Kofax ReadSoft Collector
Customization Guide

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KOFAX

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Preface

This guide explains how to customize Kofax ReadSoft Collector to create plug-ins and manage them.

Related documentation

The product documentation set for Kofax ReadSoft Collector is available at the following location.

https://docshield.kofax.com/Portal/Products/en_US/RSC/6.5.0-vjriniri4m/RS_Collector.htm

In addition to this guide, the documentation set includes the following items:

- *Kofax ReadSoft Collector Installation Guide*: Describes how to install and configure ReadSoft Collector.
- *Kofax ReadSoft Collector Integration Specification Guide*: Describes how ReadSoft Collector's XML logic handles the supported XML standard formats.
- *Kofax ReadSoft Collector SmartXML Guidelines for XML Standards*: Describes how to work with Kofax ReadSoft Invoices XML standards in connection with ReadSoft Collector.
- *Kofax ReadSoft Collector Database Maintenance Tool Help*: Describes how to create and maintain ReadSoft Collector database.
- *Kofax ReadSoft Collector Help*: Describes how to configure and maintain ReadSoft Collector.

Getting help with Kofax products

The Kofax Knowledge Base repository contains articles that are updated on a regular basis to keep you informed about Kofax products. We encourage you to use the Knowledge Base to obtain answers to your product questions.

To access the Kofax Knowledge Base, go to the Kofax website and select Support on the home page.

The Kofax Knowledge Base is optimized for use with Google Chrome, Mozilla Firefox, or Microsoft Edge.

The Kofax Knowledge Base provides:

- Powerful search capabilities to help you quickly locate the information you need.
  Type your search terms or phrase into the **Search** box, and then click the search icon.
- Product information, configuration details, and documentation including release news.

Scroll through the Kofax Knowledge Base home page to locate a product family. Then click a product family name to view a list of related articles. Please note that some product families require a valid Kofax Portal login to view related articles.

- Access to the Kofax Customer Portal (for eligible customers).
  Click the **Customer Support** link at the top of the page, and then click **Log in to the Customer Portal**.
- Access to the Kofax Partner Portal (for eligible partners).
  Click the **Partner Support** link at the top of the page, and then click **Log in to the Partner Portal**.
- Access to Kofax support commitments, lifecycle policies, electronic fulfillment details, and self-service tools.
  Scroll to the **General Support** section, click **Support Details**, and then select the appropriate tab.

Access ReadSoft Collector documentation

You can access the Kofax ReadSoft Collector documentation online as well as in offline mode.

Online documentation

The product documentation for ReadSoft Collector 6.5.0 is available at the following location.

https://docshield.kofax.com/Portal/Products/en_US/RSC/6.5.0-vjriniri4m/RS_Collector.htm

To launch the online help for the installed version of the product, click the Help icon on the application.

Offline documentation

To access the documentation offline, you can download it from the Kofax Fulfillment Site. For each language, a separate documentation package is available to download as a compressed file, such as RS_Collector6.5.0_EN.zip for English and RS_Collector6.5.0_FR.zip for French.

The English .zip file includes both help and print folders. The print folder contains all guides, such as installation guide and administrator's guide. The .zip files for other languages contain only the localized files as applicable.

The offline documentation package includes help in the following languages:

- English (EN)
- French (FR)
- German (DE)
- Spanish (ES)

Chapter 1

Introduction

This document provides information about customization in Kofax ReadSoft Collector and how to develop plug-ins to be valid for both Kofax ReadSoft Invoices and Kofax ReadSoft Documents. The user interface is pretty much similar in both the applications.

This document is for users who:

1. Develop plug-ins for ReadSoft Collector.
2. Install and use plug-ins for ReadSoft Collector.

ReadSoft Collector 6.4 does not work with ReadSoft Documents. However, the process of writing and connecting plug-ins is same as in the previous versions of ReadSoft Collector.

Chapter 2

Update customizations from ReadSoft Collector 6.2 to 6.4

For plug-ins that were used with Kofax ReadSoft Collector 6.2 to work with Kofax ReadSoft Collector 6.4, you must update the references and recompile the plug-ins.

Chapter 3

Customizations overview

Kofax ReadSoft Collector is a plug-in to Kofax ReadSoft Invoices and an add-on to Kofax ReadSoft Documents. The customizations discussed in this document apply to ReadSoft Collector only; however, it is possible to access the APIs of the hosting application.

The following scenarios are identified as suitable for writing customizations for ReadSoft Collector:

1. Converting email-attachment file formats.
2. Checking email attachment files.
3. Extracting data from email attachments and emails, and applying it to invoices such as, UDVs, Queues, and Buyers.
4. Replacing the image for XML invoices (for example, use the PDF image available in the same email to replace XML invoices).
5. Creating the XML invoice image based on the XML/SXML.
6. Using RTF or HTML email body.

