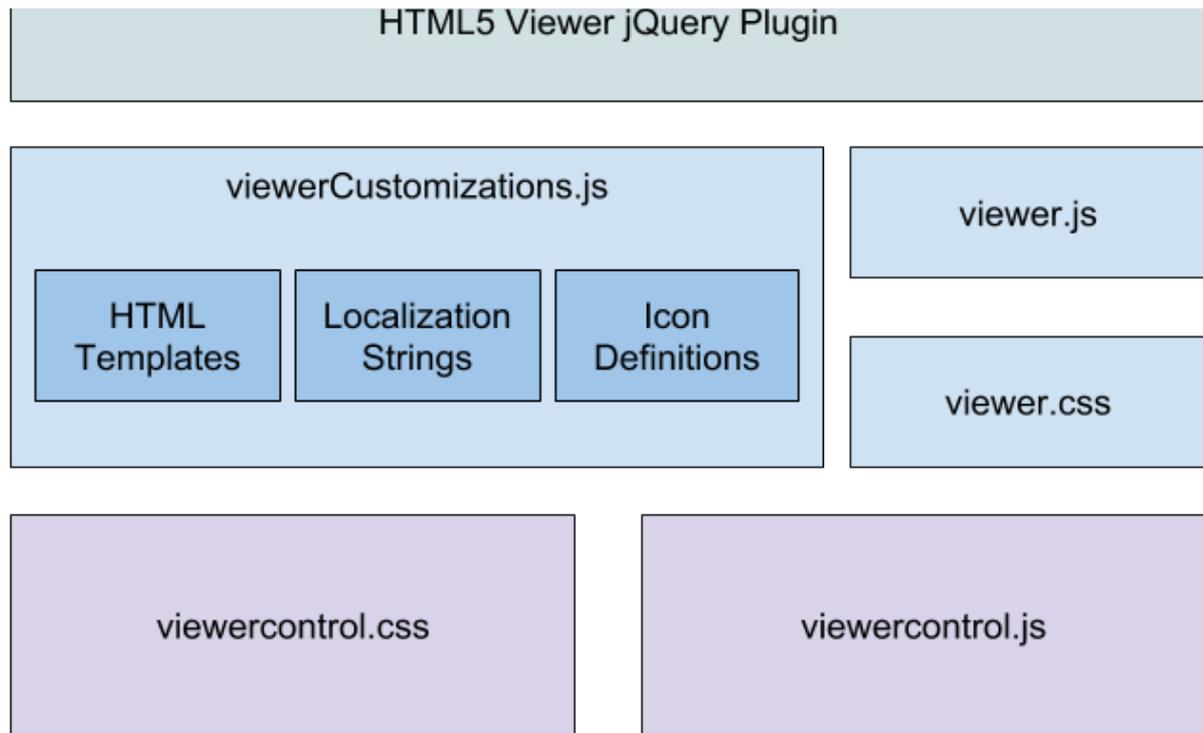
## The jQuery Plugin

At a high level, the Viewer is delivered as a configurable jQuery plugin. When using the jQuery plugin, the caller needs a basic understanding of jQuery selectors and the ability to copy and paste from sample code.

An understanding of the Viewer architecture is not required for the out-of-the box experience offered by the jQuery plugin.

## Beyond the jQuery Plugin

- The Viewer is built through the jQuery plugin using several open-source CSS, JavaScript, and HTML template files.
- These files implement the Viewer UI-chrome, which includes all of the Viewer tabs, buttons, dialogs, and inputs.
- The open-source Viewer UI-chrome builds on top of the ViewerControl, which displays the document.
- Files that implement the Viewer chrome may be customized in order to customize the Viewer UI.



## Separation of Concerns

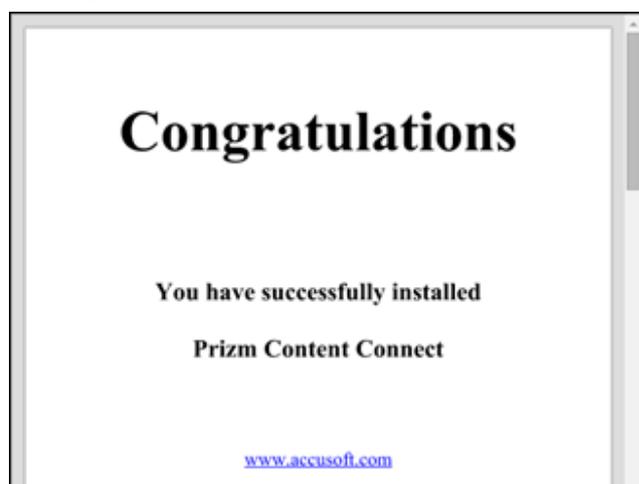
We apply the principle of separation of concerns within the Viewer implementation, in order to promote customization of the code.

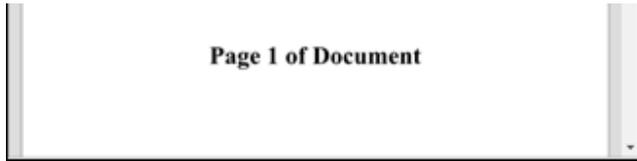
Aspects of the UI code use MVC concepts. The code in viewer.js acts as a UI controller (or mediator) between the DOM (view) and the ViewerControl (model). To achieve this pattern, viewer.js leverages third party tools such as jQuery and Underscore.js' templating system.

All markup for the UI-chrome is written in the HTML template files.

## ViewerControl

The ViewerControl is a core component to any viewer. It implements the logic of document display, mouse tools and touch interaction, search, printing, annotations, and redactions. It is responsible for calling to the PCCIS services via the web tier, to retrieve document and annotation data. It renders a UI - the page list - which permits scrolling through the content of a document.





## ViewerControl is Reusable

The ViewerControl is a reusable component that can be instantiated by itself. This gives a chrome-less viewer, which exposes the full API. Building a custom Viewer UI around the ViewerControl is one approach to building highly custom viewers.

## ViewerControl API

The ViewerControl object exposes an API that gives access to the state of the Viewer and can be used for programmatic control over all functions of the ViewerControl. This API is consumed by any code that builds on top of it in order to create rich UI.

## ViewerControl is Accessible Through the jQuery Plugin

You don't have to directly embed the ViewerControl to access its API. The ViewerControl object is accessible when embedding the Viewer with the jQuery plugin, and its API can be used to control the Viewer created by the jQuery plugin.

```
var viewerControl = $("#myDiv").pccViewer(pluginOptions).viewerControl;

viewerControl.on("PageCountReady", function() {
  viewerControl.changeToLastPage();
});
```

# Integrate PrizmDoc Viewer Releases with Your Code

## Integrate PrizmDoc Releases with Your Code

The Viewer offers complete customizability. However, performing customization adds additional maintenance costs. If you choose to perform significant customization, consider how you will integrate future releases of the Viewer with your code.

You can choose to run the default Viewer with no changes outside of configuration parameters passed in to the Viewer in your web tier. This allows for the simplest integration with subsequent releases. More likely, you will want to customize the CSS, HTML, and even the unobfuscated JavaScript libraries to ensure that the Viewer meets the needs of your product.

Below are a few guidelines to help you make the right decisions in customizing your Viewer:

## Viewer API (viewerControl.js)

The Viewer API is the base building block of the Viewer. We ensure that API changes are backward compatible with point releases (for example, PrizmDoc v11.1 → PrizmDoc v11.2) and will not introduce

breaking changes unless critical. With major releases we also endeavor to ensure backward compatibility with previous releases of the Viewer API.

## HTML Templates and CSS

The Viewer that is shipped with the product will be maintained and enhanced from release to release. The Viewer HTML and CSS markup will change with each release. Once you have begun to modify your markup, it is recommended that you consider subsequent PrizmDoc releases as sample code, in which you would evaluate product changes and choose to incorporate all or parts of those changes into your customization.

## Viewer Resources (viewerCustomizations.js)

The Viewer can be customized at compilation time with custom icons, translations, and the above HTML Templates, all provided at initialization time via `viewerCustomizations.js`.

## JavaScript files (viewer.js)

The Viewer JavaScript that lies above the Viewer API is unobfuscated and open for customization. While we expect many developer needs will be satisfied through configuration parameters and minor HTML or styling changes, some developers will desire to modify viewer.js for more advanced customization. You should carefully consider your development and ongoing maintenance strategy to ensure that future releases of PrizmDoc are easy to integrate into your customizations. We cannot guarantee backward compatibility of viewer.js in future releases as it is central to the functionality of the Viewer.

## Configure the Viewer

This section contains the following information on how to configure the Viewer. You can also see [code examples](#) on our website that demonstrate how to configure the Viewer.

- [Configuration Options](#)
  - [Initialization Parameters](#)
  - [uiElements](#)
  - [Use Pre-Loaded Search Parameters](#)
  - [Configure the Skinny Comments Panel](#)
  - [Define the View Mode](#)
  - [Digital Rights Management Configuration](#)
  - [Enable Content Encryption](#)
  - [How to use Pre-Defined Search](#)
  - [Localize the Viewer](#)
  - [Use a Custom Resource Path](#)
  - [Add Custom Image Stamps](#)

## Configuration Options

This section contains the following information:

- [Initialization Parameters](#)

- [uiElements](#)
- [Use Pre-Loaded Search Parameters](#)
- [Configure the Skinny Comments Panel](#)
- [Define the View Mode](#)
- [Digital Rights Management Configuration](#)
- [Enable Content Encryption](#)
- [How to use Pre-Defined Search](#)
- [Localize the Viewer](#)
- [Use a Custom Resource Path](#)
- [Add Custom Image Stamps](#)

## Initialization Parameters

For a complete list of configuration options when initializing the Viewer plugin, refer to the [Namespace: fn API](#) topic.

## uiElements

For a complete list of configurable UI elements when initializing the Viewer plugin, refer to the [Namespace: fn API](#) topic.

## Use Pre-Loaded Search Parameters

### preDefinedSearch Parameters

This object contains all predefined search options:

Parameter	Data Type	Description
highlightColor	String	The default highlight color of the search terms. This is overridden by the term-level parameter. This must be in 6 digit hexadecimal format preceded by a #. Example: "#ee3a8c"
searchOnInit	Boolean	Run search on launch.
globalOptions	Object	Set the default search options for each of the predefined search terms. This is overridden by the term-level "options" parameter. Example: <pre>predefinedSearch : {   globalOptions: {     matchCase: false,</pre>

		<pre> endsWith: false, beginsWith: false, matchWholeWord: false } } </pre>
terms	Array	<p>An array of objects that represent the search terms that will be available in the predefined search menu.</p> <p>Example:</p> <pre> predefinedSearch : {   terms: [     {       searchTerm: "llama"     }   ] } </pre>

### predefinedSearch terms

This object represents the search terms that will be available in the predefined search menu:

Parameter	Data Type	Description
searchTerm	String	The search string for the term object. This is overridden by the userDefinedRegex parameter.
userDefinedRegex	String	<p>A regular expression that will be searched in place of searchTerm. The first and last forward slashes, as well as the flags, are stripped from the string. For example, <code>"/Pa(\w+)/ig"</code> will become <code>"Pa(\w+)"</code>.</p> <p>When special characters (ex: backslash) are used in the "userDefinedRegex" field, they need to be properly escaped. For example, for searching words that begins with "Pa", the regular expression will be <code>"Pa(\w+)"</code>, this regular expression should be properly escaped like this <code>"Pa(\w+)"</code>.</p> <p>All patterns use the Global(g) flag.</p> <p>Example:</p> <pre> predefinedSearch : {   terms: [     {       searchTerm: "4 digits"     }   ] } </pre>

		<pre> userdefinedRegex: "(\\d{4})"     }   ] } </pre>
selected	Boolean	Whether or not this term will be selected in the menu.
options	Object	<p>Set the search options for this term. If a parameter is not defined it will inherit the globalOptions-level parameter.</p> <p>Example:</p> <pre> predefinedSearch : {   terms: [     {       searchTerm: "Lla,"       options: {         matchCase: true,         endsWith: false,         beginsWith: true,         matchWholeWord: false       }     }   ] } </pre>

## Configure the Skinny Comments Panel

To better accommodate the Comments view in both small and large viewers, the Viewer automatically switches between displaying the comments in their entirety to displaying only a Comments icon. When you click the Comments icon, the full comment is expanded. By default, the mode automatically switches between the two pages on the space available for viewing the document.

The commentsPanelMode options are:

- "full" - The entire content of the comments are displayed in the sidebar of the document.
- "skinny" - An icon is placed in the sidebar of the document, representing each comment thread. When the icon is clicked, the comment thread is expanded to show the full content.
- "auto" - This mode will intelligently switch between the full and skinny mode, in order to optimize the space available for viewing the document. The default is "auto" when the option is not specified.

The examples below show the use of the commentsPanelMode configuration parameter.

Forcing the Viewer to always display skinny comments:

**Example**

```
var pluginOptions = {
  documentID: viewingSessionId,
  language: languageItems,
  template: htmlTemplates,
  commentsPanelMode: "skinny"
};
$(document).ready(function () {
  var viewerControl = $("#viewer1").pccViewer(pluginOptions).viewerControl;
});
```

Forcing the Viewer to always display full comments:

**Example**

```
var pluginOptions = {
  documentID: viewingSessionId,
  language: languageItems,
  template: htmlTemplates,
  commentsPanelMode: "full"
};
$(document).ready(function () {
  var viewerControl = $("#viewer1").pccViewer(pluginOptions).viewerControl;
});
```

Allowing the Viewer to choose between skinny and full comments – note, this is the default option, so it does not need to be explicitly defined:

**Example**

```
var pluginOptions = {
  documentID: viewingSessionId,
  language: languageItems,
  template: htmlTemplates,
  commentsPanelMode: "auto"
};
$(document).ready(function () {
  var viewerControl = $("#viewer1").pccViewer(pluginOptions).viewerControl;
});
```

## Define the View Mode

The ViewMode enumeration defines view modes known by PCCViewer.ViewerControl. The ViewerControl uses a specified view mode to set or update how documents that contain different sized pages are displayed in the Viewer. This enumeration is a convenience for API developers. Instead of using it, you can pass in the string values of the view mode (enumeration values) directly to the API.

There are three view modes available:

- **Document** - The Viewer maintains the relative size of each page when displaying a document. For example, if page 2 is smaller than page 1, it will appear smaller. In this view mode, the user can choose to scroll through the document or select one of the View icons to go from the First page to the Last page of the document.
- **EqualWidthPages** - The Viewer scales each page so that their width is the same. For example, if page 2 is smaller than page 1, it will be scaled larger so that its width is equal to the width of page 1. In this view mode, the user can choose to scroll through the document or select one of the View icons to go from the First page to the Last page of the document.
- **SinglePage** - The Viewer displays a single page at a time. Each page is scaled to fit within a view box, which is the initial size of the Viewer and increases in size when zooming in (and decreases in size when zooming out). After the Viewer initializes, the view mode may not be changed to or from SinglePage view mode (or an exception will occur). In this view mode, the user selects one of the View icons to go from the First page to the Last page of the document which simulates a smooth transition from page to page. This view mode is non-scrolling.

To set the ViewMode:

#### Example

```
// use the enumeration
myViewerControl.setViewMode(PCCViewer.ViewMode.SinglePage);
// or just use the string value
myViewerControl.setViewMode("SinglePage");
```

## Digital Rights Management Configuration

The Viewer can be configured to disable UI buttons that will allow an end user to easily duplicate the content of a document.

The following UI buttons can be disabled using configuration options:

- **Download [document] button** - hide the button to download the original document.
- **Select text button** - hide the button to select the text selection mouse tool, which inhibits the user's ability to select and copy selected text.
- **Print button** - hide the button to print the document.

#### Example

```
// DRM options are controlled through the viewer's options argument.
var pluginOptions = {
    documentID: viewingSessionId,
    language: languageItems,
    template: htmlTemplates,
    uiElements: {
        download: false, // hide download button
        copyPaste: false, // hide select text tool button
        printing: false // hide print button
    },
};
```

```
$("#myDiv").pccViewer(pluginOptions);
```

## Server-Side DRM

DRM options for the Viewer are enforced only in the Viewer UI. A skilled end user can manipulate the browser to circumvent the viewer-based DRM enforcement.

Techniques a skilled user can use to circumvent viewer-based DRM enforcement:

1. Edit the JavaScript run by the browser, which allows them to:
  - a. Change the plugin options for DRM.
  - b. Directly call the API of the viewer control to print or set the select text tool.
2. Directly call the server API to download the original document.

Additional security measures can be added using server-side code changes which are listed below:

- [Document Download](#)
- [Copying Text](#)
- [Printing](#)

### Document Download

1. Create a new **viewerTemplate.html** file that excludes the document download button (**data-pcc-download**).
  - a. Using this technique, the download button will not be available, regardless of the plugin options.

### Copying Text

There are not any server-side techniques to strengthen DRM enforcement of copying text. However, removing the text selection control from the UI will require the user to understand the text selection API in order to enable it on the Viewer. The manner in which the product renders svg also makes it nearly impossible to copy text just using a browser's text selection capability.

### Printing

1. Create a new **viewerTemplate.html** file that excludes the print button (**data-pcc-print="launch"**).
  - a. Using this technique, the print button will not be available, regardless of the plugin options.
2. Exclude the print template from the configuration object passed to the Viewer (**pluginOptions.template.print**).
  - a. This can be controlled by the server-side code that generates the page.
  - b. Using this technique, the **ViewerControl#print(options)** method will be non-functional.

## Content Encryption

For an added layer of security, Content Encryption can be enabled to provide an obscured transfer of data from the PrizmDoc Server to the Viewer website, preventing unauthorized agents from discerning the content being transmitted. See [Enabling Content Encryption](#) for more information.

 PrizmDoc Viewer is not designed or intended to be a fail-proof DRM system but does provide a few

basic security measures to prevent most users from unintentionally accessing content to which they are not authorized.

## Enable Content Encryption

### Introduction

This topic contains an overview and steps to help you enable content encryption:

- [Overview of Enabling Content Encryption](#)
- [Enabling Content Encryption in PrizmDoc Server via the Central Configuration File](#)
- [Enabling Content Encryption in PrizmDoc Server via ViewingSession Property](#)
- [Enabling Content Encryption in the Viewer](#)

The goal of content encryption is to provide an obscured transfer of data from the PrizmDoc Server to the Viewer website, preventing unauthorized agents from discerning the content being transmitted. Additional security can be enabled by configuring the Viewer and server to communicate over the Secured Socket Layer (SSL), https protocol, rather than standard non-secure http protocol. In cases where this is not viable or enough protection, the content encryption adds a strong measure of privacy to the document content. When content encryption is enabled, the web data images and document text strings sent to the Viewer will be encrypted and then decrypted by the Viewer.

**NOTE:** This feature is not supported in IE8.

### Overview of Enabling Content Encryption

Content encryption must be enabled in the Viewer and in the PrizmDoc Server; it is disabled by default. Enabling content encryption in the Viewer is straightforward and performed by an option passed to the Viewer constructor or jQuery plugin. This process is documented below.

The file paths for the Central Configuration file are:

- **Linux:** /usr/share/prizm/prizm-services-config.yml
- **Windows:** C:\Prizm\prizm-services-config.yml

**NOTE:** The default installation directory is: C:\Prizm.

There are two options for enabling content encryption on the server:

1. **Enable content encryption via the central configuration file (prizm-services-config.yml** - located in the top-level of the installation directory): this enables content encryption for all viewing sessions.
2. **Toggle (enable or disable) content encryption via viewing session property:** this enables or disables content encryption per viewing session, overriding the option set in the central configuration file.

These two options are documented below.

**NOTE:** For security reasons, toggling content encryption per viewing session is not permitted in the out-of-box product configuration. It must be explicitly allowed via the ServiceHost pcc.config file.

Finally, it's important to note it must be enabled or disabled on both the Viewer and server, or unexpected behavior will occur. If encryption is enabled on the server but not for the Viewer, then the content will not be rendered correctly. If encryption is enabled for the Viewer but not on the server, then

the content will not be encrypted during transit, however, it will be rendered correctly in the Viewer.

In summary:

- Content encryption is disabled out of the box.
- It must be enabled in the Viewer and PrizmDoc Server.
- It can be enabled or disabled on the server via the central configuration file.
- If permitted, enabling or disabling content encryption can be overridden when creating a viewing session.

## Enabling Content Encryption in PrizmDoc Server via the Central Configuration File

To enable content encryption follow the steps below:

1. Open the central configuration file, **prizm-services-config.yml** in your favorite editor. The **prizm-services-config.yml** file is located in the top-level of the installation directory.
2. Find the **viewing.contentEncryption.enabled** section and change the value to **true**.

### Encrypted Transmission Example

```
# Controls whether or not content is encrypted by the back end before
being
# transmitted to a client viewer. The client viewer will decrypt the
content in
# the browser. This is useful for DRM, making it more difficult to
copy
# protected content that has been delivered to the browser.
#
viewing.contentEncryption.enabled: true
```

3. Save the **changes** to the file.
4. Restart the **PrizmDoc Server** for the changes to take effect.
5. Continue by enabling the **encryption option** for the Viewer as described in the section below.

## Enabling Content Encryption in PrizmDoc Server via the ViewingSession Property

1. Open the central configuration file, **prizm-services-config.yml** in your favorite editor. The **prizm-services-config.yml** file is located in the top-level of the installation directory.
2. Find the **viewing.sessionConstraints.pageContentEncryption.allowedValues** section and change the value to **["default", "enabled", "disabled"]**.

### Encrypted Transmission Example

```
# Defines the list of allowed values for the pageContentEncryption
viewing
# session creation option.
#
```

```
# Must be an array with either ONE or ALL of the following strings:
#
# "default" - Allow REST API callers to create a new viewing session
without
#           explicitly stating whether or not page content
encryption (DRM)
#           should be applied. The value configured in this file
at
#           viewing.contentEncryption.enabled will be used to
determine
#           whether or not page encryption is applied.
#
# "enabled" - Allows REST API callers to explicitly enable page
content
#           encryption (DRM) when creating a new viewing session,
overriding
#           whatever value is configured in this file by
#           viewing.contentEncryption.enabled.
#
# "disabled" - Allows REST API callers to explicitly disable page
content
#           encryption (DRM) when creating a new viewing session,
overriding
#           whatever value is configured in this file by
#           viewing.contentEncryption.enabled.
#
viewing.sessionConstraints.pageContentEncryption.allowedValues:
["default","enabled","disabled"]
```

3. Save the **changes** to the file.
4. Restart the **PrizmDoc Server** for the changes to take effect.
5. Update your **web-tier code** to set the value of the **pageContentEncryption** Viewing Session property to **"enabled"** when creating the viewing session. The example below is for a .NET web tier:

#### Example

```
viewingSessionProperties.pageContentEncryption = "enabled";
....
// Serialize document properties as JSON which will go into the body
of the request string requestBody =
serializer.Serialize(viewingSessionProperties);
requestStream.Write(requestBody);
```

6. Continue by enabling the encryption option for the Viewer as described in the section below.

## Enabling Content Encryption in the Viewer

To enable encryption in the Viewer, provide the encryption option in the viewer options parameter as follows so that the Viewer can handle encrypted data:

#### Example

```
<script type="text/javascript">
$(function() {
  $('#viewerContainer').pccViewer({
    documentID:      'XYZ...',
    imageHandlerUrl: '/pas-proxy',
    viewerAssetsPath: 'viewer-assets',
    resourcePath:    'viewer-assets/img',
    language: viewerCustomizations.languages['en-US'],
    template: viewerCustomizations.template,
    icons:    viewerCustomizations.icons,
    annotationsMode: "LayeredAnnotations",
    encryption: true
  });
});
</script>
```

Enabling the encryption will not work without setting the configuration parameter as described above. Also, if the PrizmDoc Server configuration setting is either not set or the PrizmDoc Server is not restarted, the data will arrive unencrypted.

## How to Start & Stop the PrizmDoc Server

Refer to these topics for additional information:

- **Windows:** [Installation Guide > Starting & Stopping the PrizmDoc Server > Windows](#)
- **Linux:** [Installation Guide > Starting & Stopping the PrizmDoc Server > Linux](#)

## How to use Pre-Defined Search

Predefined search allows you to define a set of predefined search terms. To enable this functionality you must add the **predefinedSearch property** to the Viewer parameters. The following example shows you how:

### Example

```
<script type="text/javascript">
$(document).ready(function () {
  var pluginOptions = {
    documentID: viewingSessionId,
    language: languageItems,
    template: htmlTemplates,
    predefinedSearch: {
      highlightColor: "#ee3a8c",
      searchOnInit: false,
      globalOptions: {
        matchCase: false,
        endsWith: false,
        beginsWith: false,
        matchWholeWord: false,
        wildcard: false
      },
    },
    terms: [{
```

```

        searchTerm: "llama",
        selected: true,
        options: {
            matchWholeWord: true,
            wildcard: false
        }
    },
    {
        searchTerm: "Words that begin with ll",
        userDefinedRegex: "\\bll(\\w*)\\b",
        searchTermIsRegex: true,
        selected: true,
        highlightColor: "#4169e1",
        options: {
            matchCase: true
        }
    }
]
};
$("#sample").pccViewer(pluginOptions);
});
</script>

```

## PredefinedSearch.JSON

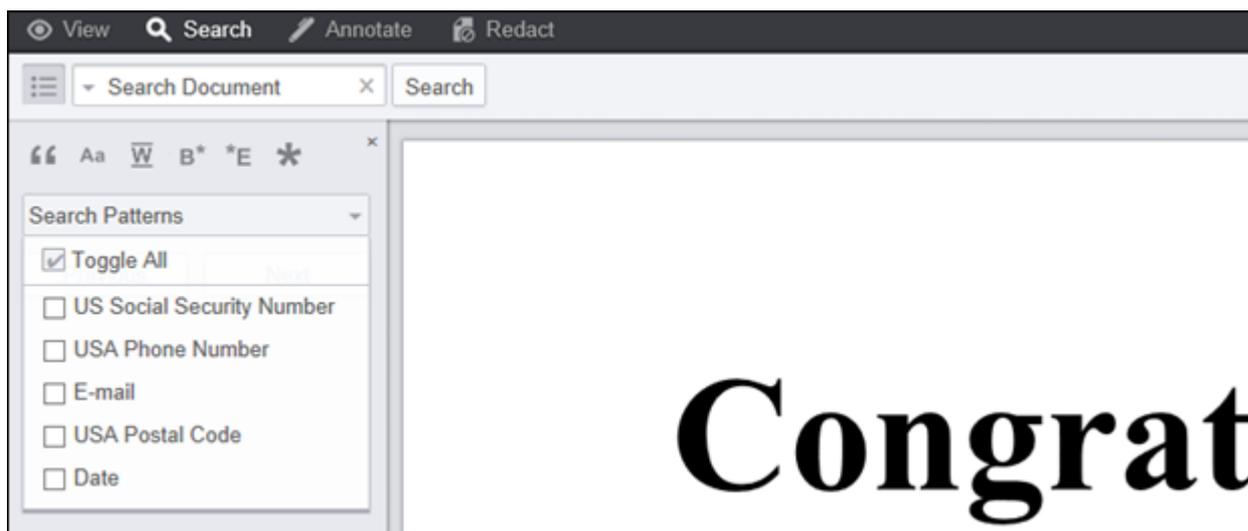
Predefined Search can also be specified using a text file (predefinedSearch.json). PredefinedSearch.json provides several sample search terms and custom regular expressions. PredefinedSearch.json file is parsed by the web-tier and loaded in the Viewer. The following example shows you how:

### Example

```

<script type="text/javascript">
var viewingSessionId =
'<%=HttpUtility.JavaScriptStringEncode(viewingSessionId)%>';
//Retrieve the searchJson (search data) into javascript
var searchTerms = <%=searchJson%>;
var pluginOptions = {
    documentID: viewingSessionId,
    predefinedSearch: searchTerms,
};
$(document).ready(function () {
    var viewerControl = $("#viewer1").pccViewer(pluginOptions).viewerControl;
});
</script>

```



## Predefined Search Patterns

Parameter	Data Type	Description
highlightColor	String	The default highlight color of the search terms. This is overridden by the term-level parameter. This must be in 6 digit hexadecimal format preceded by a #. Example: "#ee3a8c"
searchOnInit	Boolean	Run search on launch.
globalOptions	Object	Set the default search options for each of the predefined search terms. This is overridden by the term-level "options" parameter.  <b>Example</b> <pre>predefinedSearch : {   globalOptions: {     matchCase: false,     endsWith: false,     beginsWith: false,     matchWholeWord: false,     wildcard: false   } }</pre>
terms	Array	An array of objects that represent the search terms that will be available in the predefined menu.  <b>Example</b> <pre>predefinedSearch : {   terms: [     {       searchTerm: "llama"     }   ] }</pre>

}

## Predefined Search Terms

Parameter	Data Type	Description
searchTerm	String	The search string for the term object. This is overridden by the userDefinedRegex parameter.
searchTermsRegex	Boolean	When set to true will use userDefinedRegex to execute the search
userDefinedRegex	String	<p>A regular expression that will be searched in place of searchTerm. The first and last forward slashes, as well as the flags, are stripped from the string. For example, <code>"/Pa(\w+)/ig"</code> will become <code>"Pa(\w+)"</code>.</p> <p>When special characters (ex: backslash) are used in the "userDefinedRegex" field, they need to be properly escaped. For example, for searching words that begins with "Pa", the regular expression will be <code>"Pa(\w+)"</code>, this regular expression should be properly escaped like this <code>"Pa(\w+)"</code>.</p> <p>All patterns use the Global(g) flag.</p> <p><b>Example</b></p> <pre>predefinedSearch : {   terms: [     {       searchTerm: "4 digits"       userdefinedRegex: "(\\d{4})"     }   ] }</pre>
description	String	Description of the search term. If description is not defined "searchTerm" will be used.
highlightColor	String	<p>When specified system will use this value to show the highlight color for this search term. When not specified system will generate a color.</p> <p>Ex: highlightColor: "#FFFF20"</p>
Options	Object	<p><b>Example</b></p> <pre>options: {   "matchCase": false,   "endsWith": false,   "beginsWith": false,</pre>

```
"matchWholeWord": false,  
"exactPhrase": false,  
"wildcard": false  
}
```

## Localize the Viewer

The Viewer has a language localization feature which allows you to customize labels and text using a language JavaScript object. The language object is passed as a parameter in the Viewer plugin configuration options:

### Example

```
var pluginOptions = {  
  documentID: viewingSessionId,  
  language: languageItems,  
  template: htmlTemplates  
}
```

## Using the Language Parameters

In viewer.js the language parameters are used in various places. Here a message is being shown with the printRangeError language parameter:

### Example

```
viewer.notify({message: viewer.language.printRangeError});
```

When the HTML templates are loaded, using the Underscore.js Template utility function, the language object is used as template data:

### Example

```
element.html(_.template(options.template.viewer, options.language))
```

The language parameters are then referenced as variables in the templates:

### Example

```
<!-- This is using the "rotate" parameter from language.json -->  
<button data-pcc-rotate class="pcc-icon pcc-icon-rotate"  
  title="<%= rotate %>"></button>
```



For more information on template syntax see the Underscore.js Template documentation at <http://underscorejs.org/#template>.

## Common Pitfalls

When editing the language.json file or the templates there may be some errors for which the cause may not be immediately obvious. Here are some common console errors and their possible causes:

- **Uncaught TypeError:**
  - Cannot read property 'languageElements' of undefined - This error is thrown when viewer.js cannot find the language object. Verify that the language.json file is being read, and parsed correctly.
- **Uncaught ReferenceError:**
  - x is not defined - This error could be thrown if you have referenced a variable in the HTML templates that is not defined as data when loading the template. Check to see that this variable exists in either the language.json file or as a template data property used when loading a template.

## Use a Custom Resource Path

In some instances you may want to change the path that the viewercontrol.js uses to look for images. For example, instead of **img** you would like to use **images**. To achieve this, add the **resourcePath** parameter to the Viewer plugin configuration options and specify the new path.

The trailing slash is not required and this path can be absolute or relative. Some examples of valid paths are:

- "img"
- "../img"
- "/PrizmCC\_HTML5\_Viewer\_CS/html5/img"
- http://prizmdemos.accusoft.com/PCCv9Preview2/html5/img

### Example Title

```
var pluginOptions = {
  documentID: viewingSessionId,
  language: languageItems,
  template: htmlTemplates,
  resourcePath: 'images'
}
```

 If you change the image directory name you will also need to update the background image URIs in the viewer.css

The resourcePath is used in the obfuscated code to obtain images like the markhandles. You can work around the hard coded paths in the Viewer.css by editing the Viewer.css.

For example, you can change the folder to another location on your file system within the same domain. If you want to put the images in a folder called "imgServer1", you can provide resourcePath : "imgServer1" and edit the Viewer.css as shown in the following example:

### Example

```
.pccv .pccEditMarkButton {
  background-image: url(../imgServer1/EditTextMark@2x.png);
}
```

## Add Custom Image Stamps

You can customize the image stamps available to Viewer users by adding or deleting image files from the ImageStamp folder, located by default in C:\ProgramData\Accusoft\Prizm\ImageStamp.

By default, two image stamps are included in the installation: a green 'checkmark' and a red 'x'. You can choose to leave these in place, or delete them and add image files of your choosing. The Viewer supports the following file extensions for image stamps by default:

- PNG
- JPG
- JPEG
- GIF

To add more supported file types, refer to the [PrizmDoc Application Services \(PAS\)](#) configuration options.

### Example

```
imageStamps.validTypes: ["png", "jpg", "jpeg", "gif", "svg", "webp", "tiff", "tif"]
```

## How to Customize the Viewer

The Viewer offers several ways to customize the Viewer, from quick integrations with minimal configuration to complete control over the Viewer API. Tabs and basic DRM functions such as printing, text selection, and document download can be quickly hidden using configuration parameters.

It's very simple to reorganize menus, add/remove tabs, and customize the look of the Viewer by allowing the developer to edit markup and css. All Viewer functionality is built on top of the Viewer API, allowing complete control over all Viewer functions.

### Configuration Options

The Viewer UI and behavior can be configured when the Viewer is embedded; using JavaScript parameters you can set the following:

- Displaying/Hiding Tabs and DRM functions
- Enabling Content Encryption
- Using a Custom Resource Path
- Localizing the Viewer
- How to use Predefined Search
- Digital Rights Management Configuration

### Customizing Markup and Styles

If the Viewer needs to be customized more than configuration options allow, all UI code is open-source and can be modified to change the following:

- Reorganizing Menus
- Creating a Custom Tab

- Changing annotation default values
- Changing the position of the menu bar
- Customizing Styles (css)

## Viewer API

The Viewer API permits programmatic control over the Viewer. The API allows callers to augment, customize, or automate the end user's experience with the Viewer. Functionality that is exposed through the Viewer API includes:

- Creating and destroying the Viewer
- Events
- Page navigation
- Zooming and fitting content
- Mark (annotation and redaction) CRUD
- Markup saving and loading
- Customizing mouse tools
- Searching document text
- Printing
- Getting page and document attributes

This section contains a variety of customization examples:

- [Add a Custom Button](#)
- [Add Keyboard Shortcuts](#)
- [Build a Custom User Interface](#)
- [Change the Position of the Menu Bar](#)
- [Create a Custom Mouse Tool](#)
- [Create a Custom Tab](#)
- [Customize the Markup](#)
- [Customize the Mouse Tools](#)
- [Customize the Styles](#)
- [Disable the Print Button](#)
- [Scroll the Viewer Programmatically](#)
- [Reorganize Menus](#)
- [Set the Initial Zoom Factor](#)
- [Subscribe to Events](#)
- [Work with Annotations](#)
  - [Change Annotation Default Values](#)
  - [Load Annotations from the Web Tier](#)
  - [Work with Annotation Layers](#)
  - [Work with Annotations Programmatically](#)
- [Work with Document Comparison Programmatically](#)

In addition to the code samples provided in this section, we have a number of interactive, live code examples on our [website](#).

# Add a Custom Button

## Introduction

Adding a custom button is as simple as adding some markup and a little bit of JavaScript anywhere on the web page. In this example below, we will look at adding a button to the Viewer in a way that matches the design language and code style of the existing Viewer.

If you are not yet familiar with the code structure, refer to these topics:

- [Modifying viewer.js](#)
- [Creating a Custom Tab](#)

In this topic, we will add a button to the default **View tab** which will add an **Approved stamp** annotation to the top right of the first page in the document.

## Adding the Button HTML

The bulk of the Viewer markup is inside the file **viewerTemplate.html**; this includes all the toolbars and vertical slide-outs.

**NOTE:** If you would like to add buttons to the context menu, the annotations saving dialog, or the print dialog, these are found in separate files.

The **View tab** appears at the top of the document, and is identified by the data attribute **data-pcc-nav-tab="view"**. Inside the **.pcc-tab-pane**, the actual menu bar, there are two lists of buttons. One is the normal list starting from the left, **.pcc-left**, and the second is the buttons floating on the right side, **.pcc-pull-right**. To add the button on the right side:

### Example

```
<div class=\"pcc-pull-right\">
  <button class=\"myCustomApprovedButton\">Approve</button>
  <button class=\"pcc-icon pcc-icon-print\" data-pcc-print=\"launch\">
</button>
  <button data-pcc-download class=\"pcc-icon pcc-icon-download\">
</button>
</div>
```

Note that the actual list of other buttons in the **.pcc-pull-right** section may be different from the example. However, adding the example code for the button with the class **"myCustomApprovedButton"** to the top of the list will make it appear first in the right-hand side buttons.

## Adding the Custom JavaScript

Associating logic to the buttons is handled in the **viewer.js** file.

First, find the button in the DOM. Toward the top of the file, there is a property on the Viewer, **this.viewerNodes**, which holds all of the Viewer DOM elements. Add the button to the end of the list:

### Example

```
...
    $searchBeginsWith: viewer.$dom.find("[data-pcc-
search=beginsWith]"),
    $searchEndsWith: viewer.$dom.find("[data-pcc-search=endsWith]"),
    $searchWildcard: viewer.$dom.find("[data-pcc-search=wildcard]"),
    $customApproved: viewer.$dom.find(".myCustomApprovedButton")
};
```

We have used a variable name starting with a \$, the global name of jQuery, to indicate that this is a jQuery-wrapped variable. Any time a variable name starts with a \$ in this file, it indicates that the object is able to use the entire jQuery API.

Second, add logic to the button's click event. A few lines down from this section is the function **bindMarkup**, where logic is added to the DOM nodes. To keep with convention, go all the way to the bottom of this function, and add the click handler there:

### Example

```
viewer.viewerNodes.$customApproved.on("click", function (ev) {
    // get the first page attributes
    viewer.viewerControl.requestPageAttributes(1).then(
        function success(attributes) {
            // let's add a stamp now
            var mark = viewer.viewerControl.addMark(1, "StampRedaction");
            // set the stamp text
            mark.setLabel("Approved");
            // set the stamp location
            mark.setRectangle({
                width: 180,
                height: 50,
                x: attributes.width - 200,
                y: 20
            });
        },
        function failed(error) {
            // :( tell the user there was an error
            alert(error);
        }
    );
});
```

## Styling the Button

The default Viewer SVG icons are in the /viewer-assets/src/icons/svg folder of each sample. For this example, let's assume that you have an icon already created, named **custom-check.svg**.

You will need to add your SVG file to the /viewer-assets/src/icons/svg folder and specify **id="pcc-icon-custom-check"** and **viewBox="0 0 52 52"** in the SVG. Note that the id must begin with "pcc-icon-". Copy your SVG path content to the SVG symbol element you added.

Then simply update your viewer HTML template to use this new icon by adding the **pcc-icon** and **pcc-icon-custom-check** class to your button:

### Example

```
<button class=\"myCustomApprovedButton pcc-icon pcc-icon-custom-check\">
```

```
</button>
```

You will then need to build the Viewer assets by running "npm install" and "gulp build". Copy the output `/dist/viewer-assets/js/viewerCustomizations.js` file over the `/viewer-assets/js/viewerCustomizations.js` file in the sample. For more information on building the Viewer assets, see the README file in the `viewer-assets` folder.

You have completed adding a custom button.

## Add Keyboard Shortcuts

### Customizing Keyboard Support in the Viewer

The Viewer includes support for some keyboard shortcuts. This topic will walk through how the `jQuery.hotkeys` plugin (<https://github.com/jeresig/jquery.hotkeys>) is used to support adding keyboard shortcuts, as well as how easy it is to remove the built-in keyboard support.

- [Keyboard Key Combinations for Page Navigation](#)
- [Zoom in / Zoom out](#)
- [Delete Selected Marks](#)
- [Modal Dialogs](#)
- [Adding Keyboard Support without using jQuery.hotkeys Plugin](#)
- [Example Code for using pageup and pagedown Keys](#)

The current implementation represents some (but not all) that can be accomplished with keyboard shortcuts. The currently supported keyboard combinations are detailed in the tables below:

#### Keyboard Key Combinations for Page Navigation

Number	Keyboard Action	Key Combinations	Result
1.	'keydown'	'pageup'	scrolls the document one page up
2.	'keydown'	'pagedown'	scrolls the document one page down
3.	'keydown'	'home'	document scrolls to the first page
4.	'keydown'	'end'	document scrolls to the last page
5.	"keydown"	'ctrl+g'	puts the cursor in The Viewer's 'go to page' edit box. It allows user to enter the page number to go to.
6.	"keydown"	down arrow	scrolls the page down
7.	'keydown'	up arrow	scrolls the current page up

8.	'keydown'	left arrow	scrolls the displayed current page left
9.	'keydown'	right arrow	scrolls the displayed current page right

#### Zoom in / Zoom out

Number	Keyboard Key Action Type	Key Combinations	Result
1.	'keydown'	'='	zoomin
2.	'keydown'	'-'	zoomout

#### Delete Selected Marks

Number	Keyboard Key Action Type	Key Combinations	Result
1.	'keydown'	'delete'	Deletes selected marks

#### Modal Dialogs

All the following modal dialogs respond to the 'esc' key as if the 'cancel' button was pressed:

1. e-signature dialog
2. Image stamp selection dialog
3. Page redaction dialog
4. Download document dialog
5. Print dialog
6. About box

Number	Keyboard Key Action Type	Key Combinations	Result
1.	'keydown'	'esc'	closes the dialog. The result is equivalent to pressing the 'cancel' button.

The viewer.js contains a method, **initKeyBindings**, that contains the code to handle the keyboard support as described in the above tables. This method is called in the **initializeViewer** method. In order for the keyboard shortcuts to work, jQuery.hotkeys.min.js file is required.

#### Example

```
<script src="viewer-assets/js/js/jquery.hotkeys.js"></script>
```

 Do not obtain the file from CDN. It is broken. The non-minified version can be obtained from GitHub: <https://github.com/jeresig/jquery.hotkeys> This is a small file and it is recommended that you

read all the details about the plugin before using it in your Viewer.

If you either have your own implementation of the keyboard support or prefer not use this implementation in the viewer.js, simply comment out the call to **initKeyBindings()** in the **initializeViewer** method. Also, you can choose to remove the **initKeyBindings** method definition completely from your copy of the viewer.js.

As an example, let us walk through a snippet of code in the method **initKeyBindings** for the 'pageup' key support for scrolling one page up.

#### Example

```
$('#body').on('keydown', null, 'pageup', function () {
    if ($(viewer.viewerNodes.$pageList[0]).is(':visible')) {
        //make sure modals are not up
        if (!$ (viewer.viewerNodes.$overlayFade[0]).is(':visible')) {
            //change to the previous page
            viewer.viewerControl.changeToPrevPage();
            return false;
        }
    }
    return true;
});
```

We can also change the code above to trigger the event on the whole document object.

#### Example

```
$(document).on('keydown', null, 'pageup', function () {
    if ($(viewer.viewerNodes.$pageList[0]).is(':visible')) {
        //make sure modals are not up
        if (!$ (viewer.viewerNodes.$overlayFade[0]).is(':visible')) {
            //change to the previous page
            viewer.viewerControl.changeToPrevPage();
            return false;
        }
    }
    return true;
});
```

In the above example, line 1 binds the keydown action of the 'pageup' key to the in-line handler. For the Viewer, the node with the selector attribute 'pageList' is the parent node. Therefore, the handler code checks to see if this node is visible. Also, since we do not want the page navigation to occur when the modal dialogs are showing, in line 4, we check for the visibility of the modal dialogs.

Because our elements are divs and are not normally focusable, we use a wider net and use 'body' as the target node of the key events. When nothing in particular has focus, document.body acts as a target node of key events. You can choose to bind to other elements beside the 'body' but you may need to give it a tab index. But be mindful, it may not provide expected results in all the browsers. Most browsers have native keyboard focusable support for the following element types:

1. Input elements
2. Buttons
3. link elements

There are other things to consider too. Most browsers provide the following keyboard event types:

1. 'keydown'
2. 'keyup'
3. 'keypress'

The implementation in the Viewer uses 'keydown' key action. In some cases you may want to use 'keyup' event. We are not using the 'keypress' event at all since it is mainly used for capturing key characters entered in the input elements. Not all browsers are consistent in providing key events for all the keys or key combinations. Some browsers will not allow to override their default behavior for a particular key combinations. You may need to experiment/research a little before choosing key action and key combinations.

 The method **initKeyBindings** also contains some commented out code that demonstrates how to provide keyboard support for the buttons in the modal dialogs.

### Adding Keyboard Support without using jQuery.hotkeys Plugin

First, set up the Viewer as you would normally.

#### Example

```
function initKeyBindings (viewerControl) {
  var handler = function(ev) {
    return handleGlobalKeypress(ev, viewerControl);
  };

  $(document).on("keydown", handler);
}

var pluginOptions = {
  documentID: viewingSessionId,
  language: languageItems,
  template: htmlTemplates
};

$(document).ready(function () {
  var viewerControl = $("#viewer1").pccViewer(pluginOptions).viewerControl;

  initKeyBindings(viewerControl);
});
```

### Example Code for using pageup and pagedown Keys

 This code does not check for modal dialogs but the check can be added as shown in the examples above.

#### Example

```
function handleGlobalKeypress (ev, viewerControl) {
  //check for keys
  switch (ev.keyCode) {
    case 33: // Page Up
```

```
    ev.preventDefault();
    viewerControl.changeToPrevPage();
    return false;
case 34: //Page Down
    ev.preventDefault();
    viewerControl.changeToNextPage();
    return false;
}
}
```

## Build a Custom User Interface

### Build a Custom User Interface

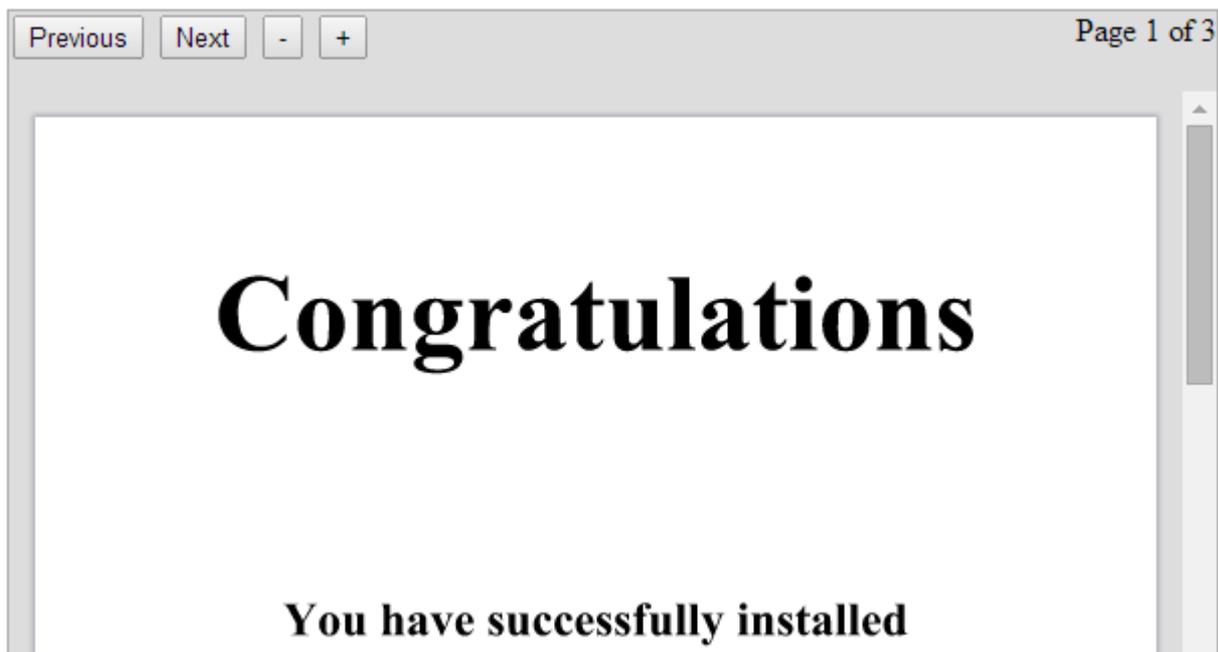
It is possible to build a custom Viewer UI by directly embedding the **ViewerControl** instead of embedding the Viewer using the jQuery plugin.

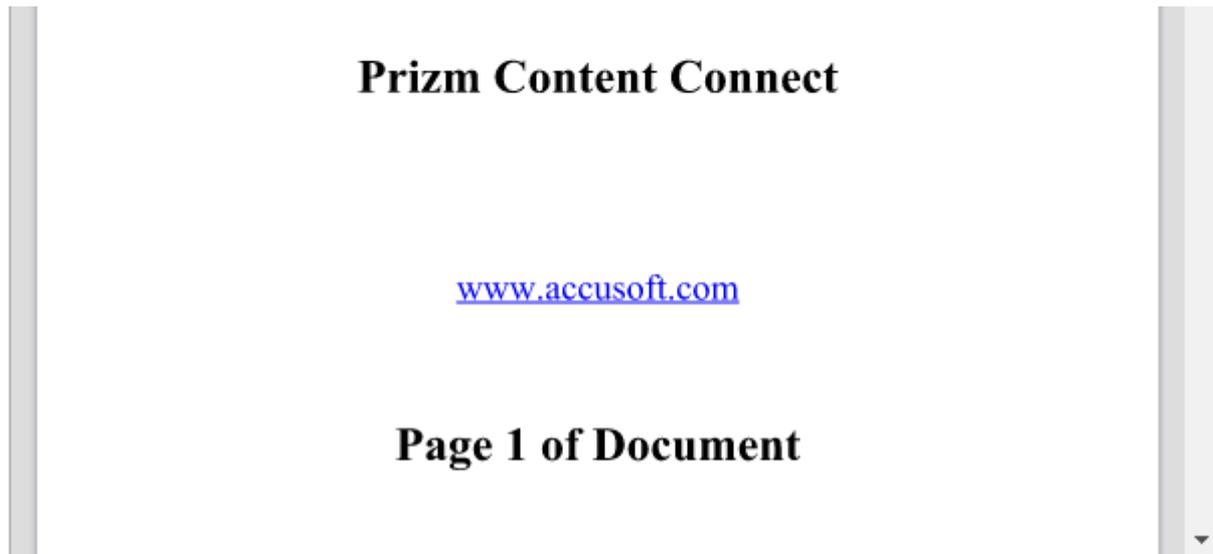
There are several benefits to building a custom Viewer UI, including the ability to:

- Design menus and button placement that is unique for your customer's workflow.
- Create custom UI elements/behavior.
- Arrange UI elements distributed throughout a web page, rather than all Viewer UI elements in a single div.
- Choose your own UI framework(s).
  - The ViewerControl (viewercontrol.js) does not have a dependency on any third-party frameworks/libraries

### Customization Example

In the example below, the **ViewerControl** is embedded into a page and a simple UI is built around the **ViewerControl**. The Viewer created by the example code is shown in the figure below:





The directory structure for this example is:

- /
  - css/
    - viewercontrol.css (product)
    - simple.css (custom - shown below)
  - js/
    - viewercontrol.js (product)
      - viewerCustomizations.js (product)
      - simple.js (custom - shown below)
  - simple.html (custom - shown below)

**NOTE:** This example uses jQuery for simplicity and because it is well known to many readers. jQuery is served from the Google Hosted Libraries CDN.

#### HTML (simple.html)

```
<!DOCTYPE html>
<html>
<head lang="en">
  <meta charset="UTF-8">
  <title>Custom Viewer UI Example</title>
  <!--resources for the viewer-->
  <link rel="stylesheet" href="css/viewercontrol.css">
  <script src="js/viewercontrol.js"></script>
  <script src="js/viewerCustomizations.js"></script>
  <!--Use jQuery to build the UI of the viewer-->
  <script src="//ajax.googleapis.com/ajax/libs/jquery/3.4.1/jquery.min.js">
</script>
  <!-- Script tag for simple.js, which creates and embeds the custom
viewer. -->
  <script src="js/simple.js"></script>
  <!-- CSS for the page -->
  <link rel="stylesheet" href="css/simple.css">
</head>
<body>
<!-- This div contains the custom viewer and UI elements. -->
<div class="viewerWrapper">
```

```

    <!-- There are some buttons/tools in the viewer UI. These will be
disabled until the ViewerReady event. -->
    <button id="prevPage" class="viewerButton" disabled>Previous</button>
    <button id="nextPage" class="viewerButton" disabled>Next</button>
    <button id="zoomOut" class="viewerButton" disabled>-</button>
    <button id="zoomIn" class="viewerButton" disabled>+</button>
    <!-- There is a status bar that shows the current and total page number.
-->
    <div class="floatRight">Page <span id="currentPage">1</span> of <span
id="totalPages">1</span></div>
    <!-- The ViewerControl is embedded in this element. -->
    <div id="viewerControlContainer">ViewerControl goes here</div>
</div>
</body>
</html>

```

### JavaScript (js/simple.js)

```

$(document).ready(function() {
    // Get the element where the viewer will be embedded.
    var element = document.getElementById("viewerControlContainer");
    // Create the options object for the viewer
    var options = {
        documentID : "a_valid_document_id",
        imageHandlerUrl: "my_pas_proxy",
        icons : viewerCustomizations.icons,
        language : viewerCustomizations.languages['en-US'],
        // printTemplate : "... " // include a print template for
printing to work
    };
    // Create the viewer control
    var viewerControl = new PCCViewer.ViewerControl(element, options);
    // It's best practice to wait for the "ViewerReady" event before calling
the viewer API.
    viewerControl.on("ViewerReady", function() {
        // Display the page count when the estimated and actual page count
are available.
        viewerControl.on("PageCountReady", displayPageCount);
        viewerControl.on("EstimatedPageCountReady", displayPageCount);
        function displayPageCount(ev) {
            $("#totalPages").html(ev.pageCount);
        }
        // Display the current page number when the page changes.
        viewerControl.on("PageChanged", function(ev) {
            $("#currentPage").html(ev.pageNumber);
        });
        // It's safe to enable the UI buttons during the ViewerReady event
$("#viewerButton").prop("disabled", false);
        // ...and then hookup the UI buttons
$("#nextPage").click(function() {
            viewerControl.changeToNextPage();
        });
        $("#prevPage").click(function() {
            viewerControl.changeToPrevPage();
        });
        $("#zoomOut").click(function() {
            viewerControl.zoomOut(1.25); // Zoom out 1.25x
        });
        $("#zoomIn").click(function() {

```

```
        viewerControl.zoomIn(1.25); // Zoom in 1.25x
    });
});
});
```

**NOTE:** The sample code that installs with the product demonstrates how to generate a document ID. The code is too large to be shown in this example.

## CSS (css/simple.css)

```
.viewerWrapper {
    width: 600px;
    height: 600px;
    position: relative;
    border: 1px solid #aaa;
    background: #ddd;
}
#viewerControlContainer {
    position: absolute;
    top: 40px;
    bottom: 0px;
    left: 0px;
    right: 0px;
}
.floatRight {
    float: right;
}
```

## Change the Position of the Menu Bar

You can change the layout of the tab panes by modifying the markup located in **viewerTemplate.html**.



- Adding the **pcc-tab-vertical** class makes the tab pane vertical.
- Adding either a **pcc-left** or **pcc-right** class specifies the side on which the vertical tab pane will appear.

#### Example

```
<div class="tabset pcc-nav-tabset" data-pcc-nav>
  <!-- Tab -->
  <div class="pcc-tab" data-pcc-nav-tab="demo">
    <div class="pcc-tab-item">Demo</div>
    <!-- This tab pane is vertical and left aligned -->
    <div class="pcc-tab-pane pcc-tab-vertical pcc-left">
      <!-- Tab content -->
    </div>
  </div>
  <!-- End tab -->
</div>
```

## Create a Custom Mouse Tool

A custom mouse tool can be used in the Viewer, first by defining the tool and then by updating the UI to have a button for the tool.

**Step 1: Define the tool in JavaScript code.**

It doesn't matter where in code the tool is defined as long as it is defined before the tool is selected:

#### Example

```
// Create the new mouse tool.
var myTool = PCCViewer.MouseTools.createMouseTool(
    "PinkLine",
    PCCViewer.MouseTool.Type.LineAnnotation);

// Configure the tool to draw a pink (#FF69B4) line that is 10 pixel thick
myTool.getTemplateMark()
    .setColor("#FF69B4")
    .setThickness(10);
```

#### Step 2: Update the UI to show a button for the tool.

This modification will take place in the **viewerTemplate.html** file. The button can be added to several places in the UI, but a common place to add the button is in the annotate tab pane. Content of the annotate tab is defined in the element with attribute **data-pcc-nav-tab="annotate"**:

#### Example

```
<!-- The following markup will create a button that enables use
of the mouse tool named "PinkLine".

The custom attributes that are used:
* data-pcc-mouse-tool="PinkLine" - specifies that the button selects the
mouse tool named "MyLineTool"
* data-pcc-context-menu="false" - specifies that a context menu is not
shown for this mouse tool
-->
<button
  data-pcc-mouse-tool="PinkLine"
  data-pcc-context-menu="false"
  class="pcc-icon pcc-icon-annotate-line"
  title="Pink Line Tool"></button>
```

## Create a Custom Tab

You can add a new custom tab to the Viewer tab navigation by modifying the markup located in **viewerTemplate.html**. The tab must be placed inside the div element with the data attribute **data-pcc-nav** and it must have a unique **data-pcc-nav-tab** value:

#### Example

```
<div class="pcc-tabset pcc-nav-tabset" data-pcc-nav>
  <!-- An example of a custom tab -->
  <div class="pcc-tab" data-pcc-nav-tab="custom">
    <div class="pcc-tab-item">
      <!-- Tab label -->
    </div>
```

```
<div class="pcc-tab-pane">
  <!-- Tab content -->
</div>
</div>
<!-- End custom tab -->
</div>
```

## Customize the Markup

All of the markup in the Viewer is customizable.

### Templates

You can change the markup of the Viewer UI components by editing the templates. The templates are HTML files ending in **\*.Template.html**. The primary navigation tabs and menus are located in **viewerTemplate.html**.

### Adding/Removing Template Files

To create your own version of the Viewer template you will need to update the template name where it is being loaded in viewer.js. For instance, if you copy **viewerTemplate.html** to a new file called **customTemplate.html** you would change:

#### Example

```
element.html(_.template(options.template.viewer, ...
```

To:

#### Example

```
element.html(_.template(options.template.custom, ...
```

 Currently in the samples "**Template**" is removed from the name of the template property in the template object. For example, **viewerTemplate.html** becomes **template.viewer**.

### Template Syntax

The templates are consumed using the **Underscore.js Template** utility function. Variables and JavaScript conditions can be used within the templates using ERB syntax. For more information, refer to the Underscore documentation at <http://underscorejs.org/#template>.

#### Example

```
<!-- An example of a variable -->
<button data-pcc-rotate class="pcc-icon pcc-icon-rotate"
  title="<%= rotate %>"></button>
```

### Custom Attributes

Throughout the templates, on many elements, there are data attributes starting with **data-pcc-**. These are used to identify elements and bind them to functionality defined in **viewer.js**:

#### Example

```
<!-- This button will rotate the current page when clicked -->
<button data-pcc-rotate class="pcc-icon pcc-icon-rotate"></button>

<!-- Other elements can perform the same function -->
<div data-pcc-rotate class="customClass"></div>
```

Using the above example, this attribute is used as a selector for a **\$rotatePage** jquery object in **viewer.js**:

#### Example

```
this.viewerNodes = {
    $rotatePage: viewer.$dom.find("[data-pcc-rotate]") ...
```

This attribute is then bound to a click event which rotates the current page:

#### Example

```
// Rotate Page button
viewer.viewerNodes.$rotatePage.on('click', function () {
    viewer.viewerControl.rotatePage(90);
});
```

## Mouse Tools

The named mouse tools, like this one, are provided by **viewercontrol.js**:

#### Example

```
<button
    data-pcc-mouse-tool="AccusoftSelectToZoom"
    class="pcc-icon pcc-icon-rectanglezoomtool"></button>
```

## Using a Custom Mouse Tool in the Viewer UI

A named mouse tool can be used in the default UI of the Viewer. This allows one or more tools to be pre-configured. Setting the **data-pcc-mouse-tool** attribute to false will prevent the context menu from opening if the mouse tool is an annotation or redaction.

Enabling a custom tool in the Viewer UI requires modification of the **viewerTemplate.html**, as shown in the example below:

#### Example

```
<!-- The following markup will create a button that enables use
of the mouse tool named "MyLineTool". -->
<button
    data-pcc-mouse-tool="MyLineTool"
    data-pcc-context-menu="false"
    class="pcc-icon pcc-icon-annotate-line"
    title="My Line Tool"></button>
```

## Customize the Mouse Tools

Mouse tools are named, customizable instances that can be used by any Viewer instance. Each mouse tool has a type, which determines how the tool behaves and the properties the tool has.

### Mouse Tool Names

Mouse tools are given a name when a mouse tool is created. This name is used to get and set the mouse tool that is used by the Viewer:

#### Example

```
// The name of a new mouse tool
var myMouseToolName = "MyLineTool";

// Create the new mouse tool
PCCViewer.MouseTools.createMouseTool(
    myMouseToolName,
    PCCViewer.MouseTool.Type.LineAnnotation);

// Set the current mouse tool of the ViewerControl by passing the name
viewerControl.setCurrentMouseTool(myMouseToolName);
```

The mouse tool name also specifies the new mouse tool in the **MouseToolChanged** event:

#### Example

```
// The MouseToolChanged event triggers when the mouse tool changed.
// Use the ViewerControl#getCurrentMouseTool() method or event#mouseToolName
property
// to get the new mouse tool name.
viewerControl.on("MouseToolChanged", function(ev) {
    viewerControl.getCurrentMouseTool() == ev.mouseToolName; // true
});
```

### Mouse Tool Objects

**PCCViewer.MouseTool** objects represent mouse tools, and the objects can be used to configure the mouse tools.

These objects are returned when creating a mouse tool with method

**PCCViewer.MouseTools.createMouseTool(...)**. The object can be retrieved at a later time using the method **PCCViewer.MouseTools.getMouseTool()**:

#### Example

```
// Get the MouseTool object for an existing tool
var myMouseTool = PCCViewer.MouseTools.getMouseTool(myMouseToolName);
```

The **MouseTool** object has getters for the tool name and type:

#### Example

```
myMouseTool.getName(); // returns "MyLineTool"  
myMouseTool.getType(); // returns "LineAnnotation"
```

Depending on the tool type, additional getters or setters may be available to configure the tool:

#### Example

```
// All mouse tools that draw a mark (annotation and redaction) have a  
// getter `getTemplateMark()`  
if (myMouseTool.getType() === "LineAnnotation") {  
    // The method gives access to a template mark that configures how the  
    tool draw  
    // the annotation or redaction.  
    // In this example the mouse tool is configured to draw a red line.  
    myMouseTool.getTemplateMark().setColor("#FF0000");  
}
```

## Mouse Tool Type

- The mouse tool type specifies the behavior of a mouse tool.
- The API has many different mouse tool types, all of which are specified in the enumeration **PCCViewer.MouseTool.Type**.
- The mouse tool type is specified when creating the mouse tool, and it cannot be changed.

## Multiple Mouse Tools of one Type

Creating multiple mouse tools of one type is useful if several pre-defined behaviors are needed for one type of mouse tool. For example, this gives the ability to create two text highlighter tools, one that highlights red and the other that highlights green:

#### Example

```
// Create the red highlighter  
PCCViewer.MouseTools.createMouseTool(  
    "RedHighlighter",  
    PCCViewer.MouseTool.Type.HighlightAnnotation)  
    .getTemplateMark()  
    .setFillColor("#FF0000");  
  
// Create the green highlighter  
PCCViewer.MouseTools.createMouseTool(  
    "GreenHighlighter",  
    PCCViewer.MouseTool.Type.HighlightAnnotation)  
    .getTemplateMark()  
    .setFillColor("#00FF00");
```

## Pre-defined Named Mouse Tools

The file **viewercontrol.js** creates several named mouse tools as listed in the table below. These named mouse tools are used by the Viewer out-of-the-box.

Name	Type
------	------

"AccusoftMagnifier"	PCCViewer.MouseTool.Type.Magnifier
"AccusoftSelectToZoom"	PCCViewer.MouseTool.Type.SelectToZoom
"AccusoftPan"	PCCViewer.MouseTool.Type.Pan
"AccusoftPanAndEdit"	PCCViewer.MouseTool.Type.PanAndEdit
"AccusoftSelectText"	PCCViewer.MouseTool.Type.SelectText
"AccusoftEditMarks"	PCCViewer.MouseTool.Type.EditMarks
"AccusoftLineAnnotation"	PCCViewer.MouseTool.Type.LineAnnotation
"AccusoftArrowAnnotation"	PCCViewer.MouseTool.Type.LineAnnotation
"AccusoftRectangleAnnotation"	PCCViewer.MouseTool.Type.RectangleAnnotation
"AccusoftEllipseAnnotation"	PCCViewer.MouseTool.Type.EllipseAnnotation
"AccusoftTextAnnotation"	PCCViewer.MouseTool.Type.TextAnnotation
"AccusoftStampAnnotation"	PCCViewer.MouseTool.Type.StampAnnotation
"AccusoftHighlightAnnotation"	PCCViewer.MouseTool.Type.HighlightAnnotation
"AccusoftRectangleRedaction"	PCCViewer.MouseTool.Type.RectangleRedaction
"AccusoftTransparentRectangleRedaction"	PCCViewer.MouseTool.Type.TransparentRectangleRedaction
"AccusoftTextRedaction"	PCCViewer.MouseTool.Type.TextRedaction
"AccusoftStampRedaction"	PCCViewer.MouseTool.Type.StampRedaction

## Customize the Styles

### Customizing the Styles

#### Working with the LESS preprocessor

The Viewer uses **LESS** to pre-process the CSS for the Viewer. In order to facilitate using this pre-processor in a development environment, the following files are included in the viewer-assets folder:

- Gruntfile.js
  - package.json
1. In order to use these files, you will need to install **Node.JS** in your development environment. Then, you can run the following commands from a command line or terminal:

#### Example

```
npm install -g grunt-cli
npm install
```

 Point the command line interface to the viewer-assets folder in order to execute these commands.

2. Next, you can use this command to build the CSS files required for production:

**Example**

```
grunt buildprod
```

- 
- 
3. You can also build development files, which will include extra source maps helpful in debugging CSS:

**Example**

```
grunt builddev
```

- 
- 
- 
4. Finally, while developing, you may choose to run the task in such a way that it will automatically run whenever any of the Less files change, as such:

**Example**

```
grunt dev
```

The Less preprocessor will generate the following files:

- `css/viewer.css` - contains the bulk of the Viewer styles
- `css/fonts.css` - contains fonts necessary for printing
- `css/legacy.css` - contains the styles necessary for IE8

## Customizing the Styles

The styles should be loaded in the Viewer in the following order:

1. `normalize.min.css`
2. `viewercontrol.css`
3. `viewer.css`
4. `legacy.css` (in IE8 only)

## Namespace

The Viewer uses the class `.pccv` in order to namespace the styles it uses. In order to override any selector used in the Viewer, your selector must begin with the class `.pccv`:

**Example**

```
/* Set the navigation tab bar to dark red */  
.pccv .pcc-nav-tabset,  
.pccv .pcc-nav-tabset .pcc-tab-item,  
.pccv .pcc-status-bar { background: #5b100d; }
```

## Organization

All resulting CSS files have a Less counterpart in the root of the **less** folder. These are the only files that can be build on their own. File names beginning with an underscore ( `_` ) are partial style files, and are included as modules in the root files. These individual components are split out into the following structure:

- **base** - These files contain the variables and mixins used by the Viewer, as well as the overall layout. Included here are also the reusable, generic components, such as the grid and form inputs.
- **components** - The files contain the large Viewer components, and are named in a self-explanatory

way. For example, styles related to the search functionality are help in the `_search.less` file.

### Variables

There are many variables contained in `less/base/_variables.less`, which control things like the image resources, color scheme, and toolbar sizing. These variables can be modified in order to propagate changes throughout the Viewer.

### Icons

A number of icons are used throughout the Viewer for different UI elements. These icons are stored in the `icons*.png` files. The icons sprite image has a dark version for use on light backgrounds and a white version for use on dark backgrounds. There is a larger @2x version, to account for HD/Retina displays, and a regular sized version for legacy support. Since modern browsers support the background-size property, we use the @2x images for all icons and degrade to the regular sized icons for Internet Explorer 8.

### Media Queries

The Viewer utilizes CSS3 Media Queries with expressions using `min-width` and `max-width` to adjust the layout of navigation and dialogs. The Media Query Breakpoints are set according to the Viewer layout. On smaller viewports the tab navigation collapses into a menu and some tools are hidden. On larger viewports the dialogs transform from horizontal to a vertical layout to utilize screen real estate.

The breakpoints are located in the `less/base/_breakpoints.less` file, and are used throughout the less files as detached rulesets. The breakpoints are as follows:

#### Example

```
/* Target modern browsers that support media queries */
.modernView(@rules) {
  @media (min-width: 0) { @rules(); }
}

/* Mobile & Tablet Sizes, collapse navigation tabs into menu */
.mobileView(@rules) {
  @media (max-width: 767px) { @rules(); }
}

/* Desktop Sizes */
.desktopView(@rules) {
  @media (min-width: 768px) { @rules(); }
}
```

### Grid System

The Viewer uses a basic grid system to assist with the UI layout. Through a series of rows and columns the layout can scale dynamically. Rows are used to create horizontal groups of columns. Columns are created by defining the number of twelve columns you will span. For example, three columns would use three divs with a class of `.pcc-col-4`:

#### Example

```
<div class="pcc-row">
  <div class="pcc-col-4">Left</div>
```

```
<div class="pcc-col-4">Center</div>
<div class="pcc-col-4">Right</div>
</div>
```

### Legacy CSS support

The legacy CSS necessary for IE8 is held in the **less/legacy.less** file. Here we address unsupported or troublesome CSS features like drop shadows, opacity or background alpha transparency. In addition, because Media Queries are not supported in Internet Explorer 8 and no Media Query polyfills are used in this regard, we add additional styles here that are accounted for in Media Queries in modern browsers.

### viewercontrol.css

This file contains the styles required for using ViewerControl directly. This file should not be changed directly, but rather, should have any necessary rules overridden by your own CSS. If choosing not to use our Viewer, and instead embedding ViewerControl directly in a custom integration, this CSS file is still required.

### Polyfills

There are a few polyfills used to provide support for modern browser features:

- **Normalize** (<http://necolas.github.io/normalize.css/>) - Normalize provides better cross-browser consistency in the default styling of HTML elements.

## Disable the Print Button

### Introduction

There are two ways of disabling printing inside the Viewer:

1. Just disable printing when initializing the viewer
2. Make a custom build of the viewer which has the printing button removed from the UI

### Option 1: Just Disable Printing When Initializing the Viewer

You can easily disable printing when initializing the viewer. Just add the following **uiElements** parameter to the **options object**:

#### Example

```
<script type="text/javascript">
$(function() {
  $('#viewerContainer').pccViewer({
    /*
     * ...other required options omitted for clarity...
     */
    uiElements: {
      printing: false
    }
  });
});
```

```
});  
</script>
```

## Option 2: Make a Custom Build of the Viewer

If you need more customization of the viewer UI than the initialization API allows, you can always perform your own custom build of the viewer after modifying the original HTML templates. To do this, you will need the source code for the client viewer build, available at <https://github.com/Accusoft/prizmdoc-viewer>.

If you wanted to remove the printing button from the UI in this way, you would need to modify `src/templates/viewerTemplate.html`, removing the element with the attribute `data-pcc-print="launch"`.

After you have made your changes, perform your own build and use the new `dist/viewer-assets` output in place of the existing `viewer-assets` in your application.

For more information about building the client viewer, see the [README](#).

### Additional Resources

- [Design Basics](#) - This topic gives you an overview of how to customize the Viewer.
- [Available Parameters for the UI](#) - This topic provides a list of available UI configuration options.
- [Interactive Code Examples](#) - These live code examples allow you to see how to customize the Viewer.

## Scroll the Viewer Programmatically

The ViewerControl API offers two methods for scrolling the Viewer:

- The `'scrollToAsync(target)'` method will scroll the Viewer to a specified target/location within the Viewer.
- The `'scrollBy(offsetX, offsetY)'` method will scroll the Viewer by a specified number of pixels.

### Scroll to a Specific Target

The API enables scrolling to a specific target or location within the Viewer. Possible targets are:

- a mark (annotation, redaction, or signature)
- a conversation
- a search result, or
- a point on a specific page

Use the method `PCCViewer.ViewerControl#scrollToAsync(target)` to scroll to a specific target, as shown in the following code example:

#### Example

```
myViewerControl  
  .scrollToAsync({  
    pageNumber: 2,  
    x: 500,  
    y: 500
```

```
    })
    .then(
      function onFulfilled() {
        alert("The point was scrolled into view.")
      },
      function onRejected() {
        alert("Something went wrong: ")
      }
    )
  );
```

The `scrollToAsync` method returns a `PCCViewer.Promise` that is fulfilled when the target is scrolled into view and has been displayed. In the `onFulfilled` callback is an appropriate time to take additional programmatic actions against the target (e.g. put a mark in text editing mode).

The method will attempt to center the target. If the full target does not fit at the current scale, then it will attempt to center the top left corner of the target. The method will not scroll past the bounds of the document, so in some cases it will scroll to as close to centering the target as possible.

 There is also the `ViewerControl#scrollTo(target)` method that returns the `ViewerControl` object rather than a promise. It is recommended that you use `scrollToAsync`, unless method chaining is desired.

## Scroll by a Number of Pixels

The API enables scrolling the content in the Viewer by a specified number of pixels. The method `PCCViewer.ViewerControl#scrollBy(offsetX, offsetY)` allows scrolling up, down, left, or right. Scrolling down or right is performed by passing positive offset values. Scrolling up or left is performed by passing negative offset values.

The following example demonstrates how to scroll down using this method:

### Example

```
// Scroll down by 100 pixels
myViewerControl.scrollBy(0, 100);
```

This method will scroll content until it reaches the bounds of the document, at which point the method will stop scrolling in that direction.

 When the `ViewerControl` is in `SinglePage` view mode, this method will only scroll within the current page, it will not change pages.

## Reorganize Menus

All of the menus and navigation in the Viewer are customizable.

## Templates

You can change the markup of the Viewer UI components by editing the templates. The templates are HTML files ending in `*.Template.html`. The primary navigation tabs and menus are located in `viewerTemplate.html`.

## Adding/Removing Template Files

If you wish to create your own version of the Viewer template, you will need to update the template name where it is being loaded in viewer.js. For instance, if you copy **viewerTemplate.html** to a new file called **customTemplate.html** you would change:

### Example

```
element.html(_.template(options.template.viewer, ...
```

To:

### Example

```
element.html(_.template(options.template.custom, ...
```



Currently in the samples, "Template" is removed from the name of the template property in the template object (e.g., **viewerTemplate.html** becomes **template.viewer**).

## Template Syntax

The templates are consumed using the Underscore.js Template utility function. Variables and JavaScript conditions can be used within the templates using ERB syntax. For more information, see the Underscore documentation at <http://underscorejs.org/#template>.

### Example

```
<!-- An example of a variable -->
<button data-pcc-rotate class="pcc-icon pcc-icon-rotate"
  title="<%= rotate %>"></button>
```

## Removing Elements

To remove buttons from the menu, you can remove the markup, comment out the markup, or add a CSS class to the element.

### Example

```
<!-- This button is no longer visible
  <button data-pcc-rotate class="pcc-icon pcc-icon-rotate"></button>
-->

<!-- This element is hidden because of a pcc-hide class -->
<div data-pcc-rotate class="customClass pcc-hide"></div>
```

## Data Attributes

Throughout the templates, on many elements, there are data attributes starting with **data-pcc-**. These are used to identify elements and bind them to functionality defined in viewer.js:

### Example

```
<!-- This button will rotate the current page when clicked -->
<button data-pcc-rotate class="pcc-icon pcc-icon-rotate"></button>
```

```
<!-- Other elements can perform the same function -->
<div data-pcc-rotate class="customClass"></div>
```

## Customizing CSS

It is recommended to create your own CSS file and add it to the bottom of the cascade. This would be after **normalize.min.css**, **viewer.css**, **viewercontrol.css**, and **legacy.css**. All selectors in **viewer.css** have a parent of **.pccv**, in order to override the **.pccv** parent should be in the selector:

### Example

```
/* Set the navigation tab bar to dark red */
.pccv .pcc-nav-tabset,
.pccv .pcc-nav-tabset .pcc-tab-item,
.pccv .pcc-status-bar {background:#5b100d}
```

## CSS Polyfills

There are a few polyfills used to provide support for modern browser features:

- **Normalize** (<http://necolas.github.io/normalize.css/>) - Normalize provides better cross-browser consistency in the default styling of HTML elements.

## Set the Initial Zoom Factor

### Example Integration

When a document loads, it defaults to the size of the screen. While this ensures all documents fit on the screen, certain documents may be sized too large. To prevent this, you can set an initial zoom of the document before it is displayed. To set a specific scaling factor before the document loads with optimal performance, subscribe to the PageOpening event to set the target scale before PageDisplayed has fired.

The PageOpening event is triggered when a page being opened has reached the point that it has height, width, and resolution data but hasn't yet been displayed. This example sets the initial zoom of the Viewer at runtime so that it will initialize at 125% zoom factor instead of auto-fit:

### Example

```
function pageOpeningHandler() {
  // Set the initial page zoom to a maximum of 125%
  if (viewerControl.getScaleFactor() > 1.25) {
    viewerControl.setScaleFactor(1.25);
  }
  // Remove the event subscription since we only want to respond to the first
  PageOpening
  viewerControl.off(PCCViewer.EventType.PageOpening, pageOpeningHandler);
}
viewerControl.on(PCCViewer.EventType.PageOpening, pageOpeningHandler);
```

## Subscribe to Events

### Subscribing to ViewerControl Events

The **ViewerControl** has several events defined in the enumeration **PCCViewer.EventType** that can be subscribed to using the **.on** method. The **.off** method can be used to unsubscribe to previously subscribed events. Event subscription allows you to provide a function[m1] that is called whenever the event is fired. This method is called a 'handler'. When the event is triggered, the handler is called with one argument, a **PCCViewer.Event** object that is augmented with properties specific to the event type.

Event subscription should be performed immediately after the **ViewerControl** is created, or within the **ViewerReady** event, to ensure that no events are triggered before subscription.

#### Example

```
var viewer = new PCCViewer.ViewerControl(viewerElement,
    {
        documentID: viewingSessionId,
        imageHandlerUrl: "../pcc.ashx"
    });

viewer.on(PCCViewer.EventType.ViewerReady, viewerReadyHandler);

function viewerReadyHandler(event) {
    alert("The ViewerReady event was fired.");
    // Now Subscribe to the event PCCViewer.EventType.PageChanged
    //exposed by the API
    viewer.on(PCCViewer.EventType.PageChanged, function(event) {
        alert("The current Page is " + event.pageNumber);
    });
    //subscribe to other events here..
}
```

 An enumeration, **PCCViewer.EventType**, defines event types that are triggered by the **ViewerControl**. It's acceptable to use this enum or use string literals when subscribing and unsubscribing.

## Work with Annotations

This section provides details on how to change annotation default values, load annotations from a web tier, work with annotation layers and work with annotations programmatically:

- [Change Annotation Default Values](#)
- [Load Annotations from the Web Tier](#)
- [Work with Annotation Layers](#)
- [Work with Annotations Programmatically](#)

## Change Annotation Default Values

## Changing Annotation Default Values

You can customize the default behavior of an annotation by modifying the button markup located in **viewerTemplate.html**.

In this example the mouse tool will draw a green line and will not open the context menu:

### Example

```
<button data-pcc-mouse-tool="AccusoftLineAnnotation"
  data-pcc-default-fill-color="#ff0000"
  data-pcc-context-menu="false"></button>
```

## Default Data Attributes

These are the current data attributes that are being used to set defaults:

Attribute	Value Type	Description
data-pcc-default-fill-color	String	The default fill color for the annotation. This must be a hexadecimal string of 6 characters preceded by a #.
data-pcc-context-menu	Boolean	Whether or not to show the context menu when the annotation is drawn. Default is true.

## Load Annotations from the Web Tier

Annotation layers may be persisted to the web tier and then loaded back into the Viewer at a later time. On the web tier, the resource representing a layer is referred to as the 'markup layer record' while in the Viewer, it's referred to as the 'markup layer object'. An important distinction to make is that the layer object in the Viewer has two IDs associated with it while a layer record persisted to the web tier has only one. A layer object in the Viewer has both an 'id' and a 'markupLayerRecordId' while a persisted layer record has only a 'markupLayerRecordId'.

What's the difference? A layer's 'id' is a runtime identifier that exists only for the life of the layer object. This 'id' is needed for several reasons; one of them being as a unique object identifier for the period of time when a layer is created in the Viewer but not yet persisted to the web tier. Only when a layer is persisted to the web tier will it have a 'markupLayerRecordId'.

The following is a code example for loading layer records in to the Viewer:

### Example

```
// Get a ViewerControl object
var viewer = new PCCViewer.ViewerControl(viewerElement, {
  documentID: viewingSessionId,
  imageHandlerUrl: "../pcc.ashx"
});

// Retrieve a list of the annotation layer records persisted on the web tier.
viewer.requestMarkupLayerNames().then(
```

```
function onResolve(annotationLayerRecords) {
    // Load a specific record so that its data is available to the API
    viewer.loadMarkupLayers(annotationLayerRecords[0].layerRecordId).then(
        function onResolve(annotationLayers){
            // A layer object representing the persisted record is now
created.

            // Any marks and their associated comments are now displayed
            // on the loaded document.
            console.log("Annotation layer loaded: ", annotationLayers[0]);
        },
        function onReject(reason) {
            console.log("Failed to load annotation layer. ", reason);
        }
    );
},
function onReject(reason) {
    console.log("Failed to load annotation layer record list. ", reason);
}
);
```

## Work with Annotation Layers

PrizmDoc Viewer's Annotation Layering functionality makes it possible to create, view and manage multiple sets of annotations for a document enabling collaborative annotating and commenting scenarios for your document review needs.

### What's an Annotation Layer?

An annotation layer (or layer) is a collection of annotations saved in a unique file (under this definition all annotation files you currently have are layers). The layer may be modified over time as often as desired and can be modified by different users, however, only a single user can work with the file at a time.

 **In order to maintain layer integrity, only one user can be modifying a layer file at any given moment.**

The best way to achieve this is by having each user create their own layer for editing; this is the main scenario that annotation layers are designed upon. Note that there is nothing in the PrizmDoc Viewer code that will restrict the incorrect usage of layer files, so this is an important consideration for your implementation.

### Review Layers

A "Review Layer" is simply a layer that has been loaded but cannot be modified by the current user. The user may load as many layers for review as they like, and each of these layers can be made independently visible/invisible via the user interface. While the user cannot modify any of the annotations on a Review Layer, they may comment on them which makes it possible to have conversations across multiple reviewers of a document.

With this system it's possible to have as many people working concurrently to annotate a document as desired, and these people can see all other annotation layers if they wish (the layers will be as up-to-date as

the last time the file was loaded for a user).

## Annotation File Format

When adding the Annotation Layering functionality, we updated our annotation storage mechanism to accommodate cross-layer references for commenting. For this reason, we have moved to a JSON file format for all annotation persistence. This JSON format is based on our ability to persist individual annotations into a JSON object.

It's important to note that once annotation layering has been turned 'on', via the Viewer configuration option, that all persistence will use the JSON file format. This means that when an XML file (legacy) is loaded for editing, saving it again will save it as a JSON file. When both an XML and JSON file exist with the same root filename, only the JSON file will be visible to the user (it will be as if the XML file no longer exists, although it still remains as a separate file).

For more detailed information, refer to the following topics:

- [Loading Annotations from the Web Tier](#)
- [API - jQuery.fn](#)

# Work with Annotations Programmatically

## Introduction

The API offers methods to perform create, read, update, and delete operations on annotations. Other API methods available are for selection/de-selection of marks, obtaining selected annotations, re-ordering of annotation mark objects (within a z-order of a page), and loading and saving of annotations.

## Create & Update Annotations

When adding annotations programmatically using the **addMark method** to distant pages of a large document, or if you are not sure if your annotation object will straddle the page width and height boundaries, it is recommended that you use the **requestPageAttributes method** to obtain width and height of a page. This will help you to remain within the confines of the image rectangle when specifying width and height of the annotation's dimensions (rectangle or start point and end point).

### Example

```
var pageNumber = 1;
var promise = viewer1.requestPageAttributes(1);
promise.then(
    function(pageAttributes) {
        try{
            //create stamp annotation on page 1
            var stampMark1 = viewer1.addMark(1,
PCCViewer.Mark.Type.StampAnnotation);
            //update the created rectangle mark using the property setters
            //use width and height obtained in the promise object to place
the stamp annotation object
            // assume the width obtained was 612 and height 792.
            stampMark1.setRectangle({x: 250, y: 50, width :
                pageAttributes.width - 300, height: pageAttributes.height -
500});
            //provide the label for the stamp mark
```

```
        stampMark1.setLabel("Reviewed");
        //set the color to red
        stampMark1.setColor("#ff0000");
        // ... add more annotations on this page 1 ...
        var rectangleMark1 = viewer1.addMark(1,
PCCViewer.Mark.Type.RectangleAnnotation);
        rectangleMark1.setRectangle({x: 250, y: 50, width :
            pageAttributes.width - 300, height: pageAttributes.height -
500});
        //set fill color to blue
        rectangleMark1.setFillColor("#0000ff");
    }
    catch(e){
        alert("ERROR: " + e);
    }
},
function(rejectedReason) {
    alert("Unable to add annotations because page attributes promise
was rejected, error = " +
        rejectedReason);
}
);
```

## Create Text-Based Mark from Search Result

You can create a text-based mark from a search result by using [addMarkFromSearchResult](#).

## Read Annotations Properties

Property getters can be used to obtain current property values. It is not necessary to use `requestPageAttributes` method for these operations.

### Example

```
var label = stampMark1.getLabel();
var rectangle = stampMark1.getRectangle();
```

## Select Annotations

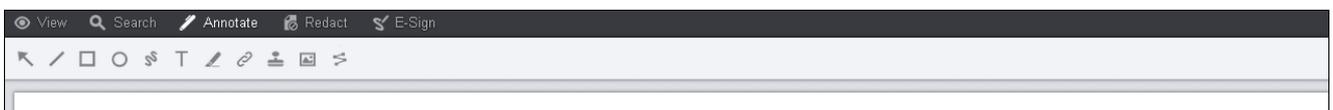
The following example shows how to select annotations:

### Example

```
//get all marks var marks = getAllMarks();

//select annotations returned by the above getAllMarks() call (marks is an
array) viewer1.selectMarks(marks);
```

The graphic below shows the previously created marks are selected after `selectMarks` call:





## Deselect Annotations

The following example shows how to deselect annotations:

### Example

```
//Get the selected marks var selectedMarks = viewer1.getSelectedMarks();
if(selectedMarks.length > 0 ) {
    //deselect all the marks in all the pages
    viewer1.deselectMarks();
    //programmatically check if all marks were deselected
    var checkSelectedMarks = viewer1.getSelectedMarks();
    if(checkSelectedMarks.length === 0 ) {
        alert("All annotations marks were deselected");
    }
}
```

## Reorder Annotations

Reordering of marks applies to all marks on a single page. Reordering does not apply to Highlight annotations because these type of marks need to remain attached to the Text on the page.

### Example

```
//use moveMarkToFront to bring mark to the front
viewer1.moveMarkToFront(rectangleMark1);

//use moveMarkToBack to the back viewer1.moveMarkToFront(stampMark1);

//use moveMarkForward to bring the mark one slot forward
viewer1.moveMarkForward(rectangleMark1);
```

```
//use moveMarkBackward to move the mark one slot backward
viewer1.moveMarkBackward(rectangleMark1);
```

## Delete Annotations

The following example shows how to delete annotations:

### Example

```
//In this example we will delete all the marks that are selected
//Get the selected marks var selectedMarks = viewer1.getSelectedMarks();
//delete if there were any selected if(selectedMarks.length > 0 ) {
    //delete all the selected marks
    viewer1.deleteMarks(selectedMarks);
}
```

## Save Annotations

You can save annotations created in the currently displayed document using [saveMarkupLayer](#).

## Load Annotations

Refer to the topic, [Load Annotations from the Web Tier](#).

# Work with Document Comparison Programmatically

The API offers methods to request revisions and to get those requested revisions once they have been retrieved.

## Requesting and Getting Revisions

Request the revisions for a given document comparison. Revisions requests complete asynchronously. A [PCCViewer.RevisionsRequest](#) will be returned that provides events for revisions retrieval progress and members to access retrieved revisions.

### Example

```
// Request revisions
var revisionsRequest = viewerControl.requestRevisions();
// Subscribe to the PartialRevisionsAvailable event to get revisions as they
become available
revisionsRequest.on('PartialRevisionsAvailable', function(_event) {
    // Get the newly available revisions
    var newRevisions = _event.partialRevisions;
});
// Subscribe to the RevisionsRetrievalCompleted event to get revisions when
all of them are available
```

```
revisionsRequest.on("RevisionsRetrievalCompleted", function(){
    // Get all of the revisions for that comparison
    var revisions = revisionsRequest.getRevisions();
});
```

## Modify viewer.js

To facilitate open customization of the Viewer, this file is left unminified and unobfuscated. This file controls the behavior of the user interface, allowing you to bind custom button behavior or to completely re-implement the user experience to match any business need. This file utilizes the public [ViewerControl API](#) to allow complete interaction with the underlying Page List document control. To find out more about this, consult the [ViewerControl API](#) section.

## Updates to the PrizmDoc Viewer Product

This file will be updated with future releases of the product, introducing new features and enhancing the current behavior, when necessary. When editing or re-implementing this file, a clear upgrade path should be established in order to be able to take full advantage of future releases of the product.

## Viewer.js Sections

The file is split up into several logical sections, in order to make modifying the file easier. They are as follows, in order:

- [Using the Viewer Template and Parsing for DOM Elements](#)
- [Initialization and Binding the Markup](#)
- [Auxiliary Functions](#)
- [ViewerControl Event Handlers](#)
- [Create the ViewerControl and Add Listeners](#)
- [Search and Annotation IO Modules](#)
- [jQuery Plugin](#)

### Using the Viewer Template and Parsing for DOM Elements

The Viewer Template is inserted into the specified Viewer element, and then individual components are parsed out using jQuery. For convenience, all jQuery-wrapped elements are placed in a variable starting with the **\$** character. For example, the pan tool button element is named **\$panTool**, indicating that the object has the full jQuery API available. This naming is maintained throughout the file.

### Initialization and Binding the Markup

After the DOM elements are parsed out, behavior is bound to them inside a single initialization function, named **bindMarkup**. The content of the short initialization function can be seen right above, in **initializeViewer**. All DOM behavior, such as click and input events, are bound to the DOM here using the jQuery API.

### Auxiliary Functions

Following are some auxiliary functions, which provide useful and reusable abstractions and wrappers for the [ViewerControl API](#). An example of this is the **setMouseTool** function, allowing any part of the file to set

the mouse tool through the [ViewerControl API](#) and update all necessary DOM elements accordingly. Other functions include handling toggle elements, displaying notifications in the Viewer, handling context menu and dialog behavior, and various others.

## ViewerControl Event Handlers

Next are all of the event handler functions. These are written in separate functions in order to allow easy subscribe and unsubscribe handling. These include events that are currently handled in the Viewer. For a list of all available events, consult the **EventType** section of the [ViewerControl API](#).

## Create the ViewerControl and Add Listeners

Directly following the event handler, the main Page List viewer control is initialized, and the necessary events are subscribed. Initializing the main control requires only the **\$pageList** DOM element, and the original **options** object passed into the Viewer and jQuery plugin. For more specifics on initializing the Viewer control, consult the ViewerControl API.

 The DOM element passed into the Viewer control constructor should be a plain DOM element, and not the jQuery variable. This is why **\$pageList.get(0)** is used in the code.

## Search and Annotation IO Modules

Next are two sections that have been abstracted in a module format. The first handles the search navigation UI, and the second handles retrieving, opening, and saving annotations. These modules are self-contained, as much as possible, to allow easy removal of these large parts of code if you are not interested in that specific functionality.

## jQuery Plugin

This is the first part of code being executed, and is a simple jQuery wrapper, providing convenience for the Viewer. It will create a new instance of the Viewer, and can also provide the **ViewerControl** instance associated to a Viewer in a particular DOM element. For more information on this plugin, consult the **jQuery Plugin** section of the [ViewerControl API](#).

# PAS

## Overview

PAS is a layer in front of PrizmDoc Server which is responsible for creating viewing sessions, saving and loading of annotations, and creating viewing packages (pre-converted content). Like your web application, PAS has privileged access to storage that you own (like a file system or database).

For an introduction to how PAS is part of the overall viewing architecture, see the [Architecture Overview](#) in our Getting Started guide.

For viewing functionality, your web application should only make REST API calls to PAS. PAS will then make calls to PrizmDoc Server on your behalf to ensure the conversion work is done. The only time your application should call PrizmDoc Server directly is when you need to perform non-viewing work, such as converting a file or burning annotations into a document.

We support the ability to do pre-conversion and long term caching of documents in a central location. To use this functionality, an external instance of a database will need to be configured to run with PAS.

## PAS Clustering

PAS is designed to scale out well. In order to install and run PAS on multiple servers, you will need to consider the following:

- You will need a load balancer to accept incoming requests and route them to any instance of PAS. Since any request can be handled by any instance in the cluster, any on-the-shelf load balancing solution should do the job.
- All instances of PAS will need to be configured to point to the same PrizmDoc Server deployment (whether a single instance of PrizmDoc Server or the load balancer in front of a PrizmDoc Server cluster).
- All instances of PAS will need to be configured with the same storage solution, in order to have access to the same data. This includes using shared filesystem storage, such as a NAS, for all filesystem files, as well as a shared database when working with [Pre-Conversion Services](#).

For more information on installing PAS on a cluster, refer to the topic [Run PAS on Clusters](#).

This section contains the following "How To" information:

- [Set up Your Database for use with PAS](#)
- [Handle Specific Routes with PAS](#)
- [Compare Documents with PAS](#)
- [Pre-Convert Documents](#)
- [Pre-Populate Fields in the E-Signature Viewer](#)
- [Work with Viewing Packages](#)

For information on administering PAS, refer to [Administering PrizmDoc Viewer > PAS](#).

## Set up Your Database for use with PAS

### Introduction

This topic covers how to set up your database for use with PAS. For information on configuring PAS to communicate with your database, see the [PAS Configuration](#) section in the help file.

### Creating the required database tables

Some databases, like Microsoft SQL Server, require that the tables be created before PAS can use them. This is a manual step.

The easiest way to create the tables is to run the scripts available as part of PAS:

#### On Windows:

```
cd C:\Prizm\pas\db
createtables.cmd
```

#### On Linux:

```
cd /usr/share/prizm/pas/db
./createtables.sh
```

This will create the required tables in the database that is configured through the PAS configuration file. If you need to change any of the configuration temporarily when running these scripts (such as using a different user that has the required privileges to create tables), you can specify any of the `database.*` properties from the PAS configuration file as command line flags, as such:

```
createtables.cmd --user=createTablesUser --password=Pa55w0rd
```

```
./createtables.sh --user=createTablesUser --password=Pa55w0rd
```

**NOTE:** The create tables script should be run when upgrading PAS as well. This will update the database schema without modifying any data already stored in the database.

## Advanced use

For advanced database administrators, you may want to inspect and manually run the SQL scripts to create tables. You can use this by adding the `--export-scripts` flag to the above commands, as such (the commands below work on both Windows and Linux using the appropriate script):

```
./createtables.sh --export-scripts --filepath=/path/to/script.sql
```

When running this command, the configured database will not be changed, and the script will be saved to the output file specified. These SQL scripts can be found:

### On Windows:

```
C:\Prizm\pas\db\mssql-scripts
C:\Prizm\pas\db\mysql-scripts
```

### On Linux:

```
/usr/share/prizm/pas/db/mssql-scripts
/usr/share/prizm/pas/db/mysql-scripts
```

# Handle Specific Routes with PAS

## Introduction

This topic covers how to handle specific routes from PAS using custom logic. PAS is designed to handle all viewer requests in an appropriate way. However, there might be some cases where you need to add custom

logic in place of those handlers. Here, we will look at how the request rerouting is done in general, as well as some examples where handling routes in a custom way might be desirable.

## Rerouting any request to PAS

In the API Reference section, every route has a `Routes` key defined. This is the key that allows handling this route using outside logic. It can be used to instruct PAS to forward that particular route to any HTTP endpoint that it can access. This is done through the configuration file. Assuming the standard install location:

- On Windows: `C:\Prizm\pas\pcc.win.yml`
- On Linux: `/usr/share/prizm/pas/pcc.nix.yml`

To reroute any route, you will need to know that route's key. In these examples, we will use `RouteKey` as that key. If you want to simply handle a route, you can use the following config:

```
routeHandlers.RouteKey.url: "http://myserver/some/route"
```

You can also define any header you would like used when the request is proxied. This can be useful when wanting to secure a specific route from outside users while still allowing PAS to use it. This can be configured as such:

```
routeHandlers.RouteKey.url: "http://myserver/some/route"
# define any header you would like
routeHandlers.RouteKey.headers.x-my-custom-secret:
"c2hoLCBJJ20gYSBzZWNYZXQ="
routeHandlers.RouteKey.headers.x-use-any-name: "YW55IG5hbWUsIHJlYWxseQ=="
```

PAS will proxy any request to `RouteKey` to the url specified in the config. Since PAS routes will sometimes include important information, such as document ids, markup ids, etc., the entire route from PAS will be appended to the URL, as such:

```
// route as handled by PAS
http://localhost:3000/RouteKey/u1234/sOmEiDvAlUe

// it will be forwarded here, as per the above config
http://myserver/some/route/RouteKey/u1234/sOmEiDvAlUe
```

If you would prefer to defer handling of that request back to PAS, you can return a `202 Accepted` response to instruct Application Services to continue handling that request as it would normally. Any other response that is returned by the handler will be forwarded back to the client.

**NOTE:** Since this rerouting is based on an HTTP REST API, the example code that shows how to handle the requests in the following examples will be provided in pseudo-code. It is appropriate to implement this code in any language you feel comfortable using, as long as it can be exposed through an HTTP interface.

### Example: How to handle markup file delete permissions

The routes to delete any markup files in PAS are open to all users, since PAS does not know about system users. However, you can let PAS know about user access. In the configuration, you will want to handle the

following routes as such:

```
routeHandlers.DeleteMarkupLayer.url: "http://myserver/user/deletepermission"  
routeHandlers.DeleteFormDefinition.url:  
"http://myserver/user/deletepermission"
```

You could potentially register this route handler on your server:

```
DELETE http://myserver/user/deletepermission/{markupType}/{markupId}
```

Using the following pseudo-code, you could determine whether the user is allowed to complete this delete action and instruct PAS on how to continue:

```
var markupType = parsedRouteParameters.markupType; // "FormDefinitions"  
or "MarkupLayers"  
var markupId = parsedRouteParameters.markupId; // a guid value  
  
if (userCanDelete(markupType, markupId)) {  
    sendResponseStatus(202); // Accepted  
    // This will tell Application Services to continue with the delete  
operation  
} else {  
    sendResponseStatus(403); // Forbidden  
    // The 403 response will be returned to the client  
}
```

### Example: How to handle creating sessions

Sometimes, you may not be able to give PAS access to your documents directly. For example, when documents are in a custom content management system and you may want to handle creating sessions on your own. In this example, we will look at handling the legacy `CreateSession` route.

The following would be an example of the configuration:

```
routeHandlers.LegacyCreateSession.url: "http://myserver/documents"
```

You would register a handler, as such, on your server:

```
GET http://myserver/documents/CreateSession
```

You would be able to use the following pseudo-code to handle this request:

```
var document = parsedQueryParameters.document;  
// also make sure to handle the case for the "form" query  
parsedQueryParameters  
// when using the e-sign viewers
```

```
var documentData = getDocumentData(document);

// use the ViewingSession API to create the actual session
var sessionResponse = makeRequest({
  method: "POST",
  url: "http://localhost:3000/ViewingSession"
  body: {
    source: {
      type: "upload",
      displayName: documentData.displayName,
      markupId: documentData.uniqueIdentifier
    }
  }
});

// optionally do this later or in a separate thread, for better
performance
var uploadResponse = makeRequest({
  method: "PUT",
  url: "http://localhost:3000/ViewingSession/" +
sessionResponse.viewingSessionId + "/SourceFile",
  headers: {
    "Accusoft-Secret": "mysecretkey"
  },
  body: documentData.theDocument
});

// return the response back to PAS, to be forwarded to the client
returnResponse(sessionResponse);
```

## Compare Documents with PAS

### Performing Document Comparison

You can use PrizmDoc Viewer to show an end user a comparison view of two different Microsoft Office documents (if you are hosting the backend yourself, you must be running PrizmDoc Server on a Windows machine with a [Microsoft Office enabled PrizmDoc license](#)).

Here is how you typically set this up:

#### Step 1: Create a Comparison Viewing Session

As with normal viewing sessions, your web application begins by sending a POST /ViewingSession request to create a new viewing session. However, this time you will set the `source.type` to `"comparison"`. And, instead of providing only one document, you will provide two.

There are different ways to provide the two documents (refer to the information about document comparison in the [Viewing Sessions REST API documentation for PAS](#)). The most common and recommended way is to have your web application upload each of them in subsequent requests.

Here is how you would create a comparison viewing session and indicate that you intend to upload both documents in subsequent requests:

```
POST pas_base_url/ViewingSession
```

```
Content-Type: application/json

{
  "source": {
    "type": "comparison",
    "displayName": "Example Comparison",
    "original": {
      "type": "upload",
      "displayName": "original.docx"
    },
    "revised": {
      "type": "upload",
      "displayName": "revised.docx"
    }
  }
}
```

PAS will respond immediately, giving you a new `viewingSessionId`:

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "viewingSessionId": "XYZ..."
}
```

## Step 2: Initialize the Viewer

Now that you have the `viewingSessionId`, your web application can go ahead and render the HTML page with the viewer configured to use that `viewingSessionId`. The document content will load for the end user as soon as it becomes available.

But, in order for content to be shown, you still need to upload the two documents.

## Step 3: Upload the Two Documents

When uploading the two documents, our API uses the terms *original* and *revised* to refer to the two documents. You issue two PUT requests: one to upload the *original* file, and one to upload the *revised* file:

```
PUT pas_base_url/v2/viewingSessions/XYZ.../sourceFile/original
<<file 1 bytes>>
```

```
HTTP/1.1 200 OK
```

```
PUT pas_base_url/v2/viewingSessions/XYZ.../sourceFile/revised
<<file 2 bytes>>
```

```
HTTP/1.1 200 OK
```

Once both documents have been uploaded, a background process will begin automatically creating a new document which is a visual comparison of the two. Once that comparison document is ready, it will internally be set as the actual, primary document of the viewing session, and the viewer running in the browser will load the first page of this automatically-created comparison document as soon as it becomes ready.

## Additional Info

There are additional API endpoints which allow you to download the *original* and *revised* documents you initially provided, as well as an endpoint which our viewer uses to download metadata about the revisions in the document so the end user can navigate between them. Your application may be interested in using these endpoints directly. For more information, see the relevant PrizmDoc Server REST API documentation (these endpoints can be called via PAS, which proxies the requests to PrizmDoc Server):

- [GET /v2/viewingSessions/{viewingSessionId}/sourceFile/original](#)
- [GET /v2/viewingSessions/{viewingSessionId}/sourceFile/revised](#)
- [GET /v2/viewingSessions/{viewingSessionId}/revisionData](#)

## Pre-Convert Documents

### Pre-converting documents in PrizmDoc Application Services (PAS)

When viewing large documents, a user can experience a delay viewing later pages in the document. The Pre-conversion API allows the user to avoid any delay in viewing a fully converted document prior to the creation of a viewing session.

This section describes a typical use in pre-converting and management of the pre-converted Viewing Packages:

1. How to Create a Viewing Package by Pre-converting Documents.
2. How to Obtain Information for a Viewing Package.
3. How to Delete a Viewing Package

### How to Create a Viewing Package by Pre-converting Documents

Pre-conversion is available by using the Pre-conversion API. For detailed information, refer to the [PrizmDoc Application Services RESTful Viewing Package Creators API](#) section.

Documents are pre-converted using the following steps:

#### Step 1

Issue a POST request with the body of the request containing JSON formatted 'source' object. The `source.type` property can be a "document", "url" or "upload".

In this example, "document" is used as a `source.type` property.

```
POST http://localhost:3000/v2/viewingPackageCreators
```

#### viewingPackageCreator POST Body

```
Content-Type: application/json
{
  "input": {
    "source": {
      "type": "document",
      "fileName": "sample.doc",
      "documentId": "unT67FxeKm8lk1p0kPnyg8",
      . . .
    },
    "viewingPackageLifetime": 2592000
  }
}
```

A successful response to the above POST provides a `processId` in the response body:

```
200 OK
Content-Type: application/json
{
  "input": {
    "source": {
      "type": "document",
      "fileName": "sample.doc",
      "documentId": "unT67FxeKm8lk1p0kPnyg8",
      . . .
    },
    "viewingPackageLifetime": 2592000
  },
  "expirationDateTime": "2015-12-09T06:22:18.624Z",
  "processId": "khjyrfKLj2g6gv8fdqg710",
  "state": "processing",
  "percentComplete": 0
}
```

## Step 2

Using the `processId` obtained in the step 1, query the pre-conversion process for the status:

#### Example

```
GET http://localhost:3000/v2/viewingPackageCreators/khjyrfKLj2g6gv8fdqg710
```

A successful response body contains the JSON formatted properties `state` and `percentComplete`. The state value indicates whether it is `complete` or `processing` and the property `percentComplete` indicates percentage amount complete.

Start polling the status by issuing a GET command using the above URL. It is recommended to use shorter intervals initially between the requests for the first few times. If it is still not complete, then the document may be large, requiring more processing time.

In scenarios like this, an increase in the time interval between requests would be necessary to prevent a large number of status requests that could potentially cause network congestion. On 100% completion, the response body will among other information contain an output object with `packageExpirationDateTime` property:

```
200 OK
Content-Type: application/json
{
  "input": {
    "source": {
      "type": "document",
      "fileName": "sample.doc",
      "documentId": "unT67FxeKm81k1p0kPnyg8",
      . . .
    },
    "viewingPackageLifetime": 2592000
  },
  "output": {
    "packageExpirationDateTime": "2016-1-09T06:22:18.624Z"
  },
  "expirationDateTime": "2015-12-09T06:22:18.624Z",
  "processId": "khjyrfKLj2g6gv8fdqg710",
  "state": "complete",
  "percentComplete": 100
}
```

## How to obtain information about the converted Viewing Package

For obtaining detailed information about the converted Viewing Package, refer to the [PrizmDoc Application Services RESTful Viewing Packages API](#) section.

When the status is 100% complete, details can be obtained about the converted package by issuing the following request:

```
GET http://localhost:3000/v2/viewingPackages/unT67FxeKm81k1p0kPnyg8
```

### Example Response Body

```
200 OK
Content-Type: application/json
{
  "input": {
    "source": {
      "type": "document",
      "fileName": "sample.doc",
      "documentId": "unT67FxeKm81k1p0kPnyg8",
      . . .
    },
    "viewingPackageLifetime": 2592000
  },
}
```

```
"state": "complete",
"packageExpirationDateTime": "2016-1-09T06:22:18.624Z"
}
```

## How to Delete a Previously Converted Package

For obtaining detailed information about deleting converted Viewing Package, refer to the [PrizmDoc Application Services RESTful Viewing Packages API](#) section.

A previously converted package can be deleted by issuing a DELETE request:

```
DELETE http://localhost:3000/v2/viewingPackages/unT67FxeKm8lk1p0kPnyg8
```

This request marks the package for asynchronous deletion. A successful response is as follows:

```
204 (No Content)
```

# Pre-Populate Fields in the E-Signature Viewer

## Introduction

This example demonstrates automatically pre-populating pre-existing user data into form fields at runtime. Route the form definition GET request to a custom handler instead of Prizm Application Services (PAS) directly. In this handler, fetch the Form Definition from PAS, insert default values into the given form definition using external data, and return the modified form definition to the viewer. This example assumes PAS is listening on `localhost:3000`, but this will vary based on your server configuration.

## Step 1: Load the Form Definition

### Example

```
GET
http://localhost:3000/FormDefinitions/5418c96283bc469783bd30e7c8fdc059
Content-Type: application/json
{
  "templateDocumentId": "Form 3.pdf",
  "globalSettings": { ... global settings ... },
  "formRoles": { ... form roles ... },
  "groups": {},
  "formName": "Form 1 - updated",
  "formData": [ ... form data ... ]
}
```

## Step 2: Get User Data

This will vary based on your data source. You might load data from a database, a file, or another location. Or, your GET request to load the form definition may have included a session ID for a particular user from which secondary information can be queried. Let's assume we receive the following user data object:

### Example

```
{
  "Name": "John Smith",
  "Address": "123 Town St",
  "Phone": "(555) 555-5555"
}
```

## Step 3: Insert the Data

We can iterate through each field in the `formDefinition`, check if there is data corresponding to that field ID in the example user data object, and set its `defaultValue` property appropriately depending on the field template type:

### Example

```
//userData is the result of our example external data GET request
//formDefinition is the result of our PrizmDoc FormData GET request
formDefinition.formData = formDefinition.formData.map(function(field) {
  if (userData[field.fieldId]) {
    switch (field.template) {
      // Checkboxes are either "checked" or not
      case 'CheckboxTemplate':
        return extend({}, field, {
          defaultValue: userData[field.fieldId] ? 'checked' : ''
        });
      // Signatures use a different value based on their type,
      // but we will assume text for this example
      case 'SignatureTemplate':
      case 'InitialsTemplate':
        return extend({}, field, {
          defaultValue: {
            type: 'text',
            value: userData[field.fieldId],
            fontName: 'Grand Hotel'
          }
        });
      // Date templates use an ISO datetime
      case 'DateTemplate':
        return extend({}, field, {
          defaultValue: (new
Date(userData[field.fieldId])).toISOString()
        });
      // Text templates use a string
      case 'TextTemplate':
        return extend({}, field, {
          defaultValue: userData[field.fieldId]
        });
    }
  }
});
```

```

    }
    // If the item was not in the database, return it as-is.
    return field;
  });

```

**NOTE:** A field collection has the option to "Allow Multiple Selections". If "Allow Multiple Selections" is false, but multiple fields in that group are set to pre-populate as "checked", the first field with a `defaultValue` of "checked" will be set as the only selected field for that collection.

## Step 4: Return Data to the Caller

Return the updated `formDefinition` object to the function, web service, or other source that called it. When the data reaches the viewer and the `FormLoaded` event in the E-Signature Viewer fires, fields in this form definition with a valid `defaultValue` will be populated.

# Work with Viewing Packages

## Introduction

A Viewing Package is a cached version of a document that the Viewer will use when viewing a document. Viewing a document from a Viewing Package significantly reduces the load on PrizmDoc Server and allows you to serve many more users per minute than you could otherwise. A Viewing Package can be created through [Pre-Conversion](#) or by using [On-Demand Caching](#).

This topic provides information about the following:

- [Storage](#)
- [Configuration](#)
- [Pre-Conversion](#)
- [On-Demand Caching](#)
- [Performance Considerations](#)
- [Known Issues](#)

## Storage

Viewing Packages are stored in both the filesystem and configured database. If using multiple instances of PAS, you must use a shared database and NAS (Network Attached Storage). The [Running PrizmDoc Application Services \(PAS\) on Multiple Servers](#) topic can provide more information for configuring PAS in Cluster Mode.

By default, storage is configured in the following way:

Config Key	Storage Provider	Description
<code>viewingPackagesData</code>	database	Data about a Viewing Package. This is the data that can be retrieved from GET <code>/v2/viewingPackages</code> .
<code>viewingPackagesProcesses</code>	database	Data about a Viewing Package creator process. This is the data that can be retrieved from GET <code>/v2/viewingPackageCreators</code> .

Config Key	Storage Provider	Description
viewingSessionsData	database	Data about a Viewing Session. When creating a Viewing Session, an entry is added to this table.
viewingSessionsProcessesMetadata	database	Data about processes for a Viewing Session. This is currently used for content conversion and markup burner processes.
viewingPackagesArtifactsMetadata	database	Metadata for a viewing package artifact. This is used to find specific artifacts for a package and contains the artifact type, the file name in the filesystem among other important information.
viewingPackagesArtifacts	filesystem	Artifacts for a Viewing Package. These include SVG and raster content for every page, the source document, and other artifacts the Viewer will likely request.

## Configuration

Viewing Packages are opt-in and require special configuration to work properly. At a minimum, your configuration should include the following:

```
\# Feature toggles
feature.viewingPackages: "enabled"

\# Database configuration
database.adapter: "sqlserver"
database.host: "localhost"
database.port: 1433
database.user: "pasuser"
database.password: "password"
database.database: "PAS"

\# Default timeout for the duration of a viewing session
defaults.viewingSessionTimeout: "20m"

viewingPackagesData.storage: "database"
viewingPackagesProcesses.storage: "database"
viewingSessionsData.storage: "database"
viewingSessionsProcessesMetadata.storage: "database"

viewingPackagesArtifactsMetadata.storage: "database"
```

```
viewingPackagesArtifacts.storage: "filesystem"

viewingPackagesArtifacts.path: "/your/path/to/viewingPackages"
```

## Pre-Conversion

Creating a Viewing Package through Pre-Conversion provides a way to generate packages whenever it makes the most sense for your application to do so. It allows you to make use of down-time for Pre-Conversion to reduce load in high traffic periods. Pre-Conversion does all the work of creating a Viewing Package whenever it is requested. It starts a process that will begin downloading content and allow you to poll for progress.

It is recommended that you maintain a queue of Pre-Conversions so you don't overload the server and have faster turnaround time. We recommend a maximum of 5 Pre-Conversion processes at a time per PAS and PrizmDoc Server instance. This will allow packages to be created quickly while maintaining a sustainable load.

For a step-by-step process, go to the [Pre-Converting Documents](#) topic.

## On-Demand Caching

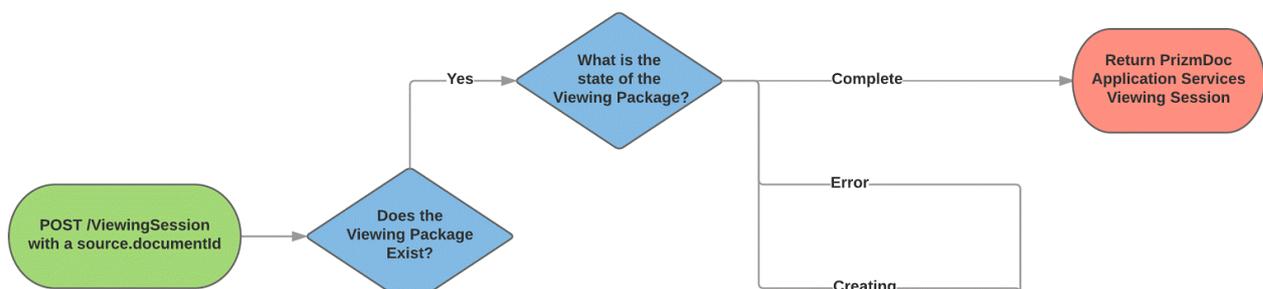
Creating a Viewing Package through On-Demand Caching is a seamless process through the [Viewing Session API](#). On-Demand Caching allows you to trigger a Viewing Package creation process in the background and use the resulting Viewing Package when it is ready. This feature is designed to allow immediate viewing using PrizmDoc Server while caching a package for subsequent views of the same document.

As an example, consider this request for a Viewing Session:

```
POST /ViewingSession

{
  "source": {
    "documentId": "PdfDemoSample-a1b0x19n2",
    "type": "document",
    "fileName": "PdfDemoSample.pdf"
  }
}
```

This request will always return a `viewingSessionId` regardless of the status of the matching Viewing Package. If a Viewing Package does not currently exist with the given `documentId`, PrizmDoc Server will handle document viewing while a background process creates a Viewing Package. Once the background process is complete, PAS will handle all further viewing sessions until the Viewing Package expires (24 hours by default).





## Performance Considerations

When enabling the Viewing Packages feature, there are additional considerations for hardware requirements. See [Sizing Servers](#) for more information.

## Known Issues

### Document Comparison

Viewing packages are not supported for comparison viewing sessions.

### Markup & Redaction

When creating a Viewing Package and pages of the source document have successfully converted to the intermediate PDF, but PAS fails to get one or more pages of viewable content, the Viewer will not have that failed page content available to markup (i.e., redact). Because of this, when the user attempts to burn the markup into the output document, (which is generated from the intermediate PDF), it will have the page content and no markup.

If this occurs and the failed page contains content that must be redacted, a new viewing package should be created to retry the conversion.

### Raster Content

- Viewing Packages limit available raster content. During Viewing Package creation, raster content is requested only for 0.125, 0.25, 0.5, and 1.0 scale. API requests for raster content with a scale that is not one of these values will return 404 Not Found. The Viewer will always request full scale raster content from a viewing package which may result in degraded fidelity since the full scale image will be returned and any additional scaling will occur within the browser. Additionally, requests for [tiling](#) and [thumbnails](#) are not supported and will return 501 NotImplemented.
- The [render.html5.alwaysUseRaster](#) property cannot be used when creating a viewing session with caching.

### Watermarks

- The watermarks property cannot be used when creating a viewing session with caching.

## PrizmDoc Server

This section contains the following information:

- [Use the PrizmDoc Server API](#)
- [Markup Burner XML Specification](#)
- [Markup JSON Specification](#)
- [How To Examples](#)
  - [Compare Documents](#)

- [Convert Content with Content Conversion Service](#)
  - [Content Conversion Demo](#)
    - [How to Configure the Demo on Windows](#)
    - [How to Configure the Demo on Linux](#)
- [Migrate from PrizmDoc Cloud Servers to PrizmDoc Viewer Self-Hosted Servers](#)
- [Perform Auto-Redaction](#)
- [Set up a Viewing Session for a CAD Drawing which has XREF Dependencies](#)
- [Use the Markup JSON Schema](#)
- [Use a Viewing Session](#)
- [Watermark Content in a Viewing Session](#)

## Use the PrizmDoc Server API

PrizmDoc Server exposes a [RESTful API](#) that clients may use to perform operations on documents, enabling them to manipulate and extract content. In the same way that the PrizmDoc Server API is used by the Viewer, Developers can use the API to create their own applications to generate viewable content, perform redactions, and convert documents.

- [Resources](#)
- [PrizmDoc Server Operations](#)

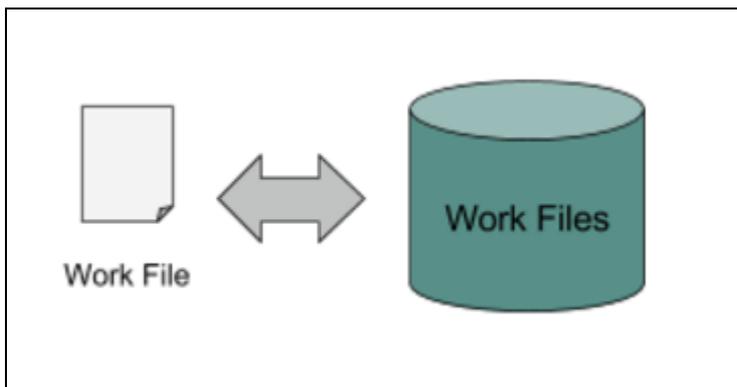
## Resources

The PrizmDoc Server API exposes several resources that are designed to work together to perform document operations. This overview of these resources will provide developers with the understanding required to quickly get up and running with PrizmDoc Services:

- [Work Files](#)
- [Processes](#)
- [Viewing Sessions](#)

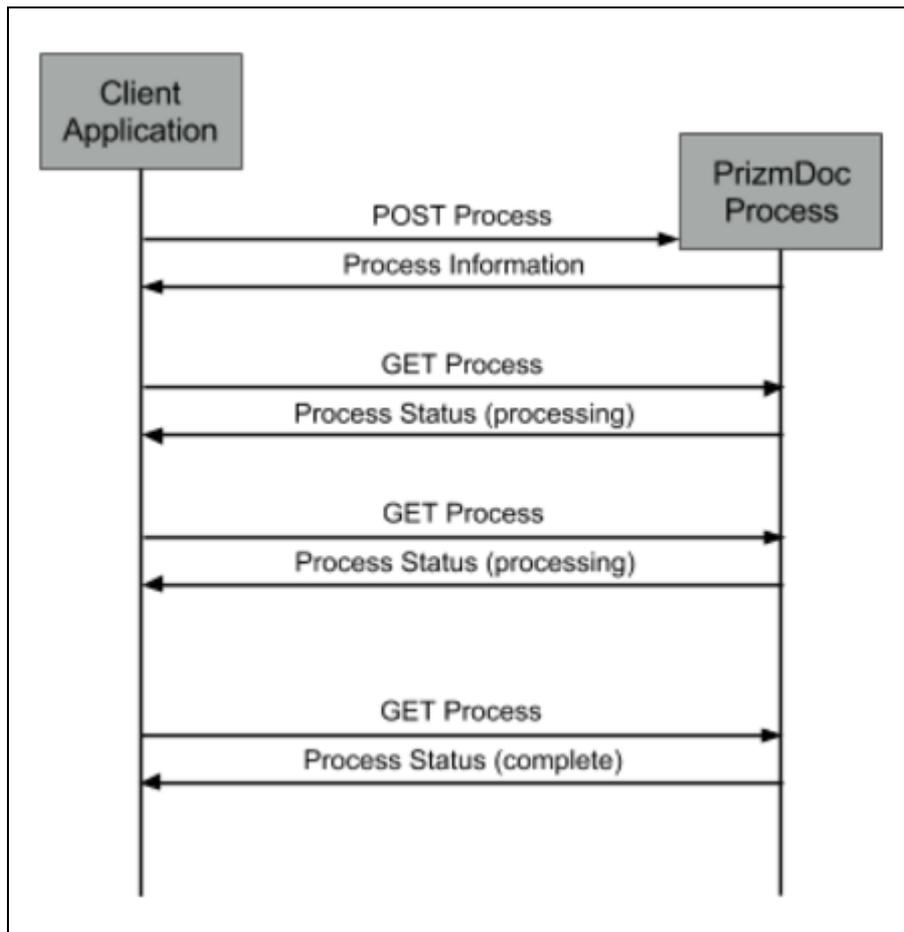
## Work Files

[Work Files](#) form the basis of the PrizmDoc Service temporary document storage. Documents provided by users, converted content results, redaction markup, and burned output are all stored within Work Files. Documents are stored and retrieved through requests to the Work File Service made by user applications or other PrizmDoc Services. Work Files are not intended for long-term storage and are periodically removed when they are no longer required for PrizmDoc Server operations.



## Processes

Several PrizmDoc Server operations are represented as asynchronous work processes. These processes are created by a request containing configuration information and immediately begin their work. Prior to completion, information about the process can be requested in order to determine its current state. Processes eventually reach a terminal state, at which point either the process was successful and the output is available or the process failed and is in an error state. After completion, processes do remain available for a short time, but since their work is done, they are soon removed by periodic maintenance. The lifetime of a process is configurable within its creation options.

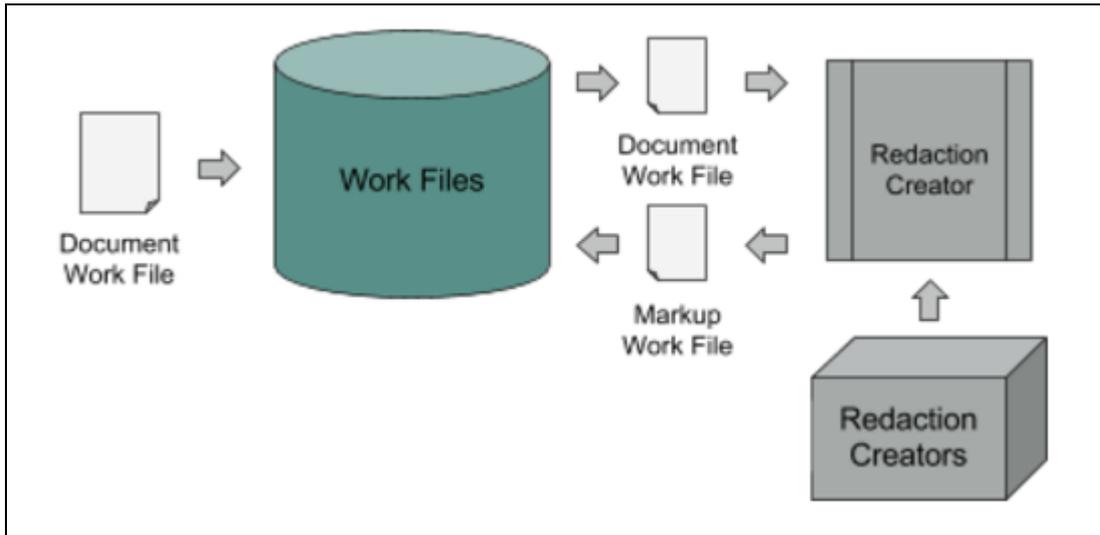


These processes include:

- Redaction Creators
- Markup Burners
- Content Converters

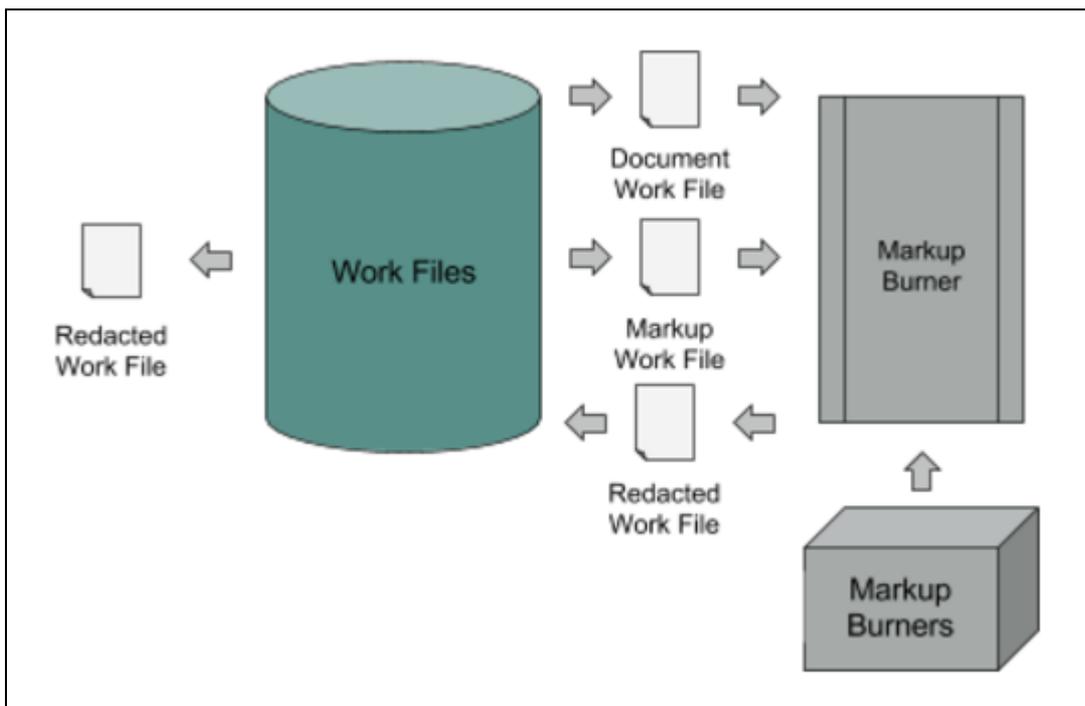
## Redaction Creators

**Redaction Creators** are processes that operate on a document Work File to generate a document markup Work File. The user provides regular expressions that identify the text to be redacted, and the process generates a markup Work File that contains data describing the locations of the matches. The generated markup Work File can then be used in a Markup Burner process to create a document with the redactions burned in.



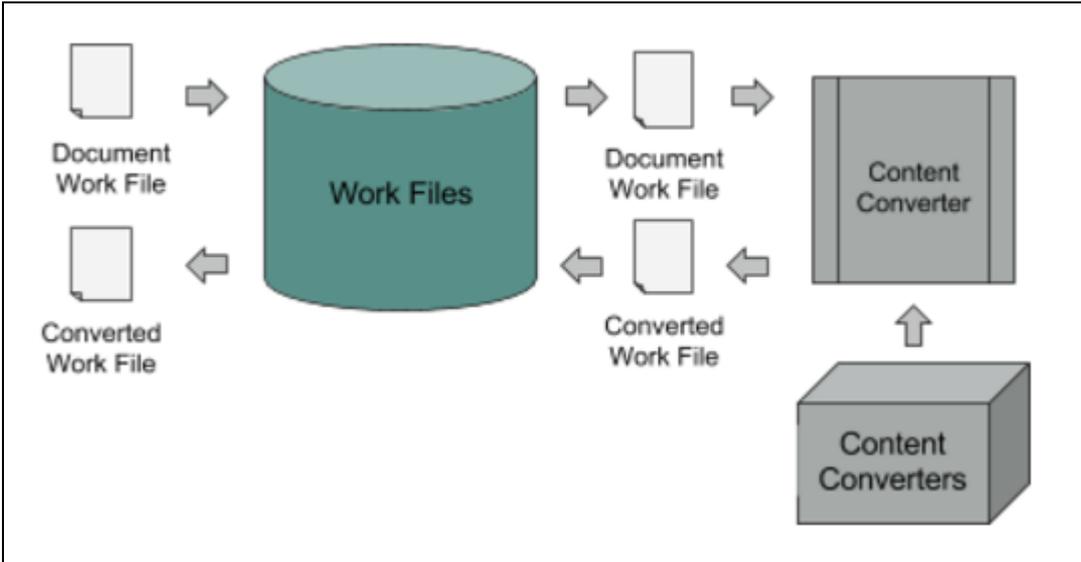
## Markup Burners

**Markup Burners** are processes that create a "burned" document Work File as output from a source document Work File and a markup Work File describing redactions or annotations.



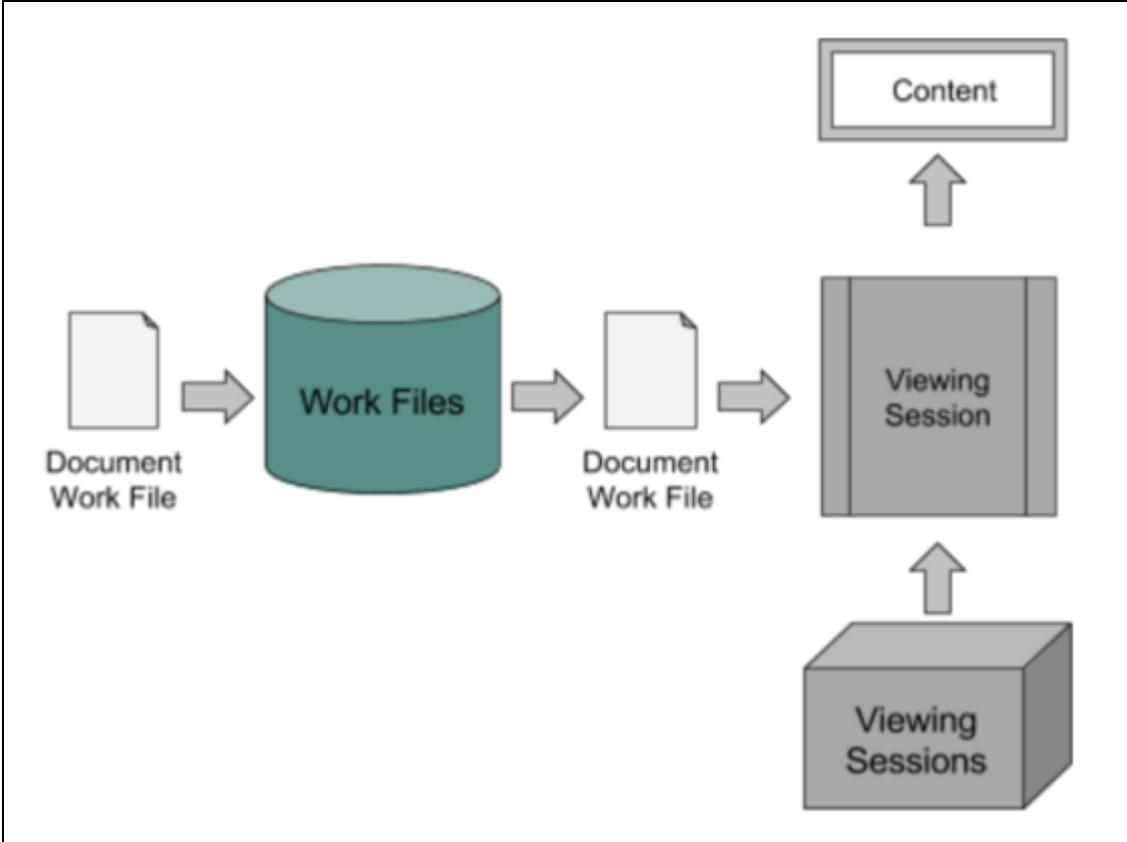
## Content Converters

**Content Converters** are processes that convert one or more source Work File documents to one or more output Work File documents. Many different document formats are supported as source documents, and several common formats are allowed for output. After process completion, converted output is available as one or more Work Files.



**Viewing Sessions**

Viewing Sessions create converted content primarily for, but certainly not restricted to, use by the Viewer. They provide access to SVG and raster renderings of document pages as well as any extracted document text, metadata for the converted content, and attachments in the case of email documents. Viewing Sessions are typically short-lived (20 minutes by default), but their lifetimes are configurable (see the `viewing.sessionLifetime` property in Central Configuration for details). Viewing Sessions also provide access to other document processes not directly related to viewing.



**PrizmDoc Server Operations**

The PrizmDoc API also provides server level operations that allow the user to query the [health status](#) of sub-services as well as the overall system health. When using several PrizmDoc Server instances in a [cluster environment](#), APIs exist to query and configure the servers that each instance can use to route traffic for load balancing.

## Markup Burner XML Specification

### Introduction

A user can provide a specification of required modifications to a document in an XML-based format. The following nodes are expected as part of the declaration:

```
<?xml version="1.0"?>
<documentAnnotations>
  <pages>
    <page id="1" pageWidth="612" pageHeight="792"></page>
  </pages>
</documentAnnotations>
```

A `<pages>` element can contain a number of `<page>` elements, each containing an arbitrary number of the `<annotation>` elements. Each `<page>` element must have the following attributes:

Name	Type	Required	Description
id	integer	yes	A 1-based page number; annotations that are listed as child elements of a given <code>&lt;page&gt;</code> are only applied to the corresponding page of the target document.
pageWidth	floating point	yes	Page width. This attribute is only used for positioning of annotations which use absolute coordinates (such as <code>&lt;line-rectangles&gt;</code> data in <a href="#">text_hyperlink_annotation</a> ). This value can be arbitrary, as long as absolute coordinates specified in annotations are consistent with it.
pageHeight	floating point	yes	Page height. This attribute is only used for positioning of annotations which use absolute coordinates (such as <code>&lt;line-rectangles&gt;</code> data in <a href="#">text_hyperlink_annotation</a> ). This value can be arbitrary, as long as absolute coordinates specified in annotations are consistent with it.

Each `<page>` can contain an arbitrary number of the `<annotation>` elements.

Each `<annotation>` element defines a certain modification to a page content. A specific set of attributes depends on `drawType` attribute of the `<annotation>`.

### Common Attributes

Each `<annotation>` element supports the following attribute set:

Name	Type	Required / Default	Description
drawType	string	yes	One of the supported draw types (see <a href="#">Draw Type Descriptions</a> below) that defines what modification should an annotation apply to a page.
x_percent	float	0.0	X position of a bounding rectangle, in 0-to-1 based portion of a page width.
y_percent	float	0.0	Y position of a rectangle, in 0-to-1 based portion of a page height.
width_percent	float	0.0	Width of a bounding rectangle, in 0-to-1 based portion of a page width.
height_percent	float	0.0	Height position of a rectangle, in 0-to-1 based portion of a page height.

The set of `x_percent`, `y_percent`, `width_percent`, `height_percent` coordinates is referred to as a "bounding rectangle" in the [draw type descriptions](#) below.

## Example XML

Below is a full working sample of a redaction XML containing one annotation for the 1st page that adds a black rectangle redaction to a redacted document:

```
<?xml version="1.0"?>
<documentAnnotations>
  <pages>
    <page id="1" pageWidth="612" pageHeight="792">
      <annotation drawType="rectangle_filled_redact"
        x_percent="0.043" y_percent="0.028"
        height_percent="0.093" width_percent="0.128" />
    </page>
  </pages>
</documentAnnotations>
```

## Image Binary Data

Some annotations add images to a document. The content of such images is provided in an XML as well. To support this, a `<documentAnnotations>` element can have a child element `<stampImages>` that can include an arbitrary number of `<stampImage>` elements, each having two required elements:

Name	Type	Description
imageStampId	string	ID of an image that will be used by annotations to reference to it.
base64format	string	Base64-encoded binary image data; this attribute uses the same format as HTML inline image does.

### Example

```
<documentAnnotations>
  <pages>
    <page id="1" pageWidth="612" pageHeight="792">
      <annotation drawType="imagestamp"
        imageStampId="sample-stamp-id-1"
        x_percent="0.043" y_percent="0.028"
        height_percent="0.093" width_percent="0.128" />
    </page>
  </pages>
  <stampImages>
    <stampImage imageStampId="sample-stamp-id-1"
      base64format="data:
image/png;base64,iVBORw0K...kJggg==" />
  </stampImages>
</documentAnnotations>
```

## Custom Type Definitions

**Color** - in all attributes below "color" type means the attribute's value can either be a "transparent" keyword, meaning no color at all should be applied for that piece of a redaction, or an integer value that represents a 24-bit RGB value of a desired color. This type does not support HTML hex color codes, such as "#F0F8FF" or HTML color names such as "AliceBlue".

## Draw Type Descriptions

### arrow

Draws a **line** with a triangle-shaped head. Same set of attributes, the size of an arrowhead is hard-coded and it also has the same color as the line itself. An arrowhead is drawn at the END side of the line (see `dragDirection` property of the line drawType).

### circle\_filled

Draws an ellipse that fits into a bounding rectangle. Uses the same attributes as **rectangle\_filled**.

### circle\_trans

Draws an ellipse that fits into a bounding rectangle. Uses the same attributes as **rectangle\_filled**.

### eSignDate

Legacy synonym for **text\_redact** annotation. **\_NOTE:** Coordinate calculations may be slightly different from **text\_redact** annotation.\_

### eSignEmail

Legacy synonym for **text\_redact** annotation. **\_NOTE:** Coordinate calculations may be slightly different from **text\_redact** annotation.\_

### eSignESignId

Legacy synonym for **text\_redact** annotation. **\_NOTE:** Coordinate calculations may be slightly different

from text\_redact annotation.\_

### eSignInitials

Legacy synonym for [text\\_redact](#) annotation. **\_NOTE:** Coordinate calculations may be slightly different from text\_redact annotation.\_

### eSignName

Legacy synonym for [text\\_redact](#) annotation. **\_NOTE:** Coordinate calculations may be slightly different from text\_redact annotation.\_

### eSignSignature

Draws a text entry that is composed of two text strings and a date string. Allows adding current date to the document. Its content is positioned at the bottom of the bounding rectangle. Note that eSignWidth and eSignHeight attributes override width\_percent and height\_percent attributes of the boundary rectangle.

Annotation text is built from following parts, in that order:

1. eSignIdLabel attribute value;
2. uuid attribute value;
3. eSignDate attribute value. If this attribute is not specified, current date is used.

Text attributes are controlled by an esign-specific set of attributes (see below), unlike other text annotations that are controlled by HTML-like markup.

#### Supported attributes:

Name	Type	Required / Default	Description
eSignWidth	int	280	Overrides the boundary rectangle width.
eSignHeight	int	10	Overrides the boundary rectangle height.
eSignIdLabel	string	eSign ID:	Signature label (first part of the signature annotation text).
eSignUuid	string	<empty string>	Signature uuid (second part of the signature annotation text).
eSignDate	string	<current date>	Signature date (third part of the signature annotation text).
eSignFontFace	string	Tahoma	Font name to use; same limitations apply as when using a font name for a <a href="#">text_redact</a> .
eSignFontSize	int	8	Font size to use.

See also: [Common Attributes](#)

### eSignText

Legacy synonym for [text\\_redact](#) annotation. **\_NOTE:** coordinate calculations may be slightly different

from text\_redact annotation.\_

### eSignTitle

Legacy synonym for `text_redact` annotation. **\_NOTE:** coordinate calculations may be slightly different from text\_redact annotation.\_

### freehand

Draws an arbitrary SVG path using a limited subset of commands - only absolute versions of `L`, `C` and `M` SVG path commands are supported at the moment. The drawn path is scaled to fit a boundary rectangle using the parameters listed below, while keeping the aspect ratio.

The path data itself is expected to be provided in a CDATA child element of the freehand `<annotation>` element. The path data is expected to be a set of commands, each followed by a comma-separated list of coordinate arguments; see the following example:

```
<annotation drawType="freehand" align="left" lineWidth="4"
  pathWidth="381.6459330143541" pathHeight="178.622009569378"
  x_percent="0.057416267942583726" y_percent="0.10598811077279977"
  height_percent="0.22553284036537627"
  width_percent="0.6236044657097289">
  <!--
  [CDATA[M0,50.75L0.08,50.51C0.16,50.26,0.32,49.77,0.97,48.31]]>
  </annotation>
```

#### Supported attributes:

Name	Type	Required / Default	Description
pathWidth	float	Yes	Absolute width of the provided path. This is expected to correlate with the coordinates provided within the path data. This parameter is used to define the scaling factor when scaling the path to fit into the boundary rectangle.
pathHeight	float	Yes	Absolute height of the provided path. This is expected to correlate with the coordinates provided within the path data. This parameter is used to define the scaling factor when scaling the path to fit into the boundary rectangle.
lineWidth	int	1	Width of the path line, in pixels
lineColor	color	black	Color of the path line
align	string	No	Path line horizontal alignment in the annotation boundary rectangle. Can have one of the following self-explanatory values: <ul style="list-style-type: none"> <li>right</li> <li>left</li> </ul> Missing the parameter or setting it to any other value will result to

Name	Type	Required / Default	Description
			default behavior (center aligned path line).

See also: [Common Attributes](#)

## highlightText

This is an utility annotation that effectively allows to draw several rectangles using the same color, border and opacity settings as a [rectangle\\_filled](#), while having a set of rectangles defined in `<line-rectangles>` child elements exactly as it is done in [text\\_hyperlink\\_annotation](#).

## imagestamp

A legacy synonym of an [imagestamp\\_redact](#).

## imagestamp\_redact

Draws an image over a given area. The image is scaled to fit its content into a boundary rectangle, keeping aspect ratio.

### Supported attributes:

Name	Type	Required / Default	Description
imageStampId	string	Yes	id of an image to use (see <a href="#">Image Binary Data</a> above).

See also: [Common Attributes](#)

## line

Draws a line from one corner of a bounding rectangle to another. A line has a *drag direction* (see the attributes list); the following rules apply to a drag direction:

- if it starts with "t", then the line is directed "to the top", meaning it goes from (Y + height) to (Y) in terms of vertical direction; otherwise it goes "to the bottom";
- if it ends with "r" then the line goes "to the right", meaning it goes from (X) to (X + width); otherwise, it goes "to the left".

So, for instance, `dragDirection` "tl" means that a line will be drawn **from** a bottom-right **to** the top-left corner of a bounding rectangle.

### Supported attributes:

Name	Type	Required / Default	Description
lineWidth	int	1	width of the line, in pixels
lineColor	color	black	color of the line
dragDirection	string	No	Defines the direction of the line. Defines the placement of the arrowhead when used for

Name	Type	Required / Default	Description
			an <b>arrow</b> .

See also: [Common Attributes](#)

## polyline

Draws a polyline. Annotation node of this type should contain coordinates of polyline points in its inner text, formatted as shown in example below:

```
<annotation drawType="polyline">
  <![CDATA[[{"x":166.4,"y":95.1}, {"x":262.07,"y":169.8},
{"x":184.4,"y":199.1}]]>
</annotation>
```

### NOTES:

- Polyline coordinates are specified in points
- Boundary rectangle attributes are ignored for this annotation.

### Supported attributes:

Name	Type	Required / Default	Description
lineColor	color	black	Color of the line.
lineWidth	int	1	Width of the line, in pixels.

See also: [Common Attributes](#)

## rectangle\_filled

Draws a rectangle, either filled or transparent.

### Supported attributes:

Name	Type	Required / Default	Description			
lineColor	color	0	Rectangle border color.			
fillColor	color	0	Rectangle fill color.			
lineWidth	integer	0	Width of border in pixels. alpha	integer	255	Alpha component that is added to fill and line colors. The default value is 255 for 100% opacity.

Name	Type	Required / Default	Description
opacity	integer	255	Synonym of alpha attribute name.

See also: [Common Attributes](#)

### rectangle\_filled\_redact

Redacts a part of the document.

**NOTE:** This is the only annotation that not only adds new content to a page but **updates and removes some of the page's existing content**, by doing what is called a "deep redaction".

When a `drawType="rectangle_filled_redact"` is applied to a page, the following happens:

1. All text characters that are fully or partially covered by the area of the redaction get removed from the resulting document;
2. Images that have some parts of them covered under a redaction area get their content filled with black (this is always black, no matter the `fillColor` attribute) in the intersection area, effectively destroying any security-sensitive image data under the covered area; **NOTE:** this feature is currently not supported for 1-bit JPEG 2000 images;
3. A rectangle of the given color gets drawn above the full extend of the redaction area; black by default.
4. Optionally, a text entry can be drawn over the redaction rectangle (usually explains the reason for the content redaction).

#### Supported attributes:

Name	Type	Required / Default	Description
lineWidth	int	1	A width of a bounding rectangle border.
lineColor	color	black	Border color of a drawn rectangle.
fillColor	color	black	Fill color of a drawn rectangle.
meta	string	No	A text to draw over a rectangle.
fontColor	color	white	A color of a meta text font; if no "meta" is set, this parameter does not affect anything.

See also: [Common Attributes](#)

### rectangle\_trans

Same behavior as `rectangle_filled`.

### rectangle\_trans\_redact

This is effectively a [rectangle\\_filled](#) with different default values: default alpha is set to 25% opaque and default fill color is set to yellow (#FFFF00).

### signature\_path

Same behavior as [freehand](#).

### signature\_text

Same behavior as [text\\_redact](#), but without text wrapping, and with text centering vertically.

### stamp

Adds rounded rectangle with centered text in it. Text is drawn exactly as for [text\\_redact](#) annotation with same attributes set, with the only exception that “stampSize” markup attribute is used for the font size instead of “size” attribute.

#### Supported markup attributes:

Name	Type	Required / Default	Description
stampSize	20	number	Font size in pixels.

See also: [text\\_redact](#)

See also: [Common Attributes](#)

### stamp\_redact

A legacy synonym for a [stamp](#).

### strikethrough

This draw type applies a strikethrough annotation to the text that is specified inside *selectedText* property. Annotation that uses strikethrough property should contain `<line-rectangles>` and `<rectangles>` subelements, which define position and length of the strikethrough line.

