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Adlib Publishing Systems Inc.
215 - 3228 South Service Rd.
Burlington, Ontario
Canada L7N 3H8
Phone: 1-905-631-2875
www.adlibsoftware.com

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Adlib PDF is the next generation of Adlib transformation technology. Its design offers a high degree of flexibility for developing systems that provide scalability and high availability. Adlib PDF can receive input from many types of applications, including Microsoft SharePoint.

The SharePoint Workflow Connector Guide provides a comprehensive list of the steps required to install, configure and use the SharePoint Workflow Connector within Adlib PDF.

Typographical Conventions

The following typographical conventions are used throughout this guide.

<table>
<thead>
<tr>
<th>Item</th>
<th>Convention</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adlib elements</td>
<td>Teal, Title case</td>
<td>The Folder Connector integrates with file folders</td>
</tr>
<tr>
<td>Menu options &amp; titles</td>
<td>Bold</td>
<td>Select Transformation Rules from the Settings menu. Click Save. Drag Active from the Settings toolbox.</td>
</tr>
<tr>
<td>Push buttons</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Settings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Page elements and titles</td>
<td>Italic</td>
<td>Navigate to the Edit tab on the Rule Set Editor page. Drag Active from the Settings toolbox to the work area. Define attribute settings in the Edit Attribute window.</td>
</tr>
<tr>
<td>Window titles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Script</td>
<td>Mono code</td>
<td>${Adlib.FolderConnector.InputFileExtension}</td>
</tr>
<tr>
<td>URLs</td>
<td>Lowercase</td>
<td><a href="http://www.adlibsoftware.com/">http://www.adlibsoftware.com/</a></td>
</tr>
<tr>
<td>User-defined element</td>
<td>Enclosed in angle brackets</td>
<td>C:\Adlib&lt;install folder&gt;</td>
</tr>
</tbody>
</table>

Notes

Notes, cautions and tips are offered throughout the guide and are quickly identified with the following icons:

- Provides informational notes relevant to the content.

- Provides important cautionary notes relevant to the content.
TIP
Provides helpful tips and shortcuts.

Terminology
Detailed descriptions of terminology applicable to the Adlib product can be found in the Adlib PDF Glossary.
SharePoint Workflow Connector Installation

Overview
The SharePoint Workflow Connector provides the connection between Adlib PDF and Microsoft SharePoint, enabling Adlib PDF to perform document conversions on the content stored in SharePoint. The following SharePoint workflows are included with Adlib PDF:

- Convert to PDF
- Merge Content to PDF

These workflows can be used independently for user-initiated or automatic content conversions, or integrated as part of larger business process workflows within SharePoint. For example, documents can be converted to non-editable PDF format for posting on the web after final approval in a SharePoint-based publishing workflow. The workflows can be deployed as is or modified to create custom workflows using Microsoft Visual Studio.

This chapter outlines the procedure necessary to install the SharePoint Workflow Connector and deploy the SharePoint Workflows within SharePoint. In general, the following steps must be followed:

1. Install Adlib PDF.
2. Install the Adlib SharePoint Workflow Connector on the server that hosts the SharePoint Central Administration console. The solution package created during installation for one SharePoint farm is not portable to another SharePoint farm, therefore a SharePoint Workflow Connector installation must be run for each SharePoint farm.
3. Configure the SharePoint Workflow Connector and at least one SharePoint Workflow Source within the Adlib PDF Management Console.
4. Deploy the SharePoint Workflows and associate them with document libraries or content types.

If desired, custom SharePoint workflows/activities can be designed using Microsoft Visual Studio which leverage the deployed Adlib workflows/activities.

Prerequisites
The following prerequisites must be available prior to the installation of the SharePoint Workflow Connector.