Chapter 4

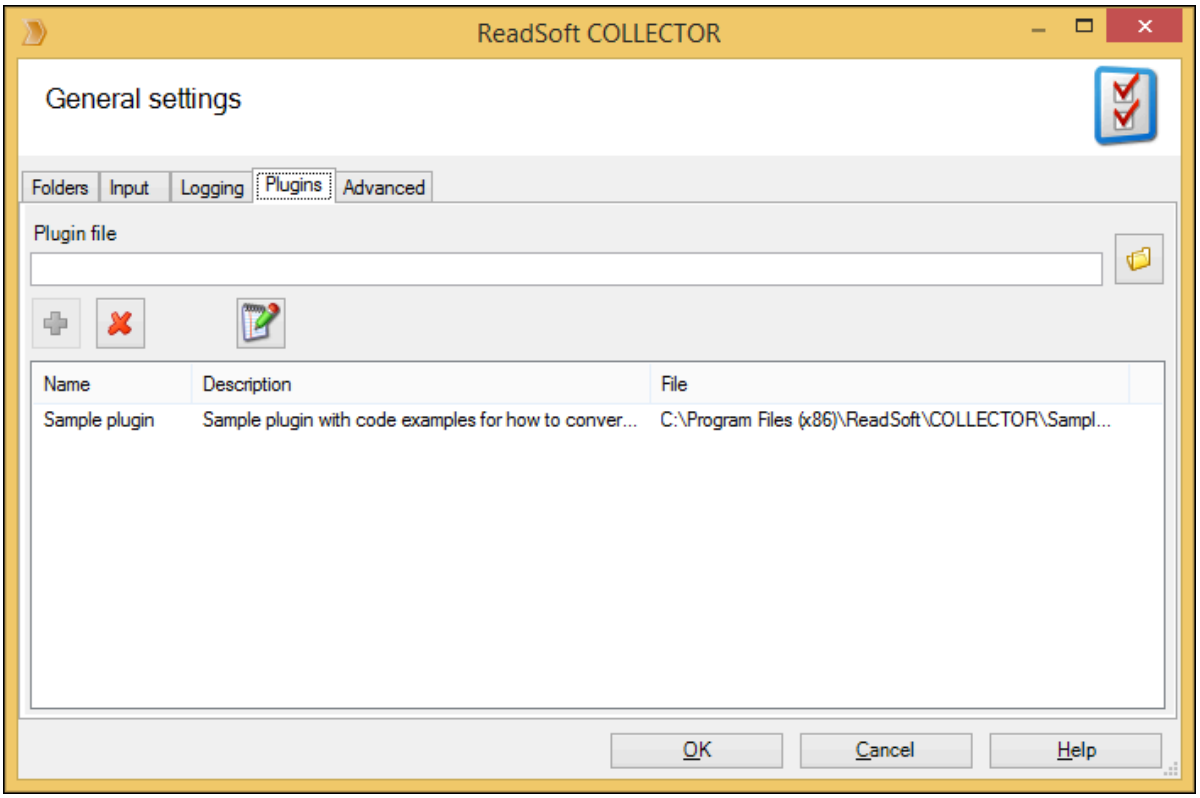
Customization basics

This chapter describes the procedure to enable customization and configure job settings in Kofax ReadSoft Collector.

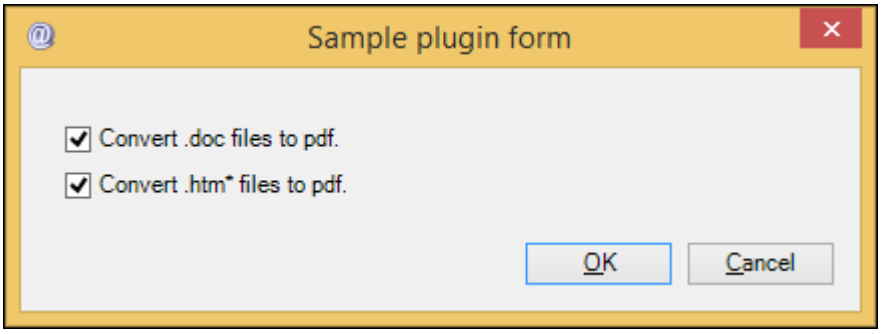
Enable customization

Follow these steps to enable customization in Kofax ReadSoft Collector.