```
<documentAnnotations>
  <pages>
    <page id="1" pageWidth="612"
pageHeight="792">
      <annotation nodeId="B4C6BF9B-C220-44B9-577C-
8F4ADB7EED17"
        lineColor="0" interactionMode="0"
stampSize="122"
        opacity="255" x="163.01"
y="167.48"
        height="18.479999999999999"
width="38.94"
        drawType="strikethrough"
startIndex="70"
        selectedText="True" textLength="4"
highlightGroupID="13_1488462726580_8836"
isHighlight="y"
        lineWidth="2" dragDirection="br">
```

```

meta=&quot;&quot;;
    label=&quot;&quot;; saveDate=&quot;Thurs Mar 2 2017&quot;;
    saveTime=&quot;13:52:12 GMT+0000&quot;; uuid=&quot;&quot;;
formUser=&quot;&quot;;
    created=&quot;Thurs Mar 2 13:52:6 GMT+0000 2017&quot;;
modified=&quot;Thurs Mar 2 13:52:6 GMT+0000 2017&quot;;&gt;
    &lt;line-rectangles&gt;
        &lt;rectangle x=&quot;163.01&quot;;
y=&quot;167.48&quot;; height=&quot;18.4799999999999&quot;;
width=&quot;38.94&quot;;/&gt;
    &lt;/line-rectangles&gt;
    &lt;![CDATA[]]&gt;
    &lt;/annotation&gt;
&lt;/page&gt;
&lt;page id=&quot;2&quot;; pageWidth=&quot;612&quot;;
pageHeight=&quot;792&quot;;/&gt;
&lt;/pages&gt;
&lt;highlights /&gt;
&lt;/documentAnnotations&gt;

```

**Supported attributes:**

Name	Type	Required / Default	Description
lineWidth	integer	2	Strikethrough line thickness in pixels.

**text**

Adds text with border. This acts exactly as applying both [rectangle\\_trans](#) and [text\\_redact](#) annotations with the attributes set that includes the attributes of both abovementioned draw types.

**text\_hyperlink\_annotation**

Adds hyperlink to the document.

**Supported attributes:**

Name	Type	Required / Default	Description
href	yes	string	HTTP URL.
lineColor	0	color	Base color for hyperlink highlighting. If it is set to 0 or transparent, then default value will be used, which is blue color.
fillColor	0	color	Reserved, should be set to 0.

See also: [Common Attributes](#)

Annotation node of this type should contain `<line-rectangles>` and `<rectangles>` subelements, which define hyperlink area. The area, containing of several rectangles, would be highlighted and clickable. Each rectangle is defined by its top left corner coordinates, width and height as shown in this example:

```
<annotation ... >
...
<line-rectangles>
  <rectangle x="226.8" y="225.7" height="11.3" width="315.5"/>
  <rectangle x="72" y="238.4" height="11.3" width="183.4"/>
</line-rectangles>
</annotation>
```

### text\_input\_signature (reserved for internal use)

Reserved for internal use and not currently supported by the Redaction API.

### text\_redact

This draw type adds a text entry to a document.

**There are no specific XML attributes** (besides the usual bounding rectangle) for this draw type. For legacy reasons, parametrization of the text attributes (font, color, positioning and wrapping) **are set in an html-like piece of markup** in a `CDATA` child element of the `<annotation>`, like this:

```
<annotation x_percent="0.044" y_percent="0.052" height_percent="0.072"
width_percent="0.21" drawType="text_redact">
  <![CDATA[<TEXTFORMAT><P ALIGN="left" ><FONT
FACE="Arial" SIZE= "12" COLOR="#000000">Sample Text Redaction
With two lines</FONT></P></TEXTFORMAT>]]>
</annotation>
```

### Supported HTML-like font markup attributes:

Name	Type	Required / Default	Description
ALIGN	string	No	Controls the horizontal alignment of a text entry within the bounding rectangle area. Can have one of the following self-explanatory values: <ul style="list-style-type: none"> <li>RIGHT</li> <li>MIDDLE or CENTER (synonyms)</li> </ul> Setting ALIGN to any other value will result to default behavior (left aligned text).
FACE	string	Arial	Name of the font to use. For purposes of this annotation, the following font names can be used: <ul style="list-style-type: none"> <li>a font that is available to the OS;</li> <li>a font that resides in a OS-specific fonts folder;</li> <li>a font that resides in a specified fonts folder of a product (usually ./modules/fonts).</li> </ul>
SIZE	float	20	Font size to use.
COLOR	string	#000000	A usual HTML hex representation of an RGB color of a font to use: <ul style="list-style-type: none"> <li>This attribute uses a HTML-like hex color notation unlike the -color</li> </ul>

Name	Type	Required / Default	Description
			attributes of other annotations; <ul style="list-style-type: none"> <li>HTML color names are NOT supported;</li> <li>You can NOT control the opacity of a text entry, it is always 100% opaque and will remain as such even when used as part of a semi-opaque complex annotation like <code>text</code>.</li> </ul>

### `text_selection_redaction` (reserved for internal use)

Reserved for internal use and not currently supported by Redaction API.

## Markup JSON Specification

### Introduction

The following specification describes the PrizmDoc Markup JSON format. A formal JSON schema is also available for automated validation and can be found within the [Use the Markup JSON Schema](#) topic.

### Specification

The Markup JSON format consists of a top-level object with a `marks` property that is an array of all marks related to a single document.

### Example

The following Markup JSON example creates a rectangle annotation with red background and black border near the top-left corner of the first page in the document:

```
{
  "marks": [{
    "uid": "bmd30F8yMDE5LTAxLTE4VDEyOjE5OjU2LjQ0M1pfNGY3MTFh",
    "interactionMode": "Full",
    "pageNumber": 1,
    "type": "RectangleAnnotation",
    "creationDateTime": "2019-01-18T12:19:56.442Z",
    "modificationDateTime": "2019-01-18T12:19:58.089Z",
    "data": {},
    "rectangle": {
      "x": 15.622641509433958,
      "y": 15.622641509433958,
      "width": 143.99999999999997,
      "height": 103.2452830188679
    },
    "pageData": {
      "width": 612,
      "height": 792
    },
    "borderColor": "#000000",
    "borderThickness": 4,
  }
  ]
}
```

```
        "fillColor": "#ff0000",  
        "opacity": 255  
    }  
  ]  
}
```

## Properties

- `marks` (Array of Objects) **Required.** Array of marks for a document. Each item must be an object that conforms to one of the supported marks with the following common properties:
  - `type` (String) **Required.** Type of mark. The following values are allowed:
    - "EllipseAnnotation"
    - "FreehandAnnotation"
    - "FreehandSignature"
    - "HighlightAnnotation"
    - "ImageStampAnnotation"
    - "ImageStampRedaction"
    - "LineAnnotation"
    - "PolylineAnnotation"
    - "RectangleAnnotation"
    - "RectangleRedaction"
    - "StampAnnotation"
    - "StampRedaction"
    - "StrikethroughAnnotation"
    - "TextAnnotation"
    - "TextAreaSignature"
    - "TextHyperlinkAnnotation"
    - "TextInputSignature"
    - "TextRedaction"
    - "TextSelectionRedaction"
    - "TextSignature"
    - "TransparentRectangleRedaction"
  - `uid` (String) **Required.** Unique id for this mark. This can be any globally-unique string, like a GUID.
  - `interactionMode` (String) **Required.** Interaction mode for this mark. The following values are allowed:
    - "Full" - Indicates that the mark is fully interactive using the mouse, touch-input, and API.
    - "SelectionDisabled" - Indicates that the mark cannot be selected.
  - `pageNumber` (Integer) **Required.** One-indexed page where this mark is located. For example, the first page of a document will be 1.
  - `data` (Object) A property bag of user-defined values. Property values are only allowed to be strings.
  - `creationDateTime` (String) **Required.** Date and time when this mark was created. Format is [RFC 3339 Internet Date/Time profile of ISO 8601](#), e.g. "2016-11-05T08:15:30.494Z".
  - `modificationDateTime` (String) **Required.** Date and time when this mark was last

modified. Format is [RFC 3339 Internet Date/Time profile of ISO 8601](#), e.g. "2016-11-05T08:15:30.494Z".

- `conversation` (Object) Comments and associated metadata for this mark.
  - `data` (Object) **Required.** A property bag of user-defined values. Property values are only allowed to be strings.
  - `comments` (Array of Objects) Array of comment objects for this mark. Items must contain:
    - `data` (Object) **Required.** A property bag of user-defined values. Property values are only allowed to be strings.
    - `creationDateTime` (String) **Required.** Date and time when this comment was created. Format is [RFC 3339 Internet Date/Time profile of ISO 8601](#), e.g. "2016-11-05T08:15:30.494Z".
    - `text` (String) **Required.** Text of the comment.
- *Additional properties specific to each mark type are defined in the sections below.*

## Mark Specific Properties

### EllipseAnnotation

- `rectangle` (Object) **Required.** Bounding rectangle dimensions of this mark on the page.
  - `x` (Number) **Required.** Distance from the left edge of the page to the left edge of this mark.
  - `y` (Number) **Required.** Distance from the top edge of the page to the top edge of this mark.
  - `width` (Number) **Required.** Width of the mark bounding rectangle.
  - `height` (Number) **Required.** Height of the mark bounding rectangle.
- `pageData` (Object) **Required.** Metadata of the page where this mark is located.
  - `width` (Number) **Required.** Width of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
  - `height` (Number) **Required.** Height of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
- `borderColor` (String) **Required.** Color of the border specified as a 6-character hexadecimal color string with a leading # sign. For example, a value of "#FF0000" will create a red border. The special value "transparent" is also allowed which will create an invisible border.
- `borderThickness` (Integer) **Required.** Thickness of the border in pixels.
- `fillColor` (String) **Required.** Color of the background specified as a 6-character hexadecimal color string with a leading # sign. For example, a value of "#FF0000" will create a red background. The special value "transparent" is also allowed which will create an invisible background.
- `opacity` (Integer) **Required.** Opacity of this mark. Value must be between 0 and 255. A value of 0 will create an invisible mark. A value of 255 will create a fully opaque mark.

### FreehandAnnotation

- `rectangle` (Object) **Required.** Bounding rectangle dimensions of this mark on the page.
  - `x` (Number) **Required.** Distance from the left edge of the page to the left edge of this mark.
  - `y` (Number) **Required.** Distance from the top edge of the page to the top edge of this mark.
  - `width` (Number) **Required.** Width of the mark bounding rectangle.
  - `height` (Number) **Required.** Height of the mark bounding rectangle.
- `pageData` (Object) **Required.** Metadata of the page where this mark is located.

- `width` (Number) **Required.** Width of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
- `height` (Number) **Required.** Height of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
- `color` (String) **Required.** Color of the line specified as a 6-character hexadecimal color string with a leading # sign. For example, a value of "#FF0000" will create a red line.
- `opacity` (Integer) **Required.** Opacity of this mark. Value must be between 0 and 255. A value of 0 will create an invisible mark. A value of 255 will create a fully opaque mark.
- `path` (String) **Required.** An SVG-style path using M, L, and C commands used to draw a line.
- `thickness` (Number) **Required.** Thickness of the line in pixels. Value must be between 1 and 50.

## FreehandSignature

- `rectangle` (Object) **Required.** Bounding rectangle dimensions of this mark on the page.
  - `x` (Number) **Required.** Distance from the left edge of the page to the left edge of this mark.
  - `y` (Number) **Required.** Distance from the top edge of the page to the top edge of this mark.
  - `width` (Number) **Required.** Width of the mark bounding rectangle.
  - `height` (Number) **Required.** Height of the mark bounding rectangle.
- `pageData` (Object) **Required.** Metadata of the page where this mark is located.
  - `width` (Number) **Required.** Width of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
  - `height` (Number) **Required.** Height of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
- `color` (String) **Required.** Color of the line specified as a 6-character hexadecimal color string with a leading # sign. For example, a value of "#FF0000" will create a red line.
- `horizontalAlignment` (String) **Required.** Horizontal alignment applied to the text of this mark. The following values are allowed:
  - "Left" - The left edge of the mark will be horizontally anchored to the left of the mark bounding rectangle.
  - "Center" - The center of the mark will be horizontally anchored to the center of the mark bounding rectangle.
  - "Right" - The right edge of the mark will be horizontally anchored to the right of the mark bounding rectangle.
- `path` (String) **Required.** An SVG-style path using M, L, and C commands used to draw a line.
- `thickness` (Number) **Required.** Thickness of the line in pixels. Value must be between 1 and 50.

## HighlightAnnotation

- `fillColor` (String) **Required.** Color of the highlight specified as a 6-character hexadecimal color string with a leading # sign. For example, a value of "#FF0000" will create a red highlight.
- `startIndex` (Integer) **Required.** First zero-indexed character in the first line of text selected for this mark.
- `selectedText` (String) **Required.** Text selected across all lines for this mark.
- `textLength` (Integer) **Required.** Number of characters across all lines of text selected for this mark.
- `lineGroups` (Array of Objects) **Required.** Array of objects describing the selected text on each page where this mark will be applied. Items must contain:
  - `pageData` (Object) **Required.** Metadata of the page where this mark is located.

- `width` (Number) **Required.** Width of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
- `height` (Number) **Required.** Height of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
- `pageNumber` (Integer) **Required.** One-indexed page where the text selected by this line group is located. For example, the first page of a document will be 1.
- `startIndex` (Integer) **Required.** First zero-indexed character of the text selected on this page.
- `textLength` (Integer) **Required.** Number of characters selected across all lines on this page.
- `lines` (Array of Objects) **Required.** Array of objects describing each line of the selected text on this page. Items must contain:
  - `rectangle` (Object) **Required.** Bounding rectangle dimensions of the selected text on a single line.
    - `x` (Number) **Required.** Distance from the left edge of the page to the left edge of the selected text.
    - `y` (Number) **Required.** Distance from the top edge of the page to the top edge of the selected text.
    - `width` (Number) **Required.** Width of the selected text bounding rectangle.
    - `height` (Number) **Required.** Height of the selected text bounding rectangle.

### ImageStampAnnotation

- `rectangle` (Object) **Required.** Bounding rectangle dimensions of this mark on the page.
  - `x` (Number) **Required.** Distance from the left edge of the page to the left edge of this mark.
  - `y` (Number) **Required.** Distance from the top edge of the page to the top edge of this mark.
  - `width` (Number) **Required.** Width of the mark bounding rectangle.
  - `height` (Number) **Required.** Height of the mark bounding rectangle.
- `pageData` (Object) **Required.** Metadata of the page where this mark is located.
  - `width` (Number) **Required.** Width of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
  - `height` (Number) **Required.** Height of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
- `imageUrl` (String) **Required.** Image data for this mark. Format is [RFC 2397 data URL scheme](#), e.g. "data: image/png;base64,R0lGOD...". Only `image/png` and `image/gif` media types are supported for burning.
- `imageId` (String) **Required.** Unique id for this image. This can be any globally-unique string, like a GUID.

### ImageStampRedaction

- `rectangle` (Object) **Required.** Bounding rectangle dimensions of this mark on the page.
  - `x` (Number) **Required.** Distance from the left edge of the page to the left edge of this mark.
  - `y` (Number) **Required.** Distance from the top edge of the page to the top edge of this mark.
  - `width` (Number) **Required.** Width of the mark bounding rectangle.
  - `height` (Number) **Required.** Height of the mark bounding rectangle.
- `pageData` (Object) **Required.** Metadata of the page where this mark is located.
  - `width` (Number) **Required.** Width of the page, in pixels, at the time the mark is saved. Value

- `width` (Number) **Required.** Width of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
- `height` (Number) **Required.** Height of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
- `imageUrl` (String) **Required.** Image data for this mark. Format is [RFC 2397 data URL scheme](#), e.g. "data: image/png;base64,R0lGOD...". Only `image/png` and `image/gif` media types are supported for burning.
- `imageId` (String) **Required.** Unique id for this image. This can be any globally-unique string, like a GUID.

## LineAnnotation

- `pageData` (Object) **Required.** Metadata of the page where this mark is located.
  - `width` (Number) **Required.** Width of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
  - `height` (Number) **Required.** Height of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
- `endPoint` (Object) **Required.** Ending point of this mark on the page.
  - `x` (Number) **Required.** Distance from the left edge of the page to the end point of this mark.
  - `y` (Number) **Required.** Distance from the top edge of the page to the end point of this mark.
- `startPoint` (Object) **Required.** Starting point of this mark on the page.
  - `x` (Number) **Required.** Distance from the left edge of the page to the start point of this mark.
  - `y` (Number) **Required.** Distance from the top edge of the page to the start point of this mark.
- `color` (String) **Required.** Color of the line specified as a 6-character hexadecimal color string with a leading # sign. For example, a value of "#FF0000" will create a red line.
- `endHeadType` (String) **Required.** Shape drawn at the end point of the line. Allowed values are:
  - "None" - Indicates no shape will be drawn at the end point of the line.
  - "FilledTriangle" - Indicates a filled triangle will be drawn at the end point of the line which makes the line look like an arrow.
- `opacity` (Integer) **Required.** Opacity of this mark. Value must be between 0 and 255. A value of 0 will create an invisible mark. A value of 255 will create a fully opaque mark.
- `thickness` (Number) **Required.** Thickness of the line in pixels. Value must be between 1 and 50.

## PolylineAnnotation

- `pageData` (Object) **Required.** Metadata of the page where this mark is located.
  - `width` (Number) **Required.** Width of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
  - `height` (Number) **Required.** Height of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
- `points` (Array of Objects) **Required.** Array of objects describing each point on the line of this mark. Items must contain:
  - `startPoint` (Object) **Required.** Starting point of this mark on the page.
    - `x` (Number) **Required.** Distance from the left edge of the page to the start point of this mark.
    - `y` (Number) **Required.** Distance from the top edge of the page to the start point of this mark.
- `color` (String) **Required.** Color of the line specified as a 6-character hexadecimal color string with

a leading # sign. For example, a value of "#FF0000" will create a red line.

- `opacity` (Integer) **Required.** Opacity of this mark. Value must be between 0 and 255. A value of 0 will create an invisible mark. A value of 255 will create a fully opaque mark.
- `thickness` (Number) **Required.** Thickness of the line in pixels. Value must be between 1 and 50.

## RectangleAnnotation

- `rectangle` (Object) **Required.** Bounding rectangle dimensions of this mark on the page.
  - `x` (Number) **Required.** Distance from the left edge of the page to the left edge of this mark.
  - `y` (Number) **Required.** Distance from the top edge of the page to the top edge of this mark.
  - `width` (Number) **Required.** Width of the mark bounding rectangle.
  - `height` (Number) **Required.** Height of the mark bounding rectangle.
- `pageData` (Object) **Required.** Metadata of the page where this mark is located.
  - `width` (Number) **Required.** Width of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
  - `height` (Number) **Required.** Height of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
- `borderColor` (String) **Required.** Color of the border specified as a 6-character hexadecimal color string with a leading # sign. For example, a value of "#FF0000" will create a red border. The special value "transparent" is also allowed which will create an invisible border.
- `borderThickness` (Integer) **Required.** Thickness of the border in pixels.
- `fillColor` (String) **Required.** Color of the background specified as a 6-character hexadecimal color string with a leading # sign. For example, a value of "#FF0000" will create a red background. The special value "transparent" is also allowed which will create an invisible background.
- `opacity` (Integer) **Required.** Opacity of this mark. Value must be between 0 and 255. A value of 0 will create an invisible mark. A value of 255 will create a fully opaque mark.

## RectangleRedaction

- `rectangle` (Object) **Required.** Bounding rectangle dimensions of this mark on the page.
  - `x` (Number) **Required.** Distance from the left edge of the page to the left edge of this mark.
  - `y` (Number) **Required.** Distance from the top edge of the page to the top edge of this mark.
  - `width` (Number) **Required.** Width of the mark bounding rectangle.
  - `height` (Number) **Required.** Height of the mark bounding rectangle.
- `pageData` (Object) **Required.** Metadata of the page where this mark is located.
  - `width` (Number) **Required.** Width of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
  - `height` (Number) **Required.** Height of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
- `borderColor` (String) **Required.** Color of the border specified as a 6-character hexadecimal color string with a leading # sign. For example, a value of "#FF0000" will create a red border.
- `borderThickness` (Integer) **Required.** Thickness of the border in pixels.
- `fillColor` (String) **Required.** Color of the background specified as a 6-character hexadecimal color string with a leading # sign. For example, a value of "#FF0000" will create a red background.
- `fontColor` (String) **Required.** Color of the text specified as a 6-character hexadecimal color string with a leading # sign. For example, a value of "#FF0000" will create red text.
- `reason` (String) **Required.** Text aligned in the center of the mark bounding rectangle commonly

used to describe the reason for the redaction.

## StampAnnotation

- `rectangle` (Object) **Required.** Bounding rectangle dimensions of this mark on the page.
  - `x` (Number) **Required.** Distance from the left edge of the page to the left edge of this mark.
  - `y` (Number) **Required.** Distance from the top edge of the page to the top edge of this mark.
  - `width` (Number) **Required.** Width of the mark bounding rectangle.
  - `height` (Number) **Required.** Height of the mark bounding rectangle.
- `pageData` (Object) **Required.** Metadata of the page where this mark is located.
  - `width` (Number) **Required.** Width of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
  - `height` (Number) **Required.** Height of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
- `color` (String) **Required.** Color of the stamp border and text specified as a 6-character hexadecimal color string with a leading # sign. For example, a value of "#FF0000" will create a red stamp.
- `label` (String) **Required.** Text aligned in the center of the mark bounding rectangle.

## StampRedaction

- `rectangle` (Object) **Required.** Bounding rectangle dimensions of this mark on the page.
  - `x` (Number) **Required.** Distance from the left edge of the page to the left edge of this mark.
  - `y` (Number) **Required.** Distance from the top edge of the page to the top edge of this mark.
  - `width` (Number) **Required.** Width of the mark bounding rectangle.
  - `height` (Number) **Required.** Height of the mark bounding rectangle.
- `pageData` (Object) **Required.** Metadata of the page where this mark is located.
  - `width` (Number) **Required.** Width of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
  - `height` (Number) **Required.** Height of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
- `label` (String) **Required.** Text aligned in the center of the mark bounding rectangle.

## StrikethroughAnnotation

- `color` (String) **Required.** Color of the strikethrough line specified as a 6-character hexadecimal color string with a leading # sign. For example, a value of "#FF0000" will create a red strikethrough line.
- `thickness` (Number) **Required.** Thickness of the line in pixels. Value must be between 1 and 50.
- `textLength` (Integer) **Required.** Number of characters across all lines of text selected for this mark.
- `startIndex` (Integer) **Required.** First zero-indexed character in the first line of text selected for this mark.
- `selectedText` (String) **Required.** Text selected across all lines for this mark.
- `lineGroups` (Array of Objects) **Required.** Array of objects describing the selected text on each page where this mark will be applied. Items must contain:
  - `pageData` (Object) **Required.** Metadata of the page where this mark is located.
    - `width` (Number) **Required.** Width of the page, in pixels, at the time the mark is saved.

Value must be greater than or equal to 0.

- `height` (Number) **Required.** Height of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
- `pageNumber` (Integer) **Required.** One-indexed page where the text selected by this line group is located. For example, the first page of a document will be 1.
- `startIndex` (Integer) **Required.** First zero-indexed character of the text selected on this page.
- `textLength` (Integer) **Required.** Number of characters selected across all lines on this page.
- `lines` (Array of Objects) **Required.** Array of objects describing each line of the selected text on this page. Items must contain:
  - `rectangle` (Object) **Required.** Bounding rectangle dimensions of the selected text on a single line.
    - `x` (Number) **Required.** Distance from the left edge of the page to the left edge of the selected text.
    - `y` (Number) **Required.** Distance from the top edge of the page to the top edge of the selected text.
    - `width` (Number) **Required.** Width of the selected text bounding rectangle.
    - `height` (Number) **Required.** Height of the selected text bounding rectangle.

## TextAnnotation

- `rectangle` (Object) **Required.** Bounding rectangle dimensions of this mark on the page.
  - `x` (Number) **Required.** Distance from the left edge of the page to the left edge of this mark.
  - `y` (Number) **Required.** Distance from the top edge of the page to the top edge of this mark.
  - `width` (Number) **Required.** Width of the mark bounding rectangle.
  - `height` (Number) **Required.** Height of the mark bounding rectangle.
- `pageData` (Object) **Required.** Metadata of the page where this mark is located.
  - `width` (Number) **Required.** Width of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
  - `height` (Number) **Required.** Height of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
- `borderColor` (String) **Required.** Color of the border specified as a 6-character hexadecimal color string with a leading # sign. For example, a value of "#FF0000" will create a red border. The special value "transparent" is also allowed which will create an invisible border.
- `borderThickness` (Integer) **Required.** Thickness of the border in pixels.
- `fillColor` (String) **Required.** Color of the background specified as a 6-character hexadecimal color string with a leading # sign. For example, a value of "#FF0000" will create a red background. The special value "transparent" is also allowed which will create an invisible background.
- `fontColor` (String) **Required.** Color of the text specified as a 6-character hexadecimal color string with a leading # sign. For example, a value of "#FF0000" will create red text.
- `fontName` (String) **Required.** Font name for the text.
- `fontSize` (Number) **Required.** Font size for the text specified in pixels. Value must be between 0.1 and 288.
- `fontStyle` (String) **Required.** Font styling applied to the text. The following values are allowed:
  - "Bold"
  - "Italic"
  - "Strikeout"

- "Underline"
- `maxLength` (Integer) **Required.** Maximum number of characters allowed. Value must be greater than or equal to 0. A value of 0 indicates a maximum length will not be enforced.
- `horizontalAlignment` (String) **Required.** Horizontal alignment applied to the text of this mark. The following values are allowed:
  - "Left" - The left edge of the mark will be horizontally anchored to the left of the mark bounding rectangle.
  - "Center" - The center of the mark will be horizontally anchored to the center of the mark bounding rectangle.
  - "Right" - The right edge of the mark will be horizontally anchored to the right of the mark bounding rectangle.
- `text` (String) **Required.** Text of this mark.
- `opacity` (Integer) **Required.** Opacity of this mark. Value must be between 0 and 255. A value of 0 will create an invisible mark. A value of 255 will create a fully opaque mark.

### TextAreaSignature

- `rectangle` (Object) **Required.** Bounding rectangle dimensions of this mark on the page.
  - `x` (Number) **Required.** Distance from the left edge of the page to the left edge of this mark.
  - `y` (Number) **Required.** Distance from the top edge of the page to the top edge of this mark.
  - `width` (Number) **Required.** Width of the mark bounding rectangle.
  - `height` (Number) **Required.** Height of the mark bounding rectangle.
- `pageData` (Object) **Required.** Metadata of the page where this mark is located.
  - `width` (Number) **Required.** Width of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
  - `height` (Number) **Required.** Height of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
- `fontColor` (String) **Required.** Color of the text specified as a 6-character hexadecimal color string with a leading # sign. For example, a value of "#FF0000" will create red text.
- `fontName` (String) **Required.** Font name for the text.
- `fontStyle` (String) **Required.** Font styling applied to the text. The following values are allowed:
  - "Bold"
  - "Italic"
  - "Strikeout"
  - "Underline"
- `horizontalAlignment` (String) **Required.** Horizontal alignment applied to the text of this mark. The following values are allowed:
  - "Left" - The left edge of the mark will be horizontally anchored to the left of the mark bounding rectangle.
  - "Center" - The center of the mark will be horizontally anchored to the center of the mark bounding rectangle.
  - "Right" - The right edge of the mark will be horizontally anchored to the right of the mark bounding rectangle.
- `maxFontSize` (Integer) **Required.** Maximum size of the font specified in pixels. Value must be greater than or equal to 0. A value of 0 indicates a maximum font size will not be enforced.
- `maxLength` (Integer) **Required.** Maximum number of characters allowed. Value must be greater than or equal to 0. A value of 0 indicates a maximum length will not be enforced.

- `text` (String) **Required.** Text of this mark.

### TextHyperlinkAnnotation

- `fillColor` (String) **Required.** Color of the background specified as a 6-character hexadecimal color string with a leading # sign. For example, a value of "#FF0000" will create a red background.
- `textLength` (Integer) **Required.** Number of characters across all lines of text selected for this mark.
- `startIndex` (Integer) **Required.** First zero-indexed character in the first line of text selected for this mark.
- `selectedText` (String) **Required.** Text selected across all lines for this mark.
- `lineGroups` (Array of Objects) **Required.** Array of objects describing the selected text on each page where this mark will be applied. Items must contain:
  - `pageData` (Object) **Required.** Metadata of the page where this mark is located.
    - `width` (Number) **Required.** Width of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
    - `height` (Number) **Required.** Height of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
  - `pageNumber` (Integer) **Required.** One-indexed page where the text selected by this line group is located. For example, the first page of a document will be 1.
  - `startIndex` (Integer) **Required.** First zero-indexed character of the text selected on this page.
  - `textLength` (Integer) **Required.** Number of characters selected across all lines on this page.
  - `lines` (Array of Objects) **Required.** Array of objects describing each line of the selected text on this page. Items must contain:
    - `rectangle` (Object) **Required.** Bounding rectangle dimensions of the selected text on a single line.
      - `x` (Number) **Required.** Distance from the left edge of the page to the left edge of the selected text.
      - `y` (Number) **Required.** Distance from the top edge of the page to the top edge of the selected text.
      - `width` (Number) **Required.** Width of the selected text bounding rectangle.
      - `height` (Number) **Required.** Height of the selected text bounding rectangle.
- `href` (String) **Required.** URL of the hyperlink.

### TextInputSignature

- `rectangle` (Object) **Required.** Bounding rectangle dimensions of this mark on the page.
  - `x` (Number) **Required.** Distance from the left edge of the page to the left edge of this mark.
  - `y` (Number) **Required.** Distance from the top edge of the page to the top edge of this mark.
  - `width` (Number) **Required.** Width of the mark bounding rectangle.
  - `height` (Number) **Required.** Height of the mark bounding rectangle.
- `pageData` (Object) **Required.** Metadata of the page where this mark is located.
  - `width` (Number) **Required.** Width of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
  - `height` (Number) **Required.** Height of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.

- `mask` (Object) **Required**. Object defining the input mask for this mark. An input mask defines the format of the requested data and automatically rejects invalid input from the user. For example, the following input mask for a US telephone number allows only parentheses, dashes and numbers: "(###) ###-####". A value of `null` indicates an input mask should not be applied.
  - `value` (String) **Required**. String representation of the mask. The user input will *look* like this string once they have finished their input. Each character in this string that does not have a translation will be represented to the user literally.
  - `translations` (Object) **Required**. Translations to use for the given mask character. The key represents a character present in the mask value, and the value is a regular expression which validates the acceptable user input for that character. For example, the translation object { "#" : "/\\d/" } specifies that the "#" character in a mask string will allow only a number to be entered.
- `fontColor` (String) **Required**. Color of the text specified as a 6-character hexadecimal color string with a leading # sign. For example, a value of "#FF0000" will create red text.
- `fontName` (String) **Required**. Font name for the text.
- `maxLength` (Integer) **Required**. Maximum number of characters allowed. Value must be greater than or equal to 0. A value of 0 indicates a maximum length will not be enforced.
- `text` (String) **Required**. Text of this mark.
- `horizontalAlignment` (String) **Required**. Horizontal alignment applied to the text of this mark. The following values are allowed:
  - "Left" - The left edge of the mark will be horizontally anchored to the left of the mark bounding rectangle.
  - "Center" - The center of the mark will be horizontally anchored to the center of the mark bounding rectangle.
  - "Right" - The right edge of the mark will be horizontally anchored to the right of the mark bounding rectangle.

## TextRedaction

- `rectangle` (Object) **Required**. Bounding rectangle dimensions of this mark on the page.
  - `x` (Number) **Required**. Distance from the left edge of the page to the left edge of this mark.
  - `y` (Number) **Required**. Distance from the top edge of the page to the top edge of this mark.
  - `width` (Number) **Required**. Width of the mark bounding rectangle.
  - `height` (Number) **Required**. Height of the mark bounding rectangle.
- `pageData` (Object) **Required**. Metadata of the page where this mark is located.
  - `width` (Number) **Required**. Width of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
  - `height` (Number) **Required**. Height of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
- `fontColor` (String) **Required**. Color of the text specified as a 6-character hexadecimal color string with a leading # sign. For example, a value of "#FF0000" will create red text.
- `fontName` (String) **Required**. Font name for the text.
- `fontSize` (Number) **Required**. Font size for the text specified in pixels. Value must be between 0.1 and 288.
- `maxLength` (Integer) **Required**. Maximum number of characters allowed. Value must be greater than or equal to 0. A value of 0 indicates a maximum length will not be enforced.
- `horizontalAlignment` (String) **Required**. Horizontal alignment applied to the text of this mark. The following values are allowed:

- "Left" - The left edge of the mark will be horizontally anchored to the left of the mark bounding rectangle.
- "Center" - The center of the mark will be horizontally anchored to the center of the mark bounding rectangle.
- "Right" - The right edge of the mark will be horizontally anchored to the right of the mark bounding rectangle.
- `text` (String) **Required.** Text of this mark.

### TextSelectionRedaction

- `lineGroups` (Array of Objects) **Required.** Array of objects describing the selected text on each page where this mark will be applied. Items must contain:
  - `pageData` (Object) **Required.** Metadata of the page where this mark is located.
    - `width` (Number) **Required.** Width of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
    - `height` (Number) **Required.** Height of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
  - `pageNumber` (Integer) **Required.** One-indexed page where the text selected by this line group is located. For example, the first page of a document will be 1.
  - `startIndex` (Integer) **Required.** First zero-indexed character of the text selected on this page.
  - `textLength` (Integer) **Required.** Number of characters selected across all lines on this page.
  - `lines` (Array of Objects) **Required.** Array of objects describing each line of the selected text on this page. Items must contain:
    - `rectangle` (Object) **Required.** Bounding rectangle dimensions of the selected text on a single line.
      - `x` (Number) **Required.** Distance from the left edge of the page to the left edge of the selected text.
      - `y` (Number) **Required.** Distance from the top edge of the page to the top edge of the selected text.
      - `width` (Number) **Required.** Width of the selected text bounding rectangle.
      - `height` (Number) **Required.** Height of the selected text bounding rectangle.
- `reason` (String) **Required.** Text aligned in the center of the mark bounding rectangle commonly used to describe the reason for the redaction.
- `selectedText` (String) **Required.** Text selected across all lines for this mark.
- `startIndex` (Integer) **Required.** First zero-indexed character in the first line of text selected for this mark.
- `textLength` (Integer) **Required.** Number of characters across all lines of text selected for this mark.

### TextSignature

- `rectangle` (Object) **Required.** Bounding rectangle dimensions of this mark on the page.
  - `x` (Number) **Required.** Distance from the left edge of the page to the left edge of this mark.
  - `y` (Number) **Required.** Distance from the top edge of the page to the top edge of this mark.
  - `width` (Number) **Required.** Width of the mark bounding rectangle.
  - `height` (Number) **Required.** Height of the mark bounding rectangle.
- `pageData` (Object) **Required.** Metadata of the page where this mark is located.

- `width` (Number) **Required.** Width of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
- `height` (Number) **Required.** Height of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
- `color` (String) **Required.** Color of the text specified as a 6-character hexadecimal color string with a leading # sign. For example, a value of "#FF0000" will create red text.
- `fontName` (String) **Required.** Font name for the text.
- `horizontalAlignment` (String) **Required.** Horizontal alignment applied to the text of this mark. The following values are allowed:
  - "Left" - The left edge of the mark will be horizontally anchored to the left of the mark bounding rectangle.
  - "Center" - The center of the mark will be horizontally anchored to the center of the mark bounding rectangle.
  - "Right" - The right edge of the mark will be horizontally anchored to the right of the mark bounding rectangle.
- `text` (String) **Required.** Text of this mark.

### TransparentRectangleRedaction

- `rectangle` (Object) **Required.** Bounding rectangle dimensions of this mark on the page.
  - `x` (Number) **Required.** Distance from the left edge of the page to the left edge of this mark.
  - `y` (Number) **Required.** Distance from the top edge of the page to the top edge of this mark.
  - `width` (Number) **Required.** Width of the mark bounding rectangle.
  - `height` (Number) **Required.** Height of the mark bounding rectangle.
- `pageData` (Object) **Required.** Metadata of the page where this mark is located.
  - `width` (Number) **Required.** Width of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.
  - `height` (Number) **Required.** Height of the page, in pixels, at the time the mark is saved. Value must be greater than or equal to 0.

## How To Examples

This section contains the following "How To" information:

- [Compare Documents](#)
- [Convert Content with Content Conversion Service](#)
  - [Content Conversion Demo](#)
    - [How to Configure the Demo on Windows](#)
    - [How to Configure the Demo on Linux](#)
- [Migrate from PrizmDoc Cloud Servers to PrizmDoc Viewer Self-Hosted Servers](#)
- [Perform Auto-Redaction](#)
- [Set up a Viewing Session for a CAD Drawing which has XREF Dependencies](#)
- [Use the Markup JSON Schema](#)
- [Use a Viewing Session](#)
- [Watermark Content in a Viewing Session](#)

# Compare Documents

## Introduction

The Document Comparison feature compares two documents and outputs a document that indicates the differences between the two, such as formatting changes, grammatical changes, or the addition or omission of content.

## How-To Overview

To compare Microsoft Word documents:

1. [Upload the original document](#) used in a comparison viewing session, as well as the [revised document](#) used in a comparison viewing session.
2. [Start the viewing session](#) to trigger the comparison process, and initiate the view of the differences.
3. Once the viewing session is initiated, you can start issuing API [requests to obtain revision data](#) from a viewing session that compares documents.

## Licensing

The Microsoft Word document (.DOC and .DOCX) comparison feature uses the [Microsoft Office Conversion \(MSO\) add-on option](#) for PrizmDoc Server running on Windows and provides [connectivity](#) for PrizmDoc Server running on Linux. Therefore, this functionality is triggered by the license key that includes the MSO feature. The MSO feature can be purchased in addition to your standard PrizmDoc Server license. See [Feature Licensing](#) for more information.

## Requirements

The Microsoft Word document comparison feature utilizes Microsoft Office rendering capabilities and therefore requires the components listed in the [Windows Requirements](#) section to be available on the system. Please follow all the required [Windows Installation](#) steps to let the PrizmDoc Server installer successfully pre-configure the system. When running on a non-pre-configured system, PrizmDoc Server installer for Windows will determine the required registry configuration settings specific to your server characteristics, make those changes in the registry, and require a system reboot.

# Convert Content with Content Conversion Service

This section describes how to use the PrizmDoc Server *content converters* REST API and provides examples of the kinds of operations you can perform with it.

For application development in .NET, we recommend using the [PrizmDoc Server .NET SDK](#) instead of using the PrizmDoc Server REST API directly. See the [.NET SDK How to Guides](#) for examples of how to perform file conversion, OCR, document merging, and more with the .NET SDK.

The following steps walk you through using the PrizmDoc Server *content converters* REST API:

- [Step 1: Upload Your Source Document](#)
- [Step 2: Start the Content Conversion Process](#)
- [Step 3: Check Status of the ContentConverter Resource](#)
- [Step 4: Download the Converted Document\(s\)](#)
- [Conversion Input Examples](#)
  - [Multipage Word Document to Multipage PDF](#)
  - [Multipage Password Protected Word Document to Multipage PDF](#)
  - [Single-page Word Document to Scaled PNG](#)
  - [Multipage Word Document to Multiple PNG Images](#)
  - [JPEG to PNG](#)
  - [Specific Pages of Two Multipage Documents to Multipage TIFF](#)
  - [All Pages of Three Multipage Documents Including Password Protected Document to Multipage PDF](#)
  - [Positioning and Text Justification within Header and Footer](#)
  - [Dynamic Page Numbering and Page Count with Optional Zero Padding within Header and Footer](#)
  - [Bates Numbering Across Multiple Output Documents](#)
  - [Raster Document to a Searchable PDF](#)

## Step 1: Upload Your Source Document

- Upload the source document that you want to convert.
- This can be a document of any format supported by the PrizmDoc RESTful Web Services.
- In response to this request you will receive a file ID that is used to reference the source document in later requests.

### Example

```
POST http://192.168.0.1:18681/PCCIS/V1/WorkFile?FileExtension=doc
Content-Type: application/octet-stream
[binary data]

200 OK
Content-Type: application/json
{
  "fileId": "5qTYa3gzN9gYUb5SzcUhgq",
}
```

## Step 2: Start the Content Conversion Process

- Using the file ID you obtained for the source document in [Step 1](#), you can now start the process to convert the document. This is accomplished by sending a POST request which will start a process that runs asynchronously on the PrizmDoc Server to produce the converted document(s).
- Specify in the POST request the output format you wish to convert the source document to. This format may be SVG, JPEG, PNG, TIFF, or PDF.
- For raster output formats (JPEG, TIFF, PNG), you may optionally specify a `maxWidth` and/or a `maxHeight`. If either of these attributes is present then the output document will be scaled to fit

them as closely as possible while maintaining its original aspect ratio. At least one of `maxWidth` and `maxHeight` must be specified if the source document is in a vector format.

- If output format is PDF or TIFF, you may specify whether to convert each page of the source document to a separate output file or to convert all pages to a single document. This attribute is optional with the default value set to convert all pages to a single document.
- If input format is PDF, MS Word, MS Excel, MS PowerPoint or OpenDocument, you may optionally specify a password.

### Example

```
POST http://192.168.0.1:18681/v2/contentConverters
Content-Type: application/json
{
  "input": {
    "sources": [
      {
        "fileId": "5qTYa3gzN9gYUb5SzqUhqg"
      }
    ],
    "dest": {
      "format": "pdf",
      "pdfOptions": {
        "forceOneFilePerPage": true
      }
    }
  }
}

200 OK
Content-Type: application/json
{
  "processId": "bQpcuixhvGmNqn5ElskO6Q",
  "expirationDateTime": "2014-12-03T18:30:49.460Z",
  "input": {
    "sources": [
      {
        "fileId": "5qTYa3gzN9gYUb5SzqUhqg",
        "pages": ""
      }
    ],
    "dest": {
      "format": "pdf",
      "pdfOptions": {
        "forceOneFilePerPage": true
      }
    }
  },
  "state": "processing",
  "percentComplete": 0
}
```

### Step 3: Check Status of the ContentConverter Resource

- The process to generate a converted document(s) runs asynchronously on the PrizmDoc Server. The POST request you sent in [Step 2](#) will return immediately and before the output is ready. This means you will need to check the status of the process by sending a GET request to the resource you just

created.

- In response to this request, JSON will be returned that includes a `state` property. When this property is "complete", the JSON response will also include an `output` property which means you can proceed to the next step.
- See the [Content Converter API](#) for more details of this request.

### Example

```
GET http://192.168.0.1:18681/v2/contentConverters/bQpcuixhvGmNqn5ElskO6Q
```

```
200 OK
```

```
Content-Type: application/json
```

```
{
  "processId": " bQpcuixhvGmNqn5ElskO6Q ",
  "expirationDateTime": "2014-12-03T18:30:49.460Z",
  "input": {
    "sources": [
      {
        "fileId": "5qTYa3gzN9gYUb5SzqUhqg",
        "pages": ""
      }
    ],
    "dest": {
      "format": "pdf",
      "pdfOptions": {
        "forceOneFilePerPage": true
      }
    }
  },
  "state": "complete",
  "percentComplete": 100,
  "output": {
    "results": [
      {
        "fileId": "ek5Zb123oYHSUEVx1bUrVQ",
        "sources": [
          {
            "fileId": "5qTYa3gzN9gYUb5SzqUhqg",
            "pages": "1"
          }
        ],
        "pageCount": 1
      },
      {
        "fileId": "KOrSwaqsguevJ97BdmUbXi",
        "sources": [
          {
            "fileId": "5qTYa3gzN9gYUb5SzqUhqg",
            "pages": "2"
          }
        ],
        "pageCount": 1
      },
      {
        "fileId": "o349chskqw93kwaqsgfevJ",
        "sources": [
          {
            "fileId": "5qTYa3gzN9gYUb5SzqUhqg",
            "pages": "3"
          }
        ]
      }
    ]
  }
}
```

```
    }
    ],
    "pageCount": 1
  }
]
}
```

## Step 4: Download the Converted Document(s)

- Once the content conversion process completes successfully, the new, converted document(s) are available for download.
- A work file ID is made available for each successfully converted document in the `output` property from the JSON response retrieved in [Step 3](#).
- See the [Work File API](#) for more details about downloading work files.

### Example

```
GET http://192.168.0.1:18681/PCCIS/V1/WorkFile/ek5Zb123oYHSUEVx1bUrVQ
200 OK
Content-Type: application/pdf
[binary data]
```

## Conversion Input Examples

Below are example JSON strings that can be used as input in [Step 2](#) above to create various ContentConverter processes.

### Multipage Word Document to Multipage PDF

This example will convert all pages of a Word document to a single PDF document:

```
"input": {
  "sources": [
    {
      "fileId": "5qTYa3gzN9gYUb5SzqUhqg"
    }
  ],
  "dest": {
    "format": "pdf",
    "pdfOptions": {
      "forceOneFilePerPage": false
    }
  }
}
```

### Multipage Password Protected Word Document to Multipage PDF

This example will convert all pages of a password protected Word document to a single PDF document:

```
"input": {
  "sources": [
    {
      "fileId": "5qTYa3gzN9gYUb5SszqUhqg",
      "password": "secret"
    }
  ],
  "dest": {
    "format": "pdf",
    "pdfOptions": {
      "forceOneFilePerPage": false
    }
  }
}
```

## Single-page Word Document to Scaled PNG

This will convert a single page Word Document to a PNG image, scaled to 800 pixels width. Height will adjust automatically to maintain aspect ratio:

```
"input": {
  "sources": [
    {
      "fileId": "5qTYa3gzN9gYUb5SszqUhqg"
    }
  ],
  "dest": {
    "format": "png",
    "pngOptions": {
      "maxWidth": "800px"
    }
  }
}
```

## Multipage Word Document to Multiple PNG Images

This will convert a multipage Word Document to multiple, single page PNG images. As PNG is not a multipage format, each page of the Word Document will be converted to a separate PNG:

```
"input": {
  "sources": [
    {
      "fileId": "5qTYa3gzN9gYUb5SszqUhqg"
    }
  ],
  "dest": {
    "format": "png"
  }
}
```

## JPEG to PNG

This example will convert a JPEG image to a PNG image, scaled to fit within 800 pixels width and 600 pixels height. The output PNG will be as large as it can be while maintaining aspect ratio and remaining within these bounds:

```
"input": {
  "sources": [
    {
      "fileId": "5qTYa3gzN9gYUb5SszqUhqg"
    }
  ],
  "dest": {
    "format": "png",
    "pngOptions": {
      "maxWidth": "800px",
      "maxHeight": "600px"
    }
  }
}
```

## Specific Pages of Two Multipage Documents to Multipage TIFF

This example will merge first page of a Word document with the second and third pages of a PDF document and convert them to a single TIFF document:

```
"input": {
  "sources": [
    {
      "fileId": "drxx_2sNVu9VIZTS4VH2Dg",
      "pages": "1"
    },
    {
      "fileId": "qkMQmjk6CxSzt5UEY-UdFQ",
      "pages": "2-3"
    }
  ],
  "dest": {
    "format": "tiff"
  }
}
```

## All Pages of Three Multipage Documents Including Password Protected Document to Multipage PDF

This example will merge together all pages of the first PDF document with all pages of the second password protected Word document and all pages of the third TIFF document and convert them to a single PDF document.

```
"input": {
  "sources": [
    {
```

```

        "fileId": "TP4TX_SxCNF86suTfHHFSw"
    },
    {
        "fileId": "oJo8CWXAqFJ0dns8UF_AzQ",
        "password": "secret"
    },
    {
        "fileId": "EYsfBhL0JbYgNk80sbnxEg"
    }
],
"dest": {
    "format": "pdf"
}
}

```

## Positioning and Text Justification within Header and Footer

Multi-dimensional array of lines indicates positioning and text justification of a header or footer content.

To put an address in the top left of every page, you can use a header with lines like this:

```

"input": {
    "sources": [
        {
            "fileId": "EYsfBhL0JbYgNk80sbnxEg"
        }
    ],
    "dest": {
        "format": "pdf",
        "header": {
            "lines": [
                [ "Accusoft", "", "" ],
                [ "4001 N Riverside Dr", "", "" ],
                [ "Tampa, FL 33603", "", "" ]
            ],
            "fontFamily": "Courier",
            "fontSize": "12pt",
            "color": "#F57B20"
        }
    }
}

```

By placing the text in the center position of the inner array, it will be positioned in the center of the page. For example, to print CONFIDENTIAL centered at the bottom of every page, you can define a footer with lines like this:

```

"input": {
    "sources": [
        {
            "fileId": "EYsfBhL0JbYgNk80sbnxEg"
        }
    ],
    "dest": {
        "format": "pdf",
        "footer": {
            "lines": [

```

```

        [ "", "CONFIDENTIAL", "" ]
    ],
    "fontFamily": "Courier",
    "fontSize": "12pt",
    "color": "#F57B20"
}
}
}

```

Use the following example to apply header and footer in a single call:

```

"input": {
  "sources": [
    {
      "fileId": "EYsfBhL0JbYgNk80sbnxEg"
    }
  ],
  "dest": {
    "format": "pdf",
    "header": {
      "lines": [
        [ "Accusoft", "", "" ],
        [ "4001 N Riverside Dr", "", "" ],
        [ "Tampa, FL 33603", "", "" ]
      ],
      "fontFamily": "Courier",
      "fontSize": "12pt",
      "color": "#F57B20"
    },
    "footer": {
      "lines": [
        [ "", "CONFIDENTIAL", "" ]
      ],
      "fontFamily": "Courier",
      "fontSize": "12pt",
      "color": "#F57B20"
    }
  }
}
}

```

## Dynamic Page Numbering and Page Count with Optional Zero Padding within Header and Footer

You can insert the current page number and/or total page count into header or footer text using the special syntax `{{pageNumber}}` or `{{pageCount}}`.

For example, to produce a footer showing "Page 1 of 12" for the first page of a twelve-page document, you can define a footer with lines like this:

```

"input": {
  "sources": [
    {
      "fileId": "EYsfBhL0JbYgNk80sbnxEg"
    }
  ],

```

```
"dest": {
  "format": "pdf",
  "footer": {
    "lines": [
      [ "", "Page {{pageNumber}} of {{pageCount}}", "" ]
    ],
    "fontFamily": "Courier",
    "fontSize": "12pt",
    "color": "#F57B20"
  }
}
```

You can optionally pad page number and total page count values with zeroes to guarantee that they fit a particular character width using the syntax `{{pageNumber,n}}` or `{{pageCount,n}}`, where `n` is the minimum character width. If the actual page number or page count value does not meet the minimum character width, it will be left-padded with zeroes. This can be useful for bates numbering.

For example, the following code would produce a header with "Jones000097" in the top left of page 97:

```
"input": {
  "sources": [
    {
      "fileId": "EYsfBhL0JbYgNk80sbnxEg"
    }
  ],
  "dest": {
    "format": "pdf",
    "header": {
      "lines": [
        [ "Jones{{pageNumber,6}}", "", "" ]
      ],
      "fontFamily": "Courier",
      "fontSize": "12pt",
      "color": "#F57B20"
    }
  }
}
```

## Bates Numbering Across Multiple Output Documents

You can apply Bates numbering to multiple output documents, continuing the numbering across the documents. You can do this by calculating the count of pages in already converted documents and then passing this count as a page number offset for the next conversion. Specify the offset using the syntax `{{pageNumber+c}}` where `c` is an integer constant.

The total number of pages for a converted document can be obtained from `output.results[n].pageCount` field of the response body returned for successfully completed conversion. Here is an example response where page count of converted document is equal to 15:

```
{
  "input": {
    "dest": {
      "format": "pdf"
    }
  },
```

```
"sources": [
  {
    "fileId": "px4x3scw_8OqzZlM24tmnQ",
    "pages": "1-15"
  }
],
"expirationDateTime": "2017-03-24T15:22:02.532Z",
"processId": "kQVvYfCtmatmWzigemW8Xw",
"state": "complete",
"percentComplete": 100,
"output": {
  "results": [
    {
      "fileId": "ZLa9F-Jg7M5gq1Wgx82ejg",
      "sources": [
        {
          "fileId": "px4x3scw_8OqzZlM24tmnQ",
          "pages": "1-15"
        }
      ],
      "pageCount": 15
    }
  ]
}
```

See the [Content Converter API](#) for more details of this.

You can optionally pad the result with zeroes using the syntax `{{pageNumber+c,n}}`, where `n` is the minimum character width. If the actual page number value does not meet the minimum character width, it will be left-padded with zeroes.

For example, if you have already converted a document containing 15 pages, and want to continue the numbering in the next conversion, using 8-digit padding, you can define a footer with lines like this:

```
"input": {
  "sources": [
    {
      "fileId": "EYsfBhL0JbYgNk80sbnxEg"
    }
  ],
  "dest": {
    "format": "pdf",
    "footer": {
      "lines": [
        [ "", "{{pageNumber+15,8}}", "" ]
      ],
      "fontFamily": "Courier",
      "fontSize": "12pt",
      "color": "#F57B20"
    }
  }
}
```

## Raster Document to a Searchable PDF

This example will perform optical character recognition (OCR) to convert a raster file to a searchable PDF document. The resulting PDF document will contain the original image and the recognized text in a separate invisible layer, with each text character position matching its image counterpart. This will allow you to search, select and copy the text in the resulting PDF document.

```
"input": {
  "sources": [
    {
      "fileId": "LtrN8HwBiQOaKXvCcn9J8Q"
    }
  ],
  "dest": {
    "format": "pdf",
    "pdfOptions": {
      "ocr": {
        "language": "english"
      }
    }
  }
}
```

## Content Conversion Demo

This section contains the following information:

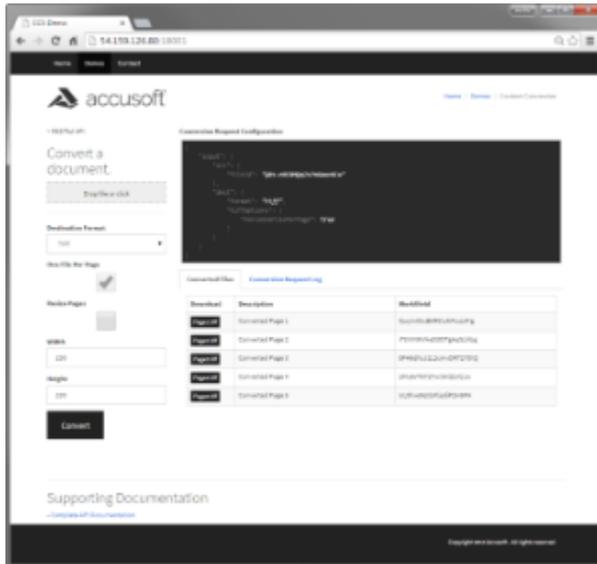
- [How to Configure the Demo on Windows](#)
- [How to Configure the Demo on Linux](#)

## How to Configure the Demo on Windows

### Demo Configuration

After the installation, test the sample application in a browser:

- The Demo can be Launched by clicking **Conversion Sample** under **Accusoft | PrizmDoc Viewer** on the **Start Menu**
- The following will route you directly to the CCS Sample test page: <http://localhost:18001>
- Upon the initial load of the CCS Demo with the above link, you will see this screen:

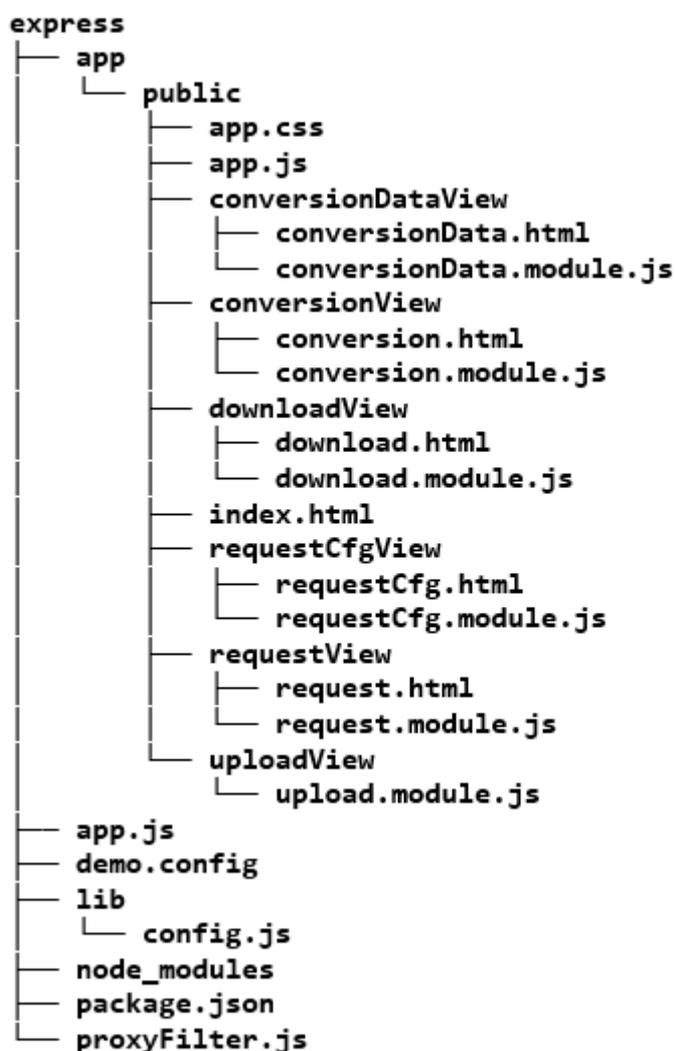


The demo.config file can be updated to customize the application host address, application port, and services port.

#### Example

```
{
  "logging": {
    "consoleLogFilePath":
    "%ALLUSERSPROFILE%\Accusoft\Prizm\Logs\CssDemoService.console.log"
  },
  "httpService": {
    "port": 3000
  },
  "apiService": {
    "port": 18681,
    "host": "localhost"
  }
}
```

#### Demo Directory Structure



File \ Folder	Description
app.js	.This is a node-js app which hosts the express app and proxy's service requests.
proxyFilter.js	.This filters requests to the conversion service and white-lists headers to and from the service.
package.json	.This is the node-js package json file.
node_modules	.These are the node-js npm dependencies.
lib\config.js	This object reads the configuration file used to define the application port and service host and port..
demo.config	This is a configuration file used to define the application port and service host and port.
public\app.js	This contains angular js app controller, main service and some helper directives.
public\app.css	This is the application CSS..

public\index.js	This is the entry point to the app and container for the child views.
public\uploadView\upload.module.js	This is the angular js controller for the upload functionality.
public\requestCfgView\requestCfg.html	This is the markup for the CCS request configuration view.
public\requestCfgView\requestCfg.module.js	This is the controller for the CCS request configuration view.
public\requestView\request.html	This is the markup for the request configuration.
public\requestView\request.module.js	This is the controller for the request configuration.
public\conversionView\conversion.html	This is the markup for the request button.
public\conversionView\conversion.module.js	This is the controller for the request button.
public\conversionDataView\conversionData.html	This is the markup for the conversion request\response view.
public\conversionDataView\conversionData.module.js	This is the controller for the conversion request\response view.
public\downloadView\download.html	This is the markup for the download view.
public\downloadView\download.module.js	This is the controller for the download view.

## Starting & Stopping the Demo

On Windows, the PrizmDemo service should ideally be started/stopped from the Windows service management console. As part of the PrizmDoc Viewer installation, the service should be configured to start automatically. If you need to start, stop, or restart, use the following instructions:

1. Log onto the system using an account with administrator privileges.
2. Click **Start > Run**.
3. Type **services.msc**.
4. Press **Enter**.
5. Find **PrizmDemo** in the list of services, and right-click on the service to access the context menu.
6. To Start the Service: Click **Start** and wait for the service to start. The status should update to "started" (this option will only be available if the service is not running).
7. To Stop the Service: Click **Stop** in the right-click menu and wait for the service control dialog. The status will be updated to be blank (this option will only be available if the service is already started).
8. To Restart the Service: Click **Restart** and wait for the service control dialog. (This option will only be available if the service is already started.)

If access to the control panel is not available, services can also be started/stopped from the command line using the following commands:

### Example

```
net start PrizmDemp
```

```
net stop PrizmDemo
```

The PrizmDemo Windows service will log certain status messages to the Windows Event Log. These messages can be helpful in diagnosing problems while starting and stopping the service. To view the Windows Event Log, use the following instructions:

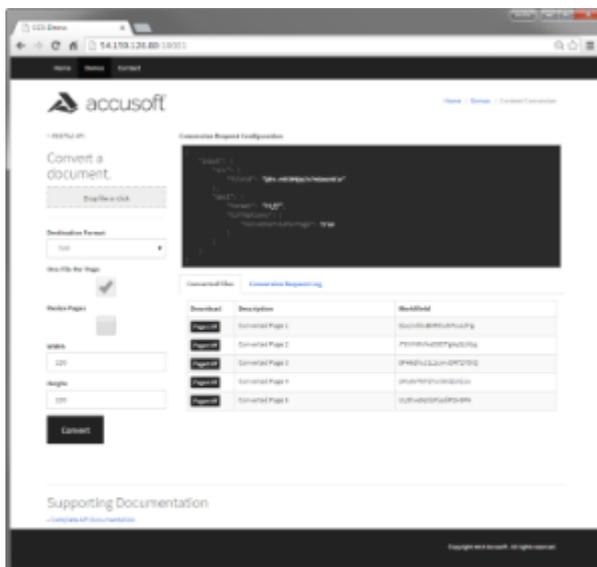
1. Log onto the system using an account with administrator privileges.
2. Click **Start > Run**.
3. Type **eventvwr**.
4. Press **Enter**.
5. Expand Applications and Services Logs.
6. Click **PrizmDemo**.

## How to Configure the Demo on Linux

### Demo Configuration

After the installation, test the sample application in a browser:

- The following will route you directly to the CCS Sample test page: <http://localhost:18001>
- Upon the initial load of the CCS Demo with the above link, you will see this screen:



The demo.config file can be updated to customize the application host address, application port, and services port.

### Example

```
{
  "logging": {
    "consoleLogFilePath":
"/usr/share/prizm/logs/CcsDemoService.console.log"
  },
  "httpService": {
    "port": 18001
  }
}
```

```

    },
    "apiService": {
      "port": 18681,
      "host": "localhost"
    }
  }
}

```

## Demo Sample Directory Structure

```

express
├── app
│   └── public
│       ├── app.css
│       ├── app.js
│       ├── conversionDataView
│       │   ├── conversionData.html
│       │   └── conversionData.module.js
│       ├── conversionView
│       │   ├── conversion.html
│       │   └── conversion.module.js
│       ├── downloadView
│       │   ├── download.html
│       │   └── download.module.js
│       ├── index.html
│       ├── requestCfgView
│       │   ├── requestCfg.html
│       │   └── requestCfg.module.js
│       ├── requestView
│       │   ├── request.html
│       │   └── request.module.js
│       └── uploadView
│           └── upload.module.js
├── app.js
├── demo.config
├── lib
│   └── config.js
├── node_modules
├── package.json
└── proxyFilter.js

```

File / Folder	Description
app.js	.This is a node-js app which hosts the express app and proxy's service requests.
proxyFilter.js	.This filters requests to the conversion service and white-lists headers to and from the service.
package.json	.This is the node-js package json file.
node_modules	.These are the node-js npm dependencies.

lib/config.js	This object reads the configuration file used to define the application port and service host and port..
demo.config	This is a configuration file used to define the application port and service host and port.
public/app.js	This contains angular js app controller, main service and some helper directives.
public/app.css	This is the application CSS..
public/index.js	This is the entry point to the app and container for the child views.
public/uploadView/upload.module.js	This is the angular js controller for the upload functionality.
public/requestCfgView/requestCfg.html	This is the markup for the CCS request configuration view.
public/requestCfgView/requestCfg.module.js	This is the controller for the CCS request configuration view.
public/requestView/request.html	This is the markup for the request configuration.
public/requestView/request.module.js	This is the controller for the request configuration.
public/conversionView/conversion.html	This is the markup for the request button.
public/conversionView/conversion.module.js	This is the controller for the request button.
public/conversionDataView/conversionData.html	This is the markup for the conversion request/response view.
public/conversionDataView/conversionData.module.js	This is the controller for the conversion request/response view.
public/downloadView/download.html	This is the markup for the download view.
public/downloadView/download.module.js	This is the controller for the download view.

## Starting & Stopping the Demo

The Express Sample is automatically started as part of the setup.sh script found in the installation directory, typically **/usr/share/prizm/**. However after rebooting the Express sample will not be automatically restarted. To manually start and stop the Express sample, use the script found in **/usr/share/prizm/scripts/demos.sh**.

Starting the Express Sample from the shell:

### Example

```
$ /usr/share/prizm/scripts/demos.sh start
```

Stopping the Express Sample from the shell:

### Example

```
$ /usr/share/prizm/scripts/demos.sh stop
```

## Migrate from PrizmDoc Cloud Servers to PrizmDoc Viewer Self-Hosted Servers

### Introduction

This topic covers the steps you need to migrate from PrizmDoc Cloud Servers to PrizmDoc Viewer Self-Hosted Servers.

### Step 1: Install PrizmDoc Server, PrizmDoc Viewer and PAS

1. First, [install PrizmDoc Server](#) (if you do not have it installed already).
2. Next, [install PrizmDoc Viewer and PAS](#).

**IMPORTANT:** Your PrizmDoc Cloud API key is not the same thing as a PrizmDoc Viewer license. Without a license, the product will run in a limited evaluation mode. For more information about obtaining a license, contact [info@accusoft.com](mailto:info@accusoft.com).

### Step 2: Configure PAS to use your new PrizmDoc Server

Now that you have PrizmDoc Server installed, you have to point your PrizmDoc Application Services (PAS) instance to your new PrizmDoc server as follows:

1. Find your PAS configuration file. If you do not know where it is located, refer to the section "Configuration File Location" in the topic [PrizmDoc Application Services \(PAS\) Configuration](#).
2. Next, you will need to modify the PrizmDoc Server connection settings within your PAS configuration file. For instructions, refer to the section, "Configuring the PrizmDoc Server Connection" in the topic [PrizmDoc Application Services \(PAS\) Configuration](#).
3. Remove/comment the unnecessary `pccServer.apiKey` setting.
4. Restart PAS (see [Starting & Stopping PrizmDoc Application Services](#)).

You are done! Your PrizmDoc Application Services are now pointing to your new instance of PrizmDoc Server.

## Perform Auto-Redaction

### Introduction

An auto-redaction is a multi-step process that finds matches of a given regular expression, then permanently removes the text and blacks out the displayed region for each match. The end result is a new PDF document with no traces of the text that matched the regular expression.

For application development in .NET, we recommend using the [PrizmDoc Server .NET SDK](#) instead of using the PrizmDoc Server REST API directly. See the [How to Create a Redacted PDF](#) topic in the .NET SDK documentation for an example of how to easily perform auto-redaction with the .NET SDK.

The following steps walk you through using the PrizmDoc Server REST API to perform auto-redaction.

## Step 1: Upload Your Source Document

- Upload the **source document** that you want to redact.
- This can be a document of any format supported by the PrizmDoc Server RESTful API, except for DICOM and CAD documents, which are not currently supported for redaction.
- In response to this request, you will receive a file ID that is used to reference the source document in later requests.

### Example

```
POST /PCCIS/V1/WorkFile?FileExtension=pdf
Content-Type: application/octet-stream
[binary data]

200 OK
Content-Type: application/json
{
  "fileId": "5qTYa3gzN9gYUb5SzqUhqg",
}
```

## Step 2: Compose a Regular Expression

- Compose the **regular expression** that will match the text you want to redact in the document.
- The regular expression should adhere to the POSIX extended RE (ERE) or basic RE (BRE) syntax. (See details in this link: <http://laurikari.net/tre/documentation/regex-syntax/>) **NOTE:** *Undocumented regex features may work, however we don't provide support for them.*
- For example, the following regular expression will redact all US Social Security Numbers in a document:

### Example

```
"[0-9]{3}[-]?[0-9]{2}[-]?[0-9]{4}"
```

**NOTE:** *The regular expression is sent to PrizmDoc in JSON format, so you should adjust the regular expression according to JSON syntax. Specifically, the backslash symbol should be duplicated. If you create regular expressions programmatically, using string literals, you may need to further adjust the string according to the programming language syntax.*

### Example

```
Regular expression (searches whole word "the", case insensitive):  
"(?i:\bthe\b)"
```

```
JSON content:  
"regex": "(?i:\\bthe\\b)";
```

```
C# code:  
string regex = "(?i:\\\\bthe\\\\b)";
```

### Step 3: Create Markup JSON from the Regular Expression

Before the actual redaction process can be started, the regular expression needs to be converted to a format it can understand. PrizmDoc uses a proprietary XML syntax to define markups used for redaction, which you can generate by sending a POST request that requires two inputs:

- The **file ID** of source document you uploaded in Step 1.
- One or more **rules** to match and redact the document text:
  - Each rule includes a **regular expression** such as the one you created in Step 2, and
  - An object that describes how to redact the matching text.

#### Example

```
POST /v2/redactionCreators  
Content-Type: application/json  
{  
  "input": {  
    "source": {  
      "fileId": "5qTYa3gzN9gYUb5SzqUhqg"  
    },  
    "rules": [{  
      "find": {  
        "type": "regex",  
        "pattern": "[0-9]{3}[-]?[0-9]{2}[-]?[0-9]{4}"  
      },  
      "redactWith": {  
        "type": "RectangleRedaction",  
        "reason": "Redacted"  
      }  
    }  
  ]  
}  
}  
  
200 OK  
Content-Type: application/json  
{  
  "processId": "Rr64ma-U_HseoPrs6y0iiw",  
  "expirationDateTime": "2014-12-03T18:30:49.460Z",  
  "input": {  
    "source": {  
      "fileId": "5qTYa3gzN9gYUb5SzqUhqg"  
    },  
    "rules": [  
      {  
        "find": {
```

```

        "type": "regex",
        "pattern": "[0-9]{3}[-]?[0-9]{2}[-]?[0-9]{4}"
    },
    "redactWith": {
        "type": "RectangleRedaction",
        "reason": "Redacted"
    }
}
]
},
"state": "processing",
"percentComplete": 0
}

```

## Step 4: Check Status of the RedactionCreator Resource

- The process to generate **markup XML** runs asynchronously on the PrizmDoc server. The **POST request** you sent in Step 3 will return immediately and before the output is ready. This means you will need to check the status of the process by sending a **GET request** to the resource you just created.
- In response to this request, JSON will be returned that includes a `state` property. When this property is `complete`, the JSON response will also include an `output` property, which means you can proceed to the next step.
- See the [Redaction Creator API](#) for more details about this request.

### Example

```

GET /v2/redactionCreators/Rr64ma-U_HseoPrs6y0iiv

200 OK
Content-Type: application/json
{
  "processId": "Rr64ma-U_HseoPrs6y0iiv",
  "expirationDateTime": "2014-12-03T18:30:49.460Z",
  "input": {
    "source": {
      "fileId": "5qTYa3gzN9gYUb5SzqUhqg"
    },
    "rules": [
      {
        "find": {
          "type": "regex",
          "pattern": "[0-9]{3}[-]?[0-9]{2}[-]?[0-9]{4}"
        },
        "redactWith": {
          "type": "RectangleRedaction",
          "reason": "Redacted"
        }
      }
    ]
  },
  "state": "complete",
  "percentComplete": 100,
  "output": {
    "markupFileId": "01bLJwFGxf9QGutkyrOqig"
  }
}

```

```
}
```

## Step 5: Start the Markup Burning Process (Redaction)

- Using the **file IDs** you obtained for the source document in Step 1 and the **XML markup file** in Step 4, you can now start the process to redact the document by sending a **POST request**, which will start a process that runs asynchronously on the PrizmDoc server to produce a redacted document.

### Example

```
POST /PCCIS/V1/MarkupBurner
Content-Type: application/json
{
  "input": {
    "documentFileId": "5qTYa3gzN9gYUb5SzqUhqg",
    "markupFileId": "o1bLJwFGxf9QGUTkyrOqig"
  }
}

200 OK
Content-Type: application/json
{
  "processId": "bQpcuixhvGmNqn5ElskO6Q",
  "expirationDateTime": "2014-12-03T18:30:49.460Z",
  "input": {
    "documentFileId": "5qTYa3gzN9gYUb5SzqUhqg",
    "markupFileId": "o1bLJwFGxf9QGUTkyrOqig"
  },
  "state": "processing",
  "percentComplete": 0
}
```

## Step 6: Check Status of the MarkupBurner Resource

- The process to generate a redacted document runs asynchronously on the PrizmDoc server. The **POST request** you sent in Step 5 will return immediately and before the output is ready. This means you will need to check the status of the process by sending a **GET request** to the resource you just created.
- In response to this request, JSON will be returned that includes a `state` property. When this property is `complete`, the JSON response will also include an `output` property, which means you can proceed to the next step.
- See the [Markup Burner API](#) for more details about this request.

### Example

```
GET /PCCIS/V1/MarkupBurner/bQpcuixhvGmNqn5ElskO6Q

200 OK
Content-Type: application/json
{
```

```
{
  "processId": "bQpcuixhvGmNqn5ElskO6Q",
  "expirationDateTime": "2014-12-03T18:30:49.460Z",
  "input": {
    "documentFileId": "5qTYa3gzN9gYUb5SsqUhgq",
    "markupFileId": "o1bLJwFGxf9QGuTkyrOqig"
  },
  "state": "complete",
  "percentComplete": 100,
  "output": {
    "documentFileId": "5ufb3ytUb1BxxgSUak_G9Q"
  }
}
```

## Step 7: Download the Redacted Document

- Once the markup burning process completes successfully, the new, redacted PDF document is available for download.

### Example

```
GET
http://192.168.0.1:18681/PCCIS/V1/WorkFile/5ufb3ytUb1BxxgSUak_G9Q

200 OK
Content-Type: application/pdf
[binary data]
```

## Set up a Viewing Session for a CAD Drawing which has XREF Dependencies

### How to Set Up a Viewing Session for a CAD Drawing Which Has XREF Dependencies

This topic explains how to set up a viewing session for a CAD drawing which depends upon external files via XREF.

Many documents, such as a PDF, are self-contained in a single file. Setting up a viewing session for these sorts of documents is relatively simple: after creating a viewing session, you make one HTTP call to upload the source document's file bytes.

Setting up a viewing session for a CAD drawing which is made up of multiple files is slightly more complicated. You will need to:

1. POST to create a new viewing session.
2. POST to upload each file to the work file API, both the primary CAD drawing and all its dependencies, creating distinct `fileId` values for each one.
3. POST a JSON object to the work file API to create a special "package" work file for the entire set. This "package" work file defines which of the files is the primary file for viewing, specifies path

information for each of the files (typically relative to the primary file), and has its own distinct `fileId`.

4. Assign the "package" `fileId` to the viewing session so that the entire CAD drawing may be viewed.

This topic walks through examples of this in detail. It has two parts:

- [Preparing to view a CAD XREF document for the first time](#)
- [Preparing to view a CAD XREF document which has already been uploaded](#)

## Preparing to view a CAD XREF document for the first time

### Step 1: Identify the necessary files and their local paths

Imagine a CAD engineer has prepared a `master.dwg` file which depends on several other files and has stored all of the files on the disk in the following way:

```
./master.dwg
./parts/desk.dwg
./parts/desk-extension.dwg
./other/chair.dwg
./common/logo.png
```

In order for other CAD engineers to be able to open `master.dwg` and view the entire contents, they will need all of these files, stored in the same way as they are here.

In the same way, in order for PrizmDoc to prepare `master.dwg` for viewing by an end user in the browser, it too will need all of these files and information about how they were stored by the CAD engineer on the local disk.

### Step 2: Create a new viewing session

Submit a POST to creating a new viewing session:

```
POST /PCCIS/V1/ViewingSession
Content-Type: application/json

{
  "render": {
    "html5": {
      "alwaysUseRaster": false
    }
  }
}

HTTP/1.1 200
Content-Type: application/json

{
  "viewingSessionId":
"AqQp3wrrrSZ5YhJoFdj44Z_rT4629XnO6j7bEjjSRA5fiQUljuiYgi-
ng9sP4v95VTVqilte6bsaC6eGpUulMUWid1VN9qwH6rN5wp82eSfM",
  "affinityToken": "ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM="
}
```

Hold on to the `viewingSessionId` (and `affinityToken`, if provided). You will need it again later.

### Step 3: Deliver the configured HTML5 viewer resources to the end user

Now that you have a `viewingSessionId`, you can go ahead and deliver the Viewer, configured with the given `viewingSessionId`, to your end user's browser. This allows their browser to start parsing the Viewer's JavaScript resources as early as possible.

**NOTE:** We currently do not support the Viewer's download option when viewing CAD with XREF. When configuring the Viewer, make sure you set `uiElements.download` to `false`.

### Step 4: Upload the files to the back end

POST each of the necessary files to the work file API, creating a unique `fileId` for each one. **If you are using PrizmDoc Self-Hosted (in cluster-mode) or PrizmDoc Cloud, be sure to include the `affinityToken` value returned after creating the viewing session in an `Accusoft-Affinity-Token` header of each request.**

master.dwg:

```
POST /PCCIS/V1/WorkFile
Content-Type: application/octet-stream
Accusoft-Affinity-Token: ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=

<<master.dwg bytes>>

HTTP/1.1 200 OK
Content-Type: application/json

{
  "fileId": "CVBuD7DbQYNoJDqByGierQ",
  "fileExtension": "dwg",
  "affinityToken": "ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM="
}
```

parts/desk.dwg:

```
POST /PCCIS/V1/WorkFile
Content-Type: application/octet-stream
Accusoft-Affinity-Token: ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=

<<parts/desk.dwg bytes>>

HTTP/1.1 200 OK
Content-Type: application/json

{
  "fileId": "5qTYa3gzN9gYUb5SszqUhgq",
  "fileExtension": "dwg",
  "affinityToken": "ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM="
}
```

parts/desk-extension.dwg:

```
POST /PCCIS/V1/WorkFile
Content-Type: application/octet-stream
Accusoft-Affinity-Token: ejN9/kXEYOUken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=

<<parts/desk-extension.dwg bytes>>

HTTP/1.1 200 OK
Content-Type: application/json

{
  "fileId": "01bLJwFGxf9QGuTkyrOqig",
  "fileExtension": "dwg",
  "affinityToken": "ejN9/kXEYOUken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM="
}
```

other/chair.dwg:

```
POST /PCCIS/V1/WorkFile
Content-Type: application/octet-stream
Accusoft-Affinity-Token: ejN9/kXEYOUken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=

<<other/chair.dwg bytes>

HTTP/1.1 200 OK
Content-Type: application/json

{
  "fileId": "KxonBTYJyRpCswOLn_paiw",
  "fileExtension": "dwg",
  "affinityToken": "ejN9/kXEYOUken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM="
}
```

common/logo.png:

```
POST /PCCIS/V1/WorkFile
Content-Type: application/octet-stream
Accusoft-Affinity-Token: ejN9/kXEYOUken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=

<<common/logo.png bytes>>

HTTP/1.1 200 OK
Content-Type: application/json

{
  "fileId": "JcskB6w8D5_qlf4OA3xspQ",
  "fileExtension": "png",
  "affinityToken": "ejN9/kXEYOUken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM="
}
```

At this point, you have a unique `fileId` for each of the uploaded files.

### Step 5: Create a final "package" work file

This is the step where you tie all of the files together under a single new `fileId` and provide some crucial information which is necessary for the back end to actually prepare the content for viewing.

When uploading simple work files, the POST body is simply the bytes of the file. However, by submitting a POST with a `Content-Type` of `application/json`, you can instead instruct the back end to create a new "package" work file from a set of existing work files.

A "package" file defines the following:

- A list of files in the package, specified by `fileId`.
- A unique path for each file in the package.
- The primary file in the package, identified by its path.

To create a new "package" for the files already uploaded in Step 4 above, we would submit a POST like this:

```
POST /PCCIS/V1/WorkFile
Content-Type: application/json
Accusoft-Affinity-Token: ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=

{
  "primaryPath": "master.dwg",
  "items": [
    { "fileId": "CVBuD7DbQYNoJDqByGierQ", "path": "master.dwg" },
    { "fileId": "5qTYa3gzN9gYUb5SzqUhgq", "path": "parts/desk.dwg" },
    { "fileId": "olbLJwFGxf9QGuTkyrOqig", "path": "parts/desk-
extension.dwg" },
    { "fileId": "KxonBTYJyRpCswOLn_paiw", "path": "other/chair.dwg"
},
    { "fileId": "JcskB6w8D5_qlf40A3xspQ", "path": "common/logo.png" }
  ]
}

HTTP/1.1 200 OK
Content-Type: application/json

{
  "fileId": "nkG9fiAmj27X3MhqGdbsXA",
  "fileExtension": "dwg",
  "primaryPath": "master.dwg",
  "items": [
    { "fileId": "CVBuD7DbQYNoJDqByGierQ", "path": "master.dwg" },
    { "fileId": "5qTYa3gzN9gYUb5SzqUhgq", "path": "parts/desk.dwg" },
    { "fileId": "olbLJwFGxf9QGuTkyrOqig", "path": "parts/desk-
extension.dwg" },
    { "fileId": "KxonBTYJyRpCswOLn_paiw", "path": "other/chair.dwg"
},
    { "fileId": "JcskB6w8D5_qlf40A3xspQ", "path": "common/logo.png" }
  ],
  "affinityToken": "ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM="
}
```

The new `fileId` which is returned ("nkG9fiAmj27X3MhqGdbsXA") is a single id we can use to refer to this entire set of files, with master.dwg being the primary file for viewing.

### Step 6: Attach the "package" work file to the viewing session

Now that your "package" work file exists, you can attach it as the source document for the viewing session with this PUT request. **NOTE:** The `viewingSessionId` used in the URL is prefixed with the letter `u:**`

```
PUT
/PCCIS/V1/ViewingSession/uAqQp3wrrSZ5YhJoFdj44Z_rT4629Xn06j7bEjjSRA5fiQUljuYgi-
ng9sP4v95VTVqilte6bsaC6eGpUulMUWid1VN9qwH6rN5wp82eSfM/SourceRef
Content-Type: application/json

{
  "refType": "workFile",
  "fileId": "nkG9fiAmj27X3MhqGdbsXA"
}

HTTP/1.1 200 OK
```

(If you are wondering, an `Accusoft-Affinity-Token` is not required in this particular request; the viewing session id itself serves the role of the affinity token.)

At this point, the back end will begin converting the CAD content for viewing in the browser and delivering content to the end user as it becomes ready.

## Preparing to view a CAD XREF document which has already been uploaded

All work files do eventually expire, and there is never a guarantee that a particular `fileId` will be available. However, each time you use a `fileId` as the source document of a viewing session, we will extend the amount of time that `fileId` will remain available. In many cases, you can simply continue reusing the existing `fileId` when creating a new viewing session for the same CAD drawing.

### Step 1: Create a new viewing session

Submit a POST to create a new viewing session. **If you are using PrizmDoc Self-Hosted (in cluster-mode) or PrizmDoc Cloud, make sure that you add an `Accusoft-Affinity-Token` header which matches the `affinityToken` of the work file. This is crucial to ensure that the viewing session will be created on a machine in the cluster that will actually have access to the existing `fileId` in the next step.**

```
POST /PCCIS/V1/ViewingSession
Content-Type: application/json
Accusoft-Affinity-Token: ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=

{
  "render": {
    "html5": {
      "alwaysUseRaster": false
    }
  }
}

HTTP/1.1 200
Content-Type: application/json

{
```

```
"viewingSessionId": "HO9MagQSyIizShhzLpjp-H73-IRtoqcPlJZmLP0PPwI3HxJ36Ds_HunbqMmtKfTlgt4h4-96X67t7onW2P9XfV5Rw4pSddBrNoFp4A8bdFw",
  "affinityToken": "ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM="
}
```

## Step 2: Attach the existing "package" work file to the viewing session

Simply attach the existing `fileId` to the new viewing session as you did before. **Remember that the `viewingSessionId` used in this URL must be prefixed with the letter `u`:**

```
PUT /PCCIS/V1/ViewingSession/uHO9MagQSyIizShhzLpjp-H73-IRtoqcPlJZmLP0PPwI3HxJ36Ds_HunbqMmtKfTlgt4h4-96X67t7onW2P9XfV5Rw4pSddBrNoFp4A8bdFw/SourceRef
Content-Type: application/json

{
  "refType": "workFile",
  "fileId": "nkG9fiAmj27X3MhqGdbsXA"
}

HTTP/1.1 200 OK
```

(Although it was crucial you provided an `Accusoft-Affinity-Token` in the previous POST request, it is not required in this PUT request; the viewing session id itself serves the role of the affinity token.)

That's it. The new viewing session is ready to provide viewing content for the previously-uploaded CAD drawing files.

## What if the existing "package" work file has expired?

When you make the PUT request to associate the existing `fileId` to the new viewing session, the PUT request will fail if no such `fileId` can be found:

```
HTTP/1.1 480 NotFound
Content-Type: application/json

{
  "errorCode": "NotFound",
  "errorDetails": {
    "in": "body",
    "at": "fileId"
  }
}
```

If the `fileId` has indeed expired, this is the response you will receive. At this point, you will need to re-upload all of the CAD files again and create a new "package" `fileId` which you can then attach to the viewing session.

Note that this error technically only means that the specified `fileId` could not be found, and it may occur for several reasons:

- The `fileId` has expired.

- The `fileId` value itself was incorrect.
- You forgot to provide the correct `Accusoft-Affinity-Token` header value when creating the viewing session, and as a result the viewing session has been assigned to a machine in the cluster that does not have access to the work file (even though the work file itself may still exist). To prevent this, make sure you are providing the work file's `affinityToken` value in an `Accusoft-Affinity-Token` header when making the POST request to create the new viewing session.

## Use the Markup JSON Schema

### Introduction

The [PrizmDoc Server](#) and [PAS Markup Burner](#) APIs support JSON Markup content and use a JSON Schema definition to validate incoming JSON content for structure, required properties, and value types. You can validate JSON Markup against this Schema manually to determine root causes of schema validation errors.

See the [Markup JSON Specification](#) topic for a human-readable version of the schema.

### Usage

You can use one of the libraries/tools listed in the [The JSON Schema documentation](#) to validate your Markup content outside of PrizmDoc using your language of choice. PrizmDoc uses [everit-org/json-schema](#) internally.

### Caveats

Because the Schema definition uses a `oneOf` directive to compare against all of our possible mark types, most validators will return error messages for *all mark types*, not just the type you specify in the markup type property. You will need to filter for the errors related to the Schema that most closely matches the mark type.

### Download the Schema

[Click here](#) to view the JSON Schema definition. To download it, right-click on the same link and select "Save link/target as...".

## Use a Viewing Session

### Introduction

This section provides instructions on how to use a Viewing Session in PrizmDoc Server:

- [Step 1: Create a Viewing Session](#)
- [Step 2: \(Optional\) Upload the Source Document](#)
- [Step 3: \(Optional\) Start the Session](#)
- [Step 4: Request Content](#)
- [Step 5: \(Optional\) Stop the Session](#)

## Step 1: Create a Viewing Session

The recommended method of creating a Viewing Session is through the [POST /ViewingSession endpoint in PAS](#).

The body of the request specifies details of how the Viewing Session's content will be generated and how its source document will be transferred to PrizmDoc, but does not necessarily provide the source document itself.

### Example Request

```
http://localhost:18681/PCCIS/V1/ViewingSession

Content-Type: application/json
{
  "render": {
    "html5": {
      "alwaysUseRaster": false
    }
  }
}
```

### Example Response

```
200 OK

Content-Type: application/json
{
  "viewingSessionId": "-gchUEYvBE50CgcWJajgoXcW7QD0I8zNDFlexD9hzbXkmrYlw8DrxJ-KiHAf2oTAL_HiHK1MsstBlNgZFCrcJQ"
}
```

## Step 2: (Optional) Upload the Source Document

If a Viewing Session was created with a `documentSource` of "api", a second request is required to provide it with the source document. For other source types, the source document will have already been specified in the `externalId` property, and this step should be skipped.

### Example Request

```
http://localhost:18681/PCCIS/V1/ViewingSession/u-gchUEYvBE50CgcWJajgoXcW7QD0I8zNDFlexD9hzbXkmrYlw8DrxJ-KiHAf2oTAL_HiHK1MsstBlNgZFCrcJQ/SourceFile

Content-Type: application/octet-stream

{binary data}
```

### Example Response

```
200 OK
```

### Step 3: (Optional) Start the Session

By default, content generation for a Viewing Session does not begin until content is first requested from it. However, it is possible to manually kick off conversion beforehand in order to improve the response time of subsequent content requests.

#### Example Request

```
http://localhost:18681/PCCIS/V1/ViewingSession/u-
gchUEYvBE5OCgcWJajgoXcW7QD0I8zNDFlexD9hzbXkmrYlw8DrxJ-
KiHAf2oTAL_HiHK1MsstBlNgZFCrcJQ/Notification/SessionStarted

Content-Type: application/json
{
  "Viewer": "HTML5"
}
```

#### Example Response

```
200 OK
```

### Step 4: Request Content

Once a Viewing Session has been created and provided with its source document, it becomes possible to make requests for content from it, as described in the [HTML5 Viewing API](#) reference.

#### Example Request

```
http://localhost:18681/PCCIS/V1/Page/q/0?DocumentID=u-
gchUEYvBE5OCgcWJajgoXcW7QD0I8zNDFlexD9hzbXkmrYlw8DrxJ-
KiHAf2oTAL_HiHK1MsstBlNgZFCrcJQ&ContentType=png
```

#### Example Response

```
200 OK

Content-Type: image/png

{image data}
```

### Step 5: (Optional) Stop the Session

A Viewing Session may be made unavailable prior to the time it would normally expire with a `SessionStopped` request. See the [API reference](#) for details of what properties can be set for the error response returned for subsequent requests against the stopped session.

#### Example Request

```
http://localhost:18681/PCCIS/V1/ViewingSession/u-  
gchUEYvBE5OCgcWJajgoXcW7QD0I8zNDFlexD9hzbXkmrYlw8DrxJ-  
KiHAf2oTAL_HiHK1MsstBlNgZFCrcJQ/Notification/SessionStopped
```

#### Example Response

```
200 OK
```

## Watermark Content in a Viewing Session

### Introduction

The PrizmDoc Services supports Text, Diagonal Text and Image watermarks for a viewing session. This means that the viewable content that is displayed in the browser will contain the specified watermarks. The watermarks will not be applied to the source document.

**NOTE:** Specifying watermarks in a viewing session will disable cache reuse. This means that the process to convert a document to viewable content will be executed for each viewing session even if the source document is the same as one in an existing viewing session. See the topic [Adjusting Caching Parameters for PrizmDoc Server](#) for more information about cache reuse and the side-effects of disabling it.

**NOTE:** Watermarks are currently only supported when viewing some SVG content. When viewing CAD files such as `.dwg`, `.dxf`, `.dwt` or `.dgn`, then watermarks are not supported.

**NOTE:** If viewing watermarked raster content, then multi-line text, text decoration, and complex Unicode fonts (for example, Hebrew, Arabic) are not supported.

### Applying Watermarks

Watermarks are defined by setting additional JSON properties in the body of the HTTP request that you send to create a new Viewing Session. These properties are described in more detail in the [Viewing Sessions](#) topic under the **POST ViewingSession** request.

The watermark properties you set for the viewing session will be applied to all pages of the document. You can specify more than one watermark in a viewing session. You can also apply watermarks of mixed types. For example, a diagonal text watermark can be used to apply the text "Confidential" across each page and an image watermark can be added to apply your company logo to the top-right corner of each page.

### Text Watermarks

The following sections describe special characteristics of text watermarks that warrant additional

explanation.

## Special Characters

The control character `\n` has a special meaning inside the text string of a text watermark. If present, a line break will be applied at its position.

### Example

```
"text": "ACME Corporation\nConfidential"
```

## Dynamic Page Number and Page Count

Use the special replacement syntax `"{{pageNumber}}"` and `"{{pageCount}}"` in the text string of a text watermark to display the current page number and/or page count on each page.

### Example

```
"text": "Page {{pageNumber}} of {{pageCount}}"
```

## Font Considerations

The `"fontFamily"` property can be used to specify a font for text watermarks.

When viewing SVG content, please be aware that text watermarks will be created using SVG that is rendered on the browser. This means that the font specified in this property must be available on the Viewer. When the `"fontFamily"` property is not set, the default font of the client browser executing the Viewer will be used to render text watermarks.

## Text Length Considerations

The PrizmDoc Server API does not define a limit for the watermark text length. Note that very long text watermarks may not fit entirely onto the document page and will not be fully visible.

## Image Watermarks

The following sections describe special characteristics of image watermarks that warrant additional explanation.

### Supported Formats

The source format of image watermarks must be PNG. Transparency options of a PNG will be honored so that transparent sections of the image will reveal the page content beneath it.

The PrizmDoc Server API does not define a limit for the watermark image size or resolution.

### Source Locations

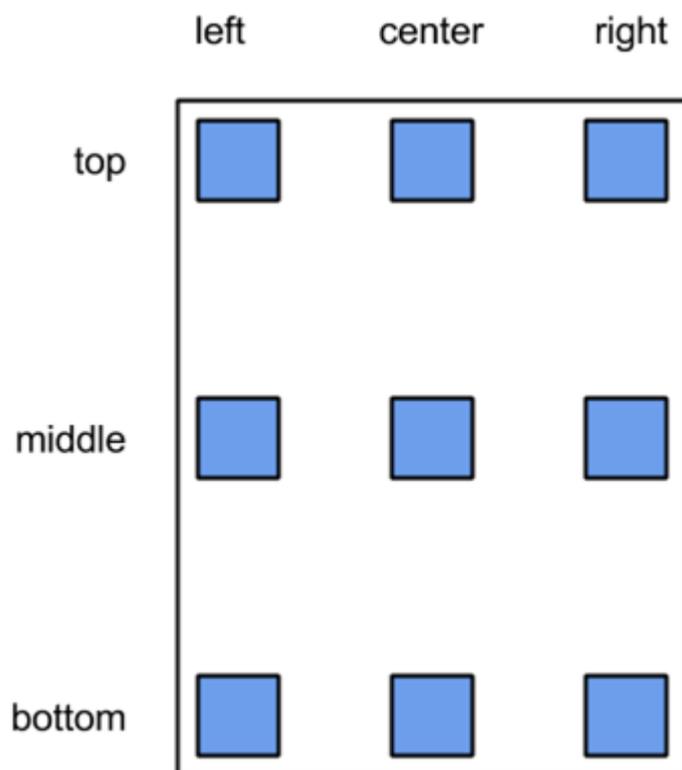
The source of image watermarks can be either a URL or work file ID.

The URL should specify an absolute location with a scheme of HTTP or HTTPS. Please be sure that the URL is accessible from the server where PrizmDoc Services are running.

See the [Work Files](#) topic for more information about creating work files and getting their IDs.

## Aligning Watermarks

Text and Image watermarks can be aligned with nine commonly used locations in a page. Diagonal Text can only be aligned in the center of the page.



You can select any one of these nine positions for Text and Image watermarks using two properties:

- **horizontalAlign** - May be "left", "right", or "center". Default is "center".
- **verticalAlign** - May be "bottom", "middle", or "top". Default is "middle".

For example, to place a text watermark at the bottom-right corner of a page set **horizontalAlign** to **right** and **verticalAlign** to **bottom**.

Setting the **autoSize** property for an Image watermark will override these alignment settings.

## Examples

The following examples demonstrate how to apply the various types of watermarks.

### Text Watermark Example

This example demonstrates how to apply a single text watermark. In the sample output, notice that the `\n` control character in the text string creates line breaks in the text.

#### Example

```
POST http://localhost:18681/PCCIS/V1/ViewingSession Content-Type:
```

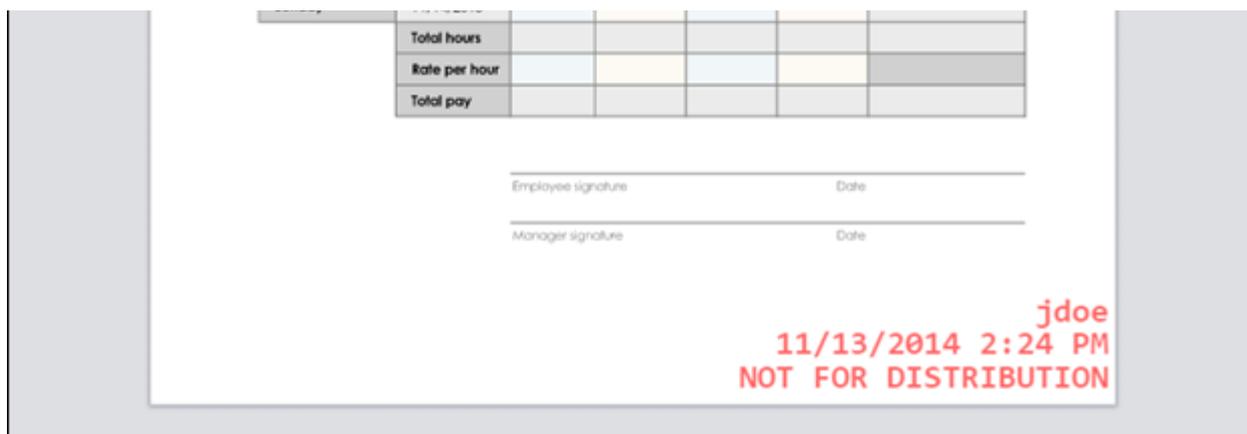
```
application/json
{
  "tenantId": "my application name",
  "externalId": "my-unique-document-name.docx",
  "render": {
    "html5": {
      "alwaysUseRaster": false
    }
  },
  "watermarks": [
    {
      "type": "text",
      "opacity": 0.6,
      "text": "jdoe\n67.79.169.114\n11/13/2014 2:24 PM\nNOT FOR DISTRIBUTION",
      "color": "red",
      "fontFamily": "Consolas",
      "fontSize": "16pt",
      "fontWeight": "bold",
      "verticalAlign": "bottom",
      "horizontalAlign": "right"
    }
  ]
}
```

## Sample Output

The screenshot shows the PrizmDoc Viewer interface with a document titled "Biweekly Time Sheet". The document content includes:

- Header: **Biweekly Time Sheet**
- Company Name: **[Company Name]**
- Address fields: [Street Address], [Address 2], [City, ST ZIP Code]
- Pay period start date: 11/1/2013
- Pay period end date: 11/14/2013
- Employee: Bill Billson
- Employee SSN: 123-31-5645
- Manager: Joe Smith
- Employee e-mail: [employee@company.com](mailto:employee@company.com)

Day		Regular Hours	Overtime Hours	Sick	Vacation	Total
Monday	11/1/2013					
Tuesday	11/2/2013					
Wednesday	11/3/2013					
Thursday	11/4/2013					
Friday	11/5/2013					
Saturday	11/6/2013					
Sunday	11/7/2013					
Monday	11/8/2013					
Tuesday	11/9/2013					
Wednesday	11/10/2013					
Thursday	11/11/2013					
Friday	11/12/2013					
Saturday	11/13/2013					
Sunday	11/14/2013					



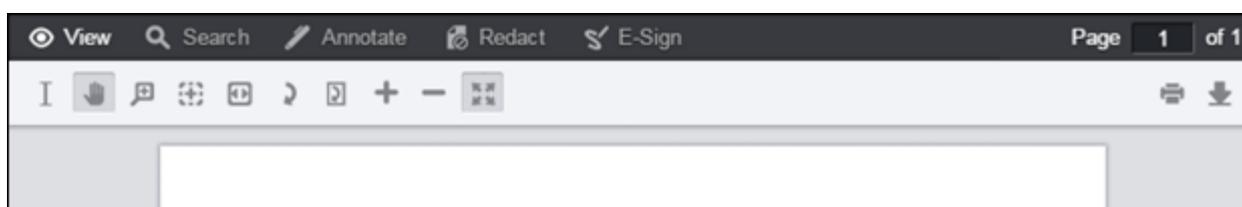
### Diagonal Text Watermark Example

This example demonstrates how to apply a single diagonal text watermark. Diagonal text watermarks can only be applied to the center of the page. In the sample output, the text "Accusoft\nConfidential" is displayed diagonally over the center of the page. Notice that the `\n` control character in the text string creates a line break in the text.

#### Example

```
POST http://localhost:18681/PCCIS/V1/ViewingSession Content-Type:
application/json
{
  "tenantId": "my application name",
  "externalId": "my-unique-document-name.docx",
  "render": {
    "html5": {
      "alwaysUseRaster": false
    }
  },
  "watermarks": [
    {
      "type": "diagonalText",
      "slope" : "up",
      "opacity": 0.25,
      "text": "Accusoft\nConfidential",
      "fontSize": "50pt",
      "color": "#FF0000",
      "fontWeight": "bold",
      "fontFamily": "Arial"
    }
  ]
}
```

### Sample Output



Biweekly Time Sheet

**[Company Name]**

[Street Address] Pay period start date: 11/1/2013  
[Address 2] Pay period end date: 11/14/2013  
[City, ST ZIP Code]

Employee: Bill Bilson Employee SSN: 123-31-5645  
Manager: Joe Smith Employee e-mail: employee@company.com

Day		Regular Hours	Overtime Hours	Sick	Vacation	Total
Monday	11/1/2013					
Tuesday	11/2/2013					
Wednesday	11/3/2013					
Thursday	11/4/2013					
Friday	11/5/2013					
Saturday	11/6/2013					
Sunday	11/7/2013					
Monday	11/8/2013					
Tuesday	11/9/2013					
Wednesday	11/10/2013					
Thursday	11/11/2013					
Friday	11/12/2013					
Saturday	11/13/2013					
Sunday	11/14/2013					
Total hours						
Rate per hour						
Total pay						

Employee signature \_\_\_\_\_ Date \_\_\_\_\_  
Manager signature \_\_\_\_\_ Date \_\_\_\_\_

## Image Watermark Example

This example demonstrates how to apply a single image watermark over the entire page. In the sample output, the tri-color Accusoft logo spans the center of the page. Notice that the transparent areas of the PNG image source do not obstruct the page content beneath it.

## Example

```
POST http://localhost:18681/PCCIS/V1/ViewingSession Content-Type: application/json
{
  "tenantId": "my application name",
  "externalId": "my-unique-document-name.docx",
  "render": {
    "html5": {
      "alwaysUseRaster": false
    }
  },
  "watermarks": [
```

```
{
  "type": "image",
  "opacity": 0.3,
  "src": "http://localhost/watermark_images/logo.png",
  "autoSize": "fit"
}
]
```

## Sample Output

The screenshot shows the PrizmDoc Viewer interface with a 'Biweekly Time Sheet' form. The viewer's toolbar includes 'View', 'Search', 'Annotate', 'Redact', and 'E-Sign' options. The form contains the following fields:

- Company Name:** [Company Name]
- Address:** [Street Address], [Address 2], [City, ST ZIP Code]
- Pay Period:** Start date: 11/1/2013, End date: 11/14/2013
- Employee Info:** Employee: Bill Wilson, Employee SSN: 123-31-5645, Manager: Joe Smith, Employee e-mail: [employee@company.com](mailto:employee@company.com)

Day	Regular Hours	Overtime Hours	Sick	Vacation	Total
Monday	11/1/2013				
Tuesday	11/2/2013				
Wednesday	11/3/2013				
Thursday	11/4/2013				
Friday	11/5/2013				
Saturday	11/6/2013				
Sunday	11/7/2013				
Monday	11/8/2013				
Tuesday	11/9/2013				
Wednesday	11/10/2013				
Thursday	11/11/2013				
Friday	11/12/2013				
Saturday	11/13/2013				
Sunday	11/14/2013				
Total hours					
Rate per hour					
Total pay					

Signature lines are provided for the Employee and Manager, each with a corresponding Date field.

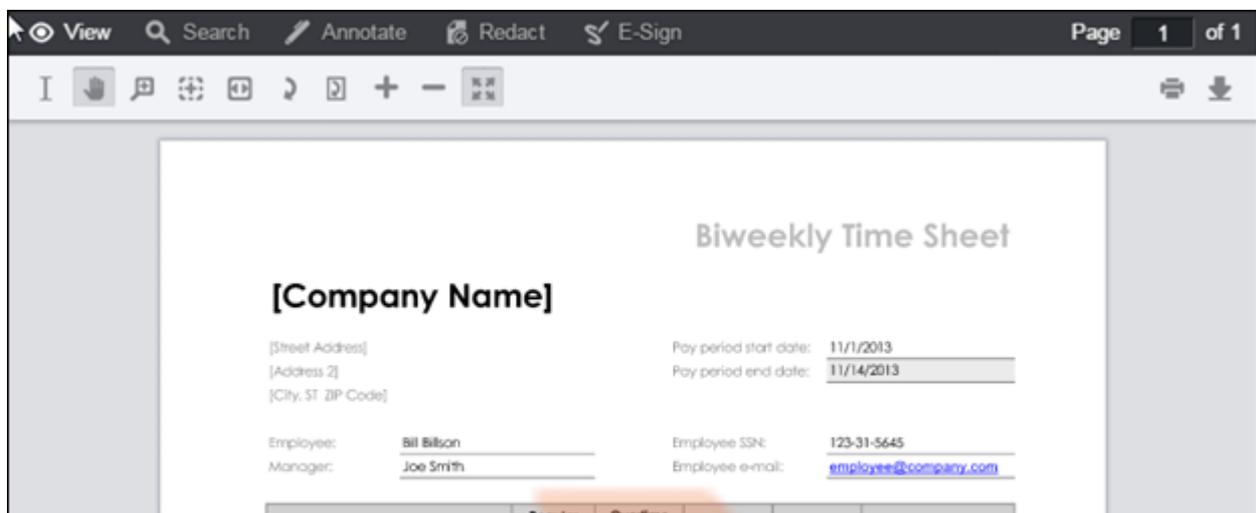
## Multiple Watermarks Example

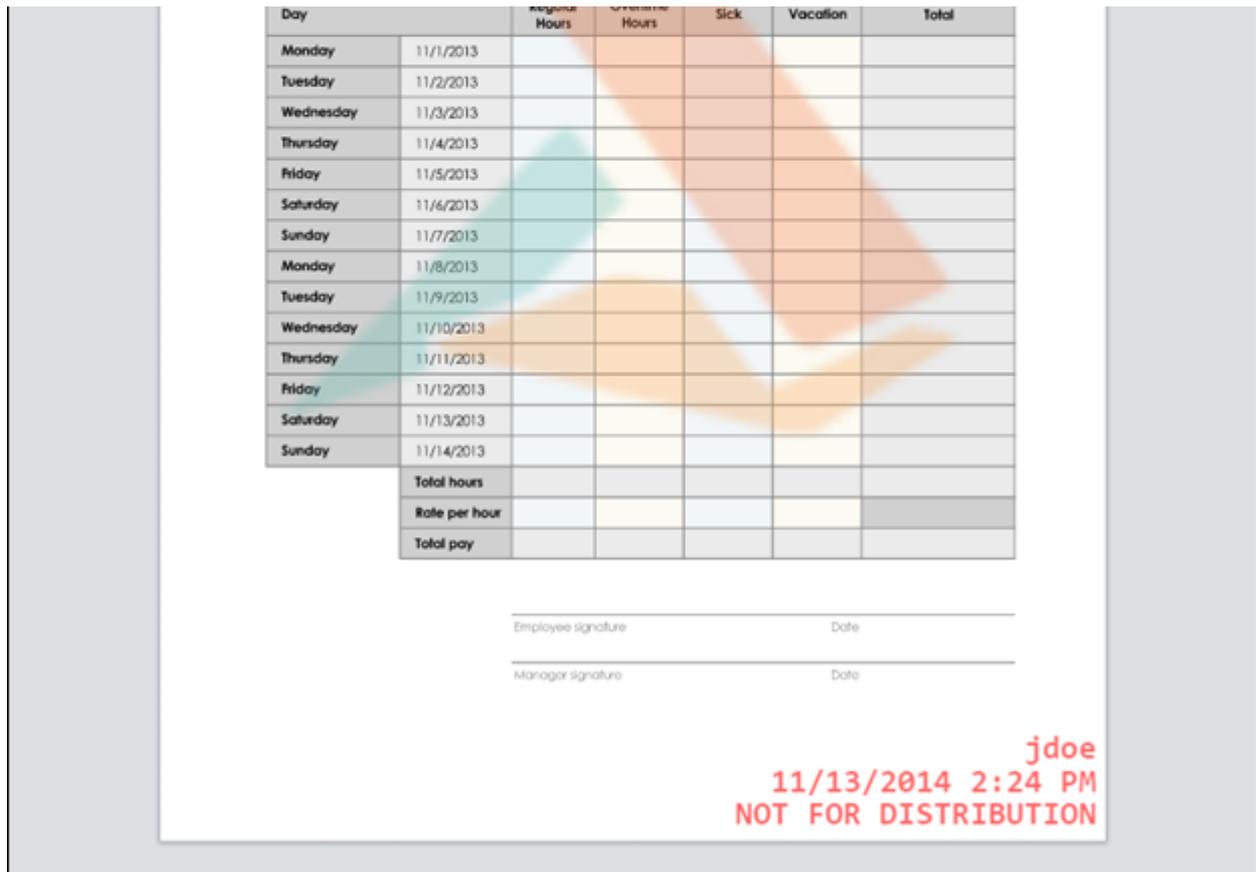
This example demonstrates how to apply multiple watermarks to a viewing session. In the sample output, the tri-color Accusoft logo spans the center of the page and the text watermark near the bottom-right corner displays information about the user.

## Example

```
POST http://localhost:18681/PCCIS/V1/ViewingSession Content-Type:
application/json
{
  "tenantId": "my application name",
  "externalId": "my-unique-document-name.docx",
  "render": {
    "html5": {
      "alwaysUseRaster": false
    }
  },
  "watermarks": [
    {
      "type": "text",
      "opacity": 0.6,
      "text": "jdooe\n67.79.169.114\n11/13/2014 2:24 PM\nNOT FOR
DISTRIBUTION",
      "color": "red",
      "fontFamily": "Consolas",
      "fontSize": "16pt",
      "fontWeight": "bold",
      "verticalAlign": "bottom",
      "horizontalAlign": "right"
    },
    {
      "type": "image",
      "opacity": 0.3,
      "src": "http://localhost/watermark_images/logo.png",
      "autoSize": "fit"
    }
  ]
}
```

## Sample Output





## Customize the E-Signature Viewers

This section contains the following information:

- [Viewer Modular Design](#)
- [Configure the E-Signature Viewers](#)
- [Build the E-Signature Viewers](#)
- [Fill in Fields Programmatically](#)

## Viewer Modular Design

### Overview

The Template Designer and E-Signer viewers follow a modular design. This section provides information regarding the modular design and the principles we follow when implementing the Viewer modules.

Modules are generalized, single-feature, and reusable. Modules should implement their feature as generically as possible, making the least amount of assumptions about the external code consuming that module. If you find that you must use "and" to describe what the module does, you should probably be writing two modules.

Modules should also be instance-safe and viewer-safe. Each viewer should be able to use multiples of the same module without adverse effects, and multiple viewers should be able to initialize the same module

without adverse effects. When writing a module, each module will need to initialize itself in such a way that allows multiple instances of that module to run at the same time. This means that things like global state variables are not allowed; any global variables need to be static.

- [Core Module](#)
- [JS-Only Modules](#)
- [UI Modules](#)
- [Initializing](#)
- [Destroying](#)
- [Components](#)

## Core Module

Each viewer will need its own core module. The purpose of the core is to set up some common API, initialize modules, and provide a basic page structure and module containers:

- Core will set up both the StateStore and EventStore (available as `stateStore` and `eventStore` on the Viewer object). These APIs are expected by all modules and need to be created by the code initializing the modules.
- Core will also create the general page layout (think large containers), and will size and position all modules. It will need to provide parent containers as part of initializing UI modules.
- Core will also attach all exported members of `common-core.js`, including `parseIcons` and `parseComponents` functions, to the Viewer object. These are auxiliary functions that are expected by all modules.

## JS-Only Modules

JS-only modules are encouraged when there is specific business logic to take care of. This includes, but is not limited to, client-server communication, controller modules that translate one thing to another, and modules that manage a state in the background. These modules should consist of a single JavaScript file, or a main JavaScript file that calls out to one or more sub-modules.

These modules can listen to and trigger any EventStore events, and can listen to any ViewerControl events. These modules must never listen to DOM events.

## UI Modules

UI modules present a specific user interface, and should be entirely contained inside one container. If you find that you need two containers in your implementation, you should probably be writing two modules. These modules should always take up 100% of their specified container. It is up to the code creating the module to size and position it, and not up to the module itself.

These modules can listen to and trigger EventStore events. It can also listen to DOM events of elements that are located inside the module's container. They must never listen to DOM events for elements that are located outside of the module's container. Though it is not encouraged, it could be okay at times to listen to ViewerControl events, although such logic should most likely be extracted to a separate JS-only module.

UI modules should take care of updating their own UI, and staying up-to-date with any viewer logic (such as changes in relevant state values).

## Initializing

Each module should take up to two parameters when initializing. The first will be an instance of a viewer

(such as that defined in a "core" module). The second parameter is an optional `options` parameter, which provides extra settings and values to the module, such as the DOM element that the module should use as a parent container. Modules should register all events that they need in order to complete their tasks. Modules should not rely on external triggers that are not expressly defined as events.

## Destroying

Modules should provide a mechanism to allow them to be destroyed. Typically, this will be a `destroy` method available as the module's API.

Any event that is registered during initialization or throughout the lifespan of the module must be removed during the destroy. This includes, but is not limited to, event store events, `ViewerControl` events, all DOM events, and events and functions that are temporarily registered to perform a transient task, such as animation frame optimizations or timeouts. In the case of the last example, the developer should never assume that a transient event was already disconnected, as a module could be destroyed before the transient task has completed.

Any resources created during initialization or throughout the lifespan of the module must be removed and cleaned up during the destroy. This includes, but is not limited to, DOM elements, CSS classes used on the parent container element, any amounts of global data being stored, pending web requests or other asynchronous tasks, and functions that exist as part of events. The last is very important, as we need to avoid memory leaks due to data staying in scope indefinitely.

## Components

Components are special types of modules that provide some widely reusable canned behavior for a single conceptual thing. Components will most likely be needed for, but not necessarily confined to, polyfilling native browser controls and components. Examples of this are the `TextInput`, `CheckboxCollection`, and `Dropdown` components. For example, browsers provide a native dropdown through the `select` tag; however, these are not all that pretty and have very limited styling and extensibility options. In order to provide flexible, extensible, and beautiful dropdowns, we have implemented the `Dropdown` component to polyfill the parts that a native `select` element does not provide.

When implementing components, we should provide an experience as close as possible to the native browser ability. For example, in dropdown, we need to provide a similar developer experience to using the native `select` tag. In this case, the developer using `Dropdowns` should provide a parent tag defining the component, as well as a list of elements to use as the options. Code to handle selecting options, including the label and dropdown arrow, as well as any extra markup, should be created by the component code.

## Initializing Components

Components are initialized by providing the component parent element to the component. In the `Dropdown` example, this is the element equivalent to the `select` tag. In the case of sets, such as `CheckboxCollection` and `ButtonSet`, each element from the set is initialized separately, and it is up to the component to group them together in order to add functionality. Components should use the "Data Dash" DOM API (e.g., `data-pcc-something`) in order to define properties of that component.

## Destroying Components

Similar to modules, components need to expose a `destroy` method which cleans up all resources used by that component.

## Component API

Components should expose similar functionality to the native ability that they are polyfilling. This includes, but is not limited to, useful events (such as the "change" event for values), ways of getting and setting the value (in the case of input components), and a way to access the list of values. This should be standard throughout all components, as much as possible.

## Configure the E-Signature Viewers

### Introduction

You can configure the E-Signature viewers (Template Designer and E-Signer) with one of the following options. You can configure:

- [The Viewer parameters](#)
- [The Viewer control parameters](#)

**NOTE:** If you specify the `documentID` Viewer control parameter, it is still necessary to specify the `templateDocumentId` Viewer parameter.

### Option 1 - Configure Options to Set When the Viewer is Built

Edit the `sample-config.js` file available in any of the legacy samples included with the "Client Installer".

### Option 2 - Configure Options without Building the Viewer

Set `window.pccViewerConfig` before the Viewer is loaded. Note that the Viewer is loaded when all DOM elements are available (that is, when the jQuery document ready event fires). Any `window.pccViewerConfig` options you set will be used instead of the `sample-config.js` module settings (described in #1) or the query parameters (form or document).

For example, you could update `C:\Prizm\Samples\dotnet\mvc\viewers\template-designer-sample\index.html` to include the following JavaScript code to configure the following options in the C# Template Designer:

- Viewer control parameter for hiding side handles (instead of corner handles) when the handles are closed.
- Viewer control parameter for displaying the pages in a single horizontal row (instead of a vertical column).
- Viewer parameter for loading the document `PdfDemoSample.pdf` (instead of having to specify the document as a query parameter).

#### Example

```
<script type="text/javascript">
  window.pccViewerConfig = {
    markHandleMode: 'HideSideHandlesWhenClose',
    pageLayout: 'Horizontal',
    templateDocumentId: 'PdfDemoSample.pdf',
  };
</script>
```

### Option 3 - Manually Embed the Viewer

You can disable default embedding of the Viewer and instead use your own code to embed the Viewer into a web page as follows:

1. Change the `id` property on the div reserved for embedding to something other than the default `pcc-viewer`; this will disable auto-embedding.
2. Create a separate JavaScript file that will hold all of the code for embedding. You can check `viewer-init.js` for an example. Make sure you reference the `id` that you specified in your html markup, as shown below:

#### Example

```
var viewer = $('#pcc-viewer-custom').pccESigner(options);
```

3. Reference your JavaScript file you created in Step #2 in your web page, after the `bundle.js` reference.

#### Example

```
<head>
  ...
  <!-- load the viewer bundles -->
  <link rel="stylesheet" href="viewer-assets/css/bundle.css">
  <script src="viewer-assets/js/bundle.js"></script>
  <script src="viewer-assets/js/your-javascript-file.js"></script>
  ...
</head>
<body>
  <div id="pcc-viewer-custom"></div>
</body>
```

## Build the E-Signature Viewers

### Introduction

The Template Designer Viewer and E-Signer Viewer work out-of-the-box, but if you want to customize either of these viewers, you will need to build them as follows:

1. Install **node.js**, which you can download from <https://nodejs.org/>.
2. Open a **node.js command prompt** and change to the directory of the Viewer you are building. For example, if you want to build the C# template designer, change to the C# template designer sample folder, as demonstrated below:

```
cd C:\Prizm\Samples\dotnet\mvc\viewers\template-designer-sample
```

**NOTE:** By default, the C# template designer sample is installed to **C:\Prizm\Samples\dotnet\mvc\viewers\template-designer-sample**.

3. Run the following command, which will install the dependencies for building the Viewer:

```
npm install
```

4. To build the Viewer, use one of the commands described below:
5. To create a single developer build, use the following command:

```
gulp build
```

6. To run a watch task, use the following command. This will automatically rebuild the Viewer when any files are modified. Note that you will need to keep the command window open while the watch task is running:

```
gulp
```

7. When creating a single build or running a watch task, you can create production builds by adding a `-p` flag to the end of the command, as demonstrated below. Production builds will output minified source code (both JavaScript and CSS) and will not generate sourcemaps:

```
gulp build -p
```

8. When creating a single developer build or running a watch task, you can get native system notifications when the build is complete by adding an `-n` flag to the end of the command, as demonstrated below:

```
gulp -n
```

The build process uses some standard open-sourced tools. To learn more about these resources and how to use them, refer to the following:

- Gulp - <http://gulpjs.com/>
- Webpack - <http://webpack.github.io/>
  - [Integrating Webpack in Gulp](#)
- Less - <http://lesscss.org/>

## Fill in Fields Programmatically

### Introduction

The `StateModified` event fires when fields are filled in and the `ModifyState` event can be used to update filled-in field values.

The example below demonstrates using a `StateModified` event handler to get the filled-in values of two fields and fire the `ModifyState` event to fill in a third field with the sum:

### Example

```
viewer.eventStore.on('StateModified', function (ev, data) {
  if (data.state === 'FieldList') {
    var value1 = parseInt(data.stateValue.fieldList\[1\].value);
    var value2 = parseInt(data.stateValue.fieldList\[2\].value);
    data.stateValue.fieldList\[3\].value = (value1 + value2).toString();
    viewer.eventStore.trigger('ModifyState', {
      state: 'FieldList',
      stateValue: data.stateValue
    });
  }
});
```

# API Reference

## Introduction

PrizmDoc Viewer has powerful APIs that help you achieve the results you want for viewing, converting, OCR, annotating, redacting, e-signing, detecting forms, comparing documents, watermarking, and creating template-based forms.

## Viewing

### Client-Side APIs

- **Viewer Control** - The Viewer Control has a robust, client-side JavaScript API giving your application lots of ways to interact with the Viewer running in the browser. Use it to customize Viewer menus and features, programmatically control the Viewer, and respond to Viewer events.
- **E-Signature Controls** - The E-Signature Client API includes two kinds of UI controls: a form designer control (TemplateDesigner), and a form entry control (ESigner). You can use these controls and their APIs for implementing form entry in your application.

### Server-Side APIs

- **PAS REST API** - The PAS REST API is what your web server should use to create a viewing session whenever you need to render a web page with a Viewer for an end user. It is also the API you should use if you want to pre-generate a viewing package. There are many additional viewing-related endpoints in this REST API which are used by the Viewer itself and which your server-side application is welcome to use as well. However, *if you need to do server-side document processing without a Viewer, PrizmDoc Server is a better fit. See "Backend Document Processing" below.*

## Backend Document Processing

### PrizmDoc Server

- **REST API** - The PrizmDoc Server REST API contains powerful functionality for server-side document processing, including conversion, redaction, annotation, watermarking, search, and OCR.
- **.NET SDK** - A wrapper around most of the PrizmDoc Server REST API, making it easy to use PrizmDoc Server functionality in .NET.

## Cloud Authentication

- **Cloud Authentication** - All REST APIs to PrizmDoc Cloud (PAS and PrizmDoc Server) must be authenticated with an API key or OAuth token. This section explains how to do this.

# Viewer Control

The Viewer API permits programmatic control over the Viewer.

Most API functionality is exposed by the ViewerControl - the core component of the Viewer. The Viewer UI/chrome builds off of the API members of the ViewerControl.

The Viewer API is **required** to:

- Modify the behavior of the Viewer
- Augment the behavior of the Viewer
- Build custom Viewer menus

The Viewer API is **not required** to:

- Customize the Viewer's layout or style
- Add or remove tabs
- Move or remove buttons and other inputs

You may want to review [Configuring the Viewer](#) for additional information. In addition, see the [API Examples](#), which demonstrate using the API to implement common scenarios.

This topic provides information about the following:

- [API Functionality](#)
- [Getting Started](#)

## API Functionality

The Viewer API exposes the following functionality:

- Creating and destroying the Viewer
- Events
- Page navigation
- Zooming and fitting content
- Mark (annotation and redaction) CRUD
- Markup saving and loading
- Customizing mouse tools
- Searching document text
- Printing
- Getting page and document attributes

## Getting Started

This section provides basic information for getting started using the API.

### Access to the API

The API classes are exposed through the global `PCCViewer` object.

#### Example

```
window.PCCViewer;
```

A ViewerControl is created when instantiating the Viewer with the jQuery plugin, and it is accessible

through the `viewerControl` property of the returned object.

#### Example

```
var viewer = $("#mydiv").pccViewer(options);
var viewerControl = viewer.viewerControl;
```

## Viewer Ready

While initialization of the Viewer is being performed, it is unsafe to call some of the ViewerControl methods (these methods will throw an error during initialization). The `ViewerReady` event signals that initialization has completed, and it is safe to call all ViewerControl methods with valid data.

#### Example

```
var viewerControl = $("#mydiv").pccViewer(options).viewerControl;

// Subscribe to the "ViewerReady" event
viewerControl.on(PCCViewer.EventType.ViewerReady, function(ev) {
    // It is now safe to call all ViewerControl methods
    viewerControl.setCurrentMouseTool("AccusoftLineAnnotation");

    // It's also safe to use ECMA5 properties
    // (in supporting browsers).
    var currentPageNumber = viewerControl.pageNumber;

    // This is also a good time to subscribe to other events,
    // if you want to keep all API code in one place.
    viewerControl.on(PCCViewer.EventType.PageDisplayed, ...);
});
```

## Page Count Ready

The ViewerControl will not get the page count of a document from PrizmDoc Server until after the `ViewerReady` event. Before the page count is returned, the ViewerControl assumes every document has one page.

The `PageCountReady` event signals when the ViewerControl has the actual page count from the server. Subscribe to this event to know when you can navigate to and interact with other pages in the document.

#### Example

```
var viewerControl = $("#mydiv").pccViewer(options).viewerControl;

// Subscribe to the "PageCountReady" event
viewerControl.on(PCCViewer.EventType.PageCountReady, function(ev) {
    var pageCount = ev.pageCount;

    // We can now navigate to other pages in the document.
    if (pageCount > 1) {
        // Go to the second page of the document.
    }
});
```

```
viewerControl.setPageNumber(2);
    }
});
```

It is safe to call Viewer navigation API members before the page count is available to the ViewerControl, but navigation outside of the known page count (of one) is not possible.

### EstimatedPageCountReady Event

Calculating the actual page count of some document formats can take a significant amount of time, and therefore waiting on an actual page count could make the Viewer appear unresponsive to the end user. To address this problem, the PrizmDoc Server may quickly generate an estimated page count.

The `EstimatedPageCountEvent` signals that the Viewer has an estimated page count and that navigation to other pages is possible.

#### Example

```
var viewerControl = $("#mydiv").pccViewer(options).viewerControl;

// Subscribe to the "PageCountReady" event
viewerControl.on(PCCViewer.EventType.EstimatedPageCountReady, ...);
```

- The estimated page count will not always be triggered.
- The estimated and actual page count can be different. If the estimated page count is greater than the actual page count, then for a short time it will be possible to navigate past the actual last page of the document. The Viewer will display a placeholder for these pages until the actual page count is available, when these placeholders will be removed.

## Page Numbering

Page numbering in the API starts with 1. This is true for events and methods. The API does not support 0-based page indexes, so be careful when iterating over pages.

#### Example

```
// Navigate to the first page of the document.
viewerControl.changeToFirstPage();

// An equivalent call would be viewerControl.setPageNumber(1);
```

## Pixels

In the API, the unit of measure for height, width, location, and other sizes is a pixel. To determine the height and width of a page in pixels, use the ViewerControl's `requestPageAttributes` method.

#### Example

```
// Get attributes of page 1.
```

```
viewerControl.requestPageAttributes(1).then(function(attributes) {
    var pageWidth = attributes.width;
    var pageHeight = attributes.height;

    // Add a rectangle that is the full width and height of page 1
    viewerControl.addMark(1, "RectangleAnnotation")
        .setRectangle({x:0,
                      y:0,
                      height: pageHeight,
                      width: pageWidth});
});
```

It is advised to check page attributes before getting or setting the location of a [Mark object](#).

- For vector data provided by the server, a resolution of 72dpi is chosen, from which dimensions in pixels are calculated.
- It is not safe to assume that vector data will be provided by the server for a given document type.

## Getters, Setters, and ECMA5 Properties

The API commonly uses getter and setter methods for accessing and modifying data associated with objects. Typically these methods are in pairs, unless the data is read-only.

### Example

```
// read-write viewerControl.getPageNumber(); // get the current page
number viewerControl.setPageNumber(1); // set the current page to 1
// read-only viewerControl.getPageCount(); // get the page count
```

The API also offers ECMA5 Accessor properties that correspond to the getter and setters. These accessor properties offer a different style of coding, and they are only available in modern browsers that implement `Object.defineProperty`.

### Example

```
if (Object.defineProperty) {
    viewerControl.pageNumber; // get the current page number
    viewerControl.pageNumber = 1; // set the current page to 1
    viewerControl.pageCount; // get the page count }
```

## Fluent Style: Method Chaining

The API is designed to support method chaining. Most methods will return the current context (object on which the method was called) in order to promote method chaining. Exceptions to this rule are getter methods and methods that complete asynchronously.

### Example

```
// Method chaining when creating a rectangle annotation
```

```
viewerControl.addMark(1, "RectangleAnnotation")
    .setRectangle({x: 0, y:0, width: 100, height: 100})
    .setFillColor("#FFFFFF")
    .setOpacity(127)
    .setBorderThickness(6);

// Method chaining when manipulating the page viewerControl
    .rotatePage(90)
    .zoomIn(1.2);
```

Note that using the ECMA5 accessor properties often discourages method chaining.

## Promises

The API implements the Promises/A+ spec in the class `PCCViewer.Promise`.

Many methods that complete asynchronously return a `PCCViewer.Promise` object. Use the returned promise object to subscribe callbacks for the completion of the asynchronous event.

## Example

```
// Use the promise to subscribe a callback to requestPageText
viewerControl.requestPageText(1).then(function(pageText) {
    alert("Text of page 1 is: " + pageText);
});
```

Two exceptions are `ViewerControl#print` and `ViewerControl#search`, which complete asynchronously but do not return a `PCCViewer.Promise` object. These methods both return objects that represent the requested print and search. Searching and printing have status events and are cancellable, for which they cannot be suitably represented with a promise object.

# HTML Templates

This object contains the templates used in the Viewer:

Parameter	Data Type	Template Name	Description
comment	String	commentTemplate.html	The Comment template.
contextMenu	String	contextMenuTemplate.html	The Context Menu template.
copyOverlay	String	copyOverlayTemplate.html	The Copy Selected Text Modal template.
downloadOverlay	String	downloadOverlayTemplate.html	The Download Modal template.
esignOverlay	String	esignOverlayTemplate.html	The E-Signature Modal template, which is used for

Parameter	Data Type	Template Name	Description
			managing e-signatures, creating freehand e-signatures, and creating freehand text e-signatures.
hyperlinkMenu	String	hyperlinkMenuTemplate.html	The Hyperlink Menu template.
imageStampOverlay	String	imageStampOverlayTemplate.html	The Select Image Stamp Modal template.
overwriteOverlay	String	overwriteOverlayTemplate.html	The Overwrite Existing Annotation File Modal template.
pageRedactionOverlay	String	pageRedactionOverlayTemplate.html	The Redact Full Pages Modal template.
print	String	printTemplate.html	The Print template.
printOverlay	String	printOverlayTemplate.html	The Print Options Modal template.
redactionReason	String	redactionReasonTemplate.html	The Redaction Reasons Modal template.
unsavedChangesOverlay	String	unsavedChangesOverlayTemplate.html	The Unsaved Annotation Changes Modal template.
viewer	String	viewerTemplate.html	The Viewer Navigation and Layout template.

## Class: AjaxResponse

### Class: AjaxResponse

#### PCCViewer. AjaxResponse

`new AjaxResponse(response)`

This object provides a public API for AJAX Responses. It should be instantiated with every new AJAX response inside of Viewer Control.

**Parameters:**

Name	Type	Description															
response	Object	<b>Properties</b>															
		<table border="1"> <thead> <tr> <th>Name</th> <th>Type</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>headers</td> <td>Object</td> <td></td> </tr> <tr> <td>status</td> <td>Number</td> <td></td> </tr> <tr> <td>statusText</td> <td>String</td> <td></td> </tr> <tr> <td>responseText</td> <td>String</td> <td></td> </tr> </tbody> </table>	Name	Type	Description	headers	Object		status	Number		statusText	String		responseText	String	
Name	Type	Description															
headers	Object																
status	Number																
statusText	String																
responseText	String																

**Properties:**

Name	Type	Description
status	Number	
statusText	String	
responseText	String	

**Methods**

`getResponseHeader(header) → {String}`

Gets the value of a header

**Parameters:**

Name	Type	Description
header	String	

**Returns:**

Type  
String

**Example**

```
// Get the header with a case-insensitive argument
var response = new PCCViewer.AjaxResponse({
  headers: { 'Content-Type': 'application/json', 'X-
Powered-By': 'Express' },
  status: 200,
  statusText: 'OK',
```

```
        responseText: 'Success!'
    });

    response.getResponseHeader('Content-Type'); // returns
    'application/json'
    response.getResponseHeader('content-type'); // returns
    'application/json'
    response.getResponseHeader('CONTENT-TYPE'); // returns
    'application/json'
```

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## Class: BurnRequest

### Class: BurnRequest

#### PCCViewer. BurnRequest

(protected) `new BurnRequest()`

The `BurnRequest` object is created when burning redactions/signatures in a document.

The `BurnRequest` is a thenable object, which allows Promise-like interactions. Calling the `PCCViewer.BurnRequest#then` method will return a `PCCViewer.Promise` object. On successful burn, the `Promise` success method, if added, is called with `url` to download the burned document. On a burn failure, the `Promise` is rejected.

The `BurnRequest` object also provides an event subscription method, to get notified of other types of information. See `PCCViewer.BurnRequest.EventType`.

*Note: This constructor should not be used directly. Instead, a burn request is created by a call to `PCCViewer.ViewerControl#burnMarkup`.*

#### Example

```
function onSuccessfullBurn(burnturl) {
    alert("burntURL = " + burnturl);
    console.log(burnturl);
}

function onFailedBurn(error) {
    alert("burn Process failed, reason:" + (error.message
? error.message : error));
}

// A BurnRequest object is created by and returned from
```

```

the call to the burnMarkup method
var burnRequest = viewerControl.burnMarkup();
burnRequest.then(onSuccessfulBurn, onFailedBurn);

//register some events
burnRequest
  .on(PCCViewer.BurnRequest.EventType.BurnCompleted,
    function(ev) {
      alert("Document burn completed.");
    })
  .on(PCCViewer.BurnRequest.EventType.BurnProgress,
    function(event) {
      alert("Burn progress: " + event.percent +
"%");
    })
  .on(PCCViewer.BurnRequest.EventType.BurnFailed,
    function(event) {
      alert("Document burn failed.");
    });

```

## Members

(static) **EventType** :string

A list of events that can be triggered by the [PCCViewer.BurnRequest](#) object.

### Type:

- string

### Properties:

Name	Type	Description
BurnProgress	string	Triggered when the burn process receives an update. Augmented properties of the <a href="#">PCCViewer.Event</a> object for this event: <ul style="list-style-type: none"> <li>• <code>percent {number}</code> - Indicates the estimated percentage complete.</li> </ul>
BurnCompleted	string	Triggered when the burn process completes successfully, fails to complete, or is cancelled. Augmented properties of the <a href="#">PCCViewer.Event</a> object for this event: None
BurnFailed	string	Triggered when the burn process fails. Augmented properties of the <a href="#">PCCViewer.Event</a> object for this event: None

Name	Type	Description
BurnCancelled	string	Triggered when user cancels burn process.  Augmented properties of the <a href="#">PCCViewer.Event</a> object for this event: None
BurnWorkerCreated	string	Triggered when the burn process is created by the backend burn service.  Augmented properties of the <a href="#">PCCViewer.Event</a> object for this event: None

(readonly) `burnedDocumentDownloadURL` :string|null

Gets the URL for downloading the burned document after successful burn.

This property is defined on all `BurnRequest` objects.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- string | null

See: [PCCViewer.BurnRequest#getBurnedDocumentDownloadURL](#)

**Example**

```
var downloadUrl =  
burnRequest.burnedDocumentDownloadURL;
```

(readonly) `errorCode` :number

Gets the `errorCode` if there is a failure during burn process.

This property is defined on all `BurnRequest` objects.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- number

See: [PCCViewer.BurnRequest#getErrorCode](#)

**Example**

```
var errorCode = burnRequest.errorCode;
```

**(readonly) options :Object**

Gets the options that were provided/used to burn the document.

This property is defined on all BurnRequest objects.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- Object

See: [PCCViewer.BurnRequest#getOptions](#)

**Example**

```
var options = burnRequest.options;
```

**(readonly) progress :number**

Gets the current estimate of the burn process progress.

This property is defined on all BurnRequest objects.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- number

See: [PCCViewer.BurnRequest#getProgress](#)

**Example**

```
var percentProgress = burnRequest.progress;
```

**(readonly) workerID :number**

Gets the worker ID.

This property is defined on all BurnRequest objects.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property*

is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.

## Type:

- number

See: [PCCViewer.BurnRequest#getWorkerID](#)

## Example

```
var percentProgress = burnRequest.workerID;
```

## Methods

`cancel()` → [{PCCViewer.BurnRequest}](#)

Cancels the burn request. The `PCCViewer.Promise` object that is returned will be rejected. If the user cancels the operation, then a `PCCViewer.Error` object will be returned as the rejection reason and its `code` property will be set to `UserCancelled`.

## Returns:

The cancelled request.

Type

[PCCViewer.BurnRequest](#)

## Example

```
var burnRequest = viewerControl.burnMarkup();
burnRequest.cancel();
```

`getBurnedDocumentDownloadURL()` → [{string|null}](#)

Gets a URL for a web tier service to download the burned document.

## Returns:

Returns a URL to download the burned document. If called before the process completes, or after the process fails, it will return `null`.

Type

`string | null`

**Example**

```
var burnRequest = viewerControl.burnMarkup();
var returnedUrl =
burnRequest.getBurnedDocumentDownloadURL();
```

**getErrorCode() → {string}**

Gets the error code for the burn request, in cases where the request has failed.

**Returns:**

A value for programmatic identification of an error condition, or null if an error has not occurred. If the error was in the underlying PCCIS MarkupBurner, the error code is the PCCIS error code:

- DocumentFileIdError
- DocumentFileIdDoesNotExist
- MarkupFileIdError
- MarkupFileIdDoesNotExist
- User Cancelled
- Failure to generate Markup XML

## Type

string

**Example**

```
var burnRequest = viewerControl.burnMarkup();
var errorCode = burnRequest.getErrorCode();
```

**getOptions() → {Object}**

Gets a copy of the options object used by the burn request.

The original options object has been provided to the method [PCCViewer.ViewerControl#burnMarkup](#). If no options object was provided to `burnMarkup`, or the options object did not define all properties, then the returned object will represent the actual options used.

**Returns:**

A copy of the burn options object which is used by this burn request.

- `burnSignatures {boolean}` - Whether to burn the signatures.
- `burnRedactions {boolean}` - Whether to burn the redactions.
- `filename {string}` - (optional) Filename for the burned document.

- `removeFormFields {Array.}` - (optional) List of types of form fields to remove.

Type

Object

#### Example

```
var burnRequest = viewerControl.burnMarkup();  
var options = burnRequest.getOptions();
```

`getProgress() → {number}`

Gets the currently known burn progress value.

#### Returns:

A number between 0 and 100 (inclusive). A value of 100 means the burn process completed.

*Note: In the 9.1 release, the values provided are 0 or 100. The value 0 indicates that the burn process is incomplete.*

Type

number

#### Example

```
var burnRequest = viewerControl.burnMarkup();  
var percent = burnRequest.getProgress();
```

`getWorkerID() → {string|null}`

Gets the ID of the PCCIS MarkupBurner performing burning.

#### Returns:

The ID of the PCCIS MarkupBurner performing burning. Returns `null` before the worker is created.

Type

string | null

#### Example

```
var burnRequest = viewerControl.burnMarkup();  
var workerId = burnRequest.getWorkerID();
```

`off()` → {[PCCViewer.BurnRequest](#)}

Remove event listeners from the `BurnRequest` object.

See: [PCCViewer.ViewerControl#off](#) for more on how it is used.  
[PCCViewer.BurnRequest.EventType](#) for a list of events.

**Returns:**

The object on which this method was called.

Type

[PCCViewer.BurnRequest](#)

`on()` → {[PCCViewer.BurnRequest](#)}

Add event listeners to the `BurnRequest` object.

See: [PCCViewer.BurnRequest.EventType](#) for a list of events.  
[PCCViewer.ViewerControl#on](#) for more detailed examples.

**Returns:**

The object on which this method was called.

Type

[PCCViewer.BurnRequest](#)

**Example**

```
var burnRequest = viewerControl.burnMarkup();
burnRequest
  .on(PCCViewer.BurnRequest.EventType.BurnCompleted,
    function(ev) {
      alert("Document burn completed.");
    })
  .on(PCCViewer.BurnRequest.EventType.BurnProgress,
    function(event) {
      alert("Burn progress: event.percent + \"%");
    });
```

`then(onFulfilledopt, onRejectedopt)` → {[PCCViewer.Promise](#)}

Register callbacks to access the current or eventual result of the `BurnRequest`.

On successful burn, the onFulfilled callback(s) are called with the URL to download the burned document.

On a burn failure, the onRejected callback(s) are called with a `PCCViewer.Error`.

Multiple onFulfilled or onRejected callbacks can be registered for the same BurnRequest by calling this method multiple times.

**Parameters:**

Name	Type	Attributes	Description
onFulfilled	<code>PCCViewer.Promise~onFulfilled</code>	<optional>	Called if or when the promise is resolved. Optionally pass a value of <code>null</code> or <code>undefined</code> if you do not use this callback, but you want to provide an onRejected callback.
onRejected	<code>PCCViewer.Promise~onRejected</code>	<optional>	Called if or when the promise is rejected.

**Returns:**

A promise object that is resolved according to the Promises/A+ standard.

Type

`PCCViewer.Promise`

**Example**

```
var viewerControl =
$("#myElement").pccViewer(...).viewerControl;

// a basic example
viewerControl.burnMarkup().then(
  function onFulfilled(url) {
    // download document using `url`
  },
  function onRejected(error) {
    // Handle failure
  }
);
```

---

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## Class: Comment

## Class: Comment

### PCCViewer. Comment

`new Comment(comment, conversation)`

The constructor for a `Comment` Object. This describes the comments that belong to a mark `PCCViewer.Conversation`.

It will not be necessary to create comments directly with this constructor. Rather, simply use `PCCViewer.Conversation#addComment`.

*Note: Comment text is not sanitized in any way by the API, and will exist as the same string value assigned to it. To ensure security of the web application, text data may need to be sanitized and safely inserted into the DOM when it is used.*

#### Parameters:

Name	Type	Description
comment	string	The text content of the comment.
conversation	<code>PCCViewer.Conversation</code>	The <code>PCCViewer.Conversation</code> Object that this comment belongs to.

#### Throws:

- If `commentText` is not a string.  
Type  
Error
- If `conversation` is not a `PCCViewer.Conversation` Object.  
Type  
Error

#### Example

```
// assume we already have a PCCViewer.Mark object
created
var conversation = mark.getConversation();

var comment = conversation.addComment('This is the best
comment ever.');
```

## Members

`creationTime` :string

Gets and sets the date and time when the comment was created.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

### Type:

- string

See: [PCCViewer.Comment#getCreationTime](#)  
[PCCViewer.Comment#setCreationTime](#)

`text` :string

Gets and sets the text content of the Comment.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

### Type:

- string

See: [PCCViewer.Comment#getText](#)  
[PCCViewer.Comment#setText](#)

## Methods

`getConversation()` → {[PCCViewer.Conversation](#)}

Gets the conversation that this comment is (or was) a part of.

### Returns:

The Comment's Conversation.

If a comment is deleted from a conversation, this still returns the Conversation object.

Type

[PCCViewer.Conversation](#)

`getCreationTime()` → {Date}

Gets the date and time when the comment was created.

See: [PCCViewer.Comment#setCreationTime](#)

### Returns:

A JavaScript Date Object representing the creation time of the comment.

Type

Date

`getData(key) → {string|object}`

Gets the data value for the given key, or gets a hash containing all key values, if a key was not provided.

**Note:** If a hash is returned, this will be a new object each time it is called. Adding new properties to the returned hash will not add data to the Comment.

**Note:** The returned data is not mutated or sanitized, which could lead to a security vulnerability if not sanitized properly before use.

### Parameters:

Name	Type	Description
key	string	The key for which to get the data value.

See: [PCCViewer.Data#getData](#)  
[PCCViewer.Comment#setData](#)  
[PCCViewer.Comment#getDataKeys](#)

### Throws:

If the `key` argument is null or otherwise not a string.

Type

Error

### Returns:

- If a key argument was provided, it returns the associated value.
- If a key argument was provided, but a value has not been associated with the key, then it returns undefined.
- If a key was not provided, it returns a hash object containing all key-value pairs.

Type

string | object

**Example**

```
var comment = myConversation.addComment("Hello
world.");

// The key "Author" is set the value "Mark".
comment.setData("Author", "Mark");

// The key "Severity" is set the value "Critical".
comment.setData("Severity", "Critical");

comment.getData("Author"); // returns "Mark"
comment.getData(); // returns {"Author":"Mark",
"Severity":"Critical"}
comment.getData("FooBar"); // returns undefined
```

**getDataKeys()** → {Array.<string>}

Gets an array of data keys known to this Comment.

See: [PCCViewer.Data#getDataKeys](#)  
[PCCViewer.Comment#getData](#)  
[PCCViewer.Comment#setData](#)

**Returns:**

Returns an array of data keys known to this Comment. If no data is stored, then an empty array will be returned.

Type

Array.&lt;string&gt;

**Example**

```
var comment = myConversation.addComment("Hello
world.");

// Returns an empty array before key-value pairs are
stored.
comment.getDataKeys(); // returns []

// Returns a list of all keys.
comment.setData("Author", "Mark");
comment.setData("Severity", "Critical");
comment.getDataKeys(); // returns ["Author",
```

```
"Severity"]
```

`getMarkupLayer()` → `{PCCViewer.MarkupLayer}`

Gets the markup layer that this comment is (or was) a part of.

**Returns:**

The comment's markup layer.

If a comment is removed from a markup layer, this still returns the markup layer object.

Type

`PCCViewer.MarkupLayer`

`getSessionData(key)` → `{string|object}`

Gets the session data value for the given key, or gets a hash containing all key values, if a key was not provided. Unlike `PCCViewer.Comment#getData`, this data is not saved with the annotation, it only lasts for the session.

This method is defined on all Comment objects.

**Parameters:**

Name	Type	Description
key	string	The key for which to get the data value.

See: `PCCViewer.Data#getSessionData`  
`PCCViewer.Comment#setSessionData`  
`PCCViewer.Comment#getSessionDataKeys`

**Throws:**

If the `key` argument is null or otherwise not a string.

Type

Error

**Returns:**

- If a key argument was provided, it returns the associated value.
- If a key argument was provided, but a value has not been associated with the key, then it returns undefined.
- If a key was not provided, it returns a hash object containing all key-value pairs.

Type

string | object

### Example

```
var comment = myConversation.addComment("Hello
world.");

// The key "Author" is set the value "Mark".
comment.setSessionData("Author", "Mark");

// The key "Note" is set the value "This is not going
to be saved!".
comment.setSessionData("Note", "This is not going to be
saved!");

comment.getSessionData("Author"); // returns "Mark"
comment.getSessionData();         // returns
{"Author":"Mark", "Note":"This is not going to be
saved!"}
comment.getSessionData("FooBar"); // returns undefined
```

**getSessionDataKeys()** → {Array.<string>}

Gets an array of data keys known to this Comment. Unlike [PCCViewer.Comment#getDataKeys](#), this data is not saved with the annotation, it only lasts for the session.

This method is defined on all Comment objects.

See: [PCCViewer.Data#getSessionDataKeys](#)  
[PCCViewer.Comment#getSessionData](#)  
[PCCViewer.Comment#setSessionData](#)

### Returns:

Returns an array of data keys known to this Comment. If no data is stored, then an empty array will be returned.

Type

Array.<string>

### Example

```
var comment = myConversation.addComment("Hello
world.");

// Returns an empty array before key-value pairs are
```

```
stored.  
comment.getSessionDataKeys(); // returns []  
  
// Returns a list of all keys.  
comment.setSessionData("Author", "Mark");  
comment.setSessionData("Note", "This is not going to be  
saved!");  
comment.getSessionDataKeys(); // returns ["Author",  
"Note"]
```

**getText()** → {string}

Gets the text content of the Comment.

*Note: This content will be a plain text string which is not sanitized in any way. It may be necessary to sanitize and safely use the string when inserting it into the DOM.*

See: [PCCViewer.Comment#setText](#)

**Returns:**

The Comment content.

Type  
string

**setCreationTime(time)** → {PCCViewer.Comment}

Sets the date and time when the comment was created.

**Parameters:**

Name	Type	Description
time	Date   string	A JavaScript Date Object or a string in the ISO 8601 format.

See: [PCCViewer.Comment#getCreationTime](#)

**Throws:**

- If the value is not a string or a Date object.

Type  
Error

- If a string value is used that is not an ISO 8601 date format.

Type  
Error

### Returns:

The comment Object.

Type

[PCCViewer.Comment](#)

### Example

```
// assume we already have a Comment
var now = Date.now();
comment.setCreationTime(now);

var janFirst1970 = "1970-01-01T00:00:00.000Z";
comment.setCreationTime(janFirst1970);
```

**setData(key, value) → {[PCCViewer.Comment](#)}**

Sets the data value for the given key.

### Notes:

- Overwrites any data value already associated with the given key.
- There is no artificial limit imposed on the number of key-value pairs that are stored.
- If limits on the number of key-value pairs are required, they should be enforced by calling code.
- Setting the value as undefined results in no information for the key being persisted to the server.
- The returned data is not mutated or sanitized, which could lead to a security vulnerability if not sanitized properly before use.

### Parameters:

Name	Type	Description
key	string	The key for which to set the data value.
value	string	This is the value to set for the key. <ul style="list-style-type: none"><li>• This must be a string or undefined.</li><li>• The maximum length of the string is not limited by this function.</li></ul>

See:

[PCCViewer.Data#setData](#)

[PCCViewer.Comment#getData](#)

[PCCViewer.Comment#getDataKeys](#)

**Returns:**

Returns the Comment object on which the method was called.

Type

[PCCViewer.Comment](#)

**Example**

```
var comment = myConversation.addComment("Hello
world.");

// Get data returns undefined before the key is set.
comment.getData("Author"); // returns undefined

// The key "Author" is set the value "Mark".
comment.setData("Author", "Mark");
comment.getData("Author"); // returns "Mark"

// The key "Author" is overwritten with the value
"Clark".
comment.setData("Author", "Clark");
comment.getData("Author"); // returns "Clark"

// The key "Author" is unset, by setting the value to
undefined.
comment.setData("Author", undefined);
comment.getData("Author"); // returns undefined

// The value can only be set to a string or undefined.
// All other data types throw.
comment.setData("FooBar", null); // throws
comment.setData("FooBar", 1);    // throws
comment.setData("FooBar", true); // throws
comment.setData("FooBar", {});   // throws
comment.setData("FooBar", []);   // throws
```

**setSessionData(key, value) → {[PCCViewer.Comment](#)}**

Sets the session data value for the given key. Unlike [PCCViewer.Comment#setData](#), this data is not saved with the annotation, it only lasts for the session.

This method is defined on all Comment objects.

**Parameters:**

Name	Type	Description
key	string	The key for which to set the data value.
value	string	This is the value to set for the key. <ul style="list-style-type: none"><li>• This must be a string or undefined.</li><li>• The maximum length of the string is not limited by this function.</li></ul>

See: [PCCViewer.Data#setSessionData](#)  
[PCCViewer.Comment#getSessionData](#)  
[PCCViewer.Comment#getSessionDataKeys](#)

**Returns:**

The Comment object on which the method was called.

Type

[PCCViewer.Comment](#)

**Example**

```
var comment = myConversation.addComment("Hello world.");

// Get data returns undefined before the key is set.
comment.getSessionData("Author"); // returns undefined

// The key "Author" is set the value "Mark".
comment.setSessionData("Author", "Mark");
comment.getSessionData("Author"); // returns "Mark"

// The key "Author" is overwritten with the value "Clark".
comment.setSessionData("Author", "Clark");
comment.getSessionData("Author"); // returns "Clark"

// The key "Author" is unset, by setting the value to undefined.
comment.setSessionData("Author", undefined);
comment.getSessionData("Author"); // returns undefined

// The value can only be set to a string or undefined.
// All other data types throw.
comment.setSessionData("FooBar", null); // throws
comment.setSessionData("FooBar", 1); // throws
comment.setSessionData("FooBar", true); // throws
comment.setSessionData("FooBar", {}); // throws
```

```
comment.setSessionData("FooBar", []); // throws
```

`setText(text)` → `{PCCViewer.Comment}`

Sets the text content of the Comment.

**Parameters:**

Name	Type	Description
text	string	The text content being set.

See: [PCCViewer.Comment#getText](#)

**Returns:**

The comment Object.

Type

[PCCViewer.Comment](#)

---

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## Class: Conversation

### Class: Conversation

#### **PCCViewer. Conversation**

`new Conversation(mark)`

A collection of comments associated with a specific [PCCViewer.Mark](#) Object.

A `Conversation` Object is already available on each [PCCViewer.Mark](#), and should not be created directly through this constructor.

**Parameters:**

Name	Type	Description
mark	<a href="#">PCCViewer.Mark</a>	The Mark to which the conversation is attached.

**Throws:**

If `mark` is not a `PCCViewer.Mark` Object.

Type  
Error

**Example**