Hardware Requirements

<table>
<thead>
<tr>
<th>Component</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adlib PDF</td>
<td>See the Adlib PDF Installation Guide for a list of System Requirements.</td>
</tr>
<tr>
<td>SharePoint Workflow Connector</td>
<td>Follow the hardware requirements for the version of Microsoft SharePoint being utilized.</td>
</tr>
</tbody>
</table>
Software Requirements

<table>
<thead>
<tr>
<th>Component</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adlib PDF 5.0 or higher</td>
<td>Adlib PDF must be installed prior to the SharePoint Workflow Connector installation. Note: Self-hosted Services Components are not currently supported in conjunction with the SharePoint Workflow Connector. Please see the Adlib PDF Installation Guide for more information. If upgrading from a previous version to Adlib PDF 5.X, the SharePoint Workflow Connector must be uninstalled and reinstalled.</td>
</tr>
<tr>
<td>Operating System</td>
<td>Windows Server 2008 R2 SP1</td>
</tr>
<tr>
<td></td>
<td>Windows Server 2012</td>
</tr>
<tr>
<td>Microsoft .NET Framework</td>
<td>Microsoft .NET Framework 3.5 SP1</td>
</tr>
<tr>
<td>Microsoft SharePoint</td>
<td>Microsoft Office SharePoint Server 2007</td>
</tr>
<tr>
<td></td>
<td>Microsoft Office SharePoint Server 2010</td>
</tr>
<tr>
<td></td>
<td>Microsoft Office SharePoint Server 2013</td>
</tr>
</tbody>
</table>

Software Upgrades

Required Upgrades - SharePoint 2007

It is strongly recommended that the following software updates are installed across all Web Front End and Application servers when using SharePoint 2007, as the SharePoint Workflows provided by Adlib require the Service Pack 1 (SP1) upgrade at the minimum.

The following TechNet article should be reviewed before proceeding with the installation of the service packs:


Please install the following Service Packs in order:

1. Windows SharePoint Services 3.0 Service Pack 1 (SP1)
2. Microsoft Office Server 2007 Service Pack 1 (SP1)

Failure to apply Service Pack 1 will cause the following error to appear in the workflow history:
Recommended Upgrades - SharePoint 2007

It is recommended that the following service packs be applied in order when using SharePoint 2007:

1. Windows SharePoint Services 3.0 Service Pack 2 (SP2)

2. The 2007 Microsoft Office Servers Service Pack 2 (SP2)

SharePoint Workflow Connector Installation Instructions

The following installation will add the solution package to the solution store. The solution must then be deployed to all Web Front End and Application servers hosted within the SharePoint farm.

Due to the farm specific information contained within the adlib.config file, the solution package generated for one SharePoint farm is not portable to another SharePoint farm. For this reason the SharePoint Workflow Connector installation must be run once on each SharePoint farm.

Upgrading to Adlib PDF 5.X

If upgrading from a previous version to Adlib PDF 5.X, the SharePoint Workflow Connector must be uninstalled and reinstalled.

Prepare for Installation

Account Settings

If using Remote Desktop Services to deploy the workflows please ensure that:

1. The Remote Desktop Connection session is created with the following command:
   %SystemRoot%\system32\mstsc.exe /admin

2. Ensure that the login account used to perform the installation is a SharePoint Farm Administrator account.

To Install the SharePoint Workflow Connector:

1. Run the SharePoint Workflow Connector installer executable.
2. In the Adlib SharePoint Workflow Connector-InstallShield Wizard window, click Next.

Figure 2 - Adlib SharePoint Workflow Connector - InstallShield Wizard Window

3. In the License Agreement window, accept the End User License Agreement terms.

Figure 3 - End-User License Agreement Window
4. In the Customer Information window, type the **Username** and **Company Name** and click **Next**.

*Figure 4 - Customer Information Window*
5. In the *Choose Destination Location* window, click **Browse...** to modify the default installation location and click **Next**.

*Figure 5 - Choose Destination Location Window*
6. In the Management Console Login Settings window, specify and confirm the Password used to login to the Adlib Management Console and ensure that the Service Root URL: path points to the location of the Adlib PDF application.

The Adlib Management Console login Username is defaulted to sysadmin.

7. The Services Root URL is tested to ensure that the Adlib PDF application can access the Adlib Service layer and login to the Adlib PDF system.
8. If desired, select **Yes** to hide the Adlib SP Workflow Connector site collection features from the site collection feature gallery in the *SharePoint Site Feature Collection Gallery Settings* window. For more information about this functionality, see [Using Hidden Features](#).

*Figure 7 - SharePoint Site Feature Collection Gallery Settings*
9. In the *Ready to Install the Program* window, click **Install** to begin the installation of the **SharePoint Workflow Connector**.

*Figure 8 - Ready to Install the Program Window*
10. Click **Finish** in the *InstallShield Wizard Complete* window to exit the wizard.