1. Copy the plug-in for ReadSoft Collector to the ReadSoft Collector installation folder (on every machine where you run ReadSoft Collector).
2. Open Kofax ReadSoft Invoices Manager or Kofax ReadSoft Documents Administration modules.
   a. In ReadSoft Invoices, from the main menu, navigate to **Plugins** > **Kofax ReadSoft Collector** and click the **Plugins** tab.
   b. In ReadSoft Documents – On the **Configuration** tab, expand **System specifications** > **Add-ons**. In the right pane, double-click the **ReadSoft Collector** add-on. In the dialog box that is displayed, select **Configuration** > **Plugins**.



3. Click adjacent to the **Plugin file** text box and select the plug-in you just copied.
4. Click .
   The plug-in is added to the plug-ins list.
5. To edit the plug-in, select the plug-in to edit and click .

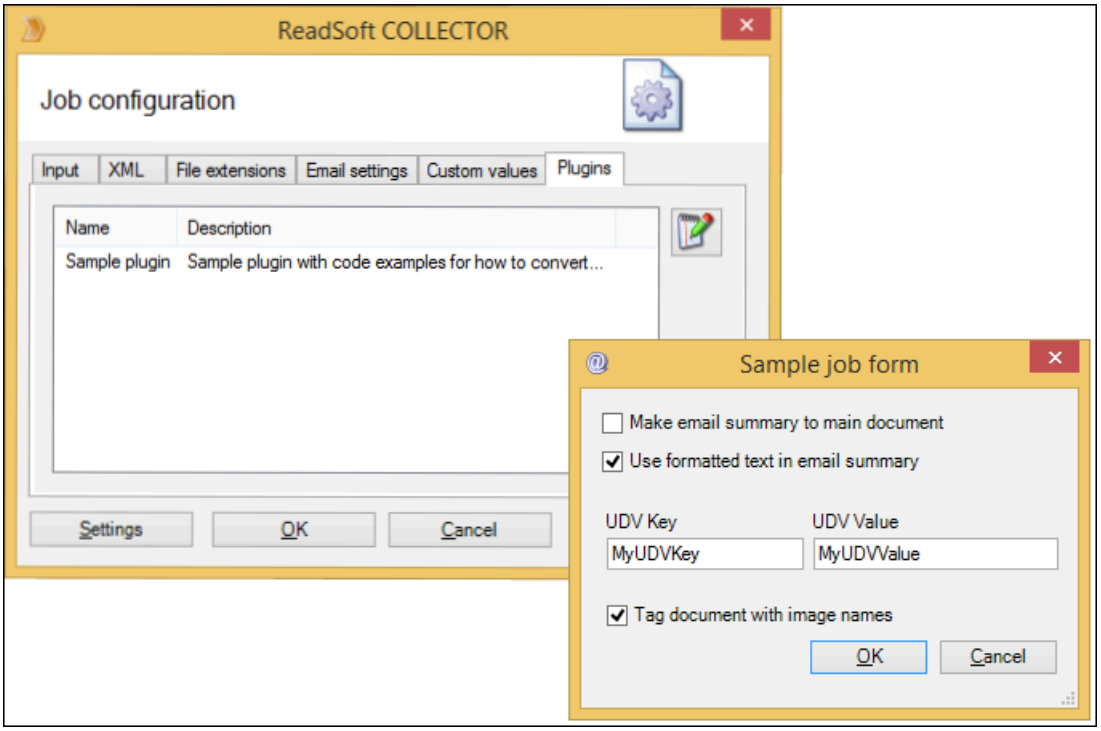


This is the "Sample plugin" general dialog box. It applies to all jobs/tasks.

Job configuration

Follow these steps to configure job settings.

1. Open the required Kofax ReadSoft Invoices job, select **Interpret** > **Source** and click **Configure**.
   The **Job configuration** page appears.



2. Select **Plugins**.
   The list of available plug-ins appears.
3. Select a plug-in and click **Edit** .
   The **Sample job form** pop-up window appears.
4. Configure settings and click **OK**.

Chapter 5

Develop ReadSoft Collector plug-ins

This chapter explains how to develop a simple plug-in. Make sure that you have Microsoft Visual Studio 2008 or higher installed on your machine.

1. Create a Visual Studio .NET class library.
2. Add references to the following files located in the ReadSoft Collector folder.
   a. ReadSoft.Collector.Plugin.dll
   b. ReadSoft.Collector.Core.dll
   c. ReadSoft.Collector.Logging.dll
   d. System.Windows.Forms
   e. To interact with Kofax ReadSoft Invoices, reference EHICOM.dll (COM library).
   f. To interact with Kofax ReadSoft Documents, reference RSAdvancedAPI and RSCommonAPI (.NET Libraries).
3. In one of your classes, you must implement the ReadSoft.Collector.ICollectorPlugin or ReadSoft.Collector.ICollectorPluginEx interfaces. USe the ReadSoft.Collector.ICollectorPluginEx interface to customize the image for XML invoices.