```
// assume we already have some marks on the document
var firstMark = viewerControl.getAllMarks()[0];

var conversation = firstMark.getConversation();
```

**Methods**

`addComment(commentText) → {PCCViewer.Comment}`

Adds a comment to the Conversation.

**Parameters:**

Name	Type	Description
<code>commentText</code>	string	The text content of the comment being added.

See: `PCCViewer.Comment`

**Throws:**

If `commentText` is not a string.

Type  
Error

**Returns:**

The newly created comment.

Type  
`PCCViewer.Comment`

`deleteComments(comments) → {PCCViewer.Conversation}`

Deletes the specified comment or comments from the Conversation.

**Parameters:**

Name	Type	Description
comments	<a href="#">PCCViewer.Comment</a>   Array. < <a href="#">PCCViewer.Comment</a> >	A comment or array of comments to be deleted.

**Returns:**

The conversation Object.

Type

[PCCViewer.Conversation](#)

`getComments()` → {Array.<[PCCViewer.Comment](#)>}

Gets an array of all comments in the Conversation. The comments are ordered by the creation date and time.

**Returns:**

An array of Comments.

Type

Array.<[PCCViewer.Comment](#)>

`getData(key)` → {string|object}

Gets the data value for the given key, or gets a hash containing all key values, if a key was not provided.

**Note:** If a hash is returned, this will be a new object each time it is called. Adding new properties to the returned hash will not add data to the Conversation.

**Note:** The returned data is not mutated or sanitized, which could lead to a security vulnerability if not sanitized properly before use.

**Parameters:**

Name	Type	Description
key	string	The key for which to get the data value.

See:

[PCCViewer.Data#getData](#)

[PCCViewer.Conversation#setData](#)

[PCCViewer.Conversation#getDataKeys](#)

**Throws:**

If the `key` argument is null or otherwise not a string.

Type  
Error

**Returns:**

- If a key argument was provided, it returns the associated value.
- If a key argument was provided, but a value has not been associated with the key, then it returns undefined.
- If a key was not provided, it returns a hash object containing all key-value pairs.

Type  
string | object

**Example**

```
var conversation = myMark.getConversation();

// The key "Resolved" is set the value "false".
conversation.setData("Resolved", "false");

// The key "Severity" is set the value "Critical".
conversation.setData("Severity", "Critical");

conversation.getData("Resolved"); // returns "false"
conversation.getData();           // returns
{"Resolved":"false", "Severity":"Critical"}
conversation.getData("FooBar");   // returns undefined
```

`getDataKeys()` → {Array.<string>}

Gets an array of data keys known to this Conversation.

See: [PCCViewer.Data#getDataKeys](#)  
[PCCViewer.Conversation#getData](#)  
[PCCViewer.Conversation#setData](#)

**Returns:**

Returns an array of data keys known to this Conversation. If no data is stored, then an empty array will be returned.

Type

Array.<string>

### Example

```
var conversation = myMark.getConversation();

// Returns an empty array before key-value pairs are
// stored.
conversation.getDataKeys(); // returns []

// Returns a list of all keys.
conversation.setData("Resolved", "false");
conversation.setData("Severity", "Critical");
conversation.getDataKeys(); // returns ["Resolved",
"Severity"]
```

`getMark()` → {PCCViewer.Mark}

Gets the [PCCViewer.Mark](#) to which the conversation is attached.

### Returns:

The Mark to which the conversation is attached.

Type

[PCCViewer.Mark](#)

`getSessionData(key)` → {string|object}

Gets the session data value for the given key, or gets a hash containing all key values, if a key was not provided. Unlike [PCCViewer.Conversation#getData](#), this data is not saved with the annotation, it only lasts for the session.

This method is defined on all Conversation objects.

### Parameters:

Name	Type	Description
key	string	The key for which to get the data value.

See: [PCCViewer.Data#getSessionData](#)  
[PCCViewer.Conversation#setSessionData](#)  
[PCCViewer.Conversation#getSessionDataKeys](#)

### Throws:

If the `key` argument is null or otherwise not a string.

Type  
Error

**Returns:**

- If a key argument was provided, it returns the associated value.
- If a key argument was provided, but a value has not been associated with the key, then it returns undefined.
- If a key was not provided, it returns a hash object containing all key-value pairs.

Type  
string | object

**Example**

```
var conversation = myMark.getConversation();

// The key "Author" is set the value "Mark".
conversation.setSessionData("Author", "Mark");

// The key "Note" is set the value "This is not going
to be saved!".
conversation.setSessionData("Note", "This is not going
to be saved!");

conversation.getSessionData("Author"); // returns
"Mark"
conversation.getSessionData(); // returns
{"Author":"Mark", "Note":"This is not going to be
saved!"}
conversation.getSessionData("FooBar"); // returns
undefined
```

**getSessionDataKeys() → {Array.<string>}**

Gets an array of data keys known to this Conversation. Unlike [PCCViewer.Conversation#getDataKeys](#), this data is not saved with the annotation, it only lasts for the session.

This method is defined on all Conversation objects.

See: [PCCViewer.Data#getSessionDataKeys](#)  
[PCCViewer.Conversation#getSessionData](#)  
[PCCViewer.Conversation#setSessionData](#)

**Returns:**

Returns an array of data keys known to this Conversation. If no data is stored, then an empty array will be returned.

Type

Array.<string>

**Example**

```
var conversation = myMark.getConversation();

// Returns an empty array before key-value pairs are
// stored.
conversation.getSessionDataKeys(); // returns []

// Returns a list of all keys.
conversation.setSessionData("Author", "Mark");
conversation.setSessionData("Note", "This is not going
to be saved!");
conversation.getSessionDataKeys(); // returns
["Author", "Note"]
```

**setData(key, value)** → {PCCViewer.Conversation}

Sets the data value for the given key.

**Notes:**

- Overwrites any data value already associated with the given key.
- There is no artificial limit imposed on the number of key-value pairs that are stored.
- If limits on the number of key-value pairs are required, they should be enforced by calling code.
- Setting the value as undefined results in no information for the key being persisted to the server.
- The returned data is not mutated or sanitized, which could lead to a security vulnerability if not sanitized properly before use.

**Parameters:**

Name	Type	Description
key	string	The key for which to set the data value.
value	string	This is the value to set for the key. <ul style="list-style-type: none"><li>• This must be a string or undefined.</li><li>• The maximum length of the string is not limited by this function.</li></ul>

See: [PCCViewer.Data#setData](#)  
[PCCViewer.Conversation#getData](#)  
[PCCViewer.Conversation#getDataKeys](#)

**Returns:**

Returns the Conversation object on which the method was called.

Type

[PCCViewer.Conversation](#)

**Example**

```
var conversation = myMark.getConversation();

// Get data returns undefined before the key is set.
conversation.getData("Resolved"); // returns undefined

// The key "Resolved" is set the value "false".
conversation.setData("Resolved", "false");
conversation.getData("Resolved"); // returns "false"

// The key "Resolved" is overwritten with the value
"true".
conversation.setData("Resolved", "true");
conversation.getData("Resolved"); // returns "true"

// The key "Resolved" is unset, by setting the value to
undefined.
conversation.setData("Resolved", undefined);
conversation.getData("Resolved"); // returns undefined

// The value can only be set to a string or undefined.
// All other data types throw.
conversation.setData("FooBar", null); // throws
conversation.setData("FooBar", 1); // throws
conversation.setData("FooBar", true); // throws
conversation.setData("FooBar", {}); // throws
conversation.setData("FooBar", []); // throws
```

**setSessionData(key, value) → {[PCCViewer.Conversation](#)}**

Sets the session data value for the given key. Unlike [PCCViewer.Conversation#setData](#), this data is not saved with the annotation, it only lasts for the session.

This method is defined on all Conversation objects.

**Parameters:**

Name	Type	Description
key	string	The key for which to set the data value.
value	string	This is the value to set for the key. <ul style="list-style-type: none"><li>• This must be a string or undefined.</li><li>• The maximum length of the string is not limited by this function.</li></ul>

See: [PCCViewer.Data#setSessionData](#)  
[PCCViewer.Conversation#getSessionData](#)  
[PCCViewer.Conversation#getSessionDataKeys](#)

**Returns:**

The Conversation object on which the method was called.

Type

[PCCViewer.Conversation](#)

**Example**

```
var conversation = myMark.getConversation();

// Get data returns undefined before the key is set.
conversation.getSessionData("Author"); // returns
undefined

// The key "Author" is set the value "Mark".
conversation.setSessionData("Author", "Mark");
conversation.getSessionData("Author"); // returns
"Mark"

// The key "Author" is overwritten with the value
"Clark".
conversation.setSessionData("Author", "Clark");
conversation.getSessionData("Author"); // returns
"Clark"

// The key "Author" is unset, by setting the value to
undefined.
conversation.setSessionData("Author", undefined);
conversation.getSessionData("Author"); // returns
undefined

// The value can only be set to a string or undefined.
// All other data types throw.
conversation.setSessionData("FooBar", null); // throws
```

```
conversation.setSessionData("FooBar", 1); // throws
conversation.setSessionData("FooBar", true); // throws
conversation.setSessionData("FooBar", {}); // throws
conversation.setSessionData("FooBar", []); // throws
```

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## Class: ConversionRequest

### Class: ConversionRequest

#### PCCViewer. ConversionRequest

(protected) `new ConversionRequest()`

The `ConversionRequest` object is created when converting a document using [PCCViewer.ViewerControl#requestDocumentConversion](#).

The `ConversionRequest` is a thenable object, which allows Promise-like interactions. Calling the [PCCViewer.ConversionRequest#then](#) method will return a [PCCViewer.Promise](#) object. On successful conversion, the `Promise` success method, if added, is called with an array of the urls to download the converted documents. Note that it currently only supports converting to a single PDF file, so the output array will only contain a single URL. On a conversion failure, the `Promise` is rejected.

Note that if you create a `ConversionRequest` object using the [PCCViewer.ViewerControl#convertDocument](#) method, which has been marked as deprecated, the `Promise` success method is called with a single URL string (not an array of URL strings).

The `ConversionRequest` object also provides an event subscription method, to get notified of other types of information. See [PCCViewer.ConversionRequest.EventType](#).

*Note: This constructor should not be used directly. Instead, a `ConversionRequest` is created by a call to [PCCViewer.ViewerControl#requestDocumentConversion](#).*

#### Example

```
function onSuccessfullConvert(convertedDocumentUrls) {
    alert("The first converted document url: " +
    convertedDocumentUrls[0]);
}

function onFailedConvert(error) {
    alert("conversion process failed, reason: " +
    (error.message ? error.message : error));
}
```

```
// A ConversionRequest object is created by and
returned from the call to the
ViewerControl#requestDocumentConversion method
var conversionRequest =
viewerControl.requestDocumentConversion();
conversionRequest.then(onSuccessfulConvert,
onFailedConvert);

//register some events
conversionRequest

.on(PCCViewer.ConversionRequest.EventType.ConversionComple

    function(ev) {
        alert("Document conversion completed.");
    })

.on(PCCViewer.ConversionRequest.EventType.ConversionProgre

    function(event) {
        alert("Conversion progress: " + event.percent
+ "%");
    })

.on(PCCViewer.ConversionRequest.EventType.ConversionFaile

    function(event) {
        alert("Document conversion failed.");
    });
```

## Members

(static, readonly) **EventType** :string

A list of events that can be triggered by the [PCCViewer.ConversionRequest](#) object.

**Note:** This enumeration is for convenience for API developers. Instead of using this enumeration, you can pass string values of the eventType (enumeration values)

### Type:

- string

### Properties:

Name	Type	Description
ConversionProgress	string	Triggered when the conversion process receives an update. Augmented properties of the <a href="#">PCCViewer.Event</a> object for this event: <ul style="list-style-type: none"><li>• <code>progress {number}</code> - Indicates the estimated percentage complete.</li></ul>
ConversionCompleted	string	Triggered when the conversion process completes successfully, fails to complete, or is cancelled. Augmented properties of the <a href="#">PCCViewer.Event</a> object for this event: None
ConversionFailed	string	Triggered when the conversion process fails. Augmented properties of the <a href="#">PCCViewer.Event</a> object for this event: None
ConversionCancelled	string	Triggered when user cancels the conversion process. Augmented properties of the <a href="#">PCCViewer.Event</a> object for this event: None
ConversionWorkerCreated	string	Triggered when the conversion process is created by the backend conversion service. Augmented properties of the <a href="#">PCCViewer.Event</a> object for this event: None

See: [PCCViewer.Event](#)  
[PCCViewer.ConversionRequest#on](#)  
[PCCViewer.ConversionRequest#off](#)

**(readonly) convertedDocumentDownloadURLs :string|null**

Gets the URLs for downloading each converted document after successful conversion.

This property is defined on all [ConversionRequest](#) objects.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- string | null

See: [PCCViewer.ConversionRequest#getConvertedDocumentDownloadURLs](#)

**Example**

---

```
var downloadUrls =  
conversionRequest.convertedDocumentDownloadURLs;
```

**(readonly) errorCode :number**

Gets the errorCode if there is a failure during conversion process.

This property is defined on all ConversionRequest objects.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- number

See: [PCCViewer.ConversionRequest#getErrorCode](#)

**Example**

```
var errorCode = conversionRequest.errorCode;
```

**(readonly) options :Object**

Gets the options that were provided/used to convert the document.

This property is defined on all ConversionRequest objects.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- Object

See: [PCCViewer.ConversionRequest#getOptions](#)

**Example**

```
var options = conversionRequest.options;
```

**(readonly) progress :number**

Gets the current estimate of the conversion process progress.

This property is defined on all ConversionRequest objects.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property*

is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.

**Type:**

- number

See: [PCCViewer.ConversionRequest#getProgress](#)

**Example**

```
var percentProgress = conversionRequest.progress;
```

**(readonly) workerID :number**

Gets the worker ID.

This property is defined on all ConversionRequest objects.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- number

See: [PCCViewer.ConversionRequest#getWorkerID](#)

**Example**

```
var percentProgress = conversionRequest.workerID;
```

**Methods**

**cancel()** → [{PCCViewer.ConversionRequest}](#)

Cancels the conversion request. The `PCCViewer.Promise` object that is returned will be rejected. If the user cancels the operation, then a `PCCViewer.Error` object will be returned as the rejection reason and its code property will be set to `UserCancelled`.

**Returns:**

The cancelled request.

**Type**

[PCCViewer.ConversionRequest](#)

## Example

```
var conversionRequest =  
viewerControl.requestDocumentConversion();  
conversionRequest.cancel();
```

## getConvertedDocumentDownloadURL()

Deprecated since v11.0 (use the [PCCViewer.ConversionRequest#getConvertedDocumentDownloadURLs](#) method instead).

`getConvertedDocumentDownloadURLs()` → {string|null}

Gets the URLs for a web tier service to download each converted document.

## Returns:

Returns an array of URLs to download the converted documents. If called before the process completes, or after the process fails, it will return `null`.

Type  
string | null

## Example

```
var conversionRequest =  
viewerControl.requestDocumentConversion();  
var convertedUrls =  
conversionRequest.getConvertedDocumentDownloadURLs();
```

`getErrorCode()` → {string}

Gets the error code for the conversion request, in cases where the request has failed.

## Returns:

A value for programmatic identification of an error condition, or null if an error has not occurred.

Type  
string

## Example

```
var conversionRequest =  
viewerControl.requestDocumentConversion();  
var errorCode = conversionRequest.getErrorCode();
```

**getOptions()** → {Object}

Gets a copy of the options object used by the conversion request.

The original options object has been provided to the method [PCCViewer.ViewerControl#requestDocumentConversion](#). If no options object was provided to `requestDocumentConversion`, or the options object did not define all properties, then the returned object will represent the actual options used.

**Returns:**

A copy of the conversion options object which is used by this conversion request.

- `targetExtension` {string} - (optional) Whether to convert the signatures.
- `filename` {string} - (optional) The format to which the document will be converted.

Type  
Object

**Example**

```
var conversionRequest =  
viewerControl.requestDocumentConversion();  
var options = conversionRequest.getOptions();
```

**getProgress()** → {number}

Gets the currently known conversion progress value.

**Returns:**

A number between 0 and 100 (inclusive). A value of 100 means the conversion process completed.

Type  
number

**Example**

```
var conversionRequest =  
viewerControl.requestDocumentConversion();  
var percent = conversionRequest.getProgress();
```

`getWorkerID()` → {string|null}

Gets the ID of the PCCIS ContentConverter performing conversion.

**Returns:**

The ID of the PCCIS ContentConverter performing conversion. Returns `null` before the worker is created.

Type  
string | null

**Example**

```
var conversionRequest =
viewerControl.requestDocumentConversion();
var workerId = conversionRequest.getWorkerID();
```

`off(eventType, handler)` → {PCCViewer.ConversionRequest}

Unsubscribe an event handler from a specified event type.

Typically, an event is unsubscribed when you no longer want further notification of the event.

**Parameters:**

Name	Type	Description
eventType	string	A string specifying the event type. See <a href="#">PCCViewer.ConversionRequest.EventType</a> for a list and description of all supported events.
handler	<a href="#">PCCViewer.Event~eventHandler</a>	A function that was attached previously to the <code>ViewerControl</code> .  <b>Note:</b> This must be the same function object previously passed to <a href="#">PCCViewer.ConversionRequest#on</a> . It cannot be a different object that is functionally equivalent.

See: [PCCViewer.ConversionRequest#on](#)  
[PCCViewer.ViewerControl#off](#) for more details on unsubscribing event handlers.

**Returns:**

The `ConversionRequest` object on which this method was called.

Type

[PCCViewer.ConversionRequest](#)

`on(eventType, handler) → {PCCViewer.ConversionRequest}`

Subscribe an event handler to an event of a specified type.

**Parameters:**

Name	Type	Description
eventType	string	A string that specifies the event type. This value is case-insensitive. See <a href="#">PCCViewer.ConversionRequest.EventType</a> for a list and description of all supported events.
handler	<a href="#">PCCViewer.Event~eventHandler</a>	A function that will be called whenever the event is triggered.

See:

[PCCViewer.ConversionRequest#off](#)

[PCCViewer.ViewerControl#on](#) for more details on event subscription.

**Returns:**

The `ConversionRequest` object on which this method was called.

Type

[PCCViewer.ConversionRequest](#)

`then(onFulfilledopt, onRejectedopt) → {PCCViewer.Promise}`

Register callbacks to access the current or eventual result of the `ConversionRequest`.

On successful conversion, the `onFulfilled` callback(s) are called with the URL to download the converted document.

On a conversion failure, the `onRejected` callback(s) are called with a [PCCViewer.Error](#).

Multiple `onFulfilled` or `onRejected` callbacks can be registered for the same `ConversionRequest` by calling this method multiple times.

**Parameters:**

Name	Type	Attributes	Description
onFulfilled	<a href="#">PCCViewer.Promise~onFulfilled</a>	<optional>	Called if or when the promise is resolved. Optionally pass a value of <code>null</code> or <code>undefined</code> if you do not use this callback, but you want to provide an <code>onRejected</code> callback.

Name	Type	Attributes	Description
onRejected	<code>PCCViewer.Promise~onRejected</code>	<optional>	Called if or when the promise is rejected.

**Returns:**

A promise object that is resolved according to the Promises/A+ standard.

Type

`PCCViewer.Promise`

**Example**

```
var viewerControl =
$("#myElement").pccViewer(...).viewerControl;

// a basic example
viewerControl.requestDocumentConversion().then(
  function onFulfilled(url) {
    // download document using `url`
  },
  function onRejected(error) {
    // Handle failure
  }
);
```

---

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## Class: DocumentHyperlink

### Class: DocumentHyperlink

#### **PCCViewer. DocumentHyperlink**

The `PCCViewer.DocumentHyperlink` object represents hyperlinks in the original document.

There are two types of hyperlinks that can appear in a document, a `DocumentHyperlink` and a hyperlink drawn by an end user with the viewer's markup system, a "[Markup hyperlink](#)".

At a high level, these two different types of hyperlinks behave the same:

1. They can be clicked and the hyperlink followed.

There are several differences between the DocumentHyperlink and a Markup hyperlinks:

1. DocumentHyperlinks are written into the original document by the author of the original document. They are parsed out by the PrizmDoc Server and sent to the client viewer.
2. Markup hyperlinks are created by an end user of the viewer and saved and loaded with the rest of the markup in the viewer.
3. DocumentHyperlinks are immutable.
  - Their attributes href, position, and styling cannot be modified.
  - They cannot be deleted.
  - They cannot be added.
4. Markup hyperlinks have full CRUD operation support via the API and mouse tools.
5. DocumentHyperlinks are loaded with the document.
6. Markup hyperlinks are loaded with the rest of the markup, which may be at the discretion of the end user or of the application embedding the PrizmDoc Viewing Client.

## Constructor

`new DocumentHyperlink()`

*NOTE: this constructor is for internal use only.*

DocumentHyperlinks cannot be added via the API, they can only be retrieved via the [PCCViewer.ViewerControl#requestDocumentHyperlinks](#) method.

See: [PCCViewer.ViewerControl#requestDocumentHyperlinks](#)

## Example

```
var viewerControl = new PCCViewer.ViewerControl(...);

// use
PCCViewer.ViewerControl#requestDocumentHyperlinks (pageNum

viewerControl.requestDocumentHyperlinks(1).then(
    function (documentHyperlinks) {
        // do something with the documentHyperlinks
        documentHyperlinks.forEach(function(dh) {
            // ...
        });
    },
    function (error) {
        alert("Something went wrong " + (error.message
? error.message : error));
    }
);
```

## Members

(readonly) href :string|number

Gets the link target for DocumentHyperlink.

**Type:**

- string | number

See: [PCCViewer.DocumentHyperlink#getHref](#)

**Example**

```
var href = documentHyperlink.href;

switch (typeof href) {
  case "number":
    // navigate to the page
    viewerControl.setPageNumber(href);
    break;
  case "string":
  default:
    // Interpret the URL and execute the
    navigation.
    window.location.href = href;
    break;
}
```

(readonly) pageNumber :number

Gets the page number where the DocumentHyperlink object is located.

**Type:**

- number

See: [PCCViewer.DocumentHyperlink#pageNumber](#)

**Example**

```
var pageNumber = myDocumentHyperlink.pageNumber;
```

(readonly) rectangle :number

Gets the bounding rectangle for the DocumentHyperlink. The returned object has the type {x: xValue, y: yValue, width: widthValue, height: heightValue}.

**Type:**

- number

See: [PCCViewer.DocumentHyperlink#rectangle](#)

#### Example

```
var boundingRectangle = myDocumentHyperlink.rectangle;
```

## Methods

`getHref()` → {string|number}

Gets the link target for DocumentHyperlink.

See: [PCCViewer.DocumentHyperlink#href](#)

#### Returns:

The link target.

A number value indicates that the target is a page number within the document.

Type

string | number

#### Example

```
var href = documentHyperlink.getHref();

switch (typeof href) {
  case "number":
    // navigate to the page
    viewerControl.setPageNumber(href);
    break;
  case "string":
  default:
    // Interpret the URL and execute the
    navigation.
    window.location.href = href;
    break;
}
```

`getPageNumber()` → {number}

Gets the page number where the DocumentHyperlink object is located.

See: [PCCViewer.DocumentHyperlink#pageNumber](#)

**Returns:**

The page number where the DocumentHyperlink is located.

Type  
number

**Example**

```
var pageNumber = myDocumentHyperlink.getPageNumber();
```

`getRectangle()` → {Object}

Gets the bounding rectangle for the DocumentHyperlink.

See: [PCCViewer.DocumentHyperlink#rectangle](#)

**Returns:**

A rectangle object of the type {x: xValue, y: yValue, width: widthValue, height: heightValue}.

Type  
Object

**Example**

```
var boundingRectangle =  
myDocumentHyperlink.getRectangle();
```

---

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## Class: Error

### Class: Error

#### PCCViewer. Error

```
new Error(code, message)
```

The constructor for a `Error` Object. `PCCViewer.Error` inherits from the JavaScript `Error`.

**Parameters:**

Name	Type	Description
code	string	A string that indicates the error code. As a convention used across PrizmDoc Viewing Client and Server, the code should be PascalCased and should not contain any spaces.
message	string	A developer readable string that indicates details of the error.

**Example**

```
// assume we already have a PCCViewer.Mark object
created
var error = new PCCViewer.Error('ResponseEmpty',
'Empty/invalid response from the server');
```

---

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## Class: Event

### Class: Event

#### **PCCViewer. Event**

```
new Event(target, type)
```

Create an event object. This is the internal constructor used when the viewer emits any event. This object describes the common attributes of all events. Augmented, event-specific, values can be found in the descriptions of each event. See [PCCViewer.EventType](#) for specific events.

**Parameters:**

Name	Type	Description
target	<a href="#">PCCViewer.ViewerControl</a>	The event target is the viewer where the event originated.
type	string	The name of the event type.

## Members

(readonly) target :PCCViewer.ViewerControl

Contains the instance of the viewer that fired the event. See also [PCCViewer.Event#getTarget](#).

*ECMA5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.*

### Type:

- [PCCViewer.ViewerControl](#)

(readonly) type :string

Contains the type of event. See also [PCCViewer.Event#getType](#).

*ECMA5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.*

### Type:

- string

## Methods

getTarget() → {PCCViewer.ViewerControl}

Gets the instance of the viewer that fired the event.

### Returns:

Type

[PCCViewer.ViewerControl](#)

### Example

```
var viewerObj;
function pageCountReadyHandler (event) {
    console.log("page count ready event");
    if(event.getTarget() !== viewerObj){
        alert("The `pageCountReady` event did not
originate from the expected instance of the viewer
object");
    }
}
//subscribe to the pageCountReady event
viewerObj =
```

```
viewer.on(PCCViewer.EventType.PageCountReady,  
pageCountReadyHandler);
```

`getType() → {string}`

Gets the name of the event type. This will be the same value as the `eventType` argument to the [PCCViewer.ViewerControl#on](#) function.

See: [PCCViewer.EventType](#) for event types.

### Returns:

a string containing event type.

Type  
string

### Example

```
function pageCountReadyHandler (event) {  
  console.log("page count ready event");  
  if(event.getType() !==  
PCCViewer.EventType.PageCountReady) {  
    alert("The event type did not match");  
  }  
}  
//subscribe to the pageCountReady event  
viewer.on(PCCViewer.EventType.PageCountReady,  
pageCountReadyHandler);
```

## Type Definitions

`eventHandler(event)`

The function to call when an event occurs. When the event is triggered, all subscribed event handlers are called.

### Parameters:

Name	Type	Description
event	<a href="#">PCCViewer.Event</a>	A <a href="#">PCCViewer.Event</a> object that represents the event. The event object is often augmented with properties which provide event specific information.

See: [PCCViewer.ViewerControl#on](#)

```
PCCViewer.ViewerControl#off  
PCCViewer.SearchRequest#on  
PCCViewer.SearchRequest#off  
PCCViewer.PrintRequest#on  
PCCViewer.PrintRequest#off
```

### Example

```
// Our event handler declaration.  
// The handler will be called with one argument of type  
PCCViewer.Event.  
function pageCountReadyEventHandler(event) {  
    var target = event.getTarget(), // `getTarget` is  
defined on every event object  
        type = event.getType();    // `getType` is  
defined on every event object  
  
    // The PageCountReady event augments the event  
object with property `pageCount`  
    var pageCount = event.pageCount;  
}  
  
// Subscribe the event handler to an event.  
viewerControl.on("PageCountReady",  
pageCountReadyEventHandler);
```

---

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## Class: ImageStamps

### Class: ImageStamps

#### PCCViewer. ImageStamps

`new ImageStamps(object)`

The constructor for a `ImageStamp` Object. 'ImageStamp' object represents APIs for requesting the images and source from the server.

#### **Parameters:**

Name	Type	Description
object	object	with link to imageHandler URL.

#### Example

```
var options = { imageHandlerUrl: "../pcc.ashx" }  
var stamp = PCCViewer.ImageStamps(options);
```

## Methods

### getImageSourceURL(imageStampId)

Returns the image source URL for the imageStampId

#### Parameters:

Name	Type	Description
imageStampId	string	

#### Example

```
var options = { imageHandlerUrl: "../pcc.ashx" }  
var stampApi = new PCCViewer.ImageStamps(options);  
  
var imageUrl =  
stampApi.getImageSourceURL(imageStampId);
```

### requestImageSourceBase64()

Deprecated since v13.4 (use the [PCCViewer.ImageStamps#requestImageSourceBase64](#) method instead).

### requestImageSourceBase64(imageStampId) → {PCCViewer.Promise}

Retrieves the data URL and data hash from the server for the provided image stamp ID. This method utilizes an asynchronous server request to fetch the data and returns a [PCCViewer.Promise](#) to resolve the request.

The [onFulfilled](#) callback will receive an object containing the `dataUrl` (a base64 encoded image source) and `dataHash` (an encoded unique ID) of the image stamp.

If unable to retrieve the image stamp data URL and data hash from the server, then the returned [PCCViewer.Promise](#) object is rejected with the reason set to a [PCCViewer.Error](#) object with its `code` property set to `ImageStampDataFail`.

If AJAX is not supported, then the returned `PCCViewer.Promise` object is rejected with the reason set to a `PCCViewer.Error` object with its code property set to `AjaxUnsupported`.

If a server error is encountered, then the returned `PCCViewer.Promise` object is rejected with the reason set to a `PCCViewer.Error` object with its code property set to `Error`.

**Parameters:**

Name	Type	Description
imageStampId	string	A unique ID that corresponds to an image stamp stored on the server.

**Returns:**

A `PCCViewer.Promise` object.

Type

`PCCViewer.Promise`

**Example**

```
var options = { imageHandlerUrl: "../pcc.ashx" };
var stampApi = new PCCViewer.ImageStamps(options);

var stampPromise = stampApi.requestImageStampList();

stampPromise.then(
    function onSuccess(data) {
        var base64Promise =
stampApi.requestImageSourceBase64(data.imageStamps[0].id)

        base64Promise.then(
            function onSuccess(imageSource) {
                var pageNumber = 1;
                var rectangle = { x: 30, y: 30, width:
100, height: 100 };
                var mark =
viewer.viewerControl.addMark(pageNumber,
"ImageStampAnnotation");
                mark.setImage({
                    dataUrl: imageSource.dataUrl, id:
imageSource.dataHash
                });
                mark.setRectangle(rectangle);
            }
        );
    },
```

```

function onFailure(error) {
    alert(error.message ? error.message : error);
}
);

```

**requestImageStampList(object)** → {PCCViewer.Promise}

Retrieves the image stamp list from the server.

If a server error is encountered, then the returned `PCCViewer.Promise` object is rejected with the reason set to a `PCCViewer.Error` object with its `code` property set to `Error`.

If AJAX is not supported, then the returned `PCCViewer.Promise` object is rejected with the reason set to a `PCCViewer.Error` object with its `code` property set to `AjaxUnsupported`.

**Parameters:**

Name	Type	Description
object	object	with web handler link assigned to the <code>imageHandlerUrl</code> property.

**Returns:**

a Promise object.

Type

`PCCViewer.Promise`

**Example**

```

var options = { imageHandlerUrl: "../pcc.ashx" }
var stampApi = new PCCViewer.ImageStamps(options);
var imageStamps = {};
var base64Source = null;

var stampPromise = stampApi.requestImageStampList();

stampPromise.then(
    function onSuccess(data) {
        imageStamps = data.imageStamps;
        var base64Promise =
stampApi.requestImageSourceBase64(imageStamps[0].id);

        base64Promise.then(
            function onSuccess(imageSource) {
                base64Source = imageSource
                var pageNumber = 1;
                var rectangle = { x: 30, y: 30, width:

```

```
100, height: 100 };
        var mark =
viewer.viewerControl.addMark(pageNumber,
"ImageStampAnnotation");
        mark.setImage({
            dataUrl: base64Source.dataUrl, id:
base64Source.dataHash
        });
        mark.setRectangle(rectangle);
    }
    );
},
function onFailure(error) {
    alert(error.message ? error.message : error)
}
);
```

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## Class: LoadMarkupLayersRequest

### Class: LoadMarkupLayersRequest

#### PCCViewer. LoadMarkupLayersRequest

(protected) new LoadMarkupLayersRequest(viewerControl, layerRecordIds)

The `LoadMarkupLayersRequest` object is created when loading markup layers using [PCCViewer.ViewerControl#loadMarkupLayers](#).

The `LoadMarkupLayersRequest` is a thenable object, which allows Promise-like interactions. Calling the `PCCViewer.LoadMarkupLayersRequest#then` method will return a [PCCViewer.Promise](#) object. On successful layer loading, the `Promise` success method, if added, is called with the `PCCViewer.LoadMarkupLayer` objects created by the loaded layer records. On a load failure, the `Promise` is rejected.

The `LoadMarkupLayersRequest` object also provides an event subscription method, to get notified of other types of information. See [PCCViewer.LoadMarkupLayersRequest.EventType](#).

*Note: This constructor should not be used directly. Instead, a `LoadMarkupLayersRequest` is created by a call to [PCCViewer.ViewerControl#loadMarkupLayers](#).*

#### Parameters:

Name	Type	Description
viewerControl	string	The <code>PCCViewer.ViewerControl</code> for the loaded document.
layerRecordIds	Array.<string>	An array of layer record IDs.

### Example

```
function onSuccessfullLoad(annotationLayers) {
    console.log(annotationLayers);
}

function onFailedConvert(error) {
    alert("Markup layer record loading failed, reason:" +
(error.message ? error.message : error));
}

// A LoadMarkupLayersRequest object is created by and
returned from the call to the
ViewerControl#convertDocument method
var LoadMarkupLayersRequest =
viewerControl.loadMarkupLayers(['abc123']);
LoadMarkupLayersRequest.then(onSuccessfulConvert,
onFailedConvert);

//register some events
LoadMarkupLayersRequest

.on(PCCViewer.LoadMarkupLayersRequest.EventType.LoadMarkup

    function(ev) {
        alert("Markup layer loading completed.");
    })

.on(PCCViewer.LoadMarkupLayersRequest.EventType.LoadMarkup

    function(event) {
        alert("Conversion progress: " + event.percent
+ "%");
    })

.on(PCCViewer.LoadMarkupLayersRequest.EventType.LoadMarkup

    function(event) {
        alert("Markup layer loading failed.");
    })

.on(PCCViewer.LoadMarkupLayersRequest.EventType.LoadMarkup

    function(event) {
```

```
        alert("Markup layer loading was cancelled.");
    });
```

## Members

(static, readonly) **EventType** :string

A list of events that can be triggered by the [PCCViewer.LoadMarkupLayersRequest](#) object.

**Note:** This enumeration is for convenience for API developers. Instead of using this enumeration, you can pass string values of the eventType (enumeration values)

### Type:

- string

### Properties:

Name	Type	Description
LoadMarkupLayersFailed	string	
LoadMarkupLayersCompleted	string	
LoadMarkupLayersCancelled	string	
LoadMarkupLayersProgress	string	

See: [PCCViewer.Event](#)  
[PCCViewer.LoadMarkupLayersRequest#on](#)  
[PCCViewer.LoadMarkupLayersRequest#off](#)

(readonly) **errorCode** :number

Gets the errorCode if there is a failure during load process.

This property is defined on all LoadMarkupLayersRequest objects.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

### Type:

- number

See: [PCCViewer.LoadMarkupLayersRequest#getErrorCode](#)

## Example

```
var errorCode = LoadMarkupLayersRequest.errorCode;
```

(readonly) **progress** :number

Gets the current estimate of the loading process progress.

This property is defined on all LoadMarkupLayersRequest objects.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- number

See: [PCCViewer.LoadMarkupLayersRequest#getProgress](#)

**Example**

```
var percentProgress = LoadMarkupLayersRequest.progress;
```

(readonly) **viewerControl** :Object

Gets the viewer control associated with this request.

This property is defined on all LoadMarkupLayersRequest objects.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- Object

See: [PCCViewer.LoadMarkupLayersRequest#getViewerControl](#)

**Example**

```
var viewerControl =  
LoadMarkupLayersRequest.viewerControl;
```

## Methods

**cancel()** → {[PCCViewer.LoadMarkupLayersRequest](#)}

Cancels the load request. The `PCCViewer.Promise` object that is returned will be rejected. If the

user cancels the operation, then a `PCCViewer.Error` object will be returned as the rejection reason and its code property will be set to `UserCancelled`.

**Returns:**

The cancelled request.

Type

`PCCViewer.LoadMarkupLayersRequest`

**Example**

```
var loadMarkupLayersRequest =
viewerControl.loadMarkupLayers(['abc123']);
loadMarkupLayersRequest.cancel();
```

`getErrorCode() → {string}`

Gets the error code for the load request, in cases where the request has failed.

**Returns:**

A value for programmatic identification of an error condition, or null if an error has not occurred.

Type

string

**Example**

```
var loadMarkupLayersRequest =
viewerControl.loadMarkupLayers(['abc123']);
var errorCode = loadMarkupLayersRequest.getErrorCode();
```

`getProgress() → {number}`

Gets the currently known loading progress value.

**Returns:**

A number between 0 and 100 (inclusive). A value of 100 means the loading process completed.

Type

number

**Example**

```
var loadMarkupLayersRequest =
viewerControl.loadMarkupLayers(['abc123']);
var percent = loadMarkupLayersRequest.getProgress();
```

`getViewControl()` → `{PCCViewer.ViewerControl}`

Gets the viewer control associated with this request.

**Returns:**

A viewer control object.

Type

`PCCViewer.ViewerControl`

**Example**

```
var loadMarkupLayersRequest =
viewerControl.loadMarkupLayers(['abc123']);
var viewerControl =
loadMarkupLayersRequest.getViewControl();
```

`off(eventType, handler)` → `{PCCViewer.LoadMarkupLayersRequest}`

Unsubscribe an event handler from a specified event type.

Typically, an event is unsubscribed when you no longer want further notification of the event.

**Parameters:**

Name	Type	Description
eventType	string	A string specifying the event type. See <code>PCCViewer.LoadMarkupLayersRequest.EventType</code> for a list and description of all supported events.
handler	<code>PCCViewer.Event~eventHandler</code>	A function that was attached previously to the <code>ViewerControl</code> .  <b>Note:</b> This must be the same function object previously passed to <code>PCCViewer.LoadMarkupLayersRequest#on</code> . It cannot be a different object that is functionally equivalent.

See:

`PCCViewer.LoadMarkupLayersRequest#on`

[PCCViewer.ViewerControl#off](#) for more details on unsubscribing event handlers.

**Returns:**

The `LoadMarkupLayersRequest` object on which this method was called.

Type

[PCCViewer.LoadMarkupLayersRequest](#)

`on(eventType, handler) → {PCCViewer.LoadMarkupLayersRequest}`

Subscribe an event handler to an event of a specified type.

**Parameters:**

Name	Type	Description
eventType	string	A string that specifies the event type. This value is case-insensitive. See <a href="#">PCCViewer.LoadMarkupLayersRequest.EventType</a> for a list and description of all supported events.
handler	<a href="#">PCCViewer.Event~eventHandler</a>	A function that will be called whenever the event is triggered.

See:

[PCCViewer.LoadMarkupLayersRequest#off](#)

[PCCViewer.ViewerControl#on](#) for more details on event subscription.

**Returns:**

The `LoadMarkupLayersRequest` object on which this method was called.

Type

[PCCViewer.LoadMarkupLayersRequest](#)

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## Class: Mark

### Class: Mark

## PCCViewer. Mark

The PCCViewer.Mark object represents an annotation or redaction. (We use the term "mark" as a generic term for annotations and redactions.)

### Marks Drawn on the Document

Typically a Mark object represents a mark that is drawn on the document. In the case that a Mark object represents a mark drawn on the document, then setting properties of the Mark object will cause the appearance of the mark on the document to be updated.

To add a new mark to a document, use the method [PCCViewer.ViewerControl#addMark](#).

### Mark Properties

All marks have the following **read-only properties** that are set when the API creates the Mark object.

- `.getId()` and `.id`
- `.getType()` and `.type`
- `.getPageNumber()` and `.pageNumber`

A Mark object can also have a number of **writable properties**, which are define on the object depending on the mark type.

For example, a Mark object with type `LineAnnotation` will have a property `.startPoint`, accessible through `.getStartPoint()` and `.setStartPoint(...)`, but a Mark object with the type `RectangleAnnotation` will not have the property `.startPoint`. Or, a Mark object with the type `StampAnnotation` will have a property `.color`, accessible through `.getColor()` and `.setColor(...)` and a `LineAnnotation` Mark object also has the property `.color`.

The full list of Mark properties is listed below. The documentation lists what properties are on what mark types, and vice versa.

To programatically determine if a mark has a property, use the JavaScript `in` operator. Or use the `!` operator if you are referencing the property's getter or setter method. Examples are shown below.

```
!!myMarkObject.getStartPoint; // true if the startPoint property
was added to the Mark object
//Note: this option will only be available in ECMAScript 5
compatible browsers
'startPoint' in myMarkObject; // true if the startPoint property
was added to the Mark object
```

### Template Marks

A Mark object can also act as a template for mouse tools that create marks. For example, a `LineAnnotation` mouse tool will have a "template mark" that is used as a template for any mark created by the mouse tool. Setting the color of the template mark to yellow will cause all marks created by the mouse tool to be yellow.

The template mark is accessible via the method [PCCViewer.MouseTool#getTemplateMark](#).

## Constructor

`new Mark(parameters)`

*NOTE: this constructor is for internal use only.*

To programmatically add a Mark (an annotation or redaction) to a document, use [PCCViewer.ViewerControl#addMark](#).

**Parameters:**

Name	Type	Description
parameters	Object	The parameters object takes the following properties: <ul style="list-style-type: none"> <li>• <code>type</code> {string} [required] Mark Type <a href="#">PCCViewer.Mark.Type</a></li> <li>• <code>pageNumber</code> {number} [optional] Page Number on which the Mark is located . If this property is not specified, the page number will default to the current page.</li> </ul>

See: [PCCViewer.ViewerControl#addMark](#)  
[PCCViewer.MouseTool#getTemplateMark](#)  
[PCCViewer.Mark.Type](#)

**Example**

```
var viewerControl = new PCCViewer.ViewerControl(...);

// use PCCViewer.ViewerControl#addMark(pageNumber,
// markType) to create
// and add a mark instead of new Mark()
viewerControl.addMark(1, "LineAnnotation");
```

**Members**

(static, readonly) `FontStyles` :string

The `PCCViewer.Mark.FontStyles` enumeration defines Font Styles known to the `ViewerControl`.

**Note:** This enumeration is for convenience for API developers. Instead of using this enumeration, you may pass string values of the `FontStyles` (enumeration values).

**Type:**

- string

**Properties:**

Name	Type	Description
Bold	string	Specifies that the text should be bold.
Italic	string	Specifies that the text should be italic.
Strikeout	string	Specifies that the text should be struck out.
Underline	string	Specifies that the text should be underlined.

See: [PCCViewer.Mark#setFontStyle](#)

### Example

```
// use the enumeration to make text Bold
mark.setFontStyle([PCCViewer.Mark.FontStyles.Bold]);

// or just use the string value. Note: The parameter
// should be an array of styles required.
mark.setFontStyle(["Bold"]);
```

**(static, readonly) HorizontalAlignment :string**

The `PCCViewer.Mark.HorizontalAlignment` enumeration defines horizontal alignment known to the `ViewerControl`.

**Note:** This enumeration is for convenience for API developers. Instead of using this enumeration, you may pass string values of the `HorizontalAlignment` (enumeration values).

### Type:

- string

### Properties:

Name	Type	Description
Center	string	Specifies that the text should be centered horizontally.
Left	string	Specifies that the text should be left-justified.
Right	string	Specifies that the text should be right-justified.

### Example

```
// use the enumeration to make text centered
mark.setHorizontalAlignment(PCCViewer.Mark.HorizontalAlignment.Center);
```

```
// or just use the string value
mark.setHorizontalAlignment("Center");
```

**(static, readonly) InteractionMode :string**

The `PCCViewer.Mark.InteractionMode` enumeration defines possible interaction modes for a `Mark`. The interaction mode affects the behavior of the mark when the user interacts with the mark through mouse, touch, or API.

**Note:** This enumeration is for convenience for API developers. Instead of using this enumeration, you may pass string values of the `InteractionMode` (enumeration values).

**Type:**

- string

**Properties:**

Name	Type	Description
Full	string	Specifies that the mark is fully interactive using the mouse, touch-input, and API.
SelectionDisabled	string	Specifies that the mark cannot be selected.  <b>Note:</b> If a mark is selected when the mark's interaction mode is set to "SelectionDisabled", then the mark will be deselected and the <code>ViewerControl</code> 's <code>MarkSelectionChanged</code> event will fire.

See: [PCCViewer.Mark#getInteractionMode](#)  
[PCCViewer.Mark#setInteractionMode](#)  
[PCCViewer.Mark#interactionMode](#)

**Example**

```
// use the enumeration to make the mark non-
selectable
mark.setInteractionMode(PCCViewer.Mark.InteractionMode.S

// or just use the string value of the enumeration
mark.setInteractionMode("SelectionDisabled");
```

**(static, readonly) LineHeadType :string**

The `PCCViewer.Mark.LineHeadType` enumeration defines `Mark LineHeadTypes` known to the `ViewerControl`.

**Note:** This enumeration is for convenience for API developers. Instead of using this enumeration, you may pass string values of the `LineHeadType` (enumeration values).

**Type:**

- string

**Properties:**

Name	Type	Description
None	string	No line head.
FilledTriangle	string	A filled triangle line head. <b>Note:</b> this makes the line an arrow. :)

**Example**

```
// use the enumeration to make a line an arrow
myLineAnnotation.setEndHeadType(PCCViewer.Mark.LineHeadType.FilledTriangle);

// or just use the string value
myLineAnnotation.setEndHeadType("FilledTriangle");
```

(static, readonly) **Type** :string

The `PCCViewer.Mark.Type` enumeration defines Mark Types known to the ViewerControl.

**Note:** This enumeration is for convenience for API developers. Instead of using this enumeration, you may pass string values of the `Type` (enumeration values).

**Type:**

- string

**Properties:**

Name	Type	Description
LineAnnotation	string	This mark is drawn as a line on the document. A head can be added to the end of the line to make the line an arrow.  The properties specific for this are: <code>color</code> , <code>thickness</code> , <code>opacity</code> , <code>startPoint</code> , <code>endPoint</code> , <code>endHeadType</code> .
RectangleAnnotation	string	This mark is drawn as a rectangle on the document.

Name	Type	Description
		The properties specific for this are: <code>fillColor</code> , <code>opacity</code> , <code>borderColor</code> , <code>borderThickness</code> , <code>rectangle</code> .
EllipseAnnotation	string	This mark is drawn as an ellipse on the document.  The properties specific for this are: <code>fillColor</code> , <code>opacity</code> , <code>borderColor</code> , <code>borderThickness</code> , <code>rectangle</code> .
TextAnnotation	string	This mark is drawn as text on the document. The text has a background and border.  The properties specific for this are: <code>text</code> , <code>fontColor</code> , <code>fillColor</code> , <code>opacity</code> , <code>borderColor</code> , <code>borderThickness</code> , <code>fontName</code> , <code>fontSize</code> , <code>fontStyle</code> , <code>horizontalAlignment</code> , <code>rectangle</code> .  The methods specific for this are: <code>highlightText</code> .
StampAnnotation	string	This mark is drawn as a stamp on the document. A stamp has a label (text) and a border.  The properties specific for this are: <code>color</code> , <code>label</code> , <code>rectangle</code> .
HighlightAnnotation	string	This mark is drawn as a text highlight on the document.  The properties specific for this are: <code>fillColor</code> and <code>text</code> .  The methods specific for this are: <code>highlightText</code> .
RectangleRedaction	string	This mark is drawn as a rectangle on the document.  The properties specific for this are: <code>rectangle</code> , <code>borderColor</code> , <code>borderThickness</code> , <code>fillColor</code> , <code>fontColor</code> , <code>reason</code> .
TransparentRectangleRedaction	string	This mark is drawn as a transparent rectangle on the document. The color is always yellow and the opacity is always 50% (127/255).  The properties specific for this are: <code>rectangle</code> .
TextHyperlinkAnnotation	string	This mark is drawn as a text hyperlink on the document.  The properties specific for this are: <code>href</code> ,

Name	Type	Description
		position and text (read-only). The methods specific for this are: highlightText.
TextRedaction	string	This mark is drawn as a rectangle on the document. This redaction can be burned into the document. The properties specific for this are: text, fontColor, fontName, fontSize, fontStyle, rectangle. The methods specific for this are: highlightText.
StampRedaction	string	This mark is drawn as a stamp on the document. This redaction can be burned into the document. The properties specific for this are: label, rectangle.
FreehandAnnotation	string	This mark is drawn as a freehand line on the document. The properties specific for this are: path, rectangle, color, thickness, opacity.
FreehandSignature	string	This mark is drawn as a signature on the document and is confined to a rectangle. The properties specific for this are: path, rectangle, color, thickness.
TextSignature	string	This mark is drawn as a text signature on the document and is confined to a rectangle. The properties specific for this are: text, rectangle, color, fontName.
TextInputSignature	string	This mark is drawn as a single line of text that auto-fits to the containing rectangle. The user can interact with the mark using the mouse, touch-screen, and keyboard in order to set the text and adjust the rectangle. The properties specific for this are: text, rectangle, fontColor, fontName, mask, horizontalAlignment, maxLength.
TextAreaSignature	string	This mark is drawn as a text area that auto-fits to the containing rectangle. The user can interact with the mark using the mouse, touch-screen, and keyboard in order to set the text and adjust the rectangle.

Name	Type	Description
		The properties specific for this are: <code>text</code> , <code>rectangle</code> , <code>fontColor</code> , <code>fontName</code> , <code>maxFontSize</code> , <code>fontStyle</code> , <code>horizontalAlignment</code> , <code>maxLength</code> .
<code>TextSelectionRedaction</code>	<code>string</code>	This mark is drawn as a text highlight redaction on the document.  The properties specific for this are: <code>text</code> , <code>reason</code> .  The methods specific for this are: <code>highlightText</code> .
<code>ImageStampAnnotation</code>	<code>string</code>	This mark is drawn as an ImageStamp annotation on the document.  The properties specific for this are: <code>none</code> .
<code>ImageStampRedaction</code>	<code>string</code>	This mark is drawn as an ImageStamp redaction on the document.  The properties specific for this are: <code>none</code> .
<code>PolylineAnnotation</code>	<code>string</code>	This mark is drawn as a Polyline on the document. It is in a form of a set of connected line segments.  The properties specific for this are: <code>color</code> , <code>thickness</code> , <code>opacity</code> , <code>points</code> .
<code>StrikethroughAnnotation</code>	<code>string</code>	This mark is drawn as a Strikethrough annotation on the document. The annotation itself is just a line that is placed over the specified text.  The properties specific for this are: <code>color</code> , <code>thickness</code> and <code>text</code> .  The methods specific for this are: <code>highlightText</code> .

**Example**

```
// use the enumeration to make a line annotation
myViewerControl.addMark(1,
PCCViewer.Mark.Type.LineAnnotation);

// or just use the string value
myViewerControl.addMark(1, "LineAnnotation");
```

**borderColor** :string

Gets or sets the border color of the Mark.

This property is defined on marks of type: `RectangleAnnotation`, `EllipseAnnotation`, `TextAnnotation` and `RectangleRedaction`.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- string

See: [PCCViewer.Mark#getBorderColor](#)  
[PCCViewer.Mark#setBorderColor](#)

**Example**

```
if ('borderColor' in mark) {
    var oldValue = mark.borderColor;
    mark.borderColor = "#FF0000"; // set border color
    to red
}
```

**borderThickness** :number

Gets or sets the border thickness of the Mark.

This property is defined on marks of type: `RectangleAnnotation`, `EllipseAnnotation`, `TextAnnotation` and `RectangleRedaction`.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- number

See: [PCCViewer.Mark#getBorderThickness](#)  
[PCCViewer.Mark#setBorderThickness](#)

**Example**

```
if ('borderThickness' in mark) {
    var oldValue = mark.borderThickness;
    mark.borderThickness = 3; // set the border
    thickness of the mark
}
```

**boundingRectangle** :Object

Gets the bounding rectangle of the Mark.

This property is defined on all Mark objects.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- Object

See: [PCCViewer.Mark#getBoundingRectangle](#)

**Example**

```
var boundingRectangle = mark.boundingRectangle;
```

**color** :string

Gets or sets the color of the Mark.

This property is defined on marks of type: LineAnnotation, StampAnnotation, FreehandAnnotation, FreehandSignature, TextSignature, PolylineAnnotation and StrikethroughAnnotation.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- string

See: [PCCViewer.Mark#getColor](#)  
[PCCViewer.Mark#setColor](#)

**Example**

```
if ('color' in mark) {  
    var oldValue = mark.color;  
    mark.color = "#FF0000"; // set color to red  
}
```

**(readonly) conversation** :string

Gets the conversation associated with the Mark.

This property is defined on all Mark objects.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- string

See: [PCCViewer.Mark#getConversation](#)

**Example**

```
var conversation = mark.conversation;
```

**endHeadType :string**

Gets or sets the end head type of the Mark.

The value of end head type determines if the line looks like an arrow or a plain line.

This property is defined on marks of type: `LineAnnotation`.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- string

See: [PCCViewer.Mark.LineHeadType](#)  
[PCCViewer.Mark#getEndHeadType](#)  
[PCCViewer.Mark#setEndHeadType](#)

**Example**

```
if ('endHeadType' in mark) {  
    var oldValue = mark.endHeadType;  
  
    // set the head to be a filled triangle, so the  
    line looks like an arrow  
    mark.endHeadType = "FilledTriangle";  
}
```

**endPoint :Object**

Gets or sets the end point coordinates of the line Mark.

This property is defined on marks of type: `LineAnnotation`.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- Object

See: [PCCViewer.Mark#getEndPoint](#)  
[PCCViewer.Mark#setEndPoint](#)

**Example**

```
if ('endPoint' in mark) {
    var oldValue = mark.endPoint;
    mark.endPoint = {x: 100, y: 100}; // set the
start point to (100, 100)
}
```

**endPoint :Object**

Gets or sets the end point coordinates of the line Mark.

This property is defined on marks of type: `LineAnnotation`.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- Object

See: [PCCViewer.Mark#getEndPoint](#)  
[PCCViewer.Mark#setEndPoint](#)

**Example**

```
if ('endPoint' in mark) {
    var oldValue = mark.endPoint;
    mark.endPoint = {x: 100, y: 100}; // set the
start point to (100, 100)
}
```

## **fillColor** :string

Gets or sets the fill color of the Mark.

This property is defined on marks of type: `RectangleAnnotation`, `EllipseAnnotation`, `TextAnnotation`, `HighlightAnnotation`, `'TextHyperlinkAnnotation'` and `RectangleRedaction`.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

### **Type:**

- string

See: [PCCViewer.Mark#getFillColor](#)  
[PCCViewer.Mark#setFillColor](#)

### **Example**

```
if ('fillColor' in mark) {
    var oldValue = mark.fillColor;
    mark.fillColor = "#FF0000"; // set color to red
}
```

## **fontColor** :string

Gets or sets the font color of the text in the Mark.

This property is defined on marks of type: `TextAnnotation`, `TextRedaction`, `TextInputSignature`, `RectangleRedaction` and `TextAreaSignature`.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

### **Type:**

- string

See: [PCCViewer.Mark#getFontColor](#)  
[PCCViewer.Mark#setFontColor](#)

### **Example**

```
if ('fontColor' in mark) {
    var oldValue = mark.fontColor;
    mark.fontColor = "#ffccbb";
}
```

**fontName** :string

Gets or sets the font name of the text in the Text Mark.

This property is defined on marks of type: TextAnnotation, TextRedaction, TextSignature, TextAreaSignature.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- string

See: [PCCViewer.Mark#getFontName](#)  
[PCCViewer.Mark#setFontName](#)

**Example**

```
if ('fontName' in mark) {  
    var oldValue = mark.fontName;  
    mark.fontName = "Arial";  
}
```

**fontSize** :number

Gets or sets the font size (in points) for the text in the Text Mark.

This property is defined on marks of type: TextAnnotation, TextRedaction.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- number

See: [PCCViewer.Mark#getFontSize](#)  
[PCCViewer.Mark#setFontSize](#)

**Example**

```
if ('fontSize' in mark) {  
    var oldValue = mark.fontSize;  
    mark.fontSize = 12;  
}
```

```
}
```

**fontStyle** :Array.<string>

Gets or sets the font Style of the text in the mark.

This property is defined on marks of type: TextRedaction, TextAreaSignature, TextAnnotation.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- Array.<string>

See: [PCCViewer.Mark.FontStyles](#)  
[PCCViewer.Mark#getFontStyle](#)  
[PCCViewer.Mark#setFontStyle](#)

**Example**

```
if ('fontStyle' in mark) {  
    var oldValue = mark.fontStyle;  
    mark.fontStyle = ["Bold",Underline,Italic];  
}
```

**horizontalAlignment** :string

Gets or sets the text horizontal alignment of the text in the Text Mark.

This property is defined on marks of type: TextAnnotation, TextRedaction, FreehandSignature, TextSignature, TextInputSignature and TextAreaSignature.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- string

See: [PCCViewer.Mark.HorizontalAlignment](#)  
[PCCViewer.Mark#getHorizontalAlignment](#)  
[PCCViewer.Mark#setHorizontalAlignment](#)

**Example**

```
if ('horizontalAlignment' in mark) {
    var oldValue = mark.horizontalAlignment;
    mark.horizontalAlignment = "left";
}
```

**href** :string

Gets or sets the link target for hyperlink annotations.

All strings and numbers are valid values. It is the responsibility of the API consumer to handle clicks of hyperlink annotations. When handling the click, the API consumer should interpret the href value and take the appropriate navigation action.

This property is defined on marks of type: `TextHyperlinkAnnotation`.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- string

See: [PCCViewer.Mark#getHref](#)  
[PCCViewer.Mark#setHref](#)

**Example**

```
if ('href' in mark) {
    var oldValue = mark.href;
    mark.href = "http://www.accusoft.com/";
}
```

**(readonly) id** :string

Gets the ID of the Mark.

This property is defined on all Mark objects.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- string

See: [PCCViewer.Mark#getId](#)

**Example**

```
var id = mark.id;
```

**image** :PCCViewer.Mark~ImageData

Gets the image that is displayed for the Mark.

This property is defined on marks of type: ImageStampAnnotation and ImageStampRedaction

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- PCCViewer.Mark~ImageData

See: [PCCViewer.Mark#getImage](#)  
[PCCViewer.Mark#setImage](#)

**Example**

```
if ('image' in mark) {  
    // get old image data  
    var oldImageData = mark.image;  
  
    // set new image  
    mark.image = {  
        dataUrl: "data:image/png;base64,base64  
string",  
        id: "myUniqueImageIDABC123"  
    };  
}
```

**interactionMode** :string

Gets or sets a value that indicates the allowed interactions with the mark. Possible values are defined in the enumeration [PCCViewer.Mark.InteractionMode](#).

This property is defined on all Mark objects.

*This is an ECMA 5 property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- string

See: [PCCViewer.Mark#getInteractionMode](#)  
[PCCViewer.Mark#setInteractionMode](#)

#### Example

```
// get
var interactionMode = mark.interactionMode;

// set
mark.interactionMode =
PCCViewer.Mark.InteractionMode.SelectionDisabled;
```

#### label :string

Gets or sets the text in the Stamp Mark.

This property is defined on marks of type: StampAnnotation, StampRedaction.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

#### Type:

- string

See: [PCCViewer.Mark#getLabel](#)  
[PCCViewer.Mark#setLabel](#)

#### Example

```
if ('label' in mark) {
    var oldValue = mark.label;
    mark.label = "Approved";
}
```

#### mask :object

Gets or sets the mask for text input signatures.

This property is defined on marks of type: TextInputSignature.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

#### Type:

- object

See: [PCCViewer.Mark#getMask](#)  
[PCCViewer.Mark#setMask](#)

#### Example

```
if ('mask' in mark) {
    var oldValue = mark.mask;

    mark.mask = {
        value: '(###) ###-####',
        translations: {
            '#': /\d/
        }
    };
}
```

#### maxFontSize :number

Gets or sets a value that determines the maximum font size for a mark.

This method is defined on marks of type: `TextAreaSignature`.

*This is an ECMA 5 property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

#### Type:

- number

See: [PCCViewer.Mark#setMaxFontSize](#)  
[PCCViewer.Mark#getMaxFontSize](#)

#### Example

```
// get
var maxFontSize = mark.maxFontSize;

// set
mark.maxFontSize = 13;
```

#### maxLength :number

Gets or sets a value that determines the max length of text for a mark

This method is defined on marks of type: `TextAnnotation`, `TextRedaction`,

TextAreaSignature and TextInputSignature.

*This is an ECMA 5 property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- number

See: [PCCViewer.Mark#setMaxLength](#)  
[PCCViewer.Mark#getMaxLength](#)

**Example**

```
// get
var maxLength = mark.maxLength;

// set
mark.maxLength = 13;
```

**opacity :number**

Gets or sets the opacity of the Mark. This value is a number between 0 and 255.

This property is defined on marks of type: LineAnnotation, RectangleAnnotation, EllipseAnnotation, TextAnnotation, PolylineAnnotation.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- number

See: [PCCViewer.Mark#getOpacity](#)  
[PCCViewer.Mark#setOpacity](#)

**Example**

```
if ('opacity' in mark) {
    var oldValue = mark.opacity;
    mark.opacity = 127; // set the opacity so that
the mark is transparent
}
```

**(readonly) pageNumber :number**

Gets the page number of the page that the Mark is on.

This property is defined on all Mark objects.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- number

See: [PCCViewer.Mark#getPageNumber](#)

**Example**

```
var pageNumber = mark.pageNumber;
```

**path** :string

Gets or sets the path data of FreehandSignature and FreehandAnnotation.

This property is defined on marks of type: FreehandSignature, FreehandAnnotation.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- string

See: [PCCViewer.Mark#getPath](#)  
[PCCViewer.Mark#setPath](#)

**Example**

```
if ('path' in mark) {  
    var oldValue = mark.path;  
    mark.path = "M0,0L1,1L1,0";  
}
```

**position** :Object

Gets or sets the position of the Mark.

*Important* - The setter only works if the ViewerControl instance has page text for all pages that the text-based mark will span. See [PCCViewer.Mark#setPosition](#) for complete information on safely setting the mark's position.

This property is defined on marks of type: `HighlightAnnotation`, `TextSelectionRedaction`, `TextHyperlinkAnnotation`, and `StrikethroughAnnotation`

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- Object

See: [PCCViewer.Mark#getPosition](#)  
[PCCViewer.Mark#setPosition](#)

**Example**

```
// Basic usage.
if ('position' in mark) {
    var oldValue = mark.position;

    // Requesting page text ensures that the
    ViewerControl has page text for the page (which
    // is a pre-requisite) and it also gives us the
    page text so that we have context when
    // setting the position.

viewerControl.requestPageText(1).then(function(pageText)
{
    // It is unsafe to set the mark position
    without first
    mark.position = {startIndex: 0, length:
pageText.length};
    });
}
```

**reason :string**

Gets or sets the reason in the Mark.

This property is defined on marks of type: `RectangleRedaction`, `TextSelectionRedaction`.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- string

See: [PCCViewer.Mark#getReason](#)  
[PCCViewer.Mark#setReason](#)

#### Example

```
if ('reason' in mark) {
    var oldValue = mark.reason;
    mark.reason = "Information for top security
clearance only.";
}
```

#### rectangle :Object

Gets or sets the bounding rectangle of the Mark.

This property is defined on marks of type: RectangleAnnotation, EllipseAnnotation, TextAnnotation, StampAnnotation, RectangleRedaction, TransparentRectangleRedaction, TextRedaction, StampRedaction, FreehandAnnotation, FreehandSignature, TextSignature, ImageStampAnnotation, ImageStampRedaction, TextInputSignature and TextAreaSignature.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

#### Type:

- Object

See: [PCCViewer.Mark#getRectangle](#)  
[PCCViewer.Mark#setRectangle](#)

#### Example

```
if ('rectangle' in mark) {
    var oldValue = mark.rectangle;
    mark.rectangle = {x: 0, y: 0, width: 100, height:
100};
}
```

#### signature :string

*Note: This property is defined on the template mark of the PlaceSignature mouse tool, and is not available on any mark.*

Gets or sets the template signature.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This*

*property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- string

See: [PCCViewer.Mark#getSignature](#)  
[PCCViewer.Mark#setSignature](#)

**startPoint :Object**

Gets or sets the start point coordinates of the line Mark.

This property is defined on marks of type: `LineAnnotation`.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- Object

See: [PCCViewer.Mark#getStartPoint](#)  
[PCCViewer.Mark#setStartPoint](#)

**Example**

```
if ('startPoint' in mark) {  
    var oldValue = mark.startPoint;  
    mark.startPoint = {x: 1, y: 1}; // set the start  
    point to (1, 1)  
}
```

**text :string**

Gets or sets the text in the Mark.

This property is defined on marks of type: `TextAnnotation`, `TextRedaction`, `TextSignature`, `TextAreaSignature`, `HighlightAnnotation`, `TextSelectionRedaction`, `TextHyperlinkAnnotation` and `StrikethroughAnnotation`.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- string

See: [PCCViewer.Mark#getText](#)  
[PCCViewer.Mark#setText](#)

#### Example

```
if ('text' in mark) {
    var oldValue = mark.text;
    mark.text = "This is a Test";
}
```

#### thickness :number

Gets or sets the thickness of the Mark.

This property is defined on marks of type: `LineAnnotation`, `FreehandAnnotation`, `FreehandSignature`, `PolylineAnnotation`.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

#### Type:

- number

See: [PCCViewer.Mark#getThickness](#)  
[PCCViewer.Mark#setThickness](#)

#### Example

```
if ('thickness' in mark) {
    var oldValue = mark.thickness;
    mark.thickness = 3; // set the thickness of the
mark
}
```

#### (readonly) type :string

Gets the type of the Mark.

This property is defined on all Mark objects.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

#### Type:

- string

See: [PCCViewer.Mark.Type](#)  
[PCCViewer.Mark#getType](#)

### Example

```
switch (mark.type) {
  case Mark.Type.LineAnnotation:
    ...
    break;
  default:
    ...
}
```

### visible :string

Gets or sets the Mark visible.

This property is defined on all mark types.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

### Type:

- string

See: [PCCViewer.Mark#getVisible](#)  
[PCCViewer.Mark#setVisible](#)

### Example

```
if ('visible' in mark) {
  var oldValue = mark.visible;
  mark.visible = true; // set mark to visible
}
```

## Methods

**clearHighlights()** → [{PCCViewer.Mark}](#)

Clears any text highlights within the mark object. The text highlights would have been created with [PCCViewer.Mark#highlightText](#).

It is invalid to call this method on the template mark of a [PCCViewer.MouseTool](#) object.

This method is defined on marks of type: `TextAnnotation`, `TextRedaction`, `HighlightAnnotation`, `TextSelectionRedaction`, `TextHyperlinkAnnotation`, and `StrikethroughAnnotation`.

See: [PCCViewer.Mark#highlightText](#)

### Throws:

- If the mark is the template mark of a [PCCViewer.MouseTool](#) object.

Type  
Error

- If the mark was created with the constructor `new Mark()`.

Type  
Error

### Returns:

The Mark object on which this method was called.

Type  
[PCCViewer.Mark](#)

### Example

```
if (mark.clearHighlights) {  
    mark.clearHighlights();  
}
```

`getBorderColor() → {string}`

Gets the border color of the Mark.

This method is defined on marks of type: `RectangleAnnotation`, `EllipseAnnotation`, `TextAnnotation` and `RectangleRedaction`.

See: [PCCViewer.Mark#setBorderColor](#)  
[PCCViewer.Mark#borderColor](#)

### Returns:

The border color of the Mark as a hexadecimal string.

Type

string

### Example

```
if (mark.getBorderColor) {  
    var borderColor = mark.getBorderColor();  
}
```

**getBorderThickness()** → {number}

Gets the border thickness of the mark.

This method is defined on marks of type: `RectangleAnnotation`, `EllipseAnnotation`, `TextAnnotation` and `RectangleRedaction`.

See: [PCCViewer.Mark#setBorderThickness](#)  
[PCCViewer.Mark#borderThickness](#)

### Returns:

The border thickness of the mark.

Type  
number

### Example

```
if (mark.getBorderThickness) {  
    var borderThickness = mark.getBorderThickness();  
}
```

**getBoundingRectangle()** → {Object}

Gets the bounding rectangle for the Mark.

This method is defined on all Mark objects.

See: [PCCViewer.Mark#boundingRectangle](#)

### Returns:

A rectangle object of the type {x: xValue, y: yValue, width: widthValue, height: heightValue}.

Type  
Object

## Example

```
var boundingRectangle = mark.getBoundingBox();
```

**getColor()** → {string}

Gets the color of the Mark.

This method is defined on marks of type: LineAnnotation, StampAnnotation, FreehandAnnotation, FreehandSignature, TextSignature, PolylineAnnotation and StrikethroughAnnotation.

See: [PCCViewer.Mark#setColor](#)  
[PCCViewer.Mark#color](#)

## Returns:

The color of the Mark as a hexadecimal string.

Type  
string

## Example

```
if (mark.getColor) {  
    var color = mark.getColor();  
}
```

**getConversation()** → {PCCViewer.Conversation}

Gets the conversation associated with the Mark.

This method is defined on all Mark objects.

## Returns:

The conversation associated with this Mark.

Type  
[PCCViewer.Conversation](#)

**getData(key)** → {string|object}

Gets the data value for the given key, or gets a hash containing all key values, if a key was not

provided.

This method is defined on all Mark objects.

### Parameters:

Name	Type	Description
key	string	The key for which to get the data value.

See: [PCCViewer.Data#getData](#)  
[PCCViewer.Mark#setData](#)  
[PCCViewer.Mark#getDataKeys](#)

### Throws:

If the `key` argument is null or otherwise not a string.

Type  
Error

### Returns:

- If a key argument was provided, it returns the associated value.
- If a key argument was provided, but a value has not been associated with the key, then it returns undefined.
- If a key was not provided, it returns a hash object containing all key-value pairs.

Type  
string | object

### Example

```
var mark = viewerControl.addMark(1,
  "RectangleRedaction");

// The key "Author" is set the value "Mark".
mark.setData("Author", "Mark");

// The key "Note" is set the value "This is really
important!".
mark.setData("Note", "This is really important!");

mark.getData("Author"); // returns "Mark"
mark.getData();         // returns {"Author":"Mark",
"Note":"This is really important!"}
mark.getData("FooBar"); // returns undefined
```

```
getDataKeys() → {Array.<string>}
```

Gets an array of data keys known to this Mark.

This method is defined on all Mark objects.

See: [PCCViewer.Data#getDataKeys](#)  
[PCCViewer.Mark#getData](#)  
[PCCViewer.Mark#setData](#)

**Returns:**

Returns an array of data keys known to this Mark. If no data is stored, then an empty array will be returned.

Type

Array.<string>

**Example**

```
var mark = viewerControl.addMark(1,
    "RectangleRedaction");

// Returns an empty array before key-value pairs are
// stored.
mark.getDataKeys(); // returns []

// Returns a list of all keys.
mark.setData("Author", "Mark");
mark.setData("Note", "This is really important!");
mark.getDataKeys(); // returns ["Author", "Note"]
```

```
getEndHeadType() → {string|PCCViewer.Mark.LineHeadType}
```

Gets the line Mark end head type.

This method is defined on marks of type: LineAnnotation.

See: [PCCViewer.Mark#setEndHeadType](#)  
[PCCViewer.Mark#endHeadType](#)

**Returns:**

A line head type enum value.

Type

string | [PCCViewer.Mark.LineHeadType](#)

### Example

```
if (mark.getEndHeadType) {  
    var endHeadType = mark.getEndHeadType();  
}
```

`getEndPoint()` → {Object}

Gets the end point coordinates of the line Mark.

This method is defined on marks of type: `LineAnnotation`.

See: [PCCViewer.Mark#setEndPoint](#)  
[PCCViewer.Mark#endPoint](#)

### Returns:

A point object of the type {x: xvalue, y: yvalue}

Type  
Object

### Example

```
if (mark.getEndPoint) {  
    var endPoint = mark.getEndPoint();  
}
```

`getFillColor()` → {string}

Gets the fill color of the Mark.

This method is defined on marks of type: `RectangleAnnotation`, `EllipseAnnotation`, `TextAnnotation`, `HighlightAnnotation`, `'TextHyperlinkAnnotation'` and `RectangleRedaction`.

See: [PCCViewer.Mark#setFillColor](#)  
[PCCViewer.Mark#fillColor](#)

### Returns:

The fill color of the Mark as a hexadecimal string.

Type  
string

### Example

```
if (mark.getFillColor) {  
    var fillColor = mark.getFillColor();  
}
```

`getFontColor()` → {string}

Gets the font color of the text contained in the Text Mark.

This method is defined on marks of type: `TextAnnotation`, `TextRedaction`, `TextInputSignature`, `RectangleRedaction` and `TextAreaSignature`.

See: [PCCViewer.Mark#setFontColor](#)  
[PCCViewer.Mark#fontColor](#)

### Returns:

The text contained in the Text mark.

Type  
string

### Example

```
if (mark.getFontColor) {  
    var text = mark.getFontColor();  
}
```

`getFontName()` → {string}

Gets the font color of the text contained in the Mark.

This method is defined on marks of type: `TextAnnotation`, `TextRedaction`, `TextSignature`, `TextInputSignature` and `TextAreaSignature`.

See: [PCCViewer.Mark#setFontName](#)  
[PCCViewer.Mark#fontName](#)

### Returns:

The text contained in the Text mark.

Type  
string

### Example

```
if (mark.getFontName) {  
    var text = mark.getFontName();  
}
```

**getFontSize()** → {number}

Gets the font size (in points) of the text in the Mark.

This method is defined on marks of type: `TextAnnotation`, `TextRedaction`.

See: [PCCViewer.Mark#setFontSize](#)  
[PCCViewer.Mark#fontSize](#)

### Returns:

The font size of the text in the text mark.

Type  
number

### Example

```
if (mark.getFontSize) {  
    var fontSize = mark.getFontSize();  
}
```

**getFontStyle()** → {Array.<string>}

Gets an array of font styles of the text contained in the mark.

This method is defined on marks of type: `TextAnnotation`, `TextAreaSignature`, `TextRedaction`.

See: [PCCViewer.Mark.FontStyles](#)  
[PCCViewer.Mark#setFontStyle](#)  
[PCCViewer.Mark#fontStyle](#)

### Returns:

An array containing the font styles of text contained in the Text mark.

Type  
Array.<string>

### Example

```
if (mark.getFontStyle) {  
    var fontStyleArray = mark.getFontStyle();  
}
```

**getHorizontalAlignment() → {string}**

Gets the horizontalAlignment of the text contained in the Text Mark.

This method is defined on marks of type: TextAnnotation, TextRedaction, FreehandSignature, TextSignature, TextInputSignature and TextAreaSignature.

See: [PCCViewer.Mark.HorizontalAlignment](#)  
[PCCViewer.Mark#setHorizontalAlignment](#)  
[PCCViewer.Mark#horizontalAlignment](#)

### Returns:

A string containing horizontalAlignment contained in the Text mark.

Type  
string

### Example

```
if (mark.getHorizontalAlignment) {  
    var horizontalAlignment =  
    mark.getHorizontalAlignment();  
}
```

**getHref() → {string|number}**

Gets the link target for hyperlink annotations.

This method is defined on marks of type: TextHyperlinkAnnotation.

See: [PCCViewer.Mark#setHref](#)  
[PCCViewer.Mark#href](#)

### Returns:

The link target.

Type

string | number

### Example

```
if (mark.getHref) {
    var href = mark.getHref();

    switch (typeof href) {
        case "number":
            // navigate to the page
            viewerControl.setPageNumber(href);
            break;
        case "string":
            // Interpret the URL and execute the
navigation.
            window.location.href = href;
            break;
        case "undefined":
        case "object":
        default:
            // do nothing, or define some special
rules
            break;
    }
}
```

**getId() → {string}**

Gets the ID of the Mark.

This method is defined on all Mark objects.

See: [PCCViewer.Mark#id](#)

### Returns:

The ID of the Mark.

Type

string

### Example

```
var markId = mark.getId();
```

```
getImage() → {PCCViewer.Mark~ImageData}
```

Gets the image that is displayed for the Mark.

This method is defined on marks of type: ImageStampAnnotation and ImageStampRedaction.

See: [PCCViewer.Mark#setImage](#)  
[PCCViewer.Mark#image](#)

### Returns:

An object that represents the image to be shown for the mark.

Type

[PCCViewer.Mark~ImageData](#)

### Example

```
if (mark.getImage) {  
    var imageData = mark.getImage();  
}
```

```
getInteractionMode() → {string}
```

Gets a value that indicates the allowed interactions with this mark.

This method is defined on all [Mark](#) objects.

See: [PCCViewer.Mark#setInteractionMode](#)  
[PCCViewer.Mark#interactionMode](#)

### Returns:

A string value from the enumeration [PCCViewer.Mark.InteractionMode](#), which indicates the allowed interactions with this mark.

Type

string

### Example

```
var interactionMode = mark.getInteractionMode();
```

`getLabel() → {string}`

Gets the text string contained in the Stamp Mark.

This method is defined on marks of type: `StampAnnotation`, `StampRedaction`.

See: [PCCViewer.Mark#setLabel](#)  
[PCCViewer.Mark#label](#)

**Returns:**

The text string in the Stamp mark.

Type  
string

**Example**

```
if (mark.getLabel) {  
    var label = mark.getLabel();  
}
```

`getMask() → {object}`

Gets the applied mask for the text input signature mark.

This method is defined on marks of type: `TextInputSignature`.

See: [PCCViewer.Mark#setMask](#)  
[PCCViewer.Mark#mask](#)

**Returns:**

The mask for the mark.

Type  
object

**Example**

```
if (mark.getMask) {  
    var mask = mark.getMask();  
}
```

`getMaxFontSize() → {Number}`

Gets the maximum font size (in points) for text in the mark.

This method is defined on marks of type: `TextAreaSignature`.

See: [PCCViewer.Mark#setMaxFontSize](#)  
[PCCViewer.Mark#maxFontSize](#)

### Returns:

The maximum font size of the mark.

Type  
Number

### Example

```
if (mark.getMaxFontSize) {  
    var mask = mark.getMaxFontSize();  
}
```

`getMaxLength()` → {Number}

Gets the applied max length for the mark.

This method is defined on marks of type: `TextAnnotation`, `TextRedaction`, `TextAreaSignature` and `TextInputSignature`.

See: [PCCViewer.Mark#setMaxLength](#)  
[PCCViewer.Mark#maxLength](#)

### Returns:

The max length for the mark.

Type  
Number

### Example

```
if (mark.getMaxLength) {  
    var mask = mark.getMaxLength();  
}
```

`getOpacity()` → {number}

Gets the opacity of the Mark. This value is a number between 0 and 255.

This method is defined on marks of type: `LineAnnotation`, `RectangleAnnotation`, `EllipseAnnotation`, `TextAnnotation`.

See: [PCCViewer.Mark#setOpacity](#)  
[PCCViewer.Mark#opacity](#)

### Returns:

The opacity of the line.

Type  
number

### Example

```
if (mark.getOpacity) {  
    var opacity = mark.getOpacity();  
}
```

`getPageNumber()` → {number}

Gets the page number where the Mark object is located.

This method is defined on all Mark objects.

See: [PCCViewer.Mark#pageNumber](#)

### Returns:

The page number where the Mark is located.

Type  
number

### Example

```
var pageNumber = mark.getPageNumber();
```

`getPath()` → {string}

Gets the path data for `FreehandSignature` and `FreehandAnnotation`.

This method is defined on marks of type: `FreehandSignature`, `FreehandAnnotation`.

See: [PCCViewer.Mark#setPath](#)

[PCCViewer.Mark#path](#)**Returns:**

The path data string.

Type  
string

**Example**

```
if (mark.getPath) {  
    var path = mark.getPath();  
}
```

**getPoints() → {Array}**

Gets the array of points that make up coordinates of the vertices of the PolylineAnnotation Mark.

This method is defined on marks of type: PolylineAnnotation.

See: [PCCViewer.Mark#setPoints](#)  
[PCCViewer.Mark#points](#)

**Returns:**

of point objects of the type {x: xvalue, y: yvalue}

Type  
Array

**Example**

```
if (mark.getPoints) {  
    var points = mark.getPoints();  
}
```

**getPosition() → {Object}**

Gets the position of the text-based Mark.

This method is defined on marks of type: HighlightAnnotation, TextSelectionRedaction, TextHyperlinkAnnotation, and StrikethroughAnnotation.

See: [PCCViewer.Mark#setPosition](#)  
[PCCViewer.Mark#position](#)

### Returns:

A position object of the type {startIndex: startIndexValue, length: lengthValue}.

Type  
Object

### Example

```
if (mark.getPosition) {  
    var position = mark.getPosition();  
}
```

**getReason()** → {string}

Gets the reason contained in the Redaction Mark.

This method is defined on marks of type: RectangleRedaction, TextSelectionRedaction.

See: [PCCViewer.Mark#setReason](#)  
[PCCViewer.Mark#reason](#)

### Returns:

The reason contained in the Redaction mark.

Type  
string

### Example

```
if (mark.getReason) {  
    var reason = mark.getReason();  
}
```

**getRectangle()** → {Object}

Gets the bounding rectangle for the Mark.

This method is defined on marks of type: RectangleAnnotation, EllipseAnnotation,

TextAnnotation, StampAnnotation, RectangleRedaction, TransparentRectangleRedaction, TextRedaction, StampRedaction, FreehandAnnotation, FreehandSignature, TextSignature, ImageStampAnnotation, ImageStampRedaction, TextInputSignature and TextAreaSignature.

See: [PCCViewer.Mark#setRectangle](#)  
[PCCViewer.Mark#rectangle](#)

### Returns:

An object of the type {x: xValue, y: yValue, width: widthValue, height: heightValue} describing the rectangle in pixels.

Type  
Object

### Example

```
if (mark.getRectangle) {  
    var boundingRectangle = mark.getRectangle();  
}
```

**getSessionData(key) → {string|object}**

Gets the session data value for the given key, or gets a hash containing all key values, if a key was not provided. Unlike [PCCViewer.Mark#getData](#), this data is not saved with the annotation, it only lasts for the session.

This method is defined on all Mark objects.

### Parameters:

Name	Type	Description
key	string	The key for which to get the data value.

See: [PCCViewer.Data#getSessionData](#)  
[PCCViewer.Mark#setSessionData](#)  
[PCCViewer.Mark#getSessionDataKeys](#)

### Throws:

If the key argument is null or otherwise not a string.

Type  
Error

**Returns:**

- If a key argument was provided, it returns the associated value.
- If a key argument was provided, but a value has not been associated with the key, then it returns undefined.
- If a key was not provided, it returns a hash object containing all key-value pairs.

Type

string | object

**Example**

```
var mark = viewerControl.addMark(1,
  "RectangleRedaction");

// The key "Visibility" is set the value "Shown".
mark.setSessionData("Visibility", "Shown");

// The key "Note" is set the value "This is not going
to be saved!".
mark.setSessionData("Note", "This is not going to be
saved!");

mark.getSessionData("Visibility"); // returns "Shown"
mark.getSessionData();           // returns
{"Visibility":"Shown", "Note":"This is not going to
be saved!"}
mark.getSessionData("FooBar");   // returns
undefined
```

**getSessionDataKeys() → {Array.<string>}**

Gets an array of data keys known to this Mark. Unlike [PCCViewer.Mark#getDataKeys](#), this data is not saved with the annotation, it only lasts for the session.

This method is defined on all Mark objects.

See: [PCCViewer.Data#getSessionDataKeys](#)  
[PCCViewer.Mark#getSessionData](#)  
[PCCViewer.Mark#setSessionData](#)

**Returns:**

Returns an array of data keys known to this Mark. If no data is stored, then an empty array will be returned.

Type

Array.<string>

### Example

```
var mark = viewerControl.addMark(1,
  "RectangleRedaction");

// Returns an empty array before key-value pairs are
// stored.
mark.getSessionDataKeys(); // returns []

// Returns a list of all keys.
mark.setSessionData("Visibility", "Shown");
mark.setSessionData("Note", "This is not going to be
  saved!");
mark.getSessionDataKeys(); // returns ["Visibility",
  "Note"]
```

**getSignature()** → {Object|undefined}

*Note: This property is defined on the template mark of the PlaceSignature mouse tool, and is not available on any mark.*

Gets the last signature object that was associated with the particular template mark.

See: [PCCViewer.Mark#setSignature](#)  
[PCCViewer.Mark#signature](#)

### Returns:

The `PlaceSignature` object, or undefined. See [PCCViewer.Signatures~FreehandSignature](#) and [PCCViewer.Signatures~TextSignature](#).

Type

Object | undefined

### Example

```
// get the mouse tool
var accusoftPlaceSignature =
PCCViewer.MouseTools.getMouseTool('AccusoftPlaceSignature');

// get the template mark
var signatureTemplateMark =
  accusoftPlaceSignature.getTemplateMark();
// get the signature associated with the template
var signature = signatureTemplateMark.getSignature();
```



`getStartPoint() → {Object}`

Gets the start point coordinates of the line Mark.

This method is defined on marks of type: `LineAnnotation`.

See: [PCCViewer.Mark#setStartPoint](#)  
[PCCViewer.Mark#startPoint](#)

**Returns:**

A point object of the type `{x: xvalue, y: yvalue}`

Type  
Object

**Example**

```
if (mark.getStartPoint) {  
    var startPoint = mark.getStartPoint();  
}
```

`getText() → {string}`

Gets the text contained in marks with text or text-selection based marks.

This method is defined on marks of type: `TextAnnotation`, `TextRedaction`, `TextSignature`, `HighlightAnnotation`, `TextSelectionRedaction`, `TextHyperlinkAnnotation`, `TextInputSignature`, `StrikethroughAnnotation` and `TextAreaSignature`.

See: [PCCViewer.Mark#setText](#)  
[PCCViewer.Mark#text](#)

**Returns:**

The text contained in the in the above mentioned mark types.

Type  
string

**Example**

```
if (mark.getText) {
```

```
var text = mark.getText();  
}
```

**getThickness()** → {number}

Gets the thickness of the line.

This method is defined on marks of type: `LineAnnotation`, `FreehandAnnotation`, `FreehandSignature`, `PolylineAnnotation`, `StrikethroughAnnotation`.

See: [PCCViewer.Mark#setThickness](#)  
[PCCViewer.Mark#thickness](#)

**Returns:**

The thickness of the line.

Type  
number

**Example**

```
if (mark.getThickness) {  
    var thickness = mark.getThickness();  
}
```

**getType()** → {string}

Gets the type of the Mark type.

This method is defined on all Mark objects.

See: [PCCViewer.Mark.Type](#) for a list of possible Mark types.  
[PCCViewer.Mark.Type](#)  
[PCCViewer.Mark#type](#)

**Returns:**

The type of Mark.

Type  
string

**Example**

```
switch (mark.getType()) {
    case Mark.Type.LineAnnotation:
        ...
        break;
    default:
        ...
}
```

**getVisible()** → {boolean}

Gets the visibility of the Mark.

This method is defined on all mark types.

See: [PCCViewer.Mark#setVisible](#)  
[PCCViewer.Mark#visible](#)

**Returns:**

Returns true if the mark is visible, false otherwise.

Type  
boolean

**Example**

```
if (mark.getVisible) {
    var visible = mark.getVisible();
}
```

**highlightText(highlights)** → {[PCCViewer.Mark](#)}

Highlights text within the mark. The highlights are not persisted when mark is saved using `saveMarkup`.

Existing highlights that were created with a previous call to this method, are cleared when this method is called.

It is invalid to call this method on the template mark of a [PCCViewer.MouseTool](#) object.

This method is defined on marks of type: `TextAnnotation`, `TextRedaction`, `HighlightAnnotation`, `TextSelectionRedaction`, `TextHyperlinkAnnotation` and `StrikethroughAnnotation`.

**Parameters:**

Name	Type	Description
highlights	Array. <object>   object	<p>An array of objects or a single object that defines a highlight.</p> <ul style="list-style-type: none"> <li>• Each object has the following properties: <ul style="list-style-type: none"> <li>◦ <code>startIndex</code> {number} - required <ul style="list-style-type: none"> <li>◦ The start index of the highlight in the mark text.</li> <li>◦ The valid range is <math>0 \leq \text{startIndex} &lt; \text{mark.getText().length}</math>.</li> </ul> </li> <li>◦ <code>length</code> {number} - required <ul style="list-style-type: none"> <li>◦ The length of the highlight in the mark.</li> <li>◦ If the length is greater than the number of remaining characters in the mark, then the remaining characters in the mark will be highlighted. The excessive length value will be ignored.</li> <li>◦ The valid range is <math>\text{length} &gt; 0</math>.</li> </ul> </li> <li>◦ <code>color</code> {string} - required <ul style="list-style-type: none"> <li>◦ Specifies the Hexadecimal color for the highlight.</li> <li>◦ Valid values are any 7-character string representing a color. The first letter must be a "#" symbol and the other six characters must be hexadecimal digits representing the red, green, and blue portions of the color.</li> </ul> </li> <li>◦ <code>opacity</code> {number} - optional <ul style="list-style-type: none"> <li>◦ Specifies the opacity of the highlight.</li> <li>◦ Valid values are from 0 to 255 (inclusive).</li> <li>◦ If unspecified, an opacity value of 127 will be used.</li> </ul> </li> </ul> </li> </ul> <p>If passed a value of null, undefined, or an empty array, then the highlights are cleared.</p>

See: [PCCViewer.Mark#clearHighlights](#)  
[PCCViewer.Mark#getText](#)

#### Throws:

- If any of the highlights in `highlights` param are missing required properties or contain invalid data.

Type  
Error

- If the mark is the template mark of a [PCCViewer.MouseTool](#) object.

Type  
Error

- If the mark was created with the constructor `new Mark()`.

Type  
Error

### Returns:

The Mark object on which this method was called.

Type  
[PCCViewer.Mark](#)

### Example

```
if (mark.highlightText) {
    mark.highlightText([
        {startIndex: 0, length: 5, color: "#FF0000"},
        {startIndex: 10, length: 5, color: "#FF0000"},
    ], opacity: 200);
}
```

`setBorderColor(value)` → [{PCCViewer.Mark}](#)

Sets the border color of the Mark.

This method is defined on marks of type: `RectangleAnnotation`, `EllipseAnnotation`, `TextAnnotation` and `RectangleRedaction`.

### Parameters:

Name	Type	Description
value	string	Hexadecimal string representing border color. This string must be prepended with '#' character.

See: [PCCViewer.Mark#getBorderColor](#)  
[PCCViewer.Mark#borderColor](#)

### Returns:

The Mark object on which this method was called.

Type  
[PCCViewer.Mark](#)

**Example**

```
if (mark.setBorderColor) {
    mark.setBorderColor("#FF0000"); // set the border
    color to red
}
```

**setBorderThickness(value) → {PCCViewer.Mark}**

Sets the border thickness of the mark.

This method is defined on marks of type: `RectangleAnnotation`, `EllipseAnnotation`, `TextAnnotation` and `RectangleRedaction`.

**Parameters:**

Name	Type	Description
value	number	Border thickness of the mark.

See: [PCCViewer.Mark#getBorderThickness](#)  
[PCCViewer.Mark#borderThickness](#)

**Returns:**

The Mark object on which this method was called.

Type

[PCCViewer.Mark](#)

**Example**

```
if (mark.setBorderThickness) {
    mark.setBorderThickness(3);
}
```

**setColor(value) → {PCCViewer.Mark}**

Sets the color of the Mark.

This method is defined on marks of type: `LineAnnotation`, `StampAnnotation`, `FreehandAnnotation`, `FreehandSignature`, `TextSignature`, `PolylineAnnotation` and `StrikethroughAnnotation`.

**Parameters:**

Name	Type	Description
value	string	Hexadecimal string representing color. This string must be prepended with '#' character.

See: [PCCViewer.Mark#getColor](#)  
[PCCViewer.Mark#color](#)

**Returns:**

The Mark object on which this method was called.

Type

[PCCViewer.Mark](#)

**Example**

```
if (mark.setColor) {
    mark.setColor("#FF0000"); // set the mark's color
    to red
}
```

**setData(key, value) → {[PCCViewer.Mark](#)}**

Sets the data value for the given key.

This method is defined on all Mark objects.

**Notes:**

- Overwrites any data value already associated with the given key.
- There is no artificial limit imposed on the number of key-value pairs that are stored.
- If limits on the number of key-value pairs are required, they should be enforced by calling code.
- Setting the value as undefined results in no information for the key being persisted to the server.
- The returned data is not mutated or sanitized, which could lead to a security vulnerability if not sanitized properly before use.

**Parameters:**

Name	Type	Description
key	string	The key for which to set the data value.
value	string	This is the value to set for the key. <ul style="list-style-type: none"> <li>• This must be a string or undefined.</li> <li>• The maximum length of the string is not limited by this function.</li> </ul>

See: [PCCViewer.Data#setData](#)  
[PCCViewer.Mark#getData](#)  
[PCCViewer.Mark#getDataKeys](#)

**Returns:**

The Mark object on which the method was called.

Type

[PCCViewer.Mark](#)

**Example**

```
var mark = viewerControl.addMark(1,
"RectangleRedaction");

// Get data returns undefined before the key is set.
mark.getData("Author"); // returns undefined

// The key "Author" is set the value "Mark".
mark.setData("Author", "Mark");
mark.getData("Author"); // returns "Mark"

// The key "Author" is overwritten with the value
"Clark".
mark.setData("Author", "Clark");
mark.getData("Author"); // returns "Clark"

// The key "Author" is unset, by setting the value to
undefined.
mark.setData("Author", undefined);
mark.getData("Author"); // returns undefined

// The value can only be set to a string or
undefined.
// All other data types throw.
mark.setData("FooBar", null); // throws
mark.setData("FooBar", 1); // throws
mark.setData("FooBar", true); // throws
mark.setData("FooBar", {}); // throws
mark.setData("FooBar", []); // throws
```

**setEndHeadType(value)** → [PCCViewer.Mark](#)

Sets the line head type.

This method is defined on marks of type: `LineAnnotation`.

**Parameters:**

Name	Type	Description
value	<a href="#">PCCViewer.Mark.LineHeadType</a>	The line head type. For example, <code>PCCViewer.Mark.LineHeadType.FilledRectangle</code> can be specified to make the line appear as an arrow.

See: [PCCViewer.Mark.LineHeadType](#)  
[PCCViewer.Mark#getEndHeadType](#)  
[PCCViewer.Mark#endHeadType](#)

**Returns:**

The Mark object on which this method was called.

Type

[PCCViewer.Mark](#)

**Example**

```

if (mark.setEndHeadType) {
    // Put a triangle head on the end of the line to
    make it an arrow
    mark.setEndHeadType("FilledTriangle");
    // or use the enumeration to accomplish the same
    thing

    mark.setEndHeadType(PCCViewer.Mark.LineHeadType.FilledT
}
    
```

`setEndPoint(value) → {PCCViewer.Mark}`

Sets the end point coordinate of the line Mark.

This method is defined on marks of type: `LineAnnotation`.

**Parameters:**

Name	Type	Description
value	Object	Start point coordinates of a line Mark. The parameter object must be of the following type: <code>{x: xvalue, y: yvalue}</code>

See: [PCCViewer.Mark#getEndPoint](#)  
[PCCViewer.Mark#endPoint](#)

### Returns:

The Mark object on which this method was called.

Type

[PCCViewer.Mark](#)

### Example

```
if (mark.setEndPoint) {  
    mark.setEndPoint({x:100, y:100});  
}
```

**setFillColor(value)** → [{PCCViewer.Mark}](#)

Sets the fill color of the Mark.

This method is defined on marks of type: `RectangleAnnotation`, `EllipseAnnotation`, `TextAnnotation`, `HighlightAnnotation`, `'TextHyperlinkAnnotation'` and `RectangleRedaction`.

### Parameters:

Name	Type	Description
value	string	Hexadecimal string representing fill color. This string must be prepended with '#' character.

See: [PCCViewer.Mark#getFillColor](#)  
[PCCViewer.Mark#fillColor](#)

### Returns:

The Mark object on which this method was called.

Type

[PCCViewer.Mark](#)

### Example

```
if (mark.setFillColor) {  
    mark.setFillColor("#FF0000"); // set the fill
```

```
color to red
}
```

`setFontColor(value)` → `{PCCViewer.Mark}`

Sets the font color of the text in the Text Mark.

This method is defined on marks of type: `TextAnnotation`, `TextRedaction`, `TextInputSignature`, `RectangleRedaction` and `TextAreaSignature`.

**Parameters:**

Name	Type	Description
value	string	A string value containing the hexadecimal color for the text of the text annotation.

See: [PCCViewer.Mark#getFontColor](#)  
[PCCViewer.Mark#fontColor](#)

**Returns:**

The Mark object on which this method was called.

Type  
[PCCViewer.Mark](#)

**Example**

```
if (mark.setFontColor) {
    mark.setFontColor("#000000");
}
```

`setFontName(value)` → `{PCCViewer.Mark}`

Sets the font name of the text in the Text Mark.

This method is defined on marks of type: `TextAnnotation`, `TextRedaction`, `TextSignature`, `TextInputSignature` and `TextAreaSignature`.

**Parameters:**

Name	Type	Description
value	string	A string value containing the font name for the text in the text annotation.

See: [PCCViewer.Mark#getFontName](#)

[PCCViewer.Mark#fontName](#)

**Returns:**

The Mark object on which this method was called.

Type

[PCCViewer.Mark](#)

**Example**

```
if (mark.setFontName) {
    mark.setFontName("Aerial");
}
```

[setFontSize\(value\)](#) → [{PCCViewer.Mark}](#)

Sets the font size (in points) for the text to use in the Mark.

**Note:** The API uses the resolution of the image to determine the size of a point so, for example, a line of 12 point text on a 300 DPI raster image will be 12 points / 72 point-per-inch \* 300 pixels-per-inch = 50 pixels tall. The default value is 12 points.

This method is defined on marks of type: `TextAnnotation`, `TextRedaction`.

**Parameters:**

Name	Type	Description
value	number	A number for the font size for the text in the text annotation.

See: [PCCViewer.Mark#getFontSize](#)  
[PCCViewer.Mark#fontSize](#)

**Returns:**

The Mark object on which this method was called.

Type

[PCCViewer.Mark](#)

**Example**

```
if (mark.setFontSize) {
    mark.setFontSize(12);
}
```

`setFontStyle(value) → {PCCViewer.Mark}`

Sets the font styles provided in the parameter array of the text in the mark.

This method is defined on marks of type: `TextAnnotation`, `TextAreaSignature`, `TextRedaction`.

**Parameters:**

Name	Type	Description
value	Array. <string>	<p>An array containing values containing the font styles for the text in the text annotation.</p> <p>Valid values in the array are:</p> <ul style="list-style-type: none"><li>• "Bold" (<code>PCCViewer.Mark.FontStyles.Bold</code>)</li><li>• "Italic" (<code>PCCViewer.Mark.FontStyles.Italic</code>)</li><li>• "Underline" (<code>PCCViewer.Mark.FontStyles.Underline</code>)</li><li>• "Strikeout" (<code>PCCViewer.Mark.FontStyles.Strikeout</code>)</li></ul> <p><b>Note:</b> An empty array would render the text with normal font style.</p>

See: [PCCViewer.Mark.FontStyles](#)  
[PCCViewer.Mark#getFontStyle](#)  
[PCCViewer.Mark#fontStyle](#)

**Returns:**

The Mark object on which this method was called.

Type  
`PCCViewer.Mark`

**Example**

```
if (mark.setFontStyle) {
    var fontStylesArray =
    ["Bold", "Italic", "Underline"];
    mark.setFontStyle(fontStylesArray);
}
```

`setHorizontalAlignment(value) → {PCCViewer.Mark}`

Sets the horizontal alignment of the text in the Text Mark.

This method is defined on marks of type: `TextAnnotation`, `TextRedaction`,

FreehandSignature, TextSignature, TextInputSignature and TextAreaSignature.

**Parameters:**

Name	Type	Description
value	string	A string value containing the horizontal alignment for the text in the text annotation.

See: [PCCViewer.Mark.HorizontalAlignment](#)  
[PCCViewer.Mark#getHorizontalAlignment](#)  
[PCCViewer.Mark#horizontalAlignment](#)

**Returns:**

The Mark object on which this method was called.

Type

[PCCViewer.Mark](#)

**Example**

```
if (mark.setHorizontalAlignment) {
    mark.setHorizontalAlignment("center");
}
```

**setHref(href) → {[PCCViewer.Mark](#)}**

Sets the link target for hyperlink annotations.

All strings and numbers are valid values. It is the responsibility of the API consumer to handle clicks of hyperlink annotations. When handling the click, the API consumer should interpret the href value and take the appropriate navigation action.

This method is defined on marks of type: `TextHyperlinkAnnotation`.

**Parameters:**

Name	Type	Description
href	string   number	The link target.

See: [PCCViewer.Mark#getHref](#)  
[PCCViewer.Mark#href](#)  
[PCCViewer.EventType.Click](#)

**Returns:**

The Mark object on which this method was called.

Type

[PCCViewer.Mark](#)

**Example**

```
if (mark.setHref) {
    // set to fully qualified URL
    mark.setHref("http://www.accusoft.com/");

    // or a URL fragment
    mark.setHref("#named-annotation");

    // or a numeric value
    mark.setHref(4);
}
```

**setImage(imageData) → {[PCCViewer.Mark](#)}**

Sets the image that is displayed for the Mark.

This method is defined on marks of type: [ImageStampAnnotation](#) and [ImageStampRedaction](#).

**Parameters:**

Name	Type	Description
imageData	<a href="#">PCCViewer.Mark~ImageData</a>	An object that represents the image to be shown for the mark.

See: [PCCViewer.Mark#getImage](#)  
[PCCViewer.Mark#image](#)

**Returns:**

The Mark object on which this method was called.

Type

[PCCViewer.Mark](#)

**Example**

```
var param = {
```

```

    dataUrl: "data:image/png;base64,base64 string",
    id: "imageId"
  };
  if (mark.setImage) {
    mark.setImage(param);
  }

```

**setInteractionMode(interactionMode) → {PCCViewer.ViewerControl}**

Sets a value that indicates the allowed interactions with this mark.

This method is defined on all [Mark](#) objects.

**Parameters:**

Name	Type	Description
interactionMode	string	A string value from the enumeration <a href="#">PCCViewer.Mark.InteractionMode</a> , which indicates the allowed interactions with this mark.

See: [PCCViewer.Mark#getInteractionMode](#)  
[PCCViewer.Mark#interactionMode](#)

**Returns:**

The object on which this method was called.

Type

[PCCViewer.ViewerControl](#)

**Example**

```
mark.setInteractionMode(PCCViewer.Mark.InteractionMode.F
```

**setLabel(value) → {PCCViewer.Mark}**

Sets the text string in the Stamp Mark.

This method is defined on marks of type: [StampAnnotation](#), [StampRedaction](#).

**Parameters:**

Name	Type	Description
value	string	A string value containing the text in the Stamp annotation.

See: [PCCViewer.Mark#getLabel](#)  
[PCCViewer.Mark#label](#)

**Returns:**

The Mark object on which this method was called.

Type

[PCCViewer.Mark](#)

**Example**

```
if (mark.setLabel) {
    mark.setLabel("Approved");
}
```

`setMask(mask)` → [{PCCViewer.Mark}](#)

Sets the mask for the text input signature mark. Once this mark enters edit mode, the user input will be masked according to the properties set using this method.

This method is defined on marks of type: `TextInputSignature`.

**Parameters:**

Name	Type	Description
mask	object	The mask to set on this mark to assist user input.
<b>Properties</b>		
Name	Type	Description
value	string	The string representation of the mask. The user input will <i>look</i> like this string once they have finished their input. Each character in this string that does not have a translation will be represented to the user literally.
translations	object	The translations to use for the given mask value. The key represents a character present in the mask value, and the value is a regular expression which validates the acceptable user input for that character.

See: [PCCViewer.Mark#getMask](#)  
[PCCViewer.Mark#mask](#)

## PCCViewer.ViewerControl#enterTextMarkEditingMode

### Throws:

- If `mask` is not an object, undefined or null.  
Type  
Error
- If `mask.value` is not a string.  
Type  
Error
- If `mask.translations` is not an object.  
Type  
Error
- If `mask.translations` contains a key with a string length not equal to 1.  
Type  
Error
- If `mask.translations` contains a value that is not a regular expression.  
Type  
Error
- If `mask.translations` contains a value that is a regular expression with flags.  
Type  
Error

### Returns:

The Mark object on which this method was called.

Type  
`PCCViewer.Mark`

### Example

```
if (mark.setMask) {
```

```
// only allow a US phone number as input
mark.setMask({
  value: '(###) ###-####'
  translations: {
    '#': /\d/
  }
});

// only allow an Arizona driver's license number
mark.setMask({
  value: 'A#####-AA#####-#####-A#####',
  translations: {
    'A': /[a-zA-Z]/,
    '#': /\d/
  }
});
}
```

`setMaxFontSize(maxFontSize)` → `{PCCViewer.Mark}`

Sets the maximum font size (in points) for text in the mark. Setting a value of 0 indicates no maximum font size (in this case, the text will enlarge to fit to the mark bounds no matter how large the mark is).

This method is defined on marks of type: `TextAreaSignature`.

**Parameters:**

Name	Type	Description
<code>maxFontSize</code>	number	The positive number to set as the maximum font size of the mark.

See: [PCCViewer.Mark#getMaxFontSize](#)  
[PCCViewer.Mark#maxFontSize](#)

**Throws:**

If `maxFontSize` is not a positive integer or 0.

Type  
Error

**Returns:**

The Mark object on which this method was called.

Type  
[PCCViewer.Mark](#)

## Example

```
if (mark.setMaxFontSize) {  
    // only allow the font to enlarge to 72px  
    mark.setMaxFontSize(72);  
}
```

**setMaxLength(maxLength) → {PCCViewer.Mark}**

Sets the maximum number of characters that may be entered into an input

This method is defined on marks of type: `TextAnnotation`, `TextRedaction`, `TextAreaSignature`, and `TextInputSignature`.

## Parameters:

Name	Type	Description
maxLength	number	The positive number to set as the max length of the mark

See: [PCCViewer.Mark#getMaxLength](#)  
[PCCViewer.Mark#maxLength](#)

## Throws:

If `maxLength` is not a positive integer or 0.

Type  
Error

## Returns:

The Mark object on which this method was called.

Type  
[PCCViewer.Mark](#)

## Example

```
if (mark.setMaxLength) {  
    // only allow 5 characters to be entered  
    mark.setMaxLength(5);  
}
```

**setOpacity(value) → {PCCViewer.Mark}**

Sets the opacity of the Mark. This value is a number between 0 and 255.

This method is defined on marks of type: `LineAnnotation`, `RectangleAnnotation`, `EllipseAnnotation`, `TextAnnotation`, `FreehandAnnotation`, `PolylineAnnotation`.

**Parameters:**

Name	Type	Description
value	number	Opacity of the Mark. Acceptable values are in the range 0 to 255.

See: [PCCViewer.Mark#getOpacity](#)  
[PCCViewer.Mark#opacity](#)

**Returns:**

The Mark object on which this method was called.

Type

[PCCViewer.Mark](#)

**Example**

```
if (mark.setOpacity) {
    mark.setOpacity(255); // fully opaque
    mark.setOpacity(127); // translucent
    mark.setOpacity(0); // transparent
}
```

`setPath(path)` → [{PCCViewer.Mark}](#)

Sets the path data of `FreehandSignature` and `FreehandAnnotation`.

This method is defined on marks of type: `FreehandSignature`, `FreehandAnnotation`.

**Parameters:**

Name	Type	Description
path	string	The path data string. This includes a subset of the SVG path standard, including the M, L, and C commands only.

See: [PCCViewer.Mark#getPath](#)  
[PCCViewer.Mark#path](#)

**Returns:**

The Mark object on which this method was called.

Type

[PCCViewer.Mark](#)

#### Example

```
if (mark.setPath) {
    mark.setPath("M0,0L1,1L1,0");
}
```

`setPoints(value) → {PCCViewer.Mark}`

Sets the points vertices coordinate array of the PolylineAnnotation Mark.

This method is defined on marks of type: `PolylineAnnotation`.

#### Parameters:

Name	Type	Description
value	Object	is an array of coordinates of the vertices in a Polyline Mark. Each point must be of the following type: {x: xvalue, y: yvalue}

See: [PCCViewer.Mark#getPoints](#)

#### Throws:

If `value` is not an array.

Type

Error

#### Returns:

The Mark object on which this method was called.

Type

[PCCViewer.Mark](#)

#### Example

```
if (mark.setPoints) {
    mark.setPoints([{x:100, y:100}, {x:200, y:
250}..., {x:1000, y: 1000});
}
```

```
setPosition(value) → {PCCViewer.Mark}
```

Sets the position of text-based Marks.

*Important* - This method only works if the ViewerControl instance has page text for all pages that the text-based mark will span. In common use cases the ViewerControl will have text for these pages, however the ViewerControl API provides methods to check if it has text for a page and also to force it to get text for a page.

There are certain methods that force the ViewerControl to get text for a page or all pages.

- Calling `PCCViewer.ViewerControl#requestPageText` will force the ViewerControl to get text for a specified page if it does not already have the text for the page. This method also has the benefit of providing you with the page text, so that you are not blindly setting the position of the mark on the page.
- Calling `PCCViewer.ViewerControl#search` will force the viewer to get text for all pages by the time the search completes.

There are means to determine if the ViewerControl has text for a page.

- Calling `PCCViewer.ViewerControl#isPageTextReady` will synchronously indicate if the viewer has text for a page.
- The ViewerControl will trigger the `PCCViewer.EventType.PageTextReady` event when it gets text for a page.

This method is defined on marks of type: `HighlightAnnotation`, `TextSelectionRedaction`, `TextHyperlinkAnnotation`, and `StrikethroughAnnotation`.

#### Parameters:

Name	Type	Description
value	Object	Position of a Mark. The parameter object must be of the following type: {startIndex: startIndexValue, length: lengthValue}

See: [PCCViewer.Mark#getPosition](#)  
[PCCViewer.Mark#position](#)

#### Throws:

- If the viewer does not have text for any page that the mark will span.  
Type  
Error
- If `position.startIndex` is not a valid number that indicates the index of a character on the mark's page.  
Type

## Error

- If `position.length` is negative or will cause the mark to extend past the last character in the document.

Type

Error

- If `position` does not contain the property `startIndex` or `length`.

Type

Error

**Returns:**

The Mark object on which this method was called.

Type

`PCCViewer.Mark`**Example**

```
// Example 1
// -----
// Basic (unsafe) usage, call setPosition and pass in
// an object with a startIndex and length.
if (mark.setPosition) {
    mark.setPosition({startIndex:0, length:5});
}

// Example 2
// -----
// Safe usage, request the page text and then
// highlight something within that page.
// This code highlights the half of the characters on
// the page.
viewerControl.requestPageText(1).then(
    function(pageText) {
        // Now that we have the page text for page 1,
        // Add a HighlightAnnotation to page 1 and
        // set the position of the highlight.
        viewerControl.addMark(1,
            PCCViewer.Mark.Type.HighlightAnnotation)
            .setPosition({startIndex: pageText.length
                / 4, length: pageText.length / 2});
    });

// Example 3
```

```
// -----  
// Safe highlighting of arbitrary spans of text.  
// We highlight 3000 characters starting at index 100  
on page 2.  
var markPage = 2,  
    markPosition = {startIndex: 100, length: 3000};  
  
// Since the highlight will be 3000 characters, it  
may span multiple pages.  
// We use a helper method to ensure that the  
ViewerControl has text for all pages that it will  
span.  
ensureViewerControlHasPageText(viewerControl,  
markPage, markPosition)  
    .then(addHighlightAnnotation,  
        function(error) {  
            alert("Something went wrong when trying  
to get page text. " + (error.message ? error.message  
: error));  
        });  
  
// This function uses the ViewerControl API to add a  
HighlightAnnotation.  
// It will be called when  
ensureViewerControlHasPageText completes.  
function addHighlightAnnotation() {  
    // Add the HighlightAnnotation using  
ViewerControl#addMark and then  
    // set the position and color of the highlight.  
viewerControl.addMark(markPage,  
PCCViewer.Mark.Type.HighlightAnnotation)  
    .setPosition(markPosition)  
    .setFillColor("#FF0000");  
  
    // Scroll to the page containing the mark.  
viewerControl.setPageNumber(markPage);  
}  
  
// A helper method to ensure that a ViewerControl  
instance has page text  
// for all pages that a HighlightAnnotation or  
TextSelectionRedaction spans.  
function  
ensureViewerControlHasPageText(viewerControl,  
markPageNumber, markPostion) {  
  
    // Calling ViewerControl#requestPageText will  
cause the ViewerControl to get text  
    // from the server if it does not already have  
it. This method also gives us the page  
    // text so we can check if the mark will extend
```

```
to the next page.
    return
viewerControl.requestPageText(markPageNumber).then(

    // If requestPageText promise is fulfilled,
    we compare the markPosition to the
    // page text, and if necessary, recursively
    ensure text for the next page.
    function(pageText) {
        // Check for an invalid markPosition. The
        method setPosition will now allow the caller
        // to crate a mark that starts after the
        last character on the page.
        if (markPostion.startIndex >=
pageText.length) {
            throw new Error("Mark cannot start
after last character on the page.");
        }

        // Determine if the highlight extends
into the next page.
        var remainingCharsOnPage =
pageText.length - markPostion.startIndex;
        var remainingCharsInHighlight =
markPostion.length - remainingCharsOnPage;
        var extendsToNextPage =
remainingCharsInHighlight > 0;

        // If the highlight extends to the next
page, and we are not on the last page,
        // then ensure the viewer has the text
for the next page.
        if (extendsToNextPage) {
            if (markPageNumber <
viewerControl.getPageCount()) {
                return
ensureViewerControlHasPageText(viewerControl,
markPageNumber + 1,
                                {startIndex: 0,
length: remainingCharsInHighlight});
            }
            // Mark#setPosition does not allow
the mark to extend off of the document.
            else {
                throw new Error("Mark cannot
extend off the document.")
            }
        }
    }
)
}
```

```
setReason(value) → {PCCViewer.Mark}
```

Sets the reason in the Redaction Mark.

This method is defined on marks of type: `RectangleRedaction`, `TextSelectionRedaction`.

**Parameters:**

Name	Type	Description
value	string	Redaction reason of the Mark. Acceptable values are any string.

See: [PCCViewer.Mark#getReason](#)  
[PCCViewer.Mark#reason](#)

**Returns:**

The Mark object on which this method was called.

Type

[PCCViewer.Mark](#)

**Example**

```
if (mark.setReason) {  
    mark.setReason("Information for top security  
clearance only.");  
}
```

```
setRectangle(value) → {PCCViewer.Mark}
```

Sets the bounding rectangle of the Mark.

This method is defined on marks of type: `RectangleAnnotation`, `EllipseAnnotation`, `TextAnnotation`, `StampAnnotation`, `RectangleRedaction`, `TransparentRectangleRedaction`, `TextRedaction`, `StampRedaction`, `FreehandAnnotation`, `FreehandSignature`, `TextSignature`, `ImageStampAnnotation`, `ImageStampRedaction`, `TextInputSignature` and `TextAreaSignature`.

**Parameters:**

Name	Type	Description
value	Object	Bounding rectangle of a Mark. The parameter object must be of the following type: {x: xValue, y: yValue, width: widthValue, height: heightValue}

See: [PCCViewer.Mark#getRectangle](#)  
[PCCViewer.Mark#rectangle](#)

**Returns:**

The Mark object on which this method was called.

Type

[PCCViewer.Mark](#)

**Example**

```
if (mark.setRectangle) {
    mark.setRectangle({x:0, y:0, width:100,
height:100});
}
```

**setSessionData(key, value) → {[PCCViewer.Mark](#)}**

Sets the session data value for the given key. Unlike [PCCViewer.Mark#setData](#), this data is not saved with the annotation, it only lasts for the session.

This method is defined on all Mark objects.

**Parameters:**

Name	Type	Description
key	string	The key for which to set the data value.
value	string	This is the value to set for the key. <ul style="list-style-type: none"> <li>This must be a string or undefined.</li> <li>The maximum length of the string is not limited by this function.</li> </ul>

See: [PCCViewer.Data#setSessionData](#)  
[PCCViewer.Mark#getSessionData](#)  
[PCCViewer.Mark#getSessionDataKeys](#)

**Returns:**

The Mark object on which the method was called.

Type

`PCCViewer.Mark`

#### **Example**

```
var mark = viewerControl.addMark(1,
"RectangleRedaction");

// Get data returns undefined before the key is set.
mark.getSessionData("Visibility"); // returns
undefined

// The key "Visibility" is set the value "Shown".
mark.setSessionData("Visibility", "Shown");
mark.getSessionData("Visibility"); // returns "Shown"

// The key "Visibility" is overwritten with the value
"Hidden".
mark.setSessionData("Visibility", "Hidden");
mark.getSessionData("Visibility"); // returns
"Hidden"

// The key "Visibility" is unset, by setting the
value to undefined.
mark.setSessionData("Visibility", undefined);
mark.getSessionData("Visibility"); // returns
undefined

// The value can only be set to a string or
undefined.
// All other data types throw.
mark.setSessionData("FooBar", null); // throws
mark.setSessionData("FooBar", 1); // throws
mark.setSessionData("FooBar", true); // throws
mark.setSessionData("FooBar", {}); // throws
mark.setSessionData("FooBar", []); // throws
```

`setSignature(signature) → {PCCViewer.Mark}`

*Note: This property is defined on the template mark of the PlaceSignature mouse tool, and is not available on any mark.*

Sets the signature data to use by the PlaceSignature mouse tool.

#### **Parameters:**

Name	Type	Description
signature	Object   undefined	An object with properties that specify the signature data. Using <code>undefined</code> will reset the state of the mouse tool back to default.  See <a href="#">PCCViewer.Signatures~FreehandSignature</a> and <a href="#">PCCViewer.Signatures~TextSignature</a>

See: [PCCViewer.Mark#getSignature](#)  
[PCCViewer.Mark#signature](#)

**Throws:**

- If `signature` is not an `Object` or `undefined`.  
Type  
Error
- If the signature object does not have either a `path` or `text` string property.  
Type  
Error

**Returns:**

The `Mark` object on which this method was called.

Type  
[PCCViewer.Mark](#)

**Example**

```
// get the mouse tool
var accusoftPlaceSignature =
PCCViewer.MouseTools.getMouseTool('AccusoftPlaceSignature');

// get the template mark
var signatureTemplateMark =
accusoftPlaceSignature.getTemplateMark();

// set signature path for freehand signature
signatureTemplateMark.setSignature({path:
"M0,0L100,0L100,100L0,100L0,0"});

// the same template can be reused for text signature
signatureTemplateMark.setSignature({ text: "Joe
```

```
Smith", fontName: "Arial" });
```

**setStartPoint(value) → {PCCViewer.Mark}**

Sets the start point coordinate of the line Mark.

This method is defined on marks of type: `LineAnnotation`.

**Parameters:**

Name	Type	Description
value	Object	Start point coordinates of a line Mark. The parameter object must be of the following type: {x:xvalue, y: yvalue}

See: [PCCViewer.Mark#getStartPoint](#)  
[PCCViewer.Mark#startPoint](#)

**Returns:**

The Mark object on which this method was called.

Type

[PCCViewer.Mark](#)

**Example**

```
if (mark.setStartPoint) {
    mark.setStartPoint({x:1, y:1});
}
```

**setText(value) → {PCCViewer.Mark}**

Sets the text in the Text Mark.

This method is defined on marks of type: `TextAnnotation`, `TextRedaction`, `TextSignature`, `TextInputSignature` and `TextAreaSignature`.

**Note:** This method is NOT available for marks of type: `HighlightAnnotation`, `TextSelectionRedaction`, `TextHyperlinkAnnotation` and `StrikethroughAnnotation`

**Parameters:**

Name	Type	Description
value	string	Text of the Mark. Acceptable values are any string.

See: [PCCViewer.Mark#getText](#)  
[PCCViewer.Mark#text](#)

### Returns:

The Mark object on which this method was called.

Type

[PCCViewer.Mark](#)

### Example

```
if (mark.setText) {  
    mark.setText("This is test Text");  
}
```

`setThickness(value) → {PCCViewer.Mark}`

Sets the thickness of line.

This method is defined on marks of type: [LineAnnotation](#), [FreehandAnnotation](#), [FreehandSignature](#), [PolylineAnnotation](#), [StrikethroughAnnotation](#).

### Parameters:

Name	Type	Description
value	number	Thickness of the line.

See: [PCCViewer.Mark#getThickness](#)  
[PCCViewer.Mark#thickness](#)

### Returns:

The Mark object on which this method was called.

Type

[PCCViewer.Mark](#)

### Example

```
if (mark.setThickness) {  
    mark.setThickness(3);  
}
```

```
setVisible() → {PCCViewer.Mark}
```

Sets the Mark to either visible or invisible depending on the boolean parameter. This method is defined on all mark types.

**Parameters:**

Name	Type	Description
value.	boolean	

See: [PCCViewer.Mark#getVisible](#)  
[PCCViewer.Mark#visible](#)

**Returns:**

The Mark object on which this method was called.

Type  
[PCCViewer.Mark](#)

**Example**

```
if (mark.setVisible) {  
    mark.setVisible(true); // sets the mark visible  
}
```

## Type Definitions

### ImageData

This type is used to specify the image data and a unique identifier for the image data. Objects of this type are used by the [PCCViewer.Mark#getImage](#), [PCCViewer.Mark#setImage](#), and [PCCViewer.Mark#image](#) members.

**Type:**

- Object

**Properties:**

Name	Type	Description
id	string	An arbitrary string id used to identify this image. Though this can be any string, it is expected that the same string identifier be used to identify the same image data.
dataUrl	string	A base64-encoded data URL representation of an image.

---

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## Class: MarkupLayer

### Class: MarkupLayer

#### PCCViewer. MarkupLayer

(protected) `new MarkupLayer(viewerControl, markReferencesopt)`

The `MarkupLayer` object is used to group together marks and their associated comments. A layer may be persisted to the web tier using `PCCViewer.ViewerControl#saveMarkupLayer`. Also, a layer may be stored in a `PCCViewer.MarkupLayerCollection` where it can be retrieved for later use.

When creating a layer, mark references may be added. A mark reference is a JSON object that represents a comment that refers to a mark on another layer. When the current user comments on a mark that does not exist in his layer, then his persisted layer record will contain a reference to the mark while the full mark will exist in another record. Because records might be loaded out of order or in an incomplete set, this parameter provides a way to store the mark reference. If the record containing the full mark loads later then the data stored here can be attached to it.

After creating a layer, marks may be added and removed from it.

The `MarkupLayer` object also provides an event subscription method, to get notified of other types of information. See `PCCViewer.MarkupLayer.EventType`.

#### Parameters:

Name	Type	Attributes	Description
viewerControl	string		The <code>PCCViewer.ViewerControl</code> for the loaded document.
markReferences	Object   Array. <Object>	<optional>	The JSON reference node (or an array of them) from the markup layer record.

#### Example

```
// Optionally, specify any references to marks on
another layer or layers
var markReference = {
    creationDateTime: "2015-06-12T21:20:58.527Z",
    data: {
        "key1": "value1",
        "key2": "value2"
    },
    markUid:
"ZZZrOV8yMDE1LTA2LTExVDE5OjU5OjEwLjE3MlpfNDg2dzI5",
    text: "user 1 comment on user 3 mark"
};

// Create a new layer
var layer = new PCCViewer.MarkupLayer(viewerControl,
markReference);

//register some events
layer

.on(PCCViewer.MarkupLayer.EventType.MarkupLayerCreated,
function(ev) {
    alert("Markup layer created.");
})

.on(PCCViewer.MarkupLayer.EventType.MarkupLayerDestroyed,
function(ev) {
    alert("Markup layer destroyed.");
})

.on(PCCViewer.MarkupLayer.EventType.MarksAddedToLayer,
function(ev) {
    alert("Mark added to layer: " +
ev.marks[0].getId());
})

.on(PCCViewer.MarkupLayer.EventType.MarksRemovedFromLayer
function(ev) {
    alert("Mark removed from layer: " +
ev.marks[0].getId());
})

.on(PCCViewer.MarkupLayer.EventType.MarkupLayerInteraction
function(ev) {
    alert("Layer's interaction mode changed to: " +
ev.interactionMode);
})

.on(PCCViewer.MarkupLayer.EventType.MarkupLayerHidden,
function(ev) {
```

```

        alert("MarkupLayer#hide() called.");
    })

    .on(PCCViewer.MarkupLayer.EventType.MarkupLayerShown,
function(ev) {
    alert("MarkupLayer#show() called.");
});

// Create a new mark
var mark = viewerControl.addMark(1,
"HighlightAnnotation");
// Add the mark to the layer
layer.addMarks(mark);
// Determine if a mark is contained in a layer
var markInLayer = layer.hasMark(mark.getId());

```

## Members

(static, readonly) **EventType** :string

A list of events that can be triggered by the [PCCViewer.MarkupLayer](#) object.

**Note:** This enumeration is for convenience for API developers. Instead of using this enumeration, you can pass string values of the eventType (enumeration values)

### Type:

- string

### Properties:

Name	Type	Description
MarkupLayerCreated	string	
MarkupLayerDestroyed	string	
MarksAddedToLayer	string	
MarksRemovedFromLayer	string	
MarkupLayerInteractionModeChanged	string	
MarkupLayerHidden	string	
MarkupLayerShown	string	

See: [PCCViewer.Event](#)  
[PCCViewer.MarkupLayer#on](#)  
[PCCViewer.MarkupLayer#off](#)

(readonly) id :Object

Gets the layer's ID.

This property is defined on all MarkupLayer objects.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- Object

See: [PCCViewer.MarkupLayer#getId](#)

**Example**

```
var id = MarkupLayer.id;
```

name :Object

Gets and sets the layer's name.

This property is defined on all MarkupLayer objects.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- Object

See: [PCCViewer.MarkupLayer#getName](#)  
[PCCViewer.MarkupLayer#setName](#)

**Example**

```
var name = MarkupLayer.name;
```

originalXmlName :Object

Gets and sets the layer's original XML name.

This property is defined on all MarkupLayer objects.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- Object

See: [PCCViewer.MarkupLayer#getOriginalXmlName](#)  
[PCCViewer.MarkupLayer#setOriginalXmlName](#)

**Example**

```
var name = MarkupLayer.originalXmlName;
```

**(readonly) recordId :Object**

Gets the ID of web tier record from which this layer was created.

This property is defined on all MarkupLayer objects.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- Object

See: [PCCViewer.MarkupLayer#getRecordId](#)

**Example**

```
var recordId = MarkupLayer.recordId;
```

**(readonly) viewerControl :Object**

Gets the viewer control associated with this layer.

This property is defined on all MarkupLayer objects.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- Object

See: [PCCViewer.MarkupLayer#getViewerControl](#)

**Example**

```
var viewerControl = MarkupLayer.viewerControl;
```

**Methods**

**addMarks(A)** → {PCCViewer.MarkupLayer}

Used to add marks to the layer.

**Parameters:**

Name	Type	Description
A	PCCViewer.Mark   Array. <PCCViewer.Mark>	{PCCViewer.Mark} object or an array of them.

**Returns:**

The markup layer Object.

Type

PCCViewer.MarkupLayer

**Example**

```
var markupLayer =
viewerControl.getMarkupLayerCollection().getAll()[0];
// Get the first markup layer.
var mark = viewerControl.addMark(1,
'HighlightAnnotation'); // Create a new mark
markupLayer.addMarks(mark);
```

**copyLayers(marks)** → {PCCViewer.MarkupLayer}

Copies marks from other layers to this layer.

**Note:** The copied marks are assigned new unique IDs, and any references to the original mark (such as a comment on the mark that is stored in another layer) will not reference the copied mark. A copy of each comment on the mark is put on the copy of the mark in this layer.

**Parameters:**

Name	Type	Description
marks	Array.<PCCViewer.MarkupLayer>	An array of markup layers to copy to this layer.

**Throws:**

If markupLayers is not an array of markup layers known to the viewer.

Type  
Error

**Returns:**

The markup layer Object on which this method was called.

Type  
PCCViewer.MarkupLayer

**Example**

```
var markupLayer1 =
viewerControl.getMarkupLayerCollection().getAll()[0];
// Get the first markup layer.
var markupLayer2 =
viewerControl.getMarkupLayerCollection().getAll()[1];
// Get the second markup layer.
var markupLayer4 =
viewerControl.getMarkupLayerCollection().getAll()[3];
// Get the fourth markup layer.
// Concatenate layers 2 and 4 to a single array.
var layersToCopy = markupLayer2.concat(markupLayer4);
// Copy the layers to this layer.
markupLayer1.copyLayers(layersToCopy);
```

**destroy()**

This method will remove the layer from the viewer control's markup layer collection. Also, it will de-register any event listeners associated with the layer.

**Example**

```
var markupLayer =
viewerControl.getMarkupLayerCollection().getAll()[0];
// Get the first markup layer.
markupLayer.destroy();
```

**getData(key) → {string|object}**

Gets the data value for the given key, or gets a hash containing all key values, if a key was not provided.

This method is defined on all MarkupLayer objects.

**Parameters:**

Name	Type	Description
key	string	The key for which to get the data value.

See: [PCCViewer.Data#getData](#)  
[PCCViewer.MarkupLayer#setData](#)  
[PCCViewer.MarkupLayer#getDataKeys](#)

**Throws:**

If the `key` argument is null or otherwise not a string.

Type  
Error

**Returns:**

- If a key argument was provided, it returns the associated value.
- If a key argument was provided, but a value has not been associated with the key, then it returns undefined.
- If a key was not provided, it returns a hash object containing all key-value pairs.

Type  
string | object

**Example**

```
// The key "Username" is set the value "Admin".
layer.setData("Username", "Admin");

// The key "CreatedDate" is set the value "1970-01-01".
layer.setData("CreatedDate", "1970-01-01");

layer.getData("Username"); // returns "Admin"
layer.getData();           // returns
{"Username":"Admin", "CreatedDate":"1970-01-01"}
layer.getData("FooBar"); // returns undefined
```

`getDataKeys()` → `{Array.<string>}`

Gets an array of data keys known to this MarkupLayer.

This method is defined on all MarkupLayer objects.

See: [PCCViewer.Data#getDataKeys](#)  
[PCCViewer.MarkupLayer#getData](#)  
[PCCViewer.MarkupLayer#setData](#)

### **Returns:**

Returns an array of data keys known to this MarkupLayer. If no data is stored, then an empty array will be returned.

Type  
Array.<string>

### **Example**

```
// Returns an empty array before key-value pairs are
stored.
layer.getDataKeys(); // returns []

// Returns a list of all keys.
layer.setData("Username", "Admin");
layer.setData("CreatedDate", "1970-01-01");
layer.getDataKeys(); // returns ["Username",
"CreatedDate"]
```

**getId() → {string}**

Gets the layer's ID.

### **Returns:**

The ID of the layer.

Type  
string

**getMarkReferences() → {Array.<Object>}**

Gets the mark references associated with this layer.

### **Returns:**

An array of mark reference Objects.

Type

Array.<Object>

### Example

```
var markupLayer =
viewerControl.getMarkupLayerCollection().getAll()[0];
// Get the first markup layer.
var markReferences = markupLayer.getMarkReferences();
```

`getMarks()` → {Array.<PCCViewer.Mark>}

Gets the marks associated with this layer.

### Returns:

An array of {PCCViewer.Mark} Objects.

Type

Array.<PCCViewer.Mark>

### Example

```
var markupLayer =
viewerControl.getMarkupLayerCollection().getAll()[0];
// Get the first markup layer.
var marks = markupLayer.getMarks();
```

`getName()` → {string}

Gets the layer's name.

### Returns:

The name of the layer.

Type

string

### Example

```
var markupLayer =
viewerControl.getMarkupLayerCollection().getAll()[0];
// Get the first markup layer.
```

```
var layerName = markupLayer.getName();
```

**getOriginalXmlName()** → {string}

Gets the name of the web tier XML record from which the marks of this layer were originally stored.

**Returns:**

The name of the web tier XML record from which the marks of this layer were originally stored.

Type  
string

**Example**

```
var markupLayer =  
viewerControl.getMarkupLayerCollection().getAll()[0];  
// Get the first markup layer.  
var originalXmlName = markupLayer.getOriginalXmlName();
```

**getRecordId()** → {string}

Gets the ID of web tier record from which this layer was created.

**Returns:**

The layer record ID

Type  
string

**Example**

```
var markupLayer =  
viewerControl.getMarkupLayerCollection().getAll()[0];  
// Get the first markup layer.  
var recordId = markupLayer.getRecordId();
```

**getSessionData(key)** → {string|object}

Gets the session data value for the given key, or gets a hash containing all key values, if a key was not provided. Unlike [PCCViewer.MarkupLayer#getData](#), this data is not saved with the annotation, it only lasts for the session.

This method is defined on all MarkupLayer objects.

**Parameters:**

Name	Type	Description
key	string	The key for which to get the data value.

See: [PCCViewer.SessionData#getSessionData](#)  
[PCCViewer.MarkupLayer#setSessionData](#)  
[PCCViewer.MarkupLayer#getSessionDataKeys](#)

**Throws:**

If the `key` argument is null or otherwise not a string.

Type  
Error

**Returns:**

- If a key argument was provided, it returns the associated value.
- If a key argument was provided, but a value has not been associated with the key, then it returns undefined.
- If a key was not provided, it returns a hash object containing all key-value pairs.

Type  
string | object

**Example**

```
// The key "Username" is set the value "Admin".
layer.setSessionData("Username", "Admin");

// The key "CreatedDate" is set the value "1970-01-01".
layer.setSessionData("CreatedDate", "1970-01-01");

layer.getSessionData("Username"); // returns "Admin"
layer.getSessionData();           // returns
{"Username":"Admin", "CreatedDate":"1970-01-01"}
layer.getSessionData("FooBar");   // returns undefined
```

`getSessionDataKeys()` → {Array.<string>}

Gets an array of data keys known to this MarkupLayer. Unlike [PCCViewer.MarkupLayer#getDataKeys](#), this data is not saved with the annotation, it only lasts for the session.

This method is defined on all MarkupLayer objects.

See: [PCCViewer.SessionData#getSessionDataKeys](#)  
[PCCViewer.MarkupLayer#getSessionData](#)  
[PCCViewer.MarkupLayer#setSessionData](#)

**Returns:**

Returns an array of data keys known to this MarkupLayer. If no data is stored, then an empty array will be returned.

Type

Array.<string>

**Example**

```
// Returns an empty array before key-value pairs are
stored.
layer.getSessionDataKeys(); // returns []

// Returns a list of all keys.
layer.setSessionData("Username", "Admin");
layer.setSessionData("CreatedDate", "1970-01-01");
layer.getSessionDataKeys(); // returns ["Username",
"CreatedDate"]
```

`getViewerControl()` → {[PCCViewer.ViewerControl](#)}

Gets the viewer control associated with this layer.

**Returns:**

A viewer control object.

Type

[PCCViewer.ViewerControl](#)

**Example**

```
var markupLayer =
viewerControl.getMarkupLayerCollection().getAll()[0];
// Get the first markup layer.
var viewerControl = markupLayer.getViewerControl();
```

`hasMark(A) → {boolean}`

Used to query the layer to see if it contains a particular mark.

**Parameters:**

Name	Type	Description
A	string	mark's id.

**Returns:**

A true or false indication depending on whether the mark exists in the layer.

Type

boolean

**Example**

```
var markupLayer =
viewerControl.getMarkupLayerCollection().getAll()[0];
// Get the first markup layer.
var mark = viewerControl.getAllMarks()[0];
var markExistsInLayer =
markupLayer.hasMark(mark.getId());
```

`hide() → {PCCViewer.MarkupLayer}`

Hides all of the marks in the layer.

**Returns:**

The markup layer Object on which this method was called.called.

Type

`PCCViewer.MarkupLayer`

**Example**

```
var markupLayer =
viewerControl.getMarkupLayerCollection().getAll()[0];
// Get the first markup layer.
markupLayer.hide(); // Hide the marks in the layer.
```

`off(eventType, handler) → {PCCViewer.MarkupLayer}`

Unsubscribe an event handler from a specified event type.

Typically, an event is unsubscribed when you no longer want further notification of the event.

**Parameters:**

Name	Type	Description
eventType	string	A string specifying the event type. See <a href="#">PCCViewer.MarkupLayer.EventType</a> for a list and description of all supported events.
handler	<a href="#">PCCViewer.Event~eventHandler</a>	A function that was attached previously to the <code>ViewerControl</code> .  <b>Note:</b> This must be the same function object previously passed to <a href="#">PCCViewer.MarkupLayer#on</a> . It cannot be a different object that is functionally equivalent.

See: [PCCViewer.MarkupLayer#on](#)  
[PCCViewer.ViewerControl#off](#) for more details on unsubscribing event handlers.

**Returns:**

The `MarkupLayer` object on which this method was called.

Type

[PCCViewer.MarkupLayer](#)

`on(eventType, handler) → {PCCViewer.MarkupLayer}`

Subscribe an event handler to an event of a specified type.

**Parameters:**

Name	Type	Description
eventType	string	A string that specifies the event type. This value is case-insensitive. See <a href="#">PCCViewer.MarkupLayer.EventType</a> for a list and description of all supported events.
handler	<a href="#">PCCViewer.Event~eventHandler</a>	A function that will be called whenever the event is triggered.

See: [PCCViewer.MarkupLayer#off](#)  
[PCCViewer.ViewerControl#on](#) for more details on event subscription.

**Returns:**

The MarkupLayer object on which this method was called.

Type

PCCViewer.MarkupLayer

`removeMarks(A) → {PCCViewer.MarkupLayer}`

Used to remove marks from the layer.

**Parameters:**

Name	Type	Description
A	PCCViewer.Mark   Array. <PCCViewer.Mark>	{PCCViewer.Mark} object or an array of them.

**Returns:**

The markup layer Object.

Type

PCCViewer.MarkupLayer

**Example**

```
var markupLayer = viewerControl.getActiveMarkupLayer();  
// Get the active markup layer.  
var mark = viewerControl.addMark(1,  
'HighlightAnnotation'); // Create a new mark  
markupLayer.removeMarks(mark); // remove the mark from  
the active layer
```

`setData(key, value) → {PCCViewer.MarkupLayer}`

Sets the data value for the given key.

This method is defined on all MarkupLayer objects.

**Notes:**

- Overwrites any data value already associated with the given key.
- There is no artificial limit imposed on the number of key-value pairs that are stored.
- If limits on the number of key-value pairs are required, they should be enforced by calling code.
- Setting the value as undefined results in no information for the key being persisted to the

server.

- The returned data is not mutated or sanitized, which could lead to a security vulnerability if not sanitized properly before use.

### Parameters:

Name	Type	Description
key	string	The key for which to set the data value.
value	string	This is the value to set for the key. <ul style="list-style-type: none"><li>• This must be a string or undefined.</li><li>• The maximum length of the string is not limited by this function.</li></ul>

See: [PCCViewer.Data#setData](#)  
[PCCViewer.MarkupLayer#getData](#)  
[PCCViewer.MarkupLayer#getDataKeys](#)

### Returns:

The MarkupLayer object on which the method was called.

Type

[PCCViewer.MarkupLayer](#)

### Example

```
// Get data returns undefined before the key is set.
layer.getData("Username"); // returns undefined

// The key "Username" is set the value "Admin".
layer.setData("Username", "Admin");
layer.getData("Username"); // returns "Admin"

// The key "Username" is overwritten with the value
"Guest1".
layer.setData("Username", "Guest1");
layer.getData("Username"); // returns "Guest1"

// The key "Username" is unset, by setting the value to
undefined.
layer.setData("Username", undefined);
layer.getData("Username"); // returns undefined

// The value can only be set to a string or undefined.
// All other data types throw.
layer.setData("FooBar", null); // throws
```

```
layer.setData("FooBar", 1); // throws  
layer.setData("FooBar", true); // throws  
layer.setData("FooBar", {}); // throws  
layer.setData("FooBar", []); // throws
```

**setInteractionMode(interactionMode) → {PCCViewer.MarkupLayer}**

Used to alter the interaction mode of all marks in a layer.

**Parameters:**

Name	Type	Description
interactionMode	string	A string value from the enumeration <a href="#">PCCViewer.Mark.InteractionMode</a> ,

**Returns:**

The markup layer Object on which this method was called

Type

[PCCViewer.MarkupLayer](#)

**Example**

```
var markupLayer =  
viewerControl.getMarkupLayerCollection().getAll()[0];  
// Get the first markup layer.  
markupLayer.setInteractionMode(PCCViewer.Mark.InteractionMode)
```

**setName(name) → {PCCViewer.MarkupLayer}**

Sets the layer's name.

**Parameters:**

Name	Type	Description
name	string	The name to apply to this layer.

**Returns:**

The markup layer Object on which this method was called.

Type

### PCCViewer.MarkupLayer

#### Example

```
var markupLayer =  
viewerControl.getMarkupLayerCollection().getAll()[0];  
// Get the first markup layer.  
markupLayer.setName('Final Draft');
```

#### setOriginalXmlName(name) → {PCCViewer.MarkupLayer}

Sets the name of the web tier XML record from which the marks of this layer were originally stored. If the layer is not associated with an XML file, the property should be set to an empty string.

When the original XML name is set and a markup layer is saved, the original XML name is saved in the markup layer JSON. When the [PCCViewer.ViewerControl#requestMarkupLayerNames](#) method is called, the original XML name will be provided.

#### Parameters:

Name	Type	Description
name	string	The name of the web tier XML record from which the marks of this layer were originally stored.

#### Returns:

The markup layer Object on which this method was called.

Type

[PCCViewer.MarkupLayer](#)

#### Example

```
var markupLayer =  
viewerControl.getMarkupLayerCollection().getAll()[0];  
// Get the first markup layer.  
markupLayer.setOriginalXmlName('my marks');
```

#### setSessionData(key, value) → {PCCViewer.MarkupLayer}

Sets the session data value for the given key. Unlike [PCCViewer.MarkupLayer#setData](#), this data is not saved with the annotation, it only lasts for the session.

This method is defined on all MarkupLayer objects.

#### Parameters:

Name	Type	Description
key	string	The key for which to set the data value.
value	string	This is the value to set for the key. <ul style="list-style-type: none"><li>• This must be a string or undefined.</li><li>• The maximum length of the string is not limited by this function.</li></ul>

See: [PCCViewer.SessionData#setSessionData](#)  
[PCCViewer.MarkupLayer#getSessionData](#)  
[PCCViewer.MarkupLayer#getSessionDataKeys](#)

**Returns:**

The MarkupLayer object on which the method was called.

Type

[PCCViewer.MarkupLayer](#)

**Example**

```
// Get data returns undefined before the key is set.
layer.getSessionData("Username"); // returns undefined

// The key "Username" is set the value "Admin".
layer.setSessionData("Username", "Admin");
layer.getSessionData("Username"); // returns "Admin"

// The key "Username" is overwritten with the value
"Guest1".
layer.setSessionData("Username", "Guest1");
layer.getSessionData("Username"); // returns "Guest1"

// The key "Username" is unset, by setting the value to
undefined.
layer.setSessionData("Username", undefined);
layer.getSessionData("Username"); // returns undefined

// The value can only be set to a string or undefined.
// All other data types throw.
layer.setSessionData("FooBar", null); // throws
layer.setSessionData("FooBar", 1); // throws
layer.setSessionData("FooBar", true); // throws
layer.setSessionData("FooBar", {}); // throws
layer.setSessionData("FooBar", []); // throws
```

`show()` → `{PCCViewer.MarkupLayer}`

Shows all of the marks in the layer.

**Returns:**

The markup layer Object on which this method was called.

Type

`PCCViewer.MarkupLayer`

**Example**

```
var markupLayer =
viewerControl.getMarkupLayerCollection().getAll()[0];
// Get the first markup layer.
markupLayer.show(); // Show the marks in the layer.
```

---

Documentation generated by [JSDoc 3.3.3](#) on Wed Jan 29 2020 07:58:21 GMT-0500 (Eastern Standard Time)

## Class: MarkupLayerCollection

### Class: MarkupLayerCollection

#### PCCViewer. MarkupLayerCollection

`(protected) new MarkupLayerCollection(viewerControl)`

The `MarkupLayerCollection` object is used to hold and manage the markup layers as they are added, removed, shown and hidden. These actions will determine what marks and comments are displayed.

After creating a `MarkupLayerCollection`, `PCCViewer.MarkupLayer` objects may be added and removed from it. Additionally, mark references may also be added to it.

The `MarkupLayerCollection` object also provides an event subscription method, to get notified of other types of information. See [PCCViewer.MarkupLayerCollection.EventType](#).

**Parameters:**

Name	Type	Description
<code>viewerControl</code>	string	The <code>PCCViewer.ViewerControl</code> for the loaded document.

**Example**

```
// Get the `MarkupLayerCollection` associated with the
viewerControl
var layerCollection =
viewerControl.getMarkupLayerCollection()
// Get all the layers in a collection
var layers = layerCollection.getAll();
// Remove a layer from a collection
layerCollection.remove(layers[0].getId());

//register some events
layerCollection

.on(PCCViewer.MarkupLayerCollection.EventType.MarkupLayer

    function(ev) {
        alert("Markup layer added to the collection
with id = " + ev.layerId);
    })

.on(PCCViewer.MarkupLayerCollection.EventType.MarkupLayer

    function(ev) {
        alert("Markup layer removed from the
collection with id = " + ev.layerId);
    });
```

**Members**

(static, readonly) **EventType** :string

A list of events that can be triggered by the [PCCViewer.MarkupLayerCollection](#) object.

**Note:** This enumeration is for convenience for API developers. Instead of using this enumeration, you can pass string values of the eventType (enumeration values)

**Type:**

- string

**Properties:**

Name	Type	Description
MarkupLayerAdded	string	
MarkupLayerRemoved	string	

See: [PCCViewer.Event](#)  
[PCCViewer.MarkupLayerCollection#on](#)  
[PCCViewer.MarkupLayerCollection#off](#)

(readonly) `viewerControl` :Object

Gets the viewer control associated with this markup layer collection.

This property is defined on all MarkupLayerCollection objects.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- Object

See: [PCCViewer.MarkupLayerCollection#getViewerControl](#)

**Example**

```
var viewerControl =  
MarkupLayerCollection.viewerControl;
```

(readonly) `viewerControl` :Object

Gets the number representing how many layers are in the collection.

This property is defined on all MarkupLayerCollection objects.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- Object

See: [PCCViewer.MarkupLayerCollection#getCount](#)

**Example**

```
var layerCount = MarkupLayerCollection.count;
```

## Methods

`addItem(layer) → {PCCViewer.MarkupLayerCollection}`

This method is used to add a layer to the collection.

**Parameters:**

Name	Type	Description
layer	PCCViewer.MarkupLayer	A markup layer object.

**Returns:**

The markup layer collection object on which this method was called.

Type

PCCViewer.MarkupLayerCollection

**Example**

```
var layerCollection =
viewerControl.getMarkupLayerCollection(); // Get the
markup layer collection associated with the
viewerControl
var layer = new PCCViewer.MarkupLayer(viewerControl);
layerCollection.addItem(layer);
```

`forEach(iterator, thisArgopt) → {PCCViewer.MarkupLayerCollection}`

A method to iterate over all items in the collection. This method matches the spec for `Array.prototype.forEach`.

**Parameters:**

Name	Type	Attributes	Description
iterator	function   PCCViewer.MarkupLayerCollection~iterator		The function to execute for each item in the collection.
thisArg	*	<optional>	The Object to be used as <code>this</code> for the iterator function.

**Throws:**

If the `iterator` parameter is not a function.

Type

TypeError

**Returns:**

The markup layer collection Object on which this method was called.

Type

`PCCViewer.MarkupLayerCollection`

`getAll()` → {Array.<PCCViewer.MarkupLayer>}

Gets all the layers from the collection.

**Returns:**

An array of markup layer objects.

Type

Array.<PCCViewer.MarkupLayer>

**Example**

```
var layerCollection =
viewerControl.getMarkupLayerCollection(); // Get the
markup layer collection associated with the
viewerControl
var layers = layerCollection.getAll();
```

`getCount()` → {number}

Gets the number representing how many layers are in the collection.

**Returns:**

The number representing how many layers are in the collection.

Type

number

**Example**

```
var layerCollection =
viewerControl.getMarkupLayerCollection(); // Get the
markup layer collection associated with the
```

```
viewerControl
var layerCount = layerCollection.getCount();
```

`getItem(layerId)` → {**PCCViewer.MarkupLayer** | undefined}

Gets a specific layer from the collection.

**Parameters:**

Name	Type	Description
layerId	string	A layer ID that corresponds to a layer object contained in the collection.

**Returns:**

A markup layer object or undefined if layerId does not correspond to a layer in the collection.

Type

**PCCViewer.MarkupLayer** | undefined

**Example**

```
var layerCollection =
viewerControl.getMarkupLayerCollection(); // Get the
markup layer collection associated with the
viewerControl
var layers = layerCollection.getAll();
var layer = layerCollection.getItem(layers[0].getId());
```

`getViewerControl()` → {**PCCViewer.ViewerControl**}

Gets the viewer control associated with this layer.

**Returns:**

A viewer control object.

Type

**PCCViewer.ViewerControl**

**Example**

```
var layerCollection =
viewerControl.getMarkupLayerCollection(); // Get the
markup layer collection associated with the
```

```
viewerControl
var viewerControl = layerCollection.getViewerControl();
```

`off(eventType, handler) → {PCCViewer.MarkupLayerCollection}`

Unsubscribe an event handler from a specified event type.

Typically, an event is unsubscribed when you no longer want further notification of the event.

**Parameters:**

Name	Type	Description
eventType	string	A string specifying the event type. See <a href="#">PCCViewer.MarkupLayerCollection.EventType</a> for a list and description of all supported events.
handler	<a href="#">PCCViewer.Event~eventHandler</a>	A function that was attached previously to the <code>ViewerControl</code> .  <b>Note:</b> This must be the same function object previously passed to <a href="#">PCCViewer.MarkupLayerCollection#on</a> . It cannot be a different object that is functionally equivalent.

See: [PCCViewer.MarkupLayerCollection#on](#)  
[PCCViewer.ViewerControl#off](#) for more details on unsubscribing event handlers.

**Returns:**

The `MarkupLayerCollection` object on which this method was called.

Type  
[PCCViewer.MarkupLayerCollection](#)

`on(eventType, handler) → {PCCViewer.MarkupLayerCollection}`

Subscribe an event handler to an event of a specified type.

**Parameters:**

Name	Type	Description
eventType	string	A string that specifies the event type. This value is case-insensitive. See <a href="#">PCCViewer.MarkupLayerCollection.EventType</a> for a list and description of all supported events.
handler	<a href="#">PCCViewer.Event~eventHandler</a>	A function that will be called whenever the event is

Name	Type	Description
		triggered.

See: [PCCViewer.MarkupLayerCollection#off](#)  
[PCCViewer.ViewerControl#on](#) for more details on event subscription.

**Returns:**

The `MarkupLayerCollection` object on which this method was called.

Type

[PCCViewer.MarkupLayerCollection](#)

`removeAll()` → [{PCCViewer.MarkupLayerCollection}](#)

This method is used to remove all layers from the collection.

**Returns:**

The markup layer collection object on which this method was called.

Type

[PCCViewer.MarkupLayerCollection](#)

**Example**