*Figure 9 - InstallShield Wizard Complete Window*

![InstallShield Wizard Complete Window]

The solution package has been added to the solution store, and must now be deployed to all Web Front End and Application servers hosted within the SharePoint farm. For more information, see [Deploying SharePoint Workflows](#).
Uninstall Notes - SharePoint 2010

Before attempting to uninstall the workflows from SharePoint 2010, the SharePoint 2010 Administration Service should be temporarily paused for the duration of the uninstall process.

Figure 10 - SP 2010 Administration - Services Window

Failure to do so will result in the following error during the uninstall process:

Figure 11 - Failed to Execute Admin Service Jobs error

Although the Administration service is a vital SharePoint service and should be running at all times, the service interferes with the attempt to force the execution of scheduled jobs given to the SharePoint 2010 Timer service. A scheduled job (solution retraction) will be created by the uninstall process if the solution package was left in a deployed state during the uninstall process.
Two remedies are suggested:

1. Retract the solution package using the SharePoint 2010 Central Administration User Interface prior to running the uninstall process.

Or,

2. Pause the SharePoint 2010 Administration Service for the duration of the uninstall process.

The Central Administration application must be used to retract and delete all workflows that are deployed across a farm.
Deploying SharePoint Workflows

**Deploy Workflows using SharePoint 2007**

**To Deploy the Solution Package using SharePoint 2007:**

1. From the Windows Start menu, open the SharePoint 2007 3.0 Central Administration application.
2. Click the **Operations** tab and select **Solution Management** under the **Global Configuration** section.

*Figure 12 - SP 2007 Central Administration - Operations Window.*
3. In the Solution Management window, click the name of the solution package to view the Solution Properties.

Figure 13 - SP 2007 Central Administration - Solution Management Window

4. In the Solution Properties window, click **Deploy Solution**.

Figure 14 - SP 2007 Central Administration - Solution Properties Window
5. To deploy the solution immediately, select **Now** in the *Deploy Solution* window, otherwise, select **At a specified time:** and specify a date and time for deployment and click **OK**.

*Figure 15 - SP 2007 Central Administration - Deploy Solution Window.*

6. Using Internet Explorer, browse to the site where the sample workflows are to be made available. If the user is logged in as a **Site Administrator**, the **Site Settings** will be accessible from the **Site Actions** tab.

*Figure 16 - SP 2007 - Site Actions Tab*
7. On the Site Settings window, click Site Collection Features, under the Site Collection Administration section.

Figure 17 - SP 2007 - Site Settings Window
8. In the Site Collection Features window, click Activate for each workflow to be made available within the site collection.

*Figure 18 - SP 2007 - Site Collection Features Window*

The newly activated workflows must now be associated with a document library, site or list content type before they will be available on the workflow initiation page. For more information on associating workflows, see Associating Workflows to Document Libraries.
Deploy Workflows using SharePoint 2010

To Deploy the Solution Package using SharePoint 2010

1. From the Windows Start menu, open the SharePoint 2010 Central Administration site and click System Settings in the left hand pane.

Figure 19 - SP 2010 Central Administration Window

2. In the System Settings window, click the Manage farm solutions link under the Farm Management section.

Figure 20 - SP 2010 Central Administration - System Settings Window
3. In the *Manage Farm Solutions* window, click on the name of the solution package to view the *Solution Properties*.

*Figure 21 - SP 2010 Central Administration - Manage Farm Solutions Window*

![Central Administration - Solution Management](image1)

**Central Administration - Solution Management**

This page has a list of the solutions in the farm.

<table>
<thead>
<tr>
<th>Name</th>
<th>Status</th>
<th>Deployed To</th>
</tr>
</thead>
<tbody>
<tr>
<td>asce_XXXXX.wsp</td>
<td>Not Deployed</td>
<td>None</td>
</tr>
</tbody>
</table>

*Figure 22 - SP 2010 Central Administration - Solution Properties Window*

![Central Administration - Solution Properties](image2)

**Central Administration - Solution Properties**

- Name: asce_XXXXX.wsp
- Type: Core Solution
- Contains Web Application Resource: No
- Contains Global Assembly: Yes
- Contains Code Access Security Policy: No
- Deployment Server Type: Proven Web server
- Deployment Status: Not Deployed
- Deployed To: None
- Last Operation Result: No operation has been performed on the solution.