   Implementing an interface in the Visual Studio would create stubs and save time for you. However, Visual Studio cannot create stubs for all the methods.

4. Replace the "NotImplementedException" code with your code. For more information, see References.
5. Compile and place the plug-in in ReadSoft Collector folder to use.
   - We recommend that you use ReadSoft Collector's logging functionality.
   - To find the logs easily, add references to ReadSoft.Collector.logging, use CodeLogger class (see the examples in the Sample plug-in code) and then write your plug-in name in each log entry.

Chapter 6

References

This chapter provides the Kofax ReadSoft Collector plug-in examples and their functionality.

ICollectorPlugin

This section describes the public methods of ICollectorPlugin interface.

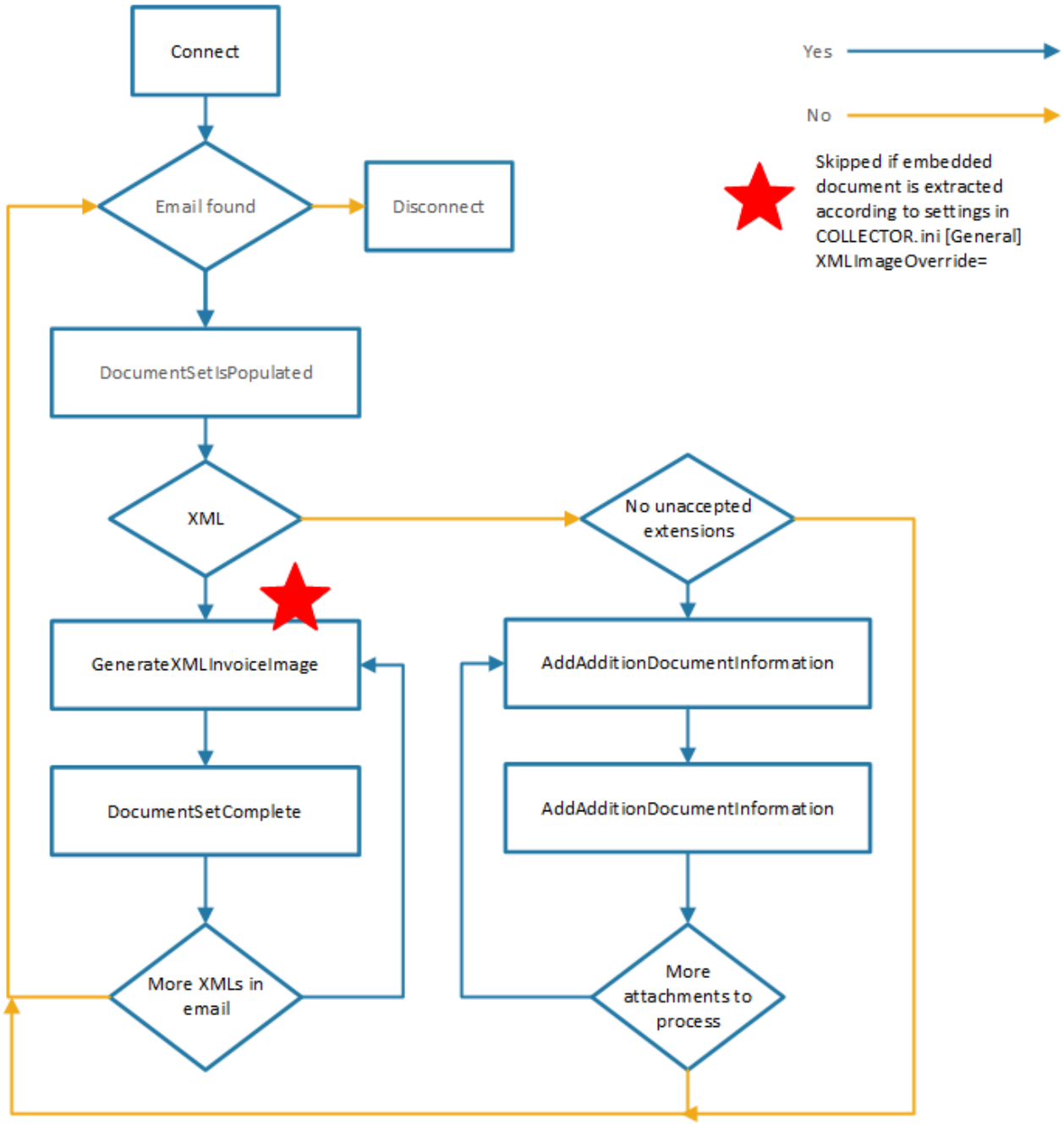
Method	Description
AddAdditionDocumentInformation	This method is called once per invoice/document after DocumentSetPopulated. Use this method to configure Kofax ReadSoft Invoices or Kofax ReadSoft Documents properties such as, UDVs, Buyer, and Queues. In ReadSoft Invoices, the AppObject will be the application object. In Kofax ReadSoft Documents the AppObject is the document. This method is not called for XML invoices.
Connect	This method is called when the plug-in is first created.
Disconnect	This method is called when the hosting application (ReadSoft Invoices or ReadSoft Documents) connection is closed.
DocumentSetComplete	This method is called when the hosting application ReadSoft Invoices has interpreted the document/page or when ReadSoft Documents has fully imported the document. You can retrieve the information but not update the invoice/document object (such as InvoiceID).
DocumentSetPopulated	This method is called before the hosting application receives the document/page, but after the document set is populated (once per email).
ShowJobConfiguration	This method is called when the user selects the edit button in the ReadSoft Collector job configuration dialog box.
ShowPluginConfiguration	This method is called when the user selects the edit button in the ReadSoft Collector General Settings dialog box.