```
var layerCollection =
viewerControl.getMarkupLayerCollection(); // Get the
markup layer collection associated with the
viewerControl
layerCollection.removeAll();
```

`removeItem(layerId)` → [{PCCViewer.MarkupLayerCollection}](#)

This method is used to remove a layer from the collection.

**Parameters:**

Name	Type	Description
layerId	string	An ID of a layer in the collection.

**Returns:**

The markup layer collection object on which this method was called.

Type

[PCCViewer.MarkupLayerCollection](#)

#### Example

```
var layerCollection =
viewerControl.getMarkupLayerCollection(); // Get the
markup layer collection associated with the
viewerControl
var layers = layerCollection.getAll();
layerCollection.removeItem(layers[0].getId());
```

---

Documentation generated by [JSDoc 3.3.3](#) on Wed Jan 29 2020 07:58:21 GMT-0500 (Eastern Standard Time)

## Class: MouseTool

### Class: MouseTool

#### PCCViewer. MouseTool

This object represents an instance of a mouse tool. Each mouse tool is given a name and type when it is created. The name is used as a handle to the mouse tool. The type defines the behavior and properties of the mouse tool.

A named mouse tool is a global tool that is available to all viewers. Each viewer instance can access the same MouseTool object by name. This permits one mouse tool to be used by two different viewer instances at the same time.

#### Constructor

`new MouseTool()`

The MouseTool constructor is for internal use only. The appropriate way to create and register a new named mouse tool is to use the method [PCCViewer.MouseTools.createMouseTool](#).

See: [PCCViewer.MouseTools.createMouseTool](#)

#### Throws:

If the type is unknown. See [PCCViewer.MouseTool.Type](#) for a list of known tool types.

Type  
RangeError

**Example**

```
// use the PCCViewer.MouseTools.createMouseTool (name,
type)
// function instead of this constructor.
PCCViewer.MouseTools.createMouseTool ("myMouseTool",
"LineAnnotation");
```

**Members**

(static, readonly) Type :string

This enumerable contains a list of all known tool types. There are used to create new [PCCViewer.MouseTool](#) objects, and are the known types returned [PCCViewer.MouseTool#getType](#).

**Type:**

- string

**Properties:**

Name	Type	Description
Magnifier	string	Use the magnifier mouse tool type to display a magnifying glass on left click and drag.
SelectToZoom	string	Use the select to zoom mouse tool type to select an area of the page to zoom in on.
Pan	string	Use the pan mouse tool type to drag the image up, down, left, or right.
PanAndEdit	string	Use the mouse or touch to drag the image up, down, left, or right. When clicking or touching over an annotation, the annotation will be selected, edited, moved, or resized, based on user actions.
SelectText	string	Use the select text mouse tool type to select text in the document.
EditMarks	string	Use the edit marks mouse tool type to select one or more marks (annotations and redactions) in the document. A mark can be clicked on for editing, or a rectangle can be drawn to select multiple marks.
LineAnnotation	string	Use the line annotation tool mouse tool type to draw a line annotation.
RectangleAnnotation	string	Use the rectangle annotation mouse tool type to

Name	Type	Description
		draw a rectangle annotation.
EllipseAnnotation	string	Use the ellipse annotation mouse tool type to draw an ellipse annotation.
TextAnnotation	string	Use the text annotation mouse tool type to draw a text annotation.
StampAnnotation	string	Use the stamp annotation mouse tool type to draw a stamp annotation.
HighlightAnnotation	string	Use the highlight annotation mouse tool type to select text and create a highlight annotation.
TextHyperlinkAnnotation	string	Use the text hyperlink annotation mouse tool type to select text and create a text hyperlink annotation.
FreehandAnnotation	string	Use the freehand annotation tool mouse tool type to draw a freehand annotation.
RectangleRedaction	string	Use the rectangle redaction mouse tool type to draw a rectangle redaction.
TransparentRectangleRedaction	string	Use the transparent rectangle redaction mouse tool type to draw a transparent rectangle redaction.
TextRedaction	string	Use the text redaction mouse tool type to draw a text redaction.
TextInputSignature	string	Use the text input signature mouse tool type to draw a text input signature.
TextAreaSignature	string	Use the text area signature mouse tool type to draw a text area signature.
StampRedaction	string	Use the stamp redaction mouse tool type to draw a stamp redaction.
PlaceSignature	string	Use to click on the document and place a signature in that location.
TextSelectionRedaction	string	Use the TextSelectionRedaction mouse tool type to select text and create a text selection redaction.
ImageStampAnnotation	string	Use the ImageStampAnnotation mouse tool type to place ImageStamp annotation.
ImageStampRedaction	string	Use the ImageStampAnnotation mouse tool type to place ImageStamp redaction.
PolylineAnnotation	string	Use the PolylineAnnotation mouse tool type to place Polyline annotation.
StrikethroughAnnotation	string	Use the StrikethroughAnnotation mouse tool type to place Strikethrough annotation.

`name` :string

Gets the name of the mouse tool.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter method [PCCViewer.MouseTool#getName](#).*

**Type:**

- string

See: [PCCViewer.MouseTool#getName](#)

**Example**

```
// get the mouse tool's name
var mouseToolName = myMouseTool.name;

// do something with the name
alert("Mouse tool name is " + mouseToolName);
```

`templateMark` :[PCCViewer.Mark](#)

Gets the template mark associated with an annotation or redaction mouse tool.

This property is defined on MouseTool objects that are annotation or redaction types: LineAnnotation, RectangleAnnotation, EllipseAnnotation, TextAnnotation, StampAnnotation, HighlightAnnotation, RectangleRedaction, TransparentRectangleRedaction, TextRedaction, TextInputSignature, StampRedaction, TextHyperlinkAnnotation, StrikethroughAnnotation, TextAreaSignature.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter method [PCCViewer.MouseTool#getTemplateMark](#).*

**Type:**

- [PCCViewer.Mark](#)

See: [PCCViewer.MouseTool#getTemplateMark](#)

**Example**

```
var myMouseTool =
PCCViewer.MouseTools.getMouseTool(mouseToolName);

// Check if templateMark is a property in the MouseTool
```

```
object
if (templateMark in myMouseTool) {
    // get the template mark
    var templateMark = myMouseTool.templateMark;

    // Do something with the template mark. For
    example, set the color.
    if (templateMark.setColor) {
        templateMark.setColor("#FF0000");
    }
}
```

**type** :string

Gets the type of the mouse tool.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter method [PCCViewer.MouseTool#getType](#).*

**Type:**

- string

See: [PCCViewer.MouseTool.Type](#) for a list of possible mouse tool types.  
[PCCViewer.MouseTool#getType](#)

**Example**

```
var myMouseTool =
PCCViewer.MouseTools.getMouseTool(mouseToolName);

// get the mouse tool's type
var mouseToolType = myMouseTool.type;

// do something with the type
switch (mouseToolType) {
    case PCCViewer.MouseTool.Type.LineAnnotation:
        ...
        break;
    default:
        ...
}
```

**Methods**

`getName()` → {string}

Gets the name of the mouse tool.

See: [PCCViewer.MouseTool#name](#)

### Returns:

The name of the mouse tool.

Type

string

### Example

```
// get the mouse tool's name
var mouseToolName = myMouseTool.getName();

// do something with the name
alert("Mouse tool name is " + mouseToolName);
```

[getTemplateMark\(\)](#) → [{PCCViewer.Mark}](#)

Gets the template mark associated with an annotation or redaction mouse tool.

This method is defined on MouseTool objects that are annotation or redaction types: LineAnnotation, RectangleAnnotation, EllipseAnnotation, TextAnnotation, StampAnnotation, HighlightAnnotation, RectangleRedaction, TransparentRectangleRedaction, TextRedaction, TextInputSignature, StampRedaction, TextHyperlinkAnnotation, StrikethroughAnnotation, TextAreaSignature.

### Returns:

The template mark for the mouse tool.

Type

[PCCViewer.Mark](#)

### Example

```
var myMouseTool =
PCCViewer.MouseTools.getMouseTool(mouseToolName);

// Check if getTemplateMark is defined
if (myMouseTool.getTemplateMark) {
    // get the template mark
    var templateMark = myMouseTool.getTemplateMark();
}
```

```
// Do something with the template mark. For
example, set the color.
if (templateMark.setColor) {
    templateMark.setColor("#FF0000");
}
}
```

**getType()** → {string}

Gets the type of the mouse tool.

See: [PCCViewer.MouseTool.Type](#) for a list of possible mouse tool types.  
[PCCViewer.MouseTool#type](#)

**Returns:**

The type of the mouse tool.

Type  
string

**Example**

```
var myMouseTool =
PCCViewer.MouseTools.getMouseTool(mouseToolName);

// get the mouse tool's type
var mouseToolType = myMouseTool.getType();

// do something with the type
switch (mouseToolType) {
    case PCCViewer.MouseTool.Type.LineAnnotation:
        ...
        break;
    default:
        ...
}
```

---

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## Class: ObservableCollection

### Class: ObservableCollection

## PCCViewer. ObservableCollection

`new ObservableCollection()`

Represents a dynamic collection that provides notifications when items get added or removed.

### Members

`(static, readonly) EventType :string`

The known events for the collection.

#### Type:

- string

#### Properties:

Name	Type	Description
ItemAdded	string	Triggered when an item is added to the collection.
ItemRemoved	string	Triggered when an item is removed from the collection.

### Methods

`add(item) → {PCCViewer.ObservableCollection}`

Add an item to the collection.

#### Parameters:

Name	Type	Description
item	*	Any object or value to add to the collection.

#### Returns:

The collection object.

Type

`PCCViewer.ObservableCollection`

`forEach(iterator, thisArgopt) → {PCCViewer.ObservableCollection}`

A method to iterate over all items in the collection. This method matches the spec for `Array.prototype.forEach`.

**Parameters:**

Name	Type	Attributes	Description
iterator	function   <code>PCCViewer.ObservableCollection~iterator</code>		The function to execute for each item in the collection.
thisArg	*	<optional>	The Object to be used as <code>this</code> for the iterator function.

**Throws:**

If the `iterator` parameter is not a function.

Type  
 TypeError

**Returns:**

The collection object.

Type  
`PCCViewer.ObservableCollection`

`off(eventType, handler) → {PCCViewer.ObservableCollection}`

Unsubscribe from an event triggered on the collection.

**Parameters:**

Name	Type	Description
eventType	string	The type of event being unsubscribed.
handler	function	The function that was used to subscribe to the event.

See: `PCCViewer.ViewerControl#off`

**Returns:**

The collection object.

Type  
`PCCViewer.ObservableCollection`

`on(eventType, handler) → {PCCViewer.ObservableCollection}`

Subscribe to an event triggered on the collection.

**Parameters:**

Name	Type	Description
eventType	string	The type of event being subscribed.
handler	function	The function to call when the event is triggered.

See: [PCCViewer.ViewerControl#on](#)  
[PCCViewer.ObservableCollection.EventType](#)

**Returns:**

The collection object.

Type  
[PCCViewer.ObservableCollection](#)

`remove(item) → {PCCViewer.ObservableCollection}`

Remove an item from the collection.

**Parameters:**

Name	Type	Description
item	*	The item to be removed. This must be the same object that was added to the collection.

**Returns:**

The collection object.

Type  
[PCCViewer.ObservableCollection](#)

`removeAll() → {PCCViewer.ObservableCollection}`

Removes all items from the collection.

**Returns:**

The collection object.

Type

`PCCViewer.ObservableCollection`

`toArray() → {Array.<*>}`

Generates an array of all of the items in the collection.

**Returns:**

An array of all items in the collection.

Type

`Array.<*>`

## Type Definitions

`iterator(item, index, array)`

The iterator function for the `PCCViewer.ObservableCollection#forEach` method.

This function can also have an optional `this` argument, as defined in the `PCCViewer.ObservableCollection#forEach` method.

**Parameters:**

Name	Type	Description
<code>item</code>	<code>*</code>	The item from the collection.
<code>index</code>	<code>Number</code>	The index of the item from the collection.
<code>array</code>	<code>Array</code>	An array of all the items in the collection.

---

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## Class: PrintRequest

### Class: PrintRequest

## PCCViewer. PrintRequest

(protected) new PrintRequest()

The `PrintRequest` object is created when printing the document. This constructor should not be used directly. Instead, a print request is created by `PCCViewer.ViewerControl#print`, and it is also made available through the `PCCViewer.EventType.PrintRequested` event.

### Example

```
// A PrintRequest object is created by and returned
// from the call to the print method
var printRequest = viewerControl.print();
```

## Members

(static, readonly) EventType :string

A list of events that can be triggered by the `PCCViewer.PrintRequest` object.

### Type:

- string

### Properties:

Name	Type	Description
PrintPagePrepared	string	<p>Event triggered when a page has been prepared. This event is used to indicate print progress.</p> <p>Augmented properties of the <code>PCCViewer.Event</code> object for this event:</p> <ul style="list-style-type: none"> <li>• <code>index {number}</code> Indicates the index of the page that was prepared in respect to <code>totalPages</code>.</li> <li>• <code>pageNumber {number}</code> Indicates the page number of the page that was prepared. This page number of the page in the document.</li> <li>• <code>totalPages {number}</code> Indicates the total number of pages that are being printed.</li> </ul>
PrintCompleted	string	<p>Event triggered when print has completed, either due to a success, failure, or a cancel. This event does not indicate whether a user successfully printed the document, as they can still cancel the browser dialog, but rather that all pages were prepared successfully in the print request.</p> <p>Augmented properties of the <code>PCCViewer.Event</code> object for this event:</p>

Name	Type	Description
		<ul style="list-style-type: none"> <li>• none</li> </ul>
PrintCancelled	string	<p>Event triggered if printing is cancelled during the preparation process.</p> <p>Augmented properties of the <a href="#">PCCViewer.Event</a> object for this event:</p> <ul style="list-style-type: none"> <li>• none</li> </ul>
PrintFailed	string	<p>Event triggered if the printing process failed due to an error.</p> <p>Augmented properties of the <a href="#">PCCViewer.Event</a> object for this event:</p> <ul style="list-style-type: none"> <li>• none</li> </ul>

See: [PCCViewer.PrintRequest#on](#)  
[PCCViewer.PrintRequest#off](#)

**(readonly) options :object**

Gets a copy of the validated options object which is used by the print request.

The original options object may have been provided to the method [PCCViewer.ViewerControl#print](#). If no options object was provided to `print`, or the options object did not define all properties, then the returned object will represent the actual options used.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5.*

**Type:**

- object

See: [PCCViewer.PrintRequest#getOptions](#)

**(readonly) pageCount :number**

This property gets the number of pages which were requested in the print request.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5.*

**Type:**

- number

See: [PCCViewer.PrintRequest#getPageCount](#)

**(readonly) preparedCount :number**

This property gets the number of pages which have currently been prepared.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5.*

**Type:**

- number

See: [PCCViewer.PrintRequest#getPreparedCount](#)

## Methods

### cancel()

Cancels the print request. This immediately stops the print progress, and no pages will be printed.

### getOptions() → {object}

Gets a copy of the validated options object which is used by the print request.

The original options object may have been provided to the method [PCCViewer.ViewerControl#print](#). If no options object was provided to `print`, or the options object did not define all properties, then the returned object will represent the actual options used.

**Returns:**

A copy of the print options object which is used by this print request.

- `range` {string} A comma-separated string with all page numbers for the requested pages.
- `orientation` {string} The requested print orientation.
- `paperSize` {string} The requested size of the paper to print on.
- `margins` {string} Indicated whether `default` or `none` margins were used. See [PCCViewer.ViewerControl#print](#).
- `includeMarks` {boolean} Whether to print the document marks.
- `includeAnnotation` {boolean} Whether to print the document annotations.
- `includeRedactions` {boolean} Whether to print the document redactions.
- `includeComments` {string} Location to print comments.
- `includeReasons` {string} Location to print redaction reasons.
- `redactionViewMode` {string} Whether to print document content text underneath solid rectangle redactions and selection text redactions marks.

Type

object

### getPageCount() → {number}

Gets the number of pages which were requested in the print request.

**Returns:**

The number of pages which were requested to print.

Type  
number

`getPreparedCount()` → {number}

Gets the number of pages which have currently been prepared.

**Returns:**

The number of pages which have been prepared.

Type  
number

`off()` → {PCCViewer.PrintRequest}

Remove event listeners from the `PrintRequest` object.

See: [PCCViewer.ViewerControl#off](#) for more on how it is used.  
[PCCViewer.PrintRequest.EventType](#) for a list of events.

**Returns:**

The object on which this method was called.

Type  
[PCCViewer.PrintRequest](#)

`on()` → {PCCViewer.PrintRequest}

Add event listeners to the `PrintRequest` object.

See: [PCCViewer.PrintRequest.EventType](#) for a list of events.  
[PCCViewer.ViewerControl#on](#) for more detailed examples.

**Returns:**

The object on which this method was called.

Type

### PCCViewer.PrintRequest

#### Example

```
var printRequest = viewerControl.print();
printRequest
    .on(PCCViewer.PrintRequest.EventType.PrintCompleted,
        function(ev) {
            alert("Print completed.");
        })
    .on(PCCViewer.PrintRequest.EventType.PrintPagePrepared,
        function(ev) {
            alert("Print progress: " + 100 * (ev.index +
1) / ev.totalPages + "%");
        });
```

---

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## Class: Promise

### Class: Promise

#### PCCViewer. Promise

The `PCCViewer.Promise` object is an implementation of the Promises/A+ standard.

"A promise represents the eventual result of an asynchronous operation. The primary way of interacting with a promise is through its `then` method, which registers callbacks to receive either a promise's eventual value or the reason why the promise cannot be fulfilled." -- *Promises/A+ standard*

The PrizmDoc Viewing Client API uses Promises as a means for a caller to subscribe callbacks for an asynchronous operation. This API uses promises as an alternative to the pattern of providing callbacks as arguments to the API method.

The `PCCViewer.Promise` object is compatible with other Promises/A+ implementations, and other non-conformant promise implementations, which are "thenable" (i.e. the promise exposes a `.then()` method).

#### Constructor

`new Promise()`

The Promise constructor is for internal use only. Promise objects returned by other API methods are

created with this constructor.

## Methods

### (static) all(promises)

Returns a promise that is fulfilled when all of the input promises are fulfilled. The returned promise is fulfilled with an array of the fulfilment values for all of the input promises.

If any of the promises are rejected, then the returned promise will be rejected with the reason of that rejected promise. If rejected, there will be guarantee of the state all promises in the promises array, some have been resolved and some may still be pending.

#### Parameters:

Name	Type	Description
promises	Array. <(PCCViewer.Promise thenable *)>	<p>An array of values that will be resolved. If a value is not a PCCViewer.Promise object, then this method will create a new PCCViewer.Promise and fulfill it with the value.</p> <p>Resolution of various types is as follows.</p> <ul style="list-style-type: none"><li>• If the item is a PCCViewer.Promise, then the output value will be the fulfilment value of the promise.</li><li>• If the item is thenable, then the output value will be the fulfilment value of the thenable.</li><li>• Otherwise, the output value will be the item.</li></ul>

#### Throws:

If the `promises` argument is not an array.

Type  
TypeError

#### Example

```
var viewerControl =
$("#myElement").pccViewer(...).viewerControl;

// Get page text for specific pages
PCCViewer.Promise.all([
    viewerControl.requestPageText(1),
    viewerControl.requestPageText(2) ]).then(
```

```
function onFulfilled(values) {
    // Values is an array that contains the text of
    pages 1 & 2.
    var page1Text = values[0];
    var page2Text = values[1];
},
function onRejected(error) {
    alert("Something went wrong getting the page
text. " + (error.message ? error.message : error));
}
);

// Get attributes for all pages
var allPages = _.range(1, viewerControl.getPageCount()
+ 1); // Using Underscore.js - generates an array like
[1, 2, ..., 12]
var pageAttributePromises = _.map(allPages,
viewerControl.requestPageAttributes, viewerControl); //
Using Underscore.js
PCCViewer.Promise.all(pageAttributePromises).then(
function onFulfilled(allPageAttributes) {
    console.log(JSON.stringify(allPageAttributes));
},
function onRejected(error) {
    alert("Something went wrong getting the page
attributes. " + (error.message ? error.message :
error));
}
);

// it's OK to pass a value that is not a promise
PCCViewer.Promise.all([
viewerControl.requestPageAttributes(1),
true]).then(
function(values) {
    // Values is an array that contains the text of
    pages 1 and the value `true`.
    var page1Text = values[0]; // text of page 1
    var otherValue = values[1]; // true
}
);
```

**then(onFulfilled<sub>opt</sub>, onRejected<sub>opt</sub>)** → **{PCCViewer.Promise}**

Use `.then(...)` to register callbacks to access the current or eventual value, or reason, of the promise.

A promise is in one of three states: pending, resolved, rejected. The `onFulfilled` callback will be called when a promise is resolved, or if a promise is already resolved, then the `onFulfilled` callback will be called immediately. The `onRejected` callback will be called when a promise is rejected, or if a promise is already rejected, then the `onRejected` callback will be called

immediately.

**Parameters:**

Name	Type	Attributes	Description
onFulfilled	<code>PCCViewer.Promise~onFulfilled</code>	<optional>	Called if or when the promise is resolved. Optionally pass a value of <code>null</code> or <code>undefined</code> if you do not use this callback, but you want to provide an <code>onRejected</code> callback.
onRejected	<code>PCCViewer.Promise~onRejected</code>	<optional>	Called if or when the promise is rejected.

**Returns:**

A promise object that is resolved according to the Promises/A+ standard.

Type

`PCCViewer.Promise`

**Example**

```
var viewerControl =
$("#myElement").pccViewer(...).viewerControl;

// a basic example
viewerControl.requestPageText(1).then(
    function onFulfilled(value) {
        // according to the definition of
requestPageText, the promise will be resolved with the
text
        // of the page.
        var pageText = value;
    },
    function onRejected(error) {
        // according to the definition of
requestPageText, the promise will be rejected if there
is
        // an error extracting text for the document.
        alert("Something went wrong getting the text of
page 1. " + (error.message ? error.message : error));
    }
);

// it's OK to pass a value of null (or undefined) for
`onFulfilled`
viewerControl.requestPageText(1).then(
```

```
    null,  
    function onRejected(error) { ... }  
  );  
  
  // it's OK to ignore the onRejected parameter, or pass  
  null or undefined  
  viewerControl.requestPageText(1).then(  
    function onFulfilled(value) { ... }  
  );
```

## Type Definitions

### onFulfilled(value)

An `onFulfilled` callback is called if or when a `PCCViewer.Promise` is resolved.

#### Parameters:

Name	Type	Description
value	*	The type and value of the <code>value</code> argument depends on the API method that generated the Promise object. See the documentation for the method that generated the Promise.

### onRejected(reason)

An `onRejected` callback is called if or when a `PCCViewer.Promise` is rejected.

#### Parameters:

Name	Type	Description
reason	*	The type and value of the <code>reason</code> argument depends on the API method that generated the Promise object. See the documentation for the method that generated the Promise.

---

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## Class: Revision

### Class: Revision

## PCCViewer. Revision

`new Revision()`

The `Revision` object is created when requesting the revisions for a document comparison. It represents a change identified in a document comparison and retrieved using [PCCViewer.ViewerControl#requestRevisions](#).

This constructor should not be used directly. Instead, only access revisions created by [PCCViewer.ViewerControl#requestRevisions](#), through the [PCCViewer.RevisionsRequest](#) object.

See: Use [PCCViewer.RevisionsRequest#getRevisions](#) to get results from a `'RevisionsRequest'` object.

Use [PCCViewer.RevisionsRequest#revisions](#) to get results from a `'RevisionsRequest'` object.

## Members

(static, readonly) `Type :string`

The `PCCViewer.Revision.Type` enumeration defines Revision Types known to the `ViewerControl`.

### Type:

- string

### Properties:

Name	Type	Description
ContentInserted	string	Indicates that an insertion occurred.
ContentDeleted	string	Indicates that a deletion occurred.
PropertyChanged	string	Indicates that a property was changed.
ParagraphNumberChanged	string	Indicates that a paragraph number changed.
FieldDisplayChanged	string	Indicates that a field display changed.
RevisionMarkedAsReconciledConflict	string	Indicates that a revision was marked as reconciled conflict.
RevisionMarkedAsConflict	string	Indicates that a revision was marked as conflict.
StyleChanged	string	Indicates a style change.
ContentReplaced	string	Indicates that content was replaced.
ParagraphPropertyChanged	string	Indicates that a paragraph property changed.
TablePropertyChanged	string	Indicates that a table property changed.

Name	Type	Description
SectionPropertyChanged	string	Indicates that a section property changed.
StyleDefinitionChanged	string	Indicates that a style definition changed.
ContentMovedFrom	string	Indicates that content was moved from this location.
ContentMovedTo	string	Indicates that content was moved to this location.
TableCellInserted	string	Indicates that a table cell was inserted.
TableCellDeleted	string	Indicates that a table cell was deleted.
TableCellsMerged	string	Indicates that table cells were merged.
Unknown	string	Indicates a revision of an unknown type.

(readonly) `id` :number

Gets the ID of the revision.

The ID is unique only to revisions in the current revisions request and may be repeated in later revisions requests.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.*

**Type:**

- number

See: [PCCViewer.Revision#getId](#)

(readonly) `pageNumber` :number

Gets the page number of the document on which the revision ends.

If the revision is contained on a single page, this returns the page number of that page. If the revision spans multiple pages, this returns the page number of the last page.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.*

**Type:**

- number

See: [PCCViewer.Revision#getEndPageNumber](#)

(readonly) `type` :[PCCViewer.Revision.Type](#)

Gets the type of the revision.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.*

**Type:**

- [PCCViewer.Revision.Type](#)

See: [PCCViewer.Revision#getType](#)

## Methods

`getEndPageNumber()` → {number}

Gets the page number of the document on which the revision ends.

If the revision is contained on a single page, this returns the page number of that page. If the revision spans multiple pages, this returns the page number of the last page.

**Returns:**

The page number on which the revision ends.

Type  
number

**Example**

```
var revisions = revisionsRequest.getRevisions();
var revision = revisions[0];
var pageNumber = revision.getEndPageNumber();
alert("Revision found on page: " + pageNumber);
```

`getId()` → {number}

Gets the ID of the revision.

The ID is unique only to revisions in the current revisions request and may be repeated in later revisions requests.

See: [PCCViewer.RevisionsRequest#getRevisions](#)

**Returns:**

The ID of the revision.

Type

number

**Example**

```
var revisions = revisionsRequest.getRevisions();  
var revision = revisions[0];  
var id = revision.getId();
```

`getType()` → {[PCCViewer.Revision.Type](#)}

Gets the type of the revision.

**Returns:**

The type of the revision.

Type

[PCCViewer.Revision.Type](#)

**Example**

```
var revisions = revisionsRequest.getRevisions();  
var revision = revisions[0];  
var revisionType = revision.getType();
```

---

Documentation generated by [JSDoc 3.3.3](#) on Wed Jan 29 2020 07:58:21 GMT-0500 (Eastern Standard Time)

## Class: RevisionsRequest

### Class: RevisionsRequest

#### **PCCViewer. RevisionsRequest**

(protected) `new RevisionsRequest()`

The `RevisionsRequest` object is created when requesting revisions for a document comparison. It triggers events to indicate revision retrieval progress and has properties to get the retrieved revisions and status.

This constructor should not be used directly. Instead, a revisions request is created by [PCCViewer.ViewerControl#requestRevisions](#).

**Example**

```
// A RevisionsRequest object is created by and returned
from the call to the requestRevisions method
var revisionsRequest =
viewerControl.requestRevisions();
```

**Members**

(readonly) **errorCode** :number

Gets the error code if there was an error. If there was no error, `null` will be returned.

*An ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.*

**Type:**

- number

See: [PCCViewer.RevisionsRequest#getErrorCode](#)

(readonly) **errorMessage** :string

Returns a plain text, human-readable, fixed-local message that explains the error condition. If there was no error, `null` will be returned.

*An ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.*

**Type:**

- string

See: [PCCViewer.RevisionsRequest#getErrorMessage](#)

(readonly) **revisions** :Array.<[PCCViewer.Revision](#)>

Gets an array of all revisions produced by this `RevisionsRequest` up until this point.

*An ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.*

**Type:**

- Array.<[PCCViewer.Revision](#)>

See: [PCCViewer.RevisionsRequest#getRevisions](#)

## Methods

`getErrorCode() → {number}`

Returns the error code if there was an error. If there was no error, `null` will be returned.

### Returns:

An error code indicating the type of error, or null.

Type  
number

### Example

```
var errorCode = revisionsRequest.getErrorCode();
```

`getErrorMessage() → {string}`

Returns a plain text, human-readable, fixed-local message that explains the error condition. If there was no error, `null` will be returned.

### Returns:

A plain text error message that explains the error condition, or null.

Type  
string

### Example

```
var errorMessage = revisionsRequest.getErrorMessage();
```

`getRevisions() → {Array.<PCCViewer.Revision>}`

Returns an array of all revisions produced by this `RevisionsRequest` up until this point.

### Returns:

An array of `Revision` objects. If no results are found, this will be an empty array.

Type  
`Array.<PCCViewer.Revision>`

## Example

```
var revisions = revisionsRequest.getRevisions();
```

`off(eventType, handler) → {PCCViewer.RevisionsRequest}`

Unsubscribe a handler from an event of the `RevisionsRequest`.

Typically, event is unsubscribed when you no longer want further notification of the event.

## Parameters:

Name	Type	Description
eventType	string	A string specifying the event type. See <a href="#">PCCViewer.RevisionsRequest#on</a> for possible values.
handler	function	The function that was previously subscribed to the event type.

## Returns:

The `RevisionsRequest` object on which this method was called.

Type

[PCCViewer.RevisionsRequest](#)

## Example

```
// subscribe
revisionsRequest.on(PCCViewer.EventType.RevisionsRetrievalCompleted,
onRevisionsRetrievalCompleted);

// unsubscribe
revisionsRequest.off(PCCViewer.EventType.RevisionsRetrievalCompleted,
onRevisionsRetrievalCompleted);

// handler declaration
function onRevisionsRetrievalCompleted(ev) {
    alert("Revisions retrieval completed! Number of
revisions: " + revisionsRequest.getRevisions().length);
}
```

`on(eventType, handler) → {PCCViewer.RevisionsRequest}`

Subscribe a handler to an event of the `RevisionsRequest`.

### Parameters:

Name	Type	Description
eventType	string	A string that specifies the event type. <ul style="list-style-type: none"><li>• "RevisionsRetrievalCompleted" - <code>PCCViewer.EventType.RevisionsRetrievalCompleted</code></li><li>• "RevisionsRetrievalFailed" - <code>PCCViewer.EventType.RevisionsRetrievalFailed</code></li><li>• "RevisionsAvailable" - <code>PCCViewer.EventType.RevisionsAvailable</code></li><li>• "PartialRevisionsAvailable" - <code>PCCViewer.EventType.PartialRevisionsAvailable</code></li></ul>
handler	function	The function that will be called whenever the event is triggered.

### Returns:

The `RevisionsRequest` object on which this method was called.

Type

`PCCViewer.RevisionsRequest`

### Example

```
// subscribe
revisionsRequest.on(PCCViewer.EventType.RevisionsRetrievalCompleted);

// handler declaration
function onRevisionsRetrievalCompleted(ev) {
    alert("Revisions retrieval completed! Number of revisions: " + revisionsRequest.getRevisions().length);
}
```

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## Class: SearchRequest

### Class: SearchRequest

## PCCViewer. SearchRequest

(protected) new SearchRequest()

The `SearchRequest` object is created when searching a document. It triggers events to indicate search progress and it has properties to get the search results and status.

This constructor should not be used directly. Instead, a search request is created by [PCCViewer.ViewerControl#search](#), and it is also made available through the [PCCViewer.EventType.SearchPerformed](#) event.

### Example

```
// A SearchRequest object is created by and returned
from the call to the search method
var searchRequest = viewerControl.search("FooBar");
```

## Members

(readonly) `errorCode` :number

Gets the error code if there was an error. If there was no error, `null` will be returned.

*An ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.*

### Type:

- number

See: [PCCViewer.SearchRequest#getErrorCode](#)

(readonly) `errorMessage` :string

Returns a plain text, human-readable, fixed-local message that explains the error condition. If there was no error, `null` will be returned.

*An ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.*

### Type:

- string

See: [PCCViewer.SearchRequest#getErrorMessage](#)

(readonly) `isComplete` :boolean

Gets a value (`true` or `false`) indicating if the search request is complete.

An ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.

**Type:**

- boolean

See: [PCCViewer.SearchRequest#getIsComplete](#)

(readonly) **results** :Array.<[PCCViewer.SearchResult](#)>

Gets an array of all search results produced by this `SearchRequest` up until this point.

An ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.

**Type:**

- Array.<[PCCViewer.SearchResult](#)>

See: [PCCViewer.SearchRequest#getResults](#)

(readonly) **searchQuery** :string

Gets the search query passed to [PCCViewer.ViewerControl#search](#).

If a string was passed to the `search` method, then this will return a [PCCViewer.ViewerControl~SearchQuery](#) object. The object will contain one search term (the provided string) and the options used for searching.

If an incomplete [PCCViewer.ViewerControl~SearchQuery](#) object was passed to `search`, then the object will be augmented with all options used for searching.

An ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.

**Type:**

- string

See: [PCCViewer.SearchRequest#getSearchQuery](#)

## Methods

`cancel()`

Cancels the current search execution and triggers `SearchCancelled` event.

## Example

---

```
searchRequest.cancel();
```

`getErrorCode() → {number}`

Returns the error code if there was an error. If there was no error, `null` will be returned.

**Returns:**

An error code indicating the type of error, or null.

The possible error codes are:

- 1010 - An unexpected exception occurred.
- 1011 - There was a failure retrieving data from the server.
- `ServerSearchUnavailable` - Server-side search is not available.

Type

number

**Example**

```
var errorCode = searchRequest.getErrorCode();
```

`getErrorMessage() → {string}`

Returns a plain text, human-readable, fixed-local message that explains the error condition. If there was no error, `null` will be returned.

**Returns:**

A plain text error message that explains the error condition, or null.

Type

string

**Example**

```
var errorMessage = searchRequest.getErrorMessage();
```

`getIsComplete() → {boolean}`

Returns a value (`true` or `false`) indicating if the search request is complete.

**Returns:**

A value indicating if search is complete.

Type

boolean

#### Example

```
var status = searchRequest.getIsComplete(); // true if
search is complete
```

`getPagesWithoutText()` → {Array.<number>}

Returns an array of page numbers that could not be searched because searchable text was not available for the page.

*The set of pages without searchable text may still contain text embedded in a rasterized image, but the viewer is unable to detect or search this text. Therefore it is useful to notify the end user when some pages could not be searched.*

#### Returns:

Returns an array of page numbers, or an empty array if all pages had searchable text.

Type

Array.<number>

#### Example

```
// Use pagesWithoutText to alert the end user that some
pages could not be search.
var pagesWithoutText =
searchRequest.getPagesWithoutText();
```

`getResults()` → {Array.<PCCViewer.SearchResult>}

Returns an array of all search results produced by this `SearchRequest` up until this point.

#### Returns:

An array of `SearchResult` objects. If no results are found, this will be an empty array.

Type

Array.<PCCViewer.SearchResult>

**Example**

```
var searchResults = searchRequest.getResults();
```

`getSearchQuery()` → {[PCCViewer.ViewerControl~SearchQuery](#)}

Returns the search query passed to [PCCViewer.ViewerControl#search](#).

If a string was passed to the `search` method, then this will return a [PCCViewer.ViewerControl~SearchQuery](#) object. The object will contain one search term (the provided string) and the options used for searching.

If an incomplete [PCCViewer.ViewerControl~SearchQuery](#) object was passed to `search`, then the object will be augmented with all options used for searching.

**Returns:**

The search query for this search request.

Type

[PCCViewer.ViewerControl~SearchQuery](#)

**Example**

```
var searchQuery = searchRequest.getSearchQuery();
```

`off(eventType, handler)` → {[PCCViewer.SearchRequest](#)}

Unsubscribe a handler from an event of the `SearchRequest`.

Typically, event is unsubscribed when you no longer want further notification of the event.

**Parameters:**

Name	Type	Description
<code>eventType</code>	string	A string specifying the event type. See <a href="#">PCCViewer.SearchRequest#on</a> for possible values.
<code>handler</code>	function	The function that was previously subscribed to the event type.

**Returns:**

The `SearchRequest` object on which this method was called.

Type

[PCCViewer.SearchRequest](#)

**Example**

```
// subscribe
searchRequest.on(PCCViewer.EventType.SearchCompleted,
onSearchCompleted);

// unsubscribe
searchRequest.off(PCCViewer.EventType.SearchCompleted,
onSearchCompleted);

// handler declaration
function onSearchCompleted(ev) {
    alert("Search completed! Number of hits : " +
searchRequest.getResults().length);
}
```

`on(eventType, handler) → {PCCViewer.SearchRequest}`

Subscribe a handler to an event of the SearchRequest.

**Parameters:**

Name	Type	Description
eventType	string	A string that specifies the event type. <ul style="list-style-type: none"><li>• "SearchCompleted" - <code>PCCViewer.EventType.SearchCompleted</code></li><li>• "SearchFailed" - <code>PCCViewer.EventType.SearchFailed</code></li><li>• "SearchCancelled" - <code>PCCViewer.EventType.SearchCancelled</code></li><li>• "SearchResultsAvailable" - <code>PCCViewer.EventType.SearchResultsAvailable</code></li><li>• "PartialSearchResultsAvailable" - <code>PCCViewer.EventType.PartialSearchResultsAvailable</code></li></ul>
handler	function	The function that will be called whenever the event is triggered.

**Returns:**

The SearchRequest object on which this method was called.

Type

`PCCViewer.SearchRequest`

**Example**

```
// subscribe
searchRequest.on(PCCViewer.EventType.SearchCompleted,
```

```
onSearchCompleted);  
  
// handler declaration  
function onSearchCompleted(ev) {  
    alert("Search completed! Number of hits : " +  
searchRequest.getResults().length);  
}
```

Documentation generated by [JSDoc 3.3.3](#) on Wed Jan 29 2020 07:58:21 GMT-0500 (Eastern Standard Time)

## Class: SearchResult

### Class: SearchResult

#### PCCViewer. SearchResult

`new SearchResult()`

The `SearchResult` object is created when searching a document. It represents a "search hit", the text in the document that matched a search term in the `searchQuery`, which was passed to [PCCViewer.ViewerControl#search](#).

This constructor should not be used directly. Instead, only access search results created by [PCCViewer.ViewerControl#search](#), through the [PCCViewer.SearchRequest](#) object.

See: Use [PCCViewer.SearchRequest#getResults](#) to get results from a `SearchRequest` object.  
Use [PCCViewer.SearchRequest#results](#) to get results from a `SearchRequest` object.

#### Members

`(readonly) boundingRectangle :Object`

Gets the bounding rectangle of the search result.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.*

#### Type:

- Object

See: [PCCViewer.SearchResult#getBoundingRectangle](#)

**(readonly) context** :string

Gets the search result text and some surrounding text.

The number of character in the context before and after the search result text can be configured using the [PCCViewer.ViewerControl~SearchQuery](#) passed to the [PCCViewer.ViewerControl#search](#) method.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.*

**Type:**

- string

See: [PCCViewer.SearchResult#getContext](#)

**(readonly) highlightColor** :string

Gets the highlight color of the search result, in hex notation (e.g. "#F1F1F1").

The highlight color can be specified in the [PCCViewer.ViewerControl~SearchQuery](#) passed to the [PCCViewer.ViewerControl#search](#) method. If a highlight color is not specified on the `searchQuery`, then a pseudo-random color is chosen.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.*

**Type:**

- string

See: [PCCViewer.SearchResult#getHighlightColor](#)

**(readonly) id** :number

Gets the ID of the search result.

The ID is unique only to results in the current search request, and it may be repeated in later search requests.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.*

**Type:**

- number

See: [PCCViewer.SearchResult#getId](#)

**(readonly) pageNumber** :number

Gets the page number of the document, on which the search result starts.

If the search result text is contained on a single page, this returns the page number of that page. If the search result text spans multiple pages, this returns the page number of the first page.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.*

**Type:**

- number

See: [PCCViewer.SearchResult#getPageNumber](#)

(readonly) `searchTerm`

:[PCCViewer.ViewerControl~SearchTerm](#) | [PCCViewer.ViewerControl~ProximitySearchTerm](#)

Gets the search term object from the `searchQuery` object that was passed to the [PCCViewer.SearchTask](#) constructor.

If a string was passed to the `search` method, then this will return a [PCCViewer.ViewerControl~SearchTerm](#) object generated from the string.

The returned object will be augmented with all options used for searching.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.*

**Type:**

- [PCCViewer.ViewerControl~SearchTerm](#) | [PCCViewer.ViewerControl~ProximitySearchTerm](#)

See: [PCCViewer.SearchResult#getSearchTerm](#)

(readonly) `searchTerm`

:[PCCViewer.ViewerControl~SearchTerm](#) | [PCCViewer.ViewerControl~ProximitySearchTerm](#)

Gets the search term object from the `searchQuery` object that was passed to the [PCCViewer.ViewerControl#search](#) method.

If a string was passed to the `search` method, then this will return a [PCCViewer.ViewerControl~SearchTerm](#) object generated from the string.

The returned object will be augmented with all options used for searching.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.*

**Type:**

- [PCCViewer.ViewerControl~SearchTerm](#) | [PCCViewer.ViewerControl~ProximitySearchTerm](#)

See: [PCCViewer.SearchResult#getSearchTerm](#)

(readonly) `startIndexInContext` :number

Gets the start index of the search result text within the context text returned by [PCCViewer.SearchTaskResult#getContext](#).

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.*

**Type:**

- number

See: [PCCViewer.SearchTaskResult#getStartIndexInContext](#)

(readonly) `startIndexInContext` :number

Gets the start index of the search result text within the context text returned by [PCCViewer.SearchResult#getContext](#).

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.*

**Type:**

- number

See: [PCCViewer.SearchResult#getStartIndexInContext](#)

(readonly) `text` :string

Gets the search result text. This is the text that matched the search query/term.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.*

**Type:**

- string

See: [PCCViewer.SearchResult#getText](#)

## Methods

`getBoundingRectangle()` → {Object}

Gets the bounding rectangle for the search result.

See: [PCCViewer.SearchResult#boundingRectangle](#)

**Returns:**

A rectangle object of the type {x: xValue, y: yValue, width: widthValue, height: heightValue}.

Type  
Object

**Example**

```
if (searchResult.getBoundingBox()) {  
    var boundingRectangle =  
    searchResult.getBoundingBox();  
}
```

`getContext() → {string}`

Gets the search result text and some surrounding text.

The number of character in the context before and after the search result text can be configured using the `PCCViewer.ViewerControl~SearchQuery` passed to the `PCCViewer.ViewerControl#search` method.

See: Use `PCCViewer.SearchResult#getStartIndexInContext` to identify the location of the search result text within the context.

**Returns:**

The context of the search result.

Type  
string

**Example**

```
var results = searchRequest.getResults()  
var result = results[0];  
  
result.getText(); // e.g. "document"  
result.getContext(); // e.g. "... the full  
spectrum of document, content, & imaging s..."  
result.getStartIndexInContext(); // e.g. 25
```

`getHighlightColor() → {string}`

Gets the highlight color of the search result, in hex notation (e.g. "#F1F1F1").

The highlight color can be specified in the `PCCViewer.ViewerControl~SearchQuery` passed to the

[PCCViewer.ViewerControl#search](#) method. If a highlight color is not specified on the `searchQuery`, then a pseudo-random color is chosen.

**Returns:**

The color of the search result highlight, in hexadecimal notation.

Type  
string

**Example**

```
var results = searchRequest.getResults()  
var result = results[0];  
var highlightColor = result.getHighlightColor();
```

`getId()` → {number}

Gets the ID of the search result.

The ID is unique only to results in the current search request, and it may be repeated in later search requests.

See: [PCCViewer.SearchRequest#getResults](#)

**Returns:**

The ID of the search result.

Type  
number

**Example**

```
var results = searchRequest.getResults();  
var result = results[0];  
var id = result.getId();
```

`getPageNumber()` → {number}

Gets the page number of the document, on which the search result starts.

If the search result text is contained on a single page, this returns the page number of that page. If the search result text spans multiple pages, this returns the page number of the first page.

**Returns:**

The page number on which the search result starts.

Type  
number

#### Example

```
var results = searchRequest.getResults()
var result = results[0];
var pageNumber = result.getPageNumber();
alert("Search result found on page: " + pageNumber);
```

`getSearchTerm()` → `{PCCViewer.ViewerControl~SearchTerm | PCCViewer.ViewerControl~ProximitySearchTerm}`

Gets the search term object from the `searchQuery` object that was passed to the `PCCViewer.ViewerControl#search` method.

If a string was passed to the `search` method, then this will return a `PCCViewer.ViewerControl~SearchTerm` object generated from the string.

The returned object will be augmented with all options used for searching.

#### Returns:

The search term of the search result.

Type  
`PCCViewer.ViewerControl~SearchTerm | PCCViewer.ViewerControl~ProximitySearchTerm`

#### Example

```
var results = searchRequest.getResults()
var result = results[0];
var searchTerm = result.getSearchTerm();
alert("This search result matched the search term: " +
searchTerm.searchTerm);
```

`getStartIndexInContext()` → `{number}`

Gets the start index of the search result text within the context text returned by `PCCViewer.SearchResult#getContext`.

#### Returns:

The start index of the search result text within the context text.

Type  
number

### Example

```
var results = searchRequest.getResults();
var result = results[0];
var startIndex = result.getStartIndexInContext();
```

**getStartIndexInPage()** → {number}

Gets the start index of the search result text, within the entire text of the page that the result is on.

See: Use [PCCViewer.ViewerControl#requestPageText](#) to get the full text of a page.  
Use [PCCViewer.SearchResult#getText](#) to get the matched text of the search result.

### Returns:

The start index of the matched text in the page.

Type  
number

### Example

```
var results = searchRequest.getResults()
var result = results[0];
var startIndex = result.getStartIndexInPage();
alert("The search result starts a character " +
startIndex + " on the page.");
```

**getText()** → {string}

Gets the search result text. This is the text that matched the search query/term.

### Returns:

The the search result text.

Type  
string

**Example**

```
var results = searchRequest.getResults()
var result = results[0];
var text = result.getText();
alert("Search matched the text: " + text);
```

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## Class: SearchTask

### Class: SearchTask

#### PCCViewer. SearchTask

This object represent a search task, which can be used to perform searches on any text string.

The `PCCViewer.SearchTask.search` method on the `PCCViewer.SearchTask` object can be used to search text contained in the Mark and comments objects. It will also perform search on any other text string.

#### Constructor

`new SearchTask(searchQuery)`

Creates a `SearchTask` object used for searching any text string.

#### Parameters:

Name	Type	Description
searchQuery	string   <a href="#">PCCViewer.ViewerControl~SearchQuery</a>	A value specifying the search query. The value specifies a single search term (string) or an object specifying multiple search terms and options. <i>NOTE: The searchQuery can be a single search term or a hash specifying one or more terms and options. If only a single search term (string) is supplied, then default options are used.</i>

See: [PCCViewer.SearchTask](#)  
[PCCViewer.SearchTaskResult](#)

**Throws:**

- If search query is not a string or a valid `PCCViewer.ViewerControl~SearchQuery` object.

Type  
Error

- When using the `SearchQuery` object, if the `searchQuery.searchTerm` is not an Array.

Type  
Error

- When using the `SearchQuery` object, if the `searchQuery.searchTerms[i].searchTerm` property of each Object in the `searchTerms` array is not a string.

Type  
Error

- If the combination of a search terms and matching options results in an invalid search, such as performing a wildcard search with only a \* character and no valid content.

Type  
Error

**Example**

```
// Search on multiple terms and specify options
var searchQuery = {
  searchTerms: [{
    searchTerm: "Full",
    contextPadding: 10,
    highlightColor: '#B22222',
    matchingOptions: {
      beginsWith: true,
    }
  }]
};

// create a text annotation
var mark1 = viewerControl.addMark(1, "TextAnnotation");
set text in the text annotation
mark1.setText("When Full-Text Search is being installed
for an existing client without Full-Text Search");
// create PCCViewer.SearchTask object
var searchTask = new PCCViewer.SearchTask(searchQuery);
```

```
// use the method PCCViewer.SearchTask.search to search
the word "Full" in mark1 annotation text.
var results = searchTask.search(mark1.mark1.getText());
//use it search some other text string
var results2 = searchTask.search("To enable the full-
text search functionality, your system should have a
dedicated server.");
```

## Methods

**search(The)** → {Array.<PCCViewer.SearchTaskResult>}

Searches any text string using the search criteria that were provided to the **PCCViewer.SearchTask** constructor.

### Parameters:

Name	Type	Description
The	string	text string to be searched.

### Returns:

An array of **PCCViewer.SearchTaskResult** objects.

Type

Array.<PCCViewer.SearchTaskResult>

### Example

```
var searchQuery = {
  searchTerms: [{
    searchTerm: "client",
    contextPadding: 10,
    highlightColor: '#B22222',
    matchingOptions: {
      beginsWith: true,
    }
  }]
};
var textString = "When Full-Text Search is being
installed for an existing client without Full-Text
Search";
var searchTask = new PCCViewer.SearchTask(searchQuery);
//search the textString
var results = searchTask.search(textString);
```

Documentation generated by *JSDoc 3.3.3* on Wed Jan 29 2020 07:58:21 GMT-0500 (Eastern Standard Time)

## Class: SearchTaskResult

### Class: SearchTaskResult

#### PCCViewer. SearchTaskResult

`new SearchTaskResult()`

The `SearchTaskResult` object is created when searching a given text. It represents a "search hit", the text in the provided text that matched a search term in the `searchQuery`, which was passed to the method `PCCViewer.SearchTask.search`.

This constructor should not be used directly. Instead, only access search results created by the method `PCCViewer.SearchTask.search` method.

#### Members

(readonly) `context` :string

Gets the search result text and some surrounding text.

The number of character in the context before and after the search result text can be configured using the `PCCViewer.ViewerControl~SearchQuery` passed to the `PCCViewer.SearchTask` constructor.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.*

#### Type:

- string

See: [PCCViewer.SearchTaskResult#getContext](#)

(readonly) `highlightColor` :string

Gets the highlight color of the search result, in hex notation (e.g. "#F1F1F1").

The highlight color can be specified in the `PCCViewer.ViewerControl~SearchQuery` passed to the `PCCViewer.SearchTask` constructor. If a highlight color is not specified on the `searchQuery`, then a pseudo-random color is chosen.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.*

#### Type:

- string

See: [PCCViewer.SearchTaskResult#getHighlightColor](#)

(readonly) `id` :number

Gets the ID of the search result.

The ID is unique only to results in the current search request, and it may be repeated in later search requests.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.*

**Type:**

- number

See: [PCCViewer.SearchTaskResult#getId](#)

(readonly) `text` :string

Gets the search result text. This is the text that matched the search query/term.

*This is an ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.*

**Type:**

- string

See: [PCCViewer.SearchTaskResult#getText](#)

## Methods

`getContext()` → {string}

Gets the search result text and some surrounding text.

The number of character in the context before and after the search result text can be configured using the [PCCViewer.ViewerControl~SearchQuery](#) passed to the [PCCViewer.SearchTask#search](#) method.

See: Use [PCCViewer.SearchTaskResult#getStartIndexInContext](#) to identify the location of the search result text within the context.

**Returns:**

The context of the search result.

Type  
string

**Example**

```
var mark1 = viewerControl.addMark(1, "TextAnnotation");
mark1.setText("When Full-Text Search is being installed
for an existing client without Full-Text Search");
var searchTask = new PCCViewer.SearchTask(searchQuery);
var results = searchTask.search(mark1.getText());
var result = results[0];

result.getText(); // e.g. "document"
result.getContext(); // e.g. "... the full
spectrum of document, content, & imaging s..."
result.getStartIndexInContext(); // e.g. 25
```

**getHighlightColor()** → {string}

Gets the highlight color of the search result, in hex notation (e.g. "#F1F1F1").

The highlight color can be specified in the [PCCViewer.ViewerControl~SearchQuery](#) passed to the [PCCViewer.ViewerControl#search](#) method. If a highlight color is not specified on the `searchQuery`, then a pseudo-random color is chosen.

**Returns:**

The color of the search result highlight, in hexadecimal notation.

Type  
string

**Example**

```
var mark1 = viewerControl.addMark(1, "TextAnnotation");
mark1.setText("When Full-Text Search is being installed
for an existing client without Full-Text Search");
var searchTask = new PCCViewer.SearchTask(searchQuery);
var results = searchTask.search(mark1.getText());
var result = results[0];
var highlightColor = result.getHighlightColor();
```

**getId()** → {number}

Gets the ID of the search result.

The ID is unique only to results in the current search request, and it may be repeated in later search requests.

**Returns:**

The ID of the search result.

Type

number

**Example**

```
var mark1 = viewerControl.addMark(1, "TextAnnotation");
mark1.setText("When Full-Text Search is being installed
for an existing client without Full-Text Search");
var searchTask = new PCCViewer.SearchTask(searchQuery);
var results = searchTask.search(mark1.getText());
var result = results[0];
var id = result.getId();
```

`getSearchTerm()` →

`{PCCViewer.ViewerControl~SearchTerm | PCCViewer.ViewerControl~ProximitySearchTerm}`

Gets the search term object from the `searchQuery` object that was passed to the `PCCViewer.SearchTask` constructor.

If a string was passed to the `PCCViewer.SearchTask` constructor, then this will return a `PCCViewer.ViewerControl~SearchTerm` object generated from the string.

The returned object will be augmented with all options used for searching.

**Returns:**

The search term of the search result.

Type

`PCCViewer.ViewerControl~SearchTerm | PCCViewer.ViewerControl~ProximitySearchTerm`

**Example**

```
var mark1 = viewerControl.addMark(1, "TextAnnotation");
mark1.setText("When Full-Text Search is being installed
for an existing client without Full-Text Search");
var searchTask = new PCCViewer.SearchTask(searchQuery);
var results = searchTask.search(mark1.getText());
var result = results[0];
var searchTerm = result.getSearchTerm();
alert("This search result matched the search term: " +
searchTerm.searchTerm);
```

```
getStartIndexInContext() → {number}
```

Gets the start index of the search result text within the context text returned by [PCCViewer.SearchResult#getContext](#).

**Returns:**

The start index of the search result text within the context text.

Type  
number

**Example**

```
var mark1 = viewerControl.addMark(1, "TextAnnotation");
mark1.setText("When Full-Text Search is being installed
for an existing client without Full-Text Search");
var searchTask = new PCCViewer.SearchTask(searchQuery);
var results = searchTask.search(mark1.getText());
var result = results[0];
var startIndex = result.getStartIndexInContext();
```

```
getStartIndexInInput() → {number}
```

Gets the start index of the search result text, within the entire text string

See: Use [PCCViewer.SearchTaskResult#getText](#) to get the matched text of the search result.

**Returns:**

The start index of the matched text in the provided text string to be searched.

Type  
number

**Example**

```
var mark1 = viewerControl.addMark(1, "TextAnnotation");
mark1.setText("When Full-Text Search is being installed
for an existing client without Full-Text Search");
var searchTask = new PCCViewer.SearchTask(searchQuery);
var results = searchTask.search(mark1.getText());
var result = results[0];
var startIndex = result.getStartIndexInInput();
```

```
alert("The search result starts a character " +
startIndex + " in the text string.");
```

`getText()` → {string}

Gets the search result text. This is the text that matched the search query/term.

**Returns:**

The search result text.

Type  
string

**Example**

```
var mark1 = viewerControl.addMark(1, "TextAnnotation");
mark1.setText("When Full-Text Search is being installed
for an existing client without Full-Text Search");
var searchTask = new PCCViewer.SearchTask(searchQuery);
var results = searchTask.search(mark1.getText());
var result = results[0];
var text = result.getText();
alert("Search matched the text: " + text);
```

---

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## Class: Signature Control

### Class: SignatureControl

#### PCCViewer. SignatureControl

`new SignatureControl(dom)`

Creates a new signature drawing context in the given DOM element.

**Parameters:**

Name	Type	Description
dom	HTMLElement   string	A DOM Element, or a string representing a valid query selector. This DOM element will be converted to a drawable area, so that the user can sign inside it. It can be styled any way you wish. However, this element <b>must be visible</b> on the page when the <code>SignatureControl</code> is initialized.

**Throws:**

- If the parameter passed in is not an HTML Element or a string.

Type  
Error

- If the query selector string did not match any element.

Type  
Error

**Examples**

```
// find the DOM element to use
var domElement =
document.querySelector('#myDrawingArea');
// configure the control
var signatureControl =
PCCViewer.SignatureControl(domElement);
```

```
// shorthand to use the query selector directly
var signatureControl =
PCCViewer.SignatureControl('#myDrawingArea');
```

**Methods**

`cancel()` → {[PCCViewer.SignatureControl](#)}

Destroys the signature control and returns the `HTMLElement` back to its original state. Any drawn elements will be discarded and no [PCCViewer.Signatures~FreehandSignature](#) will be created.

**Returns:**

The `SignatureControl` that owns the method.

Type  
[PCCViewer.SignatureControl](#)

`clear()` → `{PCCViewer.SignatureControl}`

Removes all drawn lines from the signature control.

**Returns:**

The `SignatureControl` that owns the method.

Type

`PCCViewer.SignatureControl`

`done()` → `{PCCViewer.Signatures~FreehandSignature}`

Creates a new `PCCViewer.Signatures~FreehandSignature` object from the elements drawn inside the `SignatureControl`. This method will also return the HTML Element that the `SignatureControl` was embedded in back to its original state.

If no content is drawn, the path returned by this method will be `M0, 0`, which is the shortest valid path which indicates that there is no content.

**Returns:**

The newly created signature.

Type

`PCCViewer.Signatures~FreehandSignature`

`resize()` → `{PCCViewer.SignatureControl}`

Reinitializes the size of the drawing area, so that the drawing area fits the entire size of the `HTMLElement`. Content already drawn in the area will remain unchanged.

**Returns:**

The `SignatureControl` that owns the method.

Type

`PCCViewer.SignatureControl`

`undo()` → `{PCCViewer.SignatureControl}`

Removes the last drawn line from the signature control.

**Returns:**

The `SignatureControl` that owns the method.

Type

`PCCViewer.SignatureControl`

---

Documentation generated by *JSDoc 3.3.3* on Wed Jan 29 2020 07:58:21 GMT-0500 (Eastern Standard Time)

## Class: SignatureDisplay

### Class: SignatureDisplay

#### PCCViewer. SignatureDisplay

```
new SignatureDisplay(domElement, signature) → {Object}
```

Builds a DOM preview of the signature, to be used to display the signature outside of the viewer.

#### Parameters:

Name	Type	Description
<code>domElement</code>	<code>HTMLElement</code>	The element in which to insert signature preview.
<code>signature</code>	<code>Object</code>   <code>PCCViewer.Signatures~FreehandSignature</code>   <code>PCCViewer.Signatures~TextSignature</code>	The signature object to render in the preview.

#### Throws:

- If the `domElement` parameter is undefined or not a valid `HTMLElement`.  
Type  
`Error`
- If the `signature` parameter is undefined.  
Type  
`Error`
- If the `signature.path` property, in a `FreehandSignature` object, contains invalid data.

Type  
Error

- If the `signature.text` property, in a `TextSignature` object, is not a string.

Type  
Error

**Returns:**

An Object that contains the following properties:

- `width` {Number} The calculated width of the signature in pixels.
- `height` {Number} The calculated height of the signature in pixels.
- `clear` {Function} Remove all inserted content from the original `HTMLElement`.

*Note: the width and height of a text signature will always be calculated using a 12 point font.*

Type  
Object

**Example**

```
// create a signature and a div
var signature = { path: "M0,0L100,0L100,100L0,100L0,0"
};
var div = document.createElement('div');

// generate the signature preview
PCCViewer.SignatureDisplay(div, signature);

// display the div now
document.body.appendChild(div);
```

---

Documentation generated by [JSDoc 3.3.3](#) on Wed Jan 29 2020 07:58:21 GMT-0500 (Eastern Standard Time)

## Class: ThumbnailControl

### Class: ThumbnailControl

#### PCCViewer. ThumbnailControl

The `ThumbnailControl` is a viewer for the thumbnails associated with a document. It is associated with a `PCCViewer.ViewerControl` object at initialization, and will display the thumbnails of the document being viewed in that `ViewerControl`.

## Constructor

```
new ThumbnailControl(domElement, viewerControl)
```

Creates a new `PCCViewer.ThumbnailControl` object.

### Parameters:

Name	Type	Description
<code>domElement</code>	<code>HTMLElement</code>	The DOM element in which to embed the <code>ThumbnailControl</code> .
<code>viewerControl</code>	<code>PCCViewer.ViewerControl</code>	The <code>ViewerControl</code> object for which to display thumbnails.

See: [PCCViewer.ViewerControl](#)

### Throws:

If either of the parameters is undefined or an invalid value.

Type  
Error

## Members

(static, readonly) `EventType` :string

The `EventType` enumeration defines event types known to `PCCViewer.ThumbnailControl`.

**Note:** This enumeration is for convenience for API developers. Instead of using this enumeration, you can pass string values of the `eventType` (enumeration values)

### Type:

- string

### Properties:

Name	Type	Description
PageSelectionChanged	string	<p>Event is triggered when the collection of selected thumbnails changes.</p> <p>Augmented properties of the <a href="#">PCCViewer.Event</a> object for this event:</p> <ul style="list-style-type: none"> <li><code>pageNumbers</code> {Array.&lt;number&gt;} The currently selected page numbers.</li> </ul>

See: [PCCViewer.Event](#)  
[PCCViewer.ThumbnailControl#on](#)  
[PCCViewer.ThumbnailControl#off](#)

**selectedPages** :Array.<number>|number

An ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.

Gets and sets the selected pages in the Thumbnail Control.

**Type:**

- Array.<number> | number

See: [PCCViewer.ThumbnailControl#getSelectedPages](#)  
[PCCViewer.ThumbnailControl#setSelectedPages](#)

**(readonly) viewerControl** :[PCCViewer.ViewerControl](#)

An ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.

Gets the [PCCViewer.ViewerControl](#) object associated with this `ThumbnailControl`.

**Type:**

- [PCCViewer.ViewerControl](#)

See: [PCCViewer.ThumbnailControl#getViewerControl](#)

**(readonly) visiblePages** :Array.<number>

An ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.

Gets the page numbers of the pages currently visible in the `ThumbnailControl` view.

**Type:**

- Array.<number>

See: [PCCViewer.ThumbnailControl#getVisiblePages](#)

**Methods****destroy()**

This method will remove the thumbnails from the original `HTMLElement` and return it to its previous state. It will destroy all of the thumbnails and release their resources. The `ThumbnailControl` can no longer be used after calling this method, and a new one will need to be created to continue viewing thumbnails.

**getSelectedPages() → {Array.<number>}**

Gets the currently selected thumbnails.

See: [PCCViewer.ThumbnailControl#setSelectedPages](#)  
[PCCViewer.ThumbnailControl#selectedPages](#)

**Returns:**

The page numbers of the selected thumbnails.

Type

Array.<number>

**getViewerControl() → {PCCViewer.ViewerControl}**

Gets the [PCCViewer.ViewerControl](#) object associated with this `ThumbnailControl`.

**Returns:**

The `ViewerControl` associated with this `ThumbnailControl`.

Type

[PCCViewer.ViewerControl](#)

**getVisiblePages() → {Array.<number>}**

Gets the page numbers of the pages currently visible in the `ThumbnailControl` view. This will include pages that are only partly visible, as well as pages that are not yet fully loaded but part of their placeholder is visible.

**Returns:**

An array of page numbers.

Type

Array.<number>

`off(eventType, handler) → {PCCViewer.ThumbnailControl}`

Unsubscribe an event handler from a specified event type.

Typically, an event is unsubscribed when you no longer want further notification of the event.

**Parameters:**

Name	Type	Description
eventType	string	A string specifying the event type. See <a href="#">PCCViewer.ThumbnailControl.EventType</a> for a list and description of all supported events.
handler	<a href="#">PCCViewer.Event~eventHandler</a>	A function that was attached previously to the <code>ViewerControl</code> .  <b>Note:</b> This must be the same function object previously passed to <a href="#">PCCViewer.ThumbnailControl#on</a> . It cannot be a different object that is functionally equivalent.

See:

[PCCViewer.ViewerControl#on](#)

[PCCViewer.ViewerControl#off](#) for more details on usage.

**Returns:**

The `ThumbnailControl` object on which this method was called.

Type

[PCCViewer.ThumbnailControl](#)

`on(eventType, handler) → {PCCViewer.ThumbnailControl}`

Subscribe an event handler to an event of a specified type.

**Parameters:**

Name	Type	Description
eventType	string	A string that specifies the event type. This value is case-insensitive. See <a href="#">PCCViewer.ThumbnailControl.EventType</a> for a list and description of all supported events.
handler	<a href="#">PCCViewer.Event~eventHandler</a>	A function that will be called whenever the event is triggered.

See: [PCCViewer.ThumbnailControl#off](#)  
[PCCViewer.ViewerControl#on](#) for more details on usage.

**Returns:**

The `ThumbnailControl` object on which this method was called.

Type

[PCCViewer.ThumbnailControl](#)

`reflow()` → [{PCCViewer.ThumbnailControl}](#)

This method will calculate the size of a thumbnail based on the defined CSS, and will fit each individual page element to the thumbnail container. This method can also be called to programmatically trigger the loading of newly visible pages in cases where the thumbnail view either dynamically or manually changes size, or the thumbnails themselves change size.

*Note: This method can be a bit expensive, so it is best to debounce it from any event that triggers a thumbnail resize, such as a window resize.*

**Returns:**

The `ThumbnailControl` object on which this method was called.

Type

[PCCViewer.ThumbnailControl](#)

**Example**

```
// First, get the thumbnailControl

// Create a resize function
var resize = function(){
    thumbnailControl.reflow();
};

// Create a debounce function
var debounceTimer;
```

```

var debounceEvent = function(){
  if (debounceTimer) {
    clearTimeout(debounceTimer);
    debounceTimer = undefined;
  }

  debounceTimer = setTimeout(resize, 300);
};

// Add the debounced function to the resize event
window.onresize = debounceEvent;

```

**scrollTo(pageNumber, options<sub>opt</sub>)** → {PCCViewer.ThumbnailControl}

Scrolls to a specified page. By default, this will be done using the minimum amount of scrolling, so pages that are above the current view will be scrolled to appear at the top of the view, and pages below the current view will be scrolled to appear at the bottom. This can be overridden with the `options` parameter.

**Parameters:**

Name	Type	Attributes	Description								
pageNumber	number		The page to scroll to.								
options	Object	<optional>	Provide options to the scroll method to indicate desired behavior.  <b>Properties</b> <table border="1"> <thead> <tr> <th>Name</th> <th>Type</th> <th>Attributes</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>forceAlignTop</td> <td>boolean</td> <td>&lt;optional&gt;</td> <td>Overrides the default scrolling behavior, and forces the specified page to always be scrolled to the top of the view.</td> </tr> </tbody> </table>	Name	Type	Attributes	Description	forceAlignTop	boolean	<optional>	Overrides the default scrolling behavior, and forces the specified page to always be scrolled to the top of the view.
Name	Type	Attributes	Description								
forceAlignTop	boolean	<optional>	Overrides the default scrolling behavior, and forces the specified page to always be scrolled to the top of the view.								

**Throws:**

If the `pageNumber` is not within the range of the page count for the specified document.

Type  
Error

**Returns:**

The `ThumbnailControl` object on which this method was called.

Type

`PCCViewer.ThumbnailControl`

`setSelectedPages(pageNumbers) → {PCCViewer.ThumbnailControl}`

Sets the currently selected thumbnails.

### Parameters:

Name	Type	Description
<code>pageNumbers</code>	Array. <number>   number	The page number (or numbers) to select. The first selected page will automatically be scrolled into view if it is not already visible. See <code>PCCViewer.ThumbnailControl#scrollTo</code> for more details on scrolling to a page.

See:

`PCCViewer.ThumbnailControl#getSelectedPages`

`PCCViewer.ThumbnailControl#selectedPages`

### Throws:

- If the `pageNumbers` parameter is undefined, or not a number or array of numbers.

Type

Error

- If any of the numbers defined in `pageNumbers` is out of range of the document page count.

Type

Error

### Returns:

The `ThumbnailControl` object on which this method was called.

Type

`PCCViewer.ThumbnailControl`

## Class: Viewer

### Class: Viewer

#### PCCViewer. Viewer

This class gives programmatic access to the HTML 5 viewer.

#### Constructor

`new Viewer()`

Use the jQuery plugin [external:jQuery.fn#pccViewer](#) to create the viewer.

See: [external:jQuery.fn#pccViewer](#) Use the jQuery plugin [external:jQuery.fn#pccViewer](#) to create an instance of this class.

#### Fires:

- [PCCViewer.Viewer#event:ViewerReady](#)

#### Example

```
// Create an instance of the class using the jQuery
plugin
$("#mydiv").pccViewer(options); // returns
PCCViewer.Viewer instance
```

#### Members

`viewerControl` : [PCCViewer.ViewerControl](#)

Gets the [PCCViewer.ViewerControl](#) object used by the viewer instance. Through the [PCCViewer.ViewerControl](#) object, the caller has API access to control the viewer behavior.

#### Type:

- [PCCViewer.ViewerControl](#)

#### Methods

`destroy()`

Cleans up the viewer DOM elements and leaves the elements as they were. This method also

destroys the `PCCViewer.ViewerControl` object by calling `PCCViewer.ViewerControl#destroy` on the `ViewerControl` that is associated with this viewer.

### Example

```
var viewerPlugin = $('#mydiv').pccViewer(options);
var viewerControl = viewerPlugin.viewerControl;

viewerPlugin.destroy();
```

## Events

### ViewerReady

Fired when the viewer has initialized and is ready to be manipulated.

### Type:

- `PCCViewer.Viewer`

### Example

```
$('#mydiv').on('ViewerReady', function(pccViewer) {
    var marks = pccViewer.viewerControl.getAllMarks();
});

$('#mydiv').pccViewer(options);
```

---

Documentation generated by [JSDoc 3.3.3](#) on Wed Jan 29 2020 07:58:21 GMT-0500 (Eastern Standard Time)

## Class: ViewerControl

### Class: ViewerControl

#### PCCViewer. ViewerControl

The `ViewerControl` is a document viewer without any menus, buttons, dialogs, etc. The UI only consists of a page list, which allows a user to scroll through the pages of a document. It is the most basic viewer which shows a document. It can be used alone, or it can be augmented with UI elements (chrome) to expose more functionality to the end user.

Our out-of-the-box HTML5 viewer uses the `ViewerControl` to build a desktop and mobile

ready viewer, with extensive UI chrome and a responsive design.

The `ViewerControl` has an API, which covers the full set of viewer functionality. Code that directly uses the `ViewerControl` will typically create UI elements - buttons, menus, and inputs - for the end user to interact with. These UI elements will be hooked up to call the `ViewerControl` API when the user interacts with the UI elements (e.g. on button click, call `.changeToNextPage()`).

The `ViewerControl` also permits mouse and touch interaction. The behavior of the mouse tool or touch is set using the API method `PCCViewer.ViewerControl#setCurrentMouseTool`. Once the tool is set, the user can interact with the viewer using the mouse tool or touch.

## Constructor

`new ViewerControl(element, options)`

Creates a new `PCCViewer.ViewerControl` object.

### Parameters:

Name	Type	Description
element	HTMLDivElement	Embed the <code>ViewerControl</code> in this element.
options	<code>PCCViewer.ViewerControl~ViewerControlOptions</code>	Specify options for the <code>ViewerControl</code> object. Some options are required.

## Members

`(readonly) atMaxScale :boolean`

An ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.

It checks whether the viewer is currently at the maximum zoom level.

### Type:

- boolean

See: `PCCViewer.ViewerControl#getAtMaxScale`

`(readonly) atMinScale :boolean`

An ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.

It checks whether the viewer is currently at the minimum zoom level.

### Type:

- boolean

See: [PCCViewer.ViewerControl#getAtMinScale](#)

**currentMouseTool** :string

An ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.

Gets and sets the current mouse tool of the viewer by name.

**Type:**

- string

See: [PCCViewer.ViewerControl#getCurrentMouseTool](#)  
[PCCViewer.ViewerControl#setCurrentMouseTool](#)

(readonly) **isCommentsPanelOpen** :boolean

An ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.

Gets a value indicating whether the comments panel is open.

**Type:**

- boolean

See: [PCCViewer.ViewerControl#getIsCommentsPanelOpen](#)

**markHandleMode** :[PCCViewer.RedactionViewMode](#)

An ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.

Gets or sets the mark handle mode.

**Type:**

- [PCCViewer.RedactionViewMode](#)

See: [PCCViewer.ViewerControl#getMarkHandleMode](#)  
[PCCViewer.ViewerControl#setMarkHandleMode](#)  
[PCCViewer.MarkHandleMode](#)

(readonly) **pageCount** :number

An ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.

Gets the document page count.

**Type:**

- number

See: [PCCViewer.ViewerControl#getPageCount](#)

**pageNumber : number**

An ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.

Gets and sets the current page of the viewer to the specified page number in the document. Setting the page number to a value other than the current page number will cause the viewer to navigate to the page number provided in the parameter.

**Type:**

- number

See: [PCCViewer.ViewerControl#getPageNumber](#)  
[PCCViewer.ViewerControl#setPageNumber](#)

**redactionViewMode : PCCViewer.RedactionViewMode**

An ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.

Gets or sets the redaction view mode. This defines whether the document content text underneath redaction rectangles needs to be visible in a "Draft" mode [PCCViewer.RedactionViewMode](#) enumerable values.

**Type:**

- [PCCViewer.RedactionViewMode](#)

See: [PCCViewer.ViewerControl#getRedactionViewMode](#)  
[PCCViewer.ViewerControl#setRedactionViewMode](#)  
[PCCViewer.RedactionViewMode](#)

**scaleFactor : number**

An ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.

Gets or sets the scale factor to use in the viewer, with 1 being 100% zoom.

**Type:**

- number

See: [PCCViewer.ViewerControl#getScaleFactor](#)  
[PCCViewer.ViewerControl#setScaleFactor](#)

(readonly) **searchRequest** :[PCCViewer.SearchRequest](#)

An ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.

Gets the `SearchRequest` object from the last call to [PCCViewer.ViewerControl#search](#).

**Type:**

- [PCCViewer.SearchRequest](#)

See: [PCCViewer.ViewerControl#getSearchRequest](#)

**selectedConversation** :[PCCViewer.Conversation](#)

An ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.

Gets and sets the selected conversation.

**Type:**

- [PCCViewer.Conversation](#)

See: [PCCViewer.ViewerControl#getSelectedConversation](#)  
[PCCViewer.ViewerControl#setSelectedConversation](#)

(readonly) **selectedMarks** :Array.<[PCCViewer.Mark](#)>

An ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.

Gets an array of selected marks.

**Type:**

- Array.<[PCCViewer.Mark](#)>

See: [PCCViewer.ViewerControl#getSelectedMarks](#)

`selectedSearchResult` : [PCCViewer.SearchResult](#) | null

An ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.

Gets and sets the selected `SearchResult` object. Returns null if no search results are selected.

**Note:** Setting the search result through this property will always scroll to it.

**Type:**

- [PCCViewer.SearchResult](#) | null

See: [PCCViewer.ViewerControl#getSelectedSearchResult](#)  
[PCCViewer.ViewerControl#setSelectedSearchResult](#)

`viewMode` : [PCCViewer.ViewMode](#)

An ECMA 5 accessor property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8.

Gets or sets the view mode. This defines how the document pages will be scaled, based on the values of the [PCCViewer.ViewMode](#) enumerable values.

**Type:**

- [PCCViewer.ViewMode](#)

See: [PCCViewer.ViewerControl#getViewMode](#)  
[PCCViewer.ViewerControl#setViewMode](#)  
[PCCViewer.ViewMode](#)

**(inner) TextSelection**

A plain object convention describing a text selection.

**Properties:**

Name	Type	Description
<code>pageNumber</code>	number	The page number that the selection starts on.
<code>length</code>	number	The length of the text.
<code>text</code>	string	The selected text. This is plain text without any formatting.
<code>startIndex</code>	number	The index at which the selection starts in the page.

Name	Type	Description
rectangles	Array. <PCCViewer.ViewerControl~TextSelectionRectangle>	An array of all the rectangles that make up the text selection.

#### (inner) TextSelectionRectangle

A plain object convention describing a text selection rectangle.

#### Properties:

Name	Type	Description
x	number	The x-coordinate of the top-left corner of the rectangle.
y	number	The y-coordinate of the top-left corner of the rectangle.
width	number	The width of the rectangle.
height	number	The height of the rectangle.
pageNumber	number	The page number of the rectangle.

#### Methods

`addMark(pageNumber, markType) → {PCCViewer.Mark}`

Creates a new mark of a specific type and adds to the specified page.

#### Parameters:

Name	Type	Description
pageNumber	number	Indicates the page to which to add the mark.
markType	PCCViewer.Mark.Type   string	Indicates the type of mark being added

#### Throws:

- If `PCCViewer.EventType.ViewerReady` event was not fired prior to using this method.  
Type  
Error
- If an invalid `pageNumber` is provided.  
Type

Error

**Returns:**

The new mark.

Type

`PCCViewer.Mark`

**Example**

```
viewerControl.addMark(1, "LineAnnotation");
```

`addMarkFromSearchResult(searchResult, markType) → {PCCViewer.Mark}`

Creates a new mark of a specific type and adds to the location where the specified search result is.

**Parameters:**

Name	Type	Description
searchResult	<code>PCCViewer.SearchResult</code>	Indicates the search result that will include the location for the new mark.
markType	<code>PCCViewer.Mark.Type</code>   string	Indicates the type of mark being added.

**Throws:**

- If `PCCViewer.EventType.ViewerReady` event was not fired prior to using this method.

Type

Error

- If an invalid `searchResult` is provided.

Type

Error

- If an invalid text based mark type is provided.

Type

Error

**Returns:**

The new mark.

Type

`PCCViewer.Mark`

**Example**

```
var requestObject = PCCViewer.search('Con');
var marks = [];
var newMark;

requestObject.on(PCCViewer.EventType.SearchCompleted,
function (event) {
    var searchResults =
event.completedSearchResults;
    for (var i = 0; i < searchResults.length; i++) {
        newMark =
viewer.addMarkFromSearchResult(searchResults[i],
PCCViewer.Mark.Type.TextSelectionRedaction);
        marks.push(newMark);
    }
});
```

`burnMarkup(optionsopt)` → `{PCCViewer.BurnRequest}`

Burns redactions and signatures in the document. **Note:** CAD files are not supported.

If the parameter `options.removeFormFields` is invalid, then the `PCCViewer.Promise` object that is returned will be rejected with the reason set to a `PCCViewer.Error` object with its code property set to `InvalidArgument`.

**Parameters:**

Name	Type	Attributes	Description
options	Object	<optional>	This optional parameter specifies burn options to be used for burn document.
<b>Properties</b>			
Name	Type	Attributes	Default
marks	PCCViewer.Mark   Array. <PCCViewer.Mark>	<optional>	
burnSignatures	boolean	<optional>	true
burnRedactions	boolean	<optional>	true
burnAnnotations	boolean	<optional>	false
filename	string	<optional>	



```
function onFailedBurn(error) {
    alert("burn Process failed, error:" +
(error.message ? error.message : error));
}

// A BurnRequest object is created by and returned
from the call to the burnMarkup method
var burnRequest = viewerControl.burnMarkup();
burnRequest.then(onSuccessfulBurn, onFailedBurn);

//register some events
burnRequest
    .on(PCCViewer.BurnRequest.EventType.BurnCompleted,
        function(ev) {
            alert("Document burn completed.");
        })
    .on(PCCViewer.BurnRequest.EventType.BurnProgress,
        function(event) {
            alert("Burn progress: " + event.percent +
"%");
        })
    .on(PCCViewer.BurnRequest.EventType.BurnFailed,
        function(event) {
            alert("Document burn failed.");
        });

// Also, methods on the burnRequest object can be
used

// get the options used to burn the document.
var optionsUsed = burnRequest.getOptions();

//if the process is still incomplete, cancel can be
used to stop queries to the server.
if (burnRequest.getProgress() >= 0 &&
burnRequest.getProgress() < 100) {
    burnRequest.cancel();
}
```

**canPrintMarks()** → {boolean}

Informs whether the current browser is capable of printing the annotations and redactions on a document. If `true`, the document can be printed with annotations and redactions. If `false`, the document will be printed without annotations, regardless of the print request made.

**Returns:**

A value indicating whether the browser is capable of printing annotations and redactions on a document.

Type  
boolean

### Example

```
var printWithMarks = true;
viewerControl.print({
  includeMarks: (printWithMarks &&
viewerControl.canPrintMarks())
});
```

**changeToFirstPage()** → {PCCViewer.ViewerControl}

Sets the current page of the viewer to the first page of the document.

**Note:** Does nothing if the current page is the first page of the document.

### Returns:

The `ViewerControl` object on which this method was called.

Type  
PCCViewer.ViewerControl

### Example

```
viewerControl.changeToFirstPage();
```

**changeToLastPage()** → {PCCViewer.ViewerControl}

Sets the current page of the viewer to the last known page of the document.

**Note:** Does nothing if the current page is the last known page of the document.

### Returns:

The `ViewerControl` object on which this method was called.

Type  
PCCViewer.ViewerControl

### Example

```
viewerControl.changeToLastPage();
```

`changeToNextPage()` → `{PCCViewer.ViewerControl}`

Sets the current page of the viewer to the next page of the document.

**Note:** Does nothing if the current page is the last known page of the document.

**Returns:**

The `ViewerControl` object on which this method was called.

Type

`PCCViewer.ViewerControl`

**Example**

```
viewerControl.changeToNextPage();
```

`changeToPrevPage()` → `{PCCViewer.ViewerControl}`

Sets the current page of the viewer to the previous page of the document.

**Returns:**

The `ViewerControl` object on which this method was called.

Type

`PCCViewer.ViewerControl`

**Example**

```
viewerControl.changeToPrevPage();
```

`clearMouseSelectedText(textSelection)` → `{PCCViewer.ViewerControl}`

Deselects the text provided in a `TextSelected` event.

**Parameters:**

Name	Type	Description
<code>textSelection</code>	<code>PCCViewer.ViewerControl~TextSelection</code>	The <code>textSelection</code> object provided in the <code>TextSelected</code> event arguments.

## Throws:

- If `textSelection` is undefined.  
Type  
Error
- If `textSelection.pageNumber` is not a known page number.  
Type  
Error
- If `textSelection.startIndex` is not a number or is negative.  
Type  
Error
- If `textSelection.length` is not a number or is less than 1.  
Type  
Error

## Returns:

The `ViewerControl` object on which this method was called.

Type

`PCCViewer.ViewerControl`

## Example

```
var onTextSelected = function(ev) {
    var mark =
viewerControl.addMark(ev.textSelection.pageNumber,
    'HighlightAnnotation');
    mark.setPosition(ev.textSelection);

    // clear the highlighted text

ViewerControl.clearMouseSelectedText(ev.textSelection);
};

viewerControl.on('TextSelected', onTextSelected);
```

`clearSearch()` → `{PCCViewer.ViewerControl}`

Clears the search hit highlights and removes the `SearchRequest` from the `ViewerControl`.

After calling this, `PCCViewer.ViewerControl#getSearchRequest` will not return the last `SearchRequest`.

**Throws:**

If the `PCCViewer.EventType.ViewerReady` event has not fired prior to using this method.

Type  
Error

**Returns:**

The `ViewerControl` object on which this method was called.

Type  
`PCCViewer.ViewerControl`

**Example**

```
viewerControl.search("Foo");  
// As search results become available, they are  
highlighted on the document.  
  
// Clear search result highlights from the document.  
viewerControl.clearSearch();
```

`clearSelectedSearchResult()` → `{PCCViewer.ViewerControl}`

This methods clears the search result selection, or in other words, it deselects the search result. If there is not a selected search result when this method is called, then the method has no effect.

This method is offered as a convenience to API callers, who could also call `PCCViewer.ViewerControl#setSelectedSearchResult(null)`.

See: `PCCViewer.ViewerControl#setSelectedSearchResult`  
`PCCViewer.ViewerControl#clearSearch`

**Throws:**

If the `PCCViewer.EventType.ViewerReady` event was not fired prior to using this method.

Type  
Error

**Returns:**

The `ViewerControl` object on which this method was called.

Type

`PCCViewer.ViewerControl`

**Example**

```
var searchRequest = viewerControl.search('Accusoft');

// add events to the search request
searchRequest.on("SearchCompleted", function(){
    // get the search results
    results = searchRequest.getResults();

    // set the result to the first
    viewerControl.setSelectedSearchResult(results[0],
true);

    // clear the selected search result
    viewerControl.clearSelectedSearchResult();
});
```

`clientSearch(searchQuery)` → `{PCCViewer.SearchRequest}`

Searches the text of the document for the given `searchQuery`. The search is performed client-side, which requires requesting from the server text for each page. This is efficient for smaller documents, but for large documents it is more efficient to use the `PCCViewer.ViewerControl#serverSearch` method instead.

This query can be a single search term or a hash specifying one or more terms and options. If only a single search term (string) is supplied, then default options are used.

Search completes asynchronously. The returned `PCCViewer.SearchRequest` object, provides events for search progress and members to access search results.

**Parameters:**

Name	Type	Description
<code>searchQuery</code>	string   <code>PCCViewer.ViewerControl~SearchQuery</code>	A value specifying the search query. The value specifies a single search term (string) or an object specifying multiple search terms and options.

See: `PCCViewer.SearchRequest`  
`PCCViewer.SearchResult`

**Returns:**

An object that represents the search request. This object allows the calling code to subscribe to search progress events and access search results.

Type

`PCCViewer.SearchRequest`

**Examples**

```
// Search on a single term with default options
var searchRequest =
viewerControl.clientSearch("Hello");

// Subscribe to the PartialSearchResultsAvailable
event to get search results as they become available.
searchRequest.on('PartialSearchResultsAvailable',
function(_event) {
    // Get the newly available search results.
    var newResults = _event.partialSearchResults;
});
```

```
// Search on multiple terms and specify options
var searchQuery = {
    searchTerms: [{
        searchTerm: "sub",
        contextPadding: 25,
        highlightColor: '#B22222',
        matchingOptions: {
            beginsWith: true,
        }
    },
    {
        searchTerm: "Accusoft"
    }
    ]
};

var requestObject =
viewerControl.clientSearch(searchQuery);

//subscribe to the search request
requestObject.on('PartialSearchResultsAvailable',
function(_event) {
    var newResults = [];
    //Retrieve results
    newResults = _event.partialSearchResults;
});
```

`closeCommentsPanel()` → `{PCCViewer.ViewerControl}`

Closes the comments panel.

**Throws:**

If `PCCViewer.EventType.ViewerReady` event was not fired prior to using this method.

Type  
Error

**Returns:**

The `ViewerControl` object on which this method was called.

Type  
`PCCViewer.ViewerControl`

**Example**

```
viewerControl.closeCommentsPanel();
```

**convertDocument()**

Deprecated since v11.0 (use the `PCCViewer.ViewerControl#requestDocumentConversion` method instead).

**convertPageToWindowCoordinates(pageNumber, points) → {Array.<Object>|Object}**

Converts page-based coordinates to the current window coordinates. This allows passing in a coordinate point or an array of points as used in the `ViewerControl` API, in order to get the position of that point or points relative to the window.

**Parameters:**

Name	Type	Description									
pageNumber	number	A known page number to the viewer.									
points	Array.<Object>   Object	A point or array of points in page coordinates. Each point will have the following properties:  <b>Properties</b> <table border="1"> <thead> <tr> <th>Name</th> <th>Type</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>x</td> <td>number</td> <td>the x page coordinate</td> </tr> <tr> <td>y</td> <td>number</td> <td>the y page coordinate</td> </tr> </tbody> </table>	Name	Type	Description	x	number	the x page coordinate	y	number	the y page coordinate
Name	Type	Description									
x	number	the x page coordinate									
y	number	the y page coordinate									

**Throws:**

- If the `PCCViewer.EventType.ViewerReady` event has not fired prior to calling this method.

Type  
Error

- If `pageNumber` is not a currently known page.

Type  
Error

- If any of the points do not have a valid `x` and `y` numeric parameters.

Type  
Error

**Returns:**

A window point or an array of window points, depending on how the method was called. These points will be in the same order as the points passed into the function. Each window point will have the following parameters:

- `clientX` {number} The x window coordinate in pixels.
- `clientY` {number} The y window coordinate in pixels.

Type  
Array.<Object> | Object

`convertToHighlight(searchResult) → {PCCViewer.Mark}`

Converts a search result into a highlight annotation.

**Parameters:**

Name	Type	Description
<code>searchResult</code>	<code>PCCViewer.SearchResult</code>	The search result to convert to a highlight.

**Throws:**

- If `PCCViewer.EventType.ViewerReady` event was not fired prior to using this method.

Type

Error

- If the provided parameter is not a valid `PCCViewer.SearchResult` object created in the current session.

Type  
Error

#### Returns:

The new `PCCViewer.Mark`.

Type  
`PCCViewer.Mark`

#### Example

```
var searchRequest = viewer.search("Hello");
var searchResult = searchRequest.getResults();
for (var i = 0; i < searchResult.length; i++) {
    var mark =
viewer.convertToHighlight (searchResult[i]);
}
```

`convertToRedaction(searchResult) → {PCCViewer.Mark}`

Converts a search result into a text selection redaction.

#### Parameters:

Name	Type	Description
searchResult	<code>PCCViewer.SearchResult</code>	The search result to convert to a redaction.

#### Throws:

- If `PCCViewer.EventType.ViewerReady` event was not fired prior to using this method.

Type  
Error

- If the provided parameter is not a valid `PCCViewer.SearchResult` object created in the

Type  
Error

- If the text has not been retrieved for the page. current session.

Type  
Error

**Returns:**

The new `PCCViewer.Mark`.

Type  
`PCCViewer.Mark`

**Example**

```
var searchRequest = viewer.search("Hello");
var searchResult = searchRequest.getResults();
for (var i = 0; i < searchResult.length; i++) {
    var mark =
viewer.convertToRedaction(searchResult[i]);
}
```

`copyMarks(marks) → {Array.<PCCViewer.Mark>}`

Makes a copy of the specified marks.

**Parameters:**

Name	Type	Description
marks	Array.<PCCViewer.Mark>	An array of marks to copy.

**Throws:**

If marks is not an array of marks known to the viewer.

Type  
Error

**Returns:**

An array of the copied marks.

Type  
Array.<PCCViewer.Mark>

## Example

```
// Make a copy of the selected marks.
markupLayer1.copyMarks(viewerControl.getSelectedMarks())
```

`deleteAllMarks()` → `{PCCViewer.ViewerControl}`

Deletes all marks in all the pages of the document.

## Returns:

The `viewerControl` object on which this method was called.

Type

`PCCViewer.ViewerControl`

## Example

```
viewerControl.deleteAllMarks();
```

`deleteMarks(marks)` → `{PCCViewer.ViewerControl}`

Deletes the specified marks.

## Parameters:

Name	Type	Description
marks	Array.< <code>PCCViewer.Mark</code> >	An Array of objects of type <code>PCCViewer.Mark</code> .

## Throws:

- If `PCCViewer.EventType.ViewerReady` event was not fired prior to using this method.

Type

Error

- If any of the marks passed in are not valid objects of the type `PCCViewer.Mark`.

Type

Error

## Returns:

The `ViewerControl` object on which this method was called.

Type

`PCCViewer.ViewerControl`

#### Example

```
// delete all selected marks
viewerControl.deleteMarks (viewer.getSelectedMarks ());
```

`deselectAllMarks()` → `{PCCViewer.ViewerControl}`

Deselects all previously selected marks.

#### Returns:

The `ViewerControl` object on which this method was called.

Type

`PCCViewer.ViewerControl`

#### Example

```
viewerControl.deselectAllMarks ();
```

`deselectMarks(marks)` → `{PCCViewer.ViewerControl}`

Deselects the marks provided in the parameter array object.

#### Parameters:

Name	Type	Description
marks	Array. < <code>PCCViewer.Mark</code> >	An array of <code>PCCViewer.Mark</code> objects that exist in the document and need to be deselected.

#### Throws:

- If `PCCViewer.EventType.ViewerReady` event was not fired prior to calling this method.

Type

Error

- If any of the mark objects are not valid `PCCViewer.Mark` objects, the id of the mark provided does not match the id of mark loaded in the viewer, or the mark provided was not previously added to the document pages.

Type  
Error

#### Returns:

The `ViewerControl` object on which this method was called.

Type  
`PCCViewer.ViewerControl`

#### Example

```
// deselect all marks with an odd-number ID
viewerControl.getSelectedMarks().forEach(function(mark)
{
    var arr = [];
    if (+mark.getId() % 2) arr.push(mark);
    viewerControl.deselectMarks(arr);
});
```

#### deserializeMarks(values)

Deserializes JSON or a JSON-like object to `PCCViewer.Mark` objects, and adds them to the `ViewerControl`. This will display all deserialized marks.

#### Parameters:

Name	Type	Description
values	String.<JSON>   Object   Array.<Object>	The value to deserialize.

See: [PCCViewer.ViewerControl#serializeMarks](#)

#### Throws:

- If `PCCViewer.EventType.ViewerReady` event was not fired prior to using this method.

Type  
Error

- If the `json` parameter as a string is not a valid JSON string.

Type

## Error

- If any mark has an unknown page number in the `pageNumber` property. *Note that if marks are being added before the `PageCountReady` event fires, this method will only know about page 1, and throw an error if adding marks to other pages.*

Type

Error

- If any mark has an unknown type in the `type` property.

Type

Error

**Example**

```
var markData = {
  "type": "RectangleAnnotation",
  "rectangle": {
    "x": 0,
    "y": 10,
    "width": 200,
    "height": 200
  },
  "fillColor": "#FB0404",
  "lineWidth": 4,
  "pageNumber": 1,
  "uid":
  "dW9qaV8yMDE5LTA4LTAxVDA2OjUzOjA1LjgxoVpfazhhbDFi",
  "data": {},
  "conversation": {
    "data": {}
  }
};

// Deserialize mark from object value
viewerControl.deserializeMarks(markData);

// Deserialize mark from JSON string
var markJson = JSON.stringify(markData);
viewerControl.deserializeMarks(markJson);

// Deserialize marks from array of objects
var markData2 = { ... };
viewerControl.deserializeMarks([markData,
markData2]);
```

### destroy()

Closes the `ViewerControl` and cleans up its resources. After this action, a new viewer can be created in its place.

*Note: If the viewer was created using the jQuery plugin (`PCCViewer.Viewer`), use the `PCCViewer.Viewer.destroy` method instead.*

### Example

```
var element = document.querySelector('#mydiv');
var viewerControl = new
PCCViewer.ViewerControl(element, options);

viewerControl.destroy();
```

### disposePageText(pageNumber) → {`PCCViewer.ViewerControl`}

Disposes text for the specified page.

The text for any page requested programmatically by using the `PCCViewer.ViewerControl#requestPageText` method is not automatically disposed, even when the `ViewerControl` `discardOutOfViewText` parameter is set to true. You must use the `disposePageText` method to dispose of the text when you no longer need it.

If the specified page is currently displayed when calling this method, the page text will not be disposed immediately, but will be disposed when the page is scrolled out of view and no longer displayed.

Client search depends on the page text, so page text is not disposed after performing client search.

### Parameters:

Name	Type	Description
pageNumber	number	Page text is disposed for this page number.

### Throws:

- If `PCCViewer.EventType.ViewerReady` event was not fired prior to using this method.

Type  
Error

- If the `pageNumber` value is not a number.

Type  
Error

- If the `pageNumber` value is out of range.

Type  
Error

**Returns:**

The `ViewerControl` object on which this method was called.

Type  
`PCCViewer.ViewerControl`

**Example**

```
viewerControl.disposePageText(10);
```

`documentHasText()` → `{PCCViewer.Promise}`

Indicates whether or not any pages in the document have text. This method returns a promise, which can resolve at an indefinite time. This promise will resolve at the first instance of finding text in the document, but will not actively search for text if none is yet found. Unless this promise has resolved, the user should assume that the document does not contain text.

For example, in a 100 page document, where only page 80 has text, this promise will not resolve until the user views page 80. If the document were to have no text at all, the promise will not resolve until all 100 pages were viewed by the user.

The successful callback be passed only a boolean indicating whether the document has any text or not.

**Returns:**

a `Promise` object.

Type  
`PCCViewer.Promise`

**Example**

```
var promise = viewerControl.documentHasText().then(
    function success(containsTextBool) {
        alert('Document has text: ' +
            (containsTextBool ? 'Yes' : 'No'));
    },
    function fail(error) {
        alert('Document has text: unknown due to
            error "' + error.message + '"');
    }
);
```

```
);
```

`enterTextMarkEditingMode(mark)` → `{PCCViewer.ViewerControl}`

Puts a displayed `PCCViewer.Mark` object of type `TextInputSignature`, `TextAreaSignature`, `TextRedaction`, or `TextAnnotation` into editing mode. In editing mode, a text input or text box will be drawn for the mark and the input will have focus. When in editing mode, the end user type to modify the text of the mark.

All marks other than the specified mark will be taken out of text mark editing mode.

Note that if the mark is not on a page that is currently displayed, then this method may have no perceived effect. The act of changing pages to bring the off screen page into view would take the focus off of the mark that is in editing mode.

**Parameters:**

Name	Type	Description
mark	<code>PCCViewer.Mark</code>   <code>null</code>   <code>undefined</code>	A <code>PCCViewer.Mark</code> object that will be put in editing mode. If a value of <code>null</code> or <code>undefined</code> is given, then <b>all</b> marks will be taken out of text mark editing mode.

**Throws:**

- If the `PCCViewer.EventType.ViewerReady` event was not fired prior to calling this method.  
 Type  
`PCCViewer.Error`
- If `mark` is not a valid `PCCViewer.Mark` object or the mark provided is not currently on the document.  
 Type  
`PCCViewer.Error`
- If `mark` is not of type `TextInputSignature`, `TextAreaSignature`, `TextRedaction`, or `TextAnnotation`.  
 Type  
`PCCViewer.Error`

**Returns:**

The `ViewerControl` object on which this method was called.

Type

**PCCViewer.ViewerControl****Example**

```
// Add a mark
var myMark = viewerControl.addMark(4,
PCCViewer.Mark.Type.TextAnnotation)
    .setRectangle({
        x: 0,
        y: 600,
        width: 500,
        height: 100
    });

// Put the mark in editing mode and scroll to the
mark.
viewerControl.enterTextMarkEditingMode(myMark);
```

**fitContent(fitType) → {PCCViewer.ViewerControl}**

Changes the scaling (zoom) of the document to fit the content in the viewer. How the content is fit in the viewer is based on the specified by the values in the **PCCViewer.FitType** enumerable.

**Parameters:**

Name	Type	Description
fitType	string	Specifies how the content will be scaled to fit in the viewer.

See: **PCCViewer.FitType** for a list of possible FitType values and their descriptions.

**Throws:**

- If **PCCViewer.EventType.ViewerReady** event was not fired prior to using this method.  
Type  
Error
- If the value of `fitType` is unknown.  
Type  
Error
- If the view mode is set to "EqualFitPages" or "EqualWidthPages", and the value of `fitType` is "ActualSize". Instead, pass a value of 1 to the

`PCCViewer.ViewerControl#setScaleFactor` method to scale the first page to actual size.

Type  
Error

**Returns:**

The `ViewerControl` object on which this method was called.

Type  
`PCCViewer.ViewerControl`

**Example**

```
// Explicitly specify the fit type
viewerControl.fitContent("FullWidth");

// or use the enumeration
viewerControl.fitContent(PCCViewer.FitType.FullWidth);
```

`getActiveMarkupLayer()` → `{PCCViewer.MarkupLayer}`

Gets the viewer control's active markup layer.

**Returns:**

The viewer control's active markup layer.

Type  
`PCCViewer.MarkupLayer`

**Example**

```
var activeMarkupLayer =
viewerControl.getActiveMarkupLayer();
```

`getAllMarks()` → `{Array.<PCCViewer.Mark>}`

Gets all marks.

**Returns:**

An array of `PCCViewer.Mark` objects. **Note:** Returns an empty array if the viewer has not been initialized.

Type

Array.<[PCCViewer.Mark](#)>

### Example

```
var allMarks = viewer.getAllMarks();
```

**getAtMaxScale()** → {boolean}

Gets a value that indicates whether the viewer is currently at the maximum scale factor. As long as this value is `true`, the `ViewerControl` do nothing if asked to zoom in any further.

This method determines the value each time, and will be affected by the following:

1. The viewer scale changes due to `zoomIn`, `zoomOut`, or `fitContent`.
2. The window resizes.
3. The div that holds the viewer control is resized.

See: [PCCViewer.ViewerControl#atMaxScale](#)  
[PCCViewer.EventType.ScaleChanged](#)

### Throws:

If the [PCCViewer.EventType.ViewerReady](#) event was not fired prior to using this method.

Type

Error

### Returns:

A value that indicates whether the viewer is currently at maximum zoom.

Type

boolean

### Examples

```
// Check for change after the viewer scale changes
viewerControl.on(PCCViewer.EventType.ScaleChanged,
function(ev) {
    var atMax = viewer.getAtMaxScale();
}
```

```
// Check for change when the window resizes (using
jQuery)
$(window).resize(function() {
```

```
    var atMax = viewer.getAtMaxScale();
  });
```

**getAtMinScale()** → {boolean}

Gets a value that indicates whether the viewer is currently at the minimum scale factor. As long as this value is `true`, the `ViewerControl` do nothing if asked to zoom out any further.

This method determines the value each time, and will be affected by the following:

1. The viewer scale changes due to `zoomIn`, `zoomOut`, or `fitContent`.
2. The window resizes.
3. The div that holds the viewer control is resized.

See: [PCCViewer.ViewerControl#atMinScale](#)  
[PCCViewer.EventType.ScaleChanged](#)

**Throws:**

If the [PCCViewer.EventType.ViewerReady](#) event was not fired prior to using this method.

Type  
Error

**Returns:**

A value that indicates whether the viewer is currently at minimum zoom.

Type  
boolean

**Examples**

```
// Check for change after the viewer scale changes
viewerControl.on(PCCViewer.EventType.ScaleChanged,
function(ev) {
    var atMax = viewer.getAtMinScale();
}
```

```
// Check for change when the window resizes (using
jQuery)
$(window).resize(function() {
    var atMax = viewer.getAtMinScale();
});
```

**getCharacterIndex(sortableObject)** → {Number}

Returns the index of the character at the location of the specified object. If there is no character at the location, the index of the character before the location (based on the closest line of text) is returned.

**Parameters:**

Name	Type	Description
sortableObject	PCCViewer.Mark   PCCViewer.SearchResult   Object	A mark or search result in a page, or an object containing pageNumber, x, and y values.

**Throws:**

- If `PCCViewer.EventType.ViewerReady` event was not fired prior to using this method.

Type  
Error

- If sortableObject is not a valid `PCCViewer.Mark` or `PCCViewer.SearchResult`, or if it is not an Object with valid pageNumber, x, and y values. When specifying a pageNumber greater than 1, this method requires that the PageCountReady event has been triggered, otherwise an error is thrown.

Type  
Error

**Returns:**

The text index at or before the position of the specified object.

Type  
Number

**Example**

```
// get the first selected Mark object
var theFirstMark = viewerControl.getSelectedMarks()
[0];

// get the sort index
if (theFirstMark) var firstMarkSortIndex =
viewerControl.getCharacterIndex(theFirstMark);
```

`getConversationDOMFactory()` → {function}

Gets the conversation DOM factory function. The default factory function is returned if a factory

function has not been set using the [PCCViewer.ViewerControl#setConversationDOMFactory](#) method.

**Returns:**

The function for creating a conversation DOM element.

Type  
function

`getCurrentMouseTool() → {string}`

Gets the current mouse tool of the viewer.

See: [PCCViewer.MouseTools.getMouseTool](#)

**Returns:**

A value indicating the name of the current mouse tool.

Type  
string

**Example**

```
// get the current mouse tool name
var mouseToolName =
viewerControl.getCurrentMouseTool();

// get the actual MouseTool object
var mouseToolObject =
PCCViewer.MouseTools.getMouseTool(mouseToolName);
```

`getDownloadDocumentURL() → {string}`

Gets the URL to download the original document.

See: The help section titled "Digital Rights Management Configuration" for information on disabling document download.

**Returns:**

The URL for downloading the original document. This URL is relative to current page.

Type  
string

## Example

```
// get the URL
var documentURL = viewerControl.downloadDocument();

// download the document
window.location.href = documentURL;
```

`getGamma()` → {Number}

Gets the gamma factor for the document.

## Returns:

The current gamma factor for the document.

Type  
Number

## Example

```
var gamma = viewerControl.getGamma();
```

`getIsCommentsPanelOpen()` → {boolean}

Returns a value (`true` or `false`) indicating if the comments panel is open.

## Throws:

If `PCCViewer.EventType.ViewerReady` event was not fired prior to using this method.

Type  
Error

## Returns:

A value indicating if the comments panel is open.

Type  
boolean

## Example

```
var isCommentsPanelOpen =  
viewerControl.getIsCommentsPanelOpen(); // true if  
comments panel is open
```

`getMarkById(markId)` → `{PCCViewer.Mark}`

Gets the specified mark.

**Parameters:**

Name	Type	Description
markId	number	The ID of the mark to retrieve.

**Returns:**

The mark that corresponds to the specified ID.

Type

`PCCViewer.Mark`

**Example**

```
var mark = viewer.getMarkById(1);
```

`getMarkHandleMode()` → `{PCCViewer.MarkHandleMode}`

Gets the mark handle mode.

**Returns:**

The mark handle mode.

Type

`PCCViewer.MarkHandleMode`

`getMarksByType(markType)` → `{Array.<PCCViewer.Mark>}`

Get marks by type.

**Parameters:**

Name	Type	Description
markType	<code>PCCViewer.Mark.Type</code>   string	The mark type being requested. <b>Note:</b> Returns an empty array if the viewer has not been initialized.

See: [PCCViewer.Mark.Type](#) for a list of valid mark types.

**Throws:**

If the parameter markType is an invalid mark type.

Type  
Error

**Returns:**

An array of [PCCViewer.Mark](#) objects of the requested type.

Type  
Array.<[PCCViewer.Mark](#)>

**Example**

```
var marksByType = viewer.getMarksByType(markType);
```

`getMarkupLayerCollection()` → [{PCCViewer.MarkupLayerCollection}](#)

Gets the viewer control's markup layer collection.

**Returns:**

The viewer control's markup layer collection.

Type  
[PCCViewer.MarkupLayerCollection](#)

**Example**

```
var markupLayerCollection =  
viewerControl.getMarkupLayerCollection();
```

`getMaxScaleFactor()` → [{number}](#)

Gets the maximum scale limit.

**Throws:**

If the `PCCViewer.EventType.ViewerReady` event was not fired prior to calling this method.

Type  
Error

**Returns:**

A number indicating the maximum limit at which the document can be scaled.

Type  
number

**Example**

```
var maxScaleFactor =
viewerControl.getMaxScaleFactor();
viewerControl.setScaleFactor(maxScaleFactor); // Zoom
in to the maximum scale limit.
```

**getMinScaleFactor() → {number}**

Gets the minimum scale limit.

**Throws:**

If the `PCCViewer.EventType.ViewerReady` event was not fired prior to calling this method.

Type  
Error

**Returns:**

A number indicating the minimum limit at which the document can be scaled.

Type  
number

**Example**

```
var minScaleFactor =
viewerControl.getMinScaleFactor();
viewerControl.setScaleFactor(minScaleFactor); // Zoom
```

```
out to the minimum scale limit.
```

`getPageCount()` → {number}

Gets the known page count of the current document.

This value is updated when the viewer gets the page count or estimated page count from the server. Subscribe to the `PCCViewer.EventType.PageCountReady` and `PCCViewer.EventType.EstimatedPageCountReady` events to be notified when the viewer gets the page count from the server.

The initial value is 1, before any page count event.

See: `PCCViewer.EventType` for the event type "PageCountReady".

#### Returns:

The known page count.

Type  
number

#### Example

```
// First, create the pccViewer.
var viewerControl =
$("#viewer").pccViewer(viewerOptions).viewerControl;

function pageCountReadyHandler(event) {
    // The page count has now been determined.
    var pageCount = viewer.getPageCount();
    alert("Number of pages = " + pageCount);

    // Now, unsubscribe from the event.
    viewerControl.off("PageCountReady",
pageCountReadyHandler);
}

// Subscribe to the PageCountReady event exposed by
the API
viewerControl.on("PageCountReady",
pageCountReadyHandler);
```

`getPageLayout()` → {`PCCViewer.PageLayout`}

Gets the page layout. This defines how the document pages will be arranged, based on the values of the `PCCViewer.PageLayout` enumeration.

See: `PCCViewer.PageLayout`

**Returns:**

A value indicating the page layout.

Type

`PCCViewer.PageLayout`

**Example**

```
var pageLayout = viewerControl.getPageLayout();
```

`getPageNumber()` → {number}

Gets the current page number of the viewer. This is a 1-based value, so the first page of a document is 1.

See: `PCCViewer.EventType.PageCountReady` event

**Returns:**

The current page of the viewer.

**Note:** A value of 1 is returned before page count is available.

Type

number

**Example**

```
var currentPageNumber =  
viewerControl.getPageNumber();
```

`getPageRotation(pageNumber)` → {number}

gets the page rotation value for the specified page number.

**Parameters:**

Name	Type	Description
pageNumber	number   string	This is an optional parameter. A 1-based page number of the page. An optional string representation of a valid number is also accepted as a parameter. If this parameter is not provided, the implied pageNumber will be the currentPage.

## Throws:

- If the `PCCViewer.EventType.ViewerReady` event was not fired prior to using this method.

Type  
Error

- If the provided optional parameter `pageNumber` is less than 1 or greater than the value returned by `PCCViewer.ViewerControl#getPageCount`.

Type  
Error

- If the provided optional parameter `pageNumber` is not a number or a string representation of a number.

Type  
Error

- If the provided optional parameter `pageNumber` is not an integer page number.

Type  
Error

## Returns:

The rotation amount in degrees clockwise.

Type  
number

## Example

```
// first create the pccViewer : Note: if the viewer
object has already been created, do not re-create it.
var viewerControl =
$("#viewer").pccViewer(viewerOptions).viewerControl;

var pageNumber = 2;
var rotationAngle =
viewerControl.getPageRotation(pageNumber);
```

`getRedactionViewMode()` → `{PCCViewer.RedactionViewMode}`

Gets the redaction view mode. This defines whether the redaction rectangles would show the underlying document content text `PCCViewer.RedactionViewMode` enumerable values.

See: `PCCViewer.RedactionViewMode`

**Returns:**

A value indicating the redaction view mode.

Type

`PCCViewer.RedactionViewMode`

**Example**

```
var viewMode = viewerControl.getRedactionViewMode();
```

`getSavedMarkupNames()` → `{PCCViewer.Promise}`

Gets a list of all saved markups from the server for the current document.

If unable to retrieve markup list from server, then the returned `PCCViewer.Promise` object is rejected with the reason set to a `PCCViewer.Error` object with its code property set to `MarkupListFail`.

If AJAX is not supported, then the returned `PCCViewer.Promise` object is rejected with the reason set to a `PCCViewer.Error` object with its code property set to `AjaxUnsupported`.

If a server error is encountered, then the returned `PCCViewer.Promise` object is rejected with the reason set to a `PCCViewer.Error` object with its code property set to `Error`.

The `PCCViewer.Promise~onFulfilled` function gets passed an Array of Objects. Each object will have a `name` property, which is a string representation of the name used to save the markup.

**Returns:**

A `PCCViewer.Promise` object.

Type

`PCCViewer.Promise`

**Example**

```
viewerControl.getSavedMarkupNames().then(
    function onSuccess(markupNameObjects) {
        var namesArray = [];
        for (var i = 0; i < markupNames.length; i++)
        {
            namesArray.push(markupNames[i].name);
        }
    }
);
```

```
        alert(namesArray.join(', '));
    },
    function onFailure(error) {
        alert((error.message ? error.message :
error));
    }
);
```

**getScaleFactor()** → {number}

Gets the scale factor of the viewer.

See: [PCCViewer.EventType.ScaleChanged](#) event

**Returns:**

A value indicating the scale factor to use in the viewer, with 1 being 100% zoom.

For "Document" and "SinglePage" view mode, the scale factor represents the amount that each page in the document is scaled. For "EqualFitPages" view mode, the scale factor represents the amount that the first page of the document is scaled.

Type

number

**Example**

```
var scaleFactor = viewerControl.getScaleFactor();
```

**getSearchRequest()** → {[PCCViewer.SearchRequest](#)}

Gets the `SearchRequest` object from the last call to [PCCViewer.ViewerControl#search](#).

**Returns:**

The `SearchRequest` from the last search, or null if a search has not been performed or if the search has been cleared with [PCCViewer.ViewerControl#clearSearch](#).

Type

[PCCViewer.SearchRequest](#)

**Example**

```
var searchRequestA = viewerControl.search("Foo");
var searchRequestB =
viewerControl.getSearchRequest();
```

```
searchRequestA === searchRequestB; // true
```

`getSelectedConversation()` → {[PCCViewer.Conversation](#)}

Gets the selected conversation.

See: [PCCViewer.ViewerControl#setSelectedConversation](#)

**Returns:**

The selected conversation, or `null` if no conversation is currently selected.

Type

[PCCViewer.Conversation](#)

**Example**

```
var selectedConversation =  
viewerControl.getSelectedConversation();
```

`getSelectedMarks()` → {Array.<[PCCViewer.Mark](#)>}

Obtains all the selected marks in the currently loaded document. If none of the marks are selected or if the document does not contain any marks then the returned array will be empty.

**Returns:**

An array of selected [PCCViewer.Mark](#) objects.

Type

Array.<[PCCViewer.Mark](#)>

**Example**

```
var selectedMarks = viewerControl.getSelectedMarks();  
  
if (selectedMarks.length) alert(selectedMarks.length  
+ " marks are currently selected");  
else alert("No marks are currently selected");
```

`getSelectedSearchResult()` → {[PCCViewer.SearchResult](#)|`null`}

Gets the selected [PCCViewer.SearchResult](#) object.

**Returns:**

The `PCCViewer.SearchResult` object. Returns `null` if no search result is selected.

Type

`PCCViewer.SearchResult` | `null`

`getSharpening()` → `{Number}`

gets the sharpening factor for the document.

**Returns:**

the current sharpening factor for the document.

Type

`Number`

**Example**

```
var sharpening = viewerControl.getSharpening();
```

`getSvgLineWidthMultiplier()` → `{Number}`

Gets the current multiplier used to adjust SVG line widths in the document.

**Returns:**

The current svg line-width multiplier for the document.

Type

`Number`

**Example**

```
var svgLineWidthMultiplier =  
viewerControl.getSvgLineWidthMultiplier();
```

`getViewMode()` → `{PCCViewer.ViewMode}`

Gets the view mode. This defines how the document pages will be scaled, based on the values of the `PCCViewer.ViewMode` enumerable values.

See: `PCCViewer.ViewMode`

**Returns:**

A value indicating the view mode.

Type

`PCCViewer.ViewMode`

**Example**

```
var viewMode = viewerControl.getViewMode();
```

`hideMarks(marks) → {PCCViewer.ViewerControl}`

Hides the specified marks.

**Parameters:**

Name	Type	Description
marks	Array.<PCCViewer.Mark>	An Array of objects of type <code>PCCViewer.Mark</code> .

**Throws:**

- If `PCCViewer.EventType.ViewerReady` event was not fired prior to using this method.

Type

Error

- If any of the marks passed in are not valid objects of the type `PCCViewer.Mark`.

Type

Error

**Returns:**

The `ViewerControl` object on which this method was called.

Type

`PCCViewer.ViewerControl`

**Example**

```
// hides all selected marks  
viewerControl.hideMarks(viewer.getSelectedMarks());
```

```
isPageTextReady(pageNumber) → {boolean}
```

Returns a value indicating if the ViewerControl has loaded text for a page from the server.

Several of the ViewerControl's methods require that the ViewerControl has loaded the text for the page. These methods will not work if the text for the target page(s) is not loaded. This set of methods includes:

- [PCCViewer.ViewerControl#getCharacterIndex](#)
- [PCCViewer.Mark#setPosition](#)

The ViewerControl may delay loading of text for a page, so it is not safe to assume that the ViewerControl has text for a page when ViewerReady is triggered. *However, if you have gotten page text through the viewer, then it is safe to assume the viewer has text for the page.* For example, if you get text through a [SearchResult](#) generated by [PCCViewer.ViewerControl#search](#) or by calling [PCCViewer.ViewerControl#requestPageText](#), then the viewer will have loaded page text from the server.

**Parameters:**

Name	Type	Description
pageNumber	number	The method checks if page text is ready for this page number.

See: [PCCViewer.ViewerControl#requestPageText](#)  
[PCCViewer.ViewerControl#search](#)  
[PCCViewer.EventType.PageTextReady](#)

**Throws:**

If the `pageNumber` argument is less than 1 or greater than the page count of the document.

Type  
Error

**Returns:**

A value indicating if the ViewerControl has loaded text for a page from the server.

Type  
boolean

**Example**

```
if (!viewerControl.isPageTextReady(1)) {  
    viewerControl.requestPageText(1).then(  

```

```
function(pageText) {
    highlightSomeText({
        startIndex: 0,
        length: pageText.length
    });
}
);
} else {
    // Note that it's pretty silly to blindly
highlight text, you would almost always want to know
    // the text tht you are trying to highlight
before calling the API to set the position. But, this
is just
    // an example to demonstrate when you don't
*have* to request the page text.
    highlightSomeText({startIndex: 0, length: 5});
}

// Note: an alternative to the if-else above, would
be to always call requestPageText, which will
immediately resolve
// if the viewer already has page text. Using this
approach, you don't need to call `isPageTextReady`.
// viewerControl.requestPageText(1).then(
//     function(pageText) {
//         highlightSomeText({
//             startIndex: 0,
//             length: pageText.length
//         });
//     }
// );

function highlightSomeText(position) {
    viewerControl.addMark(1, "HighlightAnnotation")
        .setPosition(position);
}
```

**loadAttachments()** → **{PCCViewer.Promise}**

Gets a list of all attachments of the document currently loaded on the viewer.

If unable to retrieve the attachment list from server, then the returned `PCCViewer.Promise` object is rejected with the reason set to a `PCCViewer.Error` object with its code property set to `AttachmentListFail`.

If AJAX is not supported, then the returned `PCCViewer.Promise` object is rejected with the reason set to a `PCCViewer.Error` object with its code property set to `AjaxUnsupported`.

If a server error is encountered, then the returned `PCCViewer.Promise` object is rejected with the reason set to a `PCCViewer.Error` object with its code property set to `Error`.

The `PCCViewer.Promise~onFulfilled` function gets passed an array of attachment objects.

**Returns:**

A `PCCViewer.Promise` object.

Type

`PCCViewer.Promise`

**Example**

```
viewerControl.loadAttachments().then(
    function onSuccess(attachments) {
        var fileNames = [];
        for (var i = 0; i < attachments.length; i++)
        {
            fileNames.push(attachments[i].name);
        }
        alert(fileNames.join(', '));
    },
    function onFailure(error) {
        alert((error.message ? error.message :
error));
    }
);
```

**loadMarkup(recordName, retainExistingMarks<sub>opt</sub>, markupLayer<sub>opt</sub>)** → `{PCCViewer.Promise}`

Loads the markup with the specified name from the server. This returns a `PCCViewer.Promise` object.

If the parameter `recordName` is invalid, then the `PCCViewer.Promise` object that is returned will be rejected with the reason set to a `PCCViewer.Error` object with its code property set to `InvalidAnnotationRecord`.

If the optional parameters `retainExistingMarks` or `markupLayer` are specified but invalid, then the `PCCViewer.Promise` object that is returned will be rejected with the reason set to a `'PCCViewer.Error'` object.

If a server error is encountered, then the returned `PCCViewer.Promise` object is rejected with the reason set to a `PCCViewer.Error` object with its code property set to `Error`.

If AJAX is not supported, then the returned `PCCViewer.Promise` object is rejected with the reason set to a `PCCViewer.Error` object with its code property set to `AjaxUnsupported`.

**Note:** Any existing marks in the document are removed before marks are loaded.

**Parameters:**

Name	Type	Attributes	Default	Description
recordName	string			Name of the annotation record to be loaded.
retainExistingMarks	boolean	<optional>	true	If true, retains the existing marks.
markupLayer	PCCViewer.MarkupLayer	<optional>		If set to a valid markup layer, the marks are added to the specified markup layer. If not set, the marks are added to the currently active markup layer. Otherwise, clears the existing marks before loading new marks.

See: [PCCViewer.ViewerControl#getSavedMarkupNames](#)

**Returns:**

a Promise object.

Type

[PCCViewer.Promise](#)

**Example**

```
viewerControl.loadMarkup("mymarkup").then(
  function onResolved() {
    // update the UI, or whatever... because the
    markup loaded successfully
  },
  function onRejected(error) {
    alert("loading failed! " + (error.message ?
    error.message : error));
  });
```

**loadMarkupLayers(layerRecordIds) → {PCCViewer.Promise}**

Load markup layer records from the server. This method loads one or more layers from the server asynchronously, and returns a Promise to resolve the request.

The `onFulfilled` callback will receive an object containing `PCCViewer.MarkupLayer` objects representing the loaded layers.

The `onRejected` callback will receive a `PCCViewer.Error` object defining why the load function failed.

**Parameters:**

Name	Type	Description
layerRecordIds	string   Array.<string>	A string or an array of layer record IDs.

**Returns:**

A Promise object.

Type

`PCCViewer.Promise`

**Example**

```
// load a layer

viewerControl.loadMarkupLayers('abc123').then(
  function onSuccess(layers) {
    console.log('layer saved successfully',
layers[0].getId());
  },
  function onFailure(reason) {
    console.log('layer failed to load:',
reason.code, reason.message);
  }
);
```

`moveMarkBackward(mark)` → `{PCCViewer.ViewerControl}`

Moves the specified mark one slot backward from its position in the internal `z-order`. When the marks overlap, marks that are higher in this internal `z-order` are drawn over the marks that are lower.

**Parameters:**

Name	Type	Description
mark	<code>PCCViewer.Mark</code>	The mark being moved.

**Throws:**

- If `PCCViewer.EventType.ViewerReady` event was not fired prior to using this method.

Type  
Error

- If the mark is an invalid `PCCViewer.Mark` object or a template mark.

Type  
Error

**Returns:**

The `ViewerControl` object on which this method was called.

Type  
`PCCViewer.ViewerControl`

**Example**

```
// get the first selected Mark object
var theFirstMark = viewerControl.getSelectedMarks()
[0];

// move it backward
if (theFirstMark)
viewerControl.moveMarkBackward(theFirstMark);
```

`moveMarkForward(mark)` → `{PCCViewer.ViewerControl}`

Moves the specified mark one slot toward the top of the internal `z-order`. When the marks overlap, marks that are higher in this internal `z-order` are drawn over the marks that are lower.

**Parameters:**

Name	Type	Description
mark	<code>PCCViewer.Mark</code>	The mark being moved.

**Throws:**

- If `PCCViewer.EventType.ViewerReady` event was not fired prior to using this method.

Type  
Error

- If the mark is an invalid `PCCViewer.Mark` object or a template mark.

Type  
Error

### Returns:

The `ViewerControl` object on which this method was called.

Type  
`PCCViewer.ViewerControl`

### Example

```
// get the first selected Mark object
var theFirstMark = viewerControl.getSelectedMarks()
[0];

// move it forward
if (theFirstMark)
viewerControl.moveMarkForward(theFirstMark);
```

`moveMarkToBack(mark)` → `{PCCViewer.ViewerControl}`

Moves the specified mark to the back. When the marks overlap, the marks that are higher in the internal `z-order` on a page are drawn over the ones that are lower.

### Parameters:

Name	Type	Description
mark	<code>PCCViewer.Mark</code>	The mark being moved.

### Throws:

- If `PCCViewer.EventType.ViewerReady` event has not fired prior to calling this method.

Type  
Error

- If the mark is an invalid `PCCViewer.Mark` object or a template mark.

Type  
Error

**Returns:**

The `ViewerControl` object on which this method was called.

Type

`PCCViewer.ViewerControl`

**Example**

```
// get the first selected Mark object
var theFirstMark = viewerControl.getSelectedMarks()
[0];

// move it forward
if (theFirstMark)
viewerControl.moveMarkForward(theFirstMark);
```

`moveMarkToFront(mark)` → `{PCCViewer.ViewerControl}`

Moves the specified mark to the front or to the top of internal `z-order` on a page. When the marks overlap, the marks with higher internal `z-order` are drawn over the ones that are lower.

**Parameters:**

Name	Type	Description
mark	<code>PCCViewer.Mark</code>	The mark being moved.

**Throws:**

- If `PCCViewer.EventType.ViewerReady` event was not fired prior to using this method.

Type

Error

- If the mark is an invalid `PCCViewer.Mark` object or a template mark.

Type

Error

**Returns:**

The `ViewerControl` object on which this method was called.

Type

`PCCViewer.ViewerControl`

**Example**

```
// get the first selected Mark object
var theFirstMark = viewerControl.getSelectedMarks()
[0];

// move it forward
if (theFirstMark)
viewerControl.moveMarkForward(theFirstMark);
```

**off(eventType, handler)** → {[PCCViewer.ViewerControl](#)}

Unsubscribe an event handler from a specified event type.

Typically, an event is unsubscribed when you no longer want further notification of the event.

**Parameters:**

Name	Type	Description
eventType	string	A string specifying the event type. See <a href="#">PCCViewer.EventType</a> for a list and description of all supported events.
handler	<a href="#">PCCViewer.Event~eventHandler</a>	A function that was attached previously to the <code>ViewerControl</code> .  <b>Note:</b> This must be the same function object previously passed to <a href="#">PCCViewer.ViewerControl#on</a> . It cannot be an different object that is functionally equivalent.

See: [PCCViewer.ViewerControl#on](#)

**Returns:**

The `ViewerControl` object on which this method was called.

Type

[PCCViewer.ViewerControl](#)

**Example**

```
// Our event handler declaration
function handler(event) {
    alert("An event was fired: " + event.getType());
}
```

```
// Subscribe
viewerControl
    .on("PageChanged", handler)
    .on("PageCountReady", handler);

// Un-subscribe
viewerControl
    .off("PageChanged", handler)
// Use string literals or the enum.
    .off(PCCViewer.EventType.PageCountReady,
handler); // Chain unsubscription.
```

`on(eventType, handler) → {PCCViewer.ViewerControl}`

Subscribe an event handler to an event of a specified type.

**Parameters:**

Name	Type	Description
eventType	string	A string that specifies the event type. This value is case-insensitive. See <a href="#">PCCViewer.EventType</a> for a list and description of all supported events.
handler	<a href="#">PCCViewer.Event~eventHandler</a>	A function that will be called whenever the event is triggered.

**Returns:**

The `ViewerControl` object on which this method was called.

Type

[PCCViewer.ViewerControl](#)

**Example**

```
// Create the viewer and get the ViewerControl
object.
var viewerControl =
$("#viewer").pccViewer(viewerOptions).viewerControl;

// Our event handler declaration
function handler(event) {
    alert("An event was fired: " + event.getType());
}

viewerControl
```

```
.on(PCCViewer.EventType.PageChanged, handler)
// Use the PCCViewer.EventType enum.
.on(PCCViewer.EventType.PageDisplayed, handler)
// Chain event subscription.
.on("PageLoadFailed", handler);
// Use string literals instead of the EventType enum.
```

**openCommentsPanel()** → {**PCCViewer.ViewerControl**}

Opens the comments panel.

**Throws:**

- If **PCCViewer.EventType.ViewerReady** event was not fired prior to using this method.

Type  
Error

- If the page layout is set to "Horizontal".

Type  
Error

**Returns:**

The **ViewerControl** object on which this method was called.

Type  
**PCCViewer.ViewerControl**

**Example**

```
viewerControl.openCommentsPanel();
```

**print(options<sub>opt</sub>)** → {**PCCViewer.PrintRequest**}

Print the document associated with the **PCCViewer.ViewerControl** object. Note, the "print" method will only work if the correct "printTemplate" value is passed to "ViewerControlOptions" while initializing the "ViewerControl" instance. It is recommended that this value be set to the content of the "printTemplate.html" file. If this value is set to an empty string (default), then printing will be unavailable.

**Parameters:**

Name	Type	Attributes	Description		
options	Object	<optional>	Provides instructions for what to print. The object may have the		
<b>Properties</b>					
Name	Type	Attributes	Default	Description	
range	string	<optional>	"all"	A string that specifies the range of pages to print. The range is specified as a page number, a page range, or a page range with a page number. The range is separated by a colon. For example, "1-10" or "10-15".	
orientation	string	<optional>	"portrait"	The orientation of the page. The orientation can be "portrait" or "landscape".	
paperSize	string	<optional>	"letter"	The paper size of the page. The paper size can be "letter", "a4", or "a5".	
margins	string	<optional>	"default"	The margins of the page. The margins can be "default", "top", "bottom", "left", or "right".	
includeMarks	boolean	<optional>	false	Whether to include marks in the printout. The marks can be "all", "none", "comment", "highlight", "underline", or "strikethrough".	
includeAnnotations	boolean	<optional>	false	Whether to include annotations in the printout. The annotations can be "all", "none", "comment", "highlight", "underline", or "strikethrough".	
includeRedactions	boolean	<optional>	false	Whether to include redactions in the printout. The redactions can be "all", "none", "comment", "highlight", "underline", or "strikethrough".	

Name	Type	Attributes	Description
includeComments	string	<optional>	"none" Local
includeReasons	string	<optional>	"none" Local
redactionViewMode	string	<optional>	"Normal" When und sele

See: Use [PCCViewer.ViewerControl#validatePrintRange](#) to validate a user supplied print range before calling `print`.

Use [PCCViewer.ViewerControl#canPrintMarks](#) to determine if the browser support printing annotations and redactions.

**Throws:**

If the page(s) are out of range.

Type  
Error

**Returns:**

Type

[PCCViewer.PrintRequest](#)

### Example

```
// Prints pages 1 and 3 of the document.  
// Any annotations on those pages will also be  
// printed if supported by the browser.  
viewerControl.print({  
  range : "1, 3",  
  includeMarks : true  
});
```

`refreshConversations(conversationsopt)` → [{PCCViewer.ViewerControl}](#)

Forces a DOM refresh of a specified conversation or set of conversations, or all conversations known to the `ViewerControl`.

### Parameters:

Name	Type	Attributes	Description
conversations	<a href="#">PCCViewer.Conversation</a>   Array. < <a href="#">PCCViewer.Conversation</a> >	<optional>	A single <code>PCCViewer.Conversation</code> object, or an Array of conversation objects. If this parameter is left undefined, all conversations will be refreshed.

See: [PCCViewer.ViewerControl#setConversationDOMFactory](#)

### Throws:

- If the `conversations` parameter is not undefined, a `PCCViewer.Conversation` object, or an array of conversation objects.

Type  
Error

- If any of the `PCCViewer.Conversation` objects in the parameter are not conversations of known marks.

Type  
Error

- If during the refresh, any call to the DOM Factory does not return a valid `HTMLElement` or a falsy value.

Type  
Error

**Returns:**

The `ViewerControl` object on which this method was called.

Type  
`PCCViewer.ViewerControl`

`requestDocumentConversion(optionsopt)` → `{PCCViewer.ConversionRequest}`

Converts the document and provides an array of URLs to download each converted document. Note that this method currently only supports converting to a single PDF file, so the output array will only contain a single URL.

**Parameters:**

Name	Type	Attributes	Description								
options	Object	<optional>	This optional parameter specifies conversion options to be used for converting the format of the document.  <b>Properties</b> <table border="1"><thead><tr><th>Name</th><th>Type</th><th>Attributes</th><th>Description</th></tr></thead><tbody><tr><td>filename</td><td>string</td><td>&lt;optional&gt;</td><td>Sets the value of the Content-Disposition filename in the header of the response from the URL to download the document. If not set, then the converted document will be downloaded with a default filename.</td></tr></tbody></table>	Name	Type	Attributes	Description	filename	string	<optional>	Sets the value of the Content-Disposition filename in the header of the response from the URL to download the document. If not set, then the converted document will be downloaded with a default filename.
Name	Type	Attributes	Description								
filename	string	<optional>	Sets the value of the Content-Disposition filename in the header of the response from the URL to download the document. If not set, then the converted document will be downloaded with a default filename.								

See: `PCCViewer.ConversionRequest` for more details on interacting with the conversion process.

**Returns:**

A result `ConversionRequest` for this task.

Type  
`PCCViewer.ConversionRequest`

**Example**

```
function onSuccessfullConversion(convertedurl) {
    alert("convertedURL = " + convertedurl);
    console.log(convertedurl);
}
function onFailedConversion(error) {
    alert("conversion process failed, error:" +
(error.message ? error.message : error));
}

// A ConversionRequest object is created by and
returned from the call to the convertDocument method
var conversionRequest =
viewerControl.convertDocument();
conversionRequest.then(onSuccessfulConversion,
onFailedConversion);

// Register some events
conversionRequest

.on(PCCViewer.ConversionRequest.EventType.ConversionComp

    function(ev) {
        alert("Document conversion completed.");
    })

.on(PCCViewer.ConversionRequest.EventType.ConversionProg

    function(event) {
        alert("Conversion progress: " +
event.percent + "%");
    })

.on(PCCViewer.ConversionRequest.EventType.ConversionFail

    function(event) {
        alert("Document conversion failed.");
    });

// Also, methods on the conversionRequest object
can be used

// Get the options used to convert the document.
var optionsUsed = conversionRequest.getOptions();

// If the process is still incomplete, cancel can
be used to stop queries to the server.
if(conversionRequest.getProgress() >= 0 &&
```

```
conversionRequest.getProgress() < 100) {
    conversionRequest.cancel();
}
```

### **requestDocumentHyperlinks(pageNumber)**

Requests the DocumentHyperlinks of the specified page.

The DocumentHyperlinks will be made available via the returned `PCCViewer.Promise` object. The `PCCViewer.Promise~onFulfilled` function will be called with an array of DocumentHyperlinks that are contained on the page. If there are no DocumentHyperlinks on the page, then the returned array will be empty.

If the `pageNumber` parameter is invalid at the time the method is called, or the page does not exist in the document, then the returned `PCCViewer.Promise` object is rejected with the reason set to a `PCCViewer.Error` object with its `code` property set to `Error`.

#### **Parameters:**

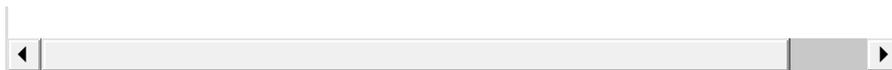
Name	Type	Description
pageNumber	number	DocumentHyperlinks are requested for this page number.

#### **Example**

```
// use
PCCViewer.ViewerControl#requestDocumentHyperlinks (pageNumber)

var promise =
viewerControl.requestDocumentHyperlinks(10);

promise.then(
    function (documentHyperlinks) {
        // Do something with the array of
DocumentHyperlink objects.
        // In this example we iterate over.
        documentHyperlinks.forEach(function(dh) {
            // Alert the href of each hyperlink.
            // Note: don't actually do that because
it could be really annoying!
            alert("Found another DocumentHyperlink "
+ dh.getHref());
        });
    },
    function (error) {
        alert("Something went wrong " +
(error.message ? error.message : error));
    }
);
```



`requestMarkupLayerNames(metadata) → {PCCViewer.Promise}`

Gets a list of all saved markups layer records from the server for the current document. This method utilizes an asynchronous server request to fetch the data, and returns a `Promise` to resolve the request.

The `onFulfilled` callback will receive an object representing the `annotationLayerRecords` persisted on the server.

The `onRejected` callback will receive a `PCCViewer.Error` object defining why the save function failed.

The `PCCViewer.Promise~onFulfilled` function gets passed an `Array` of `Objects`. Each object will have 1) a `name` property, which is a string representation of the name used to save the markup layer record and 2) a `layerRecordId` property which is the string representation the uniquely identifies the record on the server.

#### Parameters:

Name	Type	Description
<code>metadata</code>	<code>Object</code>	An optional JSON object that will be passed to the web tier where it can be used for tasks like user identification. The JSON object will be transformed and then passed as GET parameter(s). The metadata JSON object must be flat and only contain values that are strings, numbers, or booleans.

#### Returns:

A `PCCViewer.Promise` object.

Type

`PCCViewer.Promise`

#### Example

```
viewerControl.requestMarkupLayerNames().then(
    function onSuccess(annotationLayerRecords) {
        var annotationLayerRecordsArray = [];
        for (var i = 0; i <
annotationLayerRecords.length; i++) {
annotationLayerRecordsArray.push(annotationLayerRecords
    }
    alert(annotationLayerRecordsArray.join(',
'));
},
```

```
function onFailure(error) {
    alert(error.message ? error.message : error);
}
);
```

**requestPageAttributes()** → {PCCViewer.Promise}

Requests attributes for the specified page.

If the `pageNumber` parameter is invalid at the time the method is called, or the page does not exist in the document, then the returned `PCCViewer.Promise` object is rejected with the reason set to a `PCCViewer.Error` object with its code property set to `RequestPageAttributesFailed`.

If a server error is encountered, then the returned `PCCViewer.Promise` object is rejected with the reason set to a `PCCViewer.Error` object with its code property set to `Error`.

The `PCCViewer.Promise~onFulfilled` function will receive an `Object` with properties `width` and `height`, representing the reported width and height of each page.

#### Returns:

a Promise object.

Type

`PCCViewer.Promise`

#### Example

```
var promise =
viewerControl.requestPageAttributes(10).then(
    function(pageAttributes) {
        alert('Page 10 attributes: width: ' +
pageAttributes.width + ', height: ' +
pageAttributes.height);
    },
    function(error) {
        alert('Page attributes retrieval for page 10
failed: ' + (error.message ? error.message : error));
    }
);
```

**requestPageText(pageNumber)** → {PCCViewer.Promise}

Requests the specified text page.

If the `pageNumber` parameter is invalid at the time the method is called, or the page does not exist in the document, then the returned `PCCViewer.Promise` object is rejected with the reason set to a `PCCViewer.Error` object with its code property set to `TextExtractionFailed`.

If a server error is encountered, then the returned `PCCViewer.Promise` object is rejected with the reason set to a `PCCViewer.Error` object with its code property set to `Error`.

The `PCCViewer.Promise~onFulfilled` function will receive and `string` value, representing the text found on that page. If the page has no text, this will be an empty string.

### Parameters:

Name	Type	Description
pageNumber	number	Page text is requested for this page number.

### Returns:

a `Promise` object.

Type

`PCCViewer.Promise`

### Example

```
var promise = viewerControl.requestPageText(10).then(
    function(pageText) {
        alert('Text from page 10: ' + pageText);
    },
    function(error) {
        alert('Text retrieval for page 10 failed: ' +
            (error.message ? error.message : error));
    }
);
```

`requestRevisions()` → `{PCCViewer.RevisionsRequest}`

Requests the revisions for a given document comparison.

Revisions request completes asynchronously. The returned `PCCViewer.RevisionsRequest` object provides events for revisions retrieval progress and members to access retrieved revisions.

See: `PCCViewer.RevisionsRequest`  
`PCCViewer.Revision`

### Returns:

An object that represents the revisions request. This object allows the calling code to subscribe to revisions retrieval progress events and access retrieved revisions.

Type

`PCCViewer.RevisionsRequest`

**Example**

```
// Request revisions with default options:
var revisionsRequest =
viewerControl.requestRevisions();

// Subscribe to the PartialRevisionsAvailable event
to get revisions as they become available.
revisionsRequest.on('PartialRevisionsAvailable',
function(_event) {
    // Get the newly available revisions:
    var newRevisions = _event.partialRevisions;
});
```

**rotateDocument(degreesClockwise)** → {PCCViewer.ViewerControl}

Rotates all pages in the document by the specified degrees clockwise, relative to each page's current orientation.

**Parameters:**

Name	Type	Description
degreesClockwise	number	Degrees clockwise to rotate each page. Valid values are multiples of 90: ..., -270, -180, -90, 0, 90, 180, 270, ...

**Throws:**

- If value of `degreesClockwise` is not valid. The `Error` object will contain property message with details of the error.

Type  
Error

- If the `PCCViewer.EventType.ViewerReady` event was not fired prior to using this method.

Type  
Error

**Returns:**

The `ViewerControl` object on which this method was called.

Type

`PCCViewer.ViewerControl`

### Example

```
viewerControl.rotateDocument(90); // Rotates 90
degrees clockwise
viewerControl.rotateDocument(-90); // Rotates 90
degrees counter-clockwise
viewerControl.rotateDocument(180); // Rotates 180
degrees
viewerControl.rotateDocument(540); // Also, rotates
180 degrees
viewerControl.rotateDocument(100); // Throws!
```

`rotatePage(degreesClockwise)` → `{PCCViewer.ViewerControl}`

Rotates the current page by the specified degrees clockwise, relative to the page's current orientation.

### Parameters:

Name	Type	Description
<code>degreesClockwise</code>	number	Degrees clockwise to rotate the page. Valid values are multiples of 90: ..., -270, -180, -90, 0, 90, 180, 270, ...

### Throws:

- If value of `degreesClockwise` is not valid. The `Error` object will contain property message with details of the error.

Type

`Error`

- If the `PCCViewer.EventType.ViewerReady` event was not fired prior to using this method.

Type

`Error`

### Returns:

The `ViewerControl` object on which this method was called.

Type

`PCCViewer.ViewerControl`

### Example

```
viewerControl.rotatePage(90); // Rotates 90
degrees clockwise
viewerControl.rotatePage(-90); // Rotates 90
degrees counter-clockwise
viewerControl.rotatePage(180); // Rotates 180
degrees
viewerControl.rotatePage(540); // Also, rotates 180
degrees
viewerControl.rotatePage(100); // Throws!
```

`saveMarkup(recordName, optionsopt)` → `{PCCViewer.Promise}`

Saves all markups in the document to the server as a record with a specified name.

If the parameter `recordName` is not a string, then the `PCCViewer.Promise` object that is returned will be rejected with the reason set to a `PCCViewer.Error` object with its code property set to `InvalidArgument`.

If the parameter `recordName` contains invalid characters in the name, then the `PCCViewer.Promise` object that is returned will be rejected with the reason set to a `PCCViewer.Error` object with its code property set to `InvalidCharactersFilename`.

If a server error is encountered, then the returned `PCCViewer.Promise` object is rejected with the reason set to a `PCCViewer.Error` object with its code property set to `Error`.

If AJAX is not supported, then the returned `PCCViewer.Promise` object is rejected with the reason set to a `PCCViewer.Error` object with its code property set to `AjaxUnsupported`.

The `PCCViewer.Promise~onFulfilled` function will receive the `recordName` string as its only argument.

**Note:** This method will overwrite any previous markup stored with the same name. To prevent duplicates, check to see if the name already exists by using `PCCViewer.ViewerControl#getSavedMarkupNames`.

### Parameters:

Name	Type	Attributes	Description
recordName	string		Name of the annotat saved to an XML file includes a unique ID viewed and the pro name, so valid file required. When late the saved markup c the record name to <a href="#">PCCViewer.ViewerC</a> method.
options	<a href="#">PCCViewer.ViewerControl~SaveMarkupOptions</a>	<optional>	This optional param the markup types to <a href="#">PCCViewer.ViewerC</a> details the options

**Returns:**

a Promise object, on success returns the given record name after the record is saved.

**Type**

[PCCViewer.Promise](#)

**Example**

```
// The following example will save all annotations
and redaction mark types. It will not save signature
mark types.
viewerControl.saveMarkup('cool name').then(
  function success(name) {
    alert('Markup was saved as "' + name + '"');
  },
  function fail(error) {
    alert('Markup was not saved. ' +
(error.message ? error.message : error));
  }
);

// The following will save signature mark types only.
viewerControl.saveMarkup('cool name', {
  includeAnnotations: false,
  includeRedactions: false,
  includeSignatures: true
}).then(
  function success(name) {
    alert('Markup was saved as "' + name + '"');
  }
);
```

```
    },
    function fail(error) {
        alert('Markup was not saved. ' +
            (error.message ? error.message : error));
    }
);
```

**saveMarkupLayer(id) → {PCCViewer.Promise}**

Save a markup layer record to the server. This method saves a single layer to the server asynchronously, and returns a `Promise` to resolve the request.

The `onFulfilled` callback will receive an object containing the `layerRecordId` of the saved layer.

The `onRejected` callback will receive a `PCCViewer.Error` object defining why the save function failed.

**Parameters:**

Name	Type	Description
id	String	The ID of the layer, as returned by <code>layer.getId()</code> .

**Returns:**

A `Promise` object.

Type

`PCCViewer.Promise`

**Example**

```
// save the current active layer
var layer = viewerControl.getActiveMarkupLayer();

viewerControl.saveMarkupLayer(layer.getId()).then(
    function onSuccess(layerInfo) {
        console.log('layer saved successfully',
            layerInfo.layerRecordId);
    },
    function onFailure(reason) {
        console.log('layer failed to save:',
            reason.code, reason.message);
    }
);
```

**scrollBy(offsetX, offsetY) → {PCCViewer.ViewerControl}**

Scrolls by specified offset.

**Parameters:**

Name	Type	Description
offsetX	number	integer that contains value to scroll horizontally. Negative value will scroll to the left.
offsetY	number	integer that contains value to scroll vertically. Negative value will scroll to the top.

**Throws:**

- If `PCCViewer.EventType.ViewerReady` event was not fired prior to using this method.

Type  
Error

- If target is not an Object with valid offsetX and offsetY values.

Type  
Error

**Returns:**

The `ViewerControl` object on which this method was called.

Type  
`PCCViewer.ViewerControl`

**Example**

```
// scroll by specified offset  
viewerControl.scrollTo(100, 100);
```

`scrollTo(target)` → `{PCCViewer.ViewerControl}`

Scrolls to the specified object.

**Parameters:**

Name	Type	Description
target	<code>PCCViewer.Mark</code>   <code>PCCViewer.Conversation</code>   <code>PCCViewer.SearchResult</code>   Object	The mark, conversation, search result, or an object (that contains pageNumber, x, and y values) to scroll to.

**Throws:**

- If `PCCViewer.EventType.ViewerReady` event was not fired prior to using this method.

Type  
Error

- If target is not a valid `PCCViewer.Mark`, `PCCViewer.Conversation`, or `PCCViewer.SearchResult`, or if it is not an Object with valid pageNumber, x, and y values.

Type  
Error

- If target is a `PCCViewer.Mark`, `PCCViewer.Conversation`, or `PCCViewer.SearchResult` unknown to the viewer control. When specifying a pageNumber greater than 1, this method requires that the PageCountReady event has been triggered, otherwise an error is thrown.

Type  
Error

**Returns:**

The `ViewerControl` object on which this method was called.

Type  
`PCCViewer.ViewerControl`

**Example**

```
// get the first selected Mark object
var theFirstMark = viewerControl.getSelectedMarks()
[0];

// scroll to the mark
viewerControl.scrollTo(theFirstMark);
```

`scrollToAsync(target)` → `{PCCViewer.Promise}`

Scrolls to the specified object.

The returned `PCCViewer.Promise` object will resolve if the page list has completed all scrolling and the page containing the target is displayed.

The returned `PCCViewer.Promise` object is rejected with the reason set to a `PCCViewer.Error` object if:

- The specified target is not a valid `PCCViewer.Mark`, `PCCViewer.Conversation`, or `PCCViewer.SearchResult`, or if it is not an Object with valid `pageNumber`, `x`, and `y` values. When specifying a `pageNumber` greater than 1, this method requires that the `PageCountReady` event has been triggered, otherwise the promise is rejected.
- The specified target is a `PCCViewer.Mark`, `PCCViewer.Conversation`, or `PCCViewer.SearchResult` unknown to the viewer control.
- The `PCCViewer.ViewerControl#scrollTo` or `PCCViewer.ViewerControl#scrollToAsync` method is called before the promise is resolved.

#### Parameters:

Name	Type	Description
target	<code>PCCViewer.Mark</code>   <code>PCCViewer.Conversation</code>   <code>PCCViewer.SearchResult</code>   Object	The mark, conversation, search result, or an object (that contains <code>pageNumber</code> , <code>x</code> , and <code>y</code> values) to scroll to.

#### Returns:

A Promise object.

Type

`PCCViewer.Promise`

#### Example

```
// get the first selected Mark object
var theFirstMark = viewerControl.getSelectedMarks()
[0];

// scroll to the mark
var promise =
viewerControl.scrollToAsync(theFirstMark).then(
    function() {
        // after the mark has been scrolled to,
        select the mark
        viewerControl.selectMarks([theFirstMark]);
    },
    function(error) {
        alert('Scrolling failed: ' + (error.message ?
error.message : error));
    }
);
```

```
);
```

`search(searchQuery)` → `{PCCViewer.SearchRequest}`

Searches the text of the document for the given `searchQuery`.

This query can be a single search term or a hash specifying one or more terms and options. If only a single search term (string) is supplied, then default options are used.

Search completes asynchronously. The returned `PCCViewer.SearchRequest` object, provides events for search progress and members to access search results.

#### Parameters:

Name	Type	Description
<code>searchQuery</code>	<code>string</code>   <code>PCCViewer.ViewerControl~SearchQuery</code>	A value specifying the search query. The value specifies a single search term (string) or an object specifying multiple search terms and options.

See: `PCCViewer.SearchRequest`  
`PCCViewer.SearchResult`

#### Returns:

An object that represents the search request. This object allows the calling code to subscribe to search progress events and access search results.

Type

`PCCViewer.SearchRequest`

#### Examples

```
// Search on a single term with default options
var searchRequest = viewerControl.search("Hello");

// Subscribe to the PartialSearchResultsAvailable
// event to get search results as they become available.
searchRequest.on('PartialSearchResultsAvailable',
function(_event) {
    // Get the newly available search results.
    var newResults = _event.partialSearchResults;
});

// Search on multiple terms and specify options
var searchQuery = {
    searchTerms: [{
```

```
        searchTerm: "sub",
        contextPadding: 25,
        highlightColor: '#B22222',
        matchingOptions: {
            beginsWith: true,
        }
    },
    {
        searchTerm: "Accusoft"
    }
  ]
};

var requestObject =
viewerControl.search(searchQuery);

//subscribe to the search request
requestObject.on('PartialSearchResultsAvailable',
function(_event) {
    var newResults = [];
    //Retrieve results
    newResults = _event.partialSearchResults;
});
```

**selectEditorText()** → {**PCCViewer.ViewerControl**}

Selects the editable text in a mark's text editor

**Throws:**

- If there is no active text mark editor.

Type  
Error

- If the active mark is not a TextInputSignature Mark.

Type  
Error

- If the **PCCViewer.EventType.ViewerReady** event has not fired prior to calling this method.

Type  
Error

**Returns:**

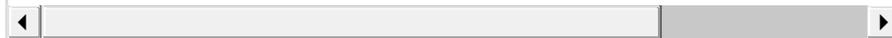
The `ViewerControl` object on which this method was called.

Type

`PCCViewer.ViewerControl`

### Example

```
var viewerControl =
viewerControl.enterTextMarkEditingMode(textAnnotation).s
```



`selectMarks(marks) → {PCCViewer.ViewerControl}`

Selects the marks provided in the `Array` parameter.

**Note:** This method ignores any `Mark` objects with the `interaction mode` set to `PCCViewer.Mark.InteractionMode.SelectionDisabled`.

### Parameters:

Name	Type	Description
marks	Array. < <code>PCCViewer.Mark</code> >	An array of <code>PCCViewer.Mark</code> objects that exist in the document and need to be selected.

### Throws:

- If `PCCViewer.EventType.ViewerReady` event was not fired prior to calling this method.

Type

Error

- If any of the mark objects are not valid objects, the id of the mark provided does not match the id of mark loaded in the viewer, or the mark provided was not previously added to the document pages.

Type

Error

### Returns:

The `ViewerControl` object on which this method was called.

Type

`PCCViewer.ViewerControl`

**Example**

```
// get all of the marks
var allMarks = viewerControl.getAllMarks();

// select all of them
viewerControl.selectMarks(allMarks);
```

**serializeMarks(marks)** → {**PCCViewer.Promise**}

Serializes any amount of **Marks** passed into the method.

This serialization needs to happen asynchronously, so the method will return a **Promise**, which will resolve once all marks have been serialized, or get rejected if any error occurs in the process.

A successfully resolved Promise will receive an Array as its only argument, which will contain a plain Object representation of each mark that was passed into the method. These objects can be used with **PCCViewer.ViewerControl#deserializeMarks** in order to recreate the same marks at a later time.

**Parameters:**

Name	Type	Description
marks	<b>PCCViewer.Mark</b>   Array. < <b>PCCViewer.Mark</b> >	A single mark or array of marks to be serialized.

See: [PCCViewer.ViewerControl#deserializeMarks](#)

**Returns:**

A promise object.

Type

**PCCViewer.Promise**

**Example**

```
// get all selected marks, so we can serialize then
var marksToUse = viewerControl.getSelectedMarks();

viewerControl.serializeMarks(marksToUse).then(
  function success(markObjects) {
    // markObjects is an array of plain objects
    // they can be converted to a JSON string
    var markStr = JSON.stringify(markObjects);
  },
  function fail(reason) {
    alert('could not serialize marks: ' +
```

```
reason);
    }
);
```

`serverSearch(searchQuery)` → `{PCCViewer.SearchRequest}`

Searches the text of the document for the given `searchQuery`. The search is performed server-side. This is efficient for larger documents, but for smaller documents it is more efficient to use the `PCCViewer.ViewerControl#clientSearch` method instead.

This query can be a single search term or a hash specifying one or more terms and options. If only a single search term (string) is supplied, then default options are used.

Search completes asynchronously. The returned `PCCViewer.SearchRequest` object, provides events for search progress and members to access search results.

#### Parameters:

Name	Type	Description
<code>searchQuery</code>	<code>string</code>   <code>PCCViewer.ViewerControl~SearchQuery</code>	A value specifying the search query. The value specifies a single search term (string) or an object specifying multiple search terms and options.

See: `PCCViewer.SearchRequest`  
`PCCViewer.SearchResult`

#### Returns:

An object that represents the search request. This object allows the calling code to subscribe to search progress events and access search results.

Type

`PCCViewer.SearchRequest`

#### Examples

```
// Search on a single term with default options
var searchRequest =
viewerControl.serverSearch("Hello");

// Subscribe to the PartialSearchResultsAvailable
event to get search results as they become available.
searchRequest.on('PartialSearchResultsAvailable',
function(_event) {
    // Get the newly available search results.
    var newResults = _event.partialSearchResults;
});
```

```
// Search on multiple terms and specify options
var searchQuery = {
  searchTerms: [{
    searchTerm: "sub",
    contextPadding: 25,
    highlightColor: '#B22222',
    matchingOptions: {
      beginsWith: true,
    }
  },
  {
    searchTerm: "Accusoft"
  }
  ]
};

var requestObject =
viewerControl.serverSearch(searchQuery);

//subscribe to the search request
requestObject.on('PartialSearchResultsAvailable',
function(_event) {
  var newResults = [];
  //Retrieve results
  newResults = _event.partialSearchResults;
});
```

### setActiveMarkupLayer(A)

Sets the viewer control's active markup layer.

#### Parameters:

Name	Type	Description
A	<a href="#">PCCViewer.MarkupLayer</a>	markup layer.

#### Throws:

- If markupLayer is not a valid [PCCViewer.MarkupLayer](#).  
Type  
Error
- If markupLayer is a [PCCViewer.MarkupLayer](#) unknown to the viewer control.  
Type  
Error

## **Example**

```
viewerControl.loadMarkupLayers('abc123').then(  
    function onSuccess(layers){  
        var activeMarkupLayer =  
viewerControl.setActiveMarkupLayer(layers[0]);  
    },  
    function onFailure(reason){  
        console.log('layer failed to load:',  
reason.code, reason.message);  
    }  
);
```

**setConversationDOMFactory(factoryFunction) → {PCCViewer.ViewerControl}**

Sets the conversation DOM factory function.

## **Parameters:**

Name	Type	Description
factoryFunction	function	<p>This function returns a DOM element that is injected in the viewer control UI, which should show information about the conversation. The viewer control will use this function to obtain a new conversation DOM element whenever:</p> <ul style="list-style-type: none"><li>• a comment is added</li><li>• a comment is removed</li><li>• a comment is modified</li><li>• a conversation is selected</li><li>• a conversation is deselected</li><li>• the <code>PCCViewer.ViewerControl#refreshConversations</code> method is called</li></ul> <p>If this function returns a falsy value, then the conversation will not be shown in the viewer control UI. If this function returns a value that is not a DOM element and not falsy, then the viewer control will throw an exception when attempting to create a conversation DOM element.</p> <p>This function has three parameters, in this order:</p> <ul style="list-style-type: none"><li>• <code>conversation</code> {<code>PCCViewer.Conversation</code>} - The <code>Conversation</code> in which to generate a DOM element.</li><li>• <code>state</code> {<code>Object</code>} - An object that indicates the state of the conversation. This object has an <code>isSelected</code> boolean property.</li><li>• <code>existingDOM</code> {<code>HTMLElement</code>   <code>undefined</code>} - The DOM Element returned from the last call to this factory for the given conversation. It is acceptable to return this same element from the factory function if the DOM does not need to be replaced (for example, if it only needs modification or does not require any modification). This parameter may have a value of <code>undefined</code> if the factory function has never been called for this conversation or the previous call did not return a DOM element.</li></ul>

See: [PCCViewer.ViewerControl#setSelectedConversation](#)

**Throws:**

If the `factoryFunction` parameter is not a `Function`.

Type  
Error

**Returns:**

The `ViewerControl` object on which this method was called.

Type

`PCCViewer.ViewerControl`

### Example

```
var conversationFactoryFunction =
function(conversation, state, existingDOM) {
    var conversationDiv =
document.createElement('div'); // Create a
conversation DOM element.