4. Click **Deploy Solution**.

*Figure 22 - SP 2010 Central Administration - Solution Properties Window*
5. To deploy the solution immediately, select **Now** in the *Deploy Solution* window, otherwise, select **At a specified time**: and specify a date and time for deployment and click **OK**.

*Figure 23 - SP 2010 Central Administration - Deploy Solution Window*

6. Using Internet Explorer, browse to the site where the workflows are to be made available. If the user is logged in as a **Site Administrator**, the **Site Settings** will be accessible from the **Site Actions** tab.

*Figure 24 - SP 2010 - Site Actions Tab*
7. On the Site Settings page, select Site Collection Features under the Site Collection Administration section.

Figure 25 - SP 2010 - Site Collection Administration Section

8. In the Site Collection Features window, click Activate for each workflow to be made available within the site collection.

Figure 26 - SP 2010 - Site Collection Features Window
Deploy Workflows using SharePoint 2013

To Deploy the Solution Package using SharePoint 2013

1. From the Windows Start menu, open the SharePoint 2013 Central Administration site and click **System Settings** in the left hand pane.

2. In the **System Settings** window, click the **Manage farm solutions** link under the **Farm Management** section.

Figure 27 - SP 2013 Central Administration - System Settings Window
3. In the Solution Management window, click on the name of the solution package to view the Solution Properties.

Figure 28 - SP 2013 Central Administration - Solution Management Window

4. Click Deploy Solution.

Figure 29 - SP 2013 Central Administration - Solution Properties Window
5. To deploy the solution immediately, select **Now** in the *Deploy Solution* window, otherwise, select **At a specified time**: and specify a date and time for deployment and click **OK**.

*Figure 30 - SP 2010 Central Administration - Deploy Solution Window*

6. Using Internet Explorer, browse to the site where the workflows are to be made available. If you are logged in as a **Site Administrator**, the **Site Settings** will be accessible from the **Gear** icon.

*Figure 31 - SP 2013 - Gear Actions*
7. On the Site Settings page, select **Site Collection Features** under the **Site Collection Administration** section.

*Figure 32 - SP 2010 - Site Collection Administration Section*

![Site Settings](image)

8. In the **Site Collection Features** window, click **Activate** for each workflow to be made available within the site collection.

*Figure 33 - SP 2013 - Site Collection Features Window*
The newly activated workflows must now be associated with a document library, site or list content type before they will be available on the workflow initiation page. For more information on associating workflows, see Associating Workflows to Document Libraries.

**Associating Workflows to Document Libraries**

Once the solution has been deployed and the features activated, the workflows must be associated with a document library, site or list content type before they can be made available from the workflow initiation page.

**Associating Workflows using SharePoint 2007**

**To Associate a Workflow to a Document Library in SharePoint 2007:**

1. Navigate to the document library where the workflow(s) will be associated. On the **Shared Documents** window, select **Document Library Settings** from the Settings dropdown menu.

**Figure 34 - SP 2007 - Shared Documents Window**

2. In the **Document Library Settings** window, select **Workflow Settings** under the **Permissions and Management** section.

**Figure 35 - SP 2007 - Document Library Settings Window**
3. In the *Add a Workflow: Shared Documents* window, select the workflow to be added to the library from the **Select a workflow template**: dropdown list and give the workflow a unique name. Other settings, such as **Task List**, **History List** and **Start Options** can be adjusted as needed. Click **OK** to add the workflow to the document library.

Figure 36 - SP 2007 - Add a Workflow: Shared Documents Window
**Associating Workflows using SharePoint 2010**

To Associate a Workflow to a Document Library in SharePoint 2010:

1. Using Internet Explorer, browse to the library where the workflows are to be made available.
2. Ensure that the Library Tools/Library tab is selected and click Library Settings in the ribbon bar.

---

**Figure 37 - Library Tools/Library Tab**

3. Under Permissions and Management, click the Workflow Settings link.

---

**Figure 38 - Workflow Settings Link**
4. In the **Add a Workflow** page, select **Adlib - Convert Content to PDF** from the template list and give the template a unique **Name**. Other settings, such as **Task List**, **History List** and **Start Options** can be adjusted as needed. Click **OK** to add the workflow to the document library.