ICollectorPluginEx

This section describes the public methods of ICollectorPluginEx interface.

Method	Description
GenerateXMLInvoiceImage	This method is called directly before the XML invoice is generated by ReadSoft Collector. The plug-in can override the internal image generation in two ways: • Create its own using the XML or SXML. • Point to an existing image file (such as a PDF that is included in the same mail). • The image supplied by the plug-in must be in a format that is supported by Kofax ReadSoft Invoices. • This method is not supported in Kofax ReadSoft Documents. • If the plug-in fails to create a file (that is, Collector cannot find the image), ReadSoft Collector's standard image is used so that the XML can be processed. • ReadSoft Invoices/Kofax ReadSoft Collector may not retain the reference to the original image file throughout the entire life cycle of the invoice processing. If the invoice is reinterpreted, for example, the plug-in may no longer know where all email attachments are stored and may not be able to extract the image correctly as a result. If the plug-in expects to use an existing image file (such as a PDF that is included in the same mail), the plug-in must make sure that the reference to this file is preserved by the plug-in code (for example, by using a UDV variable).

Flow chart


Connect
Email found
Disconnect
DocumentSetIsPopulated
XML
No unaccepted extensions
GenerateXMLInvoiceImage
AddAdditionDocumentInformation
DocumentSetComplete
AddAdditionDocumentInformation
More XMLs in email
More attachments to process
Yes
No
Skipped if embedded document is extracted according to settings in COLLECTOR.ini [General] XMLImageOverride=

CollectorPluginConfiguration

The CollectorPluginConfiguration class stores the plug-in configuration.

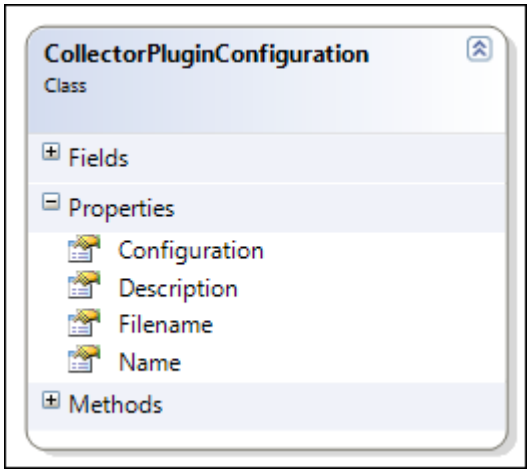
Filename: The filename is set when adding the plug-in (by ReadSoft Collector).

Name and **Description**: These properties are set in Connect (For more information, see ICollectorPlugin). The values specified for these properties are displayed on the **Plugins** tab for both the **General Settings** and **Job Configuration** dialog boxes.

Configuration: Plug-in stores its settings here.

This is the only place where configuration information of the plug-in is stored. Even the information of job configurations is stored in this class.

For more information, see SampleCollectorPlugin - the sample project.