    // Set the style of the conversation DOM element.
    conversationDiv.style.position = 'absolute';
    if (state.isSelected) { // Set a different
background if the conversation is selected.
        conversationDiv.style.backgroundColor =
'white';
    } else {
        conversationDiv.style.backgroundColor =
'lightgray';
    }
    conversationDiv.style.left = '10px';
    conversationDiv.style.right = '0';
    conversationDiv.style.textAlign = 'left';

    // For each comment in the conversation, create a
comment DOM element.
    var comments = conversation.getComments();
    for (var i = 0; i < comments.length; i++) {
        var commentDiv =
document.createElement('div');

        // Set the style of the comment DOM element.
        commentDiv.style.position = 'relative';
        commentDiv.style.padding = '5px';
        commentDiv.style.border = '1px solid gray';
        if (i > 0) {
            commentDiv.style.borderTop = 'none';
        }

        commentDiv.appendChild(document.createTextNode(comments
// Add the comment text to the comment DOM element.
            conversationDiv.appendChild(commentDiv); //
Add the comment DOM element to the conversation DOM
element.
        }
    }
}
```

```
        return conversationDiv; // Return the
        conversation DOM element.
    };

    viewerControl.setConversationDOMFactory(conversationFact
```

**setCurrentMouseTool(name) → {PCCViewer.ViewerControl}**

Sets the current mouse tool of the viewer by name.

See the help section titled "Custom Mouse Tools" for a list of the existing default mouse tools in the viewer.

**Parameters:**

Name	Type	Description
name	string	The name used when creating the mouse tool. This value is case-insensitive.

See: [PCCViewer.MouseTools.createMouseTool](#)

**Throws:**

- If [PCCViewer.EventType.ViewerReady](#) event has not fired prior to calling this method.

Type  
Error

- If the parameter name is invalid or is an unknown mouseTool type, see, [PCCViewer.MouseTool.Type](#).

Type  
Error

**Returns:**

The `viewerControl` object on which this method was called.

Type  
[PCCViewer.ViewerControl](#)

**setGamma(gammaFactor) → {PCCViewer.ViewerControl}**

Sets the gamma factor for the document. Values from 1 to 10 will darken the document. Values from 0 to 1 will effectively lighten it. Note: This setting only affects viewing and is not persisted when printing or burning.

## Parameters:

Name	Type	Description
gammaFactor	number	The gamma factor to set the Gamma for the document to.

## Throws:

If the gamma factor is not a valid number between 0 and 10 inclusive.

Type  
Error

## Returns:

The `ViewerControl` object on which this method was called.

Type  
`PCCViewer.ViewerControl`

## Example

```
viewerControl.setGamma(5); // Darkens content by a
factor of 5
viewerControl.setGamma(0.5) // Lightens content by a
factor of 0.5
```

`setMarkHandleMode(markHandleMode)` → `{PCCViewer.ViewerControl}`

Sets the mark handle mode.

## Parameters:

Name	Type	Description
markHandleMode	<code>PCCViewer.MarkHandleMode</code>	Display mark handles using this mode.

See: `PCCViewer.ViewerControl#setMarkHandleMode`

## Throws:

If the value of `markHandleMode` is unknown.

Type  
Error

**Returns:**

The `ViewerControl` object on which this method was called.

Type

`PCCViewer.ViewerControl`

**Example**

```
viewerControl.setMarkHandleMode(PCCViewer.MarkHandleMode
```

`setLayout(pageLayout) → {PCCViewer.ViewerControl}`

Sets the layout of the pages.

This property defines the placement or arrangement of the pages in the viewer. The default page layout is "Vertical", in which the pages are displayed as a single vertical column and a vertical scroll bar is displayed to bring into view the pages that are not in view. The "Horizontal" option displays the pages as a single horizontal row and has a horizontal scroll bar to bring into view the pages that are not in the view.

Comments are only supported when using vertical page layout. If the comments panel is open, setting the page layout to horizontal will close the comments panel.

**Parameters:**

Name	Type	Description
pageLayout	<code>PCCViewer.PageLayout</code>	Display pages using this layout.

See: `PCCViewer.PageLayout`

**Throws:**

If the `pageLayout` value is unknown.

Type

`Error`

**Returns:**

The `ViewerControl` object on which this method was called.

Type

`PCCViewer.ViewerControl`

**Example**

```
viewerControl.setPageLayout(PCCViewer.PageLayout.Horizor
```

`setPageNumber(pageNumber) → {PCCViewer.ViewerControl}`

Sets the current page of the viewer to the specified page number.

**Parameters:**

Name	Type	Description
pageNumber	number   string	The 1-based page number of the page. A string representation of a valid number is also accepted as a parameter.

**Throws:**

- If the parameter `pageNumber` is less than 1 or greater than the value returned by `PCCViewer.ViewerControl#getPageCount`.

Type  
Error

- If the parameter `pageNumber` is not a number or a string representation of a number.

Type  
Error

- If the parameter `pageNumber` is not an integer page number.

Type  
Error

**Returns:**

The `ViewerControl` object on which this method was called.

Type  
`PCCViewer.ViewerControl`

**Example**

```
// first create the pccViewer : Note: if the viewer  
object has already been created, do not re-create it.
```

```

var viewerControl =
$("#viewer").pccViewer(viewerOptions).viewerControl;

var pageNumberSet = 2;
function pageChangedHandler(event) {
    var pageNumber = viewer.getPageNumber();
    if(pageNumber === pageNumberSet) {
        //now unsubscribe the event Note: do not
        unsubscribe if future notifications are required.
        viewerControl.off("PageChanged",
pageChangedHandler);
        alert("Viewer was navigated to the desired
page successfully");
    }
}
// Subscribe to PageChanged event exposed by the API
viewerControl.on("PageChanged", pageChangedHandler);
viewerControl.setPageNumber(pageNumberSet);

```

**setRedactionViewMode(redactionViewMode)** → **{PCCViewer.ViewerControl}**

Sets the redaction view mode.

When set to "Draft" mode, this property will make visible the document content text underneath for the rectangle redaction and the text selection marks. In this mode, the redaction reasons will not be visible.

Setting the view mode to "Normal" will make the redaction rectangle marks and the text selection redactions opaque. In this mode, if the marks contain the redaction reasons then they will be visible.

**Parameters:**

Name	Type	Description
redactionViewMode	<b>PCCViewer.RedactionViewMode</b>	Displays redaction marks showing/hiding underneath document content text.

See: **PCCViewer.RedactionViewMode**

**Throws:**

If the redactionViewMode value is not one of the supported values. See **PCCViewer.ViewerControl~ViewerControlOptions** for mode details on the redactionViewMode initialization parameter.

Type  
Error

**Returns:**

The `ViewerControl` object on which this method was called.

Type

`PCCViewer.ViewerControl`

**Example**

```
// show all the redaction rectangles and redaction
text selection marks showing underlying document text
content.
viewerControl.setRedactionViewMode(PCCViewer.RedactionV
```

`setScaleFactor(scaleFactor)` → `{PCCViewer.ViewerControl}`

Sets the scale factor of the viewer.

**Note:** The viewer has minimum and maximum scale limits. The limits depend on the size of the pages. check `PCCViewer.ViewerControl#getMinScaleFactor` and `PCCViewer.ViewerControl#getMaxScaleFactor` to determine the minimum and maximum scale.

**Parameters:**

Name	Type	Description
scaleFactor	number	A value indicating the scale factor to use in the viewer, with 1 being 100% zoom.

**Throws:**

- If the `scaleFactor` value is out of range.  
Type  
Error
- If the `PCCViewer.EventType.ViewerReady` event was not fired prior to calling this method.  
Type  
Error

**Returns:**

The `ViewerControl` object on which this method was called.

Type

[PCCViewer.ViewerControl](#)

### Example

```
viewerControl.setScaleFactor(.5); // Zoom the
document to 50% of its actual size.
```

`setSelectedConversation(conversation) → {PCCViewer.ViewerControl}`

Sets the selected conversation.

### Parameters:

Name	Type	Description
conversation	<a href="#">PCCViewer.Conversation</a>	The conversation to select.

See: [PCCViewer.ViewerControl#getSelectedConversation](#)

### Throws:

- If [PCCViewer.EventType.ViewerReady](#) event was not fired prior to using this property.

Type  
Error

- If the `conversation` parameter is not an instance of [PCCViewer.Conversation](#).

Type  
Error

### Returns:

The `ViewerControl` object on which this method was called.

Type

[PCCViewer.ViewerControl](#)

### Example

```
// get the first selected Mark object
var theFirstMark = viewerControl.getSelectedMarks()
[0];
```

```
// select the conversation of the Mark
viewerControl.setSelectedConversation(theFirstMark.getCo
```

`setSelectedSearchResult(searchResult, scrollToopt)` → `{PCCViewer.ViewerControl}`

Selects the specified search result and optionally navigates to the page of the search result.

If a value of `null` is passed in for the `searchResult` parameter, then any currently selected result will be cleared/deselected.

**Parameters:**

Name	Type	Attributes	Default	Description
searchResult	<code>PCCViewer.SearchResult</code>   <code>null</code>			The search result object from the results object. If a value of <code>null</code> is passed, then no search results will be selected.
scrollTo	boolean	<optional>	false	If true, the viewer will navigate to the page with the search result. If the value of <code>searchResult</code> is <code>null</code> , then this argument is ignored.

See: [PCCViewer.ViewerControl#clearSearch](#)  
[PCCViewer.ViewerControl#clearSelectedSearchResult](#)  
[PCCViewer.ViewerControl#getSearchRequest](#)

**Throws:**

- If the `PCCViewer.EventType.ViewerReady` event was not fired prior to using this method.  
Type  
Error
- If the `searchResult` parameter is not an instance of `PCCViewer.SearchResult` or `null`.  
Type  
Error
- If the `searchResult` is not part of the currently known `PCCViewer.SearchRequest`,

which is always the case if there is no current `PCCViewer.SearchRequest` object known to the viewer.

Type  
Error

### Returns:

The `ViewerControl` object on which this method was called.

Type  
`PCCViewer.ViewerControl`

### Example

```
var searchRequest = viewerControl.search('Accusoft');

// add events to the search request
searchRequest.on("SearchCompleted", function(){
    // get the search results
    results = searchRequest.getResults();

    // set the result to the first
    viewerControl.setSelectedSearchResult(results[0],
true);
});
```

`setSharpening(sharpeningFactor)` → `{PCCViewer.ViewerControl}`

Sets the sharpening factor for the document. Note: This setting only affects viewing and is not persisted when printing or burning.

### Parameters:

Name	Type	Description
sharpeningFactor	number	The sharpening factor to set the Sharpening for the document to.

### Throws:

If the sharpening factor is not a valid integer between 0 and 100 inclusive.

Type  
Error

**Returns:**

The `ViewerControl` object on which this method was called.

Type

`PCCViewer.ViewerControl`

**Example**

```
viewerControl.setSharpening(60);
```

`setSvgLineWidthMultiplier(lineWidthMultiplier) → {PCCViewer.ViewerControl}`

Numeric value which all SVG line width values should be multiplied by. Must be greater than 0 and must not be greater than 100. To make lines twice as thick as they originally were, use a value of 2. To make lines half as thick as they originally were, use a value of 0.5, etc. To reset lines to their original thickness, use a value of 1. Note: This setting only affects viewing and is not persisted when printing or burning.

**Parameters:**

Name	Type	Description
<code>lineWidthMultiplier</code>	number	The line width multiplier for svg lines to set for the document.

**Throws:**

If amount is not greater than zero or is greater than 100

Type

`Error`

**Returns:**

The `ViewerControl` object on which this method was called.

Type

`PCCViewer.ViewerControl`

**Example**

```
viewerControl.setSvgLineWidthMultiplier(50);
```

`setViewMode(viewMode) → {PCCViewer.ViewerControl}`

Sets the view mode.

When set to "Document" or "EqualFitPages", this property only has an effect on documents with different sized pages. Setting the view mode to "Document" maintains the relative size of each page when displaying a document. For example, if page 2 is smaller than page 1, it will appear smaller. Setting the view mode to "EqualFitPages" scales each page so that their width is the same. For example, if page 2 is smaller than page 1, it will be scaled larger so that its width is equal to the width of page 1.

Setting the view mode to "SinglePage" structures the viewer so that only a single page is shown at a time. Each page is scaled to fit within a view box, which is the initial size of the viewer and increases in size when zooming in (and decreases in size when zooming out). After the viewer initializes, the view mode may not be changed to or from SinglePage view mode (or an exception will occur).

### Parameters:

Name	Type	Description
viewMode	<a href="#">PCCViewer.ViewMode</a>	Display pages using this mode.

See: [PCCViewer.ViewMode](#)

### Throws:

- If the `viewMode` value is unknown.  
Type  
Error
- If the [PCCViewer.EventType.ViewerReady](#) event was not fired prior to using this method.  
Type  
Error
- If setting the value to "SinglePage". This value must be set during initialization time. See [PCCViewer.ViewerControl~ViewerControlOptions](#) for mode details on the `viewMode` initialization parameter.  
Type  
Error

### Returns:

The `ViewerControl` object on which this method was called.

Type  
[PCCViewer.ViewerControl](#)

**Example**

```
viewerControl.setViewMode(PCCViewer.ViewMode.EqualFitPage)
// Scale each page so that their width is the same.
```

`showMarks(marks)` → `{PCCViewer.ViewerControl}`

Shows the specified marks.

**Parameters:**

Name	Type	Description
marks	Array.<PCCViewer.Mark>	An Array of objects of type PCCViewer.Mark.

**Throws:**

- If `PCCViewer.EventType.ViewerReady` event was not fired prior to using this method.

Type  
Error

- If any of the marks passed in are not valid objects of the type `PCCViewer.Mark`.

Type  
Error

**Returns:**

The `ViewerControl` object on which this method was called.

Type  
`PCCViewer.ViewerControl`

**Example**

```
// shows all selected marks
viewerControl.showMarks(viewer.getSelectedMarks());
```

`validatePrintRange(range)` → `{boolean}`

Determines whether the range string is a valid page range to be used in

[PCCViewer.ViewerControl#print](#).

**Parameters:**

Name	Type	Description
range	string	A string containing page numbers or ranges. See <a href="#">PCCViewer.ViewerControl#print</a> .

**Returns:**

A value indicating whether the specified print range is valid.

Type  
boolean

**Example**

```
viewerControl.validatePrintRange("1, 3-5"); //
Returns true if there are at least 5 pages in the
document.
```

**validateSearch(searchQuery) → {Object}**

Validates each of the search terms in the `searchQuery` object. The validation process checks for valid custom regular expressions. This method is used by the default UI to filter out 'bad' pre-defined search terms.

**Parameters:**

Name	Type	Description
searchQuery	string   <a href="#">PCCViewer.ViewerControl~SearchQuery</a>	A string or a <code>SearchQuery</code> object that requires validation. See <a href="#">PCCViewer.ViewerControl#search</a> .

**Returns:**

Returns an object with two summary properties and an array of objects that indicate whether each search term is valid. The array will be the same length as the array `searchQuery.searchTerms`. Objects contain the following properties:

- `errorsExist` {boolean} True if any validation errors exist. False if not.
- `summaryMsg` {string} (optional) A catch all message for cases where the search terms could not be reached for validation. This might occur if the `searchQuery` object is badly formed with improper key names or the viewer sends in an invalid object type (say

boolean)

- array of objects:
  - `isValid {boolean}` Indicates if the search term of the matching index was valid.
  - `message {string}` Provides a human readable message indicating the reason the search term was invalid.

Type

Object

### Example

```
var searchQuery = {
  searchTerms: [
    {
      searchTerm: '(?<=(category=))[a-z-]+', //
invalid regex
      contextPadding: 25,
      highlightColor: '#B22222',
      matchingOptions: {
        beginsWith: false,
        endsWith: false,
        exactPhrase: false,
        matchCase: true,
        matchWholeWord: false,
        wildcard: false
      }
    }
  ]
}

viewerControl.validateSearch(searchQuery)

// returns
{
  errorsExist: true,
  searchTerms: [
    {
      isValid: false,
      message: "Search term must be a string
containing either plain text or a valid regular
expression."
    }
  ]
}
```

`zoomIn(zoomFactor)` → `{PCCViewer.ViewerControl}`

Zoom in on the document by the specified `zoomFactor`.

**Note:** The viewer has minimum and maximum scale limits. `zoomIn` will only change the viewer's

scale up to, but not past, the maximum scale limit. `zoomIn` does not give an indication if the actual scale change was less than the requested zoom factor because the limit was reached. Instead, check `PCCViewer.ViewerControl#atMaxScale` to determine if the viewer is at max scale.

### Parameters:

Name	Type	Description
<code>zoomFactor</code>	number	Zoom in by this factor. Valid values are between 1.01 and 20

See: [PCCViewer.ViewerControl#getAtMaxScale](#)  
[PCCViewer.EventType.ScaleChanged](#)

### Throws:

- If the `zoomFactor` value is invalid.  
Type  
Error
- If the `PCCViewer.EventType.ViewerReady` event was not fired prior to calling this method.  
Type  
Error

### Returns:

The `ViewerControl` object on which this method was called.

Type  
[PCCViewer.ViewerControl](#)

### Example

```
viewerControl.zoomIn(1.5); // Zoom in by 1.5x, or
to the maximum scale.
viewerControl.zoomIn(5); // Zoom in by 5x, or to
the maximum scale.

viewerControl.zoomIn(100); // Throws!
viewerControl.zoomIn(1); // Throws!
```

`zoomOut(zoomFactor) → {PCCViewer.ViewerControl}`

Zoom out on the document by the specified `zoomFactor`.

**Note:** The viewer has minimum and maximum scale limits. `zoomOut` will only change the viewer's scale down to, but not past, the minimum scale limit. `zoomOut` does not give an indication if the actual scale change was less than the requested zoom factor because the limit was reached. Instead, check `PCCViewer.ViewerControl#atMinScale` to determine if the viewer is at minimum scale.

### Parameters:

Name	Type	Description
<code>zoomFactor</code>	number	Zoom out by this factor. Valid values are between 1.01 and 20.

See: [PCCViewer.ViewerControl#getAtMinScale](#)  
[PCCViewer.EventType.ScaleChanged](#)

### Throws:

- If the `zoomFactor` value is invalid.  
Type  
Error
- If the `PCCViewer.EventType.ViewerReady` event has not fired prior to calling this method.  
Type  
Error

### Returns:

The `ViewerControl` object on which this method was called.

Type  
[PCCViewer.ViewerControl](#)

### Example

```
viewerControl.zoomOut(1.5); // Zoom out by 1.5x, or
                             to the minimum scale.
viewerControl.zoomOut(5); // Zoom out by 5x, or
                             to the minimum scale.

viewerControl.zoomOut(100); // Throws!
viewerControl.zoomOut(1); // Throws!
```

## Type Definitions

### ProximitySearchTerm

This class will hold all the necessary details to perform a proximity search. It will be used in the [PCCViewer.ViewerControl~SearchQuery](#) object that is passed to the [PCCViewer.ViewerControl#search](#) method.

#### Type:

- Object

#### Properties:

Name	Type	Attributes	Default	Description
type	string			This property determines the search term value to be used by the search engine.
distance	number			Number of characters to search for.
terms	Array. < <a href="#">PCCViewer.ViewerControl~SearchTerm</a> >			An array of search terms.
contextPadding	number	<optional>	25	The maximum number of characters to display on either side of the search term (PCCViewer.ViewerControl~SearchTerm) given for a search term.
highlightColor	string	<optional>		The highlight color for the search term (PCCViewer.ViewerControl~SearchTerm). If not defined, the default color is chosen.

#### Example

```
// An example proximity search term object. Notice
// how you can specify any number of search terms with
// their own individual options.
var proximitySearchTerm = {
  type: "proximity",
  distance: 3,
  highlightColor: "#f73131",
  contextPadding: 30,
  terms: [{
```

```

        searchTerm: "influenza"
    }, {
        searchTerm: "infection",
        matchingOptions: {
            matchWholeWord: true
        }
    }, {
        searchTerm: "group",
        matchingOptions: {
            matchCase: false
        }
    }
    ]
};
// The proximity search term is used in a search
query object.
searchRequest.on('SearchCompleted', function() {
    console.log();
});
// The proximity search term is used in a search
query object.
// There can be many search term objects and
proximity search term objects in a search query
object.
var searchQuery = {
    searchTerms: [proximitySearchTerm]
};
// Execute the search
var searchRequest =
viewerControl.search(searchQuery);

```

### SaveMarkupOptions

The `PCCViewer.saveMarkup` API method takes a second optional parameter. This parameter is in the form of an object and provides options for saving marks to the server.

#### Type:

- Object

#### Properties:

Name	Type	Attributes	Default	Description
<code>includeAnnotations</code>	boolean	<optional>	true	Indicates whether annotation mark types should be saved.
<code>includeSignatures</code>	boolean	<optional>	false	Indicates whether signature mark types should be saved.
<code>includeRedactions</code>	boolean	<optional>	true	Indicates whether redaction mark types should be saved.

**SearchMatchingOptions**

This object is used to specify search options. It will be used in a [PCCViewer.ViewerControl~SearchTerm](#) object.

**Type:**

- Object

**Properties:**

Name	Type	Attributes	Default	Description
endsWith	boolean	<optional>	false	Match a phrase that ends with the search term. The matched phrase will be the shortest phrase that starts on a word boundary and ends with the matched phrase.
beginsWith	boolean	<optional>	false	Match a phrase that starts with the search term. The matched phrase will be the shortest phrase that starts with the matched phrase and ends on a word boundary.  If this value is <code>true</code> , then the following options are ignored: <ul style="list-style-type: none"> <li>• <code>endsWith</code></li> </ul>
exactPhrase	boolean	<optional>	true	Indicates whether the entire <code>searchTerm</code> is treated as a single phrase or if it is split on white space and individual words are matched based on the search options.  If this value is <code>true</code> , then the following option is not supported: <ul style="list-style-type: none"> <li>• <code>wildcard</code></li> </ul>
matchCase	boolean	<optional>	false	Indicates whether matching is case sensitive.
matchWholeWord	boolean	<optional>	false	Match a phrase that starts and ends on word boundaries.  If this value is <code>true</code> , then the following options are ignored: <ul style="list-style-type: none"> <li>• <code>wildcard</code></li> <li>• <code>endsWith</code></li> <li>• <code>beginsWith</code></li> </ul>

Name	Type	Attributes	Default	Description
wildcard	boolean	<optional>	false	<p>A value that indicates whether the search term includes wild cards.</p> <p>Supported wildcard characters, which may not be escaped, are:</p> <ul style="list-style-type: none"><li>• '*' - match zero or more non-whitespace characters</li><li>• '?' - match one character</li></ul> <p>If this value is <code>true</code>, then the following options are ignored:</p> <ul style="list-style-type: none"><li>• <code>endsWith</code></li><li>• <code>beginsWith</code></li></ul>

### Example

```
// A simple matching options object
var myMatchingOptions = {
    beginsWith: true,
};

// The matching options object is used in a search
term object
var searchTerm = {
    searchTerm: "sub",
    contextPadding: 25,
    highlightColor: '#B22222',
    matchingOptions: myMatchingOptions
};

// The search term object is used in the search query
object
var searchQuery = {
    searchTerms: [searchTerm]
};
```

### SearchQuery

This object is used to specify one or more search terms and options for the [PCCViewer.ViewerControl#search](#) method.

#### Type:

- Object

**Properties:**

Name	Type
searchTerms	Array. <(PCCViewer.ViewerControl~SearchTerm PCCViewer.ViewerControl~ProximitySe

**Example**

```
// An example search query object with one search
term
var searchQuery = {
  searchTerms: [{
    searchTerm: "sub",
    contextPadding: 25,
    highlightColor: '#B22222',
    matchingOptions: {
      beginsWith: true,
    }
  }]
};
```

**SearchTerm**

This object is used to specify one search term and its options. It will be used in the [PCCViewer.ViewerControl~SearchQuery](#) object that is passed to the [PCCViewer.ViewerControl#search](#) method.

**Type:**

- Object

**Properties:**

Name	Type	Attributes	Default
searchTerm	string		
contextPadding	number	<optional>	25

Name	Type	Attributes	Default
highlightColor	string	<optional>	
matchingOptions	PCCViewer.ViewerControl~SearchMatchingOptions	<optional>	
searchTermIsRegex	boolean	<optional>	false

### Example

```
// An example search term object
var searchTerm = {
  searchTerm: "sub",
  contextPadding: 25,
  highlightColor: '#B22222',
  matchingOptions: {
    beginsWith: true,
  }
};

// The search term is used in a search query object.
// There can be many search term objects in a search
// query object.
var searchQuery = {
  searchTerms: [searchTerm]
};
```

### ViewerControlOptions

These options are available and processed directly by the ViewerControl. When using the jQuery Plugin, [external:jQuery.fn#pccViewer](#), these options can be passed in along with

`externaljQuery.fn~Options`, and they will be passed into ViewerControl.

**Type:**

- Object

**Properties:**

Name	Type	Attributes	Default	D
documentID	string			RI
imageHandlerUrl	string			RI vi
language	Object	<optional>		Sp Th e) di e) Vi in fc de  <b>P</b> <b>I</b> F F
viewMode	string	<optional>	"Document"	Th Se m
pageLayout	string	<optional>	"Vertical"	Th Po
pageRotation	number	<optional>	0	Th m
resourcePath	string	<optional>	"img"	Th ho sh
printTemplate	string	<optional>	""	A is "p th

Name	Type	Attributes	Default	D
template.print	string	<optional>	""	Th av in pl
encryption	boolean	<optional>	false	Sp "E
serviceResponseTimeout	number	<optional>	60000	In va
debug	boolean	<optional>	false	In
RedactionViewMode	string	<optional>	"Normal"	Th ui se er
markHandleMode	string	<optional>	"HideSideHandlesWhenClose"	Th er
discardOutOfViewText	boolean	<optional>	false	Sp fr Po pi cu
searchMethodType	string	<optional>	"auto"	Th Po br vi
searchMethodPageCountThreshold	number	<optional>	80	Th se M
viewerAssetsPath	number	<optional>	"viewer-assets"	Th te re

---

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## External: jQuery

### External: jQuery

#### jQuery

The jQuery Plugin namespace.

See: [jQuery Plugins](#)

#### Namespaces

[fn](#)

---

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## Global

### Global

#### Members

`convertedDocumentDownloadURL`

Deprecated since v11.0 (use the [PCCViewer.ConversionRequest#convertedDocumentDownloadURLs](#) property instead).

---

Documentation generated by [JSDoc 3.3.3](#) on Wed Jan 29 2020 07:58:20 GMT-0500 (Eastern Standard Time)

## Mixin: Data

### Mixin: Data

#### PCCViewer. Data

This object provides some helper methods that allow you to set and get data on any object.

#### Methods

`getData(key) → {string|object}`

Gets the data value for the given key, or gets a hash containing all key values, if a key was not provided.

**Note:** If a hash is returned, this will be a new object each time it is called. Adding new properties to the returned hash will not add data to the object.

**Note:** The returned data is not mutated or sanitized, which could lead to a security vulnerability if not sanitized properly before use.

#### Parameters:

Name	Type	Description
key	string	The key for which to get the data value.

See: [PCCViewer.Data#setData](#)  
[PCCViewer.Data#getDataKeys](#)

#### Throws:

If the `key` argument is null or otherwise not a string.

Type  
Error

#### Returns:

- If a key argument was provided, it returns the associated value.
- If a key argument was provided, but a value has not been associated with the key, then it returns undefined.
- If a key was not provided, it returns a hash object containing all key-value pairs.

Type  
string | object

**Example**

```
// The key "Author" is set the value "Mark".
item.setData("Author", "Mark");

// The key "Note" is set the value "This is really
important!".
item.setData("Note", "This is really important!");

item.getData("Author"); // returns "Mark"
item.getData();         // returns {"Author":"Mark",
"Note":"This is really important!"}
item.getData("FooBar"); // returns undefined
```

**getDataKeys()** → {Array.<string>}

Gets an array of data keys known to this object.

See: [PCCViewer.Data#getData](#)  
[PCCViewer.Data#setData](#)

**Returns:**

Returns an array of data keys known to this object. If no data is stored, then an empty array will be returned.

Type

Array.<string>

**Example**

```
// Returns an empty array before key-value pairs are
stored.
item.getDataKeys(); // returns []

// Returns a list of all keys.
item.setData("Author", "Mark");
item.setData("Note", "This is really important!");
item.getDataKeys(); // returns ["Author", "Note"]
```

**setData(key, value)** → {object}

Sets the data value for the given key.

**Notes:**

- Overwrites any data value already associated with the given key.
- There is no artificial limit imposed on the number of key-value pairs that are stored.
- If limits on the number of key-value pairs are required, they should be enforced by calling code.
- Setting the value as undefined results in no information for the key being persisted to the server.
- The returned data is not mutated or sanitized, which could lead to a security vulnerability if not sanitized properly before use.

### Parameters:

Name	Type	Description
key	string	The key for which to set the data value.
value	string	This is the value to set for the key. <ul style="list-style-type: none"><li>• This must be a string or undefined.</li><li>• The maximum length of the string is not limited by this function.</li></ul>

See: [PCCViewer.Data#getData](#)  
[PCCViewer.Data#getDataKeys](#)

### Returns:

The object on which the method was called.

Type  
object

### Example

```
// Get data returns undefined before the key is set.
item.getData("Author"); // returns undefined

// The key "Author" is set the value "Mark".
item.setData("Author", "Mark");
item.getData("Author"); // returns "Mark"

// The key "Author" is overwritten with the value
"Clark".
item.setData("Author", "Clark");
item.getData("Author"); // returns "Clark"

// The key "Author" is unset, by setting the value to
undefined.
item.setData("Author", undefined);
item.getData("Author"); // returns undefined
```

```
// The value can only be set to a string or undefined.  
// All other data types throw.  
item.setData("FooBar", null); // throws  
item.setData("FooBar", 1);    // throws  
item.setData("FooBar", true); // throws  
item.setData("FooBar", {});   // throws  
item.setData("FooBar", []);   // throws
```

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## Mixin: SessionData

### Mixin: SessionData

#### PCCViewer. SessionData

This object provides some helper methods that allow you to set and get data on any object. In practice, any data saved using these methods will not be saved, it is purely for use during runtime.

#### Methods

`getSessionData(key) → {string|object}`

Gets the data value for the given key, or gets a hash containing all key values, if a key was not provided.

**Note:** While this is similar to [PCCViewer.Data#getData](#), the data stored in the session will not persist when the page is reloaded, it is used for runtime operations.

**Note:** If a hash is returned, this will be a new object each time it is called. Adding new properties to the returned hash will not add data to the object.

**Note:** The returned data is not mutated or sanitized, which could lead to a security vulnerability if not sanitized properly before use.

#### Parameters:

Name	Type	Description
key	string	The key for which to get the data value.

See: [PCCViewer.SessionData#setSessionData](#)  
[PCCViewer.SessionData#getSessionDataKeys](#)

**Throws:**

If the `key` argument is null or otherwise not a string.

Type  
Error

**Returns:**

- If a key argument was provided, it returns the associated value.
- If a key argument was provided, but a value has not been associated with the key, then it returns undefined.
- If a key was not provided, it returns a hash object containing all key-value pairs.

Type  
string | object

**Example**

```
// The key "Author" is set the value "Mark".
item.setSessionData("Author", "Mark");

// The key "Note" is set the value "This is really
important!".
item.setSessionData("Note", "This is really
important!");

item.getSessionData("Author"); // returns "Mark"
item.getSessionData();        // returns
{"Author":"Mark", "Note":"This is really important!"}
item.getSessionData("FooBar"); // returns undefined
```

`getSessionDataKeys()` → {Array.<string>}

Gets an array of session data keys known to this object.

**Note:** While this is similar to `PCCViewer.Data#getDataKeys`, the data stored in the session will not persist when the page is reloaded, it is used for runtime operations.

See: [PCCViewer.SessionData#getSessionData](#)  
[PCCViewer.SessionData#setSessionData](#)

**Returns:**

Returns an array of data keys known to this object. If no data is stored, then an empty array will be returned.

Type

Array.<string>

### Example

```
// Returns an empty array before key-value pairs are
stored.
item.getSessionDataKeys(); // returns []

// Returns a list of all keys.
item.setSessionData("Author", "Mark");
item.setSessionData("Note", "This is really
important!");
item.getSessionDataKeys(); // returns ["Author",
"Note"]
```

**setSessionData(key, value) → {object}**

Sets the data value for the given key.

**Note:** While this is similar to [PCCViewer.Data#setData](#), the data stored in the session will not persist when the page is reloaded, it is used for runtime operations.

### Notes:

- Overwrites any data value already associated with the given key.
- There is no artificial limit imposed on the number of key-value pairs that are stored.
- If limits on the number of key-value pairs are required, they should be enforced by calling code.
- Setting the value as undefined results in no information for the key being persisted to the server.
- The returned data is not mutated or sanitized, which could lead to a security vulnerability if not sanitized properly before use.

### Parameters:

Name	Type	Description
key	string	The key for which to set the data value.
value	string	This is the value to set for the key. <ul style="list-style-type: none"><li>• This must be a string or undefined.</li><li>• The maximum length of the string is not limited by this function.</li></ul>

See:

[PCCViewer.SessionData#getSessionData](#)

[PCCViewer.SessionData#getSessionDataKeys](#)

### Returns:

The object on which the method was called.

Type  
object

#### Example

```
// Get data returns undefined before the key is set.
item.getSessionData("Author"); // returns undefined

// The key "Author" is set the value "Mark".
item.setSessionData("Author", "Mark");
item.getSessionData("Author"); // returns "Mark"

// The key "Author" is overwritten with the value
"Clark".
item.setSessionData("Author", "Clark");
item.getSessionData("Author"); // returns "Clark"

// The key "Author" is unset, by setting the value to
undefined.
item.setSessionData("Author", undefined);
item.getSessionData("Author"); // returns undefined

// The value can only be set to a string or undefined.
// All other data types throw.
item.setSessionData("FooBar", null); // throws
item.setSessionData("FooBar", 1); // throws
item.setSessionData("FooBar", true); // throws
item.setSessionData("FooBar", {}); // throws
item.setSessionData("FooBar", []); // throws
```

---

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## Namespace: Language

### Namespace: Language

#### PCCViewer. Language

A global object that defines the language data used by the PrizmDoc Viewing Client.

## Example

```
// The PCCViewer.Language object can be initialized
from a hash.
PCCViewer.Language.initializeData({
  "addComment": "Add Comment",
  "advancedSearch": "Advanced Search Options",
  "annotateLabel": "Annotate"
  // ...
});

// Later, we can get any data by key.
var myValue =
PCCViewer.Language.getValue("annotateLabel");
```

## Methods

`getData() → {Object}`

Returns the hash representing the language data.

### Returns:

The hash representing the language data.

Type  
Object

`getValue(key) → {String|Object}`

Gets the value from the Language data object with the given key or returns the key.

This method evaluates dots ('.') in the key, looking for a child object if a dot is seen. This method provides a convenience over directly accessing the data object because it will return the key instead of returning undefined or throwing in cases where an object is not defined.

### Parameters:

Name	Type	Description
key	string	Look up language data for this key. The key is a string, which uses dot notation to specify sub-keys.

### Throws:

If language data is `undefined`.

Type

Error

**Returns:**

Type  
String | Object

**Example**

```
var myValue;

// Look up language data by a string key
myValue = PCCViewer.Language.getValue("annotateLabel");

// Look up language data using a key with dot notation.
myValue =
PCCViewer.Language.getValue("printDialog.title");
```

**initializeData(languageData)**

Sets the language data from a hash.

**Parameters:**

Name	Type	Description
languageData	object	A hash representing the language data.

**Example**

```
// The PCCViewer.Language object can be initialized
from a hash.
PCCViewer.Language.initializeData({
  "addComment": "Add Comment",
  "advancedSearch": "Advanced Search Options",
  "annotateLabel": "Annotate"
  // ...
});
```

---

Documentation generated by *JSDoc 3.3.3* on Wed Jan 29 2020 07:58:21 GMT-0500 (Eastern Standard Time)

## Namespace: Ajax

## Namespace: Ajax

### PCCViewer. Ajax

This object provides some helper methods that allow you to make and filter Ajax requests.

#### Members

**headers** :string

Gets or sets the headers that will be defined with every AJAX request Viewer Control makes.

*This is an ECMA 5 property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- string

See: [PCCViewer.Ajax#getHeaders](#)  
[PCCViewer.Ajax#setHeaders](#)

#### Example

```
// get
var headers = PCCViewer.Ajax.headers;

// set
PCCViewer.Ajax.headers = { 'My-Secret-Header':
'mysecretkey' };
```

**overrideMethod** :string

Gets or sets the overrideMethod that will be defined with every AJAX request Viewer Control makes.

*This is an ECMA 5 property that is defined only in browsers supporting ECMA 5. This property is not available in the older browsers like IE8. For the greatest browser compatibility, use the corresponding getter and setter methods.*

**Type:**

- string

See: [PCCViewer.Ajax#getOverrideMethod](#)

### PCCViewer.Ajax#setOverrideMethod

#### Example

```
// get
var overrideMethod = PCCViewer.Ajax.overrideMethod;

// set
PCCViewer.Ajax.overrideMethod = function(options) {
    options.headers['My-Secret-Header'] =
    'mysecretkey';
};
```

## Methods

`getHeaders()` → {Object}

Gets the headers object that will be sent with every request.

**Note:** Any header returned here will be sent with the request as long as the specific request doesn't use that same header with a different value. If you're expecting the header to exist on all requests, it should use a unique key that is not used by Accusoft. Certain mandatory headers required by every request will not be returned from this method. See [PCCViewer.Ajax#setHeaders](#) for this list of inaccessible headers.

See: [PCCViewer.Ajax#setHeaders](#)

#### Returns:

A copy of the headers object set with [PCCViewer.Ajax#setHeaders](#).

Type  
Object

#### Example

```
// The default headers are set for every request
PCCViewer.Ajax.setHeaders({
    'My-Secret-Header': 'mysecretkey',
    'Authorization': 'Token asdf1234'
});

// Retrieve the headers that have previously been set
PCCViewer.Ajax.getHeaders(); // returns { 'My-Secret-Header': 'mysecretkey', 'Authorization': 'Token asdf1234' }
```

`getOverrideMethod()` → {function}

Gets the override method that will be called with every request.

**Note:** The function that is returned with this object is passed by reference and is the same one set with `setOverrideMethod`. Use caution when interacting with it.

See: [PCCViewer.Ajax#setOverrideMethod](#)

### Returns:

The function defined with [PCCViewer.Ajax#setOverrideMethod](#).

Type  
function

### Example

```
// A function is set to add a header to every request
PCCViewer.Ajax.setOverrideMethod(function(options) {
    options.headers['My-Secret-Header'] =
    'mysecretkey';
});

// Retrieve the override method that was previously set
PCCViewer.Ajax.getOverrideMethod(); // returns function
```

`setHeaders(headers)` → {Object}

Sets the headers object that will be sent with every request.

### Notes:

- Overwrites any headers already set except the mandatory headers listed below.
- The mandatory headers are: Accusoft-Gid, Accusoft-Parent-Name, Accusoft-Parent-Pid, and Accusoft-Parent-Taskid.
- Setting the `headers` as undefined will result in no additional headers being sent with every request. The headers that the request requires will still be present, including the listed mandatory headers.

### Parameters:

Name	Type	Description
headers	Object	An object containing the headers we will send with every request. <ul style="list-style-type: none"><li>• This must be an object or undefined.</li></ul>

See: [PCCViewer.Ajax#getHeaders](#)

**Throws:**

- If `headers` is not an object or undefined.

Type  
Error

- If `headers` attempts to overwrite a mandatory header. See the Notes section for more information.

Type  
Error

**Returns:**

The `PCCViewer.Ajax` object.

Type  
Object

**Example**

```
// getHeaders() returns an empty object if setHeaders()
// has not been called
PCCViewer.Ajax.getHeaders(); // returns {}

// After calling setHeaders() with an object,
// getHeaders() will return a copy of that object
PCCViewer.Ajax.setHeaders({ 'My-Secret-Header',
'mysecretkey' });
PCCViewer.Ajax.getHeaders(); // returns { 'My-Secret-
Header', 'mysecretkey' }

// After calling setHeaders() without any arguments,
// getHeaders() will return an empty object
PCCViewer.Ajax.setHeaders();
PCCViewer.Ajax.getHeaders(); // returns {}

// The value can only be set to an object or undefined.
// All other data types throw.
PCCViewer.Ajax.setHeaders(null); // throws
PCCViewer.Ajax.setHeaders(1); // throws
PCCViewer.Ajax.setHeaders(true); // throws
PCCViewer.Ajax.setHeaders('b'); // throws
PCCViewer.Ajax.setHeaders([]); // throws
```

`setOverrideMethod(method) → {Object}`

Sets the override method that will be called with every request.

**Notes:**

- Overwrites any method already set.
- Setting the `method` as undefined will result in no override taking place. The request will proceed as usual

**Parameters:**

Name	Type	Description
method	<a href="#">PCCViewer.Ajax~OverrideMethod</a>	A function that will be called with every request that allows you to override or modify the request. <ul style="list-style-type: none"><li>• This must be a function or undefined.</li></ul>

See: [PCCViewer.Ajax#getOverrideMethod](#)  
[PCCViewer.Ajax~OverrideMethod](#)

**Throws:**

If `method` is not a function or undefined.

Type  
Error

**Returns:**

The [PCCViewer.Ajax](#) object.

Type  
Object

**Example**

```
// getOverrideMethod() returns undefined if  
setOverrideMethod() has not been called  
PCCViewer.Ajax.getOverrideMethod(); // returns  
undefined  
  
// After calling setOverrideMethod() with a function,  
getOverrideMethod() will return the function by  
reference  
PCCViewer.Ajax.setOverrideMethod(function(options) {  
options.url = 'http://accusoft.com/'; });  
PCCViewer.Ajax.getOverrideMethod(); // returns function
```

```

// After calling setOverrideMethod() without any
arguments, getOverrideMethod() will return undefined
PCCViewer.Ajax.setOverrideMethod();
PCCViewer.Ajax.getOverrideMethod(); // returns
undefined

// The value can only be set to a function or
undefined.
// All other data types throw.
PCCViewer.Ajax.setOverrideMethod(null); // throws
PCCViewer.Ajax.setOverrideMethod(1); // throws
PCCViewer.Ajax.setOverrideMethod(true); // throws
PCCViewer.Ajax.setOverrideMethod('b'); // throws
PCCViewer.Ajax.setOverrideMethod([]); // throws

```

## Type Definitions

`OverrideMethod(options) → {Promise|Undefined}`

The function that you define with `PCCViewer.Ajax#setOverrideMethod` should follow this format

### Parameters:

Name	Type	Description																																			
options	Object	<p><b>Properties</b></p> <table border="1"> <thead> <tr> <th>Name</th> <th>Type</th> <th>Attributes</th> <th>Default</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>url</td> <td>String</td> <td></td> <td></td> <td></td> </tr> <tr> <td>method</td> <td>String</td> <td>&lt;optional&gt;</td> <td>"GET"</td> <td></td> </tr> <tr> <td>headers</td> <td>Object</td> <td>&lt;optional&gt;</td> <td>{}</td> <td></td> </tr> <tr> <td>body</td> <td>String</td> <td>&lt;optional&gt;</td> <td>null</td> <td></td> </tr> <tr> <td>timeout</td> <td>Number</td> <td>&lt;optional&gt;</td> <td>null</td> <td></td> </tr> <tr> <td>mimeType</td> <td>String</td> <td>&lt;optional&gt;</td> <td>null</td> <td> <ul style="list-style-type: none"> <li>The mime type used for the the server sends. See: <a href="https://US/docs/Web/API/XMLHttpRequest">https://US/docs/Web/API/XMLHttpRequest</a></li> </ul> </td> </tr> </tbody> </table>	Name	Type	Attributes	Default	Description	url	String				method	String	<optional>	"GET"		headers	Object	<optional>	{}		body	String	<optional>	null		timeout	Number	<optional>	null		mimeType	String	<optional>	null	<ul style="list-style-type: none"> <li>The mime type used for the the server sends. See: <a href="https://US/docs/Web/API/XMLHttpRequest">https://US/docs/Web/API/XMLHttpRequest</a></li> </ul>
Name	Type	Attributes	Default	Description																																	
url	String																																				
method	String	<optional>	"GET"																																		
headers	Object	<optional>	{}																																		
body	String	<optional>	null																																		
timeout	Number	<optional>	null																																		
mimeType	String	<optional>	null	<ul style="list-style-type: none"> <li>The mime type used for the the server sends. See: <a href="https://US/docs/Web/API/XMLHttpRequest">https://US/docs/Web/API/XMLHttpRequest</a></li> </ul>																																	

See: [PCCViewer.Ajax#setOverrideMethod](#)

### Returns:

- Optionally returns a then-able object (Promise) to prevent default execution from continuing.

Type

Promise | Undefined

### Example

```
// This method can modify properties of the original
request
PCCViewer.Ajax.setOverrideMethod(function(options) {
    options.url = 'http://accusoft.com/';
});

// This method can prevent default execution from
continuing
PCCViewer.Ajax.setOverrideMethod(function(options) {
    var deferred = $.Deferred();

    $.ajax({
        url: options.url,
        method: options.method,
        headers: options.headers,
        data: options.body,
        mimeType: options.mimeType,
        timeout: options.timeout,
    }).then(
        function(data, textStatus, jqXHR) {
            deferred.resolve(new
PCCViewer.AjaxResponse({
                status: jqXHR.status,
                textStatus: textStatus,
                headers: {
                    'Fake-Header': 'thisisnotreal'
                },
                responseText: jqXHR.responseText,
            }));
        },
        function(jqXHR, textStatus, errorThrown) {
            deferred.reject({
                error: new PCCViewer.Error('Error',
errorThrown),
                response: new PCCViewer.AjaxResponse({
                    status: jqXHR.status,
                    textStatus: textStatus,
                    headers: {
                        'Fake-Header': 'thisisnotreal'
                    },
                    responseText: jqXHR.responseText,
                }
            ),
        });
    });
});
```

```
        return deferred.promise();
    });
```

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## Namespace: fn

### Namespace: fn

#### jQuery. fn

The jQuery Plugin namespace.

#### Methods

`pccViewer(optionsopt)` → `{PCCViewer.Viewer}`

Creates and embeds a new viewer in the first element of the set of matched elements.

Each call to this method will create and return a unique ViewerControl object. This will call `PCCViewer.Viewer#destroy` on any existing viewer embedded in the selected element.

If plugin options are provided, then a new viewer is created in the selected element and a `PCCViewer.Viewer` object is returned. This will call `PCCViewer.Viewer#destroy` on any viewer that already existed in the selected element.

If plugin options are not provided, then a viewer is not created. Instead, the `PCCViewer.Viewer` object associated with an existing viewer is returned.

#### Parameters:

Name	Type	Attributes	Description
options	<code>external:jQuery.fn~Options</code>	<optional>	Plugin options.

#### Returns:

Type

`PCCViewer.Viewer`

#### Example

```

//Note: these are already included in the PrizmDoc
Samples
var pluginOptions = {
    documentID: viewingSessionId,          // documentID
is a required property
    language: languageItems                // language is
a required property
};

$(document).ready(function () {
    // Creates a new viewer in the div with
id="viewer1"
    var viewer =
$("#viewer1").pccViewer(pluginOptions);

    // Can also access the returned object through the
plugin.
    var viewerA = $("#viewer1").pccViewer(); // Does
not create a new viewer.
    viewerA === viewer;                      // true
});

```

## Type Definitions

### DateFormat

The format to use when displaying a date. The table below outlines the supported date format tokens and provides example output.

	Token	Output
Month	M	1 2 ... 11 12
	MM	01 02 ... 11 12
Day	D	1 2 ... 30 31
	DD	01 02 ... 30 31
Year	YY	70 71 ... 29 30
	YYYY	1970 1971 ... 2029 2030
Hour	H	0 1 ... 22 23
	HH	00 01 ... 22 23
	h	1 2 ... 11 12
	hh	01 02 ... 11 12
Minute	m	0 1 ... 58 59
	mm	00 01 ... 58 59
AM/PM	A	AM PM

	Token	Output
	a	am pm

**Type:**

- String

**LanguageOptions**

This object is the contents of the `language.json` file present in all of the HTML5 viewer samples. This file is generally read server-side and passed into the jQuery plugin. It is strongly encouraged to keep a copy of the original file before doing any edits or translations. This object is required by the viewer UI.

For more information on this language file or localization, please consult the help section titled "Localizing the Viewer".

**Type:**

- Object

**Options**

The options object used for the HTML5 viewer jQuery Plugin, [external:jQuery.fn#pccViewer](#). This object is a superset of the main ViewerControl options, [PCCViewer.ViewerControl~ViewerControlOptions](#). All available options for the ViewerControl are also valid here, and will be passed as-is to the ViewerControl during initialization. The following will only include options specific to the jQuery plugin and the Viewer UI functionality inside the `viewer.js` file.

**Type:**

- Object

**Properties:**

Name	Type	Attributes	Default
documentID	string		
documentDisplayName	string	<optional>	"file"
imageHandlerUrl	string	<optional>	"../pc"

Name	Type	Attributes	Default
language	external:jQuery.fn~LanguageOptions		
icons	string		
redactionReasons	external:jQuery.fn~redactionReasons	<optional>	
annotationsMode	string	<optional>	"Legal"
annotationID	string	<optional>	
autoLoadAnnotation	boolean	<optional>	false
autoLoadAllLayers	boolean	<optional>	false
editableMarkupLayerSource	string	<optional>	
editableMarkupLayerValue	string	<optional>	
lockEditableMarkupLayer	boolean	<optional>	false
template	Object		

Name	Type	Attributes	Defa

Name	Type	Attributes	Default
uiElements	Object	<optional>	

Name	Type	Attributes	Default
immediateActionMenuMode	string	<optional>	"off"
immediateActionMenuActionsFilter	object	<optional>	

Name	Type	Attributes	Default
commentsPanelMode	string	<optional>	"auto"
stickyTools	Object	<optional>	"default"
stickyToolsFilter	Object	<optional>	
signatureCategories	string	<optional>	
commentDateFormat	external:jQuery.fn~DateFormat	<optional>	"MM, h:mm"

Name	Type	Attributes	Default
signatureDateFormat	external:jQuery.fn~DateFormat	<optional>	"MM,
predefinedSearch	Object	<optional>	

Name	Type	Attributes	Default
searchResultsPageLength	number	<optional>	250
revisionsPageLength	number	<optional>	250

#### **predefinedSearchTerm**

The following are options available for the Objects used in the `predefinedSearch.terms` Array. Any options not specified on the individual search term Object will use the defined property on the `predefinedSearch` Object, or a viewer default if one does not exist.

#### **Type:**

- Object

#### **Properties:**

Name	Type	Attributes	Default	Description
searchTerm	string			The term to use for search. If used along with <code>userDefinedRegex</code> , this becomes the name of the Regular Expression, while the Regular Expression is used to perform the search.
highlightColor	string	<optional>		The color to use when highlighting results from this particular search.
fixed	boolean	<optional>	false	Whether or not the search term is always included when performing a search. If set to true, the value of <code>predefinedSearchTerm.selected</code> is disregarded since the search term is always included.
options	Object	<optional>		This is the same <code>options</code> object, overriding the settings in <code>globalOptions</code> for this specific term.
userDefinedRegex	string	<optional>		<p>A regular expression that will be searched in place of <code>searchTerm</code>. The first and last forward slashes, as well as the flags, are stripped from the string. For example, <code>"/Pa(\w+)/ig"</code> will become <code>"Pa(\w+)"</code>.</p> <p>When special characters (ex: backslash) are used in the "userDefinedRegex" field, they need to be properly escaped. For example, for searching words that begins with "Pa", the regular expression will be <code>"Pa(\w+)"</code>, this regular expression should be properly escaped like this <code>"Pa(\w+)"</code>.</p> <p>All patterns use the Global (g) flag.</p>
selected	boolean	<optional>	false	Whether or not this term is selected in the Patterns menu by default. This property must be set to true if you expect to use this search terms along with <code>searchOnInit: true</code> .

### redactionReasons

An object defining the redaction reasons to use in the viewer. See the "Using Redaction Reasons" section of this help file for more information.

#### Type:

- Object

**Properties:**

Name	Type	Attributes	Default	Description						
enableRedactionReasonSelection	boolean	<optional>	true	When set to <code>false</code> , t						
reasons	Array. <Object>			An array of redaction following properties:  <b>Properties</b> <table border="1"> <thead> <tr> <th>Name</th> <th>Ty</th> </tr> </thead> <tbody> <tr> <td>reason</td> <td>str</td> </tr> <tr> <td>defaultReason</td> <td>bc</td> </tr> </tbody> </table>	Name	Ty	reason	str	defaultReason	bc
Name	Ty									
reason	str									
defaultReason	bc									
autoApplyDefaultReason	boolean	<optional>	false	When set to <code>true</code> , th reason to redactions.						
enableFreeformRedactionReasons	boolean	<optional>	false	When set to <code>true</code> , us selecting one from a l						
maxLengthFreeformRedactionReasons	number	<optional>	false	Sets the maximum ler						

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## Namespace: MarkSchema

### Namespace: MarkSchema

#### MarkSchema

The following data structures will be used for serializing and deserializing marks into a JSON format. This documentation represents the Object Schema for **all marks**. To ease these, properties that are present in each mark are documented under the name **Mark**, and properties related to each individual mark are documented using that mark's type.

Some other generic types relevant to all, or multiple, marks are documented as [PageData](#), [Comment](#), [Conversation](#), [Rectangle](#), [Point](#), and [LineGroup](#).

## Type Definitions

### EllipseAnnotation

The [EllipseAnnotation](#) object.

#### Type:

- [MarkSchema~Mark](#)

#### Properties:

Name	Type	Description
rectangle	<a href="#">MarkSchema~Rectangle</a>	The position of the mark on the page.
pageData	<a href="#">MarkSchema~PageData</a>	The size of the page that the mark is on.
borderColor	String	A 6-character hexadecimal color string, including the # sign.
borderThickness	Number	The thickness of the border in pixels.
fillColor	String	A 6-character hexadecimal color string, including the # sign.
opacity	Number	The opacity of the mark, from 0 to 255.

Implements: [MarkSchema~Mark](#)

### FreehandAnnotation

The [FreehandAnnotation](#) object.

#### Type:

- [MarkSchema~Mark](#)

#### Properties:

Name	Type	Description
rectangle	<a href="#">MarkSchema~Rectangle</a>	The position of the mark on the page.
pageData	<a href="#">MarkSchema~PageData</a>	The size of the page that the mark is on.
color	String	A 6-character hexadecimal color string, including the # sign.

Name	Type	Description
opacity	Number	The opacity of the mark, from 0 to 255.
path	String	An SVG-style path, using M, L, and C commands.
thickness	Number	The thickness of the border in pixels.

Implements: [MarkSchema~Mark](#)

### FreehandSignature

The [FreehandSignature](#) object.

#### Type:

- [MarkSchema~Mark](#)

#### Properties:

Name	Type	Description
rectangle	<a href="#">MarkSchema~Rectangle</a>	The position of the mark on the page.
pageData	<a href="#">MarkSchema~PageData</a>	The size of the page that the mark is on.
color	String	A 6-character hexadecimal color string, including the # sign.
horizontalAlignment	String	A value from <a href="#">PCCViewer.Mark.HorizontalAlignment</a> .
path	String	An SVG-style path, using M, L, and C commands.
thickness	Number	The thickness of the border in pixels.

Implements: [MarkSchema~Mark](#)

### HighlightAnnotation

The [HighlightAnnotation](#) object.

#### Type:

- [MarkSchema~Mark](#)

#### Properties:

Name	Type	Description
fillColor	String	A 6-character hexadecimal color string, including the # sign.
startIndex	Number	The character index of the start of the selection.
selectedText	String	The selected text.
textLength	Number	The length of the selected text.
lineGroups	Array. <MarkSchema~LineGroup>	The individual line rectangles that make up the selection.

Implements: [MarkSchema~Mark](#)

### ImageStampAnnotation

The [ImageStampAnnotation](#) object.

#### Type:

- [MarkSchema~Mark](#)

#### Properties:

Name	Type	Description
rectangle	<a href="#">MarkSchema~Rectangle</a>	The position of the mark on the page.
pageData	<a href="#">MarkSchema~PageData</a>	The size of the page that the mark is on.
imageDataUrl	String.<base64>	The base64 encoded image data.
imageId	String	The ID associated with the image.

Implements: [MarkSchema~Mark](#)

### ImageStampRedaction

The [ImageStampRedaction](#) object.

#### Type:

- [MarkSchema~Mark](#)

#### Properties:

Name	Type	Description
rectangle	<a href="#">MarkSchema~Rectangle</a>	The position of the mark on the page.

Name	Type	Description
pageData	MarkSchema~PageData	The size of the page that the mark is on.
imageDataUrl	String.<base64>	The base64 encoded image data.
imageId	String	The ID associated with the image.

Implements: [MarkSchema~Mark](#)

### LineAnnotation

The [LineAnnotation](#) object.

#### Type:

- [MarkSchema~Mark](#)

#### Properties:

Name	Type	Description
pageData	MarkSchema~PageData	The size of the page that the mark is on.
endPoint	MarkSchema~Point	The end of the line.
startPoint	MarkSchema~Point	The start of the line.
color	String	A 6-character hexadecimal color string, including the # sign.
endHeadType	String	A value from <a href="#">PCCViewer.Mark.LineHeadType</a> .
opacity	Number	The opacity of the mark, from 0 to 255.
thickness	Number	The thickness of the line in pixels.

Implements: [MarkSchema~Mark](#)

### PolylineAnnotation

The [PolylineAnnotation](#) object.

#### Type:

- [MarkSchema~Mark](#)

#### Properties:

Name	Type	Description
pageData	<a href="#">MarkSchema~PageData</a>	The size of the page that the mark is on.
points	Array. < <a href="#">MarkSchema~Point</a> >	The array of points making up the line.
color	String	A 6-character hexadecimal color string, including the # sign.
opacity	Number	The opacity of the mark, from 0 to 255.
thickness	Number	The thickness of the line in pixels.

Implements: [MarkSchema~Mark](#)

### RectangleAnnotation

The [RectangleAnnotation](#) object.

#### Type:

- [MarkSchema~Mark](#)

#### Properties:

Name	Type	Description
rectangle	<a href="#">MarkSchema~Rectangle</a>	The position of the mark on the page.
pageData	<a href="#">MarkSchema~PageData</a>	The size of the page that the mark is on.
borderColor	String	A 6-character hexadecimal color string, including the # sign.
borderThickness	Number	The thickness of the border in pixels.
fillColor	String	A 6-character hexadecimal color string, including the # sign.
opacity	Number	The opacity of the mark, from 0 to 255.

Implements: [MarkSchema~Mark](#)

### RectangleRedaction

The [RectangleRedaction](#) object.

#### Type:

- [MarkSchema~Mark](#)

**Properties:**

Name	Type	Description
rectangle	MarkSchema~Rectangle	The position of the mark on the page.
pageData	MarkSchema~PageData	The size of the page that the mark is on.
borderColor	String	A 6-character hexadecimal color string, including the # sign.
borderThickness	Number	The thickness of the border in pixels.
fillColor	String	A 6-character hexadecimal color string, including the # sign.
fontColor	String	A 6-character hexadecimal color string, including the # sign.
reason	String	The redaction reason for this redaction mark.

Implements: [MarkSchema~Mark](#)

**StampAnnotation**

The [StampAnnotation](#) object.

**Type:**

- [MarkSchema~Mark](#)

**Properties:**

Name	Type	Description
rectangle	MarkSchema~Rectangle	The position of the mark on the page.
pageData	MarkSchema~PageData	The size of the page that the mark is on.
color	String	A 6-character hexadecimal color string, including the # sign.
label	String	The text to display inside the stamp.

Implements: [MarkSchema~Mark](#)

**StampRedaction**

The [StampRedaction](#) object.

**Type:**

- [MarkSchema~Mark](#)

**Properties:**

Name	Type	Description
rectangle	<a href="#">MarkSchema~Rectangle</a>	The position of the mark on the page.
pageData	<a href="#">MarkSchema~PageData</a>	The size of the page that the mark is on.
label	String	The text to display inside the stamp.

Implements: [MarkSchema~Mark](#)

**StrikethroughAnnotation**

The [StrikethroughAnnotation](#) object.

**Type:**

- [MarkSchema~Mark](#)

**Properties:**

Name	Type	Description
color	String	A 6-character hexadecimal color string, including the # sign.
thickness	Number	The thickness of the line in pixels.
textLength	Number	The length of the selected text.
startIndex	Number	The character index of the start of the selection.
selectedText	String	The selected text.
lineGroups	Array. < <a href="#">MarkSchema~LineGroup</a> >	The individual line rectangles that make up the selection.

Implements: [MarkSchema~Mark](#)

**TextAnnotation**

The [TextAnnotation](#) object.

**Type:**

- [MarkSchema~Mark](#)

**Properties:**

Name	Type	Description
rectangle	MarkSchema~Rectangle	The position of the mark on the page.
pageData	MarkSchema~PageData	The size of the page that the mark is on.
borderColor	String	A 6-character hexadecimal color string, including the # sign.
borderThickness	Number	The thickness of the border in pixels.
fillColor	String	A 6-character hexadecimal color string, including the # sign.
fontColor	String	A 6-character hexadecimal color string, including the # sign.
fontName	String	The name of the font to use for the mark.
fontSize	Number	The size of the font, in pixels.
fontStyle	Array.<String>	An array of values any from <a href="#">PCCViewer.Mark.FontStyles</a> .
maxLength	Number	The maximum number of characters allowed.
horizontalAlignment	String	A value from <a href="#">PCCViewer.Mark.HorizontalAlignment</a> .
text	String	The text of the mark.
opacity	Number	The opacity of the mark, from 0 to 255.

Implements: [MarkSchema~Mark](#)

### TextAreaSignature

The [TextAreaSignature](#) object.

#### Type:

- [MarkSchema~Mark](#)

#### Properties:

Name	Type	Description
rectangle	MarkSchema~Rectangle	The position of the mark on the page.
pageData	MarkSchema~PageData	The size of the page that the mark is on.
fontColor	String	A 6-character hexadecimal color string, including the # sign.
fontName	String	The name of the font to use for the mark.

Name	Type	Description
fontStyle	Array.<String>	An array of values any from <a href="#">PCCViewer.Mark.FontStyles</a> .
horizontalAlignment	String	A value from <a href="#">PCCViewer.Mark.HorizontalAlignment</a> .
maxFontSize	Number	The maximum size of the font, in pixels.
maxLength	Number	The maximum number of characters allowed.
text	String	The text of the mark.

Implements: [MarkSchema~Mark](#)

### TextHyperlinkAnnotation

The [TextHyperlinkAnnotation](#) object.

#### Type:

- [MarkSchema~Mark](#)

#### Properties:

Name	Type	Description
fillColor	String	A 6-character hexadecimal color string, including the # sign.
textLength	Number	The length of the selected text.
startIndex	Number	The character index of the start of the selection.
selectedText	String	The selected text.
lineGroups	Array.< <a href="#">MarkSchema~LineGroup</a> >	The individual line rectangles that make up the selection.
href	String	The URL that the link points to.

Implements: [MarkSchema~Mark](#)

### TextInputSignature

The [TextInputSignature](#) object.

#### Type:

- [MarkSchema~Mark](#)

**Properties:**

Name	Type	Description
rectangle	MarkSchema~Rectangle	The position of the mark on the page.
pageData	MarkSchema~PageData	The size of the page that the mark is on.
mask	MarkSchema~Mask	An input mask that will be displayed in the mark to assist the user from inputting undesirable characters.
fontColor	String	A 6-character hexadecimal color string, including the # sign.
fontName	String	The name of the font to use for the mark.
maxLength	Number	The maximum number of characters allowed.
text	String	The text of the mark.
horizontalAlignment	String	A value from <a href="#">PCCViewer.Mark.HorizontalAlignment</a> .

Implements: [MarkSchema~Mark](#)

**TextRedaction**

The [TextRedaction](#) object.

**Type:**

- [MarkSchema~Mark](#)

**Properties:**

Name	Type	Description
rectangle	MarkSchema~Rectangle	The position of the mark on the page.
pageData	MarkSchema~PageData	The size of the page that the mark is on.
fontColor	String	A 6-character hexadecimal color string, including the # sign.
fontName	String	The name of the font to use for the mark.
fontSize	Number	The size of the font, in pixels.
maxLength	Number	The maximum number of characters allowed.
horizontalAlignment	String	A value from <a href="#">PCCViewer.Mark.HorizontalAlignment</a> .
text	String	The text of the mark.

Implements: [MarkSchema~Mark](#)

### TextSelectionRedaction

The [TextSelectionRedaction](#) object.

#### Type:

- [MarkSchema~Mark](#)

#### Properties:

Name	Type	Description
lineGroups	Array. < <a href="#">MarkSchema~LineGroup</a> >	The individual line rectangles that make up the selection.
reason	String	The redaction reason for this redaction mark.
selectedText	String	The selected text.
startIndex	Number	The character index of the start of the selection.
textLength	Number	The length of the selected text.

Implements: [MarkSchema~Mark](#)

### TextSignature

The [TextSignature](#) object.

#### Type:

- [MarkSchema~Mark](#)

#### Properties:

Name	Type	Description
rectangle	<a href="#">MarkSchema~Rectangle</a>	The position of the mark on the page.
pageData	<a href="#">MarkSchema~PageData</a>	The size of the page that the mark is on.
color	String	A 6-character hexadecimal color string, including the # sign.
fontName	String	The name of the font to use for the mark.
horizontalAlignment	String	A value from <a href="#">PCCViewer.Mark.HorizontalAlignment</a> .

Name	Type	Description
text	String	The text of the mark.

Implements: [MarkSchema~Mark](#)

### TransparentRectangleRedaction

The [TransparentRectangleRedaction](#) object.

#### Type:

- [MarkSchema~Mark](#)

#### Properties:

Name	Type	Description
rectangle	<a href="#">MarkSchema~Rectangle</a>	The position of the mark on the page.
pageData	<a href="#">MarkSchema~PageData</a>	The size of the page that the mark is on.

Implements: [MarkSchema~Mark](#)

### Comment

A mark comment.

#### Type:

- Object

#### Properties:

Name	Type	Description
data	Object.<key, string>	A property bag of user-defined values.
creationDateTime	String	An ISO string of the created time.
text	String	The text of the comment.

### Conversation

A collection of comments related to a mark.

#### Type:

- Object

**Properties:**

Name	Type	Description
comments	Array.<MarkSchema~Comment>	The comments associated with the conversation.
data	Object.<key, string>	A property bag of user-defined values.

**LineGroup**

A collection of line groups.

**Type:**

- Object

**Properties:**

Name	Type	Description
pageNumber	Number	The page number of the line group.
pageData	MarkSchema~PageData	The page size of the page where that particular line group appears.
startIndex	Number	The character index of the start of this group.
length	Number	The length of characters in this group.
lines	Array.<MarkSchema~Rectangle>	One or more rectangles that appear on the page, as part of the selection.

**Mark**

All marks will have the following properties.

**Properties:**

Name	Type	Description
uid	String	A global unique ID for this mark, to identify it across the system.
type	String	A value from <code>PCCViewer.Mark.Type</code> denoting the mark type.
pageNumber	Number	The page that the mark is located on.
creationDateTime	String	An ISO string of the created time.

Name	Type	Description
modificationDateTime	String	An ISO string of the last modified time.
interactionMode	String	A value from <a href="#">PCCViewer.Mark.InteractionMode</a> .
data	Object.<string, string>	A property bag of user-defined values.
conversation	<a href="#">MarkSchema~Conversation</a>	The conversation object.

### Mask

An object defining the mask for this mark.

#### Type:

- Object

#### Properties:

Name	Type	Description
value	String	The string representation of the mask. The user input will <i>look</i> like this string once they have finished their input. Each character in this string that does not have a translation will be represented to the user literally.
translations	Object	The translations to use for the given mask value. The key represents a character present in the mask value, and the value is a regular expression which validates the acceptable user input for that character.

### PageData

An object providing metadata about the page at the time that the mark was saved.

#### Type:

- Object

#### Properties:

Name	Type	Description
width	Number	The width of the page at the time the mark was saved.
height	Number	The height of the page at the time the mark was saved.

### Point

A point, defining the coordinates from the top-left of the page in pixels.

**Type:**

- Object

**Properties:**

Name	Type	Description
x	Number	The distance from the left edge of the page.
y	Number	The distance from the top edge of the page.

## Rectangle

A rectangle or bounding rectangle, defining the top-left corner relative to the top-left of the page, as well as the width and height, in pixels.

**Type:**

- Object

**Properties:**

Name	Type	Description
x	Number	The left side of the rectangle, relative to the left page edge.
y	Number	The top of the rectangle, relative to the top page edge.
width	Number	The width of the bounding rectangle.
height	Number	The height of the bounding rectangle.

---

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## Namespace: MarkupLayerSchema

### Namespace: MarkupLayerSchema

#### MarkupLayerSchema

The following data structures will be used for serializing and deserializing markup layers into a JSON format. This documentation represents the Object Schema for markup layers.

### Properties:

Name	Type	Description
name	string	The name of the markup layer.
originalXmlName	string	The name of the web tier XML record from which the marks of this layer were originally stored.
data	string	A property bag of user-defined values.
marks	Array	An array of <a href="#">MarkSchema~Mark</a> objects. Note that comments on marks in this layer are stored in this comments array and not stored under the particular mark.
comments	Array	An array of <a href="#">MarkupLayerSchema~Comment</a> objects for marks in this layer and in other layers. Note that comments on marks in this layer are stored in this comments array and not stored under the particular mark in the marks array.

## Type Definitions

### Comment

A mark comment.

#### Type:

- Object

#### Properties:

Name	Type	Description
markUid	string	The global unique ID for the mark the comment is under.
data	Object.<key, string>	A property bag of user-defined values.
creationDateTime	String	An ISO string of the created time.
text	String	The text of the comment.

## Namespace: MouseTools

### Namespace: MouseTools

#### PCCViewer. MouseTools

The PCCViewer.MouseTools object allows you to create and get named mouse tools. This object encapsulates a collection of named mouse tools that are available to all viewer instances (globally). A mouse tool can be added to this collection using the [PCCViewer.MouseTools.createMouseTool](#) method, and a mouse tool in this collection can be accessed using the [PCCViewer.MouseTools.getMouseTool](#) method.

#### Methods

(static) `createMouseTool(name, type) → {PCCViewer.MouseTool}`

Create a new named mouse tool of a specific type.

- If the new name matches the name of an existing mouse tool of the same type, then all properties of the existing tool will be overwritten with the defaults. Subsequent calls to `.getMouseTool(name)` will return the tool with the new properties.
- If the new name already exists, but the type does not match, and error will be thrown.

#### Parameters:

Name	Type	Description
name	string	The name of the new mouse tool. This value is case-insensitive for comparison against existing mouse tools of the same name. <b>Note:</b> The case you provide will be persisted in the name property of the object that is returned, so it is best to pick a consistent naming scheme.
type	string	The type of the new mouse tool.

See: [PCCViewer.MouseTool.Type](#) for a list of possible mouse tool types.

#### Throws:

If calling this function using an existing `name` when the `type` does not match the already existing one.

Type  
Error

#### Returns:

The `MouseTool` object that was created.

Type

`PCCViewer.MouseTool`

### Example

```
// Create a new mouse tool with the name
"MyLineAnnotationMouseTool"
var myMouseTool =
PCCViewer.MouseTools.createMouseTool("MyLineAnnotationMouseTool",
"LineAnnotation");

// Configure the mouse tool or the template mark of the
mouse tool
myMouseTool.getTemplateMark().setOpacity(127);

// set the ViewerControl to use the mouse tool
viewerControl.setCurrentMouseTool("MyLineAnnotationMouseTool");
```

(static) `getMouseTool(name)` → `{PCCViewer.MouseTool|undefined}`

Gets a named mouse tool.

### Parameters:

Name	Type	Description
name	string	The name of the <code>MouseTool</code> to get. This value is case-insensitive.

### Returns:

The `MouseTool` object with the specified name, or `undefined`, if a `MouseTool` with the specified name does not exist.

Type

`PCCViewer.MouseTool | undefined`

### Example

```
var mouseToolName = "FooMouseTool";

// get the mouse tool
var mouseTool =
PCCViewer.MouseTools.getMouseTool(mouseToolName);
```

```
// check that the named mouse tool actually exists
if (mouseTool) {
    // do something with the MouseTool, you can do
    different things based on the type of the tool
    switch (mouseTool.getType()) {
        case PCCViewer.MouseTool.Type.LineAnnotation:
            ...
            break;
        default:
            ...
    }
}
```

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## Namespace: PCCViewer

### Namespace: PCCViewer

#### PCCViewer

`PCCViewer` is the global namespace used for members of this API.

#### Classes

- [AjaxResponse](#)
- [BurnRequest](#)
- [Comment](#)
- [Conversation](#)
- [ConversionRequest](#)
- [DocumentHyperlink](#)
- [Error](#)
- [Event](#)
- [ImageStamps](#)
- [LoadMarkupLayersRequest](#)
- [Mark](#)
- [MarkupLayer](#)
- [MarkupLayerCollection](#)
- [MouseTool](#)
- [ObservableCollection](#)
- [PrintRequest](#)
- [Promise](#)
- [Revision](#)
- [RevisionsRequest](#)

SearchRequest  
SearchResult  
SearchTask  
SearchTaskResult  
SignatureControl  
SignatureDisplay  
ThumbnailControl  
Viewer  
ViewerControl

## Mixins

Data  
SessionData

## Namespaces

Ajax  
Language  
MouseTools  
Signatures  
Util

## Members

(static, readonly) EventType :string

The EventType enumeration defines event types known to `PCCViewer.ViewerControl`.

**Note:** This enumeration is for convenience for API developers. Instead of using this enumeration, you can pass string values of the eventType (enumeration values)

### Type:

- string

### Properties:

Name	Type	Description
ViewerReady	string	Triggered when the Viewer is ready. Augmented properties of the <code>PCCViewer.Event</code> object for this event: <ul style="list-style-type: none"><li>• None</li></ul>
PageCountReady	string	Event is triggered when the viewer has an actual page count from the server and the consumer can begin to interact with the viewer interfaces.

Name	Type	Description
		<p>Augmented properties of the <code>PCCViewer.Event</code> object for this event:</p> <ul style="list-style-type: none"> <li><code>pageCount</code> {number} The actual page count of the document.</li> </ul>
EstimatedPageCountReady	string	<p>Event is triggered when the viewer has an estimated page count from the server.</p> <p>Augmented properties of the <code>PCCViewer.Event</code> object for this event:</p> <ul style="list-style-type: none"> <li><code>pageCount</code> {number} The estimated page count of the document.</li> </ul>
PageChanged	string	<p>Event is triggered when the viewer changed the current page.</p> <p>Augmented properties of the <code>PCCViewer.Event</code> object for this event:</p> <ul style="list-style-type: none"> <li>none</li> </ul>
PageLoadFailed	string	<p>Event is triggered when the viewer changed the current page.</p> <p>Augmented properties of the <code>PCCViewer.Event</code> object for this event:</p> <ul style="list-style-type: none"> <li><code>pageNumber</code> {number} Indicates the page number of the page that failed to load.</li> <li><code>statusCode</code> {number} Indicates the HTTP page load failure error code returned by the image service</li> <li><code>accusoftErrorNumber</code> {number} The error codes in this category currently are: <ul style="list-style-type: none"> <li>4001 Document requires a password (HTTP statusCode will be 480)</li> <li>5001 Unable to generate Page (HTTP statusCode will be 580)</li> <li>5002 Download of the file to the Image service failed (HTTP statusCode will be 580)</li> </ul> </li> <li><code>accusoftErrorMessage</code> {string} Description of the error provided by the Image service.</li> </ul>
PageDisplayed	string	<p>Event is triggered when the viewer has displayed a page. If the content of a page is large, for example an engineering drawing with several hundred nodes, then the browser may be busy still rendering/preparing the content when this event</p>

Name	Type	Description
		<p>gets fired. Note that if the <code>maxOutOfViewDisplay</code> viewer parameter is greater than 0, then out-of-view pages will be displayed (the page content will be loaded in the DOM, though the page will not be visible since it is out of view). In this scenario, the <code>PageDisplayed</code> event will fire for out-of-view pages.</p> <p>Augmented Properties of the <code>PCCViewer.Event</code> object for this event:</p> <ul style="list-style-type: none"> <li>• <code>pageNumber</code> {number} The page number of the displayed page.</li> </ul>
PageRotated	string	<p>Event is triggered when the viewer has displayed a page, not necessarily the content of a page.</p> <p>Augmented properties of the <code>PCCViewer.ViewerControl.Event</code> object for this event:</p> <ul style="list-style-type: none"> <li>• <code>pageNumber</code> {number} The page number of the page that was rotated.</li> </ul>
DocumentRotated	string	<p>Event is triggered when the rotation of all pages in the document changes.</p> <p>Augmented properties of the <code>PCCViewer.Event</code> object for this event:</p> <ul style="list-style-type: none"> <li>• <code>degreesClockwise</code> {number} The amount in degrees clockwise the pages were rotated.</li> </ul>
ScaleChanged	string	<p>Event is triggered when the scaling of page(s) in the viewer changed. After the user actions, zoom buttons pressed, zoom api called, fit type changed, viewer mode changed and that resulted in a scale change.</p> <p>Augmented properties of the <code>PCCViewer.Event</code> object for this event:</p> <ul style="list-style-type: none"> <li>• <code>scaleType</code> {string} Gives an indication of whether the content was <code>scaledUp</code> (got bigger) or <code>scaledDown</code> (got smaller).</li> <li>• <code>scaleFactor</code> {number} Indicates the new scale factor of the viewer. A value of 1 indicates 100% zoom. See also <code>PCCViewer.ViewerControl#getScaleFactor</code>.</li> <li>• <code>trigger</code> {string} Indicates how the scale change was triggered. Possible values are: <ul style="list-style-type: none"> <li>◦ "Zoom" - Indicates a direct zoom, such as using the <code>PCCViewer.ViewerControl#zoomIn</code>,</li> </ul> </li> </ul>

Name	Type	Description
		<p><code>PCCViewer.ViewerControl#zoomOut</code>, or <code>PCCViewer.ViewerControl#setScaleFactor</code> methods.</p> <ul style="list-style-type: none"> <li>○ "Fit" - Indicates a change due to a fit type being applied through the <code>PCCViewer.ViewerControl#fitContent</code> method.</li> <li>● <code>fitType</code> {string} Indicates the fit type that was applied, if applicable. This property will only be defined if the <code>trigger</code> was Fit, and will be <code>undefined</code> otherwise.</li> </ul>
DocumentPrinted	string	<p>Event is triggered when the print button was clicked in the viewer's print dialog. We have no way to know if the page printed in the system print dialog.</p> <p>Augmented properties of the <code>PCCViewer.Event</code> object for this event:</p> <ul style="list-style-type: none"> <li>● <code>pageNumbers</code> {Array.&lt;number&gt;} An array containing the page number of each page that was printed. <b>NOTE:</b> In the PageView viewer, the array contains the current page only.</li> <li>● <code>orientation</code> {string} "portrait" or "landscape"</li> <li>● <code>includeMarks</code> {boolean} Indicates whether the marks were included in the printed pages.</li> </ul>
TextSelected	string	<p>Event is triggered when text is selected.</p> <p>Augmented properties of the <code>PCCViewer.Event</code> object for this event:</p> <ul style="list-style-type: none"> <li>● <code>selectedText</code> {string} Deprecated since v9.2 (use the <code>textSelection.text</code> argument instead).</li> <li>● <code>pageNumbers</code> {Array.&lt;number&gt;} Deprecated since v9.2 (use the <code>textSelection.pageNumber</code> argument instead).</li> <li>● <code>textSelection</code> {<code>PCCViewer.ViewerControl.TextSelection</code>} An object that provides information regarding the text selection.</li> <li>● <code>clientX</code> {number} An optional value indicating the absolute window position in the x-axis of the cursor at the end of the selection. A value for this property is available only when using the <code>SelectText</code> mouse tool.</li> </ul>

Name	Type	Description
		<ul style="list-style-type: none"> <li>• <code>clientY</code> {number} An optional value indicating the absolute window position in the y-axis of the cursor at the end of the selection. A value for this property is available only when using the <code>SelectText</code> mouse tool.</li> <li>• <code>handleClientX</code> {number} An optional value indicating the absolute window position in the x-axis of the handle at the sliding end of the selection. A value for this property is available when the text is initially selected or when the selection is edited. (In either case, one end of the selection is stationary throughout the drag, and the other end is sliding.)</li> <li>• <code>handleClientY</code> {number} An optional value indicating the absolute window position in the y-axis of the handle at the sliding end of the selection. A value for this property is available when the text is initially selected or when the selection is edited. (In either case, one end of the selection is stationary throughout the drag, and the other end is sliding.)</li> </ul>
MouseToolChanged	string	<p>Event is triggered when the mouse tool changed. This change could be initiated through the viewer's toolbar, viewer's context menu, or viewer's API.</p> <p>Augmented properties of the <code>PCCViewer.Event</code> object for this event:</p> <ul style="list-style-type: none"> <li>• <code>mouseToolName</code> {string} Indicates the name of the new mouse tool.</li> </ul>
SearchPerformed	string	<p>Triggered when a search is performed with a call to <code>PCCViewer.ViewerControl#search</code>.</p> <p>Augmented properties of the <code>PCCViewer.Event</code> object for this event:</p> <ul style="list-style-type: none"> <li>• <code>searchRequest</code> {<code>PCCViewer.SearchRequest</code>} The search request returned from the call to <code>PCCViewer.ViewerControl#search</code>.</li> </ul>
PartialSearchResultsAvailable	string	<p>Event is triggered when partial search results are available</p> <p>Augmented properties of the <code>PCCViewer.Event</code> object for this event:</p> <ul style="list-style-type: none"> <li>• <code>partialSearchResults</code> {Array.&lt;<code>PCCViewer.SearchResult</code>&gt;} The new search results found since the last "PartialSearchResultsAvailable" event.</li> </ul>

Name	Type	Description
		<ul style="list-style-type: none"> <li>pagesWithoutText {Array.&lt;number&gt;} The set of pages that could not be searched because searchable text was not available for the page. This includes only the pages on which searching was attempted since the last "PartialSearchResultsAvailable" event.</li> </ul>
SearchCompleted	string	<p>Event is triggered when search is completed successfully, user cancelled, or an exception. This event will also return the searchResult object to the consumer</p> <p>Augmented properties of the <a href="#">PCCViewer.Event</a> object for this event:</p> <ul style="list-style-type: none"> <li>completedSearchResults {Array.&lt;<a href="#">PCCViewer.SearchResult</a>&gt;} The set of search results.</li> </ul>
SearchFailed	string	<p>Event is triggered when search failed to due to an exception.</p> <p>Augmented properties of the <a href="#">PCCViewer.Event</a> object for this event:</p> <ul style="list-style-type: none"> <li>errorMessage (string) A human readable error message indicating why the search failed.</li> </ul>
SearchCancelled	string	<p>Event is triggered when search is cancelled by the user.</p> <p>Augmented properties of the <a href="#">PCCViewer.Event</a> object for this event:</p> <ul style="list-style-type: none"> <li>none</li> </ul>
SearchResultsAvailable	string	<p>Event is triggered when search is completed and the results are available. This event will return the full results object to the consumer if available.</p> <p>Augmented properties of the <a href="#">PCCViewer.Event</a> object for this event:</p> <ul style="list-style-type: none"> <li>completedSearchResults {Array.&lt;<a href="#">PCCViewer.SearchResult</a>&gt;} The set of search results.</li> </ul>
SearchCleared	string	<p>Event is triggered when the current search is cleared. After this event, calls to <a href="#">PCCViewer#setSelectedSearchResult</a>, <a href="#">PCCViewer#getSelectedSearchResult</a>, and <a href="#">PCCViewer#getSearchRequest</a> will no longer be valid.</p>

Name	Type	Description
		<p>Augmented properties of the <a href="#">PCCViewer.Event</a> object for this event:</p> <ul style="list-style-type: none"> <li>• none</li> </ul>
SearchResultSelectionChanged	string	<p>Event is triggered when the selected search result changes, including when the first result is selected, the selection is cleared, or the selection changes from one result to another.</p> <p>Augmented properties of the <a href="#">PCCViewer.Event</a> object for this event:</p> <ul style="list-style-type: none"> <li>• none</li> </ul>
RevisionsRetrievalCompleted	string	<p>Event is triggered when the revisions retrieval has completed due to a failure or when the full set of revisions is available.</p> <p>Augmented properties of the <a href="#">PCCViewer.Event</a> object for this event:</p> <ul style="list-style-type: none"> <li>• completedRevisions {Array. &lt;<a href="#">PCCViewer.Revision</a>&gt;} The set of all revisions.</li> </ul>
RevisionsRetrievalFailed	string	<p>Event is triggered when the revisions retrieval has completed due to a failure.</p> <p>Augmented properties of the <a href="#">PCCViewer.Event</a> object for this event:</p> <ul style="list-style-type: none"> <li>• errorMessage {string} A human readable error message indicating why the revisions request failed.</li> </ul>
RevisionsAvailable	string	<p>Event is triggered when the revisions retrieval has completed because the full set of revisions is available.</p> <p>Augmented properties of the <a href="#">PCCViewer.Event</a> object for this event:</p> <ul style="list-style-type: none"> <li>• completedRevisions {Array. &lt;<a href="#">PCCViewer.Revision</a>&gt;} The set of all revisions.</li> </ul>
PartialRevisionsAvailable	string	<p>Event is triggered when a partial set of revisions is available.</p> <p>Augmented properties of the <a href="#">PCCViewer.Event</a> object for this event:</p> <ul style="list-style-type: none"> <li>• partialRevisions {Array.&lt;<a href="#">PCCViewer.Revision</a>&gt;} The new revisions found since the last "PartialRevisionsAvailable" event</li> </ul>

Name	Type	Description
PrintRequested	string	<p>Event is triggered when a document print is requested through <code>PCCViewer.ViewerControl#print</code>.</p> <p>Augmented properties of the <code>PCCViewer.Event</code> object for this event:</p> <ul style="list-style-type: none"> <li>• <code>printRequest</code> {<code>PCCViewer.PrintRequest</code>}</li> </ul>
MarkupLoaded	string	<p>Event is triggered when annotations are loaded from a file. Triggered when annotations are loaded from a file.</p> <p>Augmented properties of the <code>PCCViewer.Event</code> object for this event:</p> <ul style="list-style-type: none"> <li>• <code>name</code> {string} The name of the markup data that was loaded.</li> <li>• <code>loadedMarks</code> {Array.&lt;<code>PCCViewer.Mark</code>&gt;} The marks that were loaded.</li> </ul>
MarkupSaved	string	<p>Event is triggered when annotations save to the server.</p> <p>Augmented properties of the <code>PCCViewer.Event</code> object for this event:</p> <ul style="list-style-type: none"> <li>• <code>name</code> {string} The name of the markup data that was saved.</li> </ul>
MarkChanged	string	<p>Event is triggered when one or more attributes changes on an annotation.</p> <p>Augmented properties of the <code>PCCViewer.Event</code> object for this event:</p> <ul style="list-style-type: none"> <li>• <code>mark</code> {<code>PCCViewer.Mark</code>} The changed annotation object</li> <li>• <code>pageNumber</code> {number} The page number of the annotation.</li> <li>• <code>propertyNames</code> {Array.&lt;string&gt;} The names of properties that have changed.</li> </ul>
MarkCreated	string	<p>Event is triggered when a new annotation is created.</p> <p>Augmented properties of the <code>PCCViewer.Event</code> object for this event:</p> <ul style="list-style-type: none"> <li>• <code>mark</code> {<code>PCCViewer.Mark</code>} The annotation object.</li> <li>• <code>pageNumber</code> {number} The page number of the annotation.</li> <li>• <code>clientX</code> {number} An optional value indicating the absolute window position in the x-axis of the cursor at the end of the selection.</li> </ul>

Name	Type	Description
		<p>A value for this property is available only when using a mouse tool to create the mark. Values will be <code>undefined</code> for marks added using the API.</p> <ul style="list-style-type: none"> <li>• <code>clientY</code> {number} An optional value indicating the absolute window position in the y-axis of the cursor at the end of the selection. A value for this property is available only when using a mouse tool to create the mark. Values will be <code>undefined</code> for marks added using the API.</li> </ul>
MarkRemoved	string	<p>Event is triggered when a annotation is removed from a page.</p> <p>Augmented properties of the <code>PCCViewer.Event</code> object for this event:</p> <ul style="list-style-type: none"> <li>• <code>mark</code> {<code>PCCViewer.Mark</code>} The annotation object.</li> <li>• <code>pageNumber</code> {number} The page number of the annotation.</li> </ul>
MarkReordered	string	<p>Event is triggered when the annotation's stacking order has changed.</p> <p>Augmented properties of the <code>PCCViewer.Event</code> object for this event:</p> <ul style="list-style-type: none"> <li>• <code>mark</code> {<code>PCCViewer.Mark</code>} The annotation object.</li> <li>• <code>pageNumber</code> {number} The page number of the annotation.</li> <li>• <code>index</code> {number} The new stacking order index of the annotation.</li> <li>• <code>oldIndex</code> {number} The old stacking order index of the annotation.</li> </ul>
MarkSelectionChanged	string	<p>Triggered when the set of selected annotations has changed.</p> <p>Augmented properties of the <code>PCCViewer.Event</code> object for this event:</p> <ul style="list-style-type: none"> <li>• <code>pageNumber</code> {number} The page number containing the mark that was selected or deselected.</li> </ul>
MarkMouseEnter	string	<p>Event is triggered when the mouse enters the annotation bounding box.</p> <p>Augmented properties of the <code>PCCViewer.Event</code> object for this event:</p>

Name	Type	Description
		<ul style="list-style-type: none"> <li>• <code>mark</code> {<a href="#">PCCViewer.Mark</a>} The annotation object.</li> <li>• <code>clientX</code> {number} A value indicating the absolute window position in the x-axis of the cursor.</li> <li>• <code>clientY</code> {number} A value indicating the absolute window position in the y-axis of the cursor.</li> </ul>
MarkMouseOver	string	<p>Event is triggered when the mouse moves over the annotation bounding box.</p> <p>Augmented properties of the <a href="#">PCCViewer.Event</a> object for this event:</p> <ul style="list-style-type: none"> <li>• <code>mark</code> {<a href="#">PCCViewer.Mark</a>} The annotation object.</li> <li>• <code>clientX</code> {number} A value indicating the absolute window position in the x-axis of the cursor.</li> <li>• <code>clientY</code> {number} A value indicating the absolute window position in the y-axis of the cursor.</li> </ul>
MarkMouseLeave	string	<p>Event is triggered when the mouse leaves the annotation bounding box.</p> <p>Augmented properties of the <a href="#">PCCViewer.Event</a> object for this event:</p> <ul style="list-style-type: none"> <li>• <code>mark</code> {<a href="#">PCCViewer.Mark</a>} The annotation object.</li> <li>• <code>clientX</code> {number} A value indicating the absolute window position in the x-axis of the cursor.</li> <li>• <code>clientY</code> {number} A value indicating the absolute window position in the y-axis of the cursor.</li> </ul>
CommentsPanelToggled	string	<p>Triggered when the comments panel opens or closes.</p> <p>Augmented properties of the <a href="#">PCCViewer.Event</a> object for this event:</p> <ul style="list-style-type: none"> <li>• <code>isOpen</code> {boolean} Whether the comments panel is open or closed.</li> </ul>
CommentCreated	string	<p>Triggered when a comment is added to a Conversation in the viewer.</p> <p>Augmented properties of the <a href="#">PCCViewer.Event</a> object for this event:</p> <ul style="list-style-type: none"> <li>• <code>conversation</code> {<a href="#">PCCViewer.Conversation</a>} The</li> </ul>

Name	Type	Description
		<p>Conversation containing the changed comment.</p> <ul style="list-style-type: none"> <li>• <code>comment</code> {PCCViewer.Comment} The comment that was added.</li> </ul>
CommentRemoved	string	<p>Triggered when a comment is removed from a Conversation in the viewer.</p> <p>Augmented properties of the <code>PCCViewer.Event</code> object for this event:</p> <ul style="list-style-type: none"> <li>• <code>conversation</code> {PCCViewer.Conversation} The Conversation containing the changed comment.</li> <li>• <code>comment</code> {PCCViewer.Comment} The comment that was removed.</li> </ul>
CommentChanged	string	<p>Triggered when the text of a comment in the viewer has changed.</p> <p>Augmented properties of the <code>PCCViewer.Event</code> object for this event:</p> <ul style="list-style-type: none"> <li>• <code>conversation</code> {PCCViewer.Conversation} The Conversation containing the changed comment.</li> <li>• <code>comment</code> {PCCViewer.Comment} The comment that was modified.</li> </ul>
PageTextReady	string	<p>Triggered when the text of a page has been loaded in the viewer.</p> <p>Augmented properties of the <code>PCCViewer.Event</code> object for this event:</p> <ul style="list-style-type: none"> <li>• <code>pageNumber</code> {number} The page number of the page that text is ready for.</li> </ul>
Click	string	<p>Triggered when a user clicks a page or comment pane in the viewer.</p> <p>Augmented properties of the <code>PCCViewer.Event</code> object for this event:</p> <ul style="list-style-type: none"> <li>• <code>pageNumber</code> {number} The page number of the page that was clicked, or null if none.</li> <li>• <code>targetType</code> {string} A description of the clicked object: "mark", "searchResult", "textSelection", "page", "comments", "documentHyperlink" or null (if the user clicked in an area outside of a page and outside of the comments panel).</li> </ul>

Name	Type	Description
		<ul style="list-style-type: none"> <li>• <code>textSelection</code> {object} The text selection that was clicked, or null if none.</li> <li>• <code>mark</code> {object} - The mark object that was clicked, or null if none.</li> <li>• <code>searchResult</code> {object} - The search result that was clicked, or null if none.</li> <li>• <code>documentHyperlink</code> {<a href="#">PCCViewer.DocumentHyperlink</a>} - The document hyperlinks that was clicked, or null if none.</li> <li>• <code>originalEvent</code> {object} - A copy of the browser event.</li> <li>• <code>clientX</code> {number} - The x window coordinate of the position where the user clicked.</li> <li>• <code>clientY</code> {number} - The y window coordinate of the position where the user clicked.</li> </ul>
PageOpening	string	<p>Triggered when the width and height page attributes are retrieved. Note that this event will fire whenever a page opens, so if a page opens, it will fire, and if the page is scrolled out of view, disposed, and then scrolled back into view, the event will fire again.</p> <p>Augmented properties of the <a href="#">PCCViewer.Event</a> object for this event:</p> <ul style="list-style-type: none"> <li>• <code>width</code> {number} The width in pixels of the page that is opening</li> <li>• <code>height</code> {number} The height in pixels of the page that is opening</li> <li>• <code>pageNumber</code> {number} The 1-based number of the page that is opening</li> </ul>

See: [PCCViewer.ViewerControl#on](#)  
[PCCViewer.ViewerControl#off](#)

(static, readonly) `FitType` :string

The `FitType` enumeration defines fit types known by [PCCViewer.ViewerControl](#). The `ViewerControl` uses a specified fit type to set or update the scaling of the pages displayed in the viewer.

**Note:** This enumeration is a convenience for API developers. Instead of using it, you can pass in the string values of the fit type (enumeration values) directly to the API.

**Type:**

- string

**Properties:**

Name	Type	Description
FullWidth	string	The viewer scales the content to fill the width of the viewer.
ShrinkToWidth	string	The viewer will scale down the content until it fits fully width-wise into view. The page will not be scaled up if it already fits.
ActualSize	string	The viewer shows the content actual size. The content is not scaled.
FullHeight	string	The viewer scales the content to fill the height of the viewer, based on the largest known page height.
FullPage	string	The viewer scales the content to best fit the largest known page in the viewer.

See: [PCCViewer.ViewerControl#fitContent](#)

**Example**

```
// us the enumeration
myViewerControl.fitContent(PCCViewer.FitType.FullWidth);

// or just use the string value
myViewerControl.fitContent("FullWidth");
```

**(static, readonly) MarkHandleMode :string**

The MarkHandleMode enumeration defines mark handle modes known by [PCCViewer.ViewerControl](#). The `ViewerControl` uses a specified mark handle mode to determine how the mark handles are shown.

**Note:** This enumeration is a convenience for API developers. Instead of using it, you can pass in the string values of the mode (enumeration values) directly to the API.

**Type:**

- string

**Properties:**

Name	Type	Description
HideSideHandlesWhenClose	string	All 8 handles (top left, top, top right, left, right, bottom left, bottom, bottom right) are shown for rectangular marks, except when the handles are moved close to each other. If the left handles are close to the right handles, the top and bottom handles are not shown. If the top handles are close to the bottom handles, the left and right handles are not shown.
HideCornerHandlesWhenClose	string	All 8 handles (top left, top, top right, left, right, bottom left, bottom, bottom right) are shown for rectangular marks, except when the handles are moved close to each other. In that case, the corner handles (top left, top right, bottom left, bottom right) are not shown.

See: [PCCViewer.ViewerControl#getMarkHandleMode](#)  
[PCCViewer.ViewerControl#setMarkHandleMode](#)

### Example

```
// use the enumeration
myViewerControl.setMarkHandleMode(PCCViewer.MarkHandleMode

// or just use the string value
myViewerControl.setMarkHandleMode("HideCornerHandlesWhenC
```

(static, readonly) **PageLayout** :string

The PageLayout enumeration defines page layouts known by [PCCViewer.ViewerControl](#). The [ViewerControl](#) uses a specified page layout to set or update the placement or arrangement of the pages in the viewer.

**Note:** This enumeration is a convenience for API developers. Instead of using it, you can pass in the string values of the page layout (enumeration values) directly to the API.

### Type:

- string

### Properties:

Name	Type	Description
Horizontal	string	Pages are displayed as a single horizontal row and a horizontal scroll bar is displayed to bring into view the pages that are not in view.
Vertical	string	Pages are displayed as a single vertical column and a vertical scroll bar is

Name	Type	Description
		displayed to bring into view the pages that are not in view.

See: [PCCViewer.ViewerControl#pageLayout](#)

### Example

```
// use the enumeration
myViewerControl.setPageLayout(PCCViewer.PageLayout.Horizontal);

// or just use the string value
myViewerControl.setPageLayout("Horizontal");
```

(static, readonly) **RedactionViewMode** :string

The **RedactionViewMode** enumeration defines redaction view modes known by [PCCViewer.ViewerControl](#). The **ViewerControl** uses a specified redaction view mode to set visibility of the text underneath the redaction rectangle marks that are opaque.

**Note:** This enumeration is a convenience for API developers. Instead of using it, you can pass in the string values of the view mode (enumeration values) directly to the API.

### Type:

- string

### Properties:

Name	Type	Description
Draft	string	The viewer displays the document content underneath the redaction rectangles in the document.
Normal	string	The viewer hides the document content underneath the redaction rectangles.

See: [PCCViewer.ViewerControl#getRedactionViewMode](#)  
[PCCViewer.ViewerControl#setRedactionViewMode](#)

### Example

```
// use the enumeration
myViewerControl.setRedactionViewMode(PCCViewer.ViewMode.Draft);

// or just use the string value
```

```
myViewerControl.setRedactionViewMode("Draft");
```

**(static, readonly) ScaleTrigger :string**

The `ScaleTrigger` enumeration defines actions known to `PCCViewer.ViewerControl` that alter page scaling.

**Note:** This enumeration is for convenience for API developers. Instead of using this enumeration, you can pass string values of the `eventType` (enumeration values)

**Type:**

- string

**Properties:**

Name	Type	Description
Pinch	string	
Zoom	string	
Fit	string	
ViewMode	string	

**Example**

```
// use the enumeration
ev.trigger === PCCViewer.ScaleTrigger.Pinch

// or just use the string value
ev.trigger === "Pinch"
```

**(static, readonly) ViewMode :string**

The `ViewMode` enumeration defines view modes known by `PCCViewer.ViewerControl`. The `ViewerControl` uses a specified view mode to set or update how documents that contain different sized pages are displayed in the viewer.

**Note:** This enumeration is a convenience for API developers. Instead of using it, you can pass in the string values of the view mode (enumeration values) directly to the API.

**Type:**

- string

**Properties:**

Name	Type	Description
Document	string	The viewer maintains the relative size of each page when displaying a document. For example, if page 2 is smaller than page 1, it will appear smaller.
EqualWidthPages	string	Deprecated since v10.0 (use the "EqualFitPages" enumeration value instead).
SinglePage	string	The viewer displays a single page at a time. Each page is scaled to fit within a view box, which is the initial size of the viewer and increases in size when zooming in (and decreases in size when zooming out). After the viewer initializes, the view mode may not be changed to or from SinglePage view mode (an Error will be thrown in this case).
EqualFitPages	string	The viewer scales each page so that their width is the same, when using vertical page layout. For example, if page 2 is smaller than page 1, it will be scaled larger so that its width is equal to the width of page 1. If using horizontal page layout, the viewer scales each page so that their height is the same.

See: [PCCViewer.ViewerControl#getViewMode](#)  
[PCCViewer.ViewerControl#setViewMode](#)

### Example

```
// use the enumeration  
myViewerControl.setViewMode(PCCViewer.ViewMode.EqualFitPages);  
  
// or just use the string value  
myViewerControl.setViewMode("EqualFitPages");
```

Documentation generated by [JSDoc 3.3.3](#) on Wed Jan 29 2020 07:58:21 GMT-0500 (Eastern Standard Time)

## Namespace: Signatures

### Namespace: Signatures

#### PCCViewer. Signatures

An instance of [PCCViewer.ObservableCollection](#). This object is a common management utility used to keep track of the currently known signatures.

See: [PCCViewer.ObservableCollection](#) for methods and events available on this collection.

## Members

### (inner) FreehandSignature

A plain object convention describing a freehand drawn signature.

#### Properties:

Name	Type	Attributes	Description
type	string		Describes the type of data in this signature. For FreehandSignature, this value will always be <code>path</code> .
path	string		The path data of the signature.
width	number		The absolute width of the path data.
height	number		The absolute height of the path data.
category	string   undefined	<optional>	The category of this signature. See <code>signatureCategories</code> in <a href="#">external:jQuery.fn~Options</a> for more information.

### (inner) TextSignature

A plain object convention describing a text based signature.

#### Properties:

Name	Type	Attributes	Description
type	string		Describes the type of data in this signature. For TextSignature, this value will always be <code>text</code> .
text	string		The text contents of the signature.
category	string   undefined	<optional>	The category of this signature. See <code>signatureCategories</code> in <a href="#">external:jQuery.fn~Options</a> for more information.

## Namespace: Util

### Namespace: Util

#### PCCViewer. Util

This object provides some common helper functions.

#### Methods

**(static) calculateNonOverlappingSelections(selections, backgroundColor) → {Array.<selection>}**

This method takes several selection objects -- ranges of start indices and lengths -- and determines if and split overlapping ranges into separate selections objects. It will also interpret the new color in the overlapping regions using [PCCViewer.Util.layerColors](#). The non-overlapping selections from this function should be used when highlighting text inside marks to ensure the best display. See [PCCViewer.Mark#highlightText](#).

#### Parameters:

Name	Type	Description
selections	Array. <Object>   Object	An array of objects or a single object that defines a highlight. Each object has the following properties: <ul style="list-style-type: none"> <li>• startIndex {number} - required               <ul style="list-style-type: none"> <li>◦ The start index of the selection, in a 0-based index of string characters.</li> <li>◦ The valid range is <code>startIndex &gt;= 0</code>.</li> </ul> </li> <li>• length {number} - required               <ul style="list-style-type: none"> <li>◦ The length of the selection, in characters.</li> <li>◦ The valid range is <code>length &gt; 0</code>.</li> </ul> </li> <li>• color {string} - required               <ul style="list-style-type: none"> <li>◦ Specifies the Hexadecimal color for the selection.</li> <li>◦ Valid values are any 7-character string representing a color. The first letter must be a "#" symbol and the other six characters must be hexadecimal digits representing the red, green, and blue portions of the color.</li> </ul> </li> <li>• opacity {number} - required               <ul style="list-style-type: none"> <li>◦ Specifies the opacity of the selection.</li> <li>◦ Valid values are from 0 to 255 (inclusive).</li> </ul> </li> </ul>
backgroundColor	string	A valid 7-character Hexadecimal color string. The first letter must

Name	Type	Description
		be a "#" symbol and the other six characters must be hexadecimal digits representing the red, green, and blue portions of the color.

See: [PCCViewer.Mark#highlightText](#)  
[PCCViewer.Util.layerColors](#)

**Throws:**

- If any of the selection objects have an invalid `startIndex` number, or the value is undefined.  
Type  
Error
- If any of the selection objects have an invalid `length` number, or the value is undefined.  
Type  
Error
- If any of the selection objects have an invalid `color` Hex string, or the value is undefined.  
Type  
Error
- If any of the selection objects have an invalid `opacity` number, or the value is undefined.  
Type  
Error
- If the `backgroundColor` argument is not a valid Hex string, or the value is undefined.  
Type  
Error

**Returns:**

A collection of non-overlapping selection objects, representing the same selections that were passed into the function.

Type  
Array.<selection>

`(static) convertPageRangeToArray(range, optionsopt) → {Array.<number>}`

Converts the supplied page range to an array, where each element in the array is a page number. The returned array will be sorted ascending by page number and will not contain duplicates.

**Parameters:**

Name	Type	Attributes	Description																				
range	string		<p>A string specifying page numbers or ranges.</p> <p>Valid values are any string using this format (specified using EBNF):</p> <pre> range      = "all"   pageRange; pageRange  = pageNumber, [",", range]               subRange, [",", range]; pageNumber = naturalNumber; subRange   = pageNumber, "-", pageNumber;                     </pre> <p>For example: "all", "1,2,3", and "1, 5-10" are all valid range.</p>																				
options	object	<optional>	<p>An object specifying validation options.</p> <p><b>Properties</b></p> <table border="1"> <thead> <tr> <th>Name</th> <th>Type</th> <th>Attributes</th> <th>Default</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>lowerLimit</td> <td>number</td> <td>&lt;optional&gt;</td> <td>1</td> <td>the lower limit (inclusive) of the range</td> </tr> <tr> <td>upperLimit</td> <td>number</td> <td>&lt;optional&gt;</td> <td>Number.MAX_VALUE</td> <td>the upper limit (inclusive) of the range</td> </tr> <tr> <td>allowEmpty</td> <td>boolean</td> <td>&lt;optional&gt;</td> <td>false</td> <td>Indicates that an empty range is valid</td> </tr> </tbody> </table>	Name	Type	Attributes	Default	Description	lowerLimit	number	<optional>	1	the lower limit (inclusive) of the range	upperLimit	number	<optional>	Number.MAX_VALUE	the upper limit (inclusive) of the range	allowEmpty	boolean	<optional>	false	Indicates that an empty range is valid
Name	Type	Attributes	Default	Description																			
lowerLimit	number	<optional>	1	the lower limit (inclusive) of the range																			
upperLimit	number	<optional>	Number.MAX_VALUE	the upper limit (inclusive) of the range																			
allowEmpty	boolean	<optional>	false	Indicates that an empty range is valid																			

See: [PCCViewer.Util.validatePageRange](#)

**Throws:**

- If pageRange does not conform to the supported format.

Type  
Error

- If pageRange specifies a range that is not within the bounds of options.lowerLimit and options.upperLimit.

Type  
Error

**Returns:**

An array containing an element for each page number specified in the range.

Type  
Array.<number>

**Example**

```
PCCViewer.Util.convertPageRangeToArray("1, 3-5"); //
returns [1, 3, 4, 5]

PCCViewer.Util.convertPageRangeToArray("1, 3-5", {
  lowerLimit: 1,
  upperLimit: 6
}); // returns [1, 3, 4, 5]

PCCViewer.Util.convertPageRangeToArray("1, 3-100", {
  lowerLimit: 1,
  upperLimit: 6
}); // throws because the range goes beyond the upper
limit
```

**(static) layerColors(colors, backgroundColor) → {string}**

This method takes an ordered list of colored layers, and calculates the flat color resulting from stacking all the layers.

*Note: this stacking order calculation uses the W3C specification for simple alpha compositing, and is therefore not a complete color mixing solution. Instead, it calculates RGB color composition to browser specification.*

**Parameters:**

Name	Type	Description
colors	Array. <Object>   Object	<p>An array of objects or a single object that defines a color layer. Note that the first element in the array will be the topmost layer in the stacking order, and the last element will be the bottom-most layer.</p> <p>Each object has the following properties:</p> <ul style="list-style-type: none"> <li>• color {string} - required <ul style="list-style-type: none"> <li>◦ Specifies the Hexadecimal color for the highlight.</li> <li>◦ Valid values are any 7-character string representing a color. The first letter must be a "#" symbol and the other six characters must be hexadecimal digits representing the red, green, and blue portions of the color.</li> </ul> </li> <li>• opacity {number} - required <ul style="list-style-type: none"> <li>◦ Specifies the opacity of the highlight.</li> <li>◦ Valid values are from 0 to 255 (inclusive).</li> </ul> </li> </ul>
backgroundColor	string	A valid 7-character Hexadecimal color string. The first letter must be a "#" symbol and the other six characters must be hexadecimal digits representing the red, green, and blue portions of the color.

**Throws:**

- If any of the color objects have an invalid `color` Hex string, or the value is undefined.

Type  
Error

- If any of the color objects have an invalid `opacity` number, or the value is undefined.

Type  
Error

- If the `backgroundColor` argument is not a valid Hex string, or the value is undefined.

Type  
Error

**Returns:**

The resulting flat color produced by stacking all of the layers on top of the background color. This value will be a 7-character Hexadecimal color.

Type

string

`(static) save(filename, stringValue)`

Triggers file saving functionality with data generated on the client side. This method handles browser-specific differences in file generation. As such, it may have slightly different behavior in the various browsers. The end result provides a common interface for triggering a file save.

**Parameters:**

Name	Type	Description
filename	string	The desired name of the output file. This will be used as the name or suggested name in browsers that support it.
stringValue	string	The data, in string format, to be written to the file.

`(static) validatePageRange(range, optionsopt) → {boolean}`

Determines whether the range string is a valid page range of the format supported by the viewer. It will optionally validate that the range is within a specified set of limits.

**Parameters:**

Name	Type	Attributes	Description															
range	string		<p>A string specifying page numbers or ranges.</p> <p>Valid values are any string using this format (specified using EBNF):</p> <pre> range      = "all"   pageRange; pageRange = pageNumber, [",", range]              subRange, [",", range]; pageNumber = naturalNumber; subRange   = pageNumber, "-", pageNumber; </pre> <p>For example: "all", "1,2,3", and "1, 5-10" are all valid range</p>															
options	object	<optional>	<p>An object specifying validation options.</p> <p><b>Properties</b></p> <table border="1"> <thead> <tr> <th>Name</th> <th>Type</th> <th>Attributes</th> <th>Default</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>lowerLimit</td> <td>number</td> <td>&lt;optional&gt;</td> <td>1</td> <td>the lower limit (inclusive) of the range</td> </tr> <tr> <td>upperLimit</td> <td>number</td> <td>&lt;optional&gt;</td> <td>Number.MAX_VALUE</td> <td>the upper limit (exclusive) of the range</td> </tr> </tbody> </table>	Name	Type	Attributes	Default	Description	lowerLimit	number	<optional>	1	the lower limit (inclusive) of the range	upperLimit	number	<optional>	Number.MAX_VALUE	the upper limit (exclusive) of the range
Name	Type	Attributes	Default	Description														
lowerLimit	number	<optional>	1	the lower limit (inclusive) of the range														
upperLimit	number	<optional>	Number.MAX_VALUE	the upper limit (exclusive) of the range														

Name	Type	Attributes	Description
			limit (incl of th rang
		allowEmpty	boolean <optional> false
			Indic that emp rang is va

See: [PCCViewer.Util.convertPageRangeToArray](#)

#### Returns:

A value indicating whether the specified page range is valid.

#### Type

boolean

#### Example

```
PCCViewer.Util.validatePageRange("1, 3-5", {
    lowerLimit: 1,
    upperLimit: 6
}); // returns true

PCCViewer.Util.validatePageRange("1, 3-5, 100", {
    lowerLimit: 1,
    upperLimit: 6
}); // returns false

PCCViewer.Util.validatePageRange("this is not a valid
range", {
    lowerLimit: 1,
    upperLimit: 6
}); // returns false

PCCViewer.Util.validatePageRange("3", {
    lowerLimit: 1,
    upperLimit: myViewerControl.getPageCount() //
    assuming myViewerControl is a PCCViewer.ViewerControl
}); // returns true if the document has at least 3
pages

PCCViewer.Util.validatePageRange(""); // returns false
```

```
PCCViewer.Util.validatePageRange("", {
  allowEmpty: true
}); // returns true
```

Documentation generated by *JSDoc 3.3.3* on Wed Jan 29 2020 07:58:21 GMT-0500 (Eastern Standard Time)

## E-Signature Controls

### Overview

This section contains the following information:

- [External: jQuery.fn](#)
- [Class: ESigner](#)
- [Class: TemplateDesigner](#)
- [Module: button-set](#)
- [Module: checkbox-collection](#)
- [Module: data-persist](#)
- [Module: date-picker](#)
- [Module: download-signed-form-trigger](#)
- [Module: download-signed-form](#)
- [Module: dropdown](#)
- [Module: event-store](#)
- [Module: field-edit](#)
- [Module: field-list](#)
- [Module: fill-checklist](#)
- [Module: fill-form-controller](#)
- [Module: fill-main-toolbar](#)
- [Module: fill-progress](#)
- [Module: form-controller](#)
- [Module: form-extraction](#)
- [Module: form-summary](#)
- [Module: form-tools](#)
- [Module: global-settings-menu](#)
- [Module: global-settings-trigger](#)
- [Module: keyboard-controller](#)
- [Module: multiple-selection](#)
- [Module: notification](#)
- [Module: page-navigation](#)
- [Module: profile-manager](#)
- [Module: state-store](#)
- [Module: svg-icons](#)
- [Module: template-io](#)

- [Module: template-manager](#)
- [Module: template-name-header](#)
- [Module: text-input](#)
- [Module: zoom-fit](#)

## External: jQuery.fn

### External: jQuery.fn

#### jQuery.fn

The jQuery plugin namespace.

See: [jQuery Plugins](#)

#### Members

(inner) `configParameters`

#### Properties:

Name	Type	Attributes	Default	Description
documentID	string			The viewin to use ir Viewer <b>This val require</b>
templateDocumentId	string	<optional>		This par. be used creating in order the temp with a d When o form, th this para used to docume with the formDe <b>This val</b>

Name	Type	Attributes	Default	Description
				<b>required</b> <b>Templat</b>
formDefinitionId	string	<optional>		The formDe to be us opening Specifyi in the <b>Templat</b> will caus the spec edition, the valu cause it new forr <b>This val required</b> <b>ESigner</b>
formRoleId	string	<optional>		The for be used opening Specifyi in the <b>ES</b> cause it create fi to the g role.
signatureDateFormat	external:"jQuery.fn"~DateFormat	<optional>	"MM/DD/YYYY"	Specifies format t when sa templat e-signer templat date sig the date stored in templat
language	object			Specifies languag the text Use this localize  This pro be set to contents "viewer-

Name	Type	Attributes	Default	Description
				assets/le US.json" signer a templat ship wit version languag viewer h set of la strings i languag <b>This val require</b>
imageHandlerUrl	string	<optional>	"../pcc.ashx"	The end web tier support
onViewerCreation	function	<optional>		This fun available ESigner Templat will trig viewer's ready to use one inside th will be a a <b>Templ</b> object d which vi you are

**(inner) DateFormat :String**

The format to use when displaying a date. The table below outlines the supported date format tokens and provides example output.

	Token	Output
Month	M	1 2 ... 11 12
	MM	01 02 ... 11 12
Day	D	1 2 ... 30 31
	DD	01 02 ... 30 31
Year	YY	70 71 ... 29 30

	Token	Output
	YYYY	1970 1971 ... 2029 2030
Hour	H	0 1 ... 22 23
	HH	00 01 ... 22 23
	h	1 2 ... 11 12
	hh	01 02 ... 11 12
Minute	m	0 1 ... 58 59
	mm	00 01 ... 58 59
AM/PM	A	AM PM
	a	am pm

**Type:**

- String

**Methods****pccESigner(options)**

A jQuery plugin to initialize a new [ESigner](#) viewer.

**Parameters:**

Name	Type	Description
options	<a href="#">external:"jQuery.fn"~configParameters</a>	The configuration options used to initialize the viewer.

See: [ESigner](#) for an example.

**pccTemplateDesigner(options)**

A jQuery plugin to initialize a new [TemplateDesigner](#) viewer.

**Parameters:**

Name	Type	Description
options	<a href="#">external:"jQuery.fn"~configParameters</a>	The configuration options used to initialize the viewer.

See: [TemplateDesigner](#) for an example.

---

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## Class: ESigner

### Class: ESigner

#### (protected) ESigner()

#### (protected) new ESigner()

The e-signer viewer constructor.

#### **Requires:**

- [module:event-store](#)
- [module:state-store](#)
- [module:page-navigation](#)
- [module:zoom-fit](#)
- [module:template-io](#)
- [module:fill-form-controller](#)
- [module:template-name-header](#)
- [module:svg-icons](#)
- [module:data-persist](#)
- [module:profile-manager](#)
- [module:fill-main-toolbar](#)
- [module:fill-checklist](#)
- [module:fill-progress](#)
- [module:download-signed-form-trigger](#)
- [module:download-signed-form](#)
- [module:date-picker](#)
- [module:keyboard-controller](#)
- [module:notification](#)
- [module:text-input](#)
- [module:dropdown](#)
- [module:button-set](#)
- [module:checkbox-collection](#)

#### **Example**

```
var viewer = $('#pcc-viewer').pccESigner(options);
```

## Requires

- `module:event-store`
- `module:state-store`
- `module:page-navigation`
- `module:zoom-fit`
- `module:template-io`
- `module:fill-form-controller`
- `module:template-name-header`
- `module:svg-icons`
- `module:data-persist`
- `module:profile-manager`
- `module:fill-main-toolbar`
- `module:fill-checklist`
- `module:fill-progress`
- `module:download-signed-form-trigger`
- `module:download-signed-form`
- `module:date-picker`
- `module:keyboard-controller`
- `module:notification`
- `module:text-input`
- `module:dropdown`
- `module:button-set`
- `module:checkbox-collection`

## Members

`checklist` : `module:fill-checklist`

### Type:

- `module:fill-checklist`

`dataPersist` : `module:data-persist`

### Type:

- `module:data-persist`

`datePicker` : `module:date-picker`

### Type:

- `module:date-picker`

downloadSignedForm :[module:download-signed-form](#)

**Type:**

- [module:download-signed-form](#)

downloadSignedFormTrigger :[module:download-signed-form-trigger](#)

**Type:**

- [module:download-signed-form-trigger](#)

eventStore :[module:event-store](#)

**Type:**

- [module:event-store](#)

fillProgress :[module:fill-progress](#)

**Type:**

- [module:fill-progress](#)

formController :[module:form-controller](#)

**Type:**

- [module:form-controller](#)

formSummary :[module:form-summary](#)

**Type:**

- [module:form-summary](#)

keyboardController :[module:keyboard-controller](#)

**Type:**

- [module:keyboard-controller](#)

mainToolBar :[module:fill-main-toolbar](#)

**Type:**

- `module:fill-main-toolbar`

`notification` :`module:notification`

**Type:**

- `module:notification`

`pageNavigation` :`module:page-navigation`

**Type:**

- `module:page-navigation`

`profileManager` :`module:profile-manager`

**Type:**

- `module:profile-manager`

`stateStore` :`module:state-store`

**Type:**

- `module:state-store`

`templateIO` :`module:template-io`

**Type:**

- `module:template-io`

`templateNameHeader` :`module:template-name-header`

**Type:**

- `module:template-name-header`

`zoomFit` :`module:zoom-fit`

**Type:**

- [module:zoom-fit](#)

## Methods

`destroy()`

Destroys the viewer and all modules, and returns the parent DOM element to its original state.

---

*Documentation generated by [JSDoc 3.5.5](#) on Wed Jan 29 2020 10:53:01 GMT-0500 (Eastern Standard Time)*

## Class: TemplateDesigner

### Class: TemplateDesigner

#### **(protected)** `TemplateDesigner()`

**(protected)** `new TemplateDesigner()`

The template designer viewer constructor.

#### **Requires:**

- [module:event-store](#)
- [module:state-store](#)
- [module:form-tools](#)
- [module:page-navigation](#)
- [module:zoom-fit](#)
- [module:form-controller](#)
- [module:field-list](#)
- [module:field-edit](#)
- [module:multiple-selection](#)
- [module:notification](#)
- [module:template-io](#)
- [module:template-manager](#)
- [module:svg-icons](#)
- [module:text-input](#)
- [module:dropdown](#)
- [module:button-set](#)
- [module:checkbox-collection](#)

- [module:keyboard-controller](#)

## Example

```
var viewer = $('#pcc-viewer').pccTemplateDesigner(options);
```

## Requires

- [module:event-store](#)
- [module:state-store](#)
- [module:form-tools](#)
- [module:page-navigation](#)
- [module:zoom-fit](#)
- [module:form-controller](#)
- [module:field-list](#)
- [module:field-edit](#)
- [module:multiple-selection](#)
- [module:notification](#)
- [module:template-io](#)
- [module:template-manager](#)
- [module:svg-icons](#)
- [module:text-input](#)
- [module:dropdown](#)
- [module:button-set](#)
- [module:checkbox-collection](#)
- [module:keyboard-controller](#)

## Members

**eventStore** : [module:event-store](#)

### Type:

- [module:event-store](#)

**fieldEdit** : [module:field-edit](#)

### Type:

- [module:field-edit](#)

**fieldList** : [module:field-list](#)

### Type:

- `module:field-list`

`formController` :`module:form-controller`

**Type:**

- `module:form-controller`

`formExtraction` :`module:form-extraction`

**Type:**

- `module:form-extraction`

`formTools` :`module:form-tools`

**Type:**

- `module:form-tools`

`globalSettingsMenu` :`module:global-settings-menu`

**Type:**

- `module:global-settings-menu`

`globalSettingsTrigger` :`module:global-settings-trigger`

**Type:**

- `module:global-settings-trigger`

`keyboardController` :`module:keyboard-controller`

**Type:**

- `module:keyboard-controller`

`multipleSelection` :`module:multiple-selection`

**Type:**

- `module:multiple-selection`

notification :[module:notification](#)

**Type:**

- [module:notification](#)

pageNavigation :[module:page-navigation](#)

**Type:**

- [module:page-navigation](#)

stateStore :[module:state-store](#)

**Type:**

- [module:state-store](#)

templateIO :[module:template-io](#)

**Type:**

- [module:template-io](#)

templateManager :[module:template-manager](#)

**Type:**

- [module:template-manager](#)

zoomFit :[module:zoom-fit](#)

**Type:**

- [module:zoom-fit](#)

## Methods

`destroy()`

Destroys the viewer and all modules, and returns the parent DOM element to its original state.

Documentation generated by *JSDoc 3.5.5* on Wed Jan 29 2020 10:53:01 GMT-0500 (Eastern Standard Time)

## Module: button-set

### Module: button-set

A set of UI buttons that interact as one group. The Button Set supports two modes: toggling the buttons between the on and off state, as well as toggling through an arbitrary list of ordered values.

In the on/off mode, each button will be turned to on when clicked. When one button is selected, it turns all other buttons that are in the on state to off.

In the arbitrary toggle mode, each button will cycle through its own toggle values. When one button is selected, it will remove the active toggle value from any other button that currently has one. Those buttons will be reset, and begin the cycle at the first toggle value the next time they are clicked.

#### Examples

```
<!-- In this example, the buttons toggle on and off -->

<!--The following HTML includes a couple button set
components with the same data-pcc-name
so that they are included in the same set. An element
is specified as a button set by setting
the data-pcc-component attribute to "buttonset".-->
<button data-pcc-component="buttonset"
        data-pcc-name="mousetools"
        data-pcc-value="SignatureTemplate"
        class="pcc-button">
  <span data-pcc-icon="pcc-icon-signature"></span>
  <label>Signature</label>
</button>
<button data-pcc-component="buttonset"
        data-pcc-name="mousetools"
        data-pcc-value="InitialsTemplate"
        class="pcc-button">
  <span data-pcc-icon="pcc-icon-initials"></span>
  <label>Initials</label>
</button>

<!-- In this example, the buttons toggle among
arbitrary values -->
<button data-pcc-component="buttonset"
        data-pcc-name="mousetools"
        data-pcc-value="SignatureTemplate"
```

```

        data-pcc-toggle="on,sticky"
        class="pcc-button">
    <span data-pcc-icon="pcc-icon-signature"></span>
    <label>Signature</label>
</button>

// Require the button set module.
var ButtonSet = require('../elements/button-set.js');
var mySet;

// Pass each button set element to the button set
module to initialize each button.
// parent is the element that contains the button set
elements.
$(parent).find('[data-pcc-
component="buttonset"]').each(function() {
    // ButtonSet will return the entire set of buttons
that have been added
    // using the same 'data-pcc-name' value
    mySet = ButtonSet(this);
});

mySet.on('change', function(ev, data) {
    // data about the buttonset
    console.log(data);
});

```

**(require("button-set"))(e1) → {HTMLElement}**

Parses and initializes a button set.

**Parameters:**

Name	Type	Description
e1	HTMLElement	The parent element in which to parse for the button set component.

**Returns:**

The parsed button set element.

Type

HTMLElement

**Members**

**(static) pccElements :Object**

The button elements in the button set.

**Type:**

- Object

`off :module:event-store~off`

Removes an event handler from the button set.

**Type:**

- module:event-store~off

`on :module:event-store~on`

Registers an event handler on the button set.

**Type:**

- module:event-store~on

## Methods

`destroy()`

Destroys the button set component.

`value(val) → {Object}`

Gets or sets the value of the button set. The values are specified in the HTML for each button using the data-pcc-value attribute.

**Parameters:**

Name	Type	Description
val	string	The value of the button to make active.

**Returns:**

The button set element if a value is passed. Otherwise, the current value is returned.

Type

Object

---

Documentation generated by *JSDoc 3.5.5* on Wed Jan 29 2020 10:53:01 GMT-0500 (Eastern Standard Time)

## Module: checkbox-collection

### Module: checkbox-collection

A set of UI checkboxes that interact as one group.

#### Examples

```
<!--The following HTML includes a checkbox collection
component containing a single checkbox.
An element is specified as a checkbox collection by
setting the data-pcc-component attribute
to "checkboxcollection".-->
<span data-pcc-component="checkboxcollection"
      data-pcc-name="required"
      data-pcc-value="required"
      data-pcc-label="Required"
      class="pcc-margin"></span>
```

```
// Require the checkbox collection module.
var CheckboxCollection = require('../elements/checkbox-
collection.js');

// Pass each checkbox collection element to the
checkbox collection module to initialize each checkbox.
// parent is the element that contains the checkbox
collection element.
$(parent).find('[data-pcc-
component="checkboxcollection"]').each(function() {
    CheckboxCollection(this);
});
```

`(require("checkbox-collection"))(el) → {HTMLElement}`

Parses and initializes a checkbox collection.

#### Parameters:

Name	Type	Description
e1	HTMLElement	The parent element in which to parse for the checkbox collection component.

**Returns:**

The parsed checkbox collection element.

Type

HTMLElement

**Members**

`(static) pccElements :Object`

The checkbox elements in the checkbox collection.

**Type:**

- Object

`off :module:event-store~off`

Removes an event handler from the checkbox collection.

**Type:**

- module:event-store~off

`on :module:event-store~on`

Registers an event handler on the checkbox collection.

**Type:**

- module:event-store~on

**Methods**

`destroy()`

Destroys the checkbox collection component.

`value(val) -> {Object}`

Gets or sets the values of the checkbox collection. The values are specified in the HTML for each checkbox using the data-pcc-value attribute.

**Parameters:**

Name	Type	Description
val	Array	An array of values to check the corresponding checkbox elements.

**Returns:**

The checkbox collection element if a value is passed. Otherwise, an array of the values that correspond to the currently checked checkboxes is returned.

Type  
Object

---

Documentation generated by *JSDoc 3.5.5* on Wed Jan 29 2020 10:53:01 GMT-0500 (Eastern Standard Time)

## Module: data-persist

### Module: data-persist

Provides the ability to store state data in the browser's local storage.

**Note: this module is an example of a persistence module. It presents potential security concerns, in that it may allow users to store sensitive information in non-secure browser storage. Please make sure this module fits your security model before using it in production.**

```
(require("data-persist"))(viewer)
```

Created the data persistence module.

**Parameters:**

Name	Type	Description
viewer	Core	The core viewer to which the module will attach.

**Listens to Events:**

- `module:event-store#event:PersistSignatures`

**Example**

```
var DataPersist = require('data-persist.js');

// a generic Viewer constructor
var myDataPersist = DataPersist(viewer);
```

**Methods****destroy()**

Destroys the module.

---

Documentation generated by *JSDoc 3.5.5* on Wed Jan 29 2020 10:53:01 GMT-0500 (Eastern Standard Time)

## Module: date-picker

### Module: date-picker

Provides a date picker UI.

**Listens to Events:**

- `module:event-store#event:CreateDate`
- `module:event-store#event:FormatDate`
- `module:event-store#event:StateModified` for "FocusField" state.

**Example**

```
var DatePicker = require('date-picker.js');

// a generic Viewer constructor
var myDatePicker = DatePicker(this, {
  dateFormat: 'MM/DD/YYYY'
});
```

`(require("date-picker"))(viewer, options)`

Created the template name header module.

**Parameters:**

Name	Type	Description						
viewer	Core	The core viewer to which the module will attach.						
options	Object	An options object.  <b>Properties</b> <table border="1"><thead><tr><th>Name</th><th>Type</th><th>Description</th></tr></thead><tbody><tr><td>dateFormat</td><td>external:"jQuery.fn"~DateFormat</td><td>The format string to use when providing the selected date.</td></tr></tbody></table>	Name	Type	Description	dateFormat	external:"jQuery.fn"~DateFormat	The format string to use when providing the selected date.
Name	Type	Description						
dateFormat	external:"jQuery.fn"~DateFormat	The format string to use when providing the selected date.						

## Methods

`destroy()`

Destroys the module.

---

Documentation generated by *JSDoc 3.5.5* on Wed Jan 29 2020 10:53:01 GMT-0500 (Eastern Standard Time)

# Module: download-signed-form-trigger

## Module: download-signed-form-trigger

Triggers the event for downloading a signed form.

This UI of this module is a button that the user can click to start burning the fields into the form and then download the burned document. This button will be disabled until the user has filled all of the required fields on the document.

**Fires:**

- `module:event-store#event:StartBurningForm` - This event is fired to indicate that the user wants to begin burning the document and download the burned document.

**Listens to Events:**

- `module:event-store#event:StateModified` for "FieldList" state.

#### Example

```
var DownloadSignedFormTrigger = require('download-
signed-form-trigger.js');

// a generic Viewer constructor
function Viewer(opts) {
  var myDownloadSignedFormTrigger =
  DownloadSignedFormTrigger(this, {
    elem:
  document.getElementById('myDownloadSignedFormTrigger')
  });
}
```

`(require("download-signed-form-trigger"))(viewer, options)`

Creates the download signed form trigger UI module.

#### Parameters:

Name	Type	Description						
viewer	Core	The core viewer to which the module will attach.						
options	Object	An options object. <b>Properties</b> <table border="1"> <thead> <tr> <th>Name</th> <th>Type</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>elem</td> <td>HTMLElement</td> <td>The element in which the module UI will be inserted.</td> </tr> </tbody> </table>	Name	Type	Description	elem	HTMLElement	The element in which the module UI will be inserted.
Name	Type	Description						
elem	HTMLElement	The element in which the module UI will be inserted.						

#### Methods

`destroy()`

Destroys the module.

---

Documentation generated by [JSDoc 3.5.5](#) on Wed Jan 29 2020 10:53:01 GMT-0500 (Eastern Standard Time)

## Module: download-signed-form

## Module: download-signed-form

Manages downloading a signed form.

This UI of this module is a modal dialog box that shows the signature burn-in status, allows the user to cancel the burning and download, and allows the user to download the signed form.