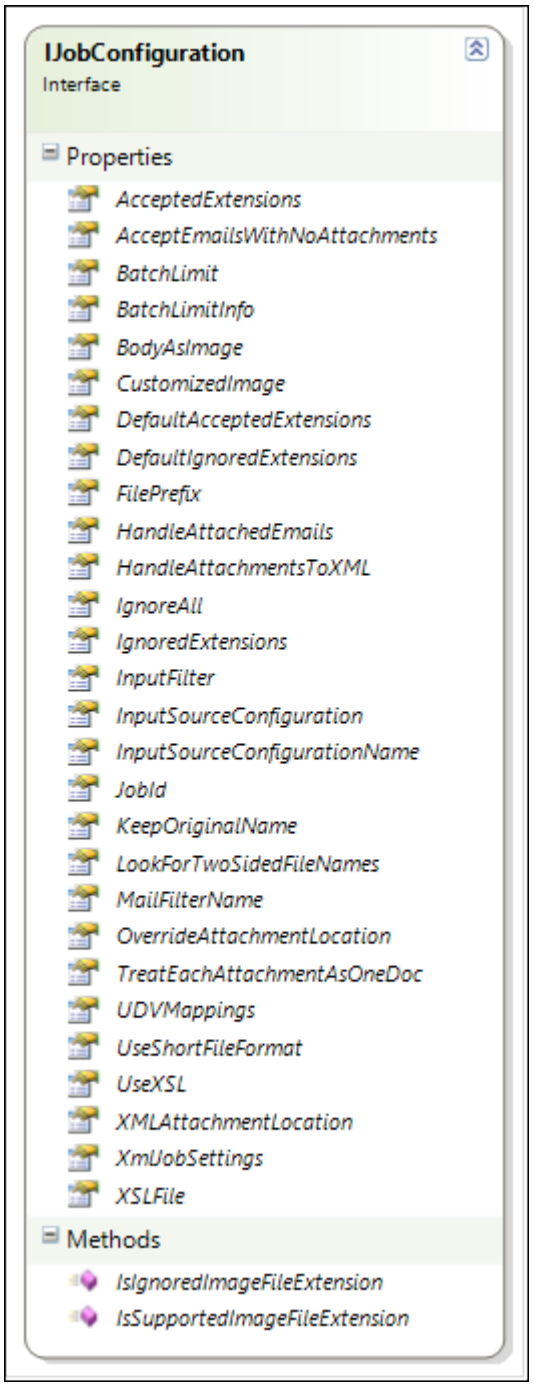


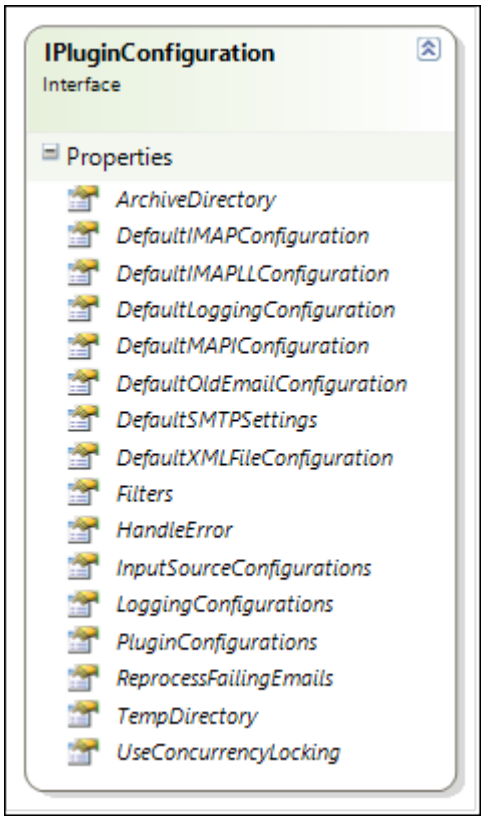
IJobConfiguration and IPluginConfiguration

These interfaces are used internally and are provided as parameters to some methods in ICollectorPlugin.

What you see in the user interface reflects what they contain.

Some of the settings might not be used.


IJobConfiguration
Interface
Properties
AcceptedExtensions
AcceptEmailsWithNoAttachments
BatchLimit
BatchLimitInfo
BodyAsImage
CustomizedImage
DefaultAcceptedExtensions
DefaultIgnoredExtensions
FilePrefix
HandleAttachedEmails
HandleAttachmentsToXML
IgnoreAll
IgnoredExtensions
InputFilter
InputSourceConfiguration
InputSourceConfigurationName
JobId
KeepOriginalName
LookForTwoSidedFileNames
MailFilterName
OverrideAttachmentLocation
TreatEachAttachmentAsOneDoc
UDVMappings
UseShortFileFormat
UseXSL
XMLAttachmentLocation
XmlJobSettings
XSLFile
Methods
IsIgnoredImageFileExtension
IsSupportedImageFileExtension



TreatEachAttachmentAsASeperateInvoice method

The following tables describe how this method treats emails in Kofax ReadSoft Invoices and Kofax ReadSoft Documents.

Value in Kofax ReadSoft Invoices	Result
True	Treats each email attachment as a separate invoice.
False	Treats the entire email as a single document (including all attachments).

Value in Kofax ReadSoft Documents	Result
True	Treats each email attachment as a separate invoice.
False	Treats the entire email as a single document (including all attachments).

SampleCollectorPlugin - the sample project

Use SampleCollectorPlugin to:

- Convert the Microsoft Word document files to PDF files for all jobs/tasks.

- Convert *.htm* files to PDF files for all jobs/tasks.

At the job level, you can configure SampleCollectorPlugin to do the following:

- Use the email body text as the main document before the document is attached to the email.
- Retrieve the RTF or HTML formatted email body and replaces it with formatted text.
- Add a job specific UDV.

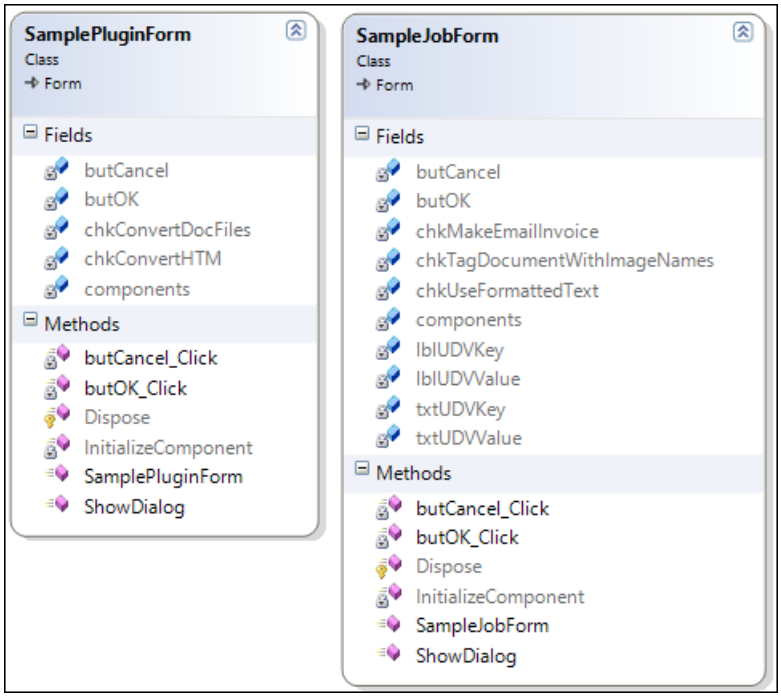
> This is for information only as to what a plug-in can do. The UDV's functionality within Kofax ReadSoft Collector is more flexible than the sample plug-in.

- Tags each document that has a UDV with the value = image filename.

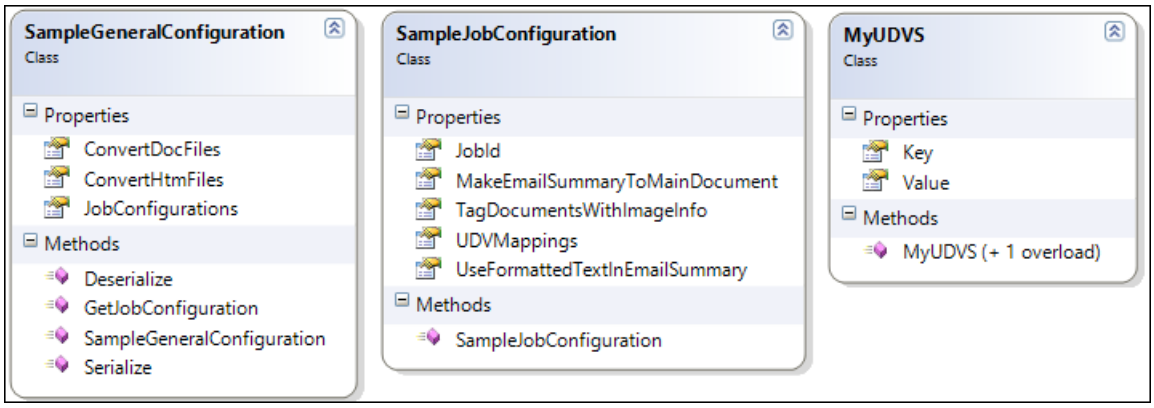
In addition, SampleCollectorPlugin replaces the XML invoice image with the first document that is embedded in the XML (if there is one). If the XML does not contain an embedded document, it then looks for the first PDF file in the email (if there is one) and uses that as the invoice image. This is done automatically, and there is no GUI to turn this feature on/off.

> Microsoft Word 12 (2007) or higher must be installed for the conversions mentioned above.

To show the configuration at the general level and the job level, name them two classes will do the implementation.