```
(require("download-signed-form"))(viewer, options)
```

Creates the download signed form module.

### Parameters:

Name	Type	Description						
viewer	Core	The core viewer to which the module will attach.						
options	Object	An options object.  <b>Properties</b> <table border="1"><thead><tr><th>Name</th><th>Type</th><th>Description</th></tr></thead><tbody><tr><td>elem</td><td>HTMLElement</td><td>The element in which the module UI will be inserted.</td></tr></tbody></table>	Name	Type	Description	elem	HTMLElement	The element in which the module UI will be inserted.
Name	Type	Description						
elem	HTMLElement	The element in which the module UI will be inserted.						

### Listens to Events:

- `module:event-store#event:BurnForm` - The download signed form dialog will be displayed when this event is triggered.
- `module:event-store#event:DisplayForm` - Gets the form name from this event.

### Example

```
var DownloadSignedForm = require('download-signed-form.js');  
  
// a generic Viewer constructor  
function Viewer(opts) {  
    var myDownloadSignedForm = DownloadSignedForm(this,  
    {  
        elem:  
        document.getElementById('myDownloadSignedForm')  
    });  
}
```

## Methods

`destroy()`

Destroys the module.

---

Documentation generated by *JSDoc 3.5.5* on Wed Jan 29 2020 10:53:01 GMT-0500 (Eastern Standard Time)

## Module: dropdown

### Module: dropdown

A dropdown menu.

#### Examples

```
<!--The following HTML includes a dropdown component.
An element is specified
as a dropdown by setting the data-pcc-component
attribute to "dropdown".
The dropdown options must be included as children
elements, where the
data-pcc-value attribute is used to specify the value
of each option.-->
<div class="pcc-select" data-pcc-component="dropdown"
data-pcc-name="font" data-pcc-default="Arial">
  <div data-pcc-value="Arial">Arial</div>
  <div data-pcc-value="Comic Sans">Comic Sans</div>
  <div data-pcc-value="Courier">Courier</div>
  <div data-pcc-value="Courier New">Courier New</div>
  <div data-pcc-value="Geneva">Geneva</div>
  <div data-pcc-value="Georgia">Georgia</div>
  <div data-pcc-value="Helvetica">Helvetica</div>
  <div data-pcc-value="Times">Times</div>
  <div data-pcc-value="Times New Roman">Times New
Roman</div>
  <div data-pcc-value="Verdana">Verdana</div>
</div>
```

```
// Require the dropdown module.
var Dropdown = require('../elements/dropdown.js');

// Pass each dropdown element to the dropdown module to
initialize each dropdown.
// parent is the element that contains the dropdown
element.
```

```
$(parent).find('[data-pcc-  
component="dropdown"]').each(function() {  
    Dropdown(this);  
});
```

`(require("dropdown"))(e1) → {HTMLElement}`

Parses and initializes a dropdown component.

**Parameters:**

Name	Type	Description
e1	HTMLElement	The parent element in which to parse for the dropdown component.

**Returns:**

The parsed dropdown element.

Type

HTMLElement

## Members

`off :module:event-store~off`

Removes an event handler from the dropdown.

**Type:**

- module:event-store~off

`on :module:event-store~on`

Registers an event handler on the dropdown.

**Type:**

- module:event-store~on

## Methods

`addOption(val, styleopt) → {Object}`

Adds an option to the list of values in the dropdown.

**Parameters:**

Name	Type	Attributes	Description
val	string		The value of the dropdown option.
style	string	<optional>	The style of the dropdown option.

**Returns:**

The dropdown element.

Type  
Object

**destroy()**

Destroys the dropdown component.

**value(val) → {Object}**

Gets or sets the value of the dropdown. The values are specified in the HTML for each dropdown option using the data-pcc-value attribute.

**Parameters:**

Name	Type	Description
val	string	The value of the dropdown option to select.

**Returns:**

The dropdown element if a value is passed. Otherwise, the currently selected value is returned.

Type  
Object

**valueList() → {Array}**

Gets an array of the values of the dropdown options.

**Returns:**

An array of the values of the dropdown options.

Type

Array

---

Documentation generated by *JSDoc 3.5.5* on Wed Jan 29 2020 10:53:01 GMT-0500 (Eastern Standard Time)

## Module: event-store

### Module: event-store

An event API. This event store is used internally by the viewer, and should not need to be initialized outside of that usage.

#### Example

```
var EventStore = require('event-store.js');

// a generic Viewer constructor
function Viewer(opts) {
  // other modules will expect this to be present
  this.eventStore = EventStore(this);
}
```

### Events

#### AccessGlobalSettings

Indicates that the user needs to access the global settings dialog for modifying the various global settings available for the templates.

See: [module:event-store~eventCallback](#)

#### AlignFields

Triggers alignment of the given fields.

#### Properties:

Name	Type	Description
alignment	string	The plane and direction of the alignment operation.
markIds	Array	An array of Mark IDs to align.

See: [module:event-store~eventCallback](#)

### Example

```
viewer.eventStore.trigger('AlignFields', {
  alignment: 'horizontal-left',
  markIds: viewer.viewerControl.getSelectedMarks()
});
```

### BurnForm

Indicates that the user wants to burn the signatures to the form.

See: [module:event-store~eventCallback](#)

### CreateDate

Triggers a user request to select a date.

### Properties:

Name	Type	Attributes	Description															
position	Object		<p>The position to locate the UI, relative to a rectangle on the window.</p> <p><b>Properties</b></p> <table border="1"> <thead> <tr> <th>Name</th> <th>Type</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>x</td> <td>number</td> <td>The x-axis location.</td> </tr> <tr> <td>y</td> <td>number</td> <td>The y-axis location.</td> </tr> <tr> <td>width</td> <td>number</td> <td>The width of the rectangle.</td> </tr> <tr> <td>height</td> <td>number</td> <td>The height of the rectangle.</td> </tr> </tbody> </table>	Name	Type	Description	x	number	The x-axis location.	y	number	The y-axis location.	width	number	The width of the rectangle.	height	number	The height of the rectangle.
Name	Type	Description																
x	number	The x-axis location.																
y	number	The y-axis location.																
width	number	The width of the rectangle.																
height	number	The height of the rectangle.																
onDone	string	<optional>	An event name to trigger, in the style of <code>module:event-store~onDoneCallback</code> . It should provide a date string as the event's <code>data</code> attribute.															

See: [module:event-store~eventCallback](#)  
[module:event-store~onDoneCallback](#)

### CreateSignature

Triggers a user request to apply a signature to a field.

**Properties:**

Name	Type	Attributes	Description
category	string	<optional>	The field type that this signature belongs to. If undefined, no category will be assigned. Known values for this are <code>signature</code> and <code>initials</code> .
signatureType	string	<optional>	The type of signature being created, as represented by the target mark. Possible values are <code>FreehandSignature</code> and <code>TextSignature</code> . When this value is not defined, a good experience would be to allow the user to choose.
onDone	string	<optional>	An event name to trigger, in the style of <code>module:event-store~onDoneCallback</code> . It should provide a signature object as the <code>data</code> attribute with the data returned from <code>PCCViewer.SignatureControl</code> , or undefined to signal that the user cancelled the action.

See: `module:event-store~eventCallback`  
`module:event-store~onDoneCallback`

**DeleteFields**

Triggers deletion of the given fields.

**Properties:**

Name	Type	Description
markIds	Array	An array of Mark IDs to delete.

See: `module:event-store~eventCallback`

**Example**

```
viewer.eventStore.trigger('DeleteFields', {
  markIds: [1, 2, 3]
});
```

**DeselectAllTemplateFields**

Indicates that all previously selected fields are now deselected.

See: `module:event-store~eventCallback`

## DisplayForm

Indicates that a `module:state-store~FormDefinition` is available for displaying on the document.

### Properties:

Name	Type	Description
formDefinition	<code>module:state-store~FormDefinition</code>	Provides the form definition as the data parameter.

See: `module:event-store~eventCallback`

### Example

```
viewer.eventStore.on('DisplayForm', function(ev, formDefinition) {
    // logic to convert the form data to visible marks on the document
    createMarksForFormData(formDefinition.formData);
});
```

## DuplicateFields

Triggers duplication of the given fields.

### Properties:

Name	Type	Description
markIds	Array	An array of Mark IDs to duplicate.

See: `module:event-store~eventCallback`

### Example

```
viewer.eventStore.trigger('DuplicateFields', {
    markIds: [1, 2, 3]
});
```

## FocusChecklistItem

Indicates that an item in the checklist has been focused.

**Properties:**

Name	Type	Attributes	Description
markId	string	<optional>	The ID of the mark that corresponds to the focused checklist item.

See: [module:event-store~eventCallback](#)

**FormatDate**

Triggers a request to format a given date using the default format.

**Properties:**

Name	Type	Attributes	Description
data	Date		The Date object to convert to the signatureDateFormat. This format can be defined in the form definition. If signatureDateFormat is not defined, MM/DD/YYYY is used.
onDone	string	<optional>	An event name to trigger, in the style of <a href="#">module:event-store~onDoneCallback</a> . It should provide a date string as the event's <code>data</code> attribute.

See: [module:state-store~FieldList](#)  
[external:"jQuery.fn"~DateFormat](#)  
[module:event-store~eventCallback](#)  
[module:event-store~onDoneCallback](#)

**FormCopied**

Indicates that the current form has successfully been copied.

See: [module:event-store~eventCallback](#)

**FormLoaded**

Indicates that a form has been loaded from the server.

See: [module:event-store~eventCallback](#)

**KeyCombinationsTriggered**

Indicates that the user pressed the keyboard key combinations.

**Properties:**

Name	Type	Description						
state	string	This should always be defined as the string "KeyCombinationsTriggered".						
stateValue	Object	An object containing data about the key combination.  <b>Properties</b>						
		<table border="1"> <thead> <tr> <th>Name</th> <th>Type</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>keyCombinations</td> <td>string</td> <td>A string property containing keyboard keyCombinations that were pressed by the user.</td> </tr> </tbody> </table>	Name	Type	Description	keyCombinations	string	A string property containing keyboard keyCombinations that were pressed by the user.
Name	Type	Description						
keyCombinations	string	A string property containing keyboard keyCombinations that were pressed by the user.						

See: [module:event-store~eventCallback](#)  
[module:event-store#event:RegisterKeyCombinations](#)

**ManageSignatures**

Triggers a user request to manage signatures in a list.

**Properties:**

Name	Type	Attributes	Description
category	string	<optional>	The field type that this signature belongs to. When defined, only the signatures belonging to that category should be displayed. If undefined, all known signatures should be displayed. Known values for this are <code>signature</code> and <code>initials</code> .
selectedSignature	Object	<optional>	An object, consisting of the signature data (as returned by <code>PCCViewer.SignatureControl</code> ), defining the signature that the user has selected. Unless the user changes the signature, this data should be returned in the <code>onDone</code> event as the signature data.
onDone	string	<optional>	An event name to trigger, in the style of <code>module:event-store~onDoneCallback</code> . It should provide a signature object as the <code>data</code> attribute with the data returned from <code>PCCViewer.SignatureControl</code> , or undefined to signal that the user has removed the selected signature.

See: [module:event-store~eventCallback](#)

module:event-store~onDoneCallback

## MatchSizeFields

Triggers changing width or height depending on direction (horizontal/vertical) of all selected fields to match that dimension of a field, selected first.

### Properties:

Name	Type	Description
markIds	Array	An array of Mark IDs to apply the change to.
direction	string	Determines which dimension (width or height) to change.

See: module:event-store~eventCallback

### Example

```
viewer.eventStore.trigger('MatchSizeFields', {
  markIds: [1, 2, 3],
  direction: 'vertical'
});
```

## ModifyMultipleTemplateFields

Indicates that multiple template fields need to be modified.

### Properties:

Name	Type	Description
markIds	array	An array of currently selected Mark IDs.

See: module:event-store~eventCallback

## ModifyState

Indicates that a module or external code would like to modify a known state value. Generally, a module should not listen to this event. It is handled by StateStore, which will in turn fire [module:event-store#event:StateModified](#), to notify all other modules that a new state value is available.

### Properties:

Name	Type	Attributes	Default	Description
state	string			The name of the state being modified.
stateValue	*			The new value of the state.
operation	string	<optional>	"extend"	Specifies how the modification should occur. By default, any modification will extend the current state, merging any additional values from <code>stateValue</code> into the current state that is stored in the State Store. You can also specify "replace" as the operation value, causing the old state to be discarded, and the exact value of <code>stateValue</code> to become the current state.

See: [module:state-store](#)  
[module:event-store#event:StateModified](#)  
[module:event-store~eventCallback](#)

### ModifyTemplateField

Indicates that a template field needs to be modified.

#### Properties:

Name	Type	Description
markId	string	The ID of the mark that corresponds to the template field.

See: [module:event-store~eventCallback](#)

### Notify

Triggers a notification.

#### Properties:

Name	Type	Attributes	Default	Description
type	String			The type of notification, either "error" or "success".
message	String			The message of the notification.
displayTime	Number	<optional>	0	The amount of time (in milliseconds) to display the notification. If a positive number is not specified, then the notification is displayed until the user closes it.

See: [module:event-store~eventCallback](#)

### Example

```
viewer.eventStore.trigger('Notify', {
  type: 'error',
  message: 'An error occurred.'
});
```

### PersistSignatures

Triggers a manual save of the signatures. It will save all signatures currently in the `PCCViewer.Signatures` collection.

See: [module:event-store~eventCallback](#)

### RegisterKeyCombinations

Requests registration of a new keyboard key combination.

### Properties:

Name	Type	Description						
state	string	This should always be defined as the string "KeyCombinations".						
stateValue	Object	An object containing data about the key combination.  <b>Properties</b>						
		<table border="1"> <thead> <tr> <th>Name</th> <th>Type</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>keyCombinations</td> <td>string</td> <td>Keyboard key combinations when pressed would trigger <a href="#">KeyCombinationsTriggered</a> event.</td> </tr> </tbody> </table>	Name	Type	Description	keyCombinations	string	Keyboard key combinations when pressed would trigger <a href="#">KeyCombinationsTriggered</a> event.
Name	Type	Description						
keyCombinations	string	Keyboard key combinations when pressed would trigger <a href="#">KeyCombinationsTriggered</a> event.						

See: [module:event-store~eventCallback](#)  
[module:event-store#event:KeyCombinationsTriggered](#)

### SaveTemplate

Indicates that the user needs to save the form template in its current state.

See: [module:event-store~eventCallback](#)

## SaveTemplateCopy

Indicates that the user needs to save a new copy of the form template in its current state. This event is implemented to convert the viewer into using the newly created copy when the copying is complete.

See: [module:event-store~eventCallback](#)

## SelectTemplateField

Indicates that a template field needs to be selected.

### Properties:

Name	Type	Description
markId	string	The ID of the mark that corresponds to the template field.

See: [module:event-store~eventCallback](#)

## StateModified

Indicates that a state value has been modified. This event should only be fired by the StateStore module. It has the following data properties:

### Properties:

Name	Type	Description
state	string	The name of the state that was modified.
stateValue	*	The current value of the state that was modified.

See: [module:state-store](#)  
[module:event-store#event:ModifyState](#)  
[module:event-store~eventCallback](#)

### Example

```
viewer.eventStore.on('StateModified', function(ev, data){
    if (data.state !== 'MyStateKey') { return; }

    // handle the state change here
});
```

## TemplateSaved

Indicates that a template successfully saved.

See: [module:event-store~eventCallback](#)

### Example

```
viewer.eventStore.trigger('TemplateSaved');
```

## TemplateSaveFailed

Indicates that a template failed to save.

See: [module:event-store~eventCallback](#)

### Example

```
viewer.eventStore.trigger('TemplateSaveFailed');
```

## ToggleChecklist

Triggers the checklist to toggle open or closed.

See: [module:event-store~eventCallback](#)

---

Documentation generated by [JSDoc 3.5.5](#) on Wed Jan 29 2020 10:53:01 GMT-0500 (Eastern Standard Time)

## Module: field-edit

### Module: field-edit

Provides UI showing the settings of a form field and allowing the user to edit the form field.

#### Fires:

- [module:event-store#event:ModifyState](#)
- [module:event-store#event>DeleteFields](#)

- [module:event-store#event:DuplicateFields](#)

**Listens to Events:**

- [module:event-store#event:ModifyTemplateField](#)
- [module:event-store#event:ModifyMultipleTemplateFields](#)
- [module:event-store#event:DeselectAllTemplateFields](#)

**Example**

```
var FieldEdit = require('field-edit.js');

// a generic Viewer constructor
function Viewer(opts) {
  var myFieldEdit = FieldEdit(this, {
    elem: document.getElementById('myFieldEdit')
  });
}
```

`(require("field-edit"))(viewer, options)`

Creates the field editing UI module.

**Parameters:**

Name	Type	Description									
viewer	Core	The core viewer to which the module will attach.									
options	Object	An options object. <table border="1" data-bbox="446 1422 1348 1579"> <thead> <tr> <th colspan="3">Properties</th> </tr> <tr> <th>Name</th> <th>Type</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>elem</td> <td>HTMLElement</td> <td>The element in which the module UI will be inserted.</td> </tr> </tbody> </table>	Properties			Name	Type	Description	elem	HTMLElement	The element in which the module UI will be inserted.
Properties											
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Documentation generated by [JSDoc 3.5.5](#) on Wed Jan 29 2020 10:53:01 GMT-0500 (Eastern Standard Time)

## Module: field-list

### Module: field-list

Manages a list of fields and allows drag and drop reordering.

**Fires:**

- `module:event-store#event:SelectTemplateField`

**Listens to Events:**

- `module:event-store#event:StateModified` for "FieldList" state.

**Example**

```
var FieldList = require('field-list.js');

// a generic Viewer constructor
function Viewer(opts) {
  var myFieldList = FieldList(this, {
    elem: document.getElementById('myFieldList')
  });
}
```

`(require("field-list"))(viewer, options)`

Creates the field list UI module.

**Parameters:**

Name	Type	Description						
viewer	Core	The core viewer to which the module will attach.						
options	Object	An options object. <b>Properties</b> <table border="1"><thead><tr><th>Name</th><th>Type</th><th>Description</th></tr></thead><tbody><tr><td>elem</td><td>HTMLElement</td><td>The element in which the module UI will be inserted.</td></tr></tbody></table>	Name	Type	Description	elem	HTMLElement	The element in which the module UI will be inserted.
Name	Type	Description						
elem	HTMLElement	The element in which the module UI will be inserted.						

**Methods**

`destroy()`

Destroys the module.

Documentation generated by *JSDoc 3.5.5* on Wed Jan 29 2020 10:53:01 GMT-0500 (Eastern Standard Time)

## Module: fill-checklist

### Module: fill-checklist

Displays a list of fields to be completed in the form. As fields are completed, the icon in the checklist item will be updated to reflect the completed state.

#### Fires:

- `module:event-store#event:ToggleChecklist`
- `module:event-store#event:FocusChecklistItem`

#### Listens to Events:

- `module:event-store#event:StateModified`

#### Example

```
var FillChecklist = require('fill-checklist.js');

// a generic Viewer constructor
function Viewer(opts) {
  var myFillChecklist = FillChecklist(this, {
    elem: document.getElementById('myChecklist')
  });
}
```

`(require("fill-checklist"))(viewer, options)`

Creates the checklist UI module.

#### Parameters:

Name	Type	Description
viewer	Core	The core viewer to which the module will attach.
options	Object	An options object.
<b>Properties</b>		
Name	Type	Description

Name	Type	Description
		<code>elem</code> HTMLElement The element in which the module UI will be inserted.

## Methods

`destroy()`

Destroys the module.

---

Documentation generated by *JSDoc 3.5.5* on Wed Jan 29 2020 10:53:01 GMT-0500 (Eastern Standard Time)

# Module: fill-form-controller

## Module: fill-form-controller

Controls the form. It handles various tasks such as creation of marks, how marks are visually represented, keyboard controls, and field focus management.

```
(require("fill-form-controller"))(viewer)
```

Creates the form controller module.

### Parameters:

Name	Type	Description
<code>viewer</code>	Core	The core viewer to which the module will attach.

### Fires:

- `module:event-store#event:ModifyState`
- `module:event-store#event:FormLoaded`
- `module:event-store#event:RegisterKeyCombinations`
- `module:event-store#event>CreateDate`
- `module:event-store#event:ManageSignatures`
- `module:event-store#event>CreateSignature`

- `module:event-store#event:Notify`
- `module:event-store#event:FormatDate`

#### **Listens to Events:**

- `module:event-store#event:DisplayForm`
- `module:event-store#event:StateModified`
- `module:event-store#event:FocusChecklistItem`
- `module:event-store#event:KeyCombinationsTriggered`
- `module:event-store#event:BurnForm`

#### **Example**

```
var FillFormController = require('fill-form-controller.js');

// a generic Viewer constructor
function Viewer(opts) {
    var myFillFormController =
    FillFormController(this);
}
```

#### **Methods**

`destroy()`

Destroys the module.

---

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## Module: fill-main-toolbar

### Module: fill-main-toolbar

Manages the form's main toolbar.

#### **Fires:**

- `module:event-store#event:ModifyState`

**Listens to Events:**

- `module:event-store#event:ToggleChecklist`

**Example**

```
var FillMainToolbar = require('fill-main-toolbar.js');

// a generic Viewer constructor
function Viewer(opts) {
  var myFillMainToolbar = FillMainToolbar(this, {
    elem:
document.getElementById('myFillMainToolbar')
  });
}
```

`(require("fill-main-toolbar"))(viewer, options)`

Creates the main toolbar module.

**Parameters:**

Name	Type	Description									
viewer	Core	The core viewer to which the module will attach.									
options	Object	An options object. <table border="1" data-bbox="446 1321 1348 1489"> <thead> <tr> <th colspan="3"><b>Properties</b></th> </tr> <tr> <th>Name</th> <th>Type</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>elem</td> <td>HTMLElement</td> <td>The element in which the module UI will be inserted.</td> </tr> </tbody> </table>	<b>Properties</b>			Name	Type	Description	elem	HTMLElement	The element in which the module UI will be inserted.
<b>Properties</b>											
Name	Type	Description									
elem	HTMLElement	The element in which the module UI will be inserted.									

**Methods**

`destroy()`

Destroys the module.

## Module: fill-progress

### Module: fill-progress

Shows the progress of how many fields have been filled and how many are remaining. If there are required fields, a progress bar indicates the progress of required fields that have been filled. If there are optional fields, text below the progress bar indicates how many optional fields are left.

#### Listens to Events:

- `module:event-store#event:StateModified` for "FieldList" state.

#### Example

```
var FillProgress = require('fill-progress.js');

// a generic Viewer constructor
function Viewer(opts) {
  var myFillProgress = FillProgress(this, {
    elem: document.getElementById('myFillProgress')
  });
}
```

`(require("fill-progress"))(viewer, options)`

Creates the fill progress UI module.

#### Parameters:

Name	Type	Description						
viewer	Core	The core viewer to which the module will attach.						
options	Object	An options object. <div style="margin-left: 20px;"> <p><b>Properties</b></p> <table border="1"> <thead> <tr> <th>Name</th> <th>Type</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>elem</td> <td>HTMLElement</td> <td>The element in which the module UI will be inserted.</td> </tr> </tbody> </table> </div>	Name	Type	Description	elem	HTMLElement	The element in which the module UI will be inserted.
Name	Type	Description						
elem	HTMLElement	The element in which the module UI will be inserted.						

#### Methods

`destroy()`

Destroys the module.

---

Documentation generated by *JSDoc 3.5.5* on Wed Jan 29 2020 10:53:01 GMT-0500 (Eastern Standard Time)

## Module: form-controller

### Module: form-controller

This module interfaces with `ViewerControl` in order to display the fields being created, as well as update field positioning data. It is in charge of translating between `FieldList` field objects and `ViewerControl` mark objects whenever necessary.

#### **Fires:**

- `module:event-store#event:ModifyState`
- `module:event-store#event:FormLoaded`
- `module:event-store#event:ModifyTemplateField`
- `module:event-store#event:ModifyMultipleTemplateFields`
- `module:event-store#event:DeselectAllTemplateFields`

#### **Listens to Events:**

- `module:event-store#event:StateModified` for the "FieldList" state.
- `module:event-store#event:DisplayForm`
- `module:event-store#event:AlignFields`
- `module:event-store#event>DeleteFields`
- `module:event-store#event:DuplicateFields`
- `module:event-store#event:MatchSizeFields`
- `module:event-store#event:ModifyMultipleTemplateFields`
- `module:event-store#event>SelectTemplateField`
- `module:event-store#event:FormLoaded`
- `module:event-store#event:FormCopied`
- `module:event-store#event:SaveTemplate`
- `module:event-store#event:SaveTemplateCopy`

**Example**

```
var FormController = require('form-controller.js');

// a generic Viewer constructor
function Viewer(opts) {
    var myFormController = FormController(this);
}
```

`(require("form-controller"))(viewer)`

Creates the form controller module.

**Parameters:**

Name	Type	Description
viewer	Core	The core viewer to which the module will attach.

**Methods**

`destroy()`

Destroys the module.

---

Documentation generated by *JSDoc 3.5.5* on Wed Jan 29 2020 10:53:01 GMT-0500 (Eastern Standard Time)

## Module: form-extraction

### Module: form-extraction

Performs detection and extraction of form data (such as PDF AcroForm fields) in the document.

When viewer is ready, this module sends a request to determine if the document in a viewing session has acroforms or may contain raster forms. If so, the module provides a modal dialog to cancel or attempt form extraction. The process to get results of the extraction can be cancelled once started. Users are notified of successful conversion and unsupported field types with appropriate popup messages. Errors, occurring during form extraction, are displayed in the same modal dialog, which starts the conversion.

**Fires:**

- `module:event-store#event:DisplayForm`
- `module:event-store#event:Notify`
- `module:event-store#event:ModifyState`

**Example**

```
var FormExtraction = require('form-extraction.js');

// a generic Viewer constructor
function Viewer(opts) {
  var myFormExtraction = FormExtraction(this, {
    elem: document.getElementById('formExtraction')
  });
}
```

`(require("form-extraction"))(viewerObj, options)`

Creates the form extraction module.

**Parameters:**

Name	Type	Description						
viewerObj	Core	The core viewer to which the module will attach.						
options	Object	An options object. <b>Properties</b> <table><thead><tr><th>Name</th><th>Type</th><th>Description</th></tr></thead><tbody><tr><td>elem</td><td>HTMLElement</td><td>The element in which the module UI will be inserted.</td></tr></tbody></table>	Name	Type	Description	elem	HTMLElement	The element in which the module UI will be inserted.
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---

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## Module: form-summary

### Module: form-summary

This module interfaces with the FieldList state to create a new state. The module will merge groups with fields into a central form summary that can be used by other modules to show the status of the form and the fields/groups that it consists of.

### **Fires:**

- `module:event-store#event:ModifyState`

### **Listens to Events:**

- `module:event-store#event:StateModified` for the "FieldList" state.

### **Example**

```
var FormSummary = require('form-summary.js');

// a generic Viewer constructor
function Viewer(opts) {
  var myFormSummary = FormSummary(this);
}
```

`(require("form-summary"))(viewer)`

Creates the form summary module.

### **Parameters:**

Name	Type	Description
viewer	Core	The core viewer to which the module will attach.

### **Methods**

`destroy()`

Destroys the module.

---

Documentation generated by *JSDoc 3.5.5* on Wed Jan 29 2020 10:53:01 GMT-0500 (Eastern Standard Time)

## Module: form-tools

## Module: form-tools

Manages the form tools. Selecting a tool determines how the mouse interacts with the document. For example, selecting the Pan tool allows the user to scroll the document by clicking on it and dragging the mouse. Selecting the Signature tool allows the user to use the mouse to create a signature field. After a signature field is added, the Pan tool is automatically selected. The user can click a field tool twice to put it into "sticky" state so that the tool remains selected after adding a field.

### Example

```
var FormTools = require('form-tools.js');

// a generic Viewer constructor
function Viewer(opts) {
  var myFormTools = FormTools(this, {
    elem: document.getElementById('myFormTools')
  });
}
```

`(require("form-tools"))(viewer, options)`

Creates the form tools UI module.

### Parameters:

Name	Type	Description									
viewer	Core	The core viewer to which the module will attach.									
options	Object	An options object. <table border="1" data-bbox="446 1478 1348 1646"> <thead> <tr> <th colspan="3">Properties</th> </tr> <tr> <th>Name</th> <th>Type</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>elem</td> <td>HTMLElement</td> <td>The element in which the module UI will be inserted.</td> </tr> </tbody> </table>	Properties			Name	Type	Description	elem	HTMLElement	The element in which the module UI will be inserted.
Properties											
Name	Type	Description									
elem	HTMLElement	The element in which the module UI will be inserted.									

### Methods

`destroy()`

Destroys the module.

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## Module: global-settings-menu

### Module: global-settings-menu

Manages global template settings.

#### **Fires:**

- `module:event-store#event:ModifyState` for "GlobalSettings" and "FieldList" state

#### **Listens to Events:**

- `module:event-store#event:AccessGlobalSettings`

#### **Example**

```
var GlobalSettingsMenu = require('global-settings-menu.js');

// a generic Viewer constructor
function Viewer(opts) {
    var myGlobalSettingsMenu = GlobalSettingsMenu(this,
    {
        elem:
        document.getElementById('myGlobalSettingsMenu')
    });
}
```

`(require("global-settings-menu"))(viewer, options)`

Creates the global settings menu module.

#### **Parameters:**

Name	Type	Description
viewer	Core	The core viewer to which the module will attach.
options	Object	An options object.
<b>Properties</b>		
Name	Type	Description

Name	Type	Description
	elem	HTMLElement The element in which the module UI will be inserted.

## Methods

`destroy()`

Destroys the module.

---

Documentation generated by [JSDoc 3.5.5](#) on Wed Jan 29 2020 10:53:01 GMT-0500 (Eastern Standard Time)

# Module: global-settings-trigger

## Module: global-settings-trigger

triggers .

### Example

```
var GlobalSettingsTrigger = require('global-settings-trigger.js');

// a generic Viewer constructor
function Viewer(opts) {
    var myGlobalSettings = GlobalSettingsTrigger(this,
    {
        elem:
        document.getElementById('myGlobalSettings')
    });
}
```

`(require("global-settings-trigger"))(viewer, options)`

Creates the global settings trigger UI module.

### Parameters:

Name	Type	Description
viewer	Core	The core viewer to which the module will attach.
options	Object	An options object.
<b>Properties</b>		
Name	Type	Description
elem	HTMLElement	The element in which the module UI will be inserted.

## Methods

`destroy()`

Destroys the module.

---

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# Module: keyboard-controller

## Module: keyboard-controller

Controls the keyboard keys. This module uses [jQuery.hotkeys](#) plugin. If desired it can be replaced with any other keyboard interface code without affecting the keyboard consumer modules.

### **Fires:**

- [module:event-store#event:KeyCombinationsTriggered](#)

### **Listens to Events:**

- [module:event-store#event:RegisterKeyCombinations](#) for "KeyCombinations" state

### **Example**

```
var KeyboardController = require('keyboard-
controller.js');

// a generic Viewer constructor
function Viewer(opts) {
```

```
var myKeyboardController =  
KeyboardController(this);  
}
```

`(require("keyboard-controller"))(viewer)`

Creates the keyboard controller module.

**Parameters:**

Name	Type	Description
viewer	Core	The core viewer to which the module will attach.

## Methods

`destroy()`

Destroys the module.

---

*Documentation generated by JSDoc 3.5.5 on Wed Jan 29 2020 10:53:01 GMT-0500 (Eastern Standard Time)*

## Module: multiple-selection

### Module: multiple-selection

Provides UI showing bulk actions to be completed on a selection of more than one field.

**Fires:**

- `module:event-store#event:AlignFields`
- `module:event-store#event>DeleteFields`
- `module:event-store#event:DuplicateFields`
- `module:event-store#event:MatchSizeFields`

**Listens to Events:**

- `module:event-store#event:ModifyTemplateField`

- `module:event-store#event:DeselectAllTemplateFields`
- `module:event-store#event:ModifyMultipleTemplateFields`

**Example**

```
var MultipleSelection = require('multiple-
selection.js');

// a generic Viewer constructor
function Viewer(opts) {
  var myMultipleSelection = MultipleSelection(this, {
    elem:
document.getElementById('myMultipleSelection')
  });
}
```

`(require("multiple-selection"))(viewer, options)`

Creates the multiple selection UI module.

**Parameters:**

Name	Type	Description									
viewer	Core	The core viewer to which the module will attach.									
options	Object	An options object. <table border="1" data-bbox="443 1272 1350 1435"> <thead> <tr> <th colspan="3"><b>Properties</b></th> </tr> <tr> <th>Name</th> <th>Type</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>elem</td> <td>HTMLElement</td> <td>The element in which the module UI will be inserted.</td> </tr> </tbody> </table>	<b>Properties</b>			Name	Type	Description	elem	HTMLElement	The element in which the module UI will be inserted.
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Name	Type	Description									
elem	HTMLElement	The element in which the module UI will be inserted.									

**Methods**

`destroy()`

Destroys the module.

---

Documentation generated by *JSDoc 3.5.5* on Wed Jan 29 2020 10:53:01 GMT-0500 (Eastern Standard Time)

## Module: notification

## Module: notification

Displays a notification.

### **Listens to Events:**

- `module:event-store#event:Notify`

### **Example**

```
var Notification = require('notification.js');

// a generic Viewer constructor
function Viewer(opts) {
  var myNotification = Notification(this, {
    elem: document.getElementById('myNotification')
  });
}
```

`(require("notification"))(viewer, options)`

Creates the notification UI module.

### **Parameters:**

Name	Type	Description						
viewer	Core	The core viewer to which the module will attach.						
options	Object	An options object. <b>Properties</b> <table border="1"><thead><tr><th>Name</th><th>Type</th><th>Description</th></tr></thead><tbody><tr><td>elem</td><td>HTMLElement</td><td>The element in which the module UI will be inserted.</td></tr></tbody></table>	Name	Type	Description	elem	HTMLElement	The element in which the module UI will be inserted.
Name	Type	Description						
elem	HTMLElement	The element in which the module UI will be inserted.						

## Methods

`destroy()`

Destroys the module.

Documentation generated by *JSDoc 3.5.5* on Wed Jan 29 2020 10:53:01 GMT-0500 (Eastern Standard Time)

## Module: page-navigation

### Module: page-navigation

Navigates pages.

```
(require("page-navigation"))(viewer, options)
```

Creates the page navigation UI module.

#### Parameters:

Name	Type	Description						
viewer	Core	The core viewer to which the module will attach.						
options	Object	An options object.  <b>Properties</b> <table border="1"><thead><tr><th>Name</th><th>Type</th><th>Description</th></tr></thead><tbody><tr><td>elem</td><td>HTMLElement</td><td>The element in which the module UI will be inserted.</td></tr></tbody></table>	Name	Type	Description	elem	HTMLElement	The element in which the module UI will be inserted.
Name	Type	Description						
elem	HTMLElement	The element in which the module UI will be inserted.						

#### Example

```
var PageNavigation = require('page-navigation.js');  
  
// a generic Viewer constructor  
function Viewer(opts) {  
  var myPageNav = PageNavigation(this, {  
    elem: document.getElementById('myPageNav')  
  });  
}
```

#### Methods

**destroy()**

Destroys the module.

Documentation generated by *JSDoc 3.5.5* on Wed Jan 29 2020 10:53:01 GMT-0500 (Eastern Standard Time)

## Module: profile-manager

### Module: profile-manager

Provides the ability to create and manage signatures.

```
(require("profile-manager"))(viewer, options)
```

Created the profile manager module.

#### Parameters:

Name	Type	Description						
viewer	Core	The core viewer to which the module will attach.						
options	Object	An options object. <b>Properties</b> <table><thead><tr><th>Name</th><th>Type</th><th>Description</th></tr></thead><tbody><tr><td>elem</td><td>HTMLElement</td><td>The element in which the module UI will be inserted.</td></tr></tbody></table>	Name	Type	Description	elem	HTMLElement	The element in which the module UI will be inserted.
Name	Type	Description						
elem	HTMLElement	The element in which the module UI will be inserted.						

#### Listens to Events:

- `module:event-store#event:CreateSignature`
- `module:event-store#event:ManageSignatures`

#### Example

```
var ProfileManager = require('profile-manager.js');  
  
// a generic Viewer constructor  
var myProfileManager = ProfileManager(this, {  
  elem: document.getElementById('myProfileManager')  
});
```

#### Methods

`destroy()`

Destroys the module.

---

Documentation generated by [JSDoc 3.5.5](#) on Wed Jan 29 2020 10:53:01 GMT-0500 (Eastern Standard Time)

## Module: state-store

### Module: state-store

The state store can keep track of any JSON-style data object for other modules to access and use.

The state store is used as centralized data storage for all modules, especially when concerning data that is shared among 2 or more modules. When individual modules need to update specific data, modifications through the state store ensure that other modules that need to be aware of the latest available data can do so without specific input from the module changing it.

The state store can store any number of states, as defined by a data string. See [module:event-store#event:ModifyState](#). It is able to associate any data object with that particular state, although it is optimized to store key-value Objects.

```
(require("state-store"))(viewer)
```

Creates and initializes the state store.

#### Parameters:

Name	Type	Description
viewer	Core	The core viewer to which the module will attach.

#### Fires:

- [module:event-store#event:StateModified](#)

#### Listens to Events:

- [module:event-store#event:ModifyState](#)

#### Example

```
var StateStore = require('state-store.js');

// a generic Viewer constructor
function Viewer(opts) {
    // other modules will expect this to be present
```

```

    this.stateStore = StateStore(this);
}

```

## Members

(inner) **FieldList**

The known set of fields and metadata on the form.

### Properties:

Name	Type	Attributes	Default	Description																																								
templateDocumentId	string			The unique id used to determine which document this value is not defined.																																								
formName	string	<optional>	""	The display name of the form.																																								
formDefinitionId	string	<optional>		The unique id to use to save the form to the database.																																								
formRoles	Object	<optional>		<p>A hash object used to store and access the form roles. The key in the hash object is the <code>formRoleId</code> of the form role.</p> <p><b>Properties</b></p> <table border="1"> <thead> <tr> <th>Name</th> <th>Type</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>formRoleId</td> <td>string</td> <td>The id of the form role.</td> </tr> <tr> <td>displayName</td> <td>string</td> <td>A friendly name for the form role.</td> </tr> <tr> <td>fieldColor</td> <td>string</td> <td>The color to use for the form role's pound sign follow-up.</td> </tr> <tr> <td>sortIndex</td> <td>number</td> <td>A number representing the sort order of the form role.</td> </tr> </tbody> </table>	Name	Type	Description	formRoleId	string	The id of the form role.	displayName	string	A friendly name for the form role.	fieldColor	string	The color to use for the form role's pound sign follow-up.	sortIndex	number	A number representing the sort order of the form role.																									
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groups	Object	<optional>		<p>A hash object used to store and access the form groups. The key in the hash object is the <code>groupId</code> of the group.</p> <p><b>Properties</b></p> <table border="1"> <thead> <tr> <th>Name</th> <th>Type</th> <th>Attributes</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>groupId</td> <td>string</td> <td></td> <td>The unique id of the group.</td> </tr> <tr> <td>displayName</td> <td>string</td> <td></td> <td>A friendly name for the group.</td> </tr> <tr> <td>type</td> <td>string</td> <td></td> <td>The type of the group.</td> </tr> <tr> <td>data</td> <td>Object</td> <td></td> <td>Data associated with the group.</td> </tr> </tbody> </table> <p><b>Properties</b></p> <table border="1"> <thead> <tr> <th>Name</th> <th>Type</th> <th>Attributes</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>groupId</td> <td>string</td> <td></td> <td>The unique id of the group.</td> </tr> <tr> <td>displayName</td> <td>string</td> <td></td> <td>A friendly name for the group.</td> </tr> <tr> <td>type</td> <td>string</td> <td></td> <td>The type of the group.</td> </tr> <tr> <td>data</td> <td>Object</td> <td></td> <td>Data associated with the group.</td> </tr> </tbody> </table>	Name	Type	Attributes	Description	groupId	string		The unique id of the group.	displayName	string		A friendly name for the group.	type	string		The type of the group.	data	Object		Data associated with the group.	Name	Type	Attributes	Description	groupId	string		The unique id of the group.	displayName	string		A friendly name for the group.	type	string		The type of the group.	data	Object		Data associated with the group.
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Name	Type	Attributes	Default	Description
				rectangle
				Object
				fontName
				string <optio
				fontColor
				string <optio
				multiline
				boolean <optio
				characterLimit
				number <optio
				formRoleId
				string <optio
				groupId
				string <optio
				defaultValue
				string   <optio Object

Name	Type	Attributes	Default	Description
				value string   <optio Object

Name	Type	Attributes	Default	Description

Name	Type	Attributes	Default	Description				
globalSettings	Object			Settings that apply globally to the template  <b>Properties</b> <table border="1"> <thead> <tr> <th>Name</th> <th>Type</th> </tr> </thead> <tbody> <tr> <td>signatureDateFormat</td> <td>external:"jQuery.t</td> </tr> </tbody> </table>	Name	Type	signatureDateFormat	external:"jQuery.t
Name	Type							
signatureDateFormat	external:"jQuery.t							

**Example**

```
var fieldList =
viewer.stateStore.getState('FieldList');
```

**(inner) FormDefinition**

Defines the schema of the template form that is saved to the server, including all of the metadata required to load and recreate the form.

**Properties:**

Name	Type	Attributes	Default	Description
templateDocumentId	string			The unique id used to determine which document belongs to the form. The form cannot be loaded if this value is not defined.
formName	string	<optional>	""	The display name of the form.
formDefinitionId	string	<optional>		The unique id to use to save the form to the server.
formRoles	Array	<optional>		The data here is similar to the <code>formRoles</code> property of <code>module:state-store~FieldList</code> , but represented as an array to be saved to the server. This array will be used to rebuild the <code>formRoles</code> object when a <code>FormDefinition</code> is loaded into the viewer.
groups	Array	<optional>		The data here is similar to the <code>groups</code> property of <code>module:state-store~FieldList</code> ,

Name	Type	Attributes	Default	Description
				but represented as an array to be saved to the server. This array will be used to rebuild the <code>groups</code> object when a <code>FormDefinition</code> is loaded into the viewer.
<code>formData</code>	Array			The data here is similar to the <code>fieldList</code> property of <code>module:state-store~FieldList</code> , but represented as an array to be saved to the server. This array will be used to rebuild the <code>FieldList</code> object when a <code>FormDefinition</code> is loaded into the viewer. As such, some properties of <code>FieldList.fieldList</code> are excluded when generating the <code>FormDefinition.formData</code> . These exclusions are <code>markId</code> and <code>sortIndex</code> .
<code>globalSettings</code>	Object			An instance of the <code>module:state-store~GlobalSettings</code> object used for this form.

#### (inner) PageData

Defines the set of currently known pages -- ones that have loaded at least once in the viewer -- and their sizes. It is a hash object, using the page number as the object key, and the following properties as the object value.

#### Properties:

Name	Type	Description
<code>width</code>	number	The width of the page.
<code>height</code>	number	The height of the page.

#### Methods

##### `destroy()`

Destroys the instance of the State Store.

##### `getState(key) → {*|undefined}`

Gets the current state.

**Parameters:**

Name	Type	Description
key	string	The name of the state value being retrieved.

**Returns:**

The state value associated with the specified key or `undefined` if the state value does not exist.

Type

\* | `undefined`

---

Documentation generated by *JSDoc 3.5.5* on Wed Jan 29 2020 10:53:01 GMT-0500 (Eastern Standard Time)

## Module: svg-icons

### Module: svg-icons

This module appends the icons to the document body. If this module is initialized twice, the icons are not appended since they only need to be appended once.

#### Members

(inner) `moduleApi`

**Properties:**

Name	Type	Description
<code>destroy</code>	function	Destroys the module.

#### Methods

`init()` → `{module:svg-icons~moduleApi}`

Initializes the module. This method will insert the SVG icon sprite into the body of the page. This sprite can be shared between multiple instances of the viewer embedded on the same page.

**Returns:**

The module API object.

Type

`module:svg-icons~moduleApi`

**parseIcons(dom)**

Parses icons. For any HTML template that contains icons, this method must be called with the HTML template passed as the parameter. Note that the init method must be called before calling `parseIcons`.

**Parameters:**

Name	Type	Description
dom	HTMLElement	A parent DOM element, or jQuery-wrapped element, that contains the icons that need to be parsed.

`(inner) module:svg-icons#updateIcon` Parses a single icon.(elem)

**Parameters:**

Name	Type	Description
elem	HTMLElement	The icon that needs to be parsed.

---

Documentation generated by *JSDoc 3.5.5* on Wed Jan 29 2020 10:53:01 GMT-0500 (Eastern Standard Time)

## Module: template-io

### Module: template-io

Manages the saving and loading of template files.

**Fires:**

- `module:event-store#event:ModifyState`
- `module:event-store#event:DisplayForm`

- `module:event-store#event:FormCopied`
- `module:event-store#event:TemplateSaved`
- `module:event-store#event:TemplateSaveFailed`

#### **Listens to Events:**

- `module:event-store#event:SaveTemplate`
- `module:event-store#event:SaveTemplateCopy`

#### **Example**

```
var TemplateIO = require('template-io.js');

// a generic Viewer constructor
function Viewer(opts) {
    var myTemplateIO = TemplateIO(this);
}
```

`(require("template-io"))(viewer)`

Creates the template IO module.

#### **Parameters:**

Name	Type	Description
viewer	Core	The core viewer to which the module will attach.

#### **Methods**

`destroy()`

Destroys the module.

---

*Documentation generated by [JSDoc 3.5.5](#) on Wed Jan 29 2020 10:53:01 GMT-0500 (Eastern Standard Time)*

## Module: `template-manager`

### Module: `template-manager`

Provides a UI to name and save templates.

```
(require("template-manager"))(viewer, options)
```

Creates the template manager module.

**Parameters:**

Name	Type	Description						
viewer	Core	The core viewer to which the module will attach.						
options	Object	An options object. <b>Properties</b> <table border="1"><thead><tr><th>Name</th><th>Type</th><th>Description</th></tr></thead><tbody><tr><td>elem</td><td>HTMLElement</td><td>The element in which the module UI will be inserted.</td></tr></tbody></table>	Name	Type	Description	elem	HTMLElement	The element in which the module UI will be inserted.
Name	Type	Description						
elem	HTMLElement	The element in which the module UI will be inserted.						

**Fires:**

- `module:event-store#event:ModifyState`
- `module:event-store#event:SaveTemplate`
- `module:event-store#event:Notify`

**Listens to Events:**

- `module:event-store#event:FormLoaded`
- `module:event-store#event:FormCopied`
- `module:event-store#event:TemplateSaved`
- `module:event-store#event:TemplateSaveFailed`

**Example**

```
var TemplateManager = require('template-manager.js');  
  
// a generic Viewer constructor  
function Viewer(opts) {  
    var myTemplateManager = TemplateManager(this, {  
        elem:  
document.getElementById('myTemplateManager')  
    });  
}
```

## Methods

destroy()

Destroys the module.

---

Documentation generated by *JSDoc 3.5.5* on Wed Jan 29 2020 10:53:01 GMT-0500 (Eastern Standard Time)

## Module: template-name-header

### Module: template-name-header

Provides the ability to display the currently loaded template name as a header.

#### Listens to Events:

- `module:event-store#event:DisplayForm`

#### Example

```
var TemplateNameHeader = require('template-name-
header.js');

// a generic Viewer constructor
var myTemplateNameHeader = TemplateNameHeader(this, {
  elem: document.getElementById('myTemplateNameHeader')
});
```

`(require("template-name-header"))(viewer, options)`

Created the template name header module.

#### Parameters:

Name	Type	Description
viewer	Core	The core viewer to which the module will attach.
options	Object	An options object.
<b>Properties</b>		
Name	Type	Description

Name	Type	Description
	elem	HTMLElement The element in which the module UI will be inserted.

## Methods

### destroy()

Destroys the module.

---

Documentation generated by *JSDoc 3.5.5* on Wed Jan 29 2020 10:53:01 GMT-0500 (Eastern Standard Time)

# Module: text-input

## Module: text-input

A text input.

### Examples

```
<!--The following HTML includes a text input component.  
An element is specified as a text input by setting the  
data-pcc-component attribute  
to "textinput".-->  
<div data-pcc-component="textinput" data-pcc-  
name="displayName" class="pcc-textbox"></div>
```

```
// Require the text input module.  
var TextInput = require('../elements/text-input.js');  
  
// Pass each text input element to the text input  
module to initialize each text input.  
// parent is the element that contains the text input  
element.  
$(parent).find('[data-pcc-  
component="textinput"]').each(function() {  
    TextInput(this);  
});
```

```
(require("text-input"))(e1) → {HTMLElement}
```

Parses and initializes a text input.

**Parameters:**

Name	Type	Description
e1	HTMLElement	The parent element in which to parse for the text input component.

**Returns:**

The parsed text input element.

Type

HTMLElement

## Members

**off** :module:event-store~off

Removes an event handler from the text input.

**Type:**

- module:event-store~off

**on** :module:event-store~on

Registers an event handler on the text input.

**Type:**

- module:event-store~on

## Methods

**destroy()**

Destroys the text input component.

**focus()**

Focuses the text input component

`hideError()` → {HTMLElement}

Removes the text below the text input if `showError` was called previously to show text below the text input.

**Returns:**

The text input element.

Type

HTMLElement

`showError(error)` → {HTMLElement}

Shows the specified text below the text input.

**Parameters:**

Name	Type	Description
error	string	The error text to show below the text input.

**Returns:**

The text input element.

Type

HTMLElement

`value(text)` → {Object}

Gets or sets the value of the text input.

**Parameters:**

Name	Type	Description
text	string	The text to show in the text input.

**Returns:**

The text input element if a value is passed. Otherwise, the current value is returned.

Type

Object

Documentation generated by *JSDoc 3.5.5* on Wed Jan 29 2020 10:53:01 GMT-0500 (Eastern Standard Time)

## Module: zoom-fit

### Module: zoom-fit

Zooms and fits the document. This module will allow the user to zoom in and out, set a specific scale factor, or set a page fit mode that will be maintained when the browser window is resized.

#### Example

```
var ZoomFit = require('zoom-fit.js');

// a generic Viewer constructor
function Viewer(opts) {
  var myZoomFit = ZoomFit(this, {
    elem: document.getElementById('myZoomFit')
  });
}
```

`(require("zoom-fit"))(viewer, options)`

Creates the zoom and fit module.

#### Parameters:

Name	Type	Description						
viewer	Core	The core viewer to which the module will attach.						
options	Object	An options object. <b>Properties</b> <table><thead><tr><th>Name</th><th>Type</th><th>Description</th></tr></thead><tbody><tr><td>elem</td><td>HTMLElement</td><td>The element in which the module UI will be inserted.</td></tr></tbody></table>	Name	Type	Description	elem	HTMLElement	The element in which the module UI will be inserted.
Name	Type	Description						
elem	HTMLElement	The element in which the module UI will be inserted.						

#### Methods

`destroy()`

Destroys the module.

---

Documentation generated by *JSDoc 3.5.5* on Wed Jan 29 2020 10:53:01 GMT-0500 (Eastern Standard Time)

## Cloud Authentication

### Overview

This section contains the following information on the PrizmDoc Cloud specific APIs:

- [Authenticating Requests](#)
- [OAuth](#)

**NOTE:** The APIs in this section are for PrizmDoc Cloud users only and do not apply to PrizmDoc Viewer Self-Hosted users.

## Authenticating Requests

### Introduction

When using PrizmDoc Cloud, you must authenticate all HTTP requests. You can do this in one of two different ways:

- [Using Your API Key](#)
- [Using OAuth](#)

### Using Your API Key

Include an `acs-api-key` header with your API key as the value.

#### Example

```
POST https://api.accusoft.com/PCCIS/V1/ViewingSession acs-api-key: <your key here>
Content-Type: application/json
{
  "render": {
    "html5": {
      "alwaysUseRaster": false
    }
  }
}
```

To obtain an API key, visit <https://www.accusoft.com/portal/>.

## Using OAuth

To facilitate granular access to PrizmDoc Cloud account data, especially document storage, another level of authorization must be implemented to further identify requests. The OAuth 2.0 specification allows for this type of authorization. Using OAuth, PrizmDoc Cloud can not only authorize a request via the PrizmDoc Cloud API key, but also by custom user information provided by clients. Ultimately, this will allow for the creation of rules by PrizmDoc Cloud customers to limit access to various resources.

### OAuth Authorization Method

Per the OAuth spec, PrizmDoc Cloud implements the client credentials grant method. This relies on authentication through the PrizmDoc Cloud API key. See: <https://www.rfc-editor.org/rfc/rfc6749.html#section-4.4>. By default, the expire time for the access token is set to one day. Initially at least, the use of OAuth necessitates the use of server-side code for the creation of the access tokens. For more information, see the [OAuth API](#) reference.

## OAuth

### OAuth

Using OAuth, PrizmDoc Cloud can not only authorize a request via the PrizmDoc Cloud API key, but also by custom user information. Ultimately, this will allow you to create rules to limit access to various resources.

### Available URLs

URL	Description
<a href="#">POST /v1/authTokens</a>	Retrieves an authorization token that can be used to authenticate calls to PrizmDoc Cloud Services.

### POST /v1/authTokens

Retrieves an authorization token that can be used to authenticate calls to PrizmDoc Cloud Services.

#### Request

##### Request Headers

Name	Description
acs-api-key	<b>Required</b> {{api-key}}
Content-Type	<b>Required</b> application/x-www-form-urlencoded

##### Request Body

```
grant_type=client_credentials&scope={client customer user id} {client custom role}
```

## Successful Response

### Response Body

Success returns code 200 - OK

- Content-Type: application/json
- Cache-Control: no-store
- Pragma: no-cache

## Error Responses

Status Code	JSON errorCode	Description
400	"Bad Request"	Returned when data is incorrect within body of the request.
401	"Unauthorized"	Returned when the key provided in the <code>acs-api-key</code> is incorrect or missing.

## Examples

### Request

```
grant_type=client_credentials&scope={client customer user id} {client custom role}
```

```
grant_type=client_credentials&scope=userid:1234 role:admin
```

### Response

#### Successful Response

```
{
  "access_token": "{valid access token}",
  "token_type": "acs-oauth",
  "expires_in": {time in seconds},
  "scope": {requested scope} // user:{useridValue} role:{roleValue}
}
```

```
{
  "access_token": "PrizmDoc Cloud-Hosted-ACCESS-TOKEN",
  "token_type": "acs-oauth",
  "expires_in": 3600,
}
```

```
"scope": "userid:1234 role:admin"
}
```

## Error Response

```
{
  "error": "invalid_request" // error code definitions: https://www.rfc-
editor.org/rfc/rfc6749.html#section-5.2
}
```

# PAS REST API

## Overview

This section contains the following information:

- [Base URL for PAS](#)
- [API Data Types](#)
- [Attachments](#)
- [Back-end Proxy](#)
- [Content Converters](#)
- [Content Converters \(Deprecated\)](#)
- [Form Definitions](#)
- [Form Extractors](#)
- [Health](#)
- [Image Stamps](#)
- [Legacy Create Session](#)
- [Markup Burners](#)
- [Markup Layers](#)
- [Markup XML](#)
- [Search Tasks](#)
- [Viewing Package Creators](#)
- [Viewing Packages](#)
- [Viewing Sessions](#)

# Base URL for PAS

## Introduction

When making REST API calls to PAS, you need to use the appropriate base URL.

## PrizmDoc Cloud PAS

If you are using the Accusoft-managed PAS which is part of PrizmDoc Cloud, the base URL for the PAS REST APIs varies depending on your region:

Region	PAS Base URL
United States	<code>https://api.accusoft.com/prizmdoc</code>

**Note the trailing `/prizmdoc` at the end of the base URL.** When using the Accusoft-managed PAS which is part of PrizmDoc Cloud, this is a required part of the base URL.

Remember that PrizmDoc Cloud requires you to authenticate each request with an `acs-api-key` request header.

## Self-Hosted PAS

When hosting PAS yourself, just use the hostname and port of your PAS instance (or the hostname and port of the load balancer which sits in front of your PAS cluster).

For a typical installation on localhost, the PAS base URL will be:

```
http://localhost:3000
```

# API Data Types

## Introduction

Prizm Application Services REST API uses a data type system that is slightly more detailed and more specific than JavaScript's common data types (integer, date, and dateTime). These data types are used for defining properties of the JSON objects in the body of the POST requests and in the body of the responses where applicable.

The table below shows the supported data types by the API:

Type	Description	Example
<b>number</b>	Any number. This includes numbers with or without decimals.	<code>1000.15</code> or <code>1500</code>
<b>integer</b>	whole numbers only	<code>120</code>
<b>boolean</b>	true or false (without quotes)	<code>true</code> or <code>false</code>
<b>date</b>	This is the <a href="#">ISO 8601</a> profile for the <b>full-date</b> as described in the <a href="#">RFC 3339 section 5.6, Internet Date/Time Format</a> . The syntax for <b>full-</b>	<code>2015-05-12</code>

Type	Description	Example
	<p><b>date</b> as described in this document is as full-date = YYYY(4 digits) "-" MM(01 through 12) "-" DD(01 through 31)</p>	
<p><b>dateTime</b></p>	<p>This is the <a href="#">ISO 8601</a> profile for the <b>date-time</b> as described in the <a href="#">RFC 3339 section 5.6, Internet Date/Time Format</a>. The <b>date-time</b> syntax described in this document is</p> <pre>date-time = YYYY "-" MM "-" " DD "T" hh(00 through 23) ":" mm(00 through 59) ":" ss(00 through 59) "Z" / ("+" / "-") hh(00 through 23) ":" mm(00 through 59).</pre> <p>This profile defines two ways of handling time zone offsets:</p> <ol style="list-style-type: none"> <li>1. Times are expressed in UTC (Coordinated Universal Time), with a special UTC designator ("Z").</li> <li>2. Times are expressed in local time, together</li> </ol>	<p>November 5, 2015, 8:15:30 am, US Eastern Standard Time : 2015-11-05T08:15:30-05:00 Same instant in UTC : 2015-11-05T13:15:30Z</p>

Type	Description	Example
	with a time zone offset in hours and minutes. A time zone offset of "+hh:mm" indicates that the date/time uses a local time zone which is "hh" hours and "mm" minutes ahead of UTC. A time zone offset of "-hh:mm" indicates that the date/time uses a local time zone which is "hh" hours and "mm" minutes behind UTC.	
<b>object</b>	A JSON object	<code>{"fileName": "sample.doc"}</code>
<b>array</b>	An array object	<code>["one", "two", "three"]</code>
<b>string</b>	A sequence of zero or more characters	<code>"abcdefhh"</code>
<b>url</b>	A string which is a URL	<code>"http://example.com"</code>
<b>urlSafeBase64</b>	A URL-safe base64 encoded string, according to <a href="#">RFC 4648 Section 5</a>	<code>"Pqu_fKOCYd1QM5oJW6pz-suKQ-2fuxbdZtCKcApvMFVP9GGKv99crwyXTr6AZjrc5vvi3acnZVLgyEXzA"</code>

## Attachments

### Introduction

The Attachments API allows you to view EML and MSG attachments using PrizmApplicationService.

## Available URLs

URL	Description
<a href="#">GET /ViewingSession/u{ViewingSessionID}/Attachments</a>	Lists the attachments available in the source document.

## GET /ViewingSession/u{ViewingSessionID}/Attachments

**Routes key:** `GetAttachments`

This API returns a JSON list of attachment objects. If the return object list length has a zero count and no errors detected, there are no attachments. The status property of the list object indicates whether or not the list has been completed. If the list hasn't been completed, the request must be retried again. Each Attachment object in the list contains **displayName** and **viewingSessionId** property. The **displayName** can be used to label an href link on a web page and the link points to the **viewingSessionId** URL for the attachment.

## Request

### URL Parameters

Parameter	Description
{ViewingSessionID}	The ID of the viewing session associated with the request.

## Successful Response

### Response Body

If successful, this method returns the following properties:

- `status` (String) Specifies the current status of the attachments.
  - "pending" - There may be attachments, but the list has not yet been constructed.
  - "complete" - The list is known and present in this object.
- `attachments` (List) The list of attachments, if any. Each item in this list will be a new viewing session ID, which is used to view any of the listed attachments in the Viewer by passing in the viewing session ID provided in this list.

## Error Responses

Status Code	Description
500	Internal service error. This error can be returned for a number of different reasons. Please verify that your input is correct, and contact Support if the error persists.

## Examples

### Request

```
GET pas_base_url/ViewingSession/uGcIsIsEGbLV2_V9yy4NzmK2HB-JuLOH--A9sZ16c1a9tx00ZDBGfq1G4kKu0r_GyEps4wWCvDwn4dpnZAR76Uw/Attachments
```

### Response

```
HTTP/1.1 200 OK
Content-Type: application/json

{
```

```
"attachments": [
  {
    "displayName": "example-file.pdf",
    "viewingSessionId":
"SC0fZEMyIiGdOPMKBqLY8P6EAnVLEqxeTHjUUYqqxgJjC3s3wsQ8Lw2qqvkD1uLKTPAlF1ce23EQ6BFpYb4E3LC9TsXxwHCgB-
I1c5rPOt0"
  },
  {
    "displayName": "second-example.doc",
    "viewingSessionId": "33qQovKTjc0UKbNgOI-5POEyCpNw5x-
uEzGMB13iUVhnCa_UHSSnOpRBEzPKed7Maxq2RQu2SOowJj14X4iU_65OQjx2EI5-7h-bX1Yc6uA"
  }
],
"status": "complete"
}
```

## Back-end Proxy

### Introduction

The following routes are proxied through PAS to PrizmDoc Server. Many of them are direct proxies to corresponding PrizmDoc Server routes, and more information about them can be found in the [PrizmDoc Server REST API documentation](#).

### Routes for document viewing

#### GET /Document/q/Attributes?DocumentID=u{viewingSessionId}

**Routes key:** `GetDocumentAttributes`

Gets a page count for the source document of a viewing session.

For more information, see the PrizmDoc Server endpoint [GET /PCCIS/V1/Document/q/Attributes](#).

#### GET /Document/q/{PageNumberBegin}-{PageNumberEnd}/Text?DocumentID=u{viewingSessionId}

**Routes key:** `GetPageText`

Gets currently-available text and text metadata for a range of pages for the source document of a viewing session.

For more information, see the PrizmDoc Server endpoint [GET /PCCIS/V1/Document/q/{PageNumberBegin}-{PageNumberEnd}/Text](#).

#### GET /v2/viewingSessions/{viewingSessionId}/revisionData?limit={limit}&continueToken={continueToken}

**Routes key:** `GetDocumentRevisionData`

Gets objects which describe known changes between the two documents used as input to a comparison viewing session.

For more information, see the PrizmDoc Server endpoint [GET /v2/viewingSessions/{viewingSessionId}/revisionData](#).

**GET /Page/q/{pageNumber}?DocumentID=u{viewingSessionId}**

**Routes key:** `GetPage`

Gets SVG or an image for a page of the source document of a viewing session.

For more information, see the PrizmDoc Server endpoint [GET /PCCIS/V1/Page/q/{PageNumber}](#).

**GET /Page/q/{pageNumber}/Tile/{x}/{y}/{width}/{height}?  
DocumentID=u{viewingSessionId}**

**Routes key:** `GetPageTile`

Gets a "tile" image, a part of a page, for a page of the source document of a viewing session.

For more information, see the PrizmDoc Server endpoint [GET /PCCIS/V1/Page/q/{PageNumber}/Tile/{x}/{y}/{width}/{height}](#).

**GET /Page/q/{pageNumber}/Attributes?DocumentID=u{viewingSessionId}**

**Routes key:** `GetPageAttributes`

Gets metadata for a page of the source document of a viewing session.

For more information, see the PrizmDoc Server endpoint [GET /PCCIS/V1/Page/q/{PageNumber}/Attributes](#).

**GET /Page/q/{pageNumber}/{width}x{height}?  
DocumentID=u{viewingSessionId}**

**Routes key:** `GetThumbnail`

Gets a thumbnail image for a page of the source document of a viewing session.

For more information, see the PrizmDoc Server endpoint [GET /PCCIS/V1/Page/q/{PageNumber}/{Width}x{Height}](#).

## Routes related to the original document

**POST /ViewingSession/u{viewingSessionId}/Replacement**

**Routes key:** `CreateViewingSessionReplacement`

Replaces the existing viewing session with a new one. Useful for supplying passwords on password protected documents.

### Example

```
POST pas_base_url/ViewingSession/uXYZ.../Replacement
Content-Type: application/json

{
  "password": "pdfPassword"
}
```

**GET /ViewingSession/u{viewingSessionId}/SourceFile**

**Routes key:** `GetSourceFile`

Downloads the original document that is being viewed.

For more information, see the PrizmDoc Server endpoint [GET /PCCIS/V1/ViewingSession/u{viewingSessionId}/SourceFile](#).

## GET /SaveDocument/q?DocumentID=u{viewingSessionId}

**Routes key:** `SaveDocument`

Downloads the original document that is being viewed, automatically setting the `Content-Disposition` header with a filename based upon information given in the original `POST /ViewingSession` request. Like `GET /ViewingSession/u{viewingSessionId}/SourceFile`, except that this endpoint does not allow you to provide a custom `ContentDispositionFilename`.

This endpoint is designed for requests which originate from a browser. If you are writing server-side application code which downloads the document from a viewing session, consider using `GET /ViewingSession/u{viewingSessionId}/SourceFile` instead.

**Example**

```
GET pas_base_url/SaveDocument/q?DocumentID=uXYZ...
```

## GET /v2/viewingSessions/{ViewingSessionID}/sourceFile/original

**Routes key:** `GetOriginalSourceFile`

Downloads the "original" (as opposed to "revised") document that is being used for a comparison session.

For more information, see the PrizmDoc Server endpoint [GET /v2/viewingSessions/{viewingSessionId}/sourceFile/original](#).

## GET /v2/viewingSessions/{ViewingSessionID}/sourceFile/revised

**Routes key:** `GetRevisedSourceFile`

Downloads the "revised" document that is being used for a comparison session.

For more information, see the PrizmDoc Server endpoint [GET /v2/viewingSessions/{viewingSessionId}/sourceFile/revised](#).

## GET /ViewingSession/u{viewingSessionId}/Attachments

**Routes key:** `GetAttachments`

Gets information about the document attachments (such as ones available on an `eml` or `msg` file).

For more information, see the PrizmDoc Server endpoint [GET /PCCIS/V1/ViewingSession/u{ViewingSessionID}/Attachments](#).

## Routes for markup burning

### POST /ViewingSession/u{viewingSessionId}/MarkupBurner

**Routes key:** `CreateMarkupBurner`

Creates a document burning task for the specific document in the viewing session.

For more information, see the PrizmDoc Server endpoint [POST /PCCIS/V1/ViewingSession/u{viewingSessionId}/MarkupBurner](#).

**GET /ViewingSession/u{viewingSessionId}/MarkupBurner/{markupBurnerId}****Routes key:** `PollMarkupBurner`

Checks the status of the markup burning task.

For more information, see the PrizmDoc Server endpoint [GET /PCCIS/V1/ViewingSession/u{viewingSessionId}/MarkupBurner/{processId}](#).

**GET****/ViewingSession/u{viewingSessionId}/MarkupBurner/{markupBurnerId}/Document****Routes key:** `GetBurnedDocument`

Downloads the resulting burned-in document.

For more information, see the PrizmDoc Server endpoint [GET /PCCIS/V1/ViewingSession/u{viewingSessionId}/MarkupBurner/{processId}/Document](#).

**GET /License/ClientViewer****Routes key:** `GetClientViewerLicense`

**NOTE:** This URL has been deprecated and will be removed from the public API in a future release. It no longer functions and returns `HTTP 500 Internal Server Error`.

## Content Converters

### Introduction

#### Available URLs

URL	Description
<a href="#">POST /v2/viewingSessions/{viewingSessionId}/contentConverters</a>	Starts a conversion process for the source document of a particular viewing session.
<a href="#">GET /v2/viewingSessions/{viewingSessionId}/contentConverters/{processId}</a>	Gets the status of the specific converter process.
<a href="#">GET /v2/viewingSessions/{viewingSessionId}/contentConverters/{processId}/results/{index}/file?ContentDispositionFilename={fileName}</a>	Gets the contents of a file produced by the converter process.

**POST /v2/viewingSessions/{viewingSessionId}/contentConverters****Routes key:** `CreateContentConverterV2`

Starts a conversion process for the source document of a particular viewing session. This URL has the following parameters:

Parameter	Description
{viewingSessionId}	The ID provided in the response from <a href="#">POST /ViewingSession</a> .

**Request**

*Body:* Empty. An error will be returned if any data is present.

**NOTE:** PDF is currently the only supported destination format. A successful response will include several input properties as shown below. A future release will allow these properties to be set in the request body to create various kinds of output.

**Response**

*Body:* a JSON object with the following properties:

Property	Type	Description
input	{object}	An object that specifies the input used for the conversion.
input.dest	{object}	An object that specifies the destination file format and any additional details which control how the content is converted.
input.dest.format	{string}	Specifies the output file format.
input.dest.pdfOptions	{object}	An object that specifies additional options when <code>input.dest.format</code> is "pdf".
input.dest.pdfOptions.forceOneFilePerPage	{boolean}	If true, the conversion process will produce single-page PDF files, one file for each page of content (instead of a single PDF with multiple pages). Default is false.
input.sources	{object}	An array of objects, one for each input file.
input.sources[n].pages	{string}	The page numbers and/or page ranges, separated by commas, of the source document to convert.
processId	{string}	The id of the contentConverter resource which represents the file conversion operation.
state	{string}	The current state of the conversion process, which will be one of the following: "processing", "complete", or "error". If "processing", the conversion is still in progress. If "complete", the conversion has completed successfully. If "error", the conversion failed due to a problem. For the initial POST, this value will almost always be "processing". Results are typically only available with a subsequent GET.
percentComplete	{integer}	An integer from 0 to 100 that indicates what percentage of the conversion is complete.
errorCode	{string}	An error code string if a problem occurred during the conversion process.

#### Examples

```
POST pas_base_url/v2/viewingSessions/ZGZhc2RmYXNkZmFzZGZkcw/contentConverters
```

#### Successful Response

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "dest": {
      "format": "pdf",
      "pdfOptions": {
        "forceOneFilePerPage": false
      }
    },
    "sources": [
      {
        "pages": ""
      }
    ]
  },
  "expirationDateTime": "2015-11-04T19:20:09.280Z",
  "processId": "mxivIVSw7UhtLlyWwt3QEA",
  "state": "processing",
  "percentComplete": 0
}
```

#### Errored Responses

When a response with a status code of 580 is received check the response body for details:

```
HTTP/1.1 580 InternalError
Content-Type: application/json

{
  "errorCode": "InternalError"
}
```

When a viewing session does not exist for the given `viewingSessionId`:

```
HTTP/1.1 404 Not Found
```

When any data is present in the body of the request:

```
HTTP/1.1 480 ReservedInput
Content-Type: application/json

{
  "errorCode": "ReservedInput",
  "errorDetails": {
    "in": "body"
  }
}
```

When the server's license could not be verified:

```
HTTP/1.1 480 LicenseCouldNotBeVerified
Content-Type: application/json

{
  "errorCode": "LicenseCouldNotBeVerified"
}
```

## GET /v2/viewingSessions/{viewingSessionId}/contentConverters/{processId}

**Routes key:** PollContentConverterV2

Gets the status of the specific converter process. This URL has the following parameters:

Parameter	Description
{viewingSessionId}	The ID provided in the response from POST /ViewingSession.
{processId}	The ID provided in the response from POST /v2/viewingSessions/{viewingSessionId}/contentConverters.

### Response

Body: a JSON object with the following properties:

Property	Type	Description
input	(object)	An object that specifies the input used for the conversion.
input.dest	(object)	An object that specifies the destination file format and any additional details which control how the content is converted.
input.dest.format	(string)	Specifies the output file format.
input.dest.pdfOptions	(object)	An object that specifies additional options when input.dest.format is "pdf".
input.dest.pdfOptions.forceOneFilePerPage	(boolean)	If true, the conversion process will produce single-page PDF files, one file for each page of content (instead of a single PDF with multiple pages). Default is false.
input.sources	(object)	An array of objects, one for each input file.
input.sources[n].pages	(string)	The page numbers and/or page ranges, separated by commas, of the source document to convert.
processId	(string)	The id of the contentConverter resource which represents the file conversion operation.
state	(string)	The current state of the conversion process, which will be one of the following: "processing", "complete", or "error". If "processing", the conversion is still in progress. If "complete", the conversion has completed successfully. If "error", the conversion failed due to a problem.
percentComplete	(integer)	An integer from 0 to 100 that indicates what percentage of the conversion is complete.
errorCode	(string)	An error code string if a problem occurred during the conversion process.
output.results	(object)	An array of objects, one for each output file created. The 0-based index of each output file will be used in the URL GET /v2/viewingSessions/{viewingSessionId}/contentConverters/{processId}/results/{index}/file to retrieve the contents of each file.
output.results[n].sources	(object)	An array of objects, one for each source file which contributed to this output file.
output.results[n].sources[n].pages	(string)	The page or pages used from the source file. This will be a string value using one-based indexing. For example, if the output file represents page 2 of the source document, pages would have a value of "2". If the output file represents all 20 pages of a source document, pages would have a value of "1-20".
output.results[n].pageCount	(integer)	The total number of pages in the output file.

### Example

```
GET pas_base_url/v2/viewingSessions/ZGZhc2RmYXNkZmFzZGZkcw/contentConverters/mxivIVSw7UhtLlyWwt3QEA
```

### Successful Response

When the converter process completes with no conversion failures:

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "dest": {
      "format": "pdf",
      "pdfOptions": {
        "forceOneFilePerPage": false
      }
    },
    "sources": [
      {
        "pages": ""
      }
    ]
  },
  "processId": "mxivIVSw7UhtLlyWwt3QEA",
  "state": "complete",
  "percentComplete": 100,
```

```

    "output": {
      "results": [
        {
          "fileId": "eOsJIqI8aHkxVW0yJug",
          "sources": [
            {
              "pages": "1-4"
            }
          ],
          "pageCount": 4
        }
      ]
    }
  }
}

```

When the converter process completes with a failure:

```

HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "dest": {
      "format": "pdf",
      "pdfOptions": {
        "forceOneFilePerPage": false
      }
    },
    "sources": [
      {
        "pages": ""
      }
    ]
  },
  "processId": "mxivIVSw7UhtLlyWwt3QEA",
  "state": "error",
  "percentComplete": 100,
  "errorCode": "CouldNotConvert",
  "output": {
    "results": [
      {
        "errorCode": "CouldNotConvertPage",
        "sources": [
          {
            "pages": "3"
          }
        ]
      }
    ]
  }
}

```

#### Error Responses

When a response with a status code of 580 is received check the response body for details:

```

HTTP/1.1 580 InternalError
Content-Type: application/json

{
  "errorCode": "InternalError"
}

```

When a converter process does not exist for the given `processId`:

```

HTTP/1.1 404 Not Found

```

### GET /v2/viewingSessions/{viewingSessionId}/contentConverters/{processId}/results/{index}/file? ContentDispositionFilename={fileName}

**Routes key:** `GetContentConverterOutputFileV2`

Gets the contents of a file produced by the converter process. This URL has the following parameters:

Parameter	Description
{viewingSessionId}	The ID provided in the response from POST /ViewingSession.
{processId}	The ID provided in the response from POST /v2/viewingSessions/{viewingSessionId}/contentConverters.
{index}	The 0-based index of the result file, originating from its position in the response.output.results array in the response from GET /v2/viewingSessions/{viewingSessionId}/contentConverters/{processId}.
{fileName}	The filename as a URL-encoded string, without extension, to be used in the Content-Disposition response header (the appropriate file extension such as pdf will be appended automatically).

#### Response Headers

Name	Description
Content-Disposition	Specifies 'attachment' disposition, RFC-2183 compatible <code>filename</code> parameter and an RFC-8187 compatible <code>filename*</code> parameter, allowing the use of non-ASCII filenames.
Content-Type	The most-specific MIME type for the returned document.

### Response Body

The raw bytes of the result document.

### Example

```
GET pas_base_url/v2/viewingSessions/ZGZhc2RmYXNkZmFzZGZkcw/contentConverters/mxivIVSw7UhtLlyWwt3QEA/results/0/file?
ContentDispositionFilename=MyFile
```

### Successful Response

```
HTTP/1.1 200 OK
Content-Type: application/pdf
Content-Disposition: attachment; filename="Greek____.pdf"; filename*=UTF-8''Greek%CE%91%CE%92%CE%93%CE%94.pdf

<<PDF data>>
```

### Error Responses

When an output file does not exist for the given `index`:

```
HTTP/1.1 404 Not Found
```

## Content Converters (Deprecated)

### Introduction

**NOTE:** The following URLs have been **deprecated** and will be removed from the public API in a future release. They are not available at all in PrizmDoc Cloud. **Please use the newer Content Converters API instead.**

### Deprecated URLs

URL	Description
<b>(DEPRECATED) POST</b> <code>/contentConverters</code>	Used to start a conversion process for a particular document based on the viewing session. Use <code>POST /v2/viewingSessions/{viewingSessionId}/contentConverters</code> instead.
<b>(DEPRECATED) GET</b> <code>/contentConverters/{processId}</code>	Used to get the status of the specific conversion task. Use <code>GET /v2/viewingSessions/{viewingSessionId}/contentConverters/{processId}</code> instead.
<b>(DEPRECATED) GET</b> <code>/WorkFile/{fileId}</code>	Used to get the output PDF. Use <code>GET /v2/viewingSessions/{viewingSessionId}/contentConverters/{processId}/results/{index}/file</code> instead.

### POST /contentConverters (Deprecated)

**Deprecated.** Use `POST /v2/viewingSessions/{viewingSessionId}/contentConverters` instead.

Converts a viewing session to a PDF.

Note that this URL is only available with PrizmDoc Viewer Self-Hosted.

**Routes key:** `CreateContentConverter`

Starts a conversion process for a particular document based on the viewing session.

```
POST http://localhost:3000/contentConverters
Content-Type: application/json

{ "viewingSessionId": "1234" }
```

### Successful Response

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "dest": {
      "format": "pdf",
      "pdfOptions": {
        "forceOneFilePerPage": false
      }
    },
    "sources": [
      {
        "fileId": "9BgnvnYFK96E0YOsK-A9xA",
        "pages": ""
      }
    ]
  },
  "expirationDateTime": "2015-11-04T19:20:09.280Z",
  "processId": "mxivIVSw7UhtLlyWwt3QEA",
  "state": "processing",
  "percentComplete": 0,
  "affinityToken": "wxyz"
}
```

### Error Responses

When an unknown error occurs while gathering data:

```
HTTP/1.1 500 Server Error
Content-Type: application/json

{
  "errorCode": "InternalError"
}
```

### GET /contentConverters/{processId} (Deprecated)

**Routes key:** `PollContentConverter`

**Deprecated.** Use [GET /v2/viewingSessions/{viewingSessionId}/contentConverters/{processId}](#) instead.

Gets the status of the process which is converting the viewing session to a PDF.

```
GET http://localhost:3000/contentConverters/9BgnvnYFK96E0YOsK-A9xA
Accusoft-Affinity-Token: wxyz
```

## Successful Response

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "dest": {
      "format": "pdf",
      "pdfOptions": {
        "forceOneFilePerPage": false
      }
    },
    "sources": [
      {
        "fileId": "9BgnvnYFK96E0YOsK-A9xA",
        "pages": ""
      }
    ]
  },
  "expirationDateTime": "2015-11-04T19:20:09.280Z",
  "processId": "mxivIVSw7UhtL1yWwt3QEA",
  "state": "complete",
  "percentComplete": 100,
  "output": {
    "results": [
      {
        "fileId": "eOsJIqI8aHkxVV0yJug",
        "sources": [
          {
            "fileId": "9BgnvnYFK96E0YOsK-A9xA",
            "pages": "1-4"
          }
        ],
        "pageCount": 4
      }
    ]
  }
}
```

## Error Responses

When an unknown error occurs while gathering data:

```
HTTP/1.1 580 Server Error
Content-Type: application/json

{
  "errorCode": "InternalError"
}
```

## GET /WorkFile/{fileId}?ContentDispositionFilename={filename}&affinityToken={affinityToken} (Deprecated)

**Deprecated.** Use [GET /v2/viewingSessions/{viewingSessionId}/contentConverters/{processId}/results/{index}/file](#) instead. Used to get the output PDF.

*Note that this URL is only available with PrizmDoc Viewer Self-Hosted.*

**Routes key:** `GetWorkFile`

```
GET http://localhost:3000/WorkFile/eOsJIqI8aHkxVV0yJug?
ContentDispositionFilename=MyFile&affinityToken=wxyz
```

**Successful Response**

```
HTTP/1.1 200 OK
Content-Disposition: attachment; filename={documentDisplayName}.{ext}
Content-Type: {content type of the specific document}
```

## Form Definitions

### Introduction

### Available URLs

URL	Description
GET <code>/FormDefinitions</code>	Gets the list of forms available on the server.
GET <code>/FormDefinitions/{formDefinitionId}</code>	Gets a specific form definition from the server.
POST <code>/FormDefinitions</code>	Creates a new form definition using the uploaded data.
POST <code>/FormDefinitions/{formDefinitionId}</code>	Updates an existing form definition with the new uploaded data. This will overwrite all of the existing data with the new uploaded data.
DELETE <code>/FormDefinitions/{formDefinitionId}</code>	Deletes a form definition from the server.

### GET `/FormDefinitions`

**Routes key:** `GetFormDefinitions`

Gets the list of forms available on the server.

```
GET pas_base_url/FormDefinitions
```

**Successful Response**

```
HTTP/1.1 200 OK
Content-Type: application/json
```

```
[{
  "name": "Form 1",
  "formRoles": {
    "formRole1": {
      "formRoleId": "formRole1",
      "fieldColor": "#439fe0",
      "displayName": "one",
      "sortIndex": 1
    },
    "formRole2": {
      "formRoleId": "formRole2",
      "fieldColor": "#58bb63",
      "displayName": "two",
      "sortIndex": 2
    }
  },
  "formDefinitionId": "03f3e9c4a976419da576276acc427700"
},{
  "name": "Form 2",
  "formRoles": {},
  "formDefinitionId": "04a6032f3eaa4a8a9eb1b5fce1cb99e9"
}]
```

## Error Responses

When an unknown error occurs while gathering data:

```
HTTP/1.1 500 Server Error
Content-Type: application/json

{
  "errorCode": "InternalServerError"
}
```

## GET /FormDefinitions/{formDefinitionId}

**Routes key:** `GetFormDefinition`

Gets a specific form definition from the server.

```
GET pas_base_url/FormDefinitions/03f3e9c4a976419da576276acc427700
```

## Successful Response

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "templateDocumentId": "Form 1.pdf",
  "globalSettings": { ... global settings ... },
  "formRoles": { ... form roles ... },
  "groups": {},
}
```

```
"formName": "Form 1",  
"formData": [ ... form data ... ]  
}
```

## Error Responses

When the form definition does not exist:

```
HTTP/1.1 404 Not Found  
Content-Type: application/json  
  
{  
  "errorCode": "NotFound"  
}
```

When an unknown error occurs while gathering data:

```
HTTP/1.1 500 Server Error  
Content-Type: application/json  
  
{  
  "errorCode": "InternalServerError"  
}
```

## POST /FormDefinitions

**Routes key:** `CreateFormDefinition`

Creates a new form definition using the uploaded data.

```
POST pas_base_url/FormDefinitions  
Content-Type: application/json  
  
{  
  "templateDocumentId": "Form 3.pdf",  
  "globalSettings": { ... global settings ... },  
  "formRoles": { ... form roles ... },  
  "groups": {},  
  "formName": "Form 3",  
  "formData": [ ... form data ... ]  
}
```

## Successful Response

```
HTTP/1.1 201 Created  
Content-Type: application/json  
  
{  
  "formDefinitionId": "5418c96283bc469783bd30e7c8fdc059"  
}
```

```
}
```

## Error Responses

When an unknown error occurs while gathering data:

```
HTTP/1.1 500 Server Error
Content-Type: application/json

{
  "errorCode": "InternalError"
}
```

## POST /FormDefinitions/{formDefinitionId}

**Routes key:** `UpdateFormDefinition`

Updates an existing form definition with the new uploaded data. This will overwrite all of the existing data with the new uploaded data.

```
POST pas_base_url/FormDefinitions/03f3e9c4a976419da576276acc427700
Content-Type: application/json

{
  "templateDocumentId": "Form 1.pdf",
  "globalSettings": { ... global settings ... },
  "formRoles": { ... form roles ... },
  "groups": {},
  "formName": "Form 1 - updated",
  "formData": [ ... form data ... ]
}
```

## Successful Response

```
HTTP/1.1 200 OK
```

## Error Responses

When the form definition does not exist:

```
HTTP/1.1 404 Not Found
Content-Type: application/json

{
  "errorCode": "NotFound"
}
```

When an unknown error occurs while gathering data:

```
HTTP/1.1 580 Server Error
Content-Type: application/json

{
  "errorCode": "InternalServerError"
}
```

## DELETE /FormDefinitions/{formDefinitionId}

**Routes key:** `DeleteFormDefinition`

Deletes a form definition from the server.

```
DELETE pas_base_url/FormDefinitions/03f3e9c4a976419da576276acc427700
```

Alternatively, the `POST` method is supported for this request in combination with an `X-HTTP-Method-Override` header, as such:

```
POST pas_base_url/FormDefinitions/03f3e9c4a976419da576276acc427700
X-HTTP-Method-Override: DELETE
```

## Successful Response

```
HTTP/1.1 204 No Content
```

## Error Responses

When the form definition does not exist:

```
HTTP/1.1 404 Not Found
Content-Type: application/json

{
  "errorCode": "NotFound"
}
```

When an unknown error occurs while gathering data:

```
HTTP/1.1 580 Server Error
Content-Type: application/json

{
  "errorCode": "InternalServerError"
}
```

## Form Extractors

### Introduction

The *form extractors* API allows you to detect form field elements in viewing session source documents.

A *form extractor* resource represents an asynchronous form extraction process. Each *form extractor* that is created is assigned a unique `processId`.

### Available URLs

URL	Description
<code>GET /ViewingSession/u{viewingSessionId}/FormInfo</code>	Returns what kind of form field data, if any, is available in a viewing session's source document.
<code>POST /v2/viewingSessions/{viewingSessionId}/formExtractors</code>	Creates a new <i>form extractor</i> from the source document of a viewing session, starting the process of extracting form field data.
<code>GET /v2/viewingSessions/{viewingSessionId}/formExtractors/{processId}</code>	Gets the status and final output of a <i>form extractor</i> created for a specified viewing session.

### Output Schemas

- `"acroform"` Output
- `"rasterForm"` Output

### GET /ViewingSession/u{viewingSessionId}/FormInfo

Returns what kind of form field data, if any, is available in a viewing session's source document.

#### Request

##### URL Parameters

Parameter	Description
<code>{viewingSessionId}</code>	The <code>viewingSessionId</code> which identifies the viewing session. <b>Note this particular URL requires a letter 'u' to be provided before the <code>viewingSessionId</code>.</b>

## Successful Response

### Response Body

JSON with information about what kind of form data, if any, is available in the source document of the viewing session.

- `formType[]` (Array of strings) Array of values indicating what types of form data, if any, are available for extraction from this viewing session's source document. Values will be one of the following:
  - `"acroform"` - The source document is a PDF which contains AcroForm data. The data can be extracted by using an `input.formType` of `"acroform"` in a subsequent POST to create a *form extractor* process.
  - `"xfa"` - The source document is a PDF which contains XFA form data. We do not yet support extraction of XFA data.
  - `"rasterForm"` - The source document is a raster file which may or may not contain detectable form fields. You can attempt to extract form data by using an `input.formType` of `"rasterForm"` in a subsequent POST to create a *form extractor* process.

## Error Responses

Status Code	JSON <code>errorCode</code>	Description
404		No viewing session with the provided <code>{viewingSessionId}</code> could be found.
480	<code>"DocumentNotProvidedYet"</code>	A source document has not been provided to the viewing session.
480	<code>"FeatureNotLicensed"</code>	You are not licensed to use the form extraction feature.
501	<code>"NotImplemented"</code>	Form extraction is not yet implemented for a viewing session which uses a cached viewing package.
580	<code>"InternalError"</code>	The server encountered an internal error when handling the request.

## Example

### Request

```
GET pas_base_url/ViewingSession/uXYZ.../FormInfo
```

### Response

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "formType": ["acroform"]
}
```

```
}

```

## POST /v2/viewingSessions/{viewingSessionId}/formExtractors

Creates a new *form extractor* from the source document of a viewing session, starting the process of extracting form field data.

### Request

#### Request Headers

Name	Description
Content-Type	Must be <code>application/json</code>

#### Request Body

- `input`
  - `password` (String) Password to open the source document, if required.
  - `formType` (String) **Required.** Type of form field data to extract. Must be one of the following:
    - `"acroform"` - Extract AcroForm field data from a PDF and return results in our `"acroform"` JSON format.
    - `"rasterForm"` - Detect visible form fields in a raster document and return results in our `"rasterForm"` JSON format.
- `minSecondsAvailable` (Integer) The minimum number of seconds this process will remain available to GET its status. The actual lifetime may be longer.

### Successful Response

#### Response Body

JSON with metadata about the created *form extractor* process. You can check on the status of the form extraction process with additional [GET requests](#).

- `input` (Object) Input we accepted to create the *form extractor* process.
- `processId` (String) Unique id for the newly-created *form extractor* process.
- `state` (String) State of extracting form field data:
  - `"processing"` - The server is extracting form field data.
  - `"complete"` - All form field data has been extracted.
  - `"error"` - There was a problem extracting form field data.
- `percentComplete` (Integer) Percentage of form extraction which has completed (from 0 to 100).
- `expirationDateTime` (String) Currently planned date and time when the *form extractor* resource will expire and no longer be available. This time may be extended if we have need to keep using the data. Format is [RFC 3339 Internet Date/Time profile of ISO 8601], e.g. `"2016-11-05T08:15:30.494Z"`.
- `errorCode` (String) Descriptive error code. Present when `state` is `"error"`.
- `errorDetails` (Object) Additional error details, if any. May be present when `errorCode` is

present.

## Error Responses

Status Code	JSON errorCode	Description
480	"MissingInput"	A required input value was not provided. See <code>errorDetails</code> in the response body.
480	"InvalidInput"	An invalid input value was used. See <code>errorDetails</code> in the response body.
480	"DocumentNotProvidedYet"	A source document has not been provided to the viewing session.
480	"FeatureNotLicensed"	You are not licensed to use the form extraction feature.
480	"LicenseCouldNotBeVerified"	The server's license could not be verified. Make sure your license has been correctly installed.
501	"NotImplemented"	Form extraction is not yet implemented for a viewing session which uses a cached viewing package.
580	"InternalError"	The server encountered an internal error when handling the request.

## Example

### Request

```
POST pas_base_url/v2/viewingSessions/uXYZ.../formExtractors
Content-Type: application/json

{
  "input": {
    "formType": "acroform"
  }
}
```

### Response

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "formType": "acroform"
  },
  "processId": "ElkNzWtrUJp4rXI5YnLUgw",
  "state": "processing",
  "percentComplete": 0,
  "expirationDateTime": "2016-12-17T20:38:39.796Z"
```

```
}

```

## GET

### /v2/viewingSessions/{viewingSessionId}/formExtractors/{processId}

Gets the status and final output of a *form extractor* created for a specified viewing session.

## Request

### URL Parameters

Parameter	Description
{viewingSessionId}	The <code>viewingSessionId</code> which identifies the viewing session.
{processId}	The <code>processId</code> which identifies the <i>form extractor</i> process.

## Successful Response

### Response Body

JSON with metadata about the *form extractor* process and the final `output`, if available. You can check on the status of the form extraction process with additional GET requests.

- `input` (Object) Input we accepted to create the form extraction process.
- `processId` (String) Unique id for this *form extractor* process.
- `state` (String) State of extracting form field data:
  - `"processing"` - The server is extracting form field data.
  - `"complete"` - All form field data has been extracted.
  - `"error"` - There was a problem extracting form field data.
- `percentComplete` (Integer) Percentage of form extraction which has completed (from 0 to 100).
- `expirationDateTime` (String) Currently planned date and time when the *form extractor* resource will expire and no longer be available. This time may be extended if we have need to keep using the data. Format is [RFC 3339 Internet Date/Time profile of ISO 8601], e.g. `"2016-11-05T08:15:30.494Z"`.
- `errorCode` (String) Descriptive error code. Present when `state` is `"error"`.
- `errorDetails` (Object) Additional error details, if any. May be present when `errorCode` is present.
- `output` (Object) Present when `state` is `"complete"`:
  - `acroform` (Object) Present when `input.formType` is `"acroform"`. See `"acroform"` [Output](#) below for details.
  - `rasterForm` (Object) Present when `input.formType` is `"rasterForm"`. See `"rasterForm"` [Output](#) below for details.

## Error Responses

Status Code	JSON errorCode	Description
404	-	No <i>form extractor</i> could be found for the given {viewingSessionId} and {processId}.
501	"NotImplemented"	Form extraction is not yet implemented for a viewing session which uses a cached viewing package.
580	"InternalError"	The server encountered an internal error when handling the request.

## Examples

### Request

```
GET
pas_base_url/v2/viewingSessions/uXYZ.../formExtractors/x62gH3TYdqlKj94pLqzmtS
```

### Response

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "formType": "acroform"
  },
  "output": {
    "acroform": {
      "pages": [
        {
          "page": 1,
          "height": 792,
          "width": 612,
          "fields": [
            {
              "fieldType": "Text",
              "name": "email",
              "required": true,
              "tabOrder": 0,
              "appearance": {
                "textColor": "0 g",
                "font": "Helvetica"
              },
              "boundingBox": {
                "lowerLeftX": 89,
                "lowerLeftY": 646,
                "upperRightX": 239,
                "upperRightY": 668
              },
              "options": {
                "multiline": false,
                "maxLen": -1
              },
              "format": {
```

```

        "formatCategory": "None"
      }
    },
    {
      "fieldType": "Text",
      "name": "fullName",
      "required": false,
      "tabOrder": 1,
      "appearance": {
        "textColor": "0 g",
        "font": "Helvetica"
      },
      "boundingBox": {
        "lowerLeftX": 89,
        "lowerLeftY": 676,
        "upperRightX": 239,
        "upperRightY": 698
      },
      "options": {
        "multiline": false,
        "maxLen": -1
      },
      "format": {
        "formatCategory": "None"
      }
    }
  ]
}
},
"expirationDateTime": "2016-10-11T03:30:33.166Z",
"percentComplete": 100,
"processId": "x62gH3TYdqlKj94pLqzmtS",
"state": "complete"
}

```

## "acroform" Output

The `output.acroform` object will conform to the following. All properties are always present unless otherwise noted:

- `pages[]` (Array of Objects) Pages in the document which contains acroform fields. Array will be empty if document does not contain any acroform fields. Each item will contain:
  - `page` (Integer) One-indexed page number.
  - `height` (Number) Page height in points.
  - `width` (Number) Page width in points.
  - `fields[]` (Array of Objects) Acroform fields in the current page. Items may contain:
    - `fieldType` (String) Field type. Will be one of the following:
      - "Text" - Text field
      - "Button" - Push button, check box, or radio button:
        - push button when `options.pushButton` is `true`
        - check box when `options.pushButton` and `options.radio` are both `false`

- radio button when `options.radio` is `true`
- "Signature" - Signature field
- `name` (String) Unique field or radio button group name.
- `required` (Boolean) Indicates whether or not this field is required for the form to be considered complete.
- `tabOrder` (Integer) Tab order of the field within the document.
- `boundingBox` (Object) Position and size of this field. Object will contain:
  - `lowerLeftX` (Number) Distance in points from the left edge of the page to the left side of this field.
  - `lowerLeftY` (Number) Distance in points from the bottom edge of the page to the bottom edge of this field.
  - `upperRightX` (Number) Distance in points from the left edge of the page to the right edge of this field.
  - `upperRightY` (Number) Distance in points from the bottom edge of the page to the top edge of this field.
- `appearance` (Object) Field appearance details:
  - `textColor` (String) Text fill color. Not always present.
  - `font` (String) Font name to use for this field. Not always present.
- `format` (Object) Field formatting details:
  - `formatCategory` (String) Will be one of the following:
    - "None" - Indicates there are no additional `formatOptions` for this field.
    - "Date" - For text fields, requires the field value to be a date.
  - `formatOptions` Additional options for the given `formatCategory`, if any:
    - *When `formatCategory` is "Date"*: (String) Date format string to use when formatting the date value for display.
- `options` (Object) Additional field options, present for some field types:
  - *When `fieldType` is "Text"*:
    - `multiline` (Boolean) Indicates whether or not this is a multi-line text field.
    - `maxLen` (Integer) Indicates the maximum number of characters this form field accepts, or -1 if there is no limit.
  - *When `fieldType` is "Button"*:
    - `pushButton` (Boolean) `true` if this field is a push button, `false` otherwise.
    - `radio` (Boolean) `true` if this field is a radio button, `false` otherwise.
    - *When both `pushButton` and `radio` are false, this field is a check box.*
  - *When `fieldType` is "Button" and `options.radio` is true:*
    - `buttonOnValue` (String) Indicates the form value to use when this radio button is selected.
    - `buttonOffValue` (String) Indicates the form value to use when this radio button is not selected. Value will always be "Off".
    - `buttonValue` (String) Indicates whether or not this radio button should be initially selected. When the value matches `buttonOnValue`, then this radio button should be initially selected. Otherwise (when the value is "Off"), this radio button should not be initially selected.

## Fill Color Strings

A string of one or more numbers followed by an operator indicating what the numbers represent:

- Grayscale value (when string ends in "g"): A single number between 0 and 1 followed by "g" represents the amount of white which forms a grayscale color value. For example:
  - "0 g" - black
  - "0.5 g" - 50% gray
  - "1 g" - white
- RGB value (when string ends in "rg"): Three numbers between 0 and 1 followed by "rg" represent the amount of red, green, and blue light which are additively mixed to form the final color. For example:
  - "1 0 0 rg" - red
  - "1 1 0 rg" - yellow
  - "0.5 0.25 0.75 rg" - 50% red, 25% blue, 75% green
- CMYK (when string ends in "k"): Four numbers between 0 and 1 followed by "k" represent the amount of cyan, magenta, yellow, and black which should be subtractively mixed to form the final color. For example:
  - "0 0 0 1 k" - black
  - "1 1 1 0 k" - black
  - "1 1 1 1 k" - black
  - "1 0 0 0 k" - cyan
  - "0.25 0.88 0.2 0.16 k" - 25% cyan, 88% magenta, 20% yellow, 16% black

## Date Format Strings

Date format strings use the following special substitution patterns:

- `yy` - 2-digit year (e.g. 16 for the year 2016)
- `yyyy` - 4-digit year (e.g. 2016)
- `m` - Month number with no zero padding (e.g. 7 for July)
- `mm` - Month number zero-padded to always be two characters long (e.g. 07 for July)
- `mmm` - Abbreviated month name (e.g. Jan)
- `mmmm` - Full month name (e.g. January)
- `d` - Day of the month with no zero padding (e.g. 4 for the fourth day of the month)
- `dd` - Day of the month zero-padded to always be two characters (e.g. 04 for the fourth day of the month)
- `ddd` - Abbreviated day of the week (e.g. Sun)
- `dddd` - Full name for the day of the week (e.g. Sunday)
- `h` - Hour number in 12-hour time with no zero padding (e.g. 2 for 2 o'clock)
- `hh` - Hour number in 12-hour time zero-padded to always be two characters (e.g. 02 for 2 o'clock)
- `H` - Hour number in 24-hour time with no zero padding (e.g. 13 for the 1:00 pm hour)
- `HH` - Hour number in 24-hour time zero-padded to always be two characters (e.g. 02 for the 2:00 am hour)
- `M` - Minute without zero padding
- `MM` - Minute, zero-padded to always be two digits
- `s` - Second without zero-padding
- `ss` - Second, zero-padded to always be two digits
- `z` - Offset from UTC (e.g. -0400)

- `j` - Abbreviated Japanese era and year (e.g. `H28` for the year 2016).
- `jj` - Full Japanese era and year (e.g. `平成28` for the year 2016).
- `jjj` - Japanese era year without specifying the era (e.g. `28` for the year 2016).

All other characters are considered literal punctuation for the format string. The special characters used above may be used literally by escaping them with a backslash.

## "rasterForm" Output

The `output.rasterForm` object will conform to the following. All properties are always present unless otherwise noted:

- `pages[]` (Array of Objects) Information about each page in the raster document. Each item will contain:
  - `page` (Integer) One-indexed page number.
  - `height` (Number) Page height in pixels.
  - `width` (Number) Page width in pixels.
  - `fields[]` (Array of Objects) Fields detected in the current page. Array will be empty if no fields were detected. Items will contain:
    - `name` (String) Unique name we have automatically assigned to this field in the document (e.g. `"field5"`).
    - `fieldType` (String) Field type. Will be one of the following:
      - `"Text"` - Text field
      - `"CheckBox"` - Check box
    - `confidence` (Number) Our confidence in the correct detection of this field using a scale of 0 (no confidence) to 100 (complete confidence).
    - `boundingBox` (Object) Position and size of this field. Object will contain:
      - `x` (Number) Distance in pixels from the left edge of the page to the left side of this field.
      - `y` (Number) Distance in pixels from the top edge of the page to the top edge of this field.
      - `width` (Number) Distance in pixels from the left edge of this field (`x`) to the right edge of this field.
      - `height` (Number) Distance in pixels from the top edge of this field (`y`) to the bottom edge of this field.
  - `tables[]` (Array of Objects) Tables detected in the current page. Array will be empty if no tables were detected. Items will contain:
    - `numOfColumns` (Integer) Number of columns in the detected table.
    - `numOfRows` (Integer) Number of rows in the detected table.
    - `fields[]` (Array of Objects) Fields detected in the current table. Items will contain:
      - `name` (String) Unique name we have automatically assigned to this field in the document (e.g. `"field5"`).
      - `fieldType` (String) Field type. Will be one of the following:
        - `"Text"` - Text field
        - `"CheckBox"` - Check box
      - `confidence` (Number) Our confidence in the correct detection of this field using a scale of 0 (no confidence) to 100 (complete confidence).
      - `boundingBox` (Object) Position and size of this field. Object will contain:

- `x` (Number) Distance in pixels from the left edge of the page to the left side of this field.
- `y` (Number) Distance in pixels from the top edge of the page to the top edge of this field.
- `width` (Number) Distance in pixels from the left edge of this field (`x`) to the right edge of this field.
- `height` (Number) Distance in pixels from the top edge of this field (`y`) to the bottom edge of this field.

## Health

### Introduction

The following APIs check the health status of PAS, as well as check whether it is properly configured to connect with a PrizmDoc Server. Additionally, an API is provided to return information about PAS.

*Note that these routes do not have route keys, as they cannot be re-routed.*

### Available URLs

URL	Description
GET <code>/health</code>	Determines whether PAS is healthy or not.
GET <code>/servicesConnection</code>	Returns the status of PAS connectivity to PrizmDoc Server, whether PrizmDoc Viewer Self-Hosted or PrizmDoc Cloud.
GET <code>/info</code>	A request to get information about the service.

### GET `/health`

*Note that this URL is only available with PrizmDoc Viewer Self-Hosted.*

Determines whether PAS is healthy or not.

```
GET http://localhost:3000/health
```

### Successful Response

```
HTTP/1.1 200 OK  
OK
```

There are no error states for this request. If the request times out or the connection is refused, then the service is not running or reachable.

### GET `/servicesConnection`

*Note that this URL is only available with PrizmDoc Viewer Self-Hosted.*

Returns the status of PAS connectivity to PrizmDoc Server, whether PrizmDoc Viewer Self-Hosted or PrizmDoc Cloud.

## Successful Response

```
HTTP/1.1 200 OK
OK
```

*Note that this response represents that the connection to the PrizmDoc Service is successful, and does not take into account whether those services are healthy. If you need to check the health of those services, please make a call to them directly.*

## Error Responses

```
HTTP/1.1 580 Server Error
```

*This response represents that PAS is not properly configured to communicate with a PrizmDoc Service.*

## GET /info

*Note that this URL is only available with PrizmDoc Viewer Self-Hosted.*

A request to get information about the service.

```
GET http://localhost:3000/info
```

## Successful Response

```
HTTP/1.1 200 OK
Content-Type: application/json
{
  "version": "X.X.XXXX.XXXX"
}
```

Where the version is the PAS version.

There are no error states for this request. If the request times out or the connection is refused, then the service is not running or reachable.

# Image Stamps

## Introduction

## Available URLs

URL	Description
<code>GET /ImageStampList</code>	Gets list of available image stamps.
<code>GET /ImageStamp/{imageStampId}/q?format={formatStr}</code>	Gets image data for an image stamp.

## GET /ImageStampList

Routes key: `GetImageStamps`

```
GET pas_base_url/ImageStampList
```

## Successful Response

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  imageStamps : [
    { id: "ZmlsZTEuZ2lm", displayName: "file1.gif" },
    { id: "ZmlsZTIucG5n", displayName: "file2.png" }
  ]
}
```

## GET /ImageStamp/{imageStampId}/q?format={formatStr}

Routes key: `GetImageStamp`

Gets image data for an image stamp. The query string parameter `format` defined the format of the response, and supports the following values:

- `Base64`: Returns a JSON object containing the image as a base64 encoded string, as well as a hash of the original image.
- `Image`: Returns the raw image file itself.

The raw image file itself is returned if no format or an unsupported format is specified.

## Getting Base64 data

```
GET pas_base_url/ImageStamp/ZmlsZTIucG5n/q?format=Base64
```

## Successful Response

```
HTTP/1.1 200 OK
Content-Type: application/json
```

```
{
  "dataHash": "1ca8d2e80b6f8f2774f3bc0e6422bc653b0e4d80",
  "dataUrl": "data:image/png;base64,..."
}
```

## Getting the image data

```
GET pas_base_url/ImageStamp/ZmlsZTIucG5n/q?format=Image
```

## Successful Response

```
HTTP/1.1 200 OK
Content-Type: {content type of the image}

<<binary image data>>
```

## Error Responses

When an invalid `imageStampId` is requested:

```
HTTP/1.1 400 Bad Request
Content-Type: application/json

{
  "errorCode": "BadRequest"
}
```

When a valid `imageStampId` is requested but it does not exist:

```
HTTP/1.1 404 Not Found
Content-Type: application/json

{
  "errorCode": "NotFound"
}
```

# Legacy Create Session

## Introduction

The Legacy `Create Session` API is an API that matches the implementation of the `/CreateSession` endpoint of the previous Web Tier samples. This API is deprecated in PAS, and is available for backwards

compatibility only. Please use the new `ViewingSession` API instead.

## Available URLs

URL	Description
<code>GET /CreateSession?document={document name}</code>	Creates a viewing session based on a specific document in storage.
<code>GET /CreateSession?form={formDefinitionId}</code>	Creates a viewing session for the document referenced by a form definition.

## GET /CreateSession?document={document name}

*Note that this URL is only available with PrizmDoc Viewer Self-Hosted.*

**Routes key:** `LegacyCreateSession`

Creates a viewing session based on a specific document in storage.

```
GET pas_base_url/CreateSession?document=Sample.doc
```

To make the equivalent call using the new `ViewingSession` API:

```
POST pas_base_url/ViewingSession
Content-Type: application/json

{
  "source": {
    "type": "document",
    "fileName": "Sample.doc"
  }
}
```

## Successful Response

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "viewingSessionId": "XYZ..."
}
```

## Error Responses

When the document does not exist:

```
HTTP/1.1 404 Not Found
Content-Type: application/json
```

```
{
  "errorCode": "DocumentNotFound"
}
```

When an unknown error occurs while gathering data:

```
HTTP/1.1 500 Server Error
Content-Type: application/json

{
  "errorCode": "InternalServerError"
}
```

## GET /CreateSession?form={formDefinitionId}

*Note that this URL is only available with PrizmDoc Viewer Self-Hosted.*

**Routes key:** LegacyCreateSession

Creates a viewing session for the document referenced by a form definition.

```
GET pas_base_url/CreateSession?form=03f3e9c4a976419da576276acc427700
```

There is no equivalent to this call in the new `ViewingSession` API. Instead, the user should refer to the `templateDocumentId` field in the form definition JSON object, and use it as a document to create a viewing session.

## Error Responses

When the form definition does not exist:

```
HTTP/1.1 404 Not Found
Content-Type: application/json

{
  "errorCode": "FormDefinitionNotFound"
}
```

When the document referenced by the form definition does not exist:

```
HTTP/1.1 404 Not Found
Content-Type: application/json

{
  "errorCode": "DocumentNotFound"
}
```

When an unknown error occurs while gathering data:

```
HTTP/1.1 500 Server Error
Content-Type: application/json

{
  "errorCode": "InternalError"
}
```

## Markup Burners

### Introduction

The MarkupBurner API is designed to "burn" a markup into a document. **NOTE:** CAD files are not supported. This API also does not redact PDF annotations.

### Available URLs

URL	Description
POST /ViewingSession/u{viewingSessionId}/MarkupBurner	Starts a new MarkupBurner using the source document of a viewing session and provided markup data as input.
GET /ViewingSession/u{viewingSessionId}/MarkupBurner/{processId}	Gets the status of a MarkupBurner for a viewing session.
GET /ViewingSession/u{viewingSessionId}/MarkupBurner/{processId}/Document	Gets the output result of a MarkupBurner process for a viewing session.

### POST /ViewingSession/u{viewingSessionId}/MarkupBurner

#### Routes key: CreateMarkupBurner

Starts a new MarkupBurner using the source document of a viewing session and a provided markup data as input. When the asynchronous process is ultimately finished, the output will be a new document which includes the provided markup as part of the document itself (the original source document of the viewing session is left unaltered).

This is a specialized URL which allows you to do markup burning against the source file of an existing viewing session without needing to use the work file API.

This request merely begins the markup burning process. Once started, you poll the status of the process using the [GET /ViewingSession/u{viewingSessionId}/MarkupBurner/{processId}] URL below to know when the process has completed.

#### Request

##### Request Headers

Name	Description
Content-Type	Specifies the type of content being provided to the markup burner process. It must be application/xml or application/json depending on the markup format used in the request body.

##### URL Parameters

Parameter	Description
{viewingSessionId}	The id provided in the response from POST /PCCIS/V1/ViewingSession.

##### Query String Parameters

Parameter	Description
{RemoveFormFields}	Optional parameter indicating which interactive form fields to remove from the source document upon markup burner process. Currently only 'acroform' value is supported. Please see example below.

##### Request Body

The JSON or XML markup to burn into the source document.

##### Response Body

If successful, a JSON object which may contain:

- `processId` (String) The id of the process.
- `state` (String) The current state of the markup burning process running on the server. This will always be **"processing"** in the initial POST response.
- `percentComplete` (Integer) The percentage (0 – 100) complete of the process. This will always be **0** in the initial POST response.
- `input` (null) Legacy property which exists only for backwards compatibility. Value will always be `null`.
- `output` (null) Legacy property which exists only for backwards compatibility. Value will always be `null`.

##### Error Responses

Status Code	Description
404	Not Found, if {viewingSessionId} does not exist.
405	Method Not Allowed, if POST HTTP method is not used.

### Examples

#### Request to burn a rectangle annotation using JSON markup

```
POST pas_base_url/ViewingSession/uDLbVh9sTmXJAmD1GeXbS9Gn3Whxs8oib2xPsw2xEFjnIDdoJcudPtxciodSYFQq6zYGabQ_rJIecdbkImTTkSA/MarkupBurner
Content-Type: application/json
```

```
{
  "marks": [
    {
      "uid": "Z2diOV8yMDE3LTAzLTMxVDA3OjQ5OjExLjUyNVpfY2VnNjzy",
      "interactionMode": "Full",
      "pageNumber": 1,
      "type": "RectangleAnnotation",
      "creationDateTime": "2017-03-31T07:49:11.525Z",
      "modificationDateTime": "2017-03-31T07:49:11.526Z",
      "data": {},
      "conversation": {},
      "rectangle": {
        "x": 0,
        "y": 0,
        "width": 0,
        "height": 0
      },
      "pageData": {
        "width": 612,
        "height": 792
      },
      "borderColor": "#000000",
      "borderThickness": 4,
      "fillColor": "#FB0404",
      "opacity": 255
    }
  ]
}
```

#### Request to burn a rectangle annotation using JSON markup with removal of acroform fields

```
POST prizmdoc_server_base_url/PCCIS/V1/ViewingSession/uDlVh9sTmXJAmDlGeXbs9Gn3WHxs8oib2xPsW2xEFjnIDdoJcudPtxciodSYFQq6zYGabQ_rJIecdbkImTtkSA/MarkupBurner?
RemoveFormFields=acroform
Content-Type: application/json
{
  "marks": [
    {
      "uid": "Z2diOV8yMDE3LTAzLTMxVDA3OjQ5OjExLjUyNVpfY2VnNjzy",
      "interactionMode": "Full",
      "pageNumber": 1,
      "type": "RectangleAnnotation",
      "creationDateTime": "2017-03-31T07:49:11.525Z",
      "modificationDateTime": "2017-03-31T07:49:11.526Z",
      "data": {},
      "conversation": {},
      "rectangle": {
        "x": 0,
        "y": 0,
        "width": 0,
        "height": 0
      },
      "pageData": {
        "width": 612,
        "height": 792
      },
      "borderColor": "#000000",
      "borderThickness": 4,
      "fillColor": "#FB0404",
      "opacity": 255
    }
  ]
}
```

#### Response

```
HTTP/1.1 200 OK
Content-Type: application/json
{
  "input": null,
  "processId": "ElkNzWtrUJp4rXI5YnLUgw",
  "state": "processing",
  "percentComplete": 0,
  "errorCode": null,
  "output": null
}
```

#### GET /ViewingSession/u{viewingSessionId}/MarkupBurner/{processId}

##### Routes key: PollMarkupBurner

Gets the status of a MarkupBurner for a viewing session.

Requests are typically sent to this URL repeatedly as long as the `state` is "processing".

When `state` is "complete", a new document with the provided markup burned into it will be available at:

[GET /ViewingSession/u{viewingSessionId}/MarkupBurner/{processId}/Document]

If an error occurred and the output could not be created, the `state` property will be "error" and the `errorCode` property will contain an error code string.

#### Request

##### URL Parameters

Parameter	Description
{viewingSessionId}	The id provided in the response from POST /ViewingSession.
{processId}	The id of the process.

#### Response Body

If successful, a JSON object which may contain:

- `processId` (String) The id of the process.

- **state** (String) The current state of the process. The following values are allowed:
  - "processing" - The markup burning is in progress.
  - "complete" - The markup burning is completed.
  - "error" - The markup burning returns an error.
- **percentComplete** (Integer) The percentage (0 – 100) complete of the process.
- **errorCode** (String) An error code string if a problem occurred during processing.
- **input** (null) Legacy property which exists only for backwards compatibility. Value will always be null.
- **output** (null) Legacy property which exists only for backwards compatibility. Value will always be null.

#### Error Responses

Status Code	Description
404	Not Found, if either the {viewingSessionId} or {processId} do not exist.
405	Method Not Allowed, if GET method is not used.

#### Examples

##### Request

```
GET
pas_base_url/PCCIS/V1/ViewingSession/uDLbVh9sTmXJAmD1GeXbS9Gn3WHxs8oib2xPsW2xEFjnIDdoJcudPtxciodSYFQq6zYGabQ_rJIecdbkImTTkSA/MarkupBurner/5rGUUh3Qxhf6VXm8RkBPfA
```

##### Response when the state is "processing"

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": null,
  "processId": "5rGUUh3Qxhf6VXm8RkBPfA",
  "state": "processing",
  "percentComplete": 0,
  "errorCode": null,
  "output": null
}
```

##### Response when the state is "complete"

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": null,
  "processId": "5rGUUh3Qxhf6VXm8RkBPfA",
  "state": "complete",
  "percentComplete": 100,
  "errorCode": null,
  "output": null
}
```

##### Response when the state is "error" because the provided markup XML did not contain valid XML markup or the provided markup JSON was auto-detected as a non-text format

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": null,
  "processId": "53LCkvO8-rsDIaW95WgoFA",
  "state": "error",
  "percentComplete": 0,
  "errorCode": "RedactionError",
  "output": null
}
```

##### Response when the state is "error" because the provided markup JSON cannot be parsed as JSON

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": null,
  "processId": "53LCkvO8-rsDIaW95WgoFA",
  "state": "error",
  "percentComplete": 0,
  "errorCode": "InvalidJson",
  "output": null
}
```

##### Response when the state is "error" because the provided markup JSON does not match the JSON Marks Schema

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": null,
  "processId": "53LCkvO8-rsDIaW95WgoFA",
  "state": "error",
  "percentComplete": 0,
  "errorCode": "InvalidMarkup",
  "output": null
}
```

**GET /ViewingSession/u{viewingSessionId}/MarkupBurner/{processId}/Document?ContentDispositionFilename={ContentDispositionFilename}****Routes key:** GetBurnedDocumentDownloads the resulting burned-in document. It will be served with the correct `Content-Type` of the document, and using the specified `ContentDispositionFilename` as the name, along with the correct file extension.**Request****URL Parameters**

Parameter	Description
{viewingSessionId}	The id provided in the response from POST /ViewingSession.
{processId}	The id of the process which identifies the MarkupBurner task as a string.
{ContentDispositionFilename}	The filename as a URL-encoded string, without extension, to be used in the <code>Content-Disposition</code> response header (the file extension will be appended automatically). The default value is "document".

**Response Headers**

Name	Description
Content-Disposition	Specifies 'attachment' disposition, RFC-2183 compatible <code>filename</code> parameter and an RFC-8187 compatible <code>filename*</code> parameter, allowing the use of non-ASCII filenames.
Content-Type	Will be <code>application/pdf</code> .

**Response Body**

The raw bytes of the PDF document with markup burned into it.

**Error Responses**

Status Code	Description
404	Not Found, which may occur if any of the following are true: the MarkupBurner has not completed yet, no such MarkupBurner exists, or no such ViewingSession exists.
405	Method Not Allowed, if GET method is not used.

**Examples****Request**

```
GET
pas_base_url/ViewingSession/uDLbVh9sTmXJAmdlGeXbS9Gn3WHxs8oib2xPsW2xEFjnIDdoJcudPtxciodSYFQq6zYGabQ_rJIecdbkImTTkSA/MarkupBurner/E1kNzWtrUJp4rXI5YnLUgw/Document
```

**Response**

```
HTTP/1.1 200 OK
Content-Type: application/pdf
Content-Disposition: attachment; filename="Greek____.pdf"; filename*=UTF-8'Greek%CE%91%CE%92%CE%93%CE%94.pdf
<<PDF data>>
```

# Markup Layers

## Introduction

## Available URLs

URL	Description
<code>GET /MarkupLayers/u{viewingSessionId}</code>	Gets the list of all available markup layers for the particular document.
<code>POST /MarkupLayers/u{viewingSessionId}</code>	Creates a new markup layer using the provided data.
<code>GET /MarkupLayers/u{viewingSessionId}/{layerRecordId}</code>	Gets a particular layer record from the server.

URL	Description
<b>PUT</b> <code>/MarkupLayers/u{viewingSessionId}/{layerRecordId}</code>	Updates an existing markup layer record with new data. This will overwrite all old data with the new uploaded data.
<b>DELETE</b> <code>/MarkupLayers/u{viewingSessionId}/{layerRecordId}</code>	Deletes a markup layer record from the server.

## GET /MarkupLayers/u{viewingSessionId}

**Routes key:** `GetMarkupLayers`

Gets the list of all available markup layers for the particular document.

```
GET pas_base_url/MarkupLayers/u1234
```

## Successful Response

```
HTTP/1.1 200 OK
Content-Type: application/json

[
  {
    "name": "layer name 1",
    "layerRecordId": "2fee93fadf2ed11df",
    "originalXmlName": ""
  },
  {
    "name": "layer name 2",
    "layerRecordId": "32f993b09fb0f2236",
    "originalXmlName": ""
  }
]
```

## Error Responses

When the document cannot be identified based on the viewing session:

```
HTTP/1.1 502 Bad Gateway
Content-Type: application/json

{
  "errorCode": "BadGateway"
}
```

When the server's license could not be verified:

```
HTTP/1.1 480 LicenseCouldNotBeVerified
Content-Type: application/json
```

```
{
  "errorCode": "LicenseCouldNotBeVerified"
}
```

When an unknown error occurs while gathering data:

```
HTTP/1.1 580 Server Error
Content-Type: application/json

{
  "errorCode": "InternalError"
}
```

## POST /MarkupLayers/u{viewingSessionId}

**Routes key:** `CreateMarkupLayer`

Creates a new markup layer using the provided data.

```
POST pas_base_url/MarkupLayers/u1234
Content-Type: application/json

{
  "name": "layer name 1",
  "comments": [],
  "data": {},
  "marks": [{ array of mark objects }]
}
```

## Successful Response

```
HTTP/1.1 201 Created
Content-Type: application/json

{
  "layerRecordId": "2fee93fadf2ed11df"
}
```

## Error Responses

When the document cannot be identified based on the viewing session:

```
HTTP/1.1 502 Bad Gateway
Content-Type: application/json

{
  "errorCode": "BadGateway"
}
```

When the server's license could not be verified:

```
HTTP/1.1 480 LicenseCouldNotBeVerified
Content-Type: application/json

{
  "errorCode": "LicenseCouldNotBeVerified"
}
```

When an unknown error occurs while gathering data:

```
HTTP/1.1 580 Server Error
Content-Type: application/json

{
  "errorCode": "InternalError"
}
```

## GET /MarkupLayers/u{viewingSessionId}/{layerRecordId}

**Routes key:** `GetMarkupLayer`

Gets a particular layer record from the server.

```
GET pas_base_url/MarkupLayers/u1234/2fee93fadf2ed11df
```

## Successful Response

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  ...markup layer data...
}
```

## Error Responses

When the markup layer record does not exist:

```
HTTP/1.1 404 Not Found
Content-Type: application/json

{
  "errorCode": "NotFound"
}
```

When the document cannot be identified based on the viewing session:

```
HTTP/1.1 502 Bad Gateway
Content-Type: application/json

{
  "errorCode": "BadGateway"
}
```

When an unknown error occurs while gathering data:

```
HTTP/1.1 580 Server Error
Content-Type: application/json

{
  "errorCode": "InternalServerError"
}
```

## PUT /MarkupLayers/u{viewingSessionId}/{layerRecordId}

**Routes key:** `UpdateMarkupLayer`

Updates an existing markup layer record with new data. This will overwrite all old data with the new uploaded data.

```
PUT pas_base_url/MarkupLayers/u1234/2fee93fadf2ed11df
Content-Type: application/json
```

Alternatively, the `POST` method is supported for this request in combination with an `X-HTTP-Method-Override` header, as such:

```
POST pas_base_url/MarkupLayers/u1234/2fee93fadf2ed11df
Content-Type: application/json
X-HTTP-Method-Override: PUT
```

## Successful Response

```
HTTP/1.1 200 OK
```

## Error Responses

When the markup layer record does not exist:

```
HTTP/1.1 404 Not Found
Content-Type: application/json
```

```
{
  "errorCode": "NotFound"
}
```

When the document cannot be identified based on the viewing session:

```
HTTP/1.1 502 Bad Gateway
Content-Type: application/json

{
  "errorCode": "BadGateway"
}
```

When an unknown error occurs while gathering data:

```
HTTP/1.1 500 Server Error
Content-Type: application/json

{
  "errorCode": "InternalServerError"
}
```

## DELETE /MarkupLayers/u{viewingSessionId}/{layerRecordId}

**Routes key:** `DeleteMarkupLayer`

Deletes a markup layer record from the server.

```
DELETE pas_base_url/MarkupLayers/u1234/2fee93fadf2ed11df
```

Alternatively, the `POST` method is supported for this request in combination with an `X-HTTP-Method-Override` header, as such:

```
POST pas_base_url/MarkupLayers/u1234/2fee93fadf2ed11df
X-HTTP-Method-Override: DELETE
```

### Successful Response

```
HTTP/1.1 204 No Content
```

### Error Responses

When the markup layer record does not exist:

```
HTTP/1.1 404 Not Found
Content-Type: application/json

{
  "errorCode": "NotFound"
}
```

When the document cannot be identified based on the viewing session:

```
HTTP/1.1 502 Bad Gateway
Content-Type: application/json

{
  "errorCode": "BadGateway"
}
```

When an unknown error occurs while gathering data:

```
HTTP/1.1 580 Server Error
Content-Type: application/json

{
  "errorCode": "InternalServerError"
}
```

## Markup XML

### Introduction

#### Available URLs

URL	Description
<a href="#">GET /AnnotationList/q/Art/q</a>	Gets the list of available annotation XML files from the server.
<a href="#">GET /Document/q/Art/q</a>	Gets a specific annotations XML file from the server.
<a href="#">POST /Document/q/Art/q</a>	Creates a new annotations XML file using the provided data.

#### GET /AnnotationList/q/Art/q?DocumentID=u{viewingSessionId}

**Routes key:** `GetAnnotations`

Gets the list of available annotation XML files from the server.

```
GET pas_base_url/AnnotationList/q/Art/q?DocumentID=u1234
```

## Successful Response

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "annotationFiles": [
    {
      "annotationLabel": "anId",
      "annotationName": "abcd_0_anId.xml",
      "ID": "1"
    }
  ]
}
```

## Error Responses

When the server's license could not be verified:

```
HTTP/1.1 480 LicenseCouldNotBeVerified
Content-Type: application/json

{
  "errorCode": "LicenseCouldNotBeVerified"
}
```

## GET /Document/q/Art/q?

**DocumentID=u{viewingSessionId}&AnnotationID=u{annotationId}**

**Routes key:** `GetAnnotation`

Gets a specific annotations XML file from the server.

```
GET pas_base_url/Document/q/Art/q?DocumentID=u1234&AnnotationID=uanId
```

## Successful Response

```
HTTP/1.1 200 OK
Content-Type: application/xml

<?xml version="1.0"?>...
```

## Error Responses

When the server's license could not be verified:

```
HTTP/1.1 480 LicenseCouldNotBeVerified
Content-Type: application/json

{
  "errorCode": "LicenseCouldNotBeVerified"
}
```

## POST /Document/q/Art/q?

**DocumentID=u{viewingSessionId}&AnnotationID=u{annotationId}**

**Routes key:** `CreateAnnotation`

Creates a new annotations XML file using the provided data.

```
POST pas_base_url/Document/q/Art/q?DocumentID=u1234&AnnotationID=uanotherId
Content-Type: application/xml

<?xml version="1.0">...
```

## Successful Response

```
HTTP/1.1 200 OK
```

## Error Responses

When the server's license could not be verified:

```
HTTP/1.1 480 LicenseCouldNotBeVerified
Content-Type: application/json

{
  "errorCode": "LicenseCouldNotBeVerified"
}
```

# Search Tasks

## Introduction

The *search task* API is designed for a viewer to perform server-side searching and text retrieval against the source document of a viewing session.

A search task represents an asynchronous full-text search of a document and yields results as they become available.

## Available URLs

URL	Description
POST <code>/v2/viewingSessions/{viewingSessionId}/searchTasks</code>	Starts an asynchronous full-text search against a viewing session's source document.
GET <code>/v2/searchTasks/{processId}/results</code>	Gets available search results.
DELETE <code>/v2/searchTasks/{processId}</code>	Cancels a search task.

## POST `/v2/viewingSessions/{viewingSessionId}/searchTasks`

Starts an asynchronous full-text search against a viewing session's source document.

After a successful POST to create the search task, we immediately begin a background process to start populating search results for you to GET. You do not need to wait for the full set of results to be available; you can start [retrieving partial search results](#) as soon as they are available. Once the full text of the document has been searched and no more results will be added, the search task `state` will change from `"processing"` to `"complete"`.

### Request

#### Request Headers

Name	Description
Content-Type	Must be <code>application/json</code>

#### Request Body

- `input`
  - `searchTerms[]` (Array of Objects) **Required and must contain at least one item.** Each item must be an object which conforms to one of the following:
    - *Simple (finds all occurrences of a single regex pattern):*
      - `type: "simple"` (String) **Required.** Must be set to `"simple"` to indicate this is a simple term object.
      - `pattern` (String) **Required.** Regular expression to search for, using a [JavaScript-flavored regular expression string](#).
      - `caseSensitive` (Boolean) Determines whether we consider case when matching this term. Default is `false`.
      - `contextPadding` (Integer) Maximum number of characters to include both before and after the search result in the returned `context` string. For example, a value of `25` would allow up to `25` preceding and `25` following characters of content. Default is `25`.
      - `termId` (String) Optional id of your choosing which, if provided, will be included as a `termId` property on each search result produced by this term. When used, we do not enforce uniqueness; it is your responsibility to use a unique `termId` for each term.
    - *Proximity (finds all occurrences of multiple regex patterns which are near each other):*
      - `type: "proximity"` (String) **Required.** Must be set to `"proximity"` to

indicate this is a proximity term object.

- `subTerms []` (Array of Objects) **Required and must contain at least two items.** Each item may contain:
    - `pattern` (String) **Required.** Regular expression for this particular term, using a [JavaScript-flavored regular expression string](#).
    - `caseSensitive` (Boolean) Determines whether we consider case when matching this term. Default is `false`.
  - `distance` (Integer) **Required.** Maximum number of words allowed between any two consecutive sub-terms.
  - `contextPadding` (Integer) Maximum number of characters to include both before and after the search result in the returned `context` string. For example, a value of 25 would allow up to 25 preceding and 25 following characters of content. Default is 25.
  - `termId` (String) Optional id of your choosing which, if provided, will be included as a `termId` property on each search result produced by this term. When used, we do not enforce uniqueness; it is your responsibility to use a unique `termId` for each term.
- `minSecondsAvailable` (Integer) The minimum number of seconds this search task will remain available. The actual lifetime may be longer.

## Successful Response

### Response Body

JSON with metadata about the created search task.

- `input` (Object) Input we accepted to create the search task.
- `processId` (String) Unique id for this search task.
- `affinityToken` (String) Affinity token for this search task. Present when clustering is enabled.
- `state` (String) State of getting search results.
  - `"processing"` - The search is still being executed. Additional results may become available.
  - `"complete"` - The search is complete. No additional results will become available.
  - `"error"` - There was a problem performing the search. No additional results will become available.
- `percentComplete` (Integer) Percentage of the document text which has been searched (from 0 to 100).
- `expirationDateTime` (String) Currently planned date and time when the search task resource will expire and no longer be available for use. Format is [RFC 3339 Internet Date/Time profile of ISO 8601](#), e.g. `"2016-11-05T08:15:30.494Z"`.

## Error Responses

Status Code	JSON <code>errorCode</code>	Description
404	-	No viewing session with the provided <code>{viewingSessionId}</code> could be found.
480	"DocumentNotProvidedYet"	The viewing session does not yet have a source document attached.

Status Code	JSON errorCode	Description
480	"MissingInput"	A required input value was not provided. See <code>errorDetails</code> in the response body.
480	"InvalidInput"	An invalid input value was used. See <code>errorDetails</code> in the response body.
480	"MissingInputForSimpleTerm"	An invalid input value was used in a "simple" term object. See <code>errorDetails</code> in the response body.
480	"InvalidInputForSimpleTerm"	An invalid input value was used in a "simple" term object. See <code>errorDetails</code> in the response body.
480	"MissingInputForProximityTerm"	An invalid input value was used in a "proximity" term object. See <code>errorDetails</code> in the response body.
480	"InvalidInputForProximityTerm"	An invalid input value was used in a "proximity" term object. See <code>errorDetails</code> in the response body.
480	"FeatureDisabled"	The viewing session was created with <code>"serverSideSearch"</code> disabled.
480	"ResourceNotUsable"	The underlying search resources are not usable for this viewing session.
580	"InternalError"	The server encountered an internal error when handling the request.

## Example

### Request

This POST begins a search task which finds all instances of the word "quick":

```
POST pas_base_url/v2/viewingSessions/XYZ.../searchTasks
Content-Type: application/json

{
  "input": {
    "searchTerms": [{
      "type": "simple",
      "pattern": "quick"
    }]
  }
}
```

### Response

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "searchTerms": [{
      "type": "simple",
      "pattern": "quick",
      "caseSensitive": false,
      "contextPadding": 25
    }]
  },
  "processId": "pR5X6nPDgMwat6cxlmn0Q3",
  "state": "processing",
  "percentComplete": 0,
  "expirationDateTime": "2016-12-17T20:38:39.796Z"
}
```

## Additional Examples

### Start a case-sensitive search for an exact phrase

This POST begins a case-sensitive search for the exact phrase "The quick brown fox jumped over the lazy dog.". Notice that we had to escape the period character because it is a special regex character (`\.`), and because this is a JSON string value, the backslash itself must also be escaped (`"\\."`):

```
POST pas_base_url/v2/viewingSessions/XYZ.../searchTasks
Content-Type: application/json

{
  "input": {
    "searchTerms": [{
      "type": "simple",
      "pattern": "The quick brown fox jumped over the lazy dog\\.",
      "caseSensitive": true
    }]
  }
}
```

### Start a search for every instance of the word "quick" or "brown" or "fox"

This POST begins a search for the words "quick" or "brown" or "fox", locating all instances of each of these words:

```
POST pas_base_url/v2/viewingSessions/XYZ.../searchTasks
Content-Type: application/json

{
  "input": {
    "searchTerms": [{
      "type": "simple",
      "pattern": "quick"
    }, {
```

```
    "type": "simple",
    "pattern": "fox"
  }, {
    "type": "simple",
    "pattern": "dog"
  }
]
```

**Start a search for "quick" and "fox" and "dog" where there are no more than 5 words between any two consecutive occurrences of them**

```
POST pas_base_url/v2/viewingSessions/XYZ.../searchTasks
Content-Type: application/json
```

```
{
  "input": {
    "searchTerms": [{
      "type": "proximity",
      "subTerms": [{
        "pattern": "quick"
      }, {
        "pattern": "fox"
      }, {
        "pattern": "dog"
      }
    ],
    "distance": 5
  }
}
```

**Start a case-sensitive search for "John Doe" within 30 words of what looks like a Social Security Number**

```
POST pas_base_url/v2/viewingSessions/XYZ.../searchTasks
Content-Type: application/json
```

```
{
  "input": {
    "searchTerms": [{
      "type": "proximity",
      "subTerms": [{
        "pattern": "John Doe",
        "caseSensitive": true
      }, {
        "pattern": "\\d{3}-\\d{2}-\\d{4}"
      }
    ],
    "distance": 30
  }
}
```

**GET /v2/searchTasks/{processId}/results?limit=**

## `{limit}&continueToken={continueToken}`

Gets a block of newly-available search results up to a limit.

This URL is designed to give you the results in chunks as they become available. Each GET request will return the currently-known results up to a `limit` (default is `100`). If a response contains a `continueToken`, it indicates that additional results may be available and that you should issue another GET request using that `continueToken` as a query string parameter to skip the results you have already received. As long as a response contains a `continueToken`, use it to issue a subsequent GET for more results. When you encounter a response which does *not* have a `continueToken`, you have received all of the results and no more GET requests are necessary.

In order to optimize the number of network requests you make, any response which contains a `continueToken` will also contain a `continueAfter` value with a recommended number of milliseconds you should wait before sending the next GET request.

## Request

### URL Parameters

Parameter	Description
<code>{processId}</code>	The <code>processId</code> which identifies the search task.
<code>{limit}</code>	The maximum number of results to return for this HTTP request. Must be an integer greater than 0. Default is <code>100</code> .
<code>{continueToken}</code>	Used to continue getting results from the point where a previous GET request left off.

### Request Headers

Name	Description
<code>Accusoft-Affinity-Token</code>	The <code>affinityToken</code> of the search task. <b>Required when server clustering is enabled.</b>

## Successful Response

### Response Body

JSON with any available search results.

- `results` (Array of Objects) **Always present.** Array of newly-available search results. If no new results are available, this array will be empty.
  - `id` (Integer) Unique number assigned to this search result.
  - `pageIndex` (Integer) Zero-indexed page number where this search result occurs in the document.
  - `text` (String) Text which was matched.
  - `context` (String) Contextual excerpt, including the matched text itself. The amount of leading and trailing characters to include in this value is controlled by `input.contextPadding` in the initial POST to create the search task.

- `boundingRectangle` (Object) Bounding rectangle dimensions of the matched text on the page where it occurs.
  - `x` (Number) Distance from the left edge of the page to the left edge of the search result bounding box.
  - `y` (Number) Distance from the top edge of the page to the top edge of the search result bounding box.
  - `width` (Number) Width of the search result bounding box.
  - `height` (Number) Height of the search result bounding box.
- `lineRectangles` (Array of Objects) Array of rectangles for each line of the matched text on the page where it occurs. If the match is on one line, the result is a single array item with a rectangle equal to `boundingRectangle`. If the match is on multiple lines, all rectangles in the array will be within the bounds of the `boundingRectangle`.
  - `x` (Number) Distance from the left edge of the page to the left edge of the search result line rectangle.
  - `y` (Number) Distance from the top edge of the page to the top edge of the search result line rectangle.
  - `width` (Number) Width of the search result line rectangle.
  - `height` (Number) Height of the search result line rectangle.
- `pageData` (Object) Information about the dimensions of the page where this search result occurs.
  - `width` (Number) Width of the page.
  - `height` (Number) Height of the page.
- `searchTerm` (Object) Search term which produced this result. The value will correspond to one of the items passed in to `input.searchTerms` in the initial POST to create the search task.
  - *When type is "simple":*
    - `type` (String) **Always present** with a value of "simple".
    - `pattern` (String) **Always present.** Regular expression which produced the result.
    - `caseSensitive` (Boolean) **Always present.** Indicates whether or not case was considered for this result.
    - `contextPadding` (Integer) **Always present.** Amount of context padding requested for this term in the initial POST.
    - `termId` (String) When provided in the initial POST, `termId` of the term which produced this result.
  - *When type is "proximity":*
    - `type` (String) **Always present** with a value of "proximity".
    - `subTerms []` (Array of Objects) **Always present.** The sub-terms which contributed to this result. Each item will contain:
      - `pattern` (String) **Always present.** Regular expression for this particular sub-term.
      - `caseSensitive` (Boolean) **Always present.** Indicates whether or not case was considered when matching this particular sub-term in the result.
    - `distance` (Integer) **Always present.** Maximum number of words allowed between any two consecutive sub-terms.
    - `contextPadding` (Integer) **Always present.** Amount of context padding requested for this term in the initial POST.
    - `termId` (String) When provided in the initial POST, `termId` of the term which

produced this result.

- `startIndex` (Integer) JavaScript string index into the full-page text string where the matched text begins.
- `startIndexInContext` (Integer) JavaScript string index into the returned `context` string where the matched text begins.
- `pagesWithoutText` (Array of Integers) **Always present.** Currently known pages in the document which do not contain any text content at all. Values are zero-indexed page numbers. If the search task is still processing (a `continueToken` is present in the response), the data should be considered partial. Note that, unlike `results`, this value is cumulative (we always deliver the entire set of pages we know to not contain text data).
- `continueToken` (String) When present, indicates that more search results may be available. An additional GET request should be made for more results using this value as the `continueToken` query string parameter. When not present, indicates that the search is complete and no further results will be available.
- `continueAfter` (Number) Recommended milliseconds to delay before issuing the next GET request for more results.

## Error Responses

Status Code	JSON <code>errorCode</code>	Description
404	-	No search task with the provided <code>{processId}</code> could be found.
480	"MissingInput"	A required input value was not provided. See <code>errorDetails</code> in the response body.
480	"InvalidInput"	An invalid input value was used. See <code>errorDetails</code> in the response body.
480	"ResourceNotUsable"	Can occur when the search task is in a state of "error".
580	"InternalError"	The server encountered an internal error when handling the request.

## Example

Say you have a search task which was created to find the regex `"manag[a-z]*"` in a particular whitepaper. Here is an example sequence of requests and responses illustrating how you would acquire the full set of results for the search task (for brevity, the total number of search results in this example is small).

You would start with an initial GET:

```
GET pas_base_url/v2/searchTasks/pR5X6nPDgMwat6cx1mn0Q3/results
Accusoft-Affinity-Token: ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=
```

```
HTTP/1.1 200 OK
Content-Type: application/json

{
```

```
"results": [
  {
    "id": 0,
    "pageIndex": 0,
    "text": "Management",
    "context": "Self-Hosted Content Management Best Practices",
    "boundingRectangle": { "x": 24.20, "y": 13.74, "width": 234.20,
"height": 26.10 },
    "lineRectangles": [{ "x": 24.20, "y": 13.74, "width": 234.20,
"height": 26.10 }],
    "pageData": { "width": 612, "height": 792 },
    "searchTerm": {
      "type": "simple",
      "pattern": "manag[a-z]*",
      "caseSensitive": false,
      "contextPadding": 25
    },
    "startIndex": 19,
    "startIndexInContext": 19
  },
  {
    "id": 1,
    "pageIndex": 0,
    "text": "management",
    "context": "ue of enterprise content management software should go
way b",
    "boundingRectangle": { "x": 156.07, "y": 352.19, "width": 105.00,
"height": 13.41 },
    "lineRectangles": [{ "x": 156.07, "y": 352.19, "width": 105.00,
"height": 13.41 }],
    "pageData": { "width": 612, "height": 792 },
    "searchTerm": {
      "type": "simple",
      "pattern": "manag[a-z]*",
      "caseSensitive": false,
      "contextPadding": 25
    },
    "startIndex": 527,
    "startIndexInContext": 25
  }
],
"pagesWithoutText": [],
"continueToken": "Cx07GHlkmi32gxAQhv49WZ",
"continueAfter": 500
}
```

The initial response has given us two results for the first page of the document (page index 0) and a `continueToken` which we should use to get more results after waiting 500 milliseconds.

So, half a second later, we issue a follow-up request with the `continueToken` passed in as a query string parameter (so we skip over the results we already have):

```
GET pas_base_url/v2/searchTasks/pR5X6nPDgMwat6cxlmn0Q3/results?
continueToken=Cx07GHlkmi32gxAQhv49WZ
Accusoft-Affinity-Token: ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=
```

```
HTTP/1.1 200 OK
```

```
Content-Type: application/json

{
  "results": [
    {
      "id": 2,
      "pageIndex": 1,
      "text": "management",
      "context": "Self-Hosted content management software helps
eliminate",
      "boundingRectangle": { "x": 310.21, "y": 562.14, "width": 254.03,
"height": 26.10 },
      "lineRectangles": [{ "x": 310.21, "y": 562.14, "width": 254.03,
"height": 26.10 }],
      "pageData": { "width": 612, "height": 792 },
      "searchTerm": {
        "type": "simple",
        "pattern": "manag[a-z]*",
        "caseSensitive": false,
        "contextPadding": 25
      },
      "startIndex": 652,
      "startIndexInContext": 19
    }
  ],
  "pagesWithoutText": [2,3],
  "continueToken": "B4uGe7m0ZtxR3lkqA07Nmj",
  "continueAfter": 500
}
```

This time we get back a new result as well as some new information about `pagesWithoutText`: we now know that at least page indices 2 and 3 (zero-indexed page numbers) have no text at all.

The presence of a new `continueToken` tells us there may be more results, so we submit another request with the new `continueToken`:

```
GET pas_base_url/v2/searchTasks/pR5X6nPDgMwat6cxlmn0Q3/results?
continueToken=B4uGe7m0ZtxR3lkqA07Nmj
Accusoft-Affinity-Token: ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=
```

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "results": [
    {
      "id": 3,
      "pageIndex": 5,
      "text": "management",
      "context": "upply chains to contract management, or HR processes to
gove",
      "boundingRectangle": { "x": 67.00, "y": 142.53, "width": 254.03,
"height": 26.10 },
      "lineRectangles": [{ "x": 67.00, "y": 142.53, "width": 254.03,
"height": 26.10 }],
      "pageData": { "width": 612, "height": 792 },
      "searchTerm": {
```

```

      "type": "simple",
      "pattern": "manag[a-z]*",
      "caseSensitive": false,
      "contextPadding": 25
    },
    "startIndex": 113,
    "startIndexInContext": 25
  }
],
"pagesWithoutText": [2,3,4]
}

```

This time we get a new result for page index 5, and we now know that page indices 2, 3, and 4 all contain no text at all (apparently this was not much of a whitepaper!). The lack of a `continueToken` tells us we have received all of the results, so there are no more GET requests to make.

## DELETE /v2/searchTasks/{processId}

Cancels a search task. Further requests using this `processId` will return errors.

### Request

#### URL Parameters

Parameter	Description
{processId}	The <code>processId</code> which identifies the search task.

#### Request Headers

Name	Description
Accusoft-Affinity-Token	the <code>affinityToken</code> of the search task. <b>Required when server clustering is enabled.</b>

### Successful Response

```
HTTP/1.1 204 No Content
```

### Error Responses

Status Code	JSON <code>errorCode</code>	Description
404	-	No search task with the provided {processId} could be found.
400	"MissingInput"	Can occur when clustering is enabled and an <code>Accusoft-Affinity-Token</code> was not provided.

Status Code	JSON errorCode	Description
580	"InternalError"	The server encountered an internal error when handling the request.

## Viewing Package Creators

### Introduction

The Viewing Package Creator API provides a facility to fully convert a document for viewing prior to the creation of a Viewing Session. If a large document is converted for viewing at the time a Viewing Session is created, the user may experience a delay when viewing later pages in the document. By converting a document prior to viewing, the entire document is available for viewing immediately.

*Note that these routes do not have route keys, as they cannot be re-routed.*

### Available URLs

URL	Description
POST /v2/viewingPackageCreators	Creates a new viewing package creator process.
PUT /v2/viewingPackageCreators/{processId}/SourceFile	Uploads the source document to use when creating the viewing package.
GET /v2/viewingPackageCreators/{processId}	Gets the status of a viewing package creator process.

### POST /v2/viewingPackageCreators

Starts a new viewing package creator process.

#### Request

##### Request Headers

Name	Description
Accusoft-Secret	<b>Required only if you are self-hosting PAS</b> , must match the value of <code>secretKey</code> in your <b>PAS config file</b> .

##### Request Body

JSON object conforming to the following:

Property	Type	Required	Description
<code>input.source</code>	{object}	Yes	Properties relevant to PAS will reside in this object. <b>NOTE:</b> This object will be removed before sending the rest of the body to the PrizmDoc Services.

Property	Type	Required	Description
<code>input.source.documentId</code>	{string}	Yes	A customer supplied identifier which is used to uniquely identify the resulting viewing package. The <code>documentId</code> is required to have a non-zero length less than 256 characters and must consist of characters defined by <a href="#">RFC4648 - Base 64 Encoding with URL and Filename Safe Alphabet</a> .
<code>input.source.type</code>	{string}	Yes	Specify where <code>PrizmApplicationServices</code> can find the document. The valid values are "document", "url", or "upload".
<code>input.source.fileName</code>	{string}	Yes (If <code>source.type="document"</code> )	Filename that the Storage Provider API can use.
<code>input.source.url</code>	{string}	Yes (If <code>source.type="url"</code> )	URL to create a viewing session from.
<code>input.source.headers</code>	{object}	Optional (Used if <code>source.type="url"</code> )	Request headers to send from <code>PrizmApplicationServices</code> when retrieving the URL.
<code>input.source.acceptBadSslCertificate</code>	{boolean=false}	Optional (Used if <code>source.type="url"</code> )	If true, requires SSL certificates be valid. <b>NOTE:</b> <i>to use your own certificate authority (CA), you need to specify an agent that was created with that CA as an option.</i>
<code>input.source.displayName</code>	{string}	Yes (if <code>source.type="upload"</code> )	The display name of the document that's being uploaded. E.g. "sample.doc"
<code>input.source.markupId</code>	{string}	Optional	The ID to use when querying markup with the XML and JSON layer APIs. If one isn't passed, we create one from the other information we're given.

Property	Type	Required	Description
<code>input.source.downloadName</code>	{string}	Optional	The name that will be used when downloading the original document. We will use the "displayName" or "fileName" if this option is not provided.
<code>input.source.fileExtension</code>	{string}	Optional	A file extension that's used if the File Detection Service cannot determine what type of file was uploaded. We will get the extension from "displayName" or "fileName" if this option is not provided.
<code>input.viewingPackageLifetime</code>	{integer}	Optional	Defines the minimum number of integer seconds for the created content to remain available. By default this is 24 hours (if not configured differently through <a href="#">PAS Configuration</a> ). If set to 0, content will remain available perpetually.
<code>input.render</code>	{object}	Optional	The object that describes rendering options.
<code>input.render.html5</code>	{object}	Optional	The object that describes rendering options for the HTML5 viewer. A whitelist of the following render properties is used: <code>svgMaxImageSize</code> and <code>vectorTolerance</code> . They are described in the PrizmDoc Server Viewing Session documentation.
<code>minSecondsAvailable</code>	{integer}	Optional	The minimum number of seconds this viewing package creator will remain available so you can GET its status. The actual lifetime may be longer.

## Examples

### Create a Viewing Package using a local document

```
POST pas_base_url/v2/viewingPackageCreators
Content-Type: application/json

{
  "input": {
    "source": {
      "type": "document",
      "fileName": "sample.doc",
      "documentId": "unT67FxeKm81k1p0kPnyg8",
      ...
    },
    "viewingPackageLifetime": 2592000
  }
}
```

### Successful Response

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "source": {
      "type": "document",
      "fileName": "sample.doc",
      "documentId": "unT67FxeKm81k1p0kPnyg8",
      ...
    },
    "viewingPackageLifetime": 2592000
  },
  "expirationDateTime": "2015-12-09T06:22:18.624Z",
  "processId": "khjyrfKLj2g6gv8fdqg710",
  "state": "processing",
  "percentComplete": 0
}
```

The response, along with other information, includes a new processId which is used to GET information about the converted content.

### Error Responses

#### *Duplicate POST Prior to Process Completion:*

If a POST request is made with a body containing the exact same content as a request prior to the completion of the original process, an error similar to the one below will be returned.

```
HTTP/1.1 580 ConversionInProgress
Content-Type: application/json

{
  "errorCode": "ConversionInProgress"
}
```

#### *Duplicate POST After Process Completion:*

If a POST request is made with a body containing the exact same content as a prior request after that request has completed, the following error similar to the one below will be returned.

```
HTTP/1.1 580 DocumentIdAlreadyInUse
Content-Type: application/json

{
  "errorCode": "DocumentIdAlreadyInUse"
}
```

**NOTE:** An existing package must be deleted before re-submitting the same content for conversion.

Examples of Input Validation error responses:

```
HTTP/1.1 480 MissingInput
Content-Type: application/json

{
  "errorCode": "MissingInput",
  "errorDetails": {
    "in": "body",
    "at": "input"
  }
}
```

```
HTTP/1.1 480 InvalidInput
Content-Type: application/json

{
  "errorCode": "InvalidInput",
  "errorDetails": {
    "in": "body",
    "at": "input",
    "expected": {
      "type": "object"
    }
  }
}
```

If you are self-hosting PAS and a POST request does not include the correct `Accusoft-Secret` header value, you will receive an error like the one below. See [PAS Configuration](#) for more info about configuring your PAS `secretKey`.

```
HTTP/1.1 403 InvalidSecret
Content-Type: application/json

{
  "errorCode": "InvalidSecret"
}
```

## Create a Viewing Package with extra options

PrizmDoc Server allows for render options that modify the output of the conversion process. The valid options are documented at the top of this page, but as an example, this is what a request would look like if you only wanted raster content:

**NOTE:** When creating a viewing package, watermarks cannot be used and will return an error.

```
POST pas_base_url/v2/viewingPackageCreators
Content-Type: application/json
```

```
{
  "input": {
    "source": {
      "type": "document",
      "fileName": "sample.doc",
      "documentId": "unT67FxeKm81k1p0kPnyg8",
      ...
    },
    "viewingPackageLifetime": 2592000
  }
}
```

### Successful Response

```
HTTP/1.1 200 OK
Content-Type: application/json
```

```
{
  "input": {
    "source": {
      "type": "document",
      "fileName": "sample.doc",
      "documentId": "unT67FxeKm81k1p0kPnyg8",
      ...
    },
    "viewingPackageLifetime": 2592000
  },
  "expirationDateTime": "2015-12-09T06:22:18.624Z",
  "processId": "khjyrfKLj2g6gv8fdqg710",
  "state": "processing",
  "percentComplete": 0
}
```

### Error Responses

#### *Watermarks Input:*

The `input.watermarks` property cannot be used when creating a viewing package.

```
HTTP/1.1 480 ReservedInput
Content-Type: application/json
```

```
{
  "errorCode": "ReservedInput",
  "errorDetails": {
    "in": "body",
    "at": "input.watermarks"
  }
}
```

### PUT `/v2/viewingPackageCreators/{processId}/SourceFile`

Uploads the source document to use when creating the viewing package.

## Request

### Request Headers

Name	Description
Accusoft-Secret	<b>Required only if you are self-hosting PAS</b> , must match the value of <code>secretKey</code> in your <b>PAS config file</b> .

### Request Body

The source document to use.

A request to this URL allows the user to upload a document to an existing viewing package creator which has not yet been provided a source document. When a viewing package creator is configured with `input.source.type: 'upload'`, viewing package creation waits until a PUT request containing the source document is received. After the source document has been successfully uploaded, viewing package creation will resume.

### Examples

```
PUT pas_base_url/v2/viewingPackageCreators/khjyrfKLj2g6gv8fdqg710/SourceFile
Content-Type: application/octet-stream

<<file bytes>>
```

### Successful Response

```
HTTP/1.1 200 OK
```

### Error Responses

When uploading a document for viewing package creation, the following errors may be encountered:

#### *PUT When Not Allowed*

If a PUT request is made to upload a file for a viewing package creator which does not have `input.source.type: 'upload'`, then the following error will be returned.

```
HTTP/1.1 580 NotSupportedForViewingPackageSourceType
Content-Type: application/json

{
  "errorCode": "NotSupportedForViewingPackageSourceType"
}
```

#### *PUT When File Already Provided*

If a PUT request is made to upload a file for a viewing package creator after a file has already been uploaded for that viewing package creator, then the following error will be returned.

```
HTTP/1.1 580 SourceFileAlreadyProvided
Content-Type: application/json
```

```
{
  "errorCode": "SourceFileAlreadyProvided"
}
```

If you are self-hosting PAS and a PUT request does not include the correct `Accusoft-Secret` header value, you will receive an error like the one below. See [PAS Configuration](#) for more info about configuring your PAS `secretKey`.

```
HTTP/1.1 403 InvalidSecret
Content-Type: application/json

{
  "errorCode": "InvalidSecret"
}
```

## GET /v2/viewingPackageCreators/{processId}

Gets the status of a viewing package creator process.

Requests to this URL can be sent repeatedly while the state="processing". To limit network congestion, an exponential back-off algorithm is recommended. This means that the time interval between each request is increased, which results in a good trade-off between quickly discovering short conversions that have completed and preventing a large number of requests for long conversions.

Upon successful package creation, the response will have the state="complete" with percentComplete=100. The errorCode will be null. Additionally it will include an output property which will contain the created package expiration time. If there is an error during processing, the state="error" with percentComplete=100. The exception to this is, some but not all page failures. In this case the state is set to "complete".

### Request

#### Request Headers

Name	Description
Accusoft-Secret	<b>Required only if you are self-hosting PAS</b> , must match the value of <code>secretKey</code> in your <b>PAS config file</b> .

### Examples

```
GET pas_base_url/v2/viewingPackageCreators/khjyrfKLj2g6gv8fdqg710
```

#### Viewing package creation completed successfully

A response for a package that was successfully generated would look like this:

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "source": {
      "type": "document",
      "fileName": "sample.doc",
      "documentId": "unT67FxeKm81k1p0kPnyg8",
```

```
    },
    "viewingPackageLifetime": 2592000
  },
  "output": {
    "packageExpirationDateTime": "2016-1-09T06:22:18.624Z"
  },
  "expirationDateTime": "2015-12-09T06:22:18.624Z",
  "processId": "khjyrfKLj2g6gv8fdqg710",
  "state": "complete",
  "percentComplete": 100
}
```

The viewing package creation process may encounter three types of errors, which it will report on as follows:

#### Source document not found

This error describes the conversion result for a nonexistent document. Note that upon completion in this error case, the state is set to "error" because no content could be provided for the document. Additionally, an `errorCode` property will be provided indicating this is the cause of the error. No output property will be provided when the process completes in an error state.

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "source": {
      "type": "document",
      "fileName": "sample.doc",
      "documentId": "unT67FxeKm8lk1p0kPnyg8",
      . . .
    },
    "viewingPackageLifetime": 2592000
  },
  "expirationDateTime": "2015-12-09T06:22:18.624Z",
  "processId": "khjyrfKLj2g6gv8fdqg710",
  "state": "error",
  "percentComplete": 100,
  "errorCode": "DocumentNotFound"
}
```

#### Incorrect password for source document

This error describes the conversion result for a password-protected document, which is not supported in this release. A password property may be provided in the request, but it will not be used. Upon completion in this error case, the state is set to "error" because no content could be provided for the document. An `errorCode` property will be provided indicating an "InternalError". No output property will be provided when the process completes in an error state.

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "source": {
      "type": "document",
      "fileName": "sample.pdf",
      "documentId": "unT67FxeKm8lk1p0kPnyg8",
      . . .
    }
  }
}
```

```

    },
    "password": "opensesame",
    "viewingPackageLifetime": 2592000
  },
  "expirationDateTime": "2015-12-09T06:22:18.624Z",
  "processId": "khjyrfKLj2g6gv8fdqg710",
  "state": "error",
  "percentComplete": 100,
  "errorCode": "InternalError"
}

```

### Individual page conversion failures

These errors will not mark the entire package as errored, but rather report in the `output` object in a `pageFailures` array.

```

HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "source": {
      "type": "document",
      "fileName": "sample.doc",
      "documentId": "unT67FxeKm8lk1p0kPnyg8",
      . . .
    },
    "viewingPackageLifetime": 2592000
  },
  "output": {
    "packageExpirationDateTime": "2016-1-09T06:22:18.624Z",
    "pageFailures": [
      {
        "errorCode": "CouldNotRetrievePngContent",
        "pageNumber": "4"
      },
      {
        "errorCode": "CouldNotRetrieveSvgContent",
        "pageNumber": "5"
      },
      {
        "errorCode": "CouldNotRetrieveTextContent",
        "pageNumber": "8"
      }
    ]
  },
  "expirationDateTime": "2015-12-09T06:22:18.624Z",
  "processId": "khjyrfKLj2g6gv8fdqg710",
  "state": "complete",
  "percentComplete": 100
}

```

### Attachment failures

These errors describe the failure of the conversion to provide an artifact for an attachment in the case where a document supports attachments, such as .EML or .MSG.

If the conversion process finds attachments associated with the document, but the process is unable to provide content for one or more pages, then the state is set to "complete" and an array of `pageFailures` is returned as a property in the body.

**NOTE:** These errors differ from the document page failures by including the addition of an `attachment` property. This property indicates the name of the attachment (as returned by the PCCIS GET Attachments API). In the eventuality the PPS supports the extraction of nested attachments, the attachments are referenced through an array of paths. Note that the original document is not included in the array of paths. If the original document is "message.eml", with an attachment of "fwd.eml", which has its own attachment of "financial.xls", the array would be ["fwd.eml"] or ["fwd.eml", "financial.xls"].

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "source": {
      "type": "document",
      "fileName": "sample.doc",
      "documentId": "unT67FxeKm81klp0kPnyg8",
      . . .
    },
    "viewingPackageLifetime": 2592000
  },
  "output": {
    "packageExpirationDateTime": "2016-1-09T06:22:18.624Z",
    "pageFailures": [
      {
        "errorCode": "CouldNotRetrieveJpegContent",
        "pageNumber": "2",
        "attachment": ["fwd.eml", "financial.xls"]
      },
      {
        "errorCode": "CouldNotRetrieveSvgContent",
        "pageNumber": "3",
        "attachment": "fwd.eml"
      },
      {
        "errorCode": "CouldNotRetrieveTextContent",
        "pageNumber": "4",
        "attachment": "fwd.eml"
      }
    ]
  },
  "expirationDateTime": "2015-12-09T06:22:18.624Z",
  "processId": "khjyrfKLj2g6gv8fdqg710",
  "state": "complete",
  "percentComplete": 100
}
```

## Error Responses

If you are self-hosting PAS and a GET request does not include the correct `Accusoft-Secret` header value, you will receive an error like the one below. See [PAS Configuration](#) for more info about configuring your PAS `secretKey`.

```
HTTP/1.1 403 InvalidSecret
Content-Type: application/json

{
  "errorCode": "InvalidSecret"
}
```

## Viewing Packages

### Introduction

Note that these routes do not have route keys, as they cannot be re-routed.

### Available URLs

URL	Description
GET /v2/viewingPackages/{documentId}	Gets info about a viewing package.
GET /v2/viewingPackages/{documentId}/creator	Gets the <code>processId</code> of the <code>viewingPackageCreator</code> which created this viewing package if it still exists.
DELETE /v2/viewingPackages/{documentId}	Deletes a viewing package and its associated content stored on disk.

### GET /v2/viewingPackages/{documentId}

Gets info about a viewing package.

#### Request

##### Request Headers

Name	Description
Accusoft-Secret	<b>Required only if you are self-hosting PAS</b> , must match the value of <code>secretKey</code> in your <b>PAS config file</b> .

After a viewing package creator process has been created, information about the converted content can be requested as shown in the example below:

#### Example

```
GET pas_base_url/v2/viewingPackages/unT67FxeKm81k1p0kPnyg8
```

#### Successful Response

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "source": {
    "type": "document",
    "fileName": "sample.doc",
    "documentId": "unT67FxeKm81k1p0kPnyg8"
  },
}
```

```

"state": "complete",
"packageExpirationDateTime": "2016-1-09T06:22:18.624Z",
"pageFailures": [
  {
    "errorCode": "CouldNotRetrieveJpegContent",
    "pageNumber": "4"
  },
  {
    "errorCode": "CouldNotRetrieveSvgContent",
    "pageNumber": "5"
  }
]
}

```

### Error Responses

If you are self-hosting PAS and a GET request does not include the correct `Accusoft-Secret` header value, you will receive an error like the one below. See [PAS Configuration](#) for more info about configuring your PAS `secretKey`.

```

HTTP/1.1 403 InvalidSecret
Content-Type: application/json

{
  "errorCode": "InvalidSecret"
}

```

## GET /v2/viewingPackages/{documentId}/creator

Gets the `processId` of the `viewingPackageCreator` which created this viewing package if it still exists.

This URL is useful when you [create a viewing session](#) with a `documentId` (allowing PAS to automatically start a `viewingPackageCreator` for you in the background if no viewing package exists yet) and you want to check the status of the `viewingPackageCreator` which PAS may have created on your behalf. After creating a viewing session with a `documentId`, you can use this URL to see if any associated `viewingPackageCreator` exists. If it does, you can then use the returned `viewingPackageCreatorId` to GET more info about the status of the `viewingPackageCreator` that PAS started for you.

### Request Headers

Name	Description
Accusoft-Secret	<b>Required only if you are self-hosting PAS</b> , must match the value of <code>secretKey</code> in your <a href="#">PAS config file</a> .

### Example

```
GET pas_base_url/v2/viewingPackages/unT67FxeKm81k1p0kPnyg8/creator
```

### Successful Response

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "viewingPackageCreatorId": "khjyrfKLj2g6gv8fdqg710"
}
```

### Error Responses

If a request is made with an invalid viewing package ID or the creator process has expired, an error will be returned.

```
HTTP/1.1 404 Not Found
```

If you are self-hosting PAS and a GET request does not include the correct `Accusoft-Secret` header value, you will receive an error like the one below. See [PAS Configuration](#) for more info about configuring your PAS `secretKey`.

```
HTTP/1.1 403 InvalidSecret
Content-Type: application/json

{
  "errorCode": "InvalidSecret"
}
```

## DELETE /v2/viewingPackages/{documentId}

Deletes a viewing package and its associated content stored on disk.

### Request

#### Request Headers

Name	Description
Accusoft-Secret	<b>Required only if you are self-hosting PAS</b> , must match the value of <code>secretKey</code> in your <a href="#">PAS config file</a> .

### Example

```
DELETE pas_base_url/v2/viewingPackages/unT67FxeKm8lk1p0kPnyg8
```

### Successful Response

If a DELETE request is made the content will be marked for asynchronous deletion.

```
HTTP/1.1 204 No Content
```

### Error Responses

If a DELETE request is made with an invalid package ID, an error will be returned.

```
HTTP/1.1 404 Not Found
```

If you are self-hosting PAS and a DELETE request does not include the correct `Accusoft-Secret` header value, you will receive an error like the one below. See [PAS Configuration](#) for more info about configuring your PAS `secretKey`.

```
HTTP/1.1 403 InvalidSecret
Content-Type: application/json

{
  "errorCode": "InvalidSecret"
}
```

## Viewing Sessions

### Introduction

### Available URLs

URL	Description
<a href="#">POST /ViewingSession</a>	Creates a viewing session.
<a href="#">PUT /ViewingSession/u{viewingSessionId}/SourceFile</a>	Uploads a document to the session.
<a href="#">PUT /v2/viewingSessions/{viewingSessionId}/sourceFile/original</a>	Uploads original document to the comparison viewing session.
<a href="#">PUT /v2/viewingSessions/{viewingSessionId}/sourceFile/revised</a>	Uploads revised document to the comparison viewing session.
<a href="#">GET /ViewingSession/u{viewingSessionId}/SourceFile</a>	Downloads the source document in use for a viewing session.
<a href="#">GET /v2/viewingSessions/{viewingSessionId}/sourceFile/original</a>	When viewing a comparison of two documents, downloads the first of the two source documents.
<a href="#">GET</a>	When viewing a comparison of two

URL	Description
<code>/v2/viewingSessions/{viewingSessionId}/sourceFile/revise</code>	documents, downloads the second of the two source documents.
<code>GET /v2/viewingSessions/{viewingSessionId}/restrictions</code>	Returns information about any restrictions enforced by the server for the current viewing session.
<code>POST /ViewingSession/u{viewingSessionId}/Replacement</code>	Replaces a viewing session with new parameters.

## POST /ViewingSession

**Routes key:** `PostViewingSession`

Creates a new viewing session. At a high level, a viewing session takes a source document as input and produces HTML page content and document text as output.

### Request

#### Request Headers

Name	Description
<code>Content-Type</code>	Should be <code>application/json</code>

#### Request Body

- `source` (object) Object describing a source document where it comes from, such as local documents, documents specified via URL, etc. Properties relevant to `PrizmApplicationService` will reside in this object.
  - When **uploading** the source document in a subsequent request:
    - `type` (string) **Required.** Set to `upload`.
    - `displayName` (string) **Required.** Unique filename, including the extension, for the document that will be uploaded.
      - **IMPORTANT:** You must use a value which is specific for the document you are going to upload. For optimal performance, you should NEVER use the same value for two different documents. We use this value internally (when running in clustered mode) to determine which machine in the cluster this viewing session should be assigned to. This allows us to ensure that viewing sessions with the same `displayName` can be consistently assigned to the same machine in the cluster, taking advantage of previously cached conversion output. But we are assuming you will provide us a value which is unique for the document which you are about to upload. If, instead, you simply use a hard-coded value for all documents, you will mistakenly force all work to a single machine in the cluster. Make sure this value is unique for the document you are about to upload!
    - `markupId` (string) The ID to use when querying markup with the XML and JSON layer APIs. If one isn't passed, we create one from the other information we're given.
    - `downloadName` (string) Filename a browser should use when an end user downloads the source document (the filename of the `Content-Disposition` response header). We will use the `displayName` if this option is not provided.

- `fileExtension` (string) A file extension that's used if the File Detection Service cannot determine what type of file was uploaded. We will get the extension from `displayName` if this option is not provided.
- `documentId` (string) A customer supplied identifier which is used to uniquely identify a viewing package. The `documentId` is required to have a non-zero length less than 256 characters and must consist of characters defined by [RFC4648 - Base 64 Encoding with URL and Filename Safe Alphabet](#). If a viewing package exists for the given `documentId`, PAS will use the content stored in that package and avoid sending any work to PrizmDoc Server. If a viewing package does *not* exist for the given `documentId`, PAS will ask PrizmDoc Server to immediately start preparing content for this viewing session *and* will also start creating a new viewing package in the background. If an errored viewing package exists for the given `documentId`, PAS will effectively ignore the `documentId` and ask PrizmDoc Server to dynamically prepare content for the viewing session.
- *When using a **URL** for the source document:*
  - `type` (string) **Required.** Set to `url`.
  - `url` (string) **Required.** URL to create a viewing session from.
  - `headers` (object) Request headers to send from PrizmApplicationServices when retrieving the URL.
  - `acceptBadSslCertificate` (boolean) If true, requires SSL certificates be valid. Default is `false`.
  - `markupId` (string) The ID to use when querying markup with the XML and JSON layer APIs. If one isn't passed, we create one from the other information we're given.
  - `downloadName` (string) Filename a browser should use when an end user downloads the source document (the filename of the `Content-Disposition` response header). We will use the `displayName` if this option is not provided.
  - `fileExtension` (string) A file extension that's used if the File Detection Service cannot determine what type of file was uploaded.
  - `documentId` (string) A customer supplied identifier which is used to uniquely identify a viewing package. The `documentId` is required to have a non-zero length less than 256 characters and must consist of characters defined by [RFC4648 - Base 64 Encoding with URL and Filename Safe Alphabet](#). If a viewing package exists for the given `documentId`, PAS will use the content stored in that package and avoid sending any work to PrizmDoc Server. If a viewing package does *not* exist for the given `documentId`, PAS will ask PrizmDoc Server to immediately start preparing content for this viewing session *and* will also start creating a new viewing package in the background. If an errored viewing package exists for the given `documentId`, PAS will effectively ignore the `documentId` and ask PrizmDoc Server to dynamically prepare content for the viewing session.
- *When using a **local file on the PAS server** as the source document (self-hosted only, not recommended):*
  - `type` (string) **Required.** Set to `document`.
  - `fileName` (string) **Required.** Filename that the Storage Provider API can use.
  - `markupId` (string) The ID to use when querying markup with the XML and JSON layer APIs. If one isn't passed, we create one from the other information we're given.
  - `downloadName` (string) Filename a browser should use when an end user downloads the source document (the filename of the `Content-Disposition` response header). We will use the `displayName` if this option is not provided.
  - `fileExtension` (string) A file extension that's used if the File Detection Service cannot determine what type of file was uploaded. We will get the extension from `fileName` if this option is not provided.

- `documentId` (string) A customer supplied identifier which is used to uniquely identify a viewing package. The `documentId` is required to have a non-zero length less than 256 characters and must consist of characters defined by [RFC4648 - Base 64 Encoding with URL and Filename Safe Alphabet](#). If a viewing package exists for the given `documentId`, PAS will use the content stored in that package and avoid sending any work to PrizmDoc Server. If a viewing package does *not* exist for the given `documentId`, PAS will ask PrizmDoc Server to immediately start preparing content for this viewing session *and* will also start creating a new viewing package in the background. If an errored viewing package exists for the given `documentId`, PAS will effectively ignore the `documentId` and ask PrizmDoc Server to dynamically prepare content for the viewing session.
- *When using a **viewing package** with pre-converted content:*
  - `type` (string) **Required.** Set to `viewingPackage`.
  - `documentId` (string) **Required.** A customer supplied identifier which is used to uniquely identify a viewing package. The `documentId` is required to have a non-zero length less than 256 characters and must consist of characters defined by [RFC4648 - Base 64 Encoding with URL and Filename Safe Alphabet](#). This value must refer to a completed viewing package, otherwise the viewing session will not be created and an error will be returned.
  - `markupId` (string) The ID to use when querying markup with the XML and JSON layer APIs. If one isn't passed, we create one from the other information we're given.
  - `downloadName` (string) Filename a browser should use when an end user downloads the source document (the filename of the `Content-Disposition` response header). We will use the `displayName` if this option is not provided.
- *When **comparing** two Microsoft Word documents:*
  - `type` (string) **Required.** Set to `comparison`.
  - `original` (object) **Required.** Original document to compare.
    - *When **uploading** the original document in a subsequent request: (**NOTE:** Use `PUT /v2/viewingSessions/{viewingSessionId}/sourceFile/original` and/or `PUT /v2/viewingSessions/{viewingSessionId}/sourceFile/revised` to upload the original and/or revised documents):*
      - `type` (string) **Required.** Set to `upload`.
      - `displayName` (string) **Required.** Unique filename, including the extension, for the document that will be uploaded.
      - `downloadName` (string) Filename a browser should use when an end user downloads the original document (the filename of the `Content-Disposition` response header). We will use the `displayName` if this option is not provided.
      - `fileExtension` (string) A file extension that's used if the File Detection Service cannot determine what type of file was uploaded. We will get the extension from `displayName` if this option is not provided.
  - *When using a **URL** for the original document:*
    - `type` (string) **Required.** Set to `url`.
    - `url` (string) **Required.** URL to create a viewing session from.
    - `headers` (object) Request headers to send from PrizmApplicationServices when retrieving the URL.
    - `acceptBadSslCertificate` (boolean) If true, requires SSL certificates be valid. Default is `false`. **NOTE:** *To use your own certificate authority, you need to specify an agent that was created with that CA as an option.*
    - `downloadName` (string) Filename a browser should use when an end user

- downloads the original document (the filename of the `Content-Disposition` response header). We will use the `displayName` if this option is not provided.
- `fileExtension` (string) A file extension that's used if the File Detection Service cannot determine what type of file was uploaded.
- *When using a **local file on the PAS server** as the original document (self-hosted only, not recommended):*
  - `type` (string) **Required.** Set to `document`.
  - `fileName` (string) **Required.** Filename that the Storage Provider API can use.
  - `downloadName` (string) Filename a browser should use when an end user downloads the original document (the filename of the `Content-Disposition` response header). We will use the `displayName` if this option is not provided.
  - `fileExtension` (string) A file extension that's used if the File Detection Service cannot determine what type of file was uploaded. We will get the extension from `fileName` if this option is not provided.
- `revised` (object) **Required.** Revised document to compare.
  - *When **uploading** the revised document in a subsequent request: (**NOTE:** Use `PUT /v2/viewingSessions/{viewingSessionId}/sourceFile/original` and/or `PUT /v2/viewingSessions/{viewingSessionId}/sourceFile/revised` to upload the original and/or revised documents):*
    - `type` (string) **Required.** Set to `upload`.
    - `displayName` (string) **Required.** Unique filename, including the extension, for the document that will be uploaded.
    - `downloadName` (string) Filename a browser should use when an end user downloads the revised document (the filename of the `Content-Disposition` response header). We will use the `displayName` if this option is not provided.
    - `fileExtension` (string) A file extension that's used if the File Detection Service cannot determine what type of file was uploaded. We will get the extension from `displayName` if this option is not provided.
  - *When using a **URL** for the revised document:*
    - `type` (string) **Required.** Set to `url`.
    - `url` (string) **Required.** URL to create a viewing session from.
    - `headers` (object) Request headers to send from PrizmApplicationServices when retrieving the URL.
    - `acceptBadSslCertificate` (boolean) If true, requires SSL certificates be valid. Default is `false`. **NOTE:** *To use your own certificate authority, you need to specify an agent that was created with that CA as an option.*
    - `downloadName` (string) Filename a browser should use when an end user downloads the revised document (the filename of the `Content-Disposition` response header). We will use the `displayName` if this option is not provided.
    - `fileExtension` (string) A file extension that's used if the File Detection Service cannot determine what type of file was uploaded.
  - *When using a **local file on the PAS server** as the revised document (self-hosted only, not recommended):*
    - `type` (string) **Required.** Set to `document`.
    - `fileName` (string) **Required.** Filename that the Storage Provider API can use.

- `downloadName` (string) Filename a browser should use when an end user downloads the revised document (the filename of the `Content-Disposition` response header). We will use the `displayName` if this option is not provided.
  - `fileExtension` (string) A file extension that's used if the File Detection Service cannot determine what type of file was uploaded. We will get the extension from `fileName` if this option is not provided.
- `markupId` (string) The ID to use when querying markup with the XML and JSON layer APIs. If one isn't passed, we create one from the other information we're given.
- `downloadName` (string) Filename a browser should use when an end user downloads the source document (the filename of the `Content-Disposition` response header). We will use the `displayName` if this option is not provided.
  - `documentExtension` (String) - File extension of the source document (like "docx", "html", or "csv") used to indicate the source document file format. Often unnecessary. Only required when 1) the `documentSource` is "http" or "file" but the `externalId` containing the URL or file path did not end with a recognizable file extension and 2) the source document file format could not be automatically detected (this most-commonly occurs for text-based file formats, such as `txt`, `csv`, and `html`). **NOTE:** *If Format Detection is disabled, then the source document format will never be automatically detected.*
  - `password` (String) Password to use when opening a password-protected source document.
  - `tenantId` (String) Custom, arbitrary tenant id to be associated with the viewing session. PrizmDoc Server has no concept of tenants; if provided, this metadata is only for use by the calling application.
  - `origin` (Object) Custom, arbitrary set of key/value string pairs to be associated with the viewing session. Intended for associating end user origin data (like IP address or hostname), but you can use any set of key/value strings you want.
  - `render` (Object) Options which control how browser content is rendered:
  - `html5` (Object) Options when the output format is HTML:
  - `alwaysUseRaster` (Boolean) **Required.** Determines whether only raster data, instead of SVG, should be created for the viewing session. With modern browsers, it is rare to only want raster. This is typically set to `false`.
  - `svgMaxImageSize` (Number) The maximum edge length, in pixels, that is allowable for any image when creating SVG. For example, a value of `8000` would ensure that any images in a PDF whose width or height were greater than 8000 pixels would be down-sampled before the image was added to the final SVG. Default is configurable, but is typically `8000`. To disable this optimization, use a value of `0`.
  - `vectorTolerance` (Number) For CAD documents, the amount of path simplification that is allowable when creating the SVG. Path simplification will merge points which are "close together" to create optimized SVG. You can think of this value as defining what "close together" means. Higher values introduce more simplification but also more distortion. Default is configurable, but is typically `0.3`. Cannot be greater than `10.0`. To disable this optimization, use a value of `0`.
- `watermarks` (Array of Objects) Objects describing watermarks which should be applied to page content. Each item must be an object which conforms to the following:
  - *text watermark:*
    - `type: "text"` (String) **Required.** Must be set to `"text"` to indicate the object represents a text watermark.

- `text` (String) Actual text of the watermark. Within the string, you can use the following special tokens to insert dynamic values:
    - `{{pageNumber}}` - Will be replaced with the current page number.
    - `{{pageCount}}` - Will be replaced with the total number of pages.
  - `opacity` (Number) Opacity of the watermark. `1.0` is completely opaque, `0.0` is completely transparent. Default is `1.0`.
  - `color` (String) Text color. Can be any valid CSS color name (like `"red"`) or hex value (like `"#FF0000"`). Default is `"black"`.
  - `fontFamily` (String) Font family for the text. Default for SVG output is to use the browser's default font. Default for raster output is unspecified.
  - `fontSize` (String) Font size specified in points (like `"12pt"`). Default for SVG output is to use the browser's default font size. Default for raster output is unspecified.
  - `fontWeight` (String) Determines the font weight. Possible values:
    - `"normal"` (default)
    - `"bold"`
  - `textDecoration` (String) Possible values:
    - `"none"` (default)
    - `"underlined"`
  - `horizontalAlign` (String) Determines the horizontal position of the watermark. Default is `"center"`. Possible values:
    - `"left"` - Text will be horizontally anchored to the left side of the page and text will be left aligned.
    - `"center"` Text will be horizontally anchored to the center of the page and text will be centered. (default)
    - `"right"` - Text will be horizontally anchored to the right side of the page and text will be right aligned.
- |        | left | center | right |
|--------|------|--------|-------|
| top    |      |        |       |
| middle |      |        |       |
| bottom |      |        |       |
- `verticalAlign` (String) Determines the vertical position of the watermark. Default is `"middle"`. Possible values:
    - `"top"` - Text will be vertically anchored to the top of the page.
    - `"middle"` Text will be vertically anchored to the middle of the page. (default)
    - `"bottom"` - Text will be vertically anchored to the bottom of the page.
  - *diagonal text watermark:*
    - `type: "diagonalText"` (String) **Required.** Must be set to `"diagonalText"` to indicate the object represents a diagonal text watermark.
    - `text` (String) Actual text of the watermark. Within the string, you can use the following special tokens to insert dynamic values:
      - `{{pageNumber}}` - Will be replaced with the current page number.
      - `{{pageCount}}` - Will be replaced with the total number of pages.
    - `opacity` (Number) Opacity of the watermark. `1.0` is completely opaque, `0.0` is completely transparent. Default is `1.0`.
    - `color` (String) Text color. Can be any valid CSS color name (like `"red"`) or hex value (like `"#FF0000"`). Default is `"black"`.
    - `fontFamily` (String) Font family for the text. Default for SVG output is to use the browser's default font. Default for raster output is unspecified.
    - `fontSize` (String) Font size specified in points (like `"12pt"`). Default for SVG output is to use the browser's default font size. Default for raster output is unspecified.
    - `fontWeight` (String) Determines the font weight. Possible values:

- o "normal" (default)
  - o "bold"
- o `textDecoration` (String) Possible values:
  - o "none" (default)
  - o "underlined"
- o `slope` (String) Controls the text angle. Default is "up". Possible values:
  - o "up" - Text will start in the lower-left corner of the page and extend upwards to the upper-right corner of the page. (default)
  - o "down" - Text will start in the upper-left corner of the page and extend downwards to the lower-right corner of the page.
- o *image watermark:*
  - o `type`: "image" (String) **Required.** Must be set to "image" to indicate the object represents an image watermark.
  - o `opacity` (Number) Opacity of the watermark. 1.0 is completely opaque, 0.0 is completely transparent. Default is 1.0.
  - o `src` (String) **Required.** URL or [work file] id of a PNG image to use for this watermark. When using a URL, the URL must be accessible from the server where PrizmDoc Server is running. **NOTE:** The `src` MUST be a PNG. If you use a different image format, invalid watermarks will be created.
  - o `horizontalAlign` (String) Determines the horizontal position of the watermark. Default is "center". Possible values:
 

	left	center	right
top			
middle			
bottom			

    - o "left" - Image will be horizontally anchored near the left side of the page.
    - o "center" Image will be horizontally anchored to the center of the page. (default)
    - o "right" - Image will be horizontally anchored near the right side of the page.
  - o `verticalAlign` (String) Determines the vertical position of the watermark. Default is "middle". Possible values:
    - o "top" - Image will be vertically anchored near the top of the page.
    - o "middle" Image will be vertically anchored to the middle of the page. (default)
    - o "bottom" - Image will be vertically anchored near the bottom of the page.
  - o `scale` (Number) - Determines the relative size of the image as compared to the size of the page. Value must be between 0.0 and 1.0. A value of 1.0 indicates the image will be scaled to the size of the page while 0.0 indicates the image will be scaled infinitesimally small and will not be rendered. Default is 0.25.
  - o `autoSize` (String) When set, the image will be automatically sized to fill the page (any value provided for `scale`, `horizontalAlign`, and `verticalAlign` will be ignored). Possible values:
 

		
fit	fill	stretch

    - o "fit" - Image will be scaled to be as large as possible while still completely fitting within the page. The aspect ratio of the image is maintained.
    - o "fill" - Image will be scaled to be large enough that the entire page is covered by the image. Some of the image may fall off the edge of the page, but the entire page is guaranteed to be covered by some part of the image. The aspect ratio of the

image is maintained.

- "stretch" - Image width and height will be independently resized so that the image width and height are the same as the page. The aspect ratio of the image is ignored.
  - `pageContentEncryption` (String) - Controls whether or not page content will be encrypted for the viewing session. See the [Enabling Content Encryption] topic for more information about this feature. Possible values:
    - "default" - Product configuration will be used to determine whether or not page content will be encrypted (see `viewing.contentEncryption.enabled` in the [Central Configuration] file).
    - "enabled" - Page content will be encrypted for the viewing session.
    - "disabled" - Page content will not be encrypted for the viewing session.
  - `countOfInitialPages` (Integer) Number of pages which should be eagerly converted, or 0 if all pages should be eagerly converted. Default is 0.
  - `startConverting` (String) When the `documentSource` is "http" or "file", controls whether initial pages should be converted as soon as the document has been acquired. Default is "none". Possible values:
    - "none" - Conversion will begin only after the session is explicitly started or page content or attributes are requested. (default)
    - "initialPages" - Conversion will begin as soon as the source document has been acquired.
  - `contentType` (String) - Determines what kind of browser content will be eagerly pre-generated (other kinds of content may still be generated if explicitly requested). Possible values:
    - "svgb" - Pre-generate fully-optimized SVG (uses a unicode inline font to store glyph definitions). Smallest possible SVG, but may not be compatible with some browsers. Recommended whenever possible.
    - "svga" - Pre-generate partially-optimized SVG (uses a non-unicode inline font to store only the most frequently-occurring glyph definitions). May not be compatible with some browsers. Use only if "svgb" content is not compatible with the target browser.
    - "svg" - Pre-generate unoptimized SVG (no font is used; glyph definitions are expressed as SVG path operations). Broadest compatibility with browsers but typically *much* larger, so it renders and scrolls much slower than "svgb" and "svga". Not recommended. Use only as a fallback if both `svgb` and `svga` are not compatible with the target browser, or the use of webfonts is disabled in the target browser.
  - "png" - Pre-generate raster content.
  - `serverCaching` (String) Controls whether output is kept for potential reuse by other viewing sessions. Default is "full". Possible values:
    - "full" - Output will be written to disk on the server and retained for reuse by other viewing sessions created for the same source document. Output will not be deleted until the configured viewing cache lifetime is reached (which is a full day with an out-of-box configuration; see `viewing.cacheLifetime` in [Central Configuration]). Saves processing time if a source document is viewed repeatedly before the cached data is deleted, but does consume more disk space. (default)
    - "none" - Output will be written to disk on the server but only retained for the duration of the viewing session and never shared with other viewing sessions.

Once the viewing session expires, the output will be deleted from the disk. Saves disk space if you know that it is unlikely a source document will ever be viewed more than once, but can result in redundant processing if the same source document is viewed repeatedly.

- `serverSideSearch` (String) Determines whether the server-side search feature will be available for the viewing session. Default is `"enabled"`. Possible values:
  - `"enabled"` - Server-side search will be available for the viewing session. (default)
  - `"disabled"` - Server-side search will not be available for the viewing session.
- `attachmentIndex` (Integer) - *Intended for use only by PrizmDoc Server when it automatically creates viewing sessions for attachments. This is not a property your application should use.* If the source document is an attachment that belongs to another document (such as an email), the 1-based index of this attachment in the list of all attachments (e.g. `1` means it was the first attachment, `2` means it was the second, etc.) or `0` to indicate that the source document is not an attachment. Default is `0`.
- `attachmentDisplayName` (String) - *Intended for use only by PrizmDoc Server when it automatically creates viewing sessions for attachments. This is not a property your application should use.* If the source document is an attachment that belongs to another document (such as an email), the filename of the attachment or `null`. Default is `null`.

## Successful Response

### Response Body

JSON with metadata about the created viewing session.

- `viewingSessionId` (string) Unique id for this viewing session.

## Error Responses

Status Code	JSON <code>errorCode</code>	Description
403	<code>"InvalidSecret"</code>	The provided <code>Accusoft-Secret</code> request header value did not match the value of <code>secretKey</code> in your <b>PAS config file</b> . Only applies when you are self-hosting PAS.
404	<code>"DocumentNotFound"</code>	The specified document could not be found.
480	<code>"InvalidInput"</code>	Input is invalid. See <code>errorDetails</code> in the response body.
480	<code>"CannotChangeDocument"</code>	The viewing session already has an <code>original</code> source document.
480	<code>"IncorrectUsage"</code>	The viewing session is already used for viewing of a single source document.
480	<code>"FeatureNotLicensed"</code>	MSO enabled license is not installed.

Status Code	JSON errorCode	Description
480	"FeatureDisabled"	Microsoft Office renderer is not configured.
480	"InputNotSupportedWithDocumentId"	Input is not supported when creating a viewing session which auto-generates an associated viewing package in the background. See <code>errorDetails</code> in the response body.
480	"InputConflictsWithViewingPackage"	Input conflicts with the value previously used to create the associated viewing package. See <code>errorDetails</code> in the response body.

## Examples

### Uploading the source document in a subsequent request

```
POST pas_base_url/ViewingSession
Content-Type: application/json

{
  "source": {
    "type": "upload",
    "displayName": "sample_2015-10-31T19:15:32Z.doc"
  }
}
```

### Using a URL for the source document

```
POST pas_base_url/ViewingSession
Content-Type: application/json

{
  "source": {
    "type": "url",
    "url": "http://myserver/mydocument.docx",
    "headers": {
      "My-Custom-Header": "some value required by my server"
    },
    "acceptBadSslCertificate": false
  }
}
```

### Using an existing viewing package

You can use an already-created viewing package to start a viewing session. The pre-converted viewable content will be immediately available and no work will be sent to PrizmDoc Server. See the [PAS Viewing Package Creators API](#) for more details about creating viewing packages and the [PAS Viewing Packages API](#) for more details about managing viewing packages.

```
POST pas_base_url/ViewingSession
Content-Type: application/json
{
  "source": {
    "type": "viewingPackage",
    "documentId": "doc_9495837910qc"
  }
}
```

### Dynamically creating a viewing package in the background the first time a document is viewed

It is possible to ask PAS to use a viewing package if it exists and, if not, automatically start creating such a viewing package in the background so that it can be used by future viewing sessions. You do this by simply specifying a `documentId`.

For example, here is a POST which uses a `source.type` of "upload" but also specifies a `documentId`:

```
POST pas_base_url/ViewingSession
Content-Type: application/json
{
  "source": {
    "type": "url",
    "url": "http://myserver/mydocument.docx",
    "headers": {
      "My-Custom-Header": "some value required by my server"
    },
    "documentId": "doc_9495837910qc"
  }
}
```

If a viewing package exists for the given `documentId`, then it will be used and no conversion work will be performed. If a viewing package does *not* exist for the given `documentId`, then PAS will use PrizmDoc Server to prepare the content needed for this viewing session *and* also start creating a viewing package in the background. The application can continue to create viewing sessions in the same way for this document. Once the viewing package exists, PAS will simply use the contents of the package directly and stop sending conversion work to PrizmDoc Server.

### Comparing two Microsoft Word documents

```
POST pas_base_url/ViewingSession
Content-Type: application/json
{
  "source": {
    "type": "comparison",
    "original": {
      "type": "upload",
      "displayName": "2019-10-07-original.docx"
    },
    "revised": {
      "type": "upload",
      "displayName": "2019-10-07-revised.docx"
    }
  }
}
```

## PUT /ViewingSession/u{viewingSessionId}/SourceFile

**Routes key:** `PutViewingSessionSourceFile`

Uploads a document to the session.

### Request

#### Request Headers

Name	Description
Accusoft-Secret	<b>Required only if you are self-hosting PAS</b> , must match the value of <code>secretKey</code> in your <b>PAS config file</b> .

#### Request Body

The bytes of the source document.

### Successful Response

A simple HTTP 200 status code indicating the file was received.

### Error Responses

Status Code	JSON <code>errorCode</code>	Description
403	"InvalidSecret"	The provided <code>Accusoft-Secret</code> request header value did not match the value of <code>secretKey</code> in your <b>PAS config file</b> . Only applies when you are self-hosting PAS.

### Example

#### Request

```
PUT pas_base_url/ViewingSession/u{viewingSessionId}/SourceFile
Accusoft-Secret: mysecretkey
```

```
<<file bytes>>
```

#### Response

```
HTTP/1.1 200 OK
```

## PUT /v2/viewingSessions/{viewingSessionId}/sourceFile/original

**Routes key:** `PutViewingSessionOriginalSourceFile`

Used when viewing a comparison of two documents, uploads the first of the two documents, the *original* document.

### Request

#### Request Headers

Name	Description
Accusoft-Secret	<b>Required only if you are self-hosting PAS</b> , must match the value of <code>secretKey</code> in your <b>PAS config file</b> .

#### Request Body

The bytes of the *original* document (for comparison with a *revised* document).

### Successful Response

A simple HTTP 200 status code indicating the file was received.

### Error Responses

Status Code	JSON <code>errorCode</code>	Description
404	-	No viewing session with the provided <code>viewingSessionId</code> could be found.
403	"InvalidSecret"	The provided <code>Accusoft-Secret</code> request header value did not match the value of <code>secretKey</code> in your <b>PAS config file</b> . Only applies when you are self-hosting PAS.
480	"CannotChangeDocument"	The viewing session already has an <i>original</i> document assigned.
480	"UnsupportedFormatForComparison"	The uploaded file was not a Word document (for comparison viewing, we currently only support "doc" and "docx" files).
480	"IncorrectUsage"	For any new viewing session, you can give it either 1) a single <i>source</i> document for viewing or 2) two documents ( <i>original</i> and <i>revised</i> ) which should be viewed as a comparison, but you cannot do both. If you receive this error from this URL, it is because a single <i>source</i> document has already been provided.
480	"FeatureNotLicensed"	The server's license does not allow the use of the MSO (Microsoft Office) feature, so document

Status Code	JSON errorCode	Description
		comparison is not possible.
480	"FeatureDisabled"	The server has not been configured to allow the use of the Microsoft Office renderer, so document comparison is not possible.

## Example

### Request

```
PUT pas_base_url/v2/viewingSessions/{viewingSessionId}/sourceFile/original
Accusoft-Secret: mysecretkey

<<file bytes>>
```

### Response

```
HTTP/1.1 200 OK
```

## PUT /v2/viewingSessions/{viewingSessionId}/sourceFile/revised

### Routes key: `PutViewingSessionRevisedSourceFile`

Used when viewing a comparison of two documents, uploads the second of the two documents, the *revised* document.

### Request

#### Request Headers

Name	Description
Accusoft-Secret	<b>Required only if you are self-hosting PAS</b> , must match the value of <code>secretKey</code> in your <b>PAS config file</b> .

#### Request Body

The bytes of the *revised* document (for comparison with an *original* document).

### Successful Response

A simple HTTP 200 status code indicating the file was received.

### Error Responses

Status Code	JSON errorCode	Description
404	-	No viewing session with the provided <code>viewingSessionId</code> could be found.
403	"InvalidSecret"	The provided <code>Accusoft-Secret</code> request header value did not match the value of <code>secretKey</code> in your <b>PAS config file</b> . Only applies when you are self-hosting PAS.
480	"CannotChangeDocument"	The viewing session already has a <i>revised</i> source document assigned.
480	"UnsupportedFormatForComparison"	The uploaded file was not a Word document (for comparison viewing, we currently only support "doc" and "docx" files).
480	"IncorrectUsage"	For any new viewing session, you can give it either 1) a single <i>source</i> document for viewing or 2) two documents ( <i>original</i> and <i>revised</i> ) which should be viewed as a comparison, but you cannot do both. If you receive this error from this URL, it is because a single <i>source</i> document has already been provided.
480	"FeatureNotLicensed"	The server's license does not allow the use of the MSO (Microsoft Office) feature, so document comparison is not possible.
480	"FeatureDisabled"	The server has not been configured to allow the use of the Microsoft Office renderer, so document comparison is not possible.

## Example

### Request

```
PUT pas_base_url/v2/viewingSessions/{viewingSessionId}/sourceFile/revised
Accusoft-Secret: mysecretkey

<<file bytes>>
```

### Response

```
HTTP/1.1 200 OK
```

**GET /ViewingSession/u{viewingSessionId}/SourceFile?**  
**ContentDispositionFilename={ContentDispositionFilename}**

## Routes key: `GetSourceFile`

Gets the source document in use for a viewing session.

## Request

### URL Parameters

Parameter	Description
<code>{viewingSessionId}</code>	The <code>viewingSessionId</code> which identifies the viewing session.
<code>{ContentDispositionFilename}</code>	The filename as a URL-encoded string, without extension, to be used in the <code>Content-Disposition</code> response header (appropriate file extension such as <code>doc</code> or <code>docx</code> will automatically be added). By default, the value will be <code>SourceFile.&lt;ext&gt;</code> .

## Response Headers

Name	Description
<code>Content-Disposition</code>	Indicates to a browser that the response body should be treated as a file download and specifies the filename the browser should use.
<code>Content-Type</code>	The most-specific MIME type for the returned document or <code>application/octet-stream</code> otherwise.

## Response Body

The raw bytes of the viewing session's source document.

## Example

### Request

```
GET pas_base_url/ViewingSession/uXYZ.../SourceFile?  
ContentDispositionFilename=MonthlySalesReport
```

### Response

```
200 OK  
Content-Type: application/msword  
Content-Disposition: attachment; filename=MonthlySalesReport.docx;  
filename*=UTF-8' 'MonthlySalesReport.docx  
  
<<file bytes>>
```

**GET /v2/viewingSessions/{viewingSessionId}/sourceFile/original?**

**contentDispositionFilename={contentDispositionFilename}****Routes key:** `GetOriginalSourceFile`

When viewing a comparison of two documents, gets the *original* document used in the comparison. The document returned will be an identical copy of the document originally provided.

**Request****URL Parameters**

Parameter	Description
<code>{viewingSessionId}</code>	The <code>viewingSessionId</code> which identifies the viewing session.
<code>{contentDispositionFilename}</code>	The filename as a URL-encoded string, without extension, to be used in the <code>Content-Disposition</code> response header (appropriate file extension such as <code>doc</code> or <code>docx</code> will automatically be added). By default, the value will be <code>OriginalSourceFile.&lt;ext&gt;</code> .

**Response Headers**

Name	Description
<code>Content-Disposition</code>	Indicates to a browser that the response body should be treated as a file download and specifies the filename the browser should use.
<code>Content-Type</code>	The most-specific MIME type for the returned document or <code>application/octet-stream</code> otherwise.

**Response Body**

The raw bytes of the first of the two documents being viewed as a comparison, the *original* document.

**Error Responses**

Status Code	JSON <code>errorCode</code>	Description
404	-	No viewing session with the provided <code>viewingSessionId</code> could be found.
480	<code>"DocumentNotProvidedYet"</code>	An <i>original</i> document has not been provided to the viewing session yet.
480	<code>"IncorrectUsage"</code>	For any new viewing session, you can give it either 1) a single <i>source</i> document for viewing or 2) two documents ( <i>original</i> and <i>revised</i> ) which should be viewed as a comparison, but you cannot do both. If you receive this error from this URL, it is because a single <i>source</i> document was provided for viewing, so there will never be an <i>original</i> comparison document to get.

Status Code	JSON errorCode	Description
-------------	----------------	-------------

## Example

### Request

```
GET pas_base_url/v2/viewingSessions/XYZ.../sourceFile/original?
contentDispositionFilename=OldMonthlySalesReport
```

### Response

```
200 OK
Content-Type: application/msword
Content-Disposition: attachment; filename=OldMonthlySalesReport.docx;
filename*=UTF-8''OldMonthlySalesReport.docx

<<file bytes>>
```

## GET /v2/viewingSessions/{viewingSessionId}/sourceFile/revised? contentDispositionFilename={contentDispositionFilename}

### Routes key: `GetRevisedSourceFile`

When viewing a comparison of two documents, gets the *revised* document used in the comparison. The document returned will be an identical copy of the document originally provided.

The response will set the `Content-Type` header to the most-specific MIME type it can or `application/octet-stream` otherwise.

### Request

#### URL Parameters

Parameter	Description
{viewingSessionId}	The <code>viewingSessionId</code> which identifies the viewing session.
{contentDispositionFilename}	The filename as a URL-encoded string, without extension, to be used in the <code>Content-Disposition</code> response header (appropriate file extension such as <code>doc</code> or <code>docx</code> will automatically be added). By default, the value will be <code>RevisedSourceFile.&lt;ext&gt;</code> .

### Response Headers

Name	Description
Content-Disposition	Indicates to a browser that the response body should be treated as a file download and specifies the filename the browser should use.
Content-Type	The most-specific MIME type for the returned document or <code>application/octet-stream</code> otherwise.

## Response Body

The raw bytes of the second of the two documents being viewed as a comparison, the *revised* document.

## Error Responses

Status Code	JSON errorCode	Description
404	-	No viewing session with the provided <code>viewingSessionId</code> could be found.
480	"DocumentNotProvidedYet"	A "revised" document has not been associated with the viewing session yet.
480	"IncorrectUsage"	For any new viewing session, you can give it either 1) a single <i>source</i> document for viewing or 2) two documents ( <i>original</i> and <i>revised</i> ) which should be viewed as a comparison, but you cannot do both. If you receive this error from this URL, it is because a single <i>source</i> document was provided for viewing, so there will never be a <i>revised</i> comparison document to get.

## Example

### Request

```
GET pas_base_url/v2/viewingSessions/XYZ.../sourceFile/revised?
contentDispositionFilename=NewMonthlySalesReport
```

### Response

```
HTTP/1.1 200 OK
Content-Type: application/msword
Content-Disposition: attachment; filename=NewMonthlySalesReport.docx;
filename*=UTF-8' 'NewMonthlySalesReport.docx

<<file bytes>>
```

## GET /v2/viewingSessions/{viewingSessionId}/restrictions

Returns information about any restrictions enforced by the server for the current viewing session.

## Request

### URL Parameters

Parameter	Description
{viewingSessionId}	The viewingSessionId which identifies the viewing session.

## Successful Response

JSON with information about any restrictions currently in place for the viewing session:

- `delayEnabled` (Boolean) - Indicates whether the server has enforced an artificial delay before the document conversion results are allowed to be delivered to the viewer.
- `delaySecondsRemaining` (Integer) - The number of seconds remaining in the artificially-imposed delay before the document conversion results are allowed to be delivered to the viewer. Only present when `delayEnabled` is `true`.
- `downloadDisabled` (Boolean) - Indicates whether downloading of the source document has been disabled for this viewing session.
- `markupSavingDisabled` (Boolean) - Indicates whether saving markup has been disabled for this viewing session.
- `markupLoadingDisabled` (Boolean) - Indicates whether loading markup has been disabled for this viewing session.
- `contentConvertersDisabled` (Boolean) Indicates whether the content converters feature has been disabled for this viewing session.
- `markupBurnersDisabled` (Boolean) Indicates whether the markup burner feature has been disabled for this viewing session.
- `formExtractorsDisabled` (Boolean) Indicates whether the forms extractors feature has been disabled for this viewing session.
- `formInfoDisabled` (Boolean) Indicates whether the form detection feature has been disabled for this viewing session.

## Example Responses

### When the product is licensed and the form detection feature is available

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "delayEnabled": false,
  "downloadDisabled": false,
  "markupSavingDisabled": false,
  "markupLoadingDisabled": false,
  "contentConvertersDisabled": false,
  "markupBurnersDisabled": false,
  "formExtractorsDisabled": false,
  "formInfoDisabled": false
}
```

When the product is unlicensed (evaluation mode), and 9 seconds of initial delay are remaining:

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "delayEnabled": true,
  "delaySecondsRemaining": 9,
  "downloadDisabled": true,
  "markupSavingDisabled": true,
  "markupLoadingDisabled": true,
  "contentConvertersDisabled": true,
  "markupBurnersDisabled": true,
  "formExtractorsDisabled": true,
  "formInfoDisabled": true
}
```

## POST /ViewingSession/u{viewingSessionId}/Replacement

**Routes key:** `CreateViewingSessionReplacement`

Replace the existing viewing session with a new one that has a new `password` parameter value. The other original viewing session parameters are preserved. If a source document is uploaded it is attached to the newly created viewing session with a new password. The old viewing session is stopped.

The replacement API is useful when a session is errored because of either an invalid or missing password, and you want to replace it with a new session with the same parameters against the same document but with a modified password.

### Request

#### Request Headers

Name	Description
Content-Type	Should be application/json

#### Request Body

- `password` (String) Password to use when opening a password-protected source document. If the parameter is not provided a new viewing session is created with a default null `password` parameter value.

#### URL Parameters

Parameter	Description
{viewingSessionId}	The viewingSessionId which identifies the viewing session.

### Successful Response

### Response Body

JSON with metadata about the created viewing session.

- `viewingSessionId` (String) Unique id for this viewing session.

### Error Responses

Status Code	Reason Phrase	Description
403	The session is invalid or has expired	You requested a valid <code>{viewingSessionId}</code> but it is no longer available.
500	Internal Server Error	Can occur if you forget to prefix the <code>{viewingSessionId}</code> portion of the URL with <code>u</code> , or if you simply request an invalid <code>{viewingSessionId}</code> .

Some error responses will have a JSON body with an `errorCode` and `errorDetails`:

Status Code	JSON <code>errorCode</code>	Description
480	"PropertyNotReplaceable"	Unsupported property to replace was used. See <code>errorDetails</code> in the response body.

### Example

#### Request

```
POST pas_base_url/ViewingSession/uXYZ.../Replacement
Content-Type: application/json

{
  "password": "123"
}
```

#### Response

```
HTTP/1.1 200 OK
Content-Type: application/json;charset=utf-8

{
  "viewingSessionId": "THMMytF4ACHrxmN2bXj4vahx4Gnwly_kEeFt20XtRau-
z43pPHIjUy5JXJ05Wj1MaqvdfsXp98JxIk7ALWkukg"
}
```

## PrizmDoc Server REST API

### Overview

This section is for people who need to use the PrizmDoc Server REST API directly.

For application development in .NET, consider using the [PrizmDoc Server .NET SDK](#) instead of using the REST APIs directly.

This section includes the following topics:

- [Base URL for PrizmDoc Server](#)
- [Attachments](#)
- [Cluster Management](#)
- [Content Conversion Service](#)
- [Form Extractors](#)
- [Health Status](#)
- [HTML5 Viewing](#)
- [Markup Burners](#)
- [Plain Text Redactors](#)
- [Redaction Creator](#)
- [Search Contexts](#)
- [Search Tasks](#)
- [Viewing Sessions](#)
- [Work Files](#)

## Base URL for PrizmDoc Server

### Introduction

When making REST API calls to PrizmDoc Server, you need to use the appropriate base URL.

### PrizmDoc Cloud

If you are using our PrizmDoc Cloud offering, the base URL for the PrizmDoc Server APIs varies depending on your region:

Region	PrizmDoc Server Base URL
United States	<a href="https://api.accusoft.com">https://api.accusoft.com</a>

Remember that [PrizmDoc Cloud](#) requires you to authenticate each request with an `acs-api-key` request header.

### PrizmDoc Viewer Self-Hosted (Self-Hosted)

When hosting PrizmDoc Server yourself, just use the hostname and port of your PrizmDoc Server instance (or the hostname and port of the load balancer which sits in front of your PrizmDoc Server cluster).

For a typical installation on localhost, the PrizmDoc Server base URL will be:

```
http://localhost:18681
```

## Attachments

### Introduction

The Attachments API allows you to view EML and MSG attachments using PrizmDoc Server.

### Available URLs

URL	Description
<a href="#">GET /PCCIS/V1/ViewingSession/u{ViewingSessionID}/Attachments</a>	Lists the attachments available in the source document.

### GET /PCCIS/V1/ViewingSession/u{ViewingSessionID}/Attachments

This API returns a JSON list of attachment objects. If the return object list length has a zero count and no errors detected, there are no attachments. The status property of the list object indicates whether or not the list has been completed. If the list hasn't been completed, the request must be retried again. Each Attachment object in the list contains **displayName** and **viewingSessionId** property. The **displayName** can be used to label an href link on a web page and the link points to the **viewingSessionId** URL for the attachment.

### Request

#### URL Parameters

Parameter	Description
{ViewingSessionID}	The ID of the viewing session associated with the request.

### Successful Response

#### Response Body

If successful, this method returns the following properties:

- status** (String) Specifies the current status of the attachments.
  - "pending" - There may be attachments, but the list has not yet been constructed.
  - "complete" - The list is known and present in this object.
- attachments** (List) The list of attachments, if any. Each item in this list will be a new viewing session ID, which is used to view any of the listed attachments in the Viewer by passing in the viewing session ID provided in this list.

### Error Responses

Status Code	Description
500	Internal service error. This error can be returned for a number of different reasons. Please verify that your input is correct, and contact Support if the error persists.

### Examples

#### Request

```
GET prizmdoc\_server\_base\_url/PCCIS/V1/ViewingSession/uGcIsIsEGbLV2\_V9yy4NzmK2HB-JuLOH--A9sZ16cla9tx00ZDBGfq1G4kKu0r\_GyEps4wWCvDwn4dpnZAR76Uw/Attachments
```

### Response

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "attachments": [
    {
      "displayName": "example-file.pdf",
      "viewingSessionId":
"SC0fZEMyIiGdOPMKBqLY8P6EAnVLEqxeTHjUUYqqxgJjC3s3wsQ8Lw2qqvkD1uLKTpAlF1ce23EQ6BFpYb4E3LC9TsXxwHCgB-
I1c5rPOt0"
    },
    {
      "displayName": "second-example.doc",
      "viewingSessionId": "33qQovKTjc0UKbNgOI-5POEyCpNw5x-
uEzGMB13iUVhnCa_UHSSnOpRBEzPKeD7Maxq2RQu2SO0wJj14X4iU_65OQjx2EI5-7h-bX1Yc6uA"
    }
  ],
  "status": "complete"
}
```

## Cluster Management

### Introduction

**NOTE:** The cluster management API is only available if 1) you are self-hosting PrizmDoc Server and 2) you have clustering enabled. If you are using PrizmDoc Cloud, or if you are self-hosting in single-server mode, the URLs discussed in this page will not be available.

These are advanced URLs which allow administrators of a PrizmDoc Server cluster to dynamically inform their servers whenever other servers are brought into or out of rotation.

Each PrizmDoc Server instance in a cluster has its own list of the host and port of all servers it considers to be in the cluster (including itself). Each server uses its list when deciding how to route internal traffic within the cluster. In order for your cluster to function correctly, it is important that every server in the cluster always have a correct list of active servers.

There are two cluster management URLs:

- A `GET` which returns the active list of servers a particular server knows about
- A `PUT` which changes the active list of servers a particular server should use

Unlike other PrizmDoc Server APIs, requests to these URLs should be sent directly to individual servers (rather than to, say, a load balancer which you have put in front of your cluster which would route the request to a random server). Additionally, requests to these URLs must be sent to a server's *public port* (not its *cluster port*, otherwise you will receive `403 Forbidden`).

Whenever a server is added to or removed from your cluster, you should send a `PUT` request to *every* server in the cluster informing them of the new active list of servers they should use.

For more information, see [PrizmDoc Cluster Mode](#).

## Available URLs

URL	Description
GET <a href="#">/PCCIS/V1/Service/Properties/Servers</a>	Returns the active list of servers a particular server knows about.
PUT <a href="#">/PCCIS/V1/Service/Properties/Servers</a>	Sets the active list of servers a particular server should use.

## GET /PCCIS/V1/Service/Properties/Servers

Gets the active list servers which a particular server is currently using to route requests to. The list of servers returned here must first have been set by a request to [PUT /PCCIS/V1/Service/Properties/Servers](#) or via the [Central Configuration](#) file.

## Successful Response

### Response Body

JSON containing the list of host addresses and ports which this server is currently using to route requests to.

- `servers` (Array of Objects) List of servers which this server is currently using to route requests to. Each item in the array will be an object containing:
  - `address` (String) Hostname or IP address where internal traffic should be sent
  - `port` (String) The *cluster port* where internal traffic should be sent (typically "18682"). The cluster port for a server is configured via the `network.clustering.clusterPort` property in the [Central Configuration](#) file.

## Error Responses

Status Code	Reason Phrase	Description
403	Forbidden	Can occur if you send the request to a server's <i>cluster port</i> instead of its <i>public port</i> .

## Example

In this example:

- The [Central Configuration](#) file uses a `network.publicPort` value of 18681
- The [Central Configuration](#) file uses a `network.clustering.clusterPort` value of 18682 (used by PrizmDoc Services for internal communication between servers)

The [GET](#) request must be sent to a specific server at its *public port* (18681):

```
GET http://192.168.0.1:18681/PCCIS/V1/Service/Properties/Servers
```

The returned data shows the list of all servers (including the server the request was sent to) with their internal *cluster port* (as a string, "18682"):

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "servers": [
    {
      "address": "192.168.0.1",
      "port": "18682"
    },
    {
      "address": "192.168.0.2",
      "port": "18682"
    },
    {
      "address": "192.168.0.3",
      "port": "18682"
    }
  ]
}
```

## PUT /PCCIS/V1/Service/Properties/Servers

Sets the active list of servers which a particular server should start using to route requests to. The list of servers should include the server this request is sent to.

### Request

#### Request Headers

Name	Description
Content-Type	Should be <code>application/json</code>

#### Request Body

JSON indicating the new active list of servers to use:

- `servers` (Array of Objects) **Required.** List of servers which this server should start using to route requests to. Each item in the array must be an object containing:
  - `address` (String) **Required.** Hostname or IP address where internal traffic should be sent
  - `port` (String) **Required.** The *cluster port* where internal traffic should be sent (typically "18682"). The cluster port for a server is configured via the `network.clustering.clusterPort` property in the [Central Configuration](#) file.

### Successful Response

A plain HTTP 200 without any body indicating the new list was accepted and will be used by the server.

### Error Responses

Status Code	Reason Phrase	Description
400	Bad Request	The request body could not be understood. Make sure that it is syntactically valid JSON and that it contains the required data.
403	Forbidden	Can occur if you send the request to a server's <i>cluster port</i> instead of its <i>public port</i> .

## Example

In this example:

- The **Central Configuration** file uses a `network.publicPort` value of 18681
- The **Central Configuration** file uses a `network.clustering.clusterPort` value of 18682 (used by PrizmDoc Services for internal communication between servers)

The `PUT` request must be sent to a specific server at its *public port* (18681), but the items in the server list must use the internal *cluster port* (as a string, "18682").

```
PUT http://192.168.0.1:18681/PCCIS/V1/Service/Properties/Servers
Content-Type: application/json
```

```
{
  "servers": [
    {
      "address": "192.168.0.1",
      "port": "18682"
    },
    {
      "address": "192.168.0.2",
      "port": "18682"
    },
    {
      "address": "192.168.0.3",
      "port": "18682"
    }
  ]
}
```

```
HTTP/1.1 200 OK
```

The response of HTTP 200 indicates the new list was accepted and will be used by the server.

## Content Conversion Service

### Introduction

The *content converters* REST API allows you to convert files from a *variety of input formats* to *several common output formats*.

For application development in .NET, we recommend using the **PrizmDoc Server .NET SDK** instead of the REST API. See the **.NET SDK How to Guides** for examples of how to perform file conversion with the .NET SDK.

To convert a file using the REST API:

1. Upload a file you want to use as input using the [WorkFile API](#).
2. Start a conversion operation by using the [POST](#) URL below.
3. Check the status of the conversion by (repeatedly) using the [GET](#) URL below.
4. When complete, a separate output file will exist which you can download via the [WorkFile API](#).

## Available URLs

URL	Description
<a href="#">POST /v2/contentConverters</a>	Create and start a content conversion
<a href="#">GET /v2/contentConverters/{processId}</a>	Get the status of a content conversion

Note that these URLs begin with `/v2`, **not** `/PCCIS/v1`.

## POST /v2/contentConverters

Creates a new contentConverter resource which represents the conversion process and begins converting one or multiple input files which you have previously uploaded using the [WorkFile API](#). A successful response will include a unique `processId` which identifies this contentConverter. You will use this `processId` in subsequent [GET](#) calls to get the status and final results of the conversion.

### Request Headers

Name	Value	Details
Content-Type	application/json	<b>required</b>
Accusoft-Affinity-Token	The affinityToken of the work files involved in the input to the process. Example: rcqmuB9pAa8+4V7fh01SXzawy/YMQU1g81LdNDe517w=	<b>Required when server clustering is enabled.</b> Providing this value is important to ensuring the process will execute on the machine where the input work files actually exist.  <b>NOTE: If you do not provide the required Accusoft-Affinity-Token, the POST itself will succeed but the process itself will likely fail.</b>

### Request Body

At a high level, your request body should be JSON containing an `input` object with details about the `sources` and `dest` for the conversion.

Here is a minimal example:

```
POST prizmdoc\_server\_base\_url/v2/contentConverters
Content-Type application/json

{
  "input": {
    "sources": [
      {
        "fileId": "ek5Zb123oYHSUEVx1bUrVQ"
      }
    ],
    "dest": {
      "format": "pdf"
    }
  }
}
```

Additional options are available. Here is the full reference:

#### input.sources

The `input.sources` object specifies an array of objects, one for each input file.

Currently multiple input files are only supported when the destination format is `pdf` or `tiff`, but a future version of the product may allow you to submit multiple input source files for other destination formats.

Name	Description	Details
<code>input.sources[n].fileId</code>	The id of the <a href="#">WorkFile</a> to use as input. See <a href="#">Supported Input File Formats</a>	string, <b>required</b> Example: "ek5Zb123oYHSUEVx1bUrVQ"
<code>input.sources[n].pages</code>	Page numbers and/or page ranges separated by commas. Currently <code>pages</code> is only supported when the destination format is <code>pdf</code> or <code>tiff</code> , and is ignored otherwise. We expect this to change in a future version, in which case <code>pages</code> will be supported for other destination formats.	string, optional Example: 1, 3, 5-10
<code>input.sources[n].password</code>	The password to be used for a document associated with the <code>fileId</code> . Currently <code>password</code> is only supported when the source format is PDF, MS Word, MS Excel, MS PowerPoint or OpenDocument, and is ignored otherwise. Please note that only Office Open XML versions of MS Word, MS Excel and MS PowerPoint are supported when <code>fidelity.msOfficeDocumentsRenderer</code> is set to "libreoffice". We expect this to change in a future version, in which case <code>password</code> will be supported for other source formats.	string, optional Example: "secret"

**input.src (deprecated)**

The `input.src` object specifies the file to use as input. This property has been deprecated, please use `input.sources` instead.

Name	Description	Details
<code>input.src.fileId</code>	The id of the <a href="#">WorkFile</a> to use as input. See <a href="#">Supported Input File Formats</a>	string, <b>required</b> Example: "ek5Zb123oYHSUEVx1bUrVQ"

**input.dest**

The `input.dest` object specifies the destination file format and any additional details which control how the content is converted.

Name	Description	Details
<code>input.dest.format</code>	Specifies the output file format. Must be one of the following: <ul style="list-style-type: none"> <li>"jpeg"</li> <li>"pdf"</li> <li>"png"</li> <li>"svg"</li> <li>"tiff"</li> <li>"docx"</li> </ul> <p>Currently "docx" destination format is only supported when the source format is PDF, and <code>input_features.pdfToDocx.enabled</code> is enabled. This functionality also requires the <a href="#">Microsoft Office rendering mode</a> to be enabled by the MSO feature in your license key.</p>	string, <b>required</b>
<code>input.dest.jpegOptions</code>	Additional options when <code>input.dest.format</code> is "jpeg".	object, optional
<code>input.dest.pdfOptions</code>	Additional options when <code>input.dest.format</code> is "pdf".	object, optional
<code>input.dest.pngOptions</code>	Additional options when <code>input.dest.format</code> is "png".	object, optional
<code>input.dest.tiffOptions</code>	Additional options when <code>input.dest.format</code> is "tiff".	object, optional
<code>input.dest.header</code>	Specifies the header to be appended to each page of a document. The original page content will be left unaltered. The overall page dimensions will be expanded to allow space for the additional header content.	object, optional
<code>input.dest.footer</code>	Specifies the footer to be appended to each page of a document. The original page content will be left unaltered. The overall page dimensions will be expanded to allow space for the additional footer content.	object, optional

**input.dest.jpegOptions**

Name	Description	Details
<code>input.dest.jpegOptions.maxWidth</code>	The maximum pixel width of the output image, expressed as a CSS-style string, e.g. "800px". When specified, the output image is guaranteed to never be wider than the specified value and its aspect ratio will be preserved. This is useful if you need all of your output images to fit within a single column.	string, optional Example: "800px"
<code>input.dest.jpegOptions.maxHeight</code>	The maximum pixel height of the output image, expressed as a CSS-style string, e.g. "600px". When specified, the output image is guaranteed to never be taller than the specified value and its aspect ratio will be preserved. This is useful if you need all of your output images to fit within a single row.	string, optional Example: "600px"

For CAD input, you must specify either `maxWidth` or `maxHeight`.

**input.dest.pdfOptions**

Name	Description	Details
<code>input.dest.pdfOptions.forceOneFilePerPage</code>	If <code>true</code> , the conversion process will produce single-page PDF files, one file for each page of content (instead of a single PDF with multiple pages). Default is <code>false</code> .	boolean, optional
<code>input.dest.pdfOptions.ocr</code>	Specifies the options for text recognition. Applies when the source file is raster or PDF with a single raster image per page.	object, optional
<code>input.dest.pdfOptions.ocr.language</code>	The language with which to recognize. Currently, only English is supported. Value must be "english".	string, <b>required</b>
<code>input.dest.pdfOptions.ocr.defaultDpi</code>	If the input raster file does not contain resolution DPI information, these values will be used in place. Default is { x: 300, y: 300 }	object, optional
<code>input.dest.pdfOptions.ocr.defaultDpi.x</code>	Horizontal DPI value.	integer, <b>required</b>
<code>input.dest.pdfOptions.ocr.defaultDpi.y</code>	Vertical DPI value.	integer, <b>required</b>

When converting PDF documents to a single PDF with multiple pages or a set of single-page PDF files, the result PDF file(s) will lose bookmarks and intra-document links due to restructuring of the PDF content.

The width and height of the recognized image should not exceed 32767 pixels.

Strikethrough text will not be recognized.

#### input.dest.pngOptions

Name	Description	Details
<code>input.dest.pngOptions.maxWidth</code>	The maximum pixel width of the output image, expressed as a CSS-style string, e.g. "800px". When specified, the output image is guaranteed to never be wider than the specified value and its aspect ratio will be preserved. This is useful if you need all of your output images to fit within a single column.	string, optional Example: "800px"
<code>input.dest.pngOptions.maxHeight</code>	The maximum pixel height of the output image, expressed as a CSS-style string, e.g. "600px". When specified, the output image is guaranteed to never be taller than the specified value and its aspect ratio will be preserved. This is useful if you need all of your output images to fit within a single row.	string, optional Example: "600px"

For CAD input, you must specify either `maxWidth` or `maxHeight`.

#### input.dest.tiffOptions

Name	Description	Details
<code>input.dest.tiffOptions.forceOneFilePerPage</code>	If <code>true</code> , the conversion process will produce single-page TIFF files, one file for each page of content (instead of a single TIFF with multiple pages). Default is <code>false</code> .	boolean, optional
<code>input.dest.tiffOptions.maxWidth</code>	The maximum pixel width of the output image, expressed as a CSS-style string, e.g. "800px". When specified, the output image is guaranteed to never be wider than the specified value and its aspect ratio will be preserved. This is useful if you need all of your output images to fit within a single column.	string, optional Example: "800px"
<code>input.dest.tiffOptions.maxHeight</code>	The maximum pixel height of the output image, expressed as a CSS-style string, e.g. "600px". When specified, the output image is guaranteed to never be taller than the specified value and its aspect ratio will be preserved. This is useful if you need all of your output images to fit within a single row.	string, optional Example: "600px"

For CAD input, you must specify either `maxWidth` or `maxHeight`.

#### input.dest.header

Name	Description	Details
<code>input.dest.header.lines</code>	This is a multi-dimensional array that allows you to easily position text in a particular line and column. The first string in any inner array will always be placed on the left (left-justified), the second string placed in the center (center-justified), and the third string placed on the right (right-justified). The number of items in the outer array defines the total number of text lines. You may provide between one and three lines of text for a header.	array, optional
<code>input.dest.header.fontFamily</code>	Specifies the name of the font that is used for the header (e.g. "fontFamily": "Courier"). The font name provided must be present on the server to be applied.	string, optional
<code>input.dest.header.fontSize</code>	Specifies the size of the font, in points. If provided, the value must be a string with a number followed by "pt" (e.g. "12pt").	string, optional
<code>input.dest.header.color</code>	Specifies the color of the text. Valid values are any valid CSS HEX value (e.g. "#FF0000").	string, optional

Currently, the `input.dest.header` property is only supported when converting all pages of a single document to either "pdf" or "tiff", and `forceOneFilePerPage` is false.

Text may overlap other text and/or overflow the page bounds. The caller specifies the text position and size, and the product simply renders the text. For example, if the font size is too big, text on the left may overlap text in the center, or if the text is so long it can't fit on the page width, it may overflow the page bounds.

For `input.dest.header` code examples refer to [Conversion Input Examples](#).

#### input.dest.footer

Name	Description	Details
<code>input.dest.footer.lines</code>	This is a multi-dimensional array that allows you to easily position text in a particular line and column. The first string in any inner array will always be placed on the left (left-justified), the second string placed in the center (center-justified), and the third string placed on the right (right-justified). The number of items in the outer array defines the total number of text lines. You may provide between one and three lines of text for a footer.	array, optional
<code>input.dest.footer.fontFamily</code>	Specifies the name of the font that is used for the footer (e.g. "fontFamily": "Courier"). The font name provided must be present on the server to be applied.	string, optional
<code>input.dest.footer.fontSize</code>	Specifies the size of the font, in points. If provided, the value must be a string with a number followed by "pt" (e.g. "12pt").	string, optional
<code>input.dest.footer.color</code>	Specifies the color of the text. Valid values are any valid CSS HEX value (e.g. "#FF0000").	string, optional

Currently, the `input.dest.footer` property is only supported when converting all pages of a single document to either "pdf" or "tiff", and `forceOneFilePerPage` is false.

Text may overlap other text and/or overflow the page bounds. The caller specifies the text position and size, and the product simply renders the text. For example, if the font size is too big, text on the left may overlap text in the center, or if the text is so long it can't fit on the page width, it may overflow the page bounds.

For `input.dest.footer` code examples refer to [Conversion Input Examples](#).

## input\_features

The `input._features` object specifies a set of toggles used to enable some beta options for conversion operations.

### input\_features.pdfToDocx

Name	Description	Details
<code>input._features.pdfToDocx.enabled</code>	If true, enables CCS conversion from 'PDF' to 'DOCX'. This feature also requires the <a href="#">Microsoft Office rendering mode</a> to be enabled by the MSO feature in your license key. Default is false.	boolean, required

Here is a minimal example:

```
POST prizmdoc_server_base_url/v2/contentConverters
Content-Type application/json

{
  "input": {
    "sources": [
      {
        "fileId": "ek5Zb123oYHSUEVx1bUrVQ"
      }
    ],
    "dest": {
      "format": "docx"
    },
    "_features": {
      "pdfToDocx": { "enabled": true }
    }
  }
}
```

### minSecondsAvailable

Allows you to specify a minimum number of seconds in which you can continue to GET the status of this conversion operation after the initial POST has been submitted. The default lifetime is defined by the `processIds.lifetime` [central configuration](#) parameter.

## Response Body

A successful response will return JSON which contains:

1. The `input` object submitted in the request, normalized to include default values.
2. Information about the **status** of the conversion.

Here is an example:

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "sources": [
      {
        "fileId": "ek5Zb123oYHSUEVx1bUrVQ",
        "pages": ""
      }
    ],
    "dest": {
      "format": "pdf",
      "pdfOptions": {
        "forceOneFilePerPage": false
      }
    }
  },
  "expirationDateTime": "2015-12-17T20:38:39.796Z",
  "processId": "ElkNzWtrUJp4rXI5YnLUgw",
  "state": "processing",
  "percentComplete": 0
}
```

### Conversion Status Details

Name	Description	Details
<code>processId</code>	The id of the contentConverter resource which represents the file conversion operation.	string
<code>expirationDateTime</code>	The date and time (in ISO 8601 Extended Format) when the contentConverter resource will be deleted.	string Example: "2015-12-17T20:38:39.796Z"

Name	Description	Details
state	The current state of the conversion process, which will be one of the following: <ul style="list-style-type: none"> <li>"processing" - The conversion is still in progress.</li> <li>"complete" - The conversion has completed successfully.</li> <li>"error" - The conversion failed due to a problem.</li> </ul> For the initial POST, this value will almost always be "processing". Results are typically only available with a subsequent GET.	string
percentComplete	An integer from 0 to 100 that indicates what percentage of the conversion is complete.	integer Example: 0
errorCode	An error code string if a problem occurred during the conversion process.	string Example: "InvalidInput"
affinityToken	Affinity token echoed from request header. This value will only be present if PrizmDoc Server is running in <b>cluster mode</b> .	string Example: "rcqmuB9pAa8+4V7fhO1SXzawy/YMQU1g8lLdNDe5l7w="

#### HTTP Status Codes and Response JSON Error Codes

HTTP Status	"state" in response JSON body	"errorCode" in response JSON body	Description
200	processing	-	The contentConverter was created and the conversion process was started.
400	error	CouldNotReadRequestData	Could not read request data.
405	-	-	POST HTTP method was not used.
480	error	InvalidJson	Json error details are in <code>errorDetails</code> .
480	-	InvalidDimensionValue	Invalid dimension value specified for rasterization. See details in <code>errorDetails</code> .
480	-	InvalidInput	Invalid input. Invalid request data is referenced in the <code>errorDetails</code> .
480	-	InvalidPageSyntax	Invalid page specification. See <code>errorDetails</code> .
480	-	ForceOneFilePerPageNotSupportedWhenUsingHeaderOrFooter	<code>forceOneFilePerPage</code> mode is not supported when using header or footer options. Supported <code>ForceOneFilePerPage</code> option is referenced in <code>errorDetails</code> .
480	-	MaxWidthOrMaxHeightMustBeSpecifiedWhenRasterizingCadInput	Max width or max height must be specified when rasterizing CAD input. See <code>errorDetails</code> .
480	-	MissingInput	Missing input. See <code>errorDetails</code> .
480	-	MultipleSourcesAreNotSupportedForThisDestinationFormat	Multiple source files or pages are not supported for this destination format.
480	-	MultipleSourceDocumentsNotSupportedWhenUsingHeaderOrFooter	Multiple source documents are not supported when using header or footer.
480	-	PagesPropertyNotSupportedWhenUsingHeaderOrFooter	Pages property is not supported for conversion with header or footer. The property is referenced in <code>errorDetails</code>
480	-	UnrecognizedExpression	Unrecognized expression. See <code>errorDetails</code> .
480	-	UnsupportedConversion	Unsupported conversion. See <code>errorDetails</code> .
480	-	UnsupportedDestinationFormatWhenUsingHeaderOrFooter	Unsupported destination format when using header or

HTTP Status	"state" in response JSON body	"errorCode" in response JSON body	Description
			footer. Supported destination formats are listed in <code>errorDetails</code> .
480	-	UnsupportedSourceFileFormat	Unsupported source file format. Unsupported file is referenced in <code>errorDetails</code> .
480	-	UnsupportedSourceFileFormatForOCR	Unsupported source file format for OCR. Unsupported file is referenced in <code>errorDetails</code> .
480	-	WorkFileDoesNotExist	Specified work file does not exist.
480	-	FeatureNotLicensed	The server's license does not allow the use of the requested feature. The unlicensed feature will be referenced by the <code>errorDetails</code> object in the response.
480	-	LicenseCouldNotBeVerified	The server's license could not be verified. Make sure your license has been correctly installed.
580	-	InternalServiceError	Internal service error. This error can be returned for a number of different reasons. Please contact Customer Support.

### GET /v2/contentConverters/{processId}

Gets the status of a content conversion operation and its final output if available.

In general, the response JSON will contain:

1. The `input` object submitted in the POST request, normalized to include default values.
2. Information about the **status** of the conversion.
3. Information about the **output** of the conversion, if available.

Requests can be sent to this URL repeatedly while the `state` is "processing".

When the `state` is "complete", the `output` section will list one or more [WorkFile](#) ids for each output file, and the files themselves can be downloaded using the [WorkFile API](#).

#### Parameters

Name	Description	Details
<code>processId</code>	The <code>processId</code> for a particular contentConverter. This <code>processId</code> was returned in the response for the initial POST.	string, <b>required</b>

#### Request Headers

Name	Value	Details
Accusoft-Affinity-Token	Affinity token returned in post response body for content converter specified by <code>processId</code> parameter. Example: "rcqmuB9pAa8+4V7fhO1SXzawy/YMQU1g8lLdNDe5l7w="	Only used if PrizmDoc Server is running in <b>cluster mode</b> .

#### Response Body

While processing, the response will return JSON with only the processing details. For example:

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "sources": [
      {
        "fileId": "ek5Zb123oYHSUEVx1bUrVQ",
        "pages": ""
      }
    ],
    "dest": {
      "format": "pdf",
      "pdfOptions": {
        "forceOneFilePerPage": false
      }
    }
  },
  "expirationDateTime": "2015-12-17T20:38:39.796Z",
  "processId": "ElkNzWtrUJp4rXI5YnLUgw",
```

```

"state": "processing",
"percentComplete": 82
}
    
```

Once the processing has completed, the response will return JSON showing the **WorkFile** id of the output file or files. If the output format supports multiple pages (e.g. PDF or TIFF), then only a single output file will be created. For example:

```

HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "sources": [
      {
        "fileId": "ek5Zb123oYHSUEVx1bUrVQ",
        "pages": ""
      }
    ],
    "dest": {
      "format": "pdf",
      "pdfOptions": {
        "forceOneFilePerPage": false
      }
    }
  },
  "expirationDateTime": "2015-12-17T20:38:39.796Z",
  "processId": "ElkNzWtrUJp4rXI5YnLUgw",
  "state": "complete",
  "percentComplete": 100,
  "output": {
    "results": [
      {
        "fileId": "KOrSwaqsguevJ97BdmUbXi",
        "sources": [{ "fileId": "ek5Zb123oYHSUEVx1bUrVQ", "pages": "1-3" }],
        "pageCount": 3
      }
    ]
  }
}
    
```

If the output format does not support multiple pages (e.g. JPEG), then multiple output files will be created. For example:

```

HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "sources": [
      {
        "fileId": "ek5Zb123oYHSUEVx1bUrVQ"
      }
    ],
    "dest": {
      "format": "jpeg"
    }
  },
  "expirationDateTime": "2015-12-17T20:38:39.796Z",
  "processId": "ElkNzWtrUJp4rXI5YnLUgw",
  "state": "complete",
  "percentComplete": 100,
  "output": {
    "results": [
      {
        "fileId": "N6uDE11Ed6+JQPpy0POu+8A",
        "sources": [{ "fileId": "ek5Zb123oYHSUEVx1bUrVQ", "pages": "1" }],
        "pageCount": 1
      },
      {
        "fileId": "+4b6QW90Fb9yjDak+ALFEg",
        "sources": [{ "fileId": "ek5Zb123oYHSUEVx1bUrVQ", "pages": "2" }],
        "pageCount": 1
      },
      {
        "fileId": "Lx/4z8AyJKV5eMjWKsBm5w",
        "sources": [{ "fileId": "ek5Zb123oYHSUEVx1bUrVQ", "pages": "3" }],
        "pageCount": 1
      }
    ]
  }
}
    
```

### Conversion Status Details

Name	Description	Details
processId	The id of the contentConverter resource which represents the file conversion operation.	string
expirationDateTime	The date and time (in ISO 8601 Extended Format) when the contentConverter resource will be deleted.	string Example: "2015-12-17T20:38:39.796Z"

Name	Description	Details
state	The current state of the conversion process, which will be one of the following: <ul style="list-style-type: none"> <li>"processing" - The conversion is still in progress.</li> <li>"complete" - The conversion has completed successfully.</li> <li>"error" - The conversion failed due to a problem.</li> </ul>	string
percentComplete	An integer from 0 to 100 that indicates what percentage of the conversion is complete.	integer Example: 0
errorCode	An error code string if a problem occurred during the conversion process.	string Example: "CouldNotConvertFile"
affinityToken	Affinity token echoed from request header. This value will only be present if PrizmDoc Server is running in <b>cluster mode</b> .	string Example: "rcqmuB9pAa8+4V7fhO1SXzawy/YMQU1g8LdNDe517w="

#### Conversion Output Details

Name	Description	Details
output.results	An array of objects, one for each output file created.	object
output.results[n].fileId	The <b>WorkFile</b> id for an output file. Use this id to download the output file using the <b>WorkFile API</b> .	string
output.results[n].pageCount	The total number of pages in the output file.	integer
output.results[n].sources	An array of objects, one for each source file which contributed to this output file.	array
output.results[n].sources[n].fileId	The <b>WorkFile</b> id of the source input file.	string
output.results[n].sources[n].pages	The page or pages used from the source file.  This will be a string value using one-based indexing. For example, if the output file represents page 2 of the source document, <b>pages</b> would have a value of "2". If the output file represents all 20 pages of a source document, <b>pages</b> would have a value of "1-20".	string Examples: "1-3" or "2"
output.results[n].src (deprecated)	An array with a single object which corresponds to <b>input.src</b> . This will only appear in the output if you used the deprecated <b>input.src</b> property instead of the new <b>input.sources</b> in the original POST request.	array

#### HTTP Status Codes and Response JSON Error Codes

HTTP status	"state" in response JSON body	"errorCode" in response JSON body	Additional "errorCode" location in response JSON body	Additional "errorCode" in response JSON body	Description
200	processing	-	-	-	The contentConverter was created and the conversion process was started.
200	complete	-	-	-	The conversion process was completed.
200	complete	-	output.results[n].errorCode	NoSuchPage	No such page. Problem field and page number are listed in output.results[n].sources[0].fileId, output.results[n].sources[0].page
200	error	CouldNotConvert	output.results[n].errorCode	CouldNotConvertFile	Could not convert file. Problem field is listed in output.results[n].sources[0].fileId
200	error	CouldNotConvert	output.results[n].errorCode	CouldNotConvertPage	Could not convert page. Problem field and page number are listed in output.results[n].sources[0].fileId, output.results[n].sources[0].page
200	error	CouldNotConvert	output.results[n].errorCode	InvalidPassword	Password is incorrect or missing. Problem field, page number and password if it was passed are listed in output.results[n].sources[0].fileId, output.results[n].sources[0].page, output.results[n].sources[0].password
200	error	CouldNotConvert	output.results[0].errorCode	RequestedHeaderOrFooterFontsNotAvailable	Requested header or footer font is not available. Name of the font which is not available is listed in input.dest.header.fontFamily or input.dest.footer.fontFamily
200	error	CouldNotConvertAllFilesOrPages	output.results[n].errorCode	One or more occurrences of either of the following codes: CouldNotConvertFile, CouldNotConvertPage, NoSuchPage, InvalidPassword	Could not convert all files or pages.  For CouldNotConvertFile error, problem field is listed in output.results[n].sources[0].fileId.  For CouldNotConvertPage, InvalidPassword and

HTTP status	"state" in response JSON body	"errorCode" in response JSON body	Additional "errorCode" location in response JSON body	Additional "errorCode" in response JSON body	Description
					NoSuchPage errors, problem field and pageNumber are listed in <code>output.results[n].sources[0].fileId</code> , <code>output.results[n].sources[0].page</code>
404	-	ContentConverterDoesNotExist	-	-	Content converter does not exist. Invalid processId was specified in the request.
405	-	-	-	-	POST HTTP method was not used.
580	-	InternalServerError	-	-	Internal service error. This error can be returned for a number of different reasons. Please contact support.

## Appendix

### Supported Input File Formats

For a complete list of image and document source types supported by CCS, please refer to: [File Formats Reference](#).

### Supported Output File Formats

- PDF
- TIFF
- PNG
- JPEG
- SVG
- DOCX

Note that the conversion from the source PDF to the output PDF file is implemented to remove all JavaScript during the source file processing. After the source file processing is complete, there is no JavaScript in the output PDF file(s).

## Form Extractors

### Introduction

The *form extractors* REST API allows you to detect form field elements in PDF and raster documents.

A *form extractor* resource represents an asynchronous form extraction process. Each *form extractor* that is created is assigned a unique `processId`.

### Available URLs

URL	Description
<a href="#">GET /PCCIS/V1/ViewingSession/u{viewingSessionId}/FormInfo</a>	Returns what kind of form field data, if any, is available in a viewing session's source document.
<a href="#">POST /v2/formExtractors</a>	Creates a new <i>form extractor</i> for a work file, starting the process of extracting form field data.
<a href="#">GET /v2/formExtractors/{processId}</a>	Gets the status and final output of a <i>form extractor</i> .

### Output Schemas

- `"acroform"` Output
- `"rasterForm"` Output

### GET /PCCIS/V1/ViewingSession/u{viewingSessionId}/FormInfo

Returns what kind of form field data, if any, is available in a viewing session's source document.

#### Request

##### URL Parameters

Parameter	Description
<code>{viewingSessionId}</code>	The <code>viewingSessionId</code> which identifies the viewing session.

### Successful Response

#### Response Body

JSON with information about what kind of form data, if any, is available in the source document of the viewing session.

- `formType[]` (Array of strings) Array of values indicating what types of form data, if any, are available for extraction from this viewing session's source document. Values will be one of the following:
  - `"acroform"` - The source document is a PDF which contains AcroForm data. The data can be extracted by using an `input.formType` of `"acroform"` in a subsequent POST to create a *form extractor* process.
  - `"xfa"` - The source document is a PDF which contains XFA form data. We do not yet support extraction of XFA data.
  - `"rasterForm"` - The source document is a raster file which may or may not contain detectable form fields. You can attempt to extract form data by using an `input.formType` of `"rasterForm"` in a subsequent POST to create a *form extractor* process.

## Error Responses

Status Code	JSON <code>errorCode</code>	Description
404		No viewing session with the provided <code>{viewingSessionId}</code> could be found.
480	<code>"DocumentNotProvidedYet"</code>	A source document has not been provided to the viewing session.
480	<code>"FeatureNotLicensed"</code>	You are not licensed to use the form extraction feature.
580	<code>"InternalError"</code>	The server encountered an internal error when handling the request.

## Example

### Request

```
GET
/PCCIS/V1/ViewingSession/uDLbVh9sTmXJAm1GeXbS9Gn3WHxs8oib2xPsw2xEFjnIDdoJcudPtxciodSYFQq6zYGabQ_rJIecdbkImTTkSA/FormInfo
```

### Response

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "formType": ["acroform"]
}
```

## POST /v2/formExtractors

Creates a new *form extractor* for a work file, starting the process of extracting form field data.

### Request

#### Request Headers

Name	Description
<code>Content-Type</code>	Must be <code>application/json</code>
<code>Accusoft-Affinity-Token</code>	The <code>affinityToken</code> of the work file specified by <code>input.fileId</code> . <b>Required when server clustering is enabled.</b>

#### Request Body

- `input`
  - `fileId` (String) **Required.** The id of the work file to extract form field data from.
  - `password` (String) Password to open the source document, if required.
  - `formType` (String) **Required.** Type of form field data to extract. Must be one of the following:
    - `"acroform"` - Extract AcroForm field data from a PDF and return results in our `"acroform"` JSON format.
    - `"rasterForm"` - Detect visible form fields in a raster document and return results in our `"rasterForm"` JSON format.
- `minSecondsAvailable` (Integer) The minimum number of seconds this process will remain available to GET its status. The actual lifetime may be longer. The default lifetime is defined by the `processIds.lifetime` [central configuration](#) parameter.

## Successful Response

### Response Body

JSON with metadata about the created *form extractor* process. You can check on the status of the form extraction process with additional [GET requests](#).

- `input` (Object) Input we accepted to create the *form extractor* process.

- `processId` (String) Unique id for the newly-created *form extractor* process.
- `affinityToken` (String) Affinity token for this *form extractor*. Present when clustering is enabled.
- `state` (String) State of extracting form field data:
  - "processing" - The server is extracting form field data.
  - "complete" - All form field data has been extracted.
  - "error" - There was a problem extracting form field data.
- `percentComplete` (Integer) Percentage of form extraction which has completed (from 0 to 100).
- `expirationDateTime` (String) Currently planned date and time when the *form extractor* resource will expire and no longer be available. This time may be extended if we have need to keep using the data. Format is [RFC 3339 Internet Date/Time profile of ISO 8601], e.g. "2016-11-05T08:15:30.494Z".
- `errorCode` (String) Descriptive error code. Present when `state` is "error".
- `errorDetails` (Object) Additional error details, if any. May be present when `errorCode` is present.

## Error Responses

Status Code	JSON <code>errorCode</code>	Description
400	"MissingInput"	Can occur when clustering is enabled and an <code>Accusoft-Affinity-Token</code> request header was not provided.
480	"MissingInput"	A required input value was not provided. See <code>errorDetails</code> in the response body.
480	"InvalidInput"	An invalid input value was used. See <code>errorDetails</code> in the response body.
480	"FeatureNotLicensed"	You are not licensed to use the form extraction feature.
580	"InternalError"	The server encountered an internal error when handling the request.

## Example

### Request

```
POST /v2/formExtractors
Content-Type: application/json
Accusoft-Affinity-Token: ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=

{
  "input": {
    "fileId": "ek5Zb123oYHSUEVx1bUrVQ",
    "formType": "acroform"
  }
}
```

### Response

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "fileId": "ek5Zb123oYHSUEVx1bUrVQ",
    "formType": "acroform"
  },
  "processId": "ElkNzWtrUJp4rXI5YnLUgw",
  "state": "processing",
  "percentComplete": 0,
  "expirationDateTime": "2016-12-17T20:38:39.796Z",
  "affinityToken": "ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM="
}
```

## GET /v2/formExtractors/{processId}

Gets the status and final output of a *form extractor*.

### Request

#### URL Parameters

Parameter	Description
{processId}	The <code>processId</code> which identifies the <i>form extractor</i> process.

#### Request Headers

Name	Description
Accusoft-Affinity-Token	The affinityToken of the form extraction process. <b>Required when server clustering is enabled.</b>

## Successful Response

### Response Body

JSON with metadata about the *form extractor* process and the final *output*, if available. You can check on the status of the form extraction process with additional GET requests.

- `input` (Object) Input we accepted to create the form extraction process.
- `processId` (String) Unique id for this *form extractor* process.
- `affinityToken` (String) Affinity token for this *form extractor*. Present when clustering is enabled.
- `state` (String) State of extracting form field data:
  - `"processing"` - The server is extracting form field data.
  - `"complete"` - All form field data has been extracted.
  - `"error"` - There was a problem extracting form field data.
- `percentComplete` (Integer) Percentage of form extraction which has completed (from 0 to 100).
- `expirationDateTime` (String) Currently planned date and time when the *form extractor* resource will expire and no longer be available. This time may be extended if we have need to keep using the data. Format is [RFC 3339 Internet Date/Time profile of ISO 8601], e.g. "2016-11-05T08:15:30.494Z".
- `errorCode` (String) Descriptive error code. Present when `state` is "error".
- `errorDetails` (Object) Additional error details, if any. May be present when `errorCode` is present.
- `output` (Object) Present when `state` is "complete":
  - `acroform` (Object) Present when `input.formType` is "acroform". See "`acroform`" **Output** below for details.
  - `rasterForm` (Object) Present when `input.formType` is "rasterForm". See "`rasterForm`" **Output** below for details.

## Error Responses

Status Code	JSON errorCode	Description
400	"MissingInput"	Can occur when clustering is enabled and an Accusoft-Affinity-Token request header was not provided.
404		No <i>form extractor</i> could be found for the given {processId}.
580	"InternalError"	The server encountered an internal error when handling the request.

## Example

### Request

```
GET /v2/formExtractors/gLoltqCVnRKzXz2QFNptqw
Accusoft-Affinity-Token: D+Rmn9kB4FrLfrHoNL2bag6WpuNn2ox2qhT2GbLdf9A=
```

### Response

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "fileId": "-eo_zmq3qmPS0WKZ1P_Lug",
    "formType": "acroform"
  },
  "output": {
    "acroform": {
      "pages": [
        {
          "page": 1,
          "height": 792,
          "width": 612,
          "fields": [
            {
              "fieldType": "Text",
              "name": "email",
              "required": true,
              "readOnly": "true",
              "tabOrder": 0,
              "appearance": {
                "textColor": "0 g",
                "font": "Helvetica"
              },
              "boundingBox": {
                "lowerLeftX": 89,
                "lowerLeftY": 646,

```

```

        "upperRightX": 239,
        "upperRightY": 668
      },
      "options": {
        "multiline": false,
        "maxLen": -1
      },
      "format": {
        "formatCategory": "None"
      }
    },
    {
      "fieldType": "Text",
      "name": "fullName",
      "required": false,
      "readOnly": "false",
      "tabOrder": 1,
      "appearance": {
        "textColor": "0 g",
        "font": "Helvetica"
      },
      "boundingBox": {
        "lowerLeftX": 89,
        "lowerLeftY": 676,
        "upperRightX": 239,
        "upperRightY": 698
      },
      "options": {
        "multiline": false,
        "maxLen": -1
      },
      "format": {
        "formatCategory": "None"
      }
    }
  ]
}
},
"expirationDateTime": "2016-10-11T03:30:33.166Z",
"percentComplete": 100,
"processId": "gLoltqCVnRkzXz2QFNptqw",
"state": "complete",
"affinityToken": "D+Rmn9kB4FrLfrHoNL2bag6WpuNn2ox2qhT2GbLdf9A="
}

```

## "acroform" Output

The `output.acroform` object will conform to the following. All properties are always present unless otherwise noted:

- `pages[]` (Array of Objects) Pages in the document which contains acroform fields. Array will be empty if document does not contain any acroform fields. Each item will contain:
  - `page` (Integer) One-indexed page number.
  - `height` (Number) Page height in points.
  - `width` (Number) Page width in points.
  - `fields[]` (Array of Objects) Acroform fields in the current page. Items may contain:
    - `fieldType` (String) Field type. Will be one of the following:
      - "Text" - Text field
      - "Button" - Push button, check box, or radio button:
        - push button when `options.pushButton` is `true`
        - check box when `options.pushButton` and `options.radio` are both `false`
        - radio button when `options.radio` is `true`
      - "Signature" - Signature field
    - `name` (String) Unique field or radio button group name.
    - `required` (Boolean) Indicates whether or not this field is required for the form to be considered complete.
    - `readOnly` (Boolean) Indicates whether or not this field is read only inside the form.
    - `tabOrder` (Integer) Tab order of the field within the document.
    - `boundingBox` (Object) Position and size of this field. Object will contain:
      - `lowerLeftX` (Number) Distance in points from the left edge of the page to the left side of this field.
      - `lowerLeftY` (Number) Distance in points from the bottom edge of the page to the bottom edge of this field.
      - `upperRightX` (Number) Distance in points from the left edge of the page to the right edge of this field.
      - `upperRightY` (Number) Distance in points from the bottom edge of the page to the top edge of this field.
    - `appearance` (Object) Field appearance details:
      - `textColor` (String) Text fill color. Not always present.
      - `font` (String) Font name to use for this field. Not always present.

- `format` (Object) Field formatting details:
  - `formatCategory` (String) Will be one of the following:
    - "None" - Indicates there are no additional `formatOptions` for this field.
    - "Date" - For text fields, requires the field value to be a date.
  - `formatOptions` Additional options for the given `formatCategory`, if any:
    - *When `formatCategory` is "Date"*: (String) **Date format string** to use when formatting the date value for display.
- `options` (Object) Additional field options, present for some field types:
  - *When `fieldType` is "Text"*:
    - `multiline` (Boolean) Indicates whether or not this is a multi-line text field.
    - `maxLength` (Integer) Indicates the maximum number of characters this form field accepts, or `-1` if there is no limit.
  - *When `fieldType` is "Button"*:
    - `pushButton` (Boolean) `true` if this field is a push button, `false` otherwise.
    - `radio` (Boolean) `true` if this field is a radio button, `false` otherwise.
    - *When both `pushButton` and `radio` are false, this field is a check box.*
  - *When `fieldType` is "Button" and `pushButton` is false:*
    - `buttonOnValue` (String) Indicates the form value to use when this radio button or checkbox is selected/checked.
    - `buttonOffValue` (String) Indicates the form value to use when this radio button or checkbox is not selected/checked. Value will always be "Off".
    - `buttonValue` (String) Indicates whether or not this radio button or checkbox should be initially selected/checked. When the value matches `buttonOnValue`, then this radio button or checkbox should be initially selected/checked. Otherwise (when the value is "Off"), this radio button or checkbox should not be initially selected/checked.

## Fill Color Strings

A string of one or more numbers followed by an operator indicating what the numbers represent:

- Grayscale value (when string ends in "g"): A single number between 0 and 1 followed by "g" represents the amount of white which forms a grayscale color value. For example:
  - "0 g" - black
  - "0.5 g" - 50% gray
  - "1 g" - white
- RGB value (when string ends in "rg"): Three numbers between 0 and 1 followed by "rg" represent the the amount of red, green, and blue light which are additively mixed to form the final color. For example:
  - "1 0 0 rg" - red
  - "1 1 0 rg" - yellow
  - "0.5 0.25 0.75 rg" - 50% red, 25% blue, 75% green
- CMYK (when string ends in "k"): Four numbers between 0 and 1 followed by "k" represent the amount of cyan, magenta, yellow, and black which should be subtractively mixed to form the final color. For example:
  - "0 0 0 1 k" - black
  - "1 1 1 0 k" - black
  - "1 1 1 1 k" - black
  - "1 0 0 0 k" - cyan
  - "0.25 0.88 0.2 0.16 k" - 25% cyan, 88% magenta, 20% yellow, 16% black

## Date Format Strings

Date format strings use the following special substitution patterns:

- `yy` - 2-digit year (e.g. 16 for the year 2016)
- `yyyy` - 4-digit year (e.g. 2016)
- `m` - Month number with no zero padding (e.g. 7 for July)
- `mm` - Month number zero-padded to always be two characters long (e.g. 07 for July)
- `mmm` - Abbreviated month name (e.g. Jan)
- `mmmm` - Full month name (e.g. January)
- `d` - Day of the month with no zero padding (e.g. 4 for the fourth day of the month)
- `dd` - Day of the month zero-padded to always be two characters (e.g. 04 for the fourth day of the month)
- `ddd` - Abbreviated day of the week (e.g. Sun)
- `dddd` - Full name for the day of the week (e.g. Sunday)
- `h` - Hour number in 12-hour time with no zero padding (e.g. 2 for 2 o'clock)
- `hh` - Hour number in 12-hour time zero-padded to always be two characters (e.g. 02 for 2 o'clock)
- `H` - Hour number in 24-hour time with no zero padding (e.g. 13 for the 1:00 pm hour)
- `HH` - Hour number in 24-hour time zero-padded to always be two characters (e.g. 02 for the 2:00 am hour)
- `M` - Minute without zero padding
- `MM` - Minute, zero-padded to always be two digits
- `s` - Second without zero-padding
- `ss` - Second, zero-padded to always be two digits
- `z` - Offset from UTC (e.g. -0400)

- `j` - Abbreviated Japanese era and year (e.g. `H28` for the year 2016).
- `jj` - Full Japanese era and year (e.g. `平成28` for the year 2016).
- `jjj` - Japanese era year without specifying the era (e.g. `28` for the year 2016).

All other characters are considered literal punctuation for the format string. The special characters used above may be used literally by escaping them with a backslash.

## "rasterForm" Output

The `output.rasterForm` object will conform to the following. All properties are always present unless otherwise noted:

- `pages[]` (Array of Objects) Information about each page in the raster document. Each item will contain:
  - `page` (Integer) One-indexed page number.
  - `height` (Number) Page height in pixels.
  - `width` (Number) Page width in pixels.
  - `fields[]` (Array of Objects) Fields detected in the current page. Array will be empty if no fields were detected. Items will contain:
    - `name` (String) Unique name we have automatically assigned to this field in the document (e.g. `"field5"`).
    - `fieldType` (String) Field type. Will be one of the following:
      - `"Text"` - Text field
      - `"CheckBox"` - Check box
    - `confidence` (Number) Our confidence in the correct detection of this field using a scale of 0 (no confidence) to 100 (complete confidence).
    - `boundingBox` (Object) Position and size of this field. Object will contain:
      - `x` (Number) Distance in pixels from the left edge of the page to the left side of this field.
      - `y` (Number) Distance in pixels from the top edge of the page to the top edge of this field.
      - `width` (Number) Distance in pixels from the left edge of this field (`x`) to the right edge of this field.
      - `height` (Number) Distance in pixels from the top edge of this field (`y`) to the bottom edge of this field.
  - `tables[]` (Array of Objects) Tables detected in the current page. Array will be empty if no tables were detected. Items will contain:
    - `numOfColumns` (Integer) Number of columns in the detected table.
    - `numOfRows` (Integer) Number of rows in the detected table.
    - `fields[]` (Array of Objects) Fields detected in the current table. Items will contain:
      - `name` (String) Unique name we have automatically assigned to this field in the document (e.g. `"field5"`).
      - `fieldType` (String) Field type. Will be one of the following:
        - `"Text"` - Text field
        - `"CheckBox"` - Check box
      - `confidence` (Number) Our confidence in the correct detection of this field using a scale of 0 (no confidence) to 100 (complete confidence).
      - `boundingBox` (Object) Position and size of this field. Object will contain:
        - `x` (Number) Distance in pixels from the left edge of the page to the left side of this field.
        - `y` (Number) Distance in pixels from the top edge of the page to the top edge of this field.
        - `width` (Number) Distance in pixels from the left edge of this field (`x`) to the right edge of this field.
        - `height` (Number) Distance in pixels from the top edge of this field (`y`) to the bottom edge of this field.

# Health Status

## Introduction

For PrizmDoc Server Self-Hosted customers, the *health status* API is designed to return information about the overall health of a specific PrizmDoc Server instance.

## Available URLs

URL	Description
<a href="#">GET /PCCIS/V1/Service/Current/Health</a>	Returns the following HTTP status codes to reflect the overall health of the PrizmDoc Server: 200 - if the system is running and no health issues exist. 500 - if the system (some or all of PrizmDoc Server) is unhealthy.

URL	Description
<a href="#">GET /PCCIS/V1/Service/Current/Info</a>	This API returns a JSON object indicating the health of PrizmDoc Server.

## GET /PCCIS/V1/Service/Current/Health

Determines whether or not a specific PrizmDoc Server instance is healthy.

### Response

You can use the HTTP status code to determine the health of the instance:

HTTP Status Code	Status
200	Healthy
500	Unhealthy

You can also determine health by looking at the response body. When healthy, the response body will be plaintext with a value of `OK`. When unhealthy, the response will have no body.

### Example

#### Request

```
GET http://prizmdoc_server_base_url/PCCIS/V1/Service/Current/Health
```

#### Response

```
HTTP/1.1 200 OK  
  
OK
```

## GET /PCCIS/V1/Service/Current/Info

Gets metadata about the current status of a specific PrizmDoc Server instance.

### Successful Response

#### Response Body

JSON with the following:

- `serviceStatus` (String) Status of PrizmDoc Server:
  - `"starting"`
  - `"running"`
  - `"unhealthy"`

- `licenseStatus` (String) Information about the PrizmDoc Server License:
  - `"retrieving"` - Returned when the product is starting and the licensed status is not yet known.
  - `"unlicensed"` - Returned when the provided license key is not valid. Your license may be expired, or you may not have correctly configured your license key.
  - `"licensed as 'Your Solution Name'"` - Returned when a valid license key is found. *Your Solution Name* will be replaced with the value of your actual solution name.
- `instances[]` (Array of Objects) Objects describing the PrizmDoc Server instances that are currently running. Items contain:
  - `serviceStatus` (String) Status of the PrizmDoc Server used for viewing.
  - `serviceInstallerVersion` (String) Version of the installer used to install PrizmDoc Server.
  - `pccisVersion` (String) Version of the PrizmDoc Server used for viewing.
  - `runtimeVersion` (String) .NET runtime version supporting the PrizmDoc Server used for viewing.
  - `operatingSystem` (String) Operating System of the server on which PrizmDoc Server is running.
  - `startTime` (String) Last recorded time the PrizmDoc Server were started. Time is reported in UTC and is ISO-8601 format.
  - `instanceId` (String) Host name of the server running PrizmDoc Server.
  - `childServices[]` (Array of Objects) Objects describing the health status for each individual PrizmDoc Service. **NOTE:** *It's important not to programmatically depend upon the value of a Service name because the total number of items in the `childServices` array may change from release to release (items may be added or removed).* Items may contain:
    - `name` (String) Name of the child PrizmDoc Service.
    - `status` (String) Status of the child PrizmDoc Service:
      - `"starting"`
      - `"running"`
      - `"unhealthy"`

## Example

### Request

```
GET http://prizmdoc_server_base_url/PCCIS/V1/Service/Current/Info
```

### Response

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "serviceStatus": "running",
  "licenseStatus": "licensed as 'Acme Inc.'",
  "instances": [
    {
      "serviceStatus": "running",
      "serviceInstallerVersion": "XX.X.XX.XXX",
      "pccisVersion": "XX.X.XX.XXXX",
```

```
"runtimeVersion": "4.0.30319.34014",
"operatingSystem": "Microsoft Windows NT 6.3.9600.0",
"startTime": "1971-01-01T00:00:00.0Z",
"instanceId": "myhostname",
"childServices": [
  {
    "name": "PCC Error Reporting Service",
    "serviceStatus": "running"
  },
  {
    "name": "PCC Imaging Conversion Service",
    "serviceStatus": "running",
    "version": "X.X.XXXX.XXXX"
  },
  {
    "name": "PCC PDF Processing Service",
    "serviceStatus": "running"
  },
  {
    "name": "PCC Raster Conversion Service",
    "serviceStatus": "running",
    "version": "X.X.XXXX.XXXX"
  },
  {
    "name": "PCC Vector Conversion Service",
    "serviceStatus": "running",
    "version": "X.X.XXXX.XXXX"
  },
  {
    "name": "PCC Html Conversion Service",
    "serviceStatus": "running",
    "version": "X.X.XXXX.XXXX"
  },
  {
    "name": "PCC Work File Service",
    "serviceStatus": "running",
    "version": "X.X.X"
  },
  {
    "name": "PCC Office Conversion Service",
    "serviceStatus": "running",
    "version": "X.XX.XXXX.XXXX"
  },
  {
    "name": "PCC Format Detection Service",
    "serviceStatus": "running"
  },
  {
    "name": "PCC AutoRedaction Service",
    "serviceStatus": "running"
  },
  {
    "name": "PCC Redaction Service",
    "serviceStatus": "running",
    "version": "X.X.X"
  },
  {
    "name": "PCC Email Processing Service",
    "serviceStatus": "running"
  },
  {
    "name": "PCC Email Conversion Service",
```

```

    "serviceStatus": "running",
    "version": "X.X.XXXX.XXXX"
  },
  {
    "name": "PCC Content Conversion Service",
    "serviceStatus": "running"
  },
  {
    "name": "configuration-service",
    "serviceStatus": "running"
  },
  {
    "name": "licensing-service",
    "serviceStatus": "running"
  },
  {
    "name": "health-service",
    "serviceStatus": "running"
  }
]
}
]
}

```

## HTML5 Viewing

### Introduction

#### Available URLs

URL	Description
<a href="#">GET /PCCIS/V1/Document/q/Attributes</a>	Gets a page count for the source document of a viewing session.
<a href="#">GET /PCCIS/V1/Page/q/{PageNumber}/Attributes</a>	Gets metadata for a page of the source document of a viewing session.
<a href="#">GET /PCCIS/V1/Page/q/{PageNumber}</a>	Gets SVG or an image for a page of the source document of a viewing session.
<a href="#">GET /PCCIS/V1/Page/q/{PageNumber}/Tile/{x}/{y}/{width}/{height}</a>	Gets a "tile" image, a part of a page, for a page of the source document of a viewing session.
<a href="#">GET /PCCIS/V1/Page/q/{PageNumber}/(Width)x(Height)</a>	Gets a thumbnail image for a page of the source document of a viewing session.
<a href="#">GET /PCCIS/V1/Document/q/{PageNumberBegin}-{PageNumberEnd}/Text</a>	Gets currently-available text and text metadata for a range of pages for the source document of a viewing session.
<a href="#">GET /v2/viewingSessions/{viewingSessionId}/revisionData</a>	Gets objects which describe known changes between the two documents used as input to a comparison viewing session.

#### Deprecated URLs

URL	Description
<a href="#">GET /PCCIS/V1/License/ClientViewer</a>	Deprecated.

#### GET /PCCIS/V1/Document/q/Attributes?DocumentID=[e,u]{ViewingSessionId}&DesiredPageCountConfidence={DesiredPageCountConfidence}

Gets a page count for the source document of a viewing session.

#### Request

##### Query String Parameters

Parameter	Description
DocumentID	<b>Required.</b> The <code>viewingSessionId</code> which identifies the viewing session, prefixed with <code>u</code> if in <i>unencoded</i> plaintext form or prefixed with <code>e</code> if base-64 <i>encoded</i> .
DesiredPageCountConfidence	An integer from 0 and 100 inclusive which specifies the minimum required confidence in the page count before a value is returned. A value of 50 or lower is more likely to result in an estimated page count being returned. Default is 100, requiring that the actual page count be returned.

#### Successful Response

JSON metadata about the document page count.

- `pageCount` (Integer) - Currently determined number of pages in the document.
- `pageCountConfidence` (Integer) - An integer from 0 to 100 indicating the confidence that `pageCount` is accurate. When less than 100, `pageCount` is still being determined and the current value should be considered an estimate. You can repeat the request to see if a more accurate `pageCount` is available. When 100, the `pageCount` has been finalized and the value should be considered the actual number of pages in the document.

## Example

```
GET prizmdoc_server_base_url/PCCIS/V1/Document/q/Attributes?DocumentID=uXYZ...
```

```
HTTP/1.1 200 OK
Content-Type: application/json;charset=utf-8

{
  "pageCount": 3,
  "pageCountConfidence": 100
}
```

## GET /PCCIS/V1/Page/q/{PageNumber}/Attributes?DocumentID=[e,u]{viewingSessionId}&ContentType={ContentType}

Gets metadata for a page of the source document of a viewing session.

## Request

### URL Parameters

Parameter	Description
{PageNumber}	Zero-indexed page number to get information about.

### Query String Parameters

Parameter	Description
DocumentID	<b>Required.</b> The <code>viewingSessionId</code> which identifies the viewing session, prefixed with <code>u</code> if in <i>unencoded</i> plaintext form or prefixed with <code>e</code> if base-64 <i>encoded</i> .
ContentType	Used to indicate whether you want attributes for SVG page content or raster page content. Use <code>svg</code> (or <code>svga</code> or <code>svgb</code> ) to get page attributes for SVG content or <code>png</code> to get page attributes for raster content. Default is <code>svg</code> .

## Successful Response

JSON metadata about the page.

- `version` (String) - *Deprecated*. Value will always be "7.1".
- `contentType` (String) - Comma-separated types of content available, hard-coded to a specific set of values depending on the requested `ContentType`:
  - Will be "jpeg,png,svg" when requested `ContentType` is `svg` (or `svga`, or `svgb`)
  - Will be "jpeg,png" when requested `ContentType` is `png`
- `imageBitDepth` (Integer) - Bit depth of raster content. Only relevant when requested `ContentType` is `png`. When requested `ContentType` is `svg` (or `svga` or `svgb`), the value will be hard-coded to 16.
- `imageHeight` (Integer) - Height of the page:
  - in *pixels* when requested `ContentType` is `png`
  - in *unspecified units* when requested `ContentType` is `svg` (or `svga` or `svgb`)
- `imageWidth` (Integer) - Width of the page:
  - in *pixels* when requested `ContentType` is `png`
  - in *unspecified units* when requested `ContentType` is `svg` (or `svga` or `svgb`)
- `imageXResolution` (Integer) - Relative horizontal resolution of raster content when requested `ContentType` is `png` (like pixels per inch except that the unit is unspecified and will not necessarily be inches). When requested `ContentType` is `svg` (or `svga` or `svgb`), the value will be hard-coded to 90.
- `imageYResolution` (Integer) - Relative vertical resolution of raster content when requested `ContentType` is `png` (like pixels per inch except that the unit is unspecified and will not necessarily be inches). When requested `ContentType` is `svg` (or `svga` or `svgb`), the value will be hard-coded to 90.

## Examples

Get attributes for the SVG form page 0. The two most-valuable properties are "imageHeight" and "imageWidth" which indicate the width and height of the SVG page in unspecified units. The rest are hard-coded values:

```
HTTP/1.1 200 OK
Content-Type: application/json;charset=utf-8

{
  "version": "7.1",
  "contentType": "jpeg,png,svg",
  "imageBitDepth": 16,
  "imageHeight": 842,
  "imageWidth": 595,
  "imageXResolution": 90,
  "imageYResolution": 90
}
```

Get attributes for the raster form of page 0:

```
GET prizmdoc_server_base_url/PCCIS/V1/Page/q/0/Attributes?DocumentID=uXYZ...?ContentType=png
```

```
HTTP/1.1 200 OK
Content-Type: application/json;charset=utf-8
```

```
{
  "version": "7.1",
  "contentType": "jpeg,png",
  "imageBitDepth": 8,
  "imageHeight": 1755,
  "imageWidth": 1240,
  "imageXResolution": 150,
  "imageYResolution": 150
}
```

## GET /PCCIS/V1/Page/q/{PageNumber}?DocumentID=[e,u]{ViewingSessionId}&Scale={Scale}&ContentType={ContentType}

Gets SVG or an image for a page of the source document of a viewing session.

### Request

#### Request Headers

Name	Description
Accept-Encoding	Specify <code>gzip</code> to allow gzip compression of the response. Gzip compression will only be applied to SVG responses (it is not used for PNG and JPEG responses) and it may be skipped if the SVG is small. If a response is compressed it will contain a <code>Content-Encoding: gzip</code> response header. Because all modern browsers support <code>Content-Encoding: gzip</code> responses, we recommend you always provide an <code>Accept-Encoding: gzip</code> request header.

#### URL Parameters

Parameter	Description
{PageNumber}	Zero-indexed page number whose content should be returned.

#### Query String Parameters

Parameter	Description
DocumentID	<b>Required.</b> The <code>viewingSessionId</code> which identifies the viewing session, prefixed with <code>u</code> if in <i>unencoded</i> plaintext form or prefixed with <code>e</code> if <i>base-64 encoded</i> .
ContentType	Type of content to be returned. Default is <code>png</code> . Possible values: <ul style="list-style-type: none"> <li><code>svgb</code> - Fully-optimized SVG (uses a unicode inline font to store glyph definitions). Smallest possible SVG, but may not be compatible with some browsers. Recommended whenever possible.</li> <li><code>svga</code> - Partially-optimized SVG (uses a non-unicode inline font to store only the most frequently-occurring glyph definitions). May not be compatible with some browsers. Use only if <code>svgb</code> content is not compatible with the target browser.               <p><b>NOTE: PrizmDoc ViewerControl falls back to <code>svga</code> Content-Type if <code>svgb</code> content is not compatible with the browser.</b></p> </li> <li><code>svg</code> - Unoptimized SVG (no font is used; glyph definitions are expressed as SVG path operations). Broadest compatibility with browsers but typically <i>much</i> larger, so it renders and scrolls much slower than <code>svgb</code> and <code>svga</code>. Not recommended. Use only as a fallback if both <code>svgb</code> and <code>svga</code> are not compatible with the target browser, or the use of webfonts is disabled in the target browser.               <p><b>NOTE: PrizmDoc ViewerControl falls back to <code>svg</code> Content-Type if both <code>svgb</code> and <code>svga</code> are not compatible with the browser or the use of webfonts is disabled.</b></p> </li> <li><code>png</code> - PNG image.</li> <li><code>jpeg</code> - JPEG image.</li> </ul>
Scale	Scaling factor to apply when returning a PNG or JPEG image. The image will be resized by multiplying its width and height by this value. A value of <code>1.0</code> leaves the image unscaled, values less than <code>1.0</code> make the image smaller, and values greater than <code>1.0</code> make the image larger. For example, a value of <code>2.0</code> would return an image whose width and height have been doubled. A value of <code>0.5</code> would return an image whose width and height have been halved. Only applies when <code>ContentType</code> is <code>png</code> or <code>jpeg</code> , ignored otherwise. Default is <code>1.0</code> (no scaling applied).

### Successful Response with Page Content

#### Response Headers

Name	Description
Content-Type	The type of content returned. Possible values: <ul style="list-style-type: none"> <li><code>image/svg+xml</code> - When the request query string parameter <code>ContentType</code> was <code>svg</code>, <code>svga</code>, or <code>svgb</code>.</li> <li><code>image/png</code> - When the request query string parameter <code>ContentType</code> was <code>png</code>.</li> <li><code>image/jpeg</code> - When the request query string parameter <code>ContentType</code> was <code>jpeg</code>.</li> </ul>
Content-Encoding	May be set to <code>gzip</code> if the request used <code>Accept-Encoding: gzip</code> .
Accusoft-Data-Encrypted	Indicates whether or not page content has been encrypted. <code>true</code> when page content is encrypted, <code>false</code> otherwise. See <a href="#">Enabling Content Encryption</a> .

#### Response Body

SVG, PNG, or JPEG for the requested page.

#### Examples

##### Get page 0 as SVG

Request:

```
GET prizmdoc_server_base_url/PCCIS/V1/Page/q/0?DocumentID=uXYZ...&ContentType=svgb
```

Response:

```
HTTP/1.1 200 OK
Content-Type: image/svg+xml
Content-Encoding: gzip
Accusoft-Data-Encrypted: false

<svg height="842" style="font-family:qsnvcgduoqekywbefqyyjjhodpw;font-size:12px;" version="1.2" viewBox="0 0 595 842" width="595"
  xmlns="http://www.w3.org/2000/svg"
  xmlns:xlink="http://www.w3.org/1999/xlink">
  ...
</svg>
```

**Get page 0 as a PNG**

```
GET prizmdoc_server_base_url/PCCIS/V1/Page/q/0?DocumentID=uXYZ...&ContentType=png
```

Response:

```
HTTP/1.1 200 OK
Content-Type: image/png
Accusoft-Data-Encrypted: false

<<PNG bytes>>
```

## Response When SVG Content is Not Available

SVG content is typically preferred but not always available. For example, if the source document is raster (such as a TIFF), then only raster page content (PNG and JPEG) will be available. It is common for a client viewer to always try and request SVG content first. Then, once it becomes clear SVG is not available, the client viewer can fallback to only requesting PNG or JPEG page content.

For this reason, if SVG is requested but is not available, we respond with a successful HTTP 200 but with a JSON body indicating that SVG is not available. Additionally, we include raster page attributes metadata in the JSON so that the viewer does not need to issue an additional [request for page attributes](#).

**Example**

Request:

```
GET prizmdoc_server_base_url/PCCIS/V1/Page/q/0?DocumentID=uXYZ...&ContentType=svgb
```

Response when SVG is not available:

```
HTTP/1.1 200 OK
Content-Type: application/json;charset=utf-8

{
  "errorCode": "SvgNotAvailable",
  "pageAttributes": {
    "version": "7.1",
    "contentType": "jpeg,png",
    "imageBitDepth": 8,
    "imageHeight": 280,
    "imageWidth": 593,
    "imageXResolution": 72,
    "imageYResolution": 72
  }
}
```

## GET /PCCIS/V1/Page/q/{PageNumber}/Tile/{X}/{Y}/{Width}/{Height}?DocumentID=[e,u]{ViewingSessionId}&ContentType={ContentType}&Scale={Scale}

Gets a "tile" image, a part of a page, for a page of the source document of a viewing session.

**Request**

**URL Parameters**

Parameter	Description
{PageNumber}	Zero-indexed page number to extract a tile from.
{X}	Where the left edge of the tile should begin, expressed as the number of pixels from the left edge of the page. Must be less than the pixel width of the (scaled) page.
{Y}	Where the top of the tile should begin, expressed as the number of pixels from the top edge of the page. Must be less than the pixel height of the (scaled) page.
{Width}	Width of the tile in pixels, extended right from {X}. If the right edge of the tile extends beyond the right edge of the page then the tile will be trimmed so that only actual page content is returned. You can safely use a {Width} value that goes beyond the right edge of the page, but note that the actual width of the returned image may be different than what you requested.
{Height}	Height of the tile in pixels, extended down from {Y}. If the bottom edge of the tile extends beyond the bottom edge of the page then the tile will be trimmed so that only actual page content is returned. You can safely use a {Height} value that goes beyond the bottom edge of the page, but note that the actual height of the returned image may be different than what you requested.

**Query String Parameters**

Parameter	Description
DocumentID	<b>Required.</b> The <code>viewingSessionId</code> which identifies the viewing session, prefixed with <code>u</code> if in <i>unencoded</i> plaintext form or prefixed with <code>e</code> if base-64 <i>encoded</i> .
ContentType	Type of image to be returned. Default is <code>png</code> . Possible values: <ul style="list-style-type: none"> <li><code>png</code></li> <li><code>jpeg</code> - Not recommended if you are requesting multiple tiles to be "stitched" together due to alignment artifacts that will occur at tile boundaries.</li> </ul>
Scale	Scaling factor to apply to the entire page <i>before</i> cropping to the specified tile region. The full page image will be resized by multiplying its width and height by this value. A value of <code>1.0</code> leaves the page unscaped, values less than <code>1.0</code> make the page smaller, and values greater than <code>1.0</code> make the page larger. Default is <code>1.0</code> (no scaling applied).

### Successful Response

#### Response Headers

Name	Description
Content-Type	The type of content returned. Possible values: <ul style="list-style-type: none"> <li><code>image/png</code> - When the request query string parameter <code>ContentType</code> was <code>png</code>.</li> <li><code>image/jpeg</code> - When the request query string parameter <code>ContentType</code> was <code>jpeg</code>.</li> </ul>
Accusoft-Data-Encrypted	Indicates whether or not page content has been encrypted. <code>true</code> when page content is encrypted, <code>false</code> otherwise. See <a href="#">Enabling Content Encryption</a> .

#### Response Body

Tile image.

#### Example

Request a 512x512 PNG tile for page 0 starting at x-position 1024 (from left) and y-position 1536 (from top):

```
GET prizmdoc_server_base_url/PCCIS/V1/Page/q/0/Tile/1024/1536/512/512?DocumentID=uXYZ...
```

```
HTTP/1.1 200 OK
Content-Type: image/png
<<PNG bytes>>
```

### GET /PCCIS/V1/Page/q/{PageNumber}/{Width}x{Height}?DocumentID=[e,u]{ViewingSessionId}&ContentType={ContentType}

Gets a thumbnail image for a page of the source document of a viewing session.

The page will be resized, maintaining aspect ratio, to fit within the `{Width}` and `{Height}` specified in the URL.

#### Request

##### URL Parameters

Parameter	Description
<code>{PageNumber}</code>	Zero-indexed page number to create a thumbnail image for.
<code>{Width}</code>	Maximum allowed width, in pixels, of the thumbnail. Must be an integer greater than 0.
<code>{Height}</code>	Maximum allowed height, in pixels, of the thumbnail. Must be an integer greater than 0.

##### Query String Parameters

Parameter	Description
DocumentID	<b>Required.</b> The <code>viewingSessionId</code> which identifies the viewing session, prefixed with <code>u</code> if in <i>unencoded</i> plaintext form or prefixed with <code>e</code> if base-64 <i>encoded</i> .
ContentType	Type of image to be returned. Default is <code>png</code> . Possible values: <ul style="list-style-type: none"> <li><code>png</code></li> <li><code>jpeg</code></li> </ul>

### Successful Response

#### Response Headers

Name	Description
Content-Type	The type of content returned. Possible values: <ul style="list-style-type: none"> <li><code>image/png</code> - When the request query string parameter <code>ContentType</code> was <code>png</code>.</li> <li><code>image/jpeg</code> - When the request query string parameter <code>ContentType</code> was <code>jpeg</code>.</li> </ul>

#### Response Body

Thumbnail image.

#### Example

Request a thumbnail image of page 0 that fits within a 200x200 square:

```
GET prizmdoc_server_base_url/PCCIS/V1/Page/q/0/200x200?DocumentID=uXYZ...
```

```
HTTP/1.1 200 OK
Content-Type: image/png

<<PNG bytes>>
```

## GET /PCCIS/V1/Document/q/{PageNumberBegin}-{PageNumberEnd}/Text?DocumentID=[e,u]{ViewingSessionId}

Gets currently-available text and text metadata for a range of pages for the source document of a viewing session.

**NOTE:** This URL is designed to support our viewer. If you want to simply programmatically extract text from a document, use the [Search Contexts API](#) instead, specifically [POST /v2/searchContexts] and [GET /v2/searchContexts/{contextId}/records].

### Request

#### URL Parameters

Parameter	Description
{PageNumberBegin}	Zero-indexed page number of the first page in the range.
{PageNumberEnd}	Zero-indexed page number of the last page in the range.

#### Query String Parameters

Parameter	Description
DocumentID	<b>Required.</b> The viewingSessionId which identifies the viewing session, prefixed with u if in <i>unencoded</i> plaintext form or prefixed with e if base-64 <i>encoded</i> .

#### Request Headers

Name	Description
Accept-Encoding	Specify gzip to allow gzip compression of the response. Gzip compression may be skipped if the overall response size is small. If a response is compressed it will contain a Content-Encoding: gzip response header. Because all modern browsers support Content-Encoding: gzip responses, we recommend you always provide an Accept-Encoding: gzip request header.

### Successful Response

#### Response Headers

Name	Description
Content-Encoding	May be set to gzip if the request used Accept-Encoding: gzip.
Accusoft-Data-Encrypted	Indicates whether or not page content has been encrypted. true when page content is encrypted, false otherwise. See <a href="#">Enabling Content Encryption</a> .

#### Response Body

JSON containing page text and text positioning metadata.

- pages[] (Array of Objects) **Always present in case of success. Optional in case of failure.** Will contain an array of objects, each containing text data for a page, for pages where text has been successfully extracted. Note, however, that text extraction takes time and text may not yet be available for the range of pages requested. If the array is empty or contains fewer items than the number of pages included in your page range, then the text for the requested page range has not been fully extracted. Repeating the request should eventually produce an array with the expected number of items. Note also that the order of the records is not guaranteed; you must use the `number` property of each returned item to know its page index. Items may contain:
  - number (Integer) **Always present.** Page index (zero-indexed page number). The property is named simply `number` for backwards compatibility reasons.
  - text (String) Page text.
  - errorCode (Integer) When text cannot be extracted for this page, present with a value of 1.
  - errorDescription (String) When text cannot be extracted for this page, a descriptive error message explaining why (such as "No page data was found.") or an empty string if the cause of the error is unknown.
  - width (Number) Page width.
  - height (Number) Page height.
  - rectangles[] (Array of Arrays) Bounding boxes for individual glyphs on the page. Each item will contain four numbers:
    - [0] (Number) Distance from the left edge of the page to the left edge of the glyph bounding box.
    - [1] (Number) Distance from the top edge of the page to the top edge of the glyph bounding box.
    - [2] (Number) Width of the glyph bounding box.
    - [3] (Number) Height of the glyph bounding box.
  - markup[] (Array of Objects) Objects describing hyperlinks, if any. Each item may contain:
    - changeType (String) Value will always be "Add".
    - markType (String) Value will always be "DocumentHyperlink".
    - properties (Object) Properties of the hyperlink.
      - href (String) Destination URL.
      - rectangle (Object) Dimensions of the hyperlink bounding box on the page.
        - x (Number) Distance from the left edge of the page to the left edge of the hyperlink bounding box.
        - y (Number) Distance from the top edge of the page to the top edge of the hyperlink bounding box.
        - width (Number) Width of the hyperlink bounding box.
        - height (Number) Height of the hyperlink bounding box.
      - borderThickness (Number) Border thickness which should be applied.

- `borderHorizontalRadius` (Number) Horizontal border radius which should be applied.
- `borderVerticalRadius` (Number) Vertical border radius which should be applied.
- `borderOpacity` (Integer) Border opacity which should be applied. Value will be from 0 to 255, where 0 represents fully transparent and 255 represents fully opaque.
- `errorCode` (Integer) **Might be present in case of failure and missing pages[] object.** When text cannot be extracted for this page, present with a value of 1.
- `errorDescription` (String) **Might be present in case of failure and missing pages[] object.** When text cannot be extracted for this page, a descriptive error message explaining why (such as "No page data was found.") or an empty string if the cause of the error is unknown.

#### Examples

Request text for pages 0 through 9:

```
GET prizmdoc_server_base_url/PCCIS/V1/Document/q/0-9/Text?DocumentID=xXYZ...
```

Response when text is not yet available:

```
HTTP/1.1 200 OK
Content-Type: application/json;charset=utf-8
Accusoft-Data-Encrypted: false

{
  "pages": []
}
```

Response when text is available (where ... indicates that data has been omitted for brevity):

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "pages": [
    {
      "number": 0,
      "text": "the page text",
      "width": 648.00,
      "height": 828.00,
      "rectangles": [
        [
          202.25,
          135.05,
          27.00,
          73.26
        ],
        [
          229.25,
          135.05,
          30.00,
          73.26
        ],
        ...
      ]
    },
    {
      "changeType": "Add",
      "markType": "DocumentHyperlink",
      "properties": {
        "rectangle": {
          "height": 14.71,
          "width": 86.20,
          "y": 73.50,
          "x": 71.31
        },
        "borderHorizontalRadius": 0.0,
        "borderVerticalRadius": 0.0,
        "borderThickness": 0.0,
        "href": "http://www.google.com/",
        "borderOpacity": 255
      }
    },
    ...
  ],
  "markup": [
    ...
  ]
}
```

### GET /v2/viewingSessions/{viewingSessionId}/revisionData?limit={limit}&continueToken={continueToken}

Gets objects which describe known changes between the two documents used as input to a comparison viewing session.

This URL is designed to give you an array of changes in chunks as the individual changes become available. Each GET request will return the currently-known changes up to a limit (default is 100). If a response contains a `continueToken`, it indicates that additional changes may be available and that you should issue another GET request using that `continueToken` as a query string parameter to skip the changes you have already received. As long as a response contains a `continueToken`, use it to issue a subsequent GET for more changes. When you encounter a response which does not have a `continueToken`, you have received all of the changes and no more GET requests are necessary.

In order to optimize the number of network requests you make, any response which contains a `continueToken` will also contain a `continueAfter` value with a recommended number of milliseconds you should wait before sending the next GET request.

#### Request

##### URL Parameters

Parameter	Description
{limit}	The maximum number of changes to return for this HTTP request. Must be an integer greater than 0. Default is 100.
{continueToken}	Used to continue getting changes from the point where a previous GET request left off.

#### Request Headers

Name	Description
Accept-Encoding	Set to <code>gzip</code> to get a gzipped response body.

#### Successful Response

##### Response Headers

Name	Description
Content-Encoding	Will be set to <code>gzip</code> if the request used <code>Accept-Encoding: gzip</code>

##### Response Body

JSON with any available changes.

- `changes` (Array of Objects) **Always present.** Array of newly-available changes, objects which each describe a difference between the two documents being compared. If no new changes are available, this array will be empty.
  - `id` (Integer) Unique number assigned to this change.
  - `endPageIndex` (Integer) Zero-indexed page number where this change ends in the document.
  - `type` (String) Type of the change. Will be one of the following:
    - `"contentInserted"`
    - `"contentDeleted"`
    - `"propertyChanged"`
    - `"paragraphNumberChanged"`
    - `"paragraphPropertyChanged"`
    - `"tablePropertyChanged"`
    - `"sectionPropertyChanged"`
    - `"styleDefinitionChanged"`
    - `"contentMovedFrom"`
    - `"contentMovedTo"`
    - `"tableCellInserted"`
    - `"tableCellDeleted"`
    - `"tableCellsMerged"`
- `continueToken` (String) When present, indicates that more changes may be available. An additional GET request should be made for more changes using this value as the `continueToken` query string parameter. When not present, indicates that all changes have been obtained and no further changes will be available.
- `continueAfter` (Number) Recommended milliseconds to delay before issuing the next GET request for more changes.

#### Error Responses

Status Code	JSON errorCode	Description
404	-	No viewing session with the provided <code>viewingSessionId</code> could be found.
480	"InvalidInput"	An invalid input value was used. See <code>errorDetails</code> in the response body.
580	"InternalError"	The server encountered an internal error when handling the request.

#### Example

Here is an example sequence of requests and responses illustrating how you would acquire the full set of changes for a comparison viewing session (for brevity, the total number of changes in this example is small).

You would start with an initial GET:

```
GET
prizmdoc_server_base_url/v2/viewingSessions/luMJZGIEGQr20veY15JQwsv77iIvaFsvHAW4x1L881kBs8mk63aArufxZ9jaXZ0ykG5LsM1WorI6u3Ui6YApkw/revisionData
Accept-Encoding: gzip

HTTP/1.1 200 OK
Content-Type: application/json
Content-Encoding: gzip

{
  "changes": [],
  "continueToken": "luMJZGIEGQr20veY15JQwsv77iIvaFsvHAW4x1L881mZwRo30ojTLjaT0J2D2f8D",
  "continueAfter": 500
}
```

In this case, the initial response did not return any changes at all (the `changes` array is empty), but the presence of a `continueToken` indicates they may simply not have been available yet. We should issue another GET request after waiting 500 milliseconds (the amount of time recommended by `continueAfter`).

So, half a second later, we issue a follow-up request with the `continueToken` passed in as a query string parameter:

```
GET
prizmdoc_server_base_url/v2/viewingSessions/luMJZGIEGQr20veY15JQwsv77iIvaFsvHAW4x1L881kBs8mk63aArufxZ9jaXZ0ykG5LsM1WorI6u3Ui6YApkw/revisionData?
```

```
continueToken=luMJZGieGQr20veYl5JQwsv77iIvaFsvHAW4x1L881mZwRo30ojTLjaT0J2D2f8D
Accept-Encoding: gzip
```

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Encoding: gzip

{
  "changes": [
    {
      "id": 0,
      "endPageIndex": 0,
      "type": "contentInserted"
    },
    {
      "id": 1,
      "endPageIndex": 0,
      "type": "contentDeleted"
    }
  ],
  "continueToken": "luMJZGieGQr20veYl5JQwsv77iIvaFsvHAW4x1L881klhgP2L79Yero0nM9aoZ9r",
  "continueAfter": 500
}
```

This time we receive two changes. The presence of a new `continueToken` tells us there may be more, so we submit another request with the new `continueToken`.

Notice in the next response that the changes which have already been given to us are not repeated:

```
GET
prizmdoc_server_base_url/v2/viewingSessions/luMJZGieGQr20veYl5JQwsv77iIvaFsvHAW4x1L881kBs8mk63aAruFz9jaXZ0ykG5LsMlWorI6u3Ui6YApkw/revisionData?
continueToken=luMJZGieGQr20veYl5JQwsv77iIvaFsvHAW4x1L881klhgP2L79Yero0nM9aoZ9r
Accept-Encoding: gzip
```

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Encoding: gzip
```

```
{
  "changes": [
    {
      "id": 2,
      "endPageIndex": 5,
      "type": "styleChanged"
    }
  ]
}
```

This time we get a new change, and the lack of a `continueToken` tells us we have received all of the changes, so there are no more GET requests to make.

## GET /PCCIS/V1/License/ClientViewer

**NOTE:** This URL has been deprecated and will be removed from the public API in a future release. It no longer functions and returns HTTP 500 `Internal Server Error`.

## Markup Burners

### Introduction

The *markup burners* REST API is designed to "burn" a markup into a document. **NOTE:** CAD files are not supported. This API also does not redact PDF annotations.

For application development in .NET, we recommend using the [PrizmDoc Server .NET SDK](#) instead of the REST API. See the [.NET SDK How to Guides](#) for examples of how to perform markup burning and redaction with the .NET SDK.

### Available URLs

URL	Description
<a href="#">POST /PCCIS/V1/MarkupBurner</a>	Creates and starts a new MarkupBurner.
<a href="#">GET /PCCIS/V1/MarkupBurner/{processId}</a>	Gets the status and result of an existing MarkupBurner.
<a href="#">POST /PCCIS/V1/ViewingSession/{u/viewingSessionId}/MarkupBurner</a>	Starts a new MarkupBurner using the source document of a viewing session and provided markup data as input.
<a href="#">GET /PCCIS/V1/ViewingSession/{u/viewingSessionId}/MarkupBurner/{processId}</a>	Gets the status of a MarkupBurner for a viewing session.
<a href="#">GET /PCCIS/V1/ViewingSession/{u/viewingSessionId}/MarkupBurner/{processId}/Document</a>	Gets the output result of a MarkupBurner process for a viewing session.

### POST /PCCIS/V1/MarkupBurner

Creates and starts a new MarkupBurner.

A MarkupBurner represents a process that runs on the server to "burn" markup into a document. The "burning" process makes the markup definitions a permanent part of a document. The server process is started by this request then a response is sent. Use the `[GET /PCCIS/V1/MarkupBurner/{processId}]` URL below to get the status and results of an in-progress or completed MarkupBurner process.

The input required to create a MarkupBurner is two `WorkFile` objects, one representing the JSON or XML which defines the markup to burn, the other representing the source document on which to burn the markup. Refer to the [work file](#) API topic for more information.

A new document is created that contains the burned-in markup. The source document will not be modified. The new document will be made available by a new `WorkFile` ID.

By default, MarkupBurner objects will be automatically deleted 20 minutes after they are created.

### Request

#### Request Headers

Name	Description
<code>Content-Type</code>	Must be <code>application/json</code>

Name	Description
Accusoft-Affinity-Token	The affinityToken of the work files specified by input.documentFileId and input.markupFileId. <b>Required when server clustering is enabled.</b>

## Request Body

In the request body, provide JSON containing the following properties:

- input (Object) Input to create the MarkupBurner.
  - documentFileId (String) **Required.** The ID of the WorkFile that represents the document to burn in the markup. This document will not be modified.
  - markupFileId (String) **Required.** The ID of the WorkFile that represents the JSON or XML document which contains the markup definition.
  - minSecondsAvailable (Integer) The minimum number of seconds which this MarkupBurner must remain available. The default lifetime is defined by the processIds.lifetime central configuration parameter. This value is ignored if it is shorter than the default value.

## Successful Response

### Response Body

If successful, this method returns JSON containing the following properties:

- input (Object) Input we accepted to create the MarkupBurner.
  - documentFileId (String) The ID of the WorkFile that represents the document to burn in the markup. This document will not be modified. This is an echo of what was passed in by the request.
  - markupFileId (String) The ID of the WorkFile that represents the JSON or XML document which contains the markup definition. This is an echo of what was passed in by the request.
- expirationDateTime (String) The date and time (in ISO 8601 Extended Format) when the MarkupBurner will be deleted.
- processId (String) The ID of the MarkupBurner.
- state (String) The current state of the markup burning process running on the server. This will always be "processing" in this response.
- percentComplete (Integer) The percentage (0 - 100) complete of the markup burning process. This will always be 0 in this response.
- errorCode (String) An error code string if a problem occurred during the markup burning process. This will always be null in this response.
- output (Object)
  - documentFileId (String) The ID of the new WorkFile that represents a new document with markup burned into it. This will always be null in this response.
- affinityToken (String) Affinity token for this search context. Present when clustering is enabled.

## Error Responses

Status Code	Description
400	Bad Request, if input.documentFileId, input.markupFileId is missing or invalid format, or if minSecondsAvailable is not a number.
405	Method Not Allowed, if POST HTTP method is not used.
480	with JSON errorCode "LicenseCouldNotBeVerified". The server's license could not be verified. Make sure your license has been correctly installed.

## Examples

### Creating a MarkupBurner

#### Request

```
POST prizmdoc_server_base_url/PCCIS/V1/MarkupBurner
Content-Type: application/json
Accusoft-Affinity-Token: ejN9/kXEYouken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=

{
  "input": {
    "documentFileId": "ek52b123oVHSUEVx1bUrVQ",
    "markupFileId": "aQ1BdViqmUisBuevJK09S*",
  },
  "minSecondsAvailable": 60
}
```

#### Response

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "documentFileId": "ek52b123oVHSUEVx1bUrVQ",
    "markupFileId": "aQ1BdViqmUisBuevJK09S*",
  },
  "expirationDateTime": "2014-12-17T20:38:39.796Z",
  "processId": "ElkNzWtrUJp4rXI5YnLUgw",
  "affinityToken": "ejN9/kXEYouken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=",
  "state": "processing",
  "percentComplete": 0,
  "errorCode": null,
  "output": null
}
```

## GET /PCCIS/V1/MarkupBurner/{processId}

Gets the status and result of an existing MarkupBurner.

Requests can be sent to this URL repeatedly while state is "processing".

When state is "complete", the new document with burned-in annotations will be made available by a new WorkFile ID in the output.documentFileId. Refer to the work file API topic to find out how to download a WorkFile.

If the markup burning process encountered an error, the state property will be "error", the errorCode property will contain an error code string and output will be null.

### Request

#### Request Headers

Name	Description
Content-Type	Must be application/json
Accusoft-Affinity-Token	The affinityToken of the work files specified by input.documentFileId and input.markupFileId. <b>Required when server clustering is enabled.</b>

#### URL Parameters

Parameter	Description
{processId}	The id of the process.

### Response Body

If successful, this method returns JSON containing the following properties:

- input (Object) Input we accepted to create the MarkupBurner.
  - documentFileId (String) The ID of the WorkFile that represents the document to burn in the markup. This document will not be modified.

- `markupFileId` (String) The ID of the WorkFile that represents the XML document which contains the markup definition.
- `expirationDateTime` (String) The date and time (in ISO 8601 Extended Format) when the MarkupBurner will be deleted.
- `processId` (String) The ID of the MarkupBurner.
- `state` (String) The current state of the markup burning process running on the server. The following values are allowed:
  - "processing" - The markup burning is in progress.
  - "complete" - The markup burning is completed.
  - "error" - The markup burning returns an error.
- `percentComplete` (Integer) The percentage (0 – 100) complete of the markup burning process.
- `errorCode` (String) An error code string if a problem occurred during the markup burning process.
- `output` (Object)
  - `documentFileId` (String) The ID of the new WorkFile that represents a new document with markup burned into it.
- `affinityToken` (String) Affinity token for this search context. Present when clustering is enabled.

## Error Responses

Status Code	Description
404	Not Found, if <code>{processId}</code> does not exist.
405	Method Not Allowed, if GET HTTP method is not used.

## Examples

### Request

```
GET prizmdoc_server_base_url/PCCIS/V1/MarkupBurner/ElkNzWtrUJp4rXI5YnLUgw
Accusoft-Affinity-Token: ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=
```

### Response when the state is "processing"

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "documentFileId": "ek52b123oYHSUEVx1bUrVQ",
    "markupFileId": "aQ1BdViqmUisBuevJKO9Sw"
  },
  "expirationDateTime": "2014-12-17T20:38:39.796Z",
  "processId": "ElkNzWtrUJp4rXI5YnLUgw",
  "affinityToken": "ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=",
  "state": "processing",
  "percentComplete": 100,
  "errorCode": null,
  "output": null
}
```

### Response when the state is "complete"

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "documentFileId": "ek52b123oYHSUEVx1bUrVQ",
    "markupFileId": "aQ1BdViqmUisBuevJKO9Sw"
  },
  "expirationDateTime": "2014-12-17T20:38:39.796Z",
  "processId": "ElkNzWtrUJp4rXI5YnLUgw",
  "affinityToken": "ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=",
  "state": "complete",
  "percentComplete": 100,
  "errorCode": null,
  "output": {
    "documentFileId": "vry3FPE0zQqIwhzndRccOQ"
  }
}
```

### Response when the state is "error" because the work file that represents document to burn could not be found

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "documentFileId": "ek52b123oYHSUEVx1bUrVQ",
    "markupFileId": "aQ1BdViqmUisBuevJKO9Sw"
  },
  "expirationDateTime": "2014-12-17T20:38:39.796Z",
  "processId": "ElkNzWtrUJp4rXI5YnLUgw",
  "affinityToken": "ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=",
  "state": "error",
  "percentComplete": 0,
  "errorCode": "DocumentFileIdDoesNotExist"
}
```

### Response when the state is "error" because the work file that contains markup could not be found

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "documentFileId": "ek52b123oYHSUEVx1bUrVQ",
    "markupFileId": "aQ1BdViqmUisBuevJKO9Sw"
  },
  "expirationDateTime": "2014-12-17T20:38:39.796Z",
  "processId": "ElkNzWtrUJp4rXI5YnLUgw",
  "affinityToken": "ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=",
  "state": "error",
  "percentComplete": 0,
  "errorCode": "MarkupFileIdDoesNotExist"
}
```

### Response when the state is "error" because the markup work file does not contain valid XML markup and the extension of the markup work file is not JSON

```
HTTP/1.1 200 OK
Content-Type: application/json
```

```
{
  "input": {
    "documentFileId": "ek52b123oYHSUEVx1bUrVQ",
    "markupFileId": "aQ1BdViqmUisBuevJKO9Sw"
  },
  "expirationDateTime": "2014-12-17T20:38:39.796Z",
  "processId": "ElkNzWtrUJp4rXI5YnLUgw",
  "affinityToken": "ejN9/kXEYouken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=",
  "state": "error",
  "percentComplete": 0,
  "errorCode": "RedactionError"
}
```

Response when the state is "error" because the work file that contains markup JSON cannot be parsed as JSON

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "documentFileId": "ek52b123oYHSUEVx1bUrVQ",
    "markupFileId": "aQ1BdViqmUisBuevJKO9Sw"
  },
  "expirationDateTime": "2014-12-17T20:38:39.796Z",
  "processId": "ElkNzWtrUJp4rXI5YnLUgw",
  "affinityToken": "ejN9/kXEYouken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=",
  "state": "error",
  "percentComplete": 0,
  "errorCode": "InvalidJson"
}
```

Response when the state is "error" because the work file that contains markup JSON does not match the **JSON Marks Schema**

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "documentFileId": "ek52b123oYHSUEVx1bUrVQ",
    "markupFileId": "aQ1BdViqmUisBuevJKO9Sw"
  },
  "expirationDateTime": "2014-12-17T20:38:39.796Z",
  "processId": "ElkNzWtrUJp4rXI5YnLUgw",
  "affinityToken": "ejN9/kXEYouken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=",
  "state": "error",
  "percentComplete": 0,
  "errorCode": "InvalidMarkup"
}
```

## POST /PCCIS/V1/ViewingSession/u{viewingSessionId}/MarkupBurner

Starts a new MarkupBurner using the source document of a viewing session and a provided markup data as input. When the asynchronous process is ultimately finished, the output will be a new document which includes the provided markup as part of the document itself (the original source document of the viewing session is left unaltered).

This is a specialized URL which allows you to do markup burning against the source file of an existing viewing session without needing to use the work file API.

This request merely begins the markup burning process. Once started, you poll the status of the process using the [\[GET /PCCIS/V1/ViewingSession/u{viewingSessionId}/MarkupBurner/{processId}\]](#) URL below to know when the process has completed.

### Request

#### Request Headers

Name	Description
Content-Type	Specifies the type of content being provided to the markup burner process. It must be <code>application/xml</code> or <code>application/json</code> depending on the markup format used in the request body.

#### URL Parameters

Parameter	Description
{viewingSessionId}	The id provided in the response from <a href="#">POST /PCCIS/V1/ViewingSession</a> .

#### Query String Parameters

Parameter	Description
{RemoveFormFields}	Optional parameter indicating which interactive form fields to remove from the source document upon markup burner process. Currently only 'acroform' value is supported. Please see example below.

#### Request Body

The JSON or XML markup to burn into the source document.

#### Response Body

If successful, a JSON object which may contain:

- `processId` (String) The id of the process.
- `state` (String) The current state of the markup burning process running on the server. This will always be **"processing"** in the initial POST response.
- `percentComplete` (Integer) The percentage (0 - 100) complete of the process. This will always be **0** in the initial POST response.
- `input` (null) Legacy property which exists only for backwards compatibility. Value will always be `null`.
- `output` (null) Legacy property which exists only for backwards compatibility. Value will always be `null`.

#### Error Responses

Status Code	Description
404	Not Found, if {viewingSessionId} does not exist.
405	Method Not Allowed, if POST HTTP method is not used.

#### Examples

Request to burn a rectangle annotation using JSON markup

```
POST prizmdoc_server_base_url/PCCIS/V1/ViewingSession/uDLbVh9sTmXJAmDlGeXbS9Gn3WHxs8o1b2xPsW2xEFjnIDdoJcudPtxciodSYFq6zYGabQ_rJIecdbkImTTKSA/MarkupBurner
Content-Type: application/json
{
  "marks": [
    {
      "uid": "Z2d1OV8yMDE3LTAzLTmXVDA3OjQ5OjEzLjUyNVpFY2VnNjZy",

```

```

    "interactionMode": "Full",
    "pageNumber": 1,
    "type": "RectangleAnnotation",
    "creationDateTime": "2017-03-31T07:49:11.525Z",
    "modificationDateTime": "2017-03-31T07:49:11.526Z",
    "data": {},
    "conversation": {},
    "rectangle": {
      "x": 0,
      "y": 0,
      "width": 0,
      "height": 0
    },
    "pageData": {
      "width": 612,
      "height": 792
    },
    "borderColor": "#000000",
    "borderThickness": 4,
    "fillColor": "#FB0404",
    "opacity": 255
  }
}

```

## Request to burn a rectangle annotation using JSON markup with removal of acroform fields

```

POST /prizmdoc_server_base_url/PCCIS/V1/ViewingSession/uDLbVh9sTmXJAmldlGeXb9Gn3WHxs8o1b2xPsW2xEFjnIDdoJcudPtxciodSYFQq6zYGabQ_rJIecdbkImTTKSA/MarkupBurner?
RemoveFormFields=acroform
Content-Type: application/json
{
  "marks": [
    {
      "uid": "Z2diOV8yMDE3LTAzLTMxVDA3ojQ5OjExLjUyNjVpY2Y2VnNj2y",
      "interactionMode": "Full",
      "pageNumber": 1,
      "type": "RectangleAnnotation",
      "creationDateTime": "2017-03-31T07:49:11.525Z",
      "modificationDateTime": "2017-03-31T07:49:11.526Z",
      "data": {},
      "conversation": {},
      "rectangle": {
        "x": 0,
        "y": 0,
        "width": 0,
        "height": 0
      },
      "pageData": {
        "width": 612,
        "height": 792
      },
      "borderColor": "#000000",
      "borderThickness": 4,
      "fillColor": "#FB0404",
      "opacity": 255
    }
  ]
}

```

## Response

```

HTTP/1.1 200 OK
Content-Type: application/json
{
  "input": null,
  "processId": "ElkNzWtrUJp4rXI5YnLUgw",
  "state": "processing",
  "percentComplete": 0,
  "errorCode": null,
  "output": null
}

```

## GET /PCCIS/V1/ViewingSession/u{viewingSessionId}/MarkupBurner/{processId}

Gets the status of a MarkupBurner for a viewing session.

Requests are typically sent to this URL repeatedly as long as the `state` is "processing".

When `state` is "complete", a new document with the provided markup burned into it will be available at:

[GET /PCCIS/V1/ViewingSession/u{viewingSessionId}/MarkupBurner/{processId}/Document]

If an error occurred and the output could not be created, the `state` property will be "error" and the `errorCode` property will contain an error code string.

## Request

### URL Parameters

Parameter	Description
{viewingSessionId}	The id provided in the response from POST /ViewingSession.
{processId}	The id of the process.

### Response Body

If successful, a JSON object which may contain:

- `processId` (String) The id of the process.
- `state` (String) The current state of the process. The following values are allowed:
  - "processing" - The markup burning is in progress.
  - "complete" - The markup burning is completed.
  - "error" - The markup burning returns an error.
- `percentComplete` (Integer) The percentage (0 - 100) complete of the process.
- `errorCode` (String) An error code string if a problem occurred during processing.
- `input` (null) Legacy property which exists only for backwards compatibility. Value will always be null.
- `output` (null) Legacy property which exists only for backwards compatibility. Value will always be null.

### Error Responses

Status Code	Description
404	Not Found, if either the {viewingSessionId} or {processId} do not exist.
405	Method Not Allowed, if GET method is not used.

## Examples

### Request

```
GET prizmdoc_server_base_url/PCCIS/V1/ViewingSession/uDLbVh9sTmXJAmD1GeXbS9Gn3WHxs8oib2xPsW2xEFjnIDdoJcudPtxciodsYFQq6zYGabQ_rJiecdBkImTTkSA/MarkupBurner/5rGUUh3Qxhf6Vxm8RkBPfA
```

### Response when the state is "processing"

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": null,
  "processId": "5rGUUh3Qxhf6Vxm8RkBPfA",
  "state": "processing",
  "percentComplete": 0,
  "errorCode": null,
  "output": null
}
```

### Response when the state is "complete"

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": null,
  "processId": "5rGUUh3Qxhf6Vxm8RkBPfA",
  "state": "complete",
  "percentComplete": 100,
  "errorCode": null,
  "output": null
}
```

### Response when the state is "error" because the provided markup XML did not contain valid XML markup or the provided markup JSON was **auto-detected** as a non-text format

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": null,
  "processId": "53LCkvO8-rsDIAw95WgoFA",
  "state": "error",
  "percentComplete": 0,
  "errorCode": "RedactionError",
  "output": null
}
```

### Response when the state is "error" because the provided markup JSON cannot be parsed as JSON

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": null,
  "processId": "53LCkvO8-rsDIAw95WgoFA",
  "state": "error",
  "percentComplete": 0,
  "errorCode": "InvalidJson",
  "output": null
}
```

### Response when the state is "error" because the provided markup JSON does not match the **JSON Marks Schema**

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": null,
  "processId": "53LCkvO8-rsDIAw95WgoFA",
  "state": "error",
  "percentComplete": 0,
  "errorCode": "InvalidMarkup",
  "output": null
}
```

## GET /PCCIS/V1/ViewingSession/u{viewingSessionId}/MarkupBurner/{processId}/Document?ContentDispositionFilename={ContentDispositionFilename}

Gets the output result of a MarkupBurner process for a viewing session.

### Request

#### URL Parameters

Parameter	Description
{viewingSessionId}	The id provided in the response from POST /ViewingSession.
{processId}	The id of the process which identifies the MarkupBurner task as a string.
{ContentDispositionFilename}	The filename as a URL-encoded string, without extension, to be used in the Content-Disposition response header (the file extension will be appended automatically). The default value is "document".

#### Response Headers

Name	Description
Content-Disposition	Specifies 'attachment' disposition, RFC-2183 compatible filename parameter and an RFC-8187 compatible filename* parameter, allowing the use of non-ASCII filenames.
Content-Type	Will be application/pdf.

#### Response Body

The raw bytes of the PDF document with markup burned into it.

#### Error Responses

Status Code	Description
404	Not Found, which may occur if any of the following are true: the MarkupBurner has not completed yet or no such MarkupBurner exists or no such ViewingSession exists
405	Method Not Allowed, if GET method is not used.