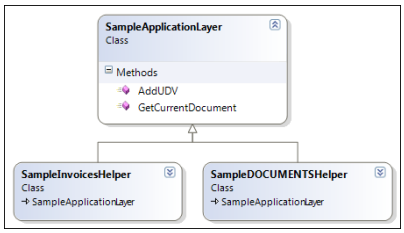


To store all the configuration information, the SampleGeneralConfiguration, SampleJobConfiguration, and MyUDVS classes are used.



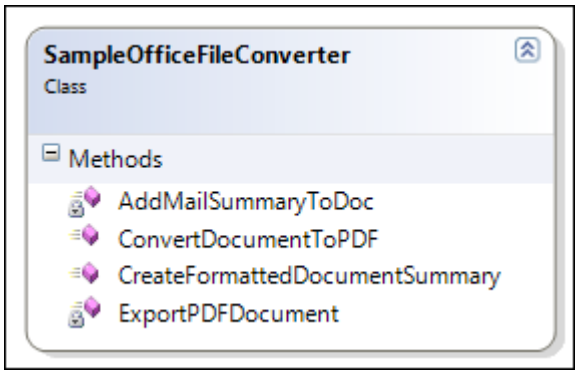
SampleConfiguration.cs

A hosting application layer, SampleApplicationLayer is introduced so that the code is identical for both Kofax ReadSoft Invoices and Kofax ReadSoft Documents.



The SampleOfficeFile converter is used to convert a Microsoft Office Word document to PDF.

Record a macro within Microsoft Word when using and then convert it to C#.



Exception handling

The Kofax ReadSoft Collector plug-in framework handles any .NET exceptions thrown by a plug-in and take appropriate actions. Following a list of the measures taken when the plug-in throws an exception at different events for each hosting product.

Exceptions in ReadSoft Invoices

Event	Action
AddAdditionDocumentInformation	When an exception occurs in this method, the corresponding email is moved to the error folder. The error is logged and the job stops unless the ReadSoft Invoices continuejobonerror ini-setting is set to 1. If there were attachments in the mail already processed by ReadSoft Invoices from this email, the email is not completely processed.
Connect	When an exception occurs in this method, ReadSoft Invoices reports that ReadSoft Collector could not be initialized, and the error is logged. ReadSoft Collector will not be available from the Interpret module, but it can be configured from the Manager module.
Disconnect	When there is an exception in this method of the plug-in, the error is logged, but the disconnecting operation proceeds as normal.
DocumentSetComplete	When an exception occurs in this method, the corresponding email is moved to the error folder. The error is logged reporting this and the job stops unless the ReadSoft Invoices ContinueJobOnError ini-setting is set to 1. If there were attachments in the mail already processed by ReadSoft Invoices from this email, the email is not completely processed.
DocumentSetPopulated	When an exception occurs in this method, the corresponding email is moved to the error folder. The error is logged and the job stops unless the ReadSoft Invoices continuejobonerror ini-setting is set to 1.
GenerateXMLInvoiceImage	When an image is not generated by the plug-in, an error log is generated, and ReadSoft Collector continues to create the standard image.
ShowJobConfiguration	When there is an exception configuring the job and plug-in using this method, ReadSoft Invoices reports an error in a dialog box and the error log details about the error.
ShowPluginConfiguration	When there is an exception configuring the plug-in using this method, the plug-in could not be configured and the error is logged.

Exceptions in ReadSoft Documents

Event	Action
AddAdditionDocumentInformation	When there is an exception in this method, the corresponding email is moved to the error folder. An error is logged with details about the exception and the task stops. The email in which this error occurs is discarded.
Connect	If this exception occurs in the Administration module when configuring the plug-in, ReadSoft Collector will report that the plug-in could not be initialized and the details about the error are logged. If this exception occurs in the Administration module when starting the module, it will report that ReadSoft Collector could not be initialized correctly, and the failed Load Status of ReadSoft Collector is displayed in the Add-on management dialog. Also, details about the error are logged. If this exception occurs in the Production module when starting the module, it will report that ReadSoft Collector could not be initialized correctly, and the failed Load Status of ReadSoft Collector is displayed in the Add-on management dialog. Also, details about the error are logged.
DocumentSetComplete	When an exception occurs in this method, the corresponding email is moved to the error folder. An error is logged with details about the exception and the task stops. The document in which this occurs is discarded.
DocumentSetPopulated	When an exception occurs in this method, the corresponding email is moved to the error folder. An error is logged with details about the exception and the task stops. The document in which this occurs is discarded.
ShowJobConfiguration	When there is an exception when configuring the task and plug-in using this method, the administration module reports an error in a dialog and logs details about the error.
ShowPluginConfiguration	When there is an exception when configuring the plug-in using this method, there is a message saying the plug-in could not be configured and the error is logged.