**Examples****Request**

```
GET
prizmdoc_server_base_url/PCCIS/V1/ViewingSession/uDLbVh9sTmXJAmD1GeXbS9Gn3WHxs8oib2xPsW2xEFjnIDdoJcudPtxciodSYFQ6zYGabQ_rJIecdbkImTTkSA/MarkupBurner/ElkNzWtrUJp4rXI5YnLUgw/Document
```

**Response**

```
HTTP/1.1 200 OK
Content-Type: application/pdf
Content-Disposition: attachment; filename="Greek____.pdf"; filename*=UTF-8''Greek%CE%91%CE%92%CE%93%CE%94.pdf
<<PDF data>>
```

# Plain Text Redactors

## Introduction

The *plain text redactors* REST API allows you to take a source document and a redaction markup file as input and produce redacted plain text as output.

For application development in .NET, we recommend using the [PrizmDoc Server .NET SDK](#) instead of the REST API. See the [How to Create Redacted Plain Text](#) topic in the .NET SDK documentation for an example of how to do perform plain text redaction with the .NET SDK.

## Available URLs

URL	Description
<a href="#">POST /v2/plainTextRedactors</a>	Creates and starts a new plain text redactor process.
<a href="#">GET /v2/plainTextRedactors/{processId}</a>	Gets the state of an existing plain text redactor process.

## POST /v2/plainTextRedactors

Creates and starts a new plain text redactor process.

A plain text redactor represents a process that runs on the server and creates a plain text file with the text from the source document. Each redacted text fragment is replaced with the string "`<Text Redacted>`".

The server process to create the redaction markup is started by this request, but a response is sent before the process is complete. Use the [GET /v2/plainTextRedactors/{processId}](#) URL below to get the state and results of an in-progress or completed plain text redactor process.

A new plain text document will be created that will contain the redacted document text. The new document will be made available by a new WorkFile ID.

**NOTES:**

1. Plain text redactor supports the following mark types (see [Markup JSON Specification](#)):
  - TextSelectionRedaction

- RectangleRedaction
    - Other types of marks will have no effect on the result.
2. Plain text redactor will produce an empty plain text document for raster documents.
  3. CAD files are not supported.

## Request

### Request Headers

Name	Description
Content-Type	Must be <code>application/json</code>
Accusoft-Affinity-Token	The <code>affinityToken</code> of work files specified by <code>input.source.fileId</code> and <code>input.markup.fileId</code> . <b>Required when server clustering is enabled.</b>

### Request Body

JSON object conforming to the following:

- `input`
  - `source` (Object) **Required.** Describes the document from which text will be redacted. This document will not be modified.
    - `fileId` (String) **Required.** The ID of the WorkFile which represents the source document that will have redactions applied.
  - `markup` (Object) **Required.** Describes the JSON document which contains the markup definition.
    - `fileId` (String) **Required.** The ID of the WorkFile that represents the JSON markup document. The document must satisfy the [Markup JSON Specification](#).
  - `dest` (Object) **Required.** Describes the plain text output document.
    - `lineEndings` (String) **Required.** Describes the line endings in the plain text output document. The following values are allowed:
      - `"\r\n"` - Represents Windows-style line endings as CR followed by LF.
      - `"\n"` - Represents Unix-style line endings as LF alone.
- `minSecondsAvailable` (Integer) The minimum number of seconds this plain text redactor status will remain available via a GET request. The actual lifetime may be longer. The default lifetime is defined by the `processIds.lifetime` [central configuration](#) parameter.

### Successful Response

#### Response body

JSON object with the following properties:

- `input` (Object) A copy of the request body `input` object.
- `processId` (String) The id of the new plain text redactor process.
- `expirationDateTime` (String) The date and time (in ISO 8601 Extended Format) when the plain text

redactor will be deleted.

- `state` (String) The current state of the plain text redaction process running on the server. The response will always be "processing".
- `percentComplete` (Integer) The percentage (0 – 100) complete of the plain text redactor process. The response will always be 0.
- `affinityToken` (String) Affinity token for this plain text redactor. Present when clustering is enabled.

### Error Responses

Status Code	JSON errorCode	Description
480	"MissingInput"	A required input value was not provided. See <code>errorDetails</code> in the response body.
480	"InvalidInput"	An invalid input value was used. See <code>errorDetails</code> in the response body.
480	"UnrecognizedInput"	An unrecognized JSON property was provided. See <code>errorDetails</code> in the response body.
480	"ResourceNotFound"	Source document or markup work file does not exist. See <code>errorDetails</code> in the response body.
480	"LicenseCouldNotBeVerified"	The server's license could not be verified. Make sure your license has been correctly installed.
580	"InternalError"	The server encountered an internal error when handling the request.

### Example

#### Request

```
POST /v2/plainTextRedactors
Content-Type: application/json
{
  "input": {
    "source": {
      "fileId": "ek5Zb123oYHSUEVx1bUrVQ"
    },
    "markup": {
      "fileId": "vry3FPE0zQqYwhzndRccOQ"
    },
    "dest": {
      "lineEndings": "\n"
    }
  },
  "minSecondsAvailable": 60
}
```

#### Response

```

HTTP 200 OK
Content-Type: application/json
{
  "processId": "iFhSZRvrz2vtFjcTSi9Q1g",
  "expirationDateTime": "2019-02-07T13:24:35.395Z",
  "input": {
    "source": {
      "fileId": "ek5Zb123oYHSUEVx1bUrVQ"
    },
    "markup": {
      "fileId": "vry3FPE0zQqYwhzndRccOQ"
    },
    "dest": {
      "lineEndings": "\n"
    }
  },
  "state": "processing",
  "percentComplete": 0
}

```

## GET /v2/plainTextRedactors/{processId}

Gets the state and result of an existing plain text redactor process created by [POST /v2/plainTextRedactors](#).

Requests can be sent to this URL repeatedly while `state` is "processing".

When `state` is "complete", the new plain text document containing the redacted document text will be made available by a new WorkFile ID in the `output.fileId`. See the [work file](#) API topic to find out how to download a WorkFile.

If the plain text redactor process encountered an error, the `state` property will be "error" and the `errorCode` property will contain an error code string.

## Request

### Request Headers

Name	Description
Accusoft-Affinity-Token	The <code>affinityToken</code> of the plain text redactor process. <b>Required when server clustering is enabled.</b>

Parameter	Description
{processId}	The id of the plain text redactor process.

### Response body

JSON object with the following properties:

- `input` (Object) A copy of the [POST /v2/plainTextRedactors](#) request body `input` object we accepted to create the plain text redactor process.
- `processId` (String) The id of the plain text redactor process.

- `expirationDateTime` (String) The date and time (in ISO 8601 Extended Format) when the plain text redactor will be deleted.
- `state` (String) The current state of the plain text redaction process running on the server. The following values are allowed:
  - `"processing"` - The plain text redaction is in progress.
  - `"complete"` - The plain text redaction is completed.
  - `"error"` - The plain text redaction returns an error.
- `percentComplete` (Integer) The percentage (0 – 100) complete of the plain text redaction process. The percentage will be 100 when `state` is `"complete"`.
- `errorCode` (String) An error code string if a problem occurred during the plain text redaction process. Only present when `state` is `"error"`.
- `output` (Object) Describes the created plain text document. Only present when `state` is `"complete"`.
  - `fileId` (String) The ID of the new WorkFile that represents a new plain text document with redacted source document text.
- `affinityToken` (String) Affinity token for this plain text redactor. Present when clustering is enabled.

### Error Responses and JSON Error Codes

Status Code	JSON <code>errorCode</code>	Description
404	<code>"ResourceNotFound"</code>	Text redactor process specified by <code>{processId}</code> could be found.
200	<code>"InvalidJson"</code>	Provided markup work file cannot be parsed as JSON.
200	<code>"InvalidMarkup"</code>	Provided markup JSON does not satisfy the <a href="#">Markup JSON Specification</a> .
200	<code>"MarkRefersToNonExistentPage"</code>	Provided markup JSON refers to a non-existent page in the source document. See <code>errorDetails</code> in the response body.
200	<code>"UnsupportedSourceDocument"</code>	Provided source document is a CAD file and it is not supported.
580	<code>"InternalError"</code>	The server encountered an internal error when handling the request.

### Example

#### Request

```
GET /v2/plainTextRedactors/iFhSZRvrz2vtFjcTSi9Qlg
```

#### Successful Response

When the plain text redactor process completes with no errors:

```
HTTP 200 OK
Content-Type: application/json
{
  "input": {
    "source": {
      "fileId": "ek5Zb123oYHSUEVx1bUrVQ"
    },
    "markup": {
      "fileId": "vry3FPE0zQqYwhzndRccOQ"
    },
    "dest": {
      "lineEndings": "\n"
    }
  },
  "processId": "iFhSZRvrz2vtFjcTSi9Qlg",
  "expirationDateTime": "2019-02-07T13:24:35.395Z",
  "state": "complete",
  "percentComplete": 100,
  "output": {
    "fileId": "eOsJIqI8aHkxVV0yJug"
  }
}
```

### Error responses

Response when a plain text redactor process does not exist for the given processId:

```
HTTP 404
Content-Type: application/json
{
  errorCode: 'ResourceNotFound'
}
```

Response when provided markup work file cannot be parsed as JSON:

```
HTTP 200 OK
Content-Type: application/json
{
  "input": {
    "source": {
      "fileId": "ek5Zb123oYHSUEVx1bUrVQ"
    },
    "markup": {
      "fileId": "vry3FPE0zQqYwhzndRccOQ"
    },
    "dest": {
      "lineEndings": "\n"
    }
  },
  "processId": "iFhSZRvrz2vtFjcTSi9Qlg",
  "state": "error",
  "errorCode": "InvalidJson",
  "percentComplete": 0,
  "expirationDateTime": "2019-02-07T13:24:35.395Z"
}
```

```
}
```

Response when markup JSON does not satisfy the Markup JSON Specification:

```
HTTP 200 OK
Content-Type: application/json
{
  "input": {
    "source": {
      "fileId": "ek5Zb123oYHSUEVx1bUrVQ"
    },
    "markup": {
      "fileId": "vry3FPE0zQqYwhzndRccOQ"
    },
    "dest": {
      "lineEndings": "\n"
    }
  },
  "processId": "iFhSZRvrz2vtFjcTSi9Qlg",
  "state": "error",
  "errorCode": "InvalidMarkup",
  "percentComplete": 0,
  "expirationDateTime": "2019-02-07T13:24:35.395Z"
}
```

Response when markup refers to a page that does not exist in the source document:

```
{
  "input": {
    "source": {
      "fileId": "ek5Zb123oYHSUEVx1bUrVQ"
    },
    "markup": {
      "fileId": "vry3FPE0zQqYwhzndRccOQ"
    },
    "dest": {
      "lineEndings": "\n"
    }
  },
  "processId": "iFhSZRvrz2vtFjcTSi9Qlg",
  "state": "error",
  "errorCode": "MarkRefersToNonExistentPage",
  "expirationDateTime": "2019-02-07T13:24:35.395Z"
}
```

Response when source document is a CAD file:

```
{
  "input": {
    "source": {
      "fileId": "ek5Zb123oYHSUEVx1bUrVQ"
    },
    "markup": {
      "fileId": "vry3FPE0zQqYwhzndRccOQ"
    }
  }
}
```

```
    },
    "dest": {
      "lineEndings": "\n"
    }
  },
  "processId": "iFhSZRvrz2vtFjcTSi9Qlg",
  "state": "error",
  "errorCode": "UnsupportedSourceDocument",
  "expirationDateTime": "2019-02-07T13:24:35.395Z"
}
```

## Redaction Creator

### Introduction

The *redaction creators* REST API is designed to get a redactions markup for text matching a Regular Expression. The redaction markup can be used with the *markup burners* REST API to "burn" the redactions into a document.

For application development in .NET, we recommend using the [PrizmDoc Server .NET SDK](#) instead of using the PrizmDoc Server REST API directly. See the [How to Create a Redacted PDF](#) topic in the .NET SDK documentation for an example of how to easily create redactions from a set of Regular Expression rules.

### Available URLs

URL	Description
<a href="#">POST /v2/redactionCreators</a>	Creates and starts a new redaction creator process.
<a href="#">GET /v2/redactionCreators/{processId}</a>	Gets the state of an existing redaction creator process.

### Deprecated URLs

URL	Description
<a href="#">POST /PCCIS/V1/RedactionCreator</a>	Creates and starts a new RedactionCreator.
<a href="#">GET /PCCIS/V1/RedactionCreator/{processId}</a>	Gets the state and result of an existing RedactionCreator.

### POST /v2/redactionCreators

Creates and starts a new redaction creator process.

A redaction creator represents a process that runs on the server which searches a document for text fragments matching specified rules and then, based on any matches, creates a new JSON Markup document containing redaction markup. The redaction markup that is created by this process can be used with the *markup burner* API to "burn" the redactions into a document.

The server process to create the redaction markup is started by this request, but a response is sent before the process is complete. Use the [GET /v2/redactionCreators/{processId}](#) URL below to get the state and results of an in-progress or completed redaction creator process.

There are two required inputs to create a RedactionCreator:

- One is a WorkFile object that represents the source document whose text will be searched, and
- One or more rules to match and redact the document text.

See the [work file](#) API topic for more information about a WorkFile.

A new markup document will be created that will contain the redaction markup. The new document will be made available by a new WorkFile ID.

## Request

### Request Headers

Name	Description
Content-Type	Must be application/json
Accusoft-Affinity-Token	The affinityToken of the work file specified by input.documentFileId. <b>Required when server clustering is enabled.</b>

### Request Body

JSON object conforming to the following:

- `input`
  - `source` (Object) **Required.** Describes the document for which the markup will be created. This document will not be modified.
    - `fileId` (String) **Required.** The ID of the WorkFile that represents the source document whose text will be searched.
  - `rules` (Array) **Required.** The list of rules, each containing a Regular Expression to match the text and markup properties for any matches.
    - `find` (Object) **Required.** Describes the way to find matching text in the document.
      - `type` (String) **Required.** Must be `"regex"`. The type of the text match algorithm.
      - `pattern` (String) **Required, when type is "regex"**. The Regular Expression to match within the source document text using a [POSIX extended RE \(ERE\) or basic RE \(BRE\) syntax](#).
    - `redactWith` (Object) **Required.** Describes how to redact matching text.
      - `type` (String) **Required.** Must be `"RectangleRedaction"`. Type of redaction to be created for the matching text.
      - `reason` (String) Text aligned in the center of the mark bounding rectangle commonly used to describe the reason for the redaction.
      - `fontColor` (String) Color of the text specified as a 6-character hexadecimal color string with a leading # sign. For example, a value of `"#FF0000"` will create red text. Default is `"#FFFFFF"`.
      - `fillColor` (String) Color of the redaction background specified as a 6-character hexadecimal color string with a leading # sign. For example, a value of `"#FF0000"` will create a red background. Default is `"#000000"`.

- `borderColor` (String) Color of the border specified as a 6-character hexadecimal color string with a leading # sign. For example, a value of `"#FF0000"` will create a red border. Default is `"#000000"`.
- `borderThickness` (Integer) Thickness of the border in pixels. Should be greater than 0. Default is 1. **NOTE:** Large `borderThickness` values may create borders which visually hide content from neighboring redacted text, however, this content will not be removed from the document during burning.
- `data` (Object) A property bag of user-defined values. Property values are only allowed to be strings.
- `minSecondsAvailable` (Integer) The minimum number of seconds this markup creator will remain available so you can GET its status. The actual lifetime may be longer. The default lifetime is defined by the `processIds.lifetime` [central configuration](#) parameter.

### Successful Response

#### Response body

JSON object with the following properties:

- `input` (Object) A copy of the request body `input` object.
- `processId` (String) The id of the new redaction creator process.
- `expirationDateTime` (String) The date and time (in ISO 8601 Extended Format) when the RedactionCreator will be deleted.
- `state` (String) The current state of the redaction creation process running on the server. This will always be `"processing"` in this response.
- `percentComplete` (Integer) The percentage (0 – 100) complete of the redaction creation process. This will always be 0 in this response.
- `affinityToken` (String) Affinity token for this search context. Present when clustering is enabled.

### Error Responses

Status Code	JSON <code>errorCode</code>	Description
480	<code>"MissingInput"</code>	A required input value was not provided. See <code>errorDetails</code> in the response body.
480	<code>"InvalidInput"</code>	An invalid input value was used. See <code>errorDetails</code> in the response body.
480	<code>"UnrecognizedInput"</code>	An unrecognized JSON property was provided. See <code>errorDetails</code> in the response body.
480	<code>"ResourceNotFound"</code>	Source document work file does not exist.
580	<code>"InternalError"</code>	The server encountered an internal error when handling the request.

### Example

#### Request

```
POST /v2/redactionCreators
Content-Type: application/json
{
  "input": {
    "source": {
      "fileId": "NmFziroyWzFM5ADpthsuitw"
    },
    "rules": [{
      "find": {
        "type": "regex",
        "pattern": "wat"
      },
      "redactWith": {
        "type": "RectangleRedaction"
      }
    },
    {
      "find": {
        "type": "regex",
        "pattern": "[0-9]{3}[-]?[0-9]{2}[-]?[0-9]{4}"
      },
      "redactWith": {
        "type": "RectangleRedaction",
        "borderColor": "#FF0000",
        "fillColor": "#FF0000",
        "fontColor": "#000000",
        "reason": "Redacted",
        "data": {
          "author": "John Smith",
          "phone": "+1 123 456 789"
        }
      }
    }
  ]
}
```

## Response

```
HTTP 200 OK
Content-Type: application/json
{
  "processId": "iFhSZRvrz2vtFjcTSi9Qlg",
  "expirationDateTime": "2019-02-07T13:24:35.395Z",
  "input": {
    "source": {
      "fileId": "NmFziroyWzFM5ADpthsuitw"
    },
    "rules": [
      {
        "find": {
          "regex": "wat"
        },
        "redactWith": {
          "type": "RectangleRedaction"
        }
      },
      {

```

```

    "find": {
      "regex": "[0-9]{3}[-]?[0-9]{2}[-]?[0-9]{4}"
    },
    "redactWith": {
      "type": "RectangleRedaction",
      "borderColor": "#FF0000",
      "fillColor": "#FF0000",
      "fontColor": "#000000",
      "reason": "Redacted",
      "data": {
        "author": "John Smith",
        "phone": "+1 123 456 789"
      }
    }
  ]
},
"state": "processing",
"percentComplete": 0
}

```

## GET /v2/redactionCreators/{processId}

Gets the state and result of an existing redaction creator process created by [POST /v2/redactionCreators](#).

Requests can be sent to this URL repeatedly while `state` is "processing".

When `state` is "complete", the new markup document containing redactions will be made available by a new WorkFile ID in the `output.markupFileId`. See the [work file](#) API topic to find out how to download a WorkFile.

If the markup burning process encountered an error, the `state` property will be "error" and the `errorCode` property will contain an error code string.

### Request

#### Request Headers

Name	Description
Content-Type	Must be <code>application/json</code>
Accusoft-Affinity-Token	The <code>affinityToken</code> of the work file specified by <code>input.documentFileId</code> . <b>Required when server clustering is enabled.</b>

#### URL Parameters

Parameter	Description
{processId}	The id of the redaction creator process.

### Response body

JSON object with the following properties:

- `input` (Object) A copy of the `POST /v2/redactionCreators` request body `input` object we accepted to create the redaction creator process.
- `processId` (String) The id of the redaction creator process.
- `expirationDateTime` (String) The date and time (in ISO 8601 Extended Format) when the `RedactionCreator` will be deleted.
- `state` (String) The current state of the redaction creation process running on the server. The following values are allowed:
  - `"processing"` - The redaction creation is in progress.
  - `"complete"` - The redaction creation is completed.
  - `"error"` - The redaction creation returns an error.
- `percentComplete` (Integer) The percentage (0 – 100) complete of the redaction creation process. Will be 100 when `state` is `"complete"`.
- `errorCode` (String) An error code string if a problem occurred during the redaction creation process. Only present when `state` is `"error"`.
- `output` (Object) The object describes the created markup document. Only present when `state` is `"complete"`.
  - `markupFileId` (String) The ID of the new `WorkFile` that represents a new Markup document specifying the redactions.
- `affinityToken` (String) Affinity token for this search context. Present when clustering is enabled.

#### Error Responses and JSON Error Codes

Status Code	JSON <code>errorCode</code>	Description
404	<code>"ResourceNotFound"</code>	Redaction creator process specified by <code>{processId}</code> could not be found.
200	<code>"MarkupCreationError"</code>	The server encountered an error when creating the markup.
580	<code>"InternalError"</code>	The server encountered an internal error when handling the request.

#### Example

##### Request

```
GET /v2/redactionCreators/iFhSZRvrz2vtFjcTSi9Qlg
```

##### Successful Response

When the redaction creator process completes with no errors:

```
HTTP 200 OK
Content-Type: application/json
{
  "input": {
    "source": {
      "fileId": "NmFziyWzFM5ADpthsuitw"
```

```
    },
    "rules": [
      {
        "find": {
          "regex": "wat"
        },
        "redactWith": {
          "type": "RectangleRedaction"
        }
      },
      {
        "find": {
          "regex": "[0-9]{3}[-]?[0-9]{2}[-]?[0-9]{4}"
        },
        "redactWith": {
          "type": "RectangleRedaction",
          "borderColor": "#FF0000",
          "fillColor": "#FF0000",
          "fontColor": "#000000",
          "reason": "Redacted",
          "data": {
            "author": "John Smith",
            "phone": "+1 123 456 789"
          }
        }
      }
    ]
  },
  "processId": "iFhSZRvrz2vtFjcTSi9Qlg",
  "expirationDateTime": "2019-02-07T13:24:35.395Z",
  "state": "complete",
  "percentComplete": 100,
  "output": {
    "markupFileId": "eOsJIqI8aHkxVV0yJug"
  }
}
```

### Error responses

When a redaction converter process does not exist for the given processId:

```
HTTP 404
Content-Type: application/json
{
  errorCode: 'ResourceNotFound'
}
```

When source document is corrupted and Markup can not be created:

```
HTTP 200 OK
Content-Type: application/json
{
  "input": {
    "source": {
      "fileId": "NmFziowWzFM5ADpthsuitw"
    }
  },
```

```
"rules": [
  {
    "find": {
      "regex": "wat"
    },
    "redactWith": {
      "type": "RectangleRedaction"
    }
  },
  {
    "find": {
      "regex": "[0-9]{3}[-]?[0-9]{2}[-]?[0-9]{4}"
    },
    "redactWith": {
      "type": "RectangleRedaction",
      "borderColor": "#FF0000",
      "fillColor": "#FF0000",
      "fontColor": "#000000",
      "reason": "Redacted",
      "data": {
        "author": "John Smith",
        "phone": "+1 123 456 789"
      }
    }
  }
],
"processId": "iFhSZRvrz2vtFjcTSi9Qlg",
"state": "error",
"errorCode": "MarkupCreationError",
"percentComplete": 0,
"expirationDateTime": "2019-02-07T13:24:35.395Z"
}
```

## POST /PCCIS/V1/RedactionCreator

**NOTE:** This URL has been deprecated and will be removed from the public API in a future release. Please use the newer [POST /v2/redactionCreators](#) instead.

Creates and starts a new RedactionCreator.

A RedactionCreator represents a process that runs on the server which searches a document for text matching a Regular Expression and then, based on any matches, creates a new Markup XML document containing redaction markup. The redaction Markup XML that is created by this process can be used with the [markup burner](#) API to "burn" the redactions into a document.

The server process to create the redaction markup is started by this request, but a response is sent before the process is complete. Use the [\[GET /PCCIS/V1/RedactionCreator/{processId}\]](#) URL below to get the state and results of an in-progress or completed RedactionCreator process.

There are two required inputs to create a RedactionCreator:

- One is a WorkFile object that represents the source document whose text will be searched, and
- One or more Regular Expressions to match the document text.

See the [work file](#) API topic for more information about a WorkFile.

A new Markup XML document will be created that will contain the redaction markup. The new document will be made available by a new WorkFile ID.

By default, RedactionCreator objects will be automatically deleted 20 minutes after they are created.

## Request

### Request Headers

Name	Description
Content-Type	Must be application/json
Accusoft-Affinity-Token	The <code>affinityToken</code> of the work file involved in the input to the process. <b>Required when server clustering is enabled.</b> Providing this value is important to ensuring the process will execute on the machine where the input work files actually exist.  <i><b>NOTE:</b> If you do not provide the required <code>Accusoft-Affinity-Token</code>, the POST itself will succeed but the process itself will likely fail.</i>

### Request Body

In the request body, provide JSON containing the following properties:

- `input` (Object) Input to create the RedactionCreator.
  - `documentFileId` (String) **Required.** The ID of the WorkFile that represents the source document whose text will be searched. This document will not be modified.
  - `autoRedactionRegularExpressions` (Array of strings) **Required.** The Regular Expressions to match within the source document text. Multiple Regular Expressions provided in the array will be concatenated into a single Regular Expression using the format: "(regex1)|(regex2)...|(regexN)".
- `minSecondsAvailable` (Integer) The minimum number of seconds which this RedactionCreator must remain available. If not provided, a configurable default value is used. This value is ignored if it is shorter than the configurable value.

### Response Body

If successful, this method returns JSON containing the following properties:

- `input` (Object) Input we accepted to create the RedactionCreator.
  - `documentFileId` (String) The ID of the WorkFile that represents the source document whose text will be searched. This document will not be modified. This is an echo of what was passed in by the request.
  - `autoRedactionRegularExpressions` (Array of Strings) The Regular Expressions to match within the source document text. This is an echo of what was passed in by the request.
- `expirationDateTime` (String) The date and time (in ISO 8601 Extended Format) when the RedactionCreator will be deleted.
- `processId` (String) The ID of the RedactionCreator.
- `state` (String) The current state of the markup burning process running on the server. This will always be "**processing**" in this response.
- `percentComplete` (Integer) The percentage (0 – 100) complete of the redaction creation process. This will always be **0** in this response.
- `errorCode` (String) An error code string if a problem occurred during the markup burning process.

This will always be **null** in this response.

- `output` (Object)
  - `markupFileId` (String) The ID of the new WorkFile that represents the new redaction XML markup. This will always be **null** in this response.
- `affinityToken` (String) Affinity token for this search context. Present when clustering is enabled.

## Error Responses

Status Code	Description
400	Bad Request, if <code>input.documentFileId</code> , <code>input.autoRedactionRegularExpressions</code> is missing or invalid format, or if <code>minSecondsAvailable</code> is not a number.
405	Method Not Allowed, if POST HTTP method is not used.

## Examples

### Request

```
POST prizmdoc_server_base_url/PCCIS/V1/RedactionCreator
Content-Type: application/json
Accusoft-Affinity-Token: ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=

{
  "input": {
    "documentFileId": "ek5Zb123oYHSUEVx1bUrVQ",
    "autoRedactionRegularExpressions": [
      "[0-9]{3}[-]?[0-9]{2}[-]?[0-9]{4}"
    ]
  },
  "minSecondsAvailable": 60
}
```

### Response

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "documentFileId": "ek5Zb123oYHSUEVx1bUrVQ",
    "autoRedactionRegularExpressions": [
      "[0-9]{3}[-]?[0-9]{2}[-]?[0-9]{4}"
    ]
  },
  "expirationDateTime": "2014-12-17T20:38:39.796Z",
  "processId": "ElkNzWtrUJp4rXI5YnLUgw",
  "affinityToken": "ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=",
  "state": "processing",
  "percentComplete": 0,
  "errorCode": null,
  "output": null
}
```

```
}
```

## GET /PCCIS/V1/RedactionCreator/{processId}

**NOTE:** This URL has been deprecated and will be removed from the public API in a future release. Please use the newer [POST /v2/redactionCreators](#) and [GET /v2/redactionCreators/{processId}](#) instead.

Gets the state and result of an existing RedactionCreator.

Requests can be sent to this URL repeatedly while `state` is "processing".

When `state` is "complete", the new markup XML document containing redactions will be made available by a new WorkFile ID in the `output.markupFileId`. See the [work file](#) API topic to find out how to download a WorkFile.

If the markup burning process encountered an error, the `state` property will be "error", the `errorCode` property will contain an error code string and `output` will be null.

### Request

#### Request Headers

Name	Description
Content-Type	Must be application/json
Accusoft-Affinity-Token	The <code>affinityToken</code> of the work file specified by <code>input.documentFileId</code> . <b>Required when server clustering is enabled.</b>

#### URL Parameters

Parameter	Description
{processId}	The id of the process.

### Response Body

If successful, this method returns JSON containing the following properties:

- `input` (Object) Input we accepted to create the MarkupBurner.
  - `documentFileId` (String) The ID of the WorkFile that represents the source document whose text will be searched. This document will not be modified.
  - `autoRedactionRegularExpressions` (Array of Strings) The Regular Expressions to match within the source document text.
- `expirationDateTime` (String) The date and time (in ISO 8601 Extended Format) when the RedactionCreator will be deleted.
- `processId` (String) The ID of the RedactionCreator.
- `state` (String) The current state of the redaction creation process running on the server. The following values are allowed:
  - "processing" - The redaction creation is in progress.
  - "complete" - The redaction creation is completed.

- "error" - The redaction creation returns an error.
- percentComplete (Integer) The percentage (0 – 100) complete of the redaction creation process.
- errorCode (String) An error code string if a problem occurred during the redaction creation process.
- output (Object)
  - markupFileId (String) The ID of the new WorkFile that represents a new XML Markup document specifying the redactions.
- affinityToken (String) Affinity token for this search context. Present when clustering is enabled.

## Error Responses

Status Code	Description
404	Not Found, if {processId} does not exist.
405	Method Not Allowed, if GET HTTP method is not used.

## Examples

### Request

```
GET
prizmdoc_server_base_url/PCCIS/V1/RedactionCreator/ElkNzWtrUJp4rXI5YnLUgw
Accusoft-Affinity-Token: ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=
```

### Response when the state is "processing"

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "documentFileId": "ek5Zb123oYHSUEVx1bUrVQ",
    "autoRedactionRegularExpressions": [
      "[0-9]{3}[-]?[0-9]{2}[-]?[0-9]{4}"
    ]
  },
  "expirationDateTime": "2014-12-17T20:38:39.796Z",
  "processId": "ElkNzWtrUJp4rXI5YnLUgw",
  "affinityToken": "ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=",
  "state": "processing",
  "percentComplete": 0,
  "errorCode": null,
  "output": null
}
```

### Response when the state is "complete"

```
HTTP/1.1 200 OK
Content-Type: application/json
```

```
{
  "input": {
    "documentFileId": "ek5Zb123oYHSUEVx1bUrVQ",
    "autoRedactionRegularExpressions": [
      "[0-9]{3}[-]?[0-9]{2}[-]?[0-9]{4}"
    ]
  },
  "expirationDateTime": "2014-12-17T20:38:39.796Z",
  "processId": "ElkNzWtrUJp4rXI5YnLUGw",
  "affinityToken": "ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=",
  "state": "complete",
  "percentComplete": 100,
  "errorCode": null,
  "output": {
    "markupFileId": "vry3FPE0zQqYwhzndRccOQ"
  }
}
```

**Response when the state is "error" because the work file that represents the source document whose text will be searched could not be found**

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "documentFileId": "ek5Zb123oYHSUEVx1bUrVQ",
    "markupFileId": "aQ1BdViqmUisBuevJKO9Sw"
  },
  "expirationDateTime": "2014-12-17T20:38:39.796Z",
  "processId": "ElkNzWtrUJp4rXI5YnLUGw",
  "affinityToken": "ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=",
  "state": "error",
  "percentComplete": 0,
  "errorCode": "DocumentFileIdDoesNotExist"
}
```

## Search Contexts

### Introduction

The *search context* and *search task* REST APIs are designed for a viewer to perform server-side searching and text retrieval of a document.

A search context contains a collection of *records* of full-page text data, one record per page.

### Available URLs

URL	Description
POST <code>/v2/searchContexts</code>	Creates a new search context.
GET <code>/v2/searchContexts/{contextId}</code>	Gets information about a search context.
DELETE <code>/v2/searchContexts/{contextId}</code>	Deletes a search context.
PUT <code>/v2/searchContexts/{contextId}/records</code>	Uploads previously extracted text records to a context, when the context uses <code>input.source</code> of "upload".
POST <code>/v2/searchContexts/{contextId}/completed</code>	Marks all previously extracted text records as uploaded, when the context uses <code>input.source</code> of "upload".
GET <code>/v2/searchContexts/{contextId}/records</code>	Gets full-page text data (records) for a specified set of pages.

## POST `/v2/searchContexts`

Creates a search context which will eventually hold a set of full-page text records for a source document.

After a successful POST to create the search context, we immediately begin a background process to extract the text records using a **work file** you specified in the POST (via `input.fileId`). As we extract pages of text, new records will become available for you to GET. The search context `state` will change from "processing" to "complete" when there are no more records to extract.

### Request

#### Request Headers

Name	Description
Content-Type	Must be <code>application/json</code>
Accusoft-Affinity-Token	The <code>affinityToken</code> of the work file specified by <code>input.fileId</code> . <b>Required when server clustering is enabled and <code>input.source</code> is "workFile"</b> .

#### Request Body

- `input`
  - `documentIdentifier` (String) **Required.** Your own unique identifier for the source document. *It is crucial that you use a unique value for each unique document, otherwise, the returned text for a document will not be correct.*
  - `source` (String) **Required.** The following values are allowed:
    - "workFile" - Indicates that the server should use an existing **work file** and extract the text from it.
    - "upload"- Indicates that the user would like to upload previously extracted text to the server to be used for search.
  - `fileId` (String) **Required with `source: "workfile"`.** The id of the **work file** to extract text records from.
  - `password` (String) Password to open the source document, when using a `source` of

`"workFile".`

- `minSecondsAvailable` (Integer) The minimum number of seconds this search context will remain available. The actual lifetime may be longer. The default lifetime is defined by the `processIds.lifetime` [central configuration](#) parameter.

## Successful Response

### Response Body

JSON with metadata about the created search context. You can check for changes to this metadata with additional [GET requests](#).

- `input` (Object) Input we accepted to create the search context.
- `contextId` (String) Unique id for this search context.
- `affinityToken` (String) Affinity token for this search context. Present when clustering is enabled.
- `state` (String) State of acquiring text records for the given `input.documentIdentifier`.
  - `"processing"` - The server is acquiring text records. No further actions are needed.
  - `"awaitingInput"` - The server is waiting for text to be uploaded by client. The client should take action and provide all required text records. This state only occurs when the client created a `searchContext` using `input.source: "upload"`. Note that based on the provided `documentIdentifier`, the server may skip this state and go directly to `"processing"` or `"complete"` if it determines that it already has the required data.
  - `"complete"` - All text records have been acquired.
  - `"error"` - There was a problem acquiring text records.
- `percentComplete` (Integer) Percentage of text records which have been acquired (from 0 to 100).
- `expirationDateTime` (String) Currently planned date and time when the search context resource will expire and no longer be available for use. This time may be extended if we have need to keep using the data (for example, if there are [search tasks](#) executing against this context). Format is [RFC 3339 Internet Date/Time profile of ISO 8601](#), e.g. `"2016-11-05T08:15:30.494Z"`.
- `errorCode` (String) Descriptive error code. Present when `state` is `"error"`.
- `errorDetails` (Object) Additional error details, if any. May be present when `errorCode` is present.

## Error Responses

Status Code	JSON <code>errorCode</code>	Description
400	<code>"MissingInput"</code>	Can occur when clustering is enabled and an <code>Accusoft-Affinity-Token</code> request header was not provided.
480	<code>"MissingInput"</code>	A required input value was not provided. See <code>errorDetails</code> in the response body.
480	<code>"InvalidInput"</code>	An invalid input value was used. See <code>errorDetails</code> in the response body.
580	<code>"InternalError"</code>	The server encountered an internal error when handling the request.

## Examples

Creating a `searchContext` using a workfile:

#### Request

```
POST prizmdoc_server_base_url/v2/searchContexts
Content-Type: application/json
Accusoft-Affinity-Token: ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=

{
  "input": {
    "documentIdentifier": "your-own-unique-identifier-for-the-source-
document",
    "source": "workFile",
    "fileId": "ek5Zb123oYHSUEVx1bUrVQ"
  }
}
```

#### Response

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "documentIdentifier": "your-own-unique-identifier-for-the-source-
document",
    "source": "workFile",
    "fileId": "ek5Zb123oYHSUEVx1bUrVQ"
  },
  "contextId": "ElkNzWtrUJp4rXI5YnLUgw",
  "state": "processing",
  "percentComplete": 0,
  "expirationDateTime": "2016-12-17T20:38:39.796Z",
  "affinityToken": "ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM="
}
```

Creating a `searchContext` using previously extracted text:

*Note that it is recommended that you use the `Accusoft-Affinity-Hint` header here when working in multi-server mode, so that multiple contexts created for the same document can be routed to the same server when possible.*

#### Request

```
POST prizmdoc_server_base_url/v2/searchContexts
Content-Type: application/json
Accusoft-Affinity-Hint: "your-own-unique-identifier-for-the-source-document"

{
  "input": {
    "documentIdentifier": "your-own-unique-identifier-for-the-source-
document",
    "source": "upload"
  },
}
```

```
"minSecondsAvailable": 1200
}
```

## Response

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "documentIdentifier": "your-own-unique-identifier-for-the-source-
document",
    "source": "upload"
  },
  "contextId": "ElkNzWtrUJp4rXI5YnLUgw",
  "state": "awaitingInput",
  "percentComplete": 0,
  "expirationDateTime": "2016-12-17T20:38:39.796Z",
  "affinityToken": "ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgcgQ+BkM="
}
```

## GET /v2/searchContexts/{contextId}

Gets information about a search context.

## Request

### URL Parameters

Parameter	Description
{contextId}	The contextId which identifies the resource.

### Request Headers

Name	Description
Accusoft-Affinity-Token	The affinityToken of the search context. <b>Required when server clustering is enabled.</b>

## Successful Response

### Response Body

JSON with current metadata about the search context.

- `input` (Object) Input we accepted to create the search context.
- `contextId` (String) Unique id for this search context.
- `affinityToken` (String) Affinity token for this search context. Present when clustering is enabled.

- `state` (String) State of acquiring text records for the given `input.documentIdentifier`.
  - `"processing"` - The server is acquiring text records. No further actions are needed.
  - `"awaitingInput"` - The server is waiting for text to be uploaded by client. The client should take action and provide all required text records. This state only occurs when the client created a `searchContext` using `input.source: "upload"`. Note that based on the provided `documentIdentifier`, the server may skip this state and go directly to `"processing"` or `"complete"` if it determines that it already has the required data.
  - `"complete"` - All text records have been acquired.
  - `"error"` - There was a problem acquiring text records.
- `percentComplete` (Integer) Percentage of text records which have been acquired (from 0 to 100).
- `expirationDateTime` (String) Currently planned date and time when the search context resource will expire and no longer be available for use. This time may be extended if we have need to keep using the data (for example, if there are `search tasks` executing against this context). Format is [RFC 3339 Internet Date/Time profile of ISO 8601](#), e.g. `"2016-11-05T08:15:30-05:00"`.
- `errorCode` (String) Descriptive error code. Present when `state` is `"error"`.
- `errorDetails` (Object) Additional error details, if any. May be present when `errorCode` is present.

## Error Responses

Status Code	JSON <code>errorCode</code>	Description
400	<code>"MissingInput"</code>	Can occur when clustering is enabled and an <code>Accusoft-Affinity-Token</code> request header was not provided.
580	<code>"InternalError"</code>	The server encountered an internal error when handling the request.

## Examples

### Request

```
GET prizmdoc_server_base_url/v2/searchContexts/ElkNzWtrUJp4rXI5YnLUgw
Accusoft-Affinity-Token: ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=
```

### Response when the state is still "processing"

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "documentIdentifier": "your-own-unique-identifier-for-the-source-document",
    "source": "workFile",
    "fileId": "ek5Zb123oYHSUEVx1bUrVQ"
  },
  "contextId": "ElkNzWtrUJp4rXI5YnLUgw",
  "affinityToken": "ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=",
  "state": "processing",
  "percentComplete": 47,
```

```
"expirationDateTime": "2016-12-17T20:38:39.796Z"  
}
```

#### Response when the state is "complete"

```
HTTP/1.1 200 OK  
Content-Type: application/json  
  
{  
  "input": {  
    "documentIdentifier": "your-own-unique-identifier-for-the-source-  
document",  
    "source": "workFile",  
    "fileId": "ek5Zb123oYHSUEVx1bUrVQ"  
  },  
  "contextId": "ElkNzWtrUJp4rXI5YnLUgw",  
  "affinityToken": "ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=",  
  "state": "complete",  
  "percentComplete": 100,  
  "expirationDateTime": "2016-12-17T20:38:39.796Z"  
}
```

#### Response when the state is "error" because the work file could not be found

```
HTTP/1.1 200 OK  
Content-Type: application/json  
  
{  
  "input": {  
    "documentIdentifier": "your-own-unique-identifier-for-the-source-  
document",  
    "source": "workFile",  
    "fileId": "ek5Zb123oYHSUEVx1bUrVQ"  
  },  
  "contextId": "ElkNzWtrUJp4rXI5YnLUgw",  
  "affinityToken": "ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=",  
  "state": "error",  
  "errorCode": "ResourceNotFound",  
  "errorDetails": {  
    "in": "searchContext",  
    "at": "input.fileId"  
  },  
  "expirationDateTime": "2016-12-17T20:38:39.796Z"  
}
```

#### Response when the source document required a password but no password was provided

```
HTTP/1.1 200 OK  
Content-Type: application/json  
  
{  
  "input": {
```

```
    "documentIdentifier": "your-own-unique-identifier-for-the-source-
document",
    "source": "workFile",
    "fileId": "ek5Zb123oYHSUEVx1bUrVQ"
  },
  "contextId": "ElkNzWtrUJp4rXI5YnLUgw",
  "affinityToken": "ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=",
  "state": "error",
  "errorCode": "InvalidPassword",
  "errorDetails": {
    "in": "searchContext",
    "at": "input.password"
  },
  "expirationDateTime": "2016-12-17T20:38:39.796Z"
}
```

### Response when the source document required a password but the wrong password was provided

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "documentIdentifier": "your-own-unique-identifier-for-the-source-
document",
    "source": "workFile",
    "fileId": "ek5Zb123oYHSUEVx1bUrVQ",
    "password": "wrong-password"
  },
  "contextId": "ElkNzWtrUJp4rXI5YnLUgw",
  "affinityToken": "ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=",
  "state": "error",
  "errorCode": "InvalidPassword",
  "errorDetails": {
    "in": "searchContext",
    "at": "input.password"
  },
  "expirationDateTime": "2016-12-17T20:38:39.796Z"
}
```

## DELETE /v2/searchContexts/{contextId}

Deletes a search context. Further requests using this `contextId` will return errors.

### Request

#### URL Parameters

Parameter	Description
{contextId}	The <code>contextId</code> which identifies the resource.

#### Request Headers

Name	Description
Accusoft-Affinity-Token	The <code>affinityToken</code> of the search context. <b>Required when server clustering is enabled.</b>

## Successful Response

This request returns no body in the response when successful.

## Error Responses

Status Code	JSON <code>errorCode</code>	Description
404	"Not Found"	No search context with the provided <code>contextId</code> could be found.
400	"MissingInput"	Can occur when clustering is enabled and an <code>Accusoft-Affinity-Token</code> request header was not provided.
580	"InternalError"	The server encountered an internal error when handling the request.

## Examples

### Request

```
DELETE prizmdoc_server_base_url/v2/searchContexts/ElkNzWtrUJp4rXI5YnLUgw
Accusoft-Affinity-Token: ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=
```

### Response

```
HTTP/1.1 204 No Content
```

## PUT /v2/searchContexts/{contextId}/records

This URL is used to upload one or more previously extracted text records to a search context.

*Note that this is only necessary when creating a `searchContext` using `input.source` of "upload" and receive a `state` of "awaitingInput".*

### Request

#### URL Parameters

Parameter	Description
{contextId}	The <code>contextId</code> which identifies the resource.

## Request Headers

Name	Description
Content-Type	Must be application/json
Accusoft-Affinity-Token	The affinityToken of the search context. <b>Required when server clustering is enabled.</b>

## Request Body

**NOTE:** Since this is previously extracted text being uploaded, the body of the request corresponds to the body of the response on `[GET /v2/searchContexts/{contextId}/records]`.

- `pages[]` (Array of Objects) Array of full-page text record objects for the requested pages. Note that the order of the records is not guaranteed; you must use the `number` property of each returned item to know its page index. Items may contain:
  - `number` (Integer) **Required.** Page index (zero-indexed page number). The property is named simply `number` for backwards compatibility reasons.
  - `text` (String) Page text. Either `text` or `errorCode` is required.
  - `errorCode` (String) A value indicating there was a problem with the page text. Either `text` or `errorCode` is required.
  - `width` (Number) **Required with `text`.** Page width.
  - `height` (Number) **Required with `text`.** Page height.
  - `rectangles[]` (Array of Arrays) **Required with `text`.** Bounding boxes for individual glyphs on the page. Each item will contain four numbers:
    - `[0]` (Number) Distance from the left edge of the page to the left edge of the glyph bounding box.
    - `[1]` (Number) Distance from the top edge of the page to the top edge of the glyph bounding box.
    - `[2]` (Number) Width of the glyph bounding box.
    - `[3]` (Number) Height of the glyph bounding box.
  - `markup[]` (Array of Objects) Objects describing hyperlinks, if any. Each item may contain:
    - `changeType` (String) Value will always be "Add".
    - `markType` (String) Value will always be "DocumentHyperlink".
    - `properties` (Object) Properties of the hyperlink.
      - `href` (String) Destination URL.
      - `rectangle` (Object) Dimensions of the hyperlink bounding box on the page.
        - `x` (Number) Distance from the left edge of the page to the left edge of the hyperlink bounding box.
        - `y` (Number) Distance from the top edge of the page to the top edge of the hyperlink bounding box.
        - `width` (Number) Width of the hyperlink bounding box.
        - `height` (Number) Height of the hyperlink bounding box.
      - `borderThickness` (Number) Border thickness which should be applied.
      - `borderHorizontalRadius` (Number) Horizontal border radius which should be applied.
      - `borderVerticalRadius` (Number) Vertical border radius which should be

applied.

- `borderOpacity` (Integer) Border opacity which should be applied. Value will be from 0 to 255, where 0 represents fully transparent and 255 represents fully opaque.

## Successful Response

This request returns no body in the response when successful.

## Error Responses

Status Code	JSON <code>errorCode</code>	Description
400	"MissingInput"	Can occur when clustering is enabled and an <code>Accusoft-Affinity-Token</code> request header was not provided.
480	"MissingInput"	A required input value was not provided. See <code>errorDetails</code> in the response body.
480	"InvalidInput"	An invalid input value was used. See <code>errorDetails</code> in the response body.
480	"ResourceNotUsable"	The search context is in a state of "error", or has otherwise become unusable.
480	"IncorrectUsage"	The state of the search context is not correct. See <code>errorDetails</code> in the response body.
580	"InternalError"	The server encountered an internal error when handling the request.

## Examples

### Request

```
PUT
prizmdoc_server_base_url/v2/searchContexts/ElkNzWtrUJp4rXI5YnLUgw/records
Accusoft-Affinity-Token: ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=
Content-Type: application/json

{
  "pages": [{
    "number": 1,
    "text": "the text to be searched",
    "width": 147,
    "height": 349
    "rectangles": [
      [ 23.6, 767.75, 15.01, 23.08 ],
      ...
    ]
  }, ...]
}
```

## Responses

### When the data was successfully accepted

```
HTTP/1.1 200 OK
```

### When the search context is not awaiting input

```
HTTP/1.1 480 IncorrectUsage
Content-Type: application/json

{
  "errorCode": "IncorrectUsage",
  "errorDetails": {
    "in": "searchContext",
    "at": "state",
    "actual": "processing",
    "expected": {
      "value": "awaitingInput"
    }
  }
}
```

## POST /v2/searchContexts/{contextId}/completed

This URL is used to let the server know that all previously extracted records have been uploaded.

*Note that this is only necessary when creating a `searchContext` using `input.source` of `"upload"` and receive a `state` of `"awaitingInput"`.*

The provided records should make up a set of contiguous page records (e.g. `[1, 2, 3, 4, 5]` and not `[1, 2, 3, 5, 27]`), and if any pages are missing from the set, the context will not be allowed to complete successfully.

## Request

### URL Parameters

Parameter	Description
{contextId}	The <code>contextId</code> which identifies the resource.

### Request Headers

Name	Description
Accusoft-Affinity-Token	The <code>affinityToken</code> of the search context. <b>Required when server clustering is enabled.</b>

### Request Body

This request has no body.

## Successful Response

This request returns no body in the response when successful.

## Error Responses

Status Code	JSON <code>errorCode</code>	Description
400	"MissingInput"	Can occur when clustering is enabled and an <code>Accusoft-Affinity-Token</code> request header was not provided.
480	"ResourceNotUsable"	The search context is in a state of "error", or has otherwise become unusable.
480	"IncorrectUsage"	The state of the search context is not correct. See <code>errorDetails</code> in the response body.
480	"MissingRecords"	A non-contiguous set of pages was present at the time that this request was made.
580	"InternalError"	The server encountered an internal error when handling the request.

## Examples

### Request

```
POST
prizmdoc_server_base_url/v2/searchContexts/ElkNzWtrUJp4rXI5YnLUgw/completed
Accusoft-Affinity-Token: ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=
```

### Responses

#### *When the context is successfully completed*

```
HTTP/1.1 200 OK
```

#### *When a non-contiguous range of pages is provided (e.g. [1, 2, 3, 5, 27])*

```
HTTP/1.1 480 MissingRecords
Content-Type: application/json

{
  "errorCode": "MissingRecords"
}
```

**When the `state` of the context is `"error"`**

```
HTTP/1.1 480 ResourceNotUsable
Content-Type: application/json

{
  "errorCode": "ResourceNotUsable"
}
```

**When the context is not awaiting input**

```
HTTP/1.1 480 IncorrectUsage
Content-Type: application/json

{
  "errorCode": "IncorrectUsage",
  "errorDetails": {
    "in": "searchContext",
    "at": "state",
    "actual": "processing",
    "expected": {
      "enum": ["awaitingInput", "complete"]
    }
  }
}
```

**GET /v2/searchContexts/{contextId}/records?pages={pages}**

Gets full-page text data (records) for a specified set of pages.

**Request****URL Parameters**

Parameter	Description
{contextId}	The <code>contextId</code> which identifies the resource.
{pages}	<b>Required.</b> A set of comma-delimited page indices ( <b>zero-indexed</b> page numbers) and/or hyphenated page index ranges for which you want the full-page text data ( <i>records</i> ). See <a href="#">more below</a> .

**pages**

The `pages` parameter accepts one or more zero-indexed page numbers (page indices). Between commas, you can specify individual pages (like `0`), closed page ranges (like `0-3`), and open-ended page ranges (like `3-`, which means page index 3 through the end of the document).

Here are some examples:

Example	Description
pages=0	Get the text data for page index 0.
pages=5	Get the text data for page index 5.
pages=0-5	Get the text data for page indices 0-5.
pages=3-	Get the text data for page indices 3 through the end of the document.
pages=0-	Get the text data for all pages (page index 0 through the end of the document).
pages=1-	Get the text data for all but the first page (page index 1 through the end of the document).
pages=0, 2, 5, 9	Get the text data for page indices 0, 2, 5, and 9.
pages=2, 4- 5, 7-	Get the text data for page indices 2, 4 through 5, and 7 through the end of the document.

### Request Headers

Name	Description
Accusoft-Affinity-Token	The <code>affinityToken</code> of the search context. <b>Required when server clustering is enabled.</b>

### Successful Response

JSON containing full-page text records for the requested pages.

- pages[]** (Array of Objects) **Always present.** Array of full-page text record objects for the requested pages. Note that the order of the records is not guaranteed; you must use the `number` property of each returned item to know its page index. Items may contain:
  - `number` (Integer) **Always present.** Page index (zero-indexed page number). The property is named simply `number` for backwards compatibility reasons.
  - `text` (String) Page text.
  - `errorCode` (String) A descriptive page-level error code (such as `"CouldNotGetPageData"`) if there was a problem getting data for the page.
  - `width` (Number) Page width.
  - `height` (Number) Page height.
  - `rectangles[]` (Array of Arrays) Bounding boxes for individual glyphs on the page. Each item will contain four numbers:
    - `[0]` (Number) Distance from the left edge of the page to the left edge of the glyph bounding box.
    - `[1]` (Number) Distance from the top edge of the page to the top edge of the glyph bounding box.
    - `[2]` (Number) Width of the glyph bounding box.
    - `[3]` (Number) Height of the glyph bounding box.
  - `markup[]` (Array of Objects) Objects describing hyperlinks, if any. Each item may contain:

- `changeType` (String) Value will always be "Add".
- `markType` (String) Value will always be "DocumentHyperlink".
- `properties` (Object) Properties of the hyperlink.
  - `href` (String) Destination URL.
  - `rectangle` (Object) Dimensions of the hyperlink bounding box on the page.
    - `x` (Number) Distance from the left edge of the page to the left edge of the hyperlink bounding box.
    - `y` (Number) Distance from the top edge of the page to the top edge of the hyperlink bounding box.
    - `width` (Number) Width of the hyperlink bounding box.
    - `height` (Number) Height of the hyperlink bounding box.
  - `borderThickness` (Number) Border thickness which should be applied.
  - `borderHorizontalRadius` (Number) Horizontal border radius which should be applied.
  - `borderVerticalRadius` (Number) Vertical border radius which should be applied.
  - `borderOpacity` (Integer) Border opacity which should be applied. Value will be from 0 to 255, where 0 represents fully transparent and 255 represents fully opaque.
- `errorCode` (String) Descriptive error code. Present if there was a general problem getting all of the requested data.
- `errorDetails` (Object) Present if there are additional error details.

## Error Responses

Status Code	JSON <code>errorCode</code>	Description
404		No search context exists for the <code>{contextId}</code> given in the URL. It may have expired, or it may have never existed.
400	"MissingInput"	Can occur when clustering is enabled and an <code>Accusoft-Affinity-Token</code> request header was not provided.
480	"MissingInput"	A required input was missing. See the <code>errorDetails</code> for more information.
480	"InvalidSyntax"	Can occur when the <code>pages</code> query string parameter is set to a value we cannot understand.
480	"ResourceNotUsable"	Can occur when the search context is in a state of "error". You may be able to get more information from a <code>[GET /v2/searchContexts/{contextId}]</code> .
580	"InternalError"	The server encountered an internal error when handling the request.

## Examples

### When all data is returned successfully

Request records for pages 0 through 9:

```
GET
prizmdoc_server_base_url/v2/searchContexts/ElkNzWtrUJp4rXI5YnLUgw/records?
pages=0-9
Accusoft-Affinity-Token: ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=
```

Successful response (where ... indicates that data has been omitted for brevity):

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "pages": [
    {
      "number": 0,
      "text": "the page text",
      "width": 648.00,
      "height": 828.00,
      "rectangles": [
        [
          202.25,
          135.05,
          27.00,
          73.26
        ],
        [
          229.25,
          135.05,
          30.00,
          73.26
        ],
        ...
      ]
    },
    {
      "markup": [
        {
          "changeType": "Add",
          "markType": "DocumentHyperlink",
          "properties": {
            "rectangle": {
              "height": 14.71,
              "width": 86.20,
              "y": 73.50,
              "x": 71.31
            },
            "borderHorizontalRadius": 0.0,
            "borderVerticalRadius": 0.0,
            "borderThickness": 0.0,
            "href": "http://www.google.com/",
            "borderOpacity": 255
          }
        },
        ...
      ]
    },
    ...
  ]
}
```

### When the data stream is interrupted

Because this URL may return large amounts of data, we progressively stream data to the HTTP response. As such, it is possible that we encounter a data streaming error after we have sent HTTP 200. When this happens, we will close the JSON with a top-level `errorCode` of `"DataStreamInterruption"`, like so:

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "pages": [...],
  "errorCode": "DataStreamInterruption"
}
```

### When out-of-range, non-existent pages are requested

If you request a set of pages that include non-existent pages beyond the length of the document, we will include whatever actual pages we can, but we will also add a top-level `errorCode` of `"RequestedPagesOutOfRange"` with the actual `documentPageCount` within an `errorDetails` object, like so:

```
GET
prizmdoc_server_base_url/v2/searchContexts/ElkNzWtrUJp4rXI5YnLUgw/records?
pages=0-9
Content-Type: application/json
Accusoft-Affinity-Token: ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQN9CgQ+BkM=
```

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "pages": [...],
  "errorCode": "RequestedPagesOutOfRange",
  "errorDetails": {
    "documentPageCount": 3
  }
}
```

### When data cannot be extracted from some pages

The `pages` array will contain one item for each requested page that actually exists. If we are unable to obtain data for a particular page, we will include an item in the `pages` array that contains the page `number` and a page-specific `errorCode` of `"CouldNotGetPageData"`, like so:

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "pages": [
```

```

    {
      "number": 0,
      "text": "Once upon a time...",
      "width": 612.00,
      "height": 792.00,
      "rectangles": [...]
    },
    {
      "number": 1,
      "errorCode": "CouldNotGetPageData"
    },
    {
      "number": 2,
      "errorCode": "CouldNotGetPageData"
    },
    {
      "number": 3,
      "text": "and then, she said to the dragon...",
      "width": 612.00,
      "height": 792.00,
      "rectangles": [...]
    }
  ]
}

```

## Search Tasks

### Introduction

The [search context](#) and [search task](#) REST APIs are designed for a viewer to perform server-side searching and text retrieval of a document. A search task represents an asynchronous full-text search of a document (via a [search context](#)) and yields results as they become available.

### Available URLs

URL	Description
<a href="#">POST /v2/searchTasks</a>	Starts an asynchronous full-text search against a <a href="#">search context</a> .
<a href="#">POST /v2/viewingSessions/{viewingSessionId}/searchTasks</a>	Starts an asynchronous full-text search against a viewing session's source document.
<a href="#">GET /v2/searchTasks/{processId}</a>	Gets information about a search task.
<a href="#">GET /v2/searchTasks/{processId}/results</a>	Gets available search results.
<a href="#">DELETE /v2/searchTasks/{processId}</a>	Cancels a search task.

### POST /v2/searchTasks

Starts an asynchronous full-text search against a [search context](#).

After a successful POST to create the search task, we immediately begin a background process to start populating search results for you to [GET](#). You do not need to wait for the full set of results to be available; you can start [retrieving partial search results](#) as soon as they are available. Once the full text of the document has been searched and no more results will be added, the search task state will change from "processing" to "complete".

### Request

#### Request Headers

Name	Description
Content-Type	Must be <code>application/json</code>
Accusoft-Affinity-Token	The <code>affinityToken</code> of the <a href="#">search context</a> specified by <code>input.contextId</code> . <b>Required when server clustering is enabled.</b>

#### Request Body

- `input`
  - `contextId` (String) **Required.** Identifies the [search context](#) which holds the full-text data to search.
  - `searchTerms` [] (Array of Objects) **Required and must contain at least one item.** Each item must be an object which conforms to one of the following:
    - *Simple (finds all occurrences of a single regex pattern):*
      - `type`: "simple" (String) **Required.** Must be set to "simple" to indicate this is a simple term object.
      - `pattern` (String) **Required.** Regular expression to search for, using a [JavaScript-flavored regular expression string](#).

- `caseSensitive` (Boolean) Determines whether we consider case when matching this term. Default is `false`.
- `contextPadding` (Integer) Maximum number of characters to include both before and after the search result in the returned `context` string. For example, a value of 25 would allow up to 25 preceding and 25 following characters of content. Default is 25.
- `termId` (String) Optional id of your choosing which, if provided, will be included as a `termId` property on each search result produced by this term. When used, we do not enforce uniqueness; it is your responsibility to use a unique `termId` for each term.
- *Proximity (finds all occurrences of multiple regex patterns which are near each other):*
  - `type`: "proximity" (String) **Required.** Must be set to "proximity" to indicate this is a proximity term object.
  - `subTerms[]` (Array of Objects) **Required and must contain at least two items.** Each item may contain:
    - `pattern` (String) **Required.** Regular expression for this particular term, using a [JavaScript-flavored regular expression string](#).
    - `caseSensitive` (Boolean) Determines whether we consider case when matching this term. Default is `false`.
  - `distance` (Integer) **Required.** Maximum number of words allowed between any two consecutive search terms.
  - `contextPadding` (Integer) Maximum number of characters to include both before and after the search result in the returned `context` string. For example, a value of 25 would allow up to 25 preceding and 25 following characters of content. Default is 25.
  - `termId` (String) Optional id of your choosing which, if provided, will be included as a `termId` property on each search result produced by this term. When used, we do not enforce uniqueness; it is your responsibility to use a unique `termId` for each term.
- `minSecondsAvailable` (Integer) The minimum number of seconds this search task will remain available. The actual lifetime may be longer. The default lifetime is defined by the `processIds.lifetime` [central configuration](#) parameter.

## Successful Response

### Response Body

JSON with metadata about the created search task.

- `input` (Object) Input we accepted to create the search task.
- `processId` (String) Unique id for this search task.
- `affinityToken` (String) Affinity token for this search task. Present when clustering is enabled.
- `state` (String) State of getting search results.
  - "processing" - The search is still being executed. Additional results may become available.
  - "complete" - The search is complete. No additional results will become available.
  - "error" - There was a problem performing the search. No additional results will become available.
- `percentComplete` (Integer) Percentage of the document text which has been searched (from 0 to 100).
- `expirationDateTime` (String) Currently planned date and time when the search task resource will expire and no longer be available for use. Format is [RFC 3339 Internet Date/Time profile of ISO 8601](#), e.g. "2016-11-05T08:15:30.494Z".

## Error Responses

Status Code	JSON errorCode	Description
400	"MissingInput"	Can occur when clustering is enabled and an <code>Accusoft-Affinity-Token</code> request header was not provided.
480	"MissingInput"	A required input value was not provided. See <code>errorDetails</code> in the response body.
480	"InvalidInput"	An invalid input value was used. See <code>errorDetails</code> in the response body.
480	"MissingInputForSimpleTerm"	An invalid input value was used in a "simple" term object. See <code>errorDetails</code> in the response body.
480	"InvalidInputForSimpleTerm"	An invalid input value was used in a "simple" term object. See <code>errorDetails</code> in the response body.
480	"MissingInputForProximityTerm"	An invalid input value was used in a "proximity" term object. See <code>errorDetails</code> in the response body.
480	"InvalidInputForProximityTerm"	An invalid input value was used in a "proximity" term object. See <code>errorDetails</code> in the response body.
480	"ResourceNotFound"	Can occur when the search context specified by <code>contextId</code> could not be found. See <code>errorDetails</code> in the response body.
480	"ResourceNotUsable"	Can occur when the search context specified by <code>contextId</code> is not usable. See <code>errorDetails</code> in the response body.
580	"InternalError"	The server encountered an internal error when handling the request.

## Example

### Request

```
POST prizmdoc_server_base_url/v2/searchTasks
Content-Type: application/json
Accusoft-Affinity-Token: ejN9/kXEYOUken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=

{
  "input": {
    "contextId": "ElkNzWtrUJp4rXI5YnLUgw",
    "searchTerms": [{
      "type": "simple",
      "pattern": "quick"
    }]
  }
}
```

### Response

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "contextId": "ElkNzWtrUJp4rXI5YnLUgw",
    "searchTerms": [{
      "type": "simple",
```

```

    "pattern": "quick",
    "caseSensitive": false,
    "contextPadding": 25
  }
},
"processId": "pR5X6nPDgMwat6cx1mn0Q3",
"state": "processing",
"percentComplete": 0,
"expirationDateTime": "2016-12-17T20:38:39.796Z"
}

```

#### Additional Examples

For more examples of how to construct different searches, see [Example Searches](#).

### POST /v2/viewingSessions/{viewingSessionId}/searchTasks

Starts an asynchronous full-text search against a viewing session's source document.

After a successful POST to create the search task, we immediately begin a background process to start populating search results for you to GET. You do not need to wait for the full set of results to be available; you can start [retrieving partial search results](#) as soon as they are available. Once the full text of the document has been searched and no more results will be added, the search task state will change from "processing" to "complete".

#### Request

##### Request Headers

Name	Description
Content-Type	Must be application/json

##### Request Body

- `input`
  - `searchTerms[]` (Array of Objects) **Required and must contain at least one item.** Each item must be an object which conforms to one of the following:
    - *Simple (finds all occurrences of a single regex pattern):*
      - `type`: "simple" (String) **Required.** Must be set to "simple" to indicate this is a simple term object.
      - `pattern` (String) **Required.** Regular expression to search for, using a [JavaScript-flavored regular expression string](#).
      - `caseSensitive` (Boolean) Determines whether we consider case when matching this term. Default is `false`.
      - `contextPadding` (Integer) Maximum number of characters to include both before and after the search result in the returned `context` string. For example, a value of 25 would allow up to 25 preceding and 25 following characters of content. Default is 25.
      - `termId` (String) Optional id of your choosing which, if provided, will be included as a `termId` property on each search result produced by this term. When used, we do not enforce uniqueness; it is your responsibility to use a unique `termId` for each term.
    - *Proximity (finds all occurrences of multiple regex patterns which are near each other):*
      - `type`: "proximity" (String) **Required.** Must be set to "proximity" to indicate this is a proximity term object.
      - `subTerms[]` (Array of Objects) **Required and must contain at least two items.** Each item may contain:
        - `pattern` (String) **Required.** Regular expression for this particular term, using a [JavaScript-flavored regular expression string](#).
        - `caseSensitive` (Boolean) Determines whether we consider case when matching this term. Default is `false`.
      - `distance` (Integer) **Required.** Maximum number of words allowed between any two consecutive sub-terms.
      - `contextPadding` (Integer) Maximum number of characters to include both before and after the search result in the returned `context` string. For example, a value of 25 would allow up to 25 preceding and 25 following characters of content. Default is 25.
      - `termId` (String) Optional id of your choosing which, if provided, will be included as a `termId` property on each search result produced by this term. When used, we do not enforce uniqueness; it is your responsibility to use a unique `termId` for each term.
  - `minSecondsAvailable` (Integer) The minimum number of seconds this search task will remain available. The actual lifetime may be longer. The default lifetime is defined by the `processIds.lifetime` [central configuration](#) parameter.

#### Successful Response

##### Response Body

JSON with metadata about the created search task.

- `input` (Object) Input we used to create the search task. May include default values not explicitly provided in the original POST.
- `processId` (String) Unique id for this search task.
- `affinityToken` (String) Affinity token for this search task. Present when clustering is enabled.
- `state` (String) State of getting search results.
  - "processing" - The search is still being executed. Additional results may become available.
  - "complete" - The search is complete. No additional results will become available.
  - "error" - There was a problem performing the search. No additional results will become available.
- `percentComplete` (Integer) Percentage of the document text which has been searched (from 0 to 100).
- `expirationDateTime` (String) Currently planned date and time when the search task resource will expire and no longer be available for use. Format is [RFC 3339 Internet Date/Time profile of ISO 8601](#), e.g. "2016-11-05T08:15:30.494Z".

#### Error Responses

Status Code	JSON errorCode	Description
404	-	No viewing session with the provided {viewingSessionId} could be found.
480	"DocumentNotProvidedYet"	The viewing session does not yet have a source document attached.
480	"MissingInput"	A required input value was not provided. See <code>errorDetails</code> in the response body.
480	"InvalidInput"	An invalid input value was used. See <code>errorDetails</code> in the response body.

Status Code	JSON errorCode	Description
480	"MissingInputForSimpleTerm"	An invalid input value was used in a "simple" term object. See <code>errorDetails</code> in the response body.
480	"InvalidInputForSimpleTerm"	An invalid input value was used in a "simple" term object. See <code>errorDetails</code> in the response body.
480	"MissingInputForProximityTerm"	An invalid input value was used in a "proximity" term object. See <code>errorDetails</code> in the response body.
480	"InvalidInputForProximityTerm"	An invalid input value was used in a "proximity" term object. See <code>errorDetails</code> in the response body.
480	"FeatureDisabled"	The viewing session was created with "serverSideSearch" disabled.
580	"InternalError"	The server encountered an internal error when handling the request.

### Example

#### Request

```
POST
prizmdoc_server_base_url/v2/viewingSessions/DLbVh9sTmXJAmD1GeXbS9Gn3WHxs8oib2xPsW2xEFjnIDdoJcudPtxciodSYFQq6zYGabQ_rJIecdbkImTTkSA/searchTasks

Content-Type: application/json

{
  "input": {
    "searchTerms": [{
      "type": "simple",
      "pattern": "quick"
    }]
  }
}
```

#### Response

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "searchTerms": [{
      "type": "simple",
      "pattern": "quick",
      "caseSensitive": false,
      "contextPadding": 25
    }]
  },
  "processId": "pR5X6nPDgMwat6cx1mn0Q3",
  "state": "processing",
  "percentComplete": 0,
  "expirationDateTime": "2016-12-17T20:38:39.796Z"
}
```

#### Additional Examples

For more examples of how to construct different searches, see [Example Searches](#).

### GET /v2/searchTasks/{processId}

Gets information about a search task.

To get search results, use `[GET /v2/searchTasks/{processId}/results]`.

#### Request

##### URL Parameters

Parameter	Description
{processId}	The <code>processId</code> which identifies the search task.

##### Request Headers

Name	Description
Accusoft-Affinity-Token	The <code>affinityToken</code> of the search task. <b>Required when server clustering is enabled.</b>

### Successful Response

#### Response Body

JSON with metadata about the search task.

- `input` (Object) Input we used to create the search task. May include default values not explicitly provided in the original POST.
- `processId` (String) Unique id for this search task.
- `affinityToken` (String) Affinity token for this search task. Present when clustering is enabled.
- `state` (String) State of getting search results.
  - "processing" - The search is still being executed. Additional results may become available.
  - "complete" - The search is complete. No additional results will become available.

- "error" - There was a problem performing the search. No additional results will become available.
- `percentComplete` (Integer) Percentage of the document text which has been searched (from 0 to 100).
- `expirationDateTime` (String) Currently planned date and time when the search task resource will expire and no longer be available for use. Format is [RFC 3339 Internet Date/Time profile of ISO 8601](#), e.g. "2016-11-05T08:15:30.494Z".

### Error Responses

Status Code	JSON errorCode	Description
404	-	No search task with the provided <code>{processId}</code> could be found.
400	"MissingInput"	Can occur when clustering is enabled and an <code>Accusoft-Affinity-Token</code> request header was not provided.
580	"InternalError"	The server encountered an internal error when handling the request.

### Example

#### Request

```
GET prizmdoc_server_base_url/v2/searchTasks/pR5X6nPDgMwat6cx1mn0Q3
Accusoft-Affinity-Token: ejN9/kXEYOUken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=
```

#### Response

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "input": {
    "contextId": "ElkNzWtrUJp4rXI5YnLUgw",
    "searchTerms": [{
      "type": "simple",
      "pattern": "quick",
      "caseSensitive": false,
      "contextPadding": 25
    }]
  },
  "processId": "pR5X6nPDgMwat6cx1mn0Q3",
  "state": "complete",
  "percentComplete": 100,
  "expirationDateTime": "2016-12-17T20:38:39.796Z"
}
```

### GET /v2/searchTasks/{processId}/results?limit={limit}&continueToken={continueToken}

Gets a block of newly-available search results up to a limit.

This URL is designed to give you the results in chunks as they become available. Each GET request will return the currently-known results up to a `limit` (default is 100). If a response contains a `continueToken`, it indicates that additional results may be available and that you should issue another GET request using that `continueToken` as a query string parameter to skip the results you have already received. As long as a response contains a `continueToken`, use it to issue a subsequent GET for more results. When you encounter a response which does *not* have a `continueToken`, you have received all of the results and no more GET requests are necessary.

In order to optimize the number of network requests you make, any response which contains a `continueToken` will also contain a `continueAfter` value with a recommended number of milliseconds you should wait before sending the next GET request.

#### Request

##### URL Parameters

Parameter	Description
<code>{processId}</code>	The <code>processId</code> which identifies the search task.
<code>{limit}</code>	The maximum number of results to return for this HTTP request. Must be an integer greater than 0. Default is 100.
<code>{continueToken}</code>	Used to continue getting results from the point where a previous GET request left off.

##### Request Headers

Name	Description
<code>Accusoft-Affinity-Token</code>	The <code>affinityToken</code> of the search task. <b>Required when server clustering is enabled.</b>

### Successful Response

#### Response Body

JSON with any available search results.

- `results` (Array of Objects) **Always present.** Array of newly-available search results. If no new results are available, this array will be empty.
  - `id` (Integer) Unique number assigned to this search result.
  - `pageIndex` (Integer) Zero-indexed page number where this search result occurs in the document.
  - `text` (String) Text which was matched.
  - `context` (String) Contextual excerpt, including the matched text itself. The amount of leading and trailing characters to include in this value is controlled by `input.contextPadding` in the initial POST to create the search task.
  - `boundingRectangle` (Object) Bounding rectangle dimensions of the matched text on the page where it occurs.

- `x` (Number) Distance from the left edge of the page to the left edge of the search result bounding box.
  - `y` (Number) Distance from the top edge of the page to the top edge of the search result bounding box.
  - `width` (Number) Width of the search result bounding box.
  - `height` (Number) Height of the search result bounding box.
- `lineRectangles` (Array of Objects) Array of rectangles for each line of the matched text on the page where it occurs. If the match is on one line, the result is a single array item with a rectangle equal to `boundingRectangle`. If the match is on multiple lines, all rectangles in the array will be within the bounds of the `boundingRectangle`.
  - `x` (Number) Distance from the left edge of the page to the left edge of the search result line rectangle.
  - `y` (Number) Distance from the top edge of the page to the top edge of the search result line rectangle.
  - `width` (Number) Width of the search result line rectangle.
  - `height` (Number) Height of the search result line rectangle.
- `pageData` (Object) Information about the dimensions of the page where this search result occurs.
  - `width` (Number) Width of the page.
  - `height` (Number) Height of the page.
- `searchTerm` (Object) Search term which produced this result. The value will correspond to one of the items passed in to `input.searchTerms` in the initial POST to create the search task.
  - *When type is "simple"*:
    - `type` (String) **Always present** with a value of "simple".
    - `pattern` (String) **Always present**. Regular expression which produced this result.
    - `caseSensitive` (Boolean) **Always present**. Indicates whether or not case was considered for this result.
    - `contextPadding` (Integer) **Always present**. Amount of context padding requested for this term in the initial POST.
    - `termId` (String) When provided in the initial POST, `termId` of the term which produced this result.
  - *When type is "proximity"*:
    - `type` (String) **Always present** with a value of "proximity".
    - `subTerms[]` (Array of Objects) **Always present**. The sub-terms which contributed to this result. Each item will contain:
      - `pattern` (String) **Always present**. Regular expression for this particular sub-term.
      - `caseSensitive` (Boolean) **Always present**. Indicates whether or not case was considered when matching this particular sub-term in the result.
    - `distance` (Integer) **Always present**. Maximum number of words allowed between any two consecutive sub-terms.
    - `contextPadding` (Integer) **Always present**. Amount of context padding requested for this term in the initial POST.
    - `termId` (String) When provided in the initial POST, `termId` of the term which produced this result.
- `startIndex` (Integer) JavaScript string index into the full-page text string where the matched text begins (to get the full-page text string, see [GET /v2/searchContexts/{contextId}/records](#)).
- `startIndexInContext` (Integer) JavaScript string index into the returned `context` string where the matched text begins.
- `pagesWithoutText` (Array of Integers) **Always present**. Currently known pages in the document which do not contain any text content at all. Values are zero-indexed page numbers. If the search task is still processing (a `continueToken` is present in the response), the data should be considered partial. Note that, unlike `results`, this value is cumulative (we always deliver the entire set of pages we know to not contain text data).
- `continueToken` (String) When present, indicates that more search results may be available. An additional GET request should be made for more results using this value as the `continueToken` query string parameter. When not present, indicates that the search is complete and no further results will be available.
- `continueAfter` (Number) Recommended milliseconds to delay before issuing the next GET request for more results.

## Error Responses

Status Code	JSON errorCode	Description
404	-	No search task with the provided <code>{processId}</code> could be found.
400	"MissingInput"	Can occur when clustering is enabled and an <code>Accusoft-Affinity-Token</code> request header was not provided.
480	"InvalidInput"	An invalid input value was used. See <code>errorDetails</code> in the response body.
480	"ResourceNotUsable"	Can occur when the search task is in a state of "error". You may be able to get more information from a <a href="#">GET /v2/searchTasks/{processId}</a> .
580	"InternalError"	The server encountered an internal error when handling the request.

## Example

Say you have a search task which was created to find the regex `"manag[a-z]*"` in a particular whitepaper. Here is an example sequence of requests and responses illustrating how you would acquire the full set of results for the search task (for brevity, the total number of search results in this example is small).

You would start with an initial GET:

```
GET prizmdoc_server_base_url/v2/searchTasks/pR5X6nPDgMwat6cxlmm0Q3/results
Accusoft-Affinity-Token: ejN9/kXEYOUken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=
```

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "results": [
    {
      "id": 0,
      "pageIndex": 0,
      "text": "Management",
      "context": "Enterprise Content Management Best Practices",
      "boundingRectangle": { "x": 24.20, "y": 13.74, "width": 234.20, "height": 26.10 },
      "lineRectangles": [ { "x": 24.20, "y": 13.74, "width": 234.20, "height": 26.10 } ],
      "pageData": { "width": 612, "height": 792 },
      "searchTerm": {
        "type": "simple",
        "pattern": "manag[a-z]*",
        "caseSensitive": false,
        "contextPadding": 25
      },
      "startIndex": 19,
    }
  ]
}
```

```

    "startIndexInContext": 19
  },
  {
    "id": 1,
    "pageIndex": 0,
    "text": "management",
    "context": "ue of enterprise content management software should go way b",
    "boundingRectangle": { "x": 156.07, "y": 352.19, "width": 105.00, "height": 13.41 },
    "lineRectangles": [{ "x": 156.07, "y": 352.19, "width": 105.00, "height": 13.41 }],
    "pageData": { "width": 612, "height": 792 },
    "searchTerm": {
      "type": "simple",
      "pattern": "manag[a-z]*",
      "caseSensitive": false,
      "contextPadding": 25
    },
    "startIndex": 527,
    "startIndexInContext": 25
  }
],
"pagesWithoutText": [],
"continueToken": "Cx07GHlkmI32gxAQhv49WZ",
"continueAfter": 500
}

```

The initial response has given us two results for the first page of the document (page index 0) and a `continueToken` which we should use to get more results after waiting 500 milliseconds. So, half a second later, we issue a follow-up request with the `continueToken` passed in as a query string parameter (so we skip over the results we already have):

```

GET prizmdoc_server_base_url/v2/searchTasks/pr5X6nPDgMwat6cxlmm0Q3/results?continueToken=Cx07GHlkmI32gxAQhv49WZ
Accusoft-Affinity-Token: ejN9/kXEYOUken4Pb91c9hqJK45XIad9LQNgCgQ+BkM=

```

```

HTTP/1.1 200 OK
Content-Type: application/json

{
  "results": [
    {
      "id": 2,
      "pageIndex": 1,
      "text": "management",
      "context": "Enterprise content management software helps eliminate",
      "boundingRectangle": { "x": 310.21, "y": 562.14, "width": 254.03, "height": 26.10 },
      "lineRectangles": [{ "x": 310.21, "y": 562.14, "width": 254.03, "height": 26.10 }],
      "pageData": { "width": 612, "height": 792 },
      "searchTerm": {
        "type": "simple",
        "pattern": "manag[a-z]*",
        "caseSensitive": false,
        "contextPadding": 25
      },
      "startIndex": 652,
      "startIndexInContext": 19
    }
  ],
  "pagesWithoutText": [2,3],
  "continueToken": "B4uGe7m0ZtxR31kqA07Nmj",
  "continueAfter": 500
}

```

This time we get back a new result as well as some new information about `pagesWithoutText`: we now know that at least page indices 2 and 3 (zero-indexed page numbers) have no text at all.

The presence of a new `continueToken` tells us there may be more results, so we submit another request with the new `continueToken`:

```

GET prizmdoc_server_base_url/v2/searchTasks/pr5X6nPDgMwat6cxlmm0Q3/results?continueToken=B4uGe7m0ZtxR31kqA07Nmj
Accusoft-Affinity-Token: ejN9/kXEYOUken4Pb91c9hqJK45XIad9LQNgCgQ+BkM=

```

```

HTTP/1.1 200 OK
Content-Type: application/json

{
  "results": [
    {
      "id": 3,
      "pageIndex": 5,
      "text": "management",
      "context": "upply chains to contract management, or HR processes to gove",
      "boundingRectangle": { "x": 67.00, "y": 142.53, "width": 254.03, "height": 26.10 },
      "lineRectangles": [{ "x": 67.00, "y": 142.53, "width": 254.03, "height": 26.10 }],
      "pageData": { "width": 612, "height": 792 },
      "searchTerm": {
        "type": "simple",
        "pattern": "manag[a-z]*",
        "caseSensitive": false,
        "contextPadding": 25
      },
      "startIndex": 113,
      "startIndexInContext": 25
    }
  ],
  "pagesWithoutText": [2,3,4]
}

```

This time we get a new result for page index 5, and we now know that page indices 2, 3, and 4 all contain no text at all (apparently this was not much of a whitepaper!). The lack of a `continueToken` tells us we have received all of the results, so there are no more GET requests to make.

### DELETE /v2/searchTasks/processId

Cancels the search task. Further requests using this `processId` will return errors.

#### Request

##### URL Parameters

Parameter	Description
{processId}	The <code>processId</code> which identifies the search task.

##### Request Headers

Name	Description
Accusoft-Affinity-Token	The <code>affinityToken</code> of the search task. <b>Required when server clustering is enabled.</b>

#### Successful Response

```
HTTP/1.1 204 No Content
```

#### Error Responses

Status Code	JSON errorCode	Description
404	-	No search task with the provided {processId} could be found.
400	"MissingInput"	Can occur when clustering is enabled and an <code>Accusoft-Affinity-Token</code> was not provided.
580	"InternalError"	The server encountered an internal error when handling the request.

#### Example Searches

The following examples demonstrate how to use `input.searchTerms` for both the `[POST /v2/searchTasks]` and `[POST /v2/viewingSessions/{viewingSessionId}/searchTasks]` URLs.

##### Start a search for a single word

This partial input JSON begins a search task which finds all instances of the word "quick":

```
{
  "input": {
    "searchTerms": [{
      "type": "simple",
      "pattern": "quick"
    }]
  }
}
```

##### Start a case-sensitive search for an exact phrase

This partial input JSON begins a case-sensitive search for the exact phrase "The quick brown fox jumped over the lazy dog.". Notice that we had to escape the period character because it is a special regex character (`\.`), and because this is a JSON string value, the backslash itself must also be escaped (`\\.`):

```
{
  "input": {
    "searchTerms": [{
      "type": "simple",
      "pattern": "The quick brown fox jumped over the lazy dog\\.",
      "caseSensitive": true
    }]
  }
}
```

##### Start a search for every instance of the word "quick" or "brown" or "fox"

This partial input JSON begins a search for the words "quick" or "brown" or "fox", locating all instances of each of these words:

```
{
  "input": {
    "searchTerms": [
      {
        "type": "simple",
        "pattern": "quick"
      },
      {
        "type": "simple",
        "pattern": "fox"
      },
      {
        "type": "simple",
        "pattern": "dog"
      }
    ]
  }
}
```

```
}
```

Start a search for "quick" and "fox" and "dog" where there are no more than 5 words between any two consecutive occurrences of them

```
{
  "input": {
    "searchTerms": [{
      "type": "proximity",
      "subTerms": [{
        "pattern": "quick"
      }, {
        "pattern": "fox"
      }, {
        "pattern": "dog"
      }
    ]
  }, {
    "distance": 5
  }
}]
}
```

Start a case-sensitive search for "John Doe" within 30 words of what looks like a social security number

```
{
  "input": {
    "searchTerms": [{
      "type": "proximity",
      "subTerms": [{
        "pattern": "John Doe",
        "caseSensitive": true
      }, {
        "pattern": "\\d{3}-\\d{2}-\\d{4}"
      }
    ]
  }, {
    "distance": 30
  }
}]
}
```

## Unsupported Routes

### Introduction

The following endpoints are intended only for internal use by Accusoft products and components.

If you are a PrizmDoc Server administrator, you should expose these endpoints to ensure that all product functionality is available.

However, if you are an application developer, you should not call these endpoints. They are undocumented, unsupported, and subject to change without notice.

### Available URLs

- POST /unsupported/excelShapeExtractors
- GET /unsupported/excelShapeExtractors/{processId}

## Viewing Sessions

### Introduction

### Available URLs

URL	Description
POST /PCCIS/V1/ViewingSession	Creates a new viewing session.
GET /PCCIS/V1/ViewingSession/u{viewingSessionId}	Gets information about a viewing session.
PUT /PCCIS/V1/ViewingSession/u{viewingSessionId}/SourceFile	Uploads the source document to be used for a viewing session.
PUT /v2/viewingSessions/{viewingSessionId}/sourceFile/original	When viewing a comparison of two source documents, uploads the first of the two source documents.
PUT /v2/viewingSessions/{viewingSessionId}/sourceFile/revised	When viewing a comparison of two source documents, uploads the second of the two source documents.
PUT /PCCIS/V1/ViewingSession/u{viewingSessionId}/SourceRef	Attach an existing <b>work file</b> (or, when doing comparison, two work files) as the source document to be used for a viewing session.
GET /PCCIS/V1/ViewingSession/u{viewingSessionId}/SourceFile	Downloads the source document in use for a viewing session.
GET /v2/viewingSessions/{viewingSessionId}/sourceFile/original	When viewing a comparison of two documents, downloads the first of the two source documents.
GET /v2/viewingSessions/{viewingSessionId}/sourceFile/revised	When viewing a comparison of two documents, downloads the second of the two source documents.
GET /v2/viewingSessions/{viewingSessionId}/restrictions	Returns information about any restrictions enforced by the server for the current viewing session.
GET /PCCIS/V1/ViewingSession/u{viewingSessionId}/FileId	Gets the <b>work file</b> id for the source document in use for a viewing session.
POST /PCCIS/V1/ViewingSession/u{viewingSessionId}/Notification/SessionStarted	Ensures PrizmDoc Server has started the process of converting a viewing session's source document to HTML.
POST /PCCIS/V1/ViewingSession/u{viewingSessionId}/Notification/SessionStopped	Invalidates a viewing session so that it can no longer be used.
POST /PCCIS/V1/ViewingSession/u{viewingSessionId}/Notification/SessionErrored	Marks a viewing session as errored so that it can no longer be used.
POST /PCCIS/V1/ViewingSession/u{viewingSessionId}/Replacement	Replaces a viewing session with new parameters.
DELETE /PCCIS/V1/ViewingSession/u{viewingSessionId}	Deletes a viewing session.

## POST /PCCIS/V1/ViewingSession

Creates a new viewing session. At a high level, a viewing session takes a source document as input and produces HTML page content and document text as output.

## Request

### Request Headers

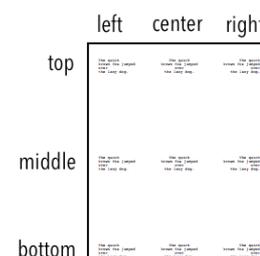
Name	Description
Content-Type	Should be <code>application/json</code>
Accusoft-Affinity-Hint	Some sort of string value which uniquely identifies the source document you intend to use for the viewing session. Used to ensure that two viewing sessions created with the same <code>Accusoft-Affinity-Hint</code> are very likely to be handled by the same server, increasing the chances that cached output is reused for viewing sessions of the same source document. See <a href="#">Optimizing Cache Performance for Cluster Mode</a> .
Accusoft-Affinity-Token	When you intend to use an existing work file as the source document via a subsequent call to <code>[PUT /SourceRef]</code> , the <code>affinityToken</code> of the existing work file. <b>Required only when you intend to use an existing work file as the source document.</b>

### Request Body

- `minSecondsAvailable` (Integer) Minimum number of seconds the viewing session will exist or 0 to use the default value specified by product configuration. This property is only really useful if you explicitly set `serverCaching` to "none". When `serverCaching` is "full", the only allowed value for this property is 0. Default is 0.
- `documentSource` (String) Specifies how the source document will be provided. Default is "api". Possible values:
  - "api" - The source document will be provided by the calling application in a subsequent API request.
  - "http" - PrizmDoc Server will download the source document from a URL specified by `externalId`.
  - "file" - PrizmDoc Server will use a local file as the source document using the file path specified by `externalId`. **NOTE: By default, "file" is not enabled as a valid documentSource. Enable "file" by adding it to the `viewing.sessionConstraints.documentSource.allowedValues` array in [Central Configuration](#).**
- `externalId` (String) **Required when documentSource is "http" or "file"**. Indicates where the source document should be acquired from:
  - *When documentSource is "http"*: A URL where the source document will be downloaded from.
  - *When documentSource is "file"*: A path to a file on the server which will be used as the source document.
- `documentExtension` (String) - File extension of the source document (like "docx", "html", or "csv") used to indicate the source document file format. Often unnecessary. Only required when 1) the `documentSource` is "http" or "file" but the `externalId` containing the URL or file path did not end with a recognizable file extension and 2) the source document file format could not be automatically detected (this most-commonly occurs for text-based file formats, such as `txt`, `csv`, and `html`). **NOTE: If Format Detection is disabled, then the source document format will never be automatically detected.**
- `password` (String) Password to use when opening a password-protected source document.
- `tenantId` (String) Custom, arbitrary tenant id to be associated with the viewing session. PrizmDoc Server has no concept of tenants; if provided, this metadata is only for use by the calling application.
- `origin` (Object) Custom, arbitrary set of key/value string pairs to be associated with the viewing session. Intended for associating end user origin data (like IP address or hostname), but you can use any set of

key/value strings you want.

- `render` (Object) Options which control how browser content is rendered:
  - `html5` (Object) Options when the output format is HTML:
    - `alwaysUseRaster` (Boolean) **Required.** Determines whether only raster data, instead of SVG, should be created for the viewing session. With modern browsers, it is rare to only want raster. This is typically set to `false`.
    - `svgMaxImageSize` (Number) The maximum edge length, in pixels, that is allowable for any image when creating SVG. For example, a value of `8000` would ensure that any images in a PDF whose width or height were greater than 8000 pixels would be down-sampled before the image was added to the final SVG. Default is configurable, but is typically `8000`. To disable this optimization, use a value of `0`.
    - `vectorTolerance` (Number) For CAD documents, the amount of path simplification that is allowable when creating the SVG. Path simplification will merge points which are "close together" to create optimized SVG. You can think of this value as defining what "close together" means. Higher values introduce more simplification but also more distortion. Default is configurable, but is typically `0.3`. Cannot be greater than `10.0`. To disable this optimization, use a value of `0`.
    - `rasterResolution` (Integer) *Deprecated.* Providing this value no longer has any effect.
  - `flash` (Object) *Deprecated.* We no longer produce Flash content. Providing these options no longer has any effect.
    - `optimizationLevel` (Integer) *Deprecated.* Providing this value no longer has any effect.
- `watermarks` (Array of Objects) Objects describing watermarks which should be applied to page content. Each item must be an object which conforms to the following:
  - *text watermark:*
    - `type: "text"` (String) **Required.** Must be set to `"text"` to indicate the object represents a text watermark.
    - `text` (String) Actual text of the watermark. Within the string, you can use the following special tokens to insert dynamic values:
      - `{{pageNumber}}` - Will be replaced with the current page number.
      - `{{pageCount}}` - Will be replaced with the total number of pages.
    - `opacity` (Number) Opacity of the watermark. `1.0` is completely opaque, `0.0` is completely transparent. Default is `1.0`.
    - `color` (String) Text color. Can be any valid CSS color name (like `"red"`) or hex value (like `"#FF0000"`). Default is `"black"`.
    - `fontFamily` (String) Font family for the text. Default for SVG output is to use the browser's default font. Default for raster output is unspecified.
    - `fontSize` (String) Font size specified in points (like `"12pt"`). Default for SVG output is to use the browser's default font size. Default for raster output is unspecified.
    - `fontWeight` (String) Determines the font weight. Possible values:
      - `"normal"` (default)
      - `"bold"`
    - `textDecoration` (String) Possible values:
      - `"none"` (default)
      - `"underlined"`
    - `horizontalAlign` (String) Determines the horizontal position of the watermark. Default is `"center"`. Possible values:
      - `"left"` - Text will be horizontally anchored to the left side of the page and text will be left aligned.
      - `"center"` - Text will be horizontally anchored to the center of the page and text will be centered. (default)
      - `"right"` - Text will be horizontally anchored to the right side of



the page and text will be right aligned.

- o `verticalAlign` (String) Determines the vertical position of the watermark. Default is `"middle"`. Possible values:
  - o `"top"` - Text will be vertically anchored to the top of the page.
  - o `"middle"` Text will be vertically anchored to the middle of the page. (default)
  - o `"bottom"` - Text will be vertically anchored to the bottom of the page.
- o *diagonal text watermark:*
  - o `type: "diagonalText"` (String) **Required.** Must be set to `"diagonalText"` to indicate the object represents a diagonal text watermark.
  - o `text` (String) Actual text of the watermark. Within the string, you can use the following special tokens to insert dynamic values:
    - o `{{pageNumber}}` - Will be replaced with the current page number.
    - o `{{pageCount}}` - Will be replaced with the total number of pages.
  - o `opacity` (Number) Opacity of the watermark. `1.0` is completely opaque, `0.0` is completely transparent. Default is `1.0`.
  - o `color` (String) Text color. Can be any valid CSS color name (like `"red"`) or hex value (like `"#FF0000"`). Default is `"black"`.
  - o `fontFamily` (String) Font family for the text. Default for SVG output is to use the browser's default font. Default for raster output is unspecified.
  - o `fontSize` (String) Font size specified in points (like `"12pt"`). Default for SVG output is to use the browser's default font size. Default for raster output is unspecified.
  - o `fontWeight` (String) Determines the font weight. Possible values:
    - o `"normal"` (default)
    - o `"bold"`
  - o `textDecoration` (String) Possible values:
    - o `"none"` (default)
    - o `"underlined"`
  - o `slope` (String) Controls the text angle. Default is `"up"`. Possible values:
    - o `"up"` - Text will start in the lower-left corner of the page and extend upwards to the upper-right corner of the page. (default)
    - o `"down"` - Text will start in the upper-left corner of the page and extend downwards to the lower-right corner of the page.
- o *image watermark:*
  - o `type: "image"` (String) **Required.** Must be set to `"image"` to indicate the object represents an image watermark.
  - o `opacity` (Number) Opacity of the watermark. `1.0` is completely opaque, `0.0` is completely transparent. Default is `1.0`.
  - o `src` (String) **Required.** URL or [work file](#) id of a PNG image to use for this watermark. When using a URL, the URL must be accessible from the server where PrizmDoc Server is running. **NOTE:** *The `src` MUST be a PNG. If you use a different image format, invalid watermarks will be created.*
  - o `horizontalAlign` (String) Determines the horizontal position of the watermark. Default is `"center"`. Possible values:
 

	left	center	right
top			
middle			
bottom			

    - o `"left"` - Image will be horizontally anchored near the left side of the page.
    - o `"center"` Image will be horizontally anchored to the center of the page. (default)
    - o `"right"` - Image will be horizontally anchored near the right side of the page.
  - o `verticalAlign` (String) Determines the vertical position of the watermark. Default is `"middle"`.

Possible values:

- "top" - Image will be vertically anchored near the top of the page.
  - "middle" - Image will be vertically anchored to the middle of the page. (default)
  - "bottom" - Image will be vertically anchored near the bottom of the page.
  - `scale` (Number) - Determines the relative size of the image as compared to the size of the page. Value must be between 0.0 and 1.0. A value of 1.0 indicates the image will be scaled to the size of the page while 0.0 indicates the image will be scaled infinitesimally small and will not be rendered. Default is 0.25.
  - `autoSize` (String) When set, the image will be automatically sized to fill the page (any value provided for `scale`, `horizontalAlign`, and `verticalAlign` will be ignored). Possible values:
    - "fit" - Image will be scaled to be as large as possible while still completely fitting within the page. The aspect ratio of the image is maintained.
    - "fill" - Image will be scaled to be large enough that the entire page is covered by the image. Some of the image may fall off the edge of the page, but the entire page is guaranteed to be covered by some part of the image. The aspect ratio of the image is maintained.
    - "stretch" - Image width and height will be independently resized so that the image width and height are the same as the page. The aspect ratio of the image is ignored.
- 
- `watermarkText` (String) *Deprecated*. Providing this value no longer has any effect. Use `watermarks` instead.
  - `pageContentEncryption` (String) - Controls whether or not page content will be encrypted for the viewing session. See the [Enabling Content Encryption](#) topic for more information about this feature. Possible values:
    - "default" - Product configuration will be used to determine whether or not page content will be encrypted (see `viewing.contentEncryption.enabled` in the [Central Configuration](#) file).
    - "enabled" - Page content will be encrypted for the viewing session.
    - "disabled" - Page content will not be encrypted for the viewing session.
  - `countOfInitialPages` (Integer) Number of pages which should be eagerly converted, or 0 if all pages should be eagerly converted. Default is 0.
  - `startConverting` (String) When the `documentSource` is "http" or "file", controls whether initial pages should be converted as soon as the document has been acquired. Default is "none". Possible values:
    - "none" - Conversion will begin only after the session is explicitly started or page content or attributes are requested. (default)
    - "initialPages" - Conversion will begin as soon as the source document has been acquired.
  - `contentType` (String) - Determines what kind of browser content will be eagerly pre-generated (other kinds of content may still be generated if explicitly requested). Possible values:
    - "svgb" - Pre-generate fully-optimized SVG (uses a unicode inline font to store glyph definitions). Smallest possible SVG, but may not be compatible with some browsers. Recommended whenever possible.
    - "svga" - Pre-generate partially-optimized SVG (uses a non-unicode inline font to store only the most frequently-occurring glyph definitions). May not be compatible with some browsers. Use only if "svgb" content is not compatible with the target browser.
    - "svg" - Pre-generate unoptimized SVG (no font is used; glyph definitions are expressed as SVG path operations). Broadest compatibility with browsers but typically *much* larger, so it renders and scrolls much slower than "svgb" and "svga". Not recommended. Use only as a fallback if both `svgb` and `svga` are not compatible with the target browser, or the use of webfonts is disabled in the target browser.
    - "png" - Pre-generate raster content.

- `serverCaching` (String) Controls whether output is kept for potential reuse by other viewing sessions. Default is `"full"`. Possible values:
  - `"full"` - Output will be written to disk on the server and retained for reuse by other viewing sessions created for the same source document. Output will not be deleted until the configured viewing cache lifetime is reached (which is a full day with an out-of-box configuration; see `viewing.cacheLifetime` in [Central Configuration](#)). Saves processing time if a source document is viewed repeatedly before the cached data is deleted, but does consume more disk space. (default)
  - `"none"` - Output will be written to disk on the server but only retained for the duration of the viewing session and never shared with other viewing sessions. Once the viewing session expires, the output will be deleted from the disk. Saves disk space if you know that it is unlikely a source document will ever be viewed more than once, but can result in redundant processing if the same source document is viewed repeatedly.
- `serverSideSearch` (String) Determines whether the server-side search feature will be available for the viewing session. Default is `"enabled"`. Possible values:
  - `"enabled"` - Server-side search will be available for the viewing session. (default)
  - `"disabled"` - Server-side search will not be available for the viewing session.
- `attachmentIndex` (Integer) - *Intended for use only by PrizmDoc Server when it automatically creates viewing sessions for attachments. This is not a property your application should use.* If the source document is an attachment that belongs to another document (such as an email), the 1-based index of this attachment in the list of all attachments (e.g. 1 means it was the first attachment, 2 means it was the second, etc.) or 0 to indicate that the source document is not an attachment. Default is 0.
- `attachmentDisplayName` (String) - *Intended for use only by PrizmDoc Server when it automatically creates viewing sessions for attachments. This is not a property your application should use.* If the source document is an attachment that belongs to another document (such as an email), the filename of the attachment or `null`. Default is `null`.

## Successful Response

### Response Body

JSON with metadata about the created viewing session.

- `viewingSessionId` (String) Unique id for this viewing session.
- `affinityToken` (String) Affinity token for this viewing session. Present when clustering is enabled.

### Error Responses

Some error responses will have a JSON body with an `errorCode` and `errorDetails`:

Status Code	JSON <code>errorCode</code>	Description
480	"MissingInput"	A required input value was not provided. See <code>errorDetails</code> in the response body.
480	"InvalidInput"	An invalid input value was used. See <code>errorDetails</code> in the response body.
480	"InputNotSupportedWithServerCachineEnabled"	Can occur when <code>minSecondsAvailable</code> is specified when <code>serverCaching</code> is not set to <code>"none"</code> . See <code>errorDetails</code> in the response body.

Some error responses will include an error message in an `Accusoft-Status-Message` header.

## Example

### Request

```
POST prizmdoc_server_base_url/PCCIS/V1/ViewingSession
Content-Type: application/json

{
  "tenantId": "my application name",
  "externalId": "my-unique-document-name.docx",
  "render": {
    "html5": {
      "alwaysUseRaster": false
    }
  },
  "minSecondsAvailable": 1500,
  "watermarks": [
    {
      "type": "text",
      "opacity": 0.6,
      "text": "jdoe\n67.79.169.114\n11/13/2014 2:24 PM\nNOT FOR
DISTRIBUTION",
      "color": "red",
      "fontFamily": "Consolas",
      "fontSize": "16pt",
      "fontWeight": "bold",
      "verticalAlign": "bottom",
      "horizontalAlign": "right"
    }
  ]
}
```

### Response

```
HTTP/1.1 200 OK
Content-Type: application/json;charset=utf-8

{
  "viewingSessionId": "GcIsIsEGbLV2_V9yy4NzmK2HB-JuLOH--
A9sZl6cla9tx00ZDBGfq1G4kKu0r_GyEps4wWCvDwn4dpnZAR76Uw"
  "affinityToken": " S2ZqtGi9vUAXBgdmM/PNNpCM4CApe9NXLIp/4QnAHlg="
}
```

## GET /PCCIS/V1/ViewingSession/u{viewingSessionId}

Returns the metadata associated with a valid, active viewing session. The properties returned will be those provided in the POST request that created the viewing session.

### Request

#### URL Parameters

Parameter	Description
{viewingSessionId}	The viewingSessionId which identifies the viewing session.

## Successful Response

JSON metadata about the viewing session:

- `creationTime` (String) A UTC-formatted time string representing the moment the viewing session was created.
- `minSecondsAvailable` (Integer) Minimum number of seconds the viewing session will exist.
- `documentSource` (String) Will be one of the following:
  - `null` - No value was specified in the initial POST to create the viewing session. Same as `"api"`.
  - `"api"` - The source document will be provided by the calling application via an API request.
  - `"http"` - PrizmDoc Server will download the source document from the URL specified by `externalId`.
  - `"file"` - PrizmDoc Server will use a local file as the source document using the file path specified by `externalId`.
- `externalId` (String) Indicates where the source document was acquired from when the `documentSource` is `"http"` or `"file"`:
  - *When `documentSource` is `"http"`:* The URL where the source document was acquired from
  - *When `documentSource` is `"file"`:* The path to the file on the server which was used as the source document
- `documentExtension` (String) - File extension of the source document provided in the original POST to create the viewing session or `null` if no value was provided.
- `password` (String) Password provided to open the source document.
- `tenantId` (String) Custom tenant id assigned to the viewing session in the original POST.
- `origin` (Object) Custom origin data included in the original POST to create the viewing session.
- `render` (Object) Rendering options in use for the viewing session:
  - `html5` (Object) HTML5 output options in use for the viewing session:
    - `alwaysUseRaster` (Boolean) Indicates whether or not only raster data, instead of SVG, will be created for the viewing session.
    - `svgMaxImageSize` (Number) The maximum edge length, in pixels, that is allowable for any image when creating the SVG. See [POST /ViewingSession] for more info.
    - `vectorTolerance` (Number) For CAD documents, the amount of path simplification that is allowable when creating the SVG. See [POST /ViewingSession] for more info.
    - `rasterResolution` (Integer) *Deprecated and unused. Provided only for backwards compatibility.*
  - `flash` (Object) *Deprecated and unused. Provided only for backwards compatibility.*
    - `optimizationLevel` (Integer) *Deprecated and unused. Provided only for backwards compatibility.*
- `watermarks` (Array of Objects) Objects describing watermarks which should be applied to page content. See [POST /ViewingSession] for more info.
- `watermarkText` (String) *Deprecated and unused. Provided only for backwards compatibility.*
- `pageContentEncryption` (String) - Will be one of the following:
  - `null` - No value was specified in the initial POST to create the viewing session. Same as `"default"`.
  - `"default"` - Product configuration will be used to determine whether or not page content will be encrypted (see `viewing.contentEncryption.enabled` in the [Central Configuration](#) file).
  - `"enabled"` - Page content will be encrypted for the viewing session.
  - `"disabled"` - Page content will not be encrypted for the viewing session.
- `countOfInitialPages` (Integer) Number of pages which will be eagerly converted, or 0 if all pages should be eagerly converted. Default is 0.
- `startConverting` (String) When the `documentSource` is `"http"` or `"file"`, indicates whether initial pages will be converted as soon as the document has been acquired. Default is `"none"`. Possible values:
  - `null` - No value was specified in the initial POST to create the viewing session. Same as `"none"`.

- "none" - Conversion will begin only after the session is explicitly started or page content or attributes are requested. (default)
  - "initialPages" - Conversion will begin as soon as the source document has been acquired.
- `contentType` (String) - Indicates what kind of browser content will be eagerly pre-generated (other kinds of content may still be generated if explicitly requested). Will be one of the following:
  - `null` - No value was specified in the initial POST to create the viewing session.
  - "svgb" - Pre-generate fully-optimized SVG (uses a unicode inline font to store glyph definitions). Smallest possible SVG, but may not be compatible with some browsers. Recommended whenever possible.
  - "svga" - Pre-generate partially-optimized SVG (uses a non-unicode inline font to store only the most frequently-occurring glyph definitions). May not be compatible with some browsers. Use only if "svgb" content is not compatible with the target browser.
  - "svg" - Pre-generate unoptimized SVG (no font is used; glyph definitions are expressed as SVG path operations). Broadest compatibility with browsers but typically *much* larger, so it renders and scrolls much slower than "svgb" and "svga". Not recommended. Use only as a fallback if both `svgb` and `svga` are not compatible with the target browser, or the use of webfonts is disabled in the target browser.
  - "png" - Pre-generate raster content.
- `serverCaching` (String) Indicates whether output is kept for potential reuse by other viewing sessions. Will be one of the following:
  - "full" - Output will be written to disk on the server and retained for reuse by other viewing sessions created for the same source document. Output will not be deleted until the configured viewing cache lifetime is reached (which is a full day with an out-of-box configuration; see `viewing.cacheLifetime` in [Central Configuration](#)). Saves processing time if a source document is viewed repeatedly before the cached data is deleted, but does consume more disk space. (default)
  - "none" - Output will be written to disk on the server but only retained for the duration of the viewing session and never shared with other viewing sessions. Once the viewing session expires, the output will be deleted from the disk. Saves disk space if you know that it is unlikely a source document will ever be viewed more than once, but can result in redundant processing if the same source document is viewed repeatedly.
- `attachmentIndex` (Integer) - If the viewing session was created for an attachment on a parent source document (such as an email), the 1-based index of this attachment in the list of all attachments (e.g. 1 means it was the first attachment, 2 means it was the second, etc.). 0 otherwise.
- `attachmentDisplayName` (String) - If the viewing session was created for an attachment on a parent source document (such as an email), the filename of the attachment this viewing session was created for. `null` otherwise.
- `serverSideSearch` (String) Indicates whether or not the server-side search feature will be available for the viewing session. Will be one of the following:
  - "enabled" - Server-side search is available for the viewing session. (default)
  - "disabled" - Server-side search is not available for the viewing session.

## Error Responses

Status Code	Reason Phrase	Description
403	The session is invalid or has expired	You requested a valid <code>{viewingSessionId}</code> but it is no longer available.
500	Internal Server Error	Can occur if you forget to prefix the <code>{viewingSessionId}</code> portion of the URL with <code>u</code> , or if you simply request an invalid <code>{viewingSessionId}</code> .

## Example

### Request

```
GET prizmdoc_server_base_url/PCCIS/V1/ViewingSession/uXYZ...
```

### Response

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "origin": {},
  "render": {
    "flash": {
      "optimizationLevel": 1
    },
    "html5": {
      "alwaysUseRaster": false,
      "rasterResolution": 150
    }
  },
  "password": null,
  "watermarkText": null,
  "externalId": null,
  "attachmentIndex": 0,
  "attachmentDisplayName": null,
  "tenantId": null,
  "creationTime": "2015-10-14T11:55:32.6521255Z",
  "countOfInitialPages": 0,
  "documentSource": null,
  "documentExtension": "help",
  "serverCaching": "full",
  "startConverting": null,
  "contentType": null,
  "pageContentEncryption": null,
  "watermarks": []
}
```

## PUT /PCCIS/V1/ViewingSession/u{viewingSessionId}/SourceFile?FileExtension={FileExtension}

Uploads the source document to be viewed.

### Request

#### URL Parameters

Parameter	Description
{viewingSessionId}	The viewingSessionId which identifies the viewing session.
{FileExtension}	<b>Required for text-based formats (such as txt, csv, html).</b> File extension of the document being uploaded. This parameter may or may not be required depending on

Parameter	Description
	the file type and whether Format Detection is enabled. Note that the extension must not include the leading period (for example, <code>csv</code> is accepted but <code>.csv</code> will return an error). Extensions are not case sensitive. <b>NOTE:</b> <i>If Format Detection is disabled, then <code>FileExtension</code> is always required.</i>

If Format Detection is enabled (the default), the use of `FileExtension` is as follows:

- If we can auto-detect the file format, we ignore `FileExtension`.
- If we cannot auto-detect the file format, we require a `FileExtension` be specified, otherwise we return HTTP 580 with an `errorCode` of `"UnrecognizedFileFormat"`. This most-commonly occurs with text-based source documents (such as `txt`, `csv`, or `html`).

### Request Body

The bytes of the source document.

### Successful Response

A simple HTTP 200 status code indicating the file was received.

### Error Responses

Some error responses will have a JSON body with an `errorCode` and `errorDetails`:

Status Code	JSON <code>errorCode</code>	Description
480	<code>"IncorrectUsage"</code>	For any new viewing session, you can give it either 1) a single <i>source</i> document for viewing or 2) two documents ( <i>original</i> and <i>revised</i> ) which should be viewed as a comparison, but you cannot do both. If you receive this error from this URL, it is because one or more files ( <i>original</i> and/or <i>revised</i> ) have already been provided for comparison.

Some error responses will include an error message in an `Accusoft-Status-Message` header:

Status Code	Accusoft-Status-Message Header	Description
580	<code>"Unrecognized File Format"</code>	Occurs when the file format cannot be automatically detected. To avoid this, provide an explicit <code>FileExtension</code> query string parameter for this kind of file. This most-commonly occurs with text-based source documents where we require an explicit <code>FileExtension</code> to know the file format (such as <code>txt</code> , <code>csv</code> , or <code>html</code> ). You may need to create a new viewing session for the <code>PUT</code> to succeed.
580	<code>"Watermark image download failed"</code>	Occurs when image watermark defined in the Viewing Session cannot be downloaded.

### Example

**Request**

```
PUT prizmdoc_server_base_url/PCCIS/V1/ViewingSession/uXYZ.../SourceFile?
FileExtension=doc

<<file bytes>>
```

**Response**

```
HTTP/1.1 200 OK
```

**PUT /v2/viewingSessions/{viewingSessionId}/sourceFile/original**

Used when viewing a comparison of two documents, uploads the first of the two documents, the *original* document.

**Request****URL Parameters**

Parameter	Description
{viewingSessionId}	The viewingSessionId which identifies the viewing session.

**Request Body**

The bytes of the *original* document (for comparison with a *revised* document).

**Successful Response**

A simple HTTP 200 status code indicating the file was received.

**Error Responses**

Status Code	JSON <code>errorCode</code>	Description
404	-	No viewing session with the provided <code>viewingSessionId</code> could be found.
480	"CannotChangeDocument"	The viewing session already has an <i>original</i> document assigned.
480	"UnsupportedFormatForComparison"	The uploaded file was not a Word document (for comparison viewing, we currently only support "doc" and "docx" files).
480	"IncorrectUsage"	For any new viewing session, you can give it either 1) a single <i>source</i> document for viewing or 2) two documents ( <i>original</i> and <i>revised</i> ) which should be viewed as a comparison, but you cannot do both. If you receive this error from this URL, it is because a single <i>source</i> document has already been provided.

Status Code	JSON errorCode	Description
480	"FeatureNotLicensed"	The server's license does not allow the use of the MSO (Microsoft Office) feature, so document comparison is not possible.
480	"FeatureDisabled"	The server has not been configured to allow the use of the Microsoft Office renderer, so document comparison is not possible.

## Example

### Request

```
PUT prizmdoc_server_base_url/v2/viewingSessions/XYZ.../sourceFile/original
<<file bytes>>
```

### Response

```
HTTP/1.1 200 OK
```

## PUT /v2/viewingSessions/{viewingSessionId}/sourceFile/revised

Used when viewing a comparison of two documents, uploads the second of the two documents, the *revised* document.

### Request

#### URL Parameters

Parameter	Description
{viewingSessionId}	The <code>viewingSessionId</code> which identifies the viewing session.

### Request Body

The bytes of the *revised* document (for comparison with an *original* document).

### Successful Response

A simple HTTP 200 status code indicating the file was received.

### Error Responses

Status Code	JSON errorCode	Description
404	-	No viewing session with the provided <code>viewingSessionId</code> could be found.

Status Code	JSON errorCode	Description
480	"MissingInput"	A required input value was not provided. See <code>errorDetails</code> in the response body.
480	"InvalidInput"	An invalid input value was used. See <code>errorDetails</code> in the response body.
480	"CannotChangeDocument"	The viewing session already has a <i>revised</i> source document assigned.
480	"UnsupportedFormatForComparison"	The uploaded file was not a Word document (for comparison viewing, we currently only support "doc" and "docx" files).
480	"IncorrectUsage"	For any new viewing session, you can give it either 1) a single <i>source</i> document for viewing or 2) two documents ( <i>original</i> and <i>revised</i> ) which should be viewed as a comparison, but you cannot do both. If you receive this error from this URL, it is because a single <i>source</i> document has already been provided.
480	"FeatureNotLicensed"	The server's license does not allow the use of the MSO (Microsoft Office) feature, so document comparison is not possible.
480	"FeatureDisabled"	The server has not been configured to allow the use of the Microsoft Office renderer, so document comparison is not possible.

## Example

### Request

```
PUT prizmdoc_server_base_url/v2/viewingSessions/XYZ.../sourceFile/revised
<<file bytes>>
```

### Response

```
HTTP/1.1 200 OK
```

## PUT /PCCIS/V1/ViewingSession/u{viewingSessionId}/SourceRef

Attach an existing **work file** (or, when doing comparison, two work files) as the source document to be used for a viewing session.

Using a source reference can be particularly useful when you want to avoid repeatedly uploading the same source file to the back end.

### Request

#### Request Headers

Name	Description
Content-Type	Must be application/json

#### URL Parameters

Parameter	Description
{viewingSessionId}	The viewingSessionId which identifies the viewing session.

#### Request Body when assigning reference for a single document

- `refType` (string) **Required.** Must be set to `"workFile"`.
- `fileId` (string) **Required.** The id of the work file to use as the source document.

#### Request Body when comparing two documents

- `refType` (string) **Required.** Must be set to `"comparison"`.
- `original`
  - `refType` (string) **Required.** Must be set to `"workFile"`.
  - `fileId` (string) **Required.** The id of the work file to use as the original document.
- `revised`
  - `refType` (string) **Required.** Must be set to `"workFile"`.
  - `fileId` (string) **Required.** The id of the work file to use as the revised document.

#### Successful Response

A simple HTTP 200 status code.

#### Error Responses

Status Code	JSON <code>errorCode</code>	Description
480	"MissingInput"	A required input value was not provided. See <code>errorDetails</code> in the response body.
480	"InvalidInput"	An invalid input value was used. See <code>errorDetails</code> in the response body.
480	"NotFound"	The given work file has expired or does not exist. See <code>errorDetails</code> in the response body.
480	"CannotChangeDocument"	The viewing session already has a source document assigned. See <code>errorDetails</code> in the response body.
480	"UnsupportedFormatForComparison"	One of the files provided for comparison was not a Word document (for comparison viewing, we currently only support "doc" and "docx" files). See <code>errorDetails</code> in the response body.
480	"IncorrectUsage"	For any new viewing session, you can give it either 1) a single <i>source</i> document for viewing or 2) two documents ( <i>original</i>

Status Code	JSON errorCode	Description
		and <i>revised</i> ) which should be viewed as a comparison, but you cannot do both. If you have already provided a <i>source</i> document and then attempt to provide an <i>original</i> and <i>revised</i> document pair, or vice versa, you will receive this error.
480	"FeatureNotLicensed"	The server's license does not allow the use of the MSO (Microsoft Office) feature, so document comparison is not possible.
480	"FeatureDisabled"	The server has not been configured to allow the use of the Microsoft Office renderer, so document comparison is not possible.

## Examples

### Assigning a single source document

```
PUT prizmdoc_server_base_url/PCCIS/V1/ViewingSession/uXYZ.../SourceRef
Content-Type: application/json
```

```
{
  "refType": "workFile",
  "fileId": "CVBuD7DbQYNoJDqByGierQ",
}
```

```
HTTP/1.1 200 OK
```

### Assigning two documents to be viewed as a comparison

```
PUT prizmdoc_server_base_url/PCCIS/V1/ViewingSession/uXYZ.../SourceRef
Content-Type: application/json
```

```
{
  "refType": "comparison",
  "original": {
    "refType": "workFile",
    "fileId": "CVBuD7DbQYNoJDqByGierQ",
  },
  "revised": {
    "refType": "workFile",
    "fileId": "5qTYa3gzN9gYUb5SsqUhqg",
  }
}
```

```
HTTP/1.1 200 OK
```

## GET /PCCIS/V1/ViewingSession/u{viewingSessionId}/SourceFile?

## ContentDispositionFilename={ContentDispositionFilename}

Gets the source document in use for a viewing session.

### Request

#### URL Parameters

Parameter	Description
{viewingSessionId}	The viewingSessionId which identifies the viewing session.
{ContentDispositionFilename}	The filename as a URL-encoded string, without extension, to be used in the Content-Disposition response header (appropriate file extension such as doc or docx will automatically be added). By default, the value will be SourceFile.<ext>.

### Response Headers

Name	Description
Content-Disposition	Indicates to a browser that the response body should be treated as a file download and specifies the filename the browser should use.
Content-Type	The most-specific MIME type for the returned document or application/octet-stream otherwise.

### Response Body

The raw bytes of the viewing session's source document.

### Example

#### Request

```
GET prizmdoc_server_base_url/PCCIS/V1/ViewingSession/uXYZ.../SourceFile?
ContentDispositionFilename=MonthlySalesReport
```

#### Response

```
200 OK
Content-Type: application/msword
Content-Disposition: attachment; filename=MonthlySalesReport.docx; filename*=UTF-8'MonthlySalesReport.docx

<<file bytes>>
```

## GET /v2/viewingSessions/{viewingSessionId}/sourceFile/original? contentDispositionFilename={contentDispositionFilename}

When viewing a comparison of two documents, gets the *original* document used in the comparison. The document returned will be an identical copy of the document originally provided.

## Request

### URL Parameters

Parameter	Description
{viewingSessionId}	The <code>viewingSessionId</code> which identifies the viewing session.
{contentDispositionFilename}	The filename as a URL-encoded string, without extension, to be used in the <code>Content-Disposition</code> response header (appropriate file extension such as <code>doc</code> or <code>docx</code> will automatically be added). By default, the value will be <code>OriginalSourceFile.&lt;ext&gt;</code> .

## Response Headers

Name	Description
<code>Content-Disposition</code>	Indicates to a browser that the response body should be treated as a file download and specifies the filename the browser should use.
<code>Content-Type</code>	The most-specific MIME type for the returned document or <code>application/octet-stream</code> otherwise.

## Response Body

The raw bytes of the first of the two documents being viewed as a comparison, the *original* document.

## Error Responses

Status Code	JSON <code>errorCode</code>	Description
404	-	No viewing session with the provided <code>viewingSessionId</code> could be found.
480	"DocumentNotProvidedYet"	An <i>original</i> document has not been provided to the viewing session yet.
480	"IncorrectUsage"	For any new viewing session, you can give it either 1) a single <i>source</i> document for viewing or 2) two documents ( <i>original</i> and <i>revised</i> ) which should be viewed as a comparison, but you cannot do both. If you receive this error from this URL, it is because a single <i>source</i> document was provided for viewing, so there will never be an <i>original</i> comparison document to get.

## Example

### Request

```
GET prizmdoc_server_base_url/v2/viewingSessions/XYZ.../sourceFile/original?
contentDispositionFilename=OldMonthlySalesReport
```

## Response

```
200 OK
Content-Type: application/msword
Content-Disposition: attachment; filename=OldMonthlySalesReport.docx;
filename*=UTF-8''OldMonthlySalesReport.docx

<<file bytes>>
```

**NOTE:** See [GET /PCCIS/V1/ViewingSession/u{viewingSessionId}/SourceFile](#) for an example when *filename* includes non-ASCII characters.

## GET /v2/viewingSessions/{viewingSessionId}/sourceFile/revise?contentDispositionFilename={contentDispositionFilename}

When viewing a comparison of two documents, gets the *revised* document used in the comparison. The document returned will be an identical copy of the document originally provided.

The response will set the `Content-Type` header to the most-specific MIME type it can or `application/octet-stream` otherwise.

## Request

### URL Parameters

Parameter	Description
{viewingSessionId}	The <code>viewingSessionId</code> which identifies the viewing session.
{contentDispositionFilename}	The filename as a URL-encoded string, without extension, to be used in the <code>Content-Disposition</code> response header (appropriate file extension such as <code>doc</code> or <code>docx</code> will automatically be added). By default, the value will be <code>RevisedSourceFile.&lt;ext&gt;</code> .

### Response Headers

Name	Description
<code>Content-Disposition</code>	Indicates to a browser that the response body should be treated as a file download and specifies the filename the browser should use.
<code>Content-Type</code>	The most-specific MIME type for the returned document or <code>application/octet-stream</code> otherwise.

### Response Body

The raw bytes of the second of the two documents being viewed as a comparison, the *revised* document.

### Error Responses

Status Code	JSON errorCode	Description
404	-	No viewing session with the provided <code>viewingSessionId</code> could be found.
480	"DocumentNotProvidedYet"	A "revised" document has not been associated with the viewing session yet.
480	"IncorrectUsage"	For any new viewing session, you can give it either 1) a single <i>source</i> document for viewing or 2) two documents ( <i>original</i> and <i>revised</i> ) which should be viewed as a comparison, but you cannot do both. If you receive this error from this URL, it is because a single <i>source</i> document was provided for viewing, so there will never be a <i>revised</i> comparison document to get.

## Example

### Request

```
GET prizmdoc_server_base_url/v2/viewingSessions/XYZ.../sourceFile/revised?
contentDispositionFilename=NewMonthlySalesReport
```

### Response

```
HTTP/1.1 200 OK
Content-Type: application/msword
Content-Disposition: attachment; filename=NewMonthlySalesReport.docx;
filename*=UTF-8''NewMonthlySalesReport.docx

<<file bytes>>
```

**NOTE:** See [GET /PCCIS/V1/ViewingSession/u{viewingSessionId}/SourceFile](#) for an example when filename includes non-ASCII characters.

## GET /v2/viewingSessions/{viewingSessionId}/restrictions

Returns information about any restrictions enforced by the server for the current viewing session.

### Request

#### URL Parameters

Parameter	Description
{viewingSessionId}	The <code>viewingSessionId</code> which identifies the viewing session.

### Successful Response

JSON with information about any restrictions currently in place for the viewing session:

- `delayEnabled` (Boolean) - Indicates whether the server has enforced an artificial delay before the document

conversion results are allowed to be delivered to the viewer.

- `delaySecondsRemaining` (Integer) - The number of seconds remaining in the artificially-imposed delay before the document conversion results are allowed to be delivered to the viewer. Only present when `delayEnabled` is `true`.
- `downloadDisabled` (Boolean) - Indicates whether downloading of the source document has been disabled for this viewing session.
- `markupBurnersDisabled` (Boolean) Indicates whether the markup burner feature has been disabled for this viewing session.
- `formInfoDisabled` (Boolean) Indicates whether the form detection feature has been disabled for this viewing session.

## Example Responses

When the product is licensed and the form detection feature is available

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "delayEnabled": false,
  "downloadDisabled": false,
  "markupBurnersDisabled": false,
  "formInfoDisabled": false
}
```

When the product is unlicensed (evaluation mode), and 9 seconds of initial delay are remaining:

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "delayEnabled": true,
  "delaySecondsRemaining": 9,
  "downloadDisabled": true,
  "markupBurnersDisabled": true,
  "formInfoDisabled": true
}
```

## GET /PCCIS/V1/ViewingSession/u{viewingSessionId}/FileId

Gets the **work file** id of the source document in use for a viewing session.

Regardless of how the source document was provided or acquired, internally PrizmDoc Server will always ensure a work file exists for the source document. This URL allows you to get the work file id for a viewing session's source document. This can be helpful if you want to create a new viewing session using the same source document; you can simply create the new viewing session and then attach the existing work file to it as the source document (see [\[PUT /SourceRef\]](#)).

### Request

#### URL Parameters

Parameter	Description
{viewingSessionId}	The viewingSessionId which identifies the viewing session.

### Successful Response

JSON with the work file id.

- `fileId` (String) - Work file id for the source document of the viewing session.
- `affinityToken` (String) Work file affinity token. Present when clustering is enabled.

### Error Responses

Status Code	JSON errorCode	Description
480	"DocumentNotProvidedYet"	Occurs when you create a viewing session with a <code>documentSource</code> of "api" but have not yet made the API call(s) necessary to provide the source document.
480	"LicenseCouldNotBeVerified"	The server's license could not be verified. Make sure your license has been correctly installed.

### Example

#### Request

```
GET prizmdoc_server_base_url/PCCIS/V1/ViewingSession/uXYZ.../FileId
```

#### Response

```
HTTP/1.1 200 OK
Content-Type: application/json;charset=utf-8

{
  "fileId": "10GayKfk2dGtC8jhOtSknw",
  "affinityToken": "ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM="
}
```

### POST

#### /PCCIS/V1/ViewingSession/u{viewingSessionId}/Notification/SessionStarted

Ensures PrizmDoc Server has started the process of converting a viewing session's source document to HTML.

The `User-Agent` header should be set to an appropriate browser string to enable the PrizmDoc Server to begin generating the correct content for the Viewer.

#### Request

##### URL Parameters

Parameter	Description
{viewingSessionId}	The viewingSessionId which identifies the viewing session.

## Request Headers

Name	Description
Content-Type	Should be application/json.
User-Agent	Browser user agent string which PrizmDoc Server uses to generate the most-appropriate content for the viewer.

## Request Body

- `viewer` (String) - Type of viewer being used. Default is "HTML5". Possible values:
  - "HTML5"

## Successful Response

A simple HTTP 200 status code indicating the session has been started.

## Error Responses

Status Code	Description
500	Can occur if your request body is not JSON. Make sure your JSON contains at least an empty object ({}).

## Example

### Request

```
POST
prizmdoc_server_base_url/PCCIS/V1/ViewingSession/uXYZ.../Notification/SessionStarted
Content-Type: application/json
{
}
```

### Response

```
HTTP/1.1 200 OK
```

## POST

**/PCCIS/V1/ViewingSession/u{viewingSessionId}/Notification/SessionStopped**

Invalidate a viewing session so that it can no longer be used.

Invalidate a viewing session can be useful when:

1. A viewing session has been created but something prevents your application from being able to provide a source document for the viewing session.
2. An end user has finished using a viewing session and no additional access to the viewing session should be allowed.

When you invalidate a viewing session, you must provide a JSON body which specifies what HTTP status code and reason phrase should be returned as an error for future requests to the invalidated viewing session. This allows you to control what sort of HTTP response other people or applications will receive if they make requests to your invalidated viewing session.

## Request

### URL Parameters

Parameter	Description
{viewingSessionId}	The viewingSessionId which identifies the viewing session.

### Request Headers

Name	Description
Content-Type	Should be application/json.

### Request Body

- `httpStatus` (Integer) - HTTP status code to respond with for any future requests to this viewing session. Default is 580.
- `endUserMessage` (String) - Error message to use for both the HTTP reason phrase and `Accusoft-Status-Message` response header for any future requests to this viewing session. Default is "Session is stopped".
- `accusoftErrorNumber` (Integer) - Value for the `Accusoft-Status-Number` response header for any future requests to this viewing session. Default is 580 or `httpStatus` if it is provided.
- `serverLogMessage` (String) - Message that should be emitted to the PrizmDoc Server log file when the session is stopped. Default is "The viewing session is stopped on request from the client."

## Successful Response

A simple HTTP 200 status code indicating the session has been stopped.

## Example

### Request

```
POST
prizmdoc_server_base_url/PCCIS/V1/ViewingSession/uXYZ.../Notification/SessionStopped
Content-Type: application/json
{
```

```

    "httpStatus": 418,
    "endUserMessage": "My custom end user error message"
  }

```

### Response

```
HTTP/1.1 200 OK
```

Then, if any future requests are made to the viewing session, the response will be:

```

HTTP/1.1 418 My custom end user error message
Accusoft-Status-Message: My custom end user error message
Accusoft-Status-Number: 418

```

## POST

### /PCCIS/V1/ViewingSession/u{viewingSessionId}/Notification/SessionErrored

Mark a viewing session as errored so that it can no longer be used but it is still possible to request the source file. (See [GET /PCCIS/V1/ViewingSession/u{viewingSessionId}/SourceFile](#))

Erroring a viewing session can be useful when:

1. It is necessary to stop its usage but keep a source document available to download.
2. The `password` is invalid for a password-protected source document so the viewing session can be replaced using [POST /PCCIS/V1/ViewingSession/u{viewingSessionId}/Replacement](#) API.

When you mark a viewing session as errored, you must provide a JSON body which specifies what HTTP status code and reason phrase should be returned as an error for future requests to the invalidated viewing session. This allows you to control what sort of HTTP response other people or applications will receive if they make requests to your errored viewing session.

## Request

### URL Parameters

Parameter	Description
{viewingSessionId}	The viewingSessionId which identifies the viewing session.

### Request Headers

Name	Description
Content-Type	Should be application/json.

### Request Body

- `httpStatus` (Integer) - HTTP status code to respond with for any future requests to this viewing session. Default is 580.
- `endUserMessage` (String) - Error message to use for both the HTTP reason phrase and `Accusoft-Status-`

Message response header for any future requests to this viewing session. Default is "Session is errored".

- `accusoftErrorNumber` (Integer) - Value for the `Accusoft-Status-Number` response header for any future requests to this viewing session. Default is 580 or `HttpStatus` if it is provided.
- `serverLogMessage` (String) - Message that should be emitted to the PrizmDoc Server log file when the session is stopped. Default is "The viewing session is errored on request from the client."

## Successful Response

A simple HTTP 200 status code indicating the session has been errored.

## Example

### Request

```
POST
prizmdoc_server_base_url/PCCIS/V1/ViewingSession/uXYZ.../Notification/SessionErrored
Content-Type: application/json
{
  "HttpStatus": 418,
  "endUserMessage": "My custom end user error message"
}
```

### Response

```
HTTP/1.1 200 OK
```

Then, if any future requests are made to the viewing session, the response will be:

```
HTTP/1.1 418 My custom end user error message
Accusoft-Status-Message: My custom end user error message
Accusoft-Status-Number: 418
```

## POST /PCCIS/V1/ViewingSession/u{viewingSessionId}/Replacement

Replace the existing viewing session with a new one that has a new `password` parameter value. The other original viewing session parameters are preserved. If a source document is uploaded it is attached to the newly created viewing session with a new password. The old viewing session is stopped.

The replacement API is useful when a session is errored because of either an invalid or missing password, and you want to replace it with a new session with the same parameters against the same document but with a modified password.

### Request

#### Request Headers

Name	Description
Content-Type	Should be <code>application/json</code>

### Request Body

- `password` (String) Password to use when opening a password-protected source document. If the parameter is not provided a new viewing session is created with a default null `password` parameter value.

### URL Parameters

Parameter	Description
<code>{viewingSessionId}</code>	The <code>viewingSessionId</code> which identifies the viewing session.

### Successful Response

#### Response Body

JSON with metadata about the created viewing session.

- `viewingSessionId` (String) Unique id for this viewing session.

### Error Responses

Status Code	Reason Phrase	Description
403	The session is invalid or has expired	You requested a valid <code>{viewingSessionId}</code> but it is no longer available.
500	Internal Server Error	Can occur if you forget to prefix the <code>{viewingSessionId}</code> portion of the URL with <code>u</code> , or if you simply request an invalid <code>{viewingSessionId}</code> .

Some error responses will have a JSON body with an `errorCode` and `errorDetails`:

Status Code	JSON <code>errorCode</code>	Description
480	"PropertyNotReplaceable"	Unsupported property to replace was used. See <code>errorDetails</code> in the response body.

### Example

#### Request

```
POST prizmdoc_server_base_url/PCCIS/V1/ViewingSession/uXYZ.../Replacement
Content-Type: application/json

{
  "password": "123"
}
```

## Response

```
HTTP/1.1 200 OK
Content-Type: application/json;charset=utf-8

{
  "viewingSessionId": "THMMytF4ACHrxmN2bXj4vahx4Gnwly_kEeFt20XtRau-
z43pPHIjUy5JXJ05Wj1MaqvdfsXp98JxIk7ALWkukg"
}
```

## DELETE /PCCIS/V1/ViewingSession/u{viewingSessionId}

Deletes a viewing session. Only possible for viewing sessions created with `serverCaching` set to "none".

## Request

### URL Parameters

Parameter	Description
{viewingSessionId}	The viewingSessionId which identifies the viewing session.

## Successful Response

HTTP 204 indicating the session was deleted.

## Error Responses

Status Code	JSON <code>errorCode</code>	Description
404	-	No viewing session with the provided {viewingSessionId} could be found.
580	"CannotDeleteCachedViewingSession"	The viewing session you attempted to delete was not created with <code>serverCaching</code> set to "none".

# Work Files

## Introduction

The *work file* REST API provides a temporary storage system to upload file input and download file output. Each work file has a unique `fileId` which can be used to pass that file as input to a process or viewing session or to download the raw bytes of the file.

Work files should not be used for archival storage. All work files are temporary and, by default, will be deleted 24 hours after creation.

## Available URLs

URL	Description
POST /PCCIS/V1/WorkFile when body is file bytes	Creates a work file resource from file bytes (used to <b>upload</b> input files).
POST /PCCIS/V1/WorkFile when body is JSON	Creates a "package" work file from a set of existing work files. Used to prepare a set of dependent files for viewing or processing (e.g. CAD with XREF).
GET /PCCIS/V1/WorkFile/{fileId}	Gets the file bytes associated with a work file resource (used to <b>download</b> output files).
GET /PCCIS/V1/WorkFile/{fileId}/Info	Gets metadata information about a work file resource.

## POST /PCCIS/V1/WorkFile when body is file bytes

Creates a work file resource from file bytes (used to upload input files).

### Example

```
POST prizmdoc_server_base_url/PCCIS/V1/WorkFile
Content-Type: application/octet-stream

<<file bytes>>
```

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "fileId": "Xe6zv3dH0kVSzLuaNhd32A",
  "fileExtension": "pdf",
  "affinityToken": "ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM="
}
```

## Request

### Request Headers

Name	Description
Content-Type	We recommend you use the value <code>application/octet-stream</code> to explicitly indicate that you are uploading file bytes. If you do not provide a value, <code>application/octet-stream</code> is assumed by default.
Accusoft-	Used to ensure that this work file will be assigned to the same machine in the cluster as

Name	Description
Affinity-Token	another existing resource (work file, process, or viewing session). If provided, the value must be the <code>affinityToken</code> of another existing resource. If not provided, an <code>affinityToken</code> will be randomly assigned to each work file created whenever there is more than one server in the cluster.

### Request Parameters

```
POST prizmdoc_server_base_url/PCCIS/V1/WorkFile{?
FileExtension,MinSecondsAvailable}
```

Name	Type	Description	Example
FileExtension	string	File extension of the file being uploaded without any leading period. Only required when the file type cannot be automatically detected (e.g. <code>csv</code> , <code>tsv</code> , <code>txt</code> , <code>eml</code> ) or when <b>automatic format detection</b> has been explicitly disabled. Note that, if we are able to detect the file type automatically, the detected type will always be used and this value will be ignored.	pdf
MinSecondsAvailable	integer	The minimum number of seconds this work file must remain available. The actual lifetime may be longer.	300

### Request Body

The bytes of the file being uploaded.

### Successful Response

JSON with metadata about the newly created work file.

### Response Headers

Name	Value
Content-Type	application/json

### Response Body

```
{
  "fileId": "Xe6zv3dH0kVSzLuaNhd32A",
  "fileExtension": "pdf",
  "affinityToken": "ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM="
}
```

Name	Type	Description
fileId	string	The unique id of the new work file resource, often used later as input to a viewing session or process.
fileExtension	string	The file extension assigned to this resource which indicates what type of file we understand it to be.
affinityToken	string	A value used to identify which machine in the cluster this work file resides on. Only present when there is more than one machine in the cluster. A work file is only accessible to another resource if that resource resides on the same machine in the cluster. You can ensure that other resources you create (work files, viewing sessions, and processes) are assigned to the same machine by passing this value in an <code>Accusoft-Affinity-Token</code> request header when submitting the POST to create the other resource.

## Error Responses

Status Code	JSON <code>errorCode</code>	Description
400	-	There was a problem with an input parameter: <ul style="list-style-type: none"> <li><code>FileExtension</code> was required and not provided.</li> <li><code>FileExtension</code> was an invalid value.</li> <li><code>MinSecondsAvailable</code> was not a number.</li> </ul>
405	-	An HTTP method other than POST was used.
580	"UnrecognizedFileFormat"	The file type of the uploaded bytes could not be automatically detected. You will need to manually specify a <code>FileExtension</code> . If you are getting this error for every file type that you upload, it is possible that <b>automatic format detection</b> needs to be enabled on your server.

## POST /PCCIS/V1/WorkFile when body is JSON

Creates a "package" work file from a set of existing work files, defining one file in the set as the primary file for viewing and content conversion.

This special type of work file is particularly useful for CAD drawings which are made up of multiple files (such as dwg files which use other files via XREF).

### Example

```
POST prizmdoc_server_base_url/PCCIS/V1/WorkFile
Content-Type: application/json
Accusoft-Affinity-Token: ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=

{
  "primaryPath": "master.dwg",
```

```

    "items": [
      { "fileId": "CVBuD7DbQYNoJDqByGierQ", "path": "master.dwg" },
      { "fileId": "5qTYa3gzN9gYUb5SzcUhgq", "path": "parts/a.dwg" },
      { "fileId": "01bLJwFGxf9QGutkyrOqig", "path": "parts/b.dwg" }
    ]
  }

```

```

HTTP/1.1 200 OK
Content-Type: application/json

{
  "fileId": "nkG9fiAmj27X3MhqGdbsXA",
  "primaryPath": "master.dwg",
  "items": [
    { "fileId": "CVBuD7DbQYNoJDqByGierQ", "path": "master.dwg" },
    { "fileId": "5qTYa3gzN9gYUb5SzcUhgq", "path": "parts/a.dwg" },
    { "fileId": "01bLJwFGxf9QGutkyrOqig", "path": "parts/b.dwg" }
  ],
  "affinityToken": "ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM="
}

```

## Request

### Request Headers

Name	Description
Content-Type	You <b>must</b> use the value <code>application/json</code> to indicate that you are assembling a new work file from a set of existing work files rather than simply uploading file bytes. If you forget to specify a <code>Content-Type</code> of <code>application/json</code> , we will assume you are attempting to upload file bytes.
Accusoft-Affinity-Token	Whenever there is more than one machine in the cluster, you will need to ensure that all of the work files in the set reside on to the same machine. To do this, upload the first file in the set, get the <code>affinityToken</code> in the response, and then use that value in an <code>Accusoft-Affinity-Token</code> request header for every subsequent work file POST, including this final POST to assemble a work file for the entire set.

### Request Parameters

```
POST prizmdoc_server_base_url/PCCIS/V1/WorkFile{?MinSecondsAvailable}
```

Name	Type	Description	Example
MinSecondsAvailable	integer	The minimum number of seconds this work file must remain available. The actual lifetime may be longer.	300

### Request Body

A JSON object which specifies:

- which work files are in the set
- what their local paths would be
- which path should be considered the primary entry point for viewing or conversion

For example:

```
{
  "primaryPath": "master.dwg",
  "items": [
    { "fileId": "CVBuD7DbQYNoJDqByGierQ", "path": "master.dwg" },
    { "fileId": "5qTYa3gzN9gYUb5SzqUhqg", "path": "parts/a.dwg" },
    { "fileId": "o1bLJwFGxf9QGutkyrOqig", "path": "parts/b.dwg" }
  ]
}
```

Name	Type	Description
primaryPath	string	<b>Required.</b> The primary entry point for viewing or conversion. This value must match the <code>path</code> value of one of the objects in the <code>items</code> array.
items	array	<b>Required.</b> The work files which are to be included in the set and what their local paths would be.

#### Items

Name	Type	Description
fileId	string	<b>Required.</b> The <code>fileId</code> of a work file to be included in the set.
path	string	<b>Required.</b> A path value for this file in the set. Typically this is just the relative path of this file in relation to the primary file. Each item in the set must have a unique <code>path</code> value.

## Successful Response

JSON with metadata about the new work file resource, the most important part being a new `fileId` which you can use to represent the entire set of files.

#### Response Headers

Name	Value
Content-Type	application/json

#### Response Body

```
{
  "fileId": "nkG9fiAmj27X3MhqGdbsXA",
  "primaryPath": "master.dwg",
  "items": [
    { "fileId": "CVBuD7DbQYNoJDqByGierQ", "path": "master.dwg" },
  ]
}
```

```

    { "fileId": "5qTYa3gzN9gYUb5SzqUhqg", "path": "parts/a.dwg" },
    { "fileId": "0lbLJwFGxf9QGuTkYrOqig", "path": "parts/b.dwg" }
  ],
  "affinityToken": "ejN9/kXEYouken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM="
}

```

Name	Type	Description
fileId	string	The unique id of this new "package" work file, intended to be used as input to a viewing session or process which needs to consume the entire package as a single document.
primaryPath	string	The primary entry point which will be used for viewing or conversion.
items	array	The work files which are included in the set and their assigned paths.
affinityToken	string	A value used to identify which machine in the cluster this work file resides on. Only present when there is more than one machine in the cluster. A work file is only accessible to another resource if that resource resides on the same machine in the cluster. You can ensure that other resources you create (work files, viewing sessions, and processes) are assigned to the same machine by passing this value in an <code>Accusoft-Affinity-Token</code> request header when submitting the POST to create the other resource.

## Error Responses

Status Code	JSON errorCode	Description
480	"MissingInput"	A required input was not provided. See the <code>errorDetails</code> in the response.
480	"InvalidInput"	One of the input values was invalid. Possible causes: <ul style="list-style-type: none"> <li>• <code>MinSecondsAvailable</code> was not a number.</li> <li>• <code>primaryPath</code> did not match the <code>path</code> of any of the <code>items</code>.</li> </ul> See the <code>errorDetails</code> in the response.
480	"ValueMustBeUnique"	One or more of the <code>path</code> values in the <code>items</code> array was non-unique.
580	UnrecognizedFileFormat	This will occur if you forget to specify a <code>Content-Type</code> of <code>application/json</code> when making your request. If no <code>Content-Type</code> is specified (or if any value other than <code>application/json</code> is specified), we will understand you to be making a request to upload file bytes rather than giving us JSON instructions to create a new work file from a set of existing work files. And, since we do not automatically detect JSON as a file format, this is the error which is returned. If you

Status Code	JSON errorCode	Description
		are trying to create a work file from a set of existing work files (as described in this section), make sure you set the request Content-Type header to application/json.

## GET /PCCIS/V1/WorkFile/{fileId}

Gets the file bytes associated with a work file resource (used to download output files).

### Example

#### Get work file with default filename

```
GET prizmdoc_server_base_url/PCCIS/V1/WorkFile/Xe6zv3dH0kVSzLuaNhd32A
Accusoft-Affinity-Token: ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=
```

```
HTTP/1.1 200 OK
Content-Type: application/pdf
Content-Disposition: attachment; filename="file-
Xe6zv3dH0kVSzLuaNhd32A.pdf"
```

<<file bytes>>

#### Get work file with non-ASCII character in the filename

```
GET prizmdoc_server_base_url/PCCIS/V1/WorkFile/Xe6zv3dH0kVSzLuaNhd32A?
ContentDispositionFilename=GreekΑΒΓΔ
Accusoft-Affinity-Token: ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM=
```

```
HTTP/1.1 200 OK
Content-Type: application/pdf
Content-Disposition: attachment; filename="file-
Xe6zv3dH0kVSzLuaNhd32A.pdf"; filename*=UTF-
8' 'Greek%CE%91%CE%92%CE%93%CE%94.pdf`
```

<<file bytes>>

## Request

### Request Headers

Name	Description
Accusoft-Affinity-Token	If there is more than one machine in the cluster (an <code>affinityToken</code> was provided in the response to the initial POST request to create the work file), then this header must be set to the <code>affinityToken</code> of the work file you are trying to access.

### Request Parameters

```
GET prizmdoc_server_base_url/PCCIS/V1/WorkFile/{fileId}?
ContentDispositionFilename}
```

Name	Type	Description	Example
fileId	string	<b>Required.</b> The <code>fileId</code> of the work file whose file bytes you want to download.	Xe6zv3dH0kVSzLuaNhd32A
ContentDispositionFilename	string	The filename as a URL-encoded string, without extension, to be used in the <code>Content-Disposition</code> response header (the file extension will be appended automatically). The default is <code>file-&lt;fileId&gt;</code> .	GreekABΓΔ

### Successful Response

The raw bytes of the file.

### Response Headers

Name	Description	Example
Content-Type	The MIME type of the file being downloaded.	<code>application/pdf</code>
Content-Disposition	Specifies 'attachment' disposition, RFC-2183 compatible <code>filename</code> parameter and, if <code>ContentDispositionFilename</code> was specified in the request, RFC-8187 compatible <code>filename*</code> parameter, allowing the use of non-ASCII filenames.	<code>attachment;</code> <code>filename="Greek____.pdf";</code> <code>filename*=UTF-8''Greek%CE%91%CE%92%CE%93%CE%94.pdf</code>

## Response Body

The raw bytes of the file.

## Error Responses

Status Code	JSON errorCode	Description
400	"InvalidInput"	One of the input values was invalid. Possible causes: <ul style="list-style-type: none"><li>• <code>Accusoft-Affinity-Token</code> was invalid.</li></ul> See the <code>errorDetails</code> in the response.
480	"DataNotAvailable"	No file bytes exist for download. This can occur if you attempt to download the file bytes for a ["package" work file] ( <code>#post-json</code> ) which merely groups a set of related work files under a single <code>fileId</code> .
404	-	No work file existed for the given <code>fileId</code> .
405	-	An HTTP method other than GET was used.

## GET /PCCIS/V1/WorkFile/{fileId}/Info

Gets metadata information about a work file resource, the same information returned in the original POST request which created the work file.

### Example

```
GET
prizmdoc_server_base_url/PCCIS/V1/WorkFile/Xe6zv3dH0kVSzLuaNhd32A/Info
Accusoft-Affinity-Token: ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgcgQ+BkM=
```

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "fileId": "Xe6zv3dH0kVSzLuaNhd32A",
  "fileExtension": "pdf",
  "affinityToken": "ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgcgQ+BkM="
}
```

## Request

### Request Headers

Name	Description
Accusoft-Affinity-Token	If there is more than one machine in the cluster (an <code>affinityToken</code> was provided in the response to the initial POST request to create the work file), then this header must be set to the <code>affinityToken</code> of the work file you are trying to access.

### Request Parameters

```
GET prizmdoc_server_base_url/PCCIS/V1/WorkFile/{fileId}/Info
```

Name	Type	Description	Example
fileId	string	<b>Required.</b> The <code>fileId</code> of the work file you need information about.	Xe6zv3dH0kVSzLuaNhd32A

### Successful Response

JSON with information about the work file.

### Response Headers

Name	Value
Content-Type	application/json

### Response Body

#### For simple work files

```
{
  "fileId": "Xe6zv3dH0kVSzLuaNhd32A",
  "fileExtension": "pdf",
  "affinityToken": "ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM="
}
```

Name	Type	Description
fileId	string	The unique id of this resource.
fileExtension	string	File extension assigned to this resource, indicating what type of file we understand it to be.
affinityToken	string	A value used to identify which machine in the cluster this work file resides on. Only present when there is more than one machine in the cluster.

#### For "package" work files

```
{
```

```
"fileId": "nkG9fiAmj27X3MhqGdbsXA",
"primaryPath": "master.dwg",
"items": [
  { "fileId": "CVBuD7DbQYNoJDqByGierQ", "path": "master.dwg" },
  { "fileId": "5qTYa3gzN9gYUb5SszqUhqg", "path": "parts/a.dwg" },
  { "fileId": "o1bLJwFGxf9QGutkyrOqig", "path": "parts/b.dwg" }
],
"affinityToken": "ejN9/kXEYOuken4Pb9ic9hqJK45XIad9LQNgCgQ+BkM="
}
```

Name	Type	Description
fileId	string	The unique id of this resource.
primaryPath	string	The primary entry point which will be used for viewing or conversion.
items	array	The work files which are included in the set and their assigned paths.
affinityToken	string	A value used to identify which machine in the cluster this work file resides on. Only present when there is more than one machine in the cluster.

## Error Responses

Status Code	Description
404	No work file existed for the given fileId.
405	An HTTP method other than GET was used.

## PrizmDoc Server .NET SDK

The [PrizmDoc Server .NET SDK](#) is a wrapper around the PrizmDoc Server REST APIs, making it easy to use PrizmDoc Server functionality in .NET. It is an [open source library](#) published as a [NuGet package](#).

To learn more and get started, visit the PrizmDoc Server .NET SDK documentation site:

<https://help.accusoft.com/PrizmDoc/sdks/server/dotnet/v1/>

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