**Figure 39 - Add a Workflow Page**

![Add a Workflow Page](image)

5. On the **Workflow Settings** page, click **Add a workflow** and repeat the previous step to add the **Adlib - Merge Content to PDF** workflow.

**Figure 40 - Add Another Workflow**

![Add Another Workflow](image)
6. Both of the Adlib workflows have now been added to a Document Library. For more information on using the workflows, see Using SharePoint Workflows.

Figure 41 - Workflows Added
**Associating Workflows using SharePoint 2013**

1. Using Internet Explorer, browse to the library where the workflows are to be made available.
2. Ensure that the *Library Tools/Library* tab is selected and click *Library Settings* in the ribbon bar.

3. Under *Permissions and Management*, click the *Workflow Settings* link.

---

**To Associate a Workflow to a Document Library in SharePoint 2013:**

1. Using Internet Explorer, browse to the library where the workflows are to be made available.
2. Ensure that the *Library Tools/Library* tab is selected and click *Library Settings* in the ribbon bar.

Figure 42 - Library Tools/Library Tab

3. Under *Permissions and Management*, click the *Workflow Settings* link.

Figure 43 - Workflow Settings Link
4. In the Workflow Settings page, click **Add a Workflow**.

5. In the Add a Workflow page, select **Adlib - Convert Content to PDF** from the template list and give the template a unique **Name**. Other settings, such as Task List, History List and Start Options can be adjusted as needed. Click **OK** to add the workflow to the document library.

*Figure 44 - Add a Workflow Page*

6. On the Workflow Settings page, click **Add a workflow** and repeat the previous step to add the **Adlib - Merge Content to PDF** workflow.
Figure 45 - Add Another Workflow
7. Both of the Adlib workflows have now been added to a Document Library. For more information on using the workflows, see Using SharePoint Workflows.
Manual System Configurations

After the installation of the SharePoint Workflow Connector several manual system configurations must be performed in order to prepare Adlib PDF to accept content from SharePoint. These include the assignment of the Connector to the default Environment, configuration of one or more Sources, and the assignment of a Source to an Instruction Set. For more information on Adlib PDF Components and System Settings, please refer to the Adlib PDF User Guide.

Assigning the Connector to an Environment

To Assign the SharePoint Workflow Connector to an Environment:

1. Login to the Adlib Management Console using the credentials entered in the Management Console Login window during installation.
2. Click the System Settings tab.

Figure 46 - System Settings Page
3. On the Environments page, drag the SharePoint Workflow Connector into the default Environment.

Figure 47 - Drag SharePoint Workflow Connector into Environment

Configuring Sources

In order for content to be input to Adlib PDF from SharePoint, at least one SharePoint Workflow Source must be configured and associated with the SharePoint Workflow Connector. A Connector can be associated with one or more Sources. If a single Source is used, no additional configuration is required to direct all SharePoint content through that access point.

Source Mapping

If desired, multiple Sources can be created and associated with a single SharePoint Workflow Connector. Each Source must be mapped to SharePoint using a metadata name/value pair. This metadata can identify many different content access points within SharePoint, including Farm, Web Applications, Site Collections, Sites and Lists. Creating multiple sources will allow the user to process specific content from SharePoint using unique content processing rules (Instruction Sets).

One way to identify specific SharePoint attributes for use in Source mapping is to use Property Bag settings. In order to access these settings, the Property Bag CodePlex Add-In must be installed and deployed within SharePoint. For more information on using this feature, see Installing the Property Bag CodePlex Add-In.

To Configure a SharePoint Workflow Source:

1. Click the Sources button on the System Settings Page.
2. Drag a **SharePoint Workflow** Source Type from the left pane to the area surrounded by a dotted line labelled “Drag a Source Type here...”

*Figure 48 - Drag SharePoint Workflow Source Type*

3. In the **Properties** window, enter the SharePoint Workflow Source **Name** and optional **Description**. Click **Save**.

*Figure 49 - SharePoint Workflow Source Properties Window*
4. Select **Edit** from the SharePoint Workflow Source **Edit** menu.

**Figure 50 - SharePoint Workflow Source Edit Menu**

5. To assign a Connector to monitor the new Source, click the plus sign adjacent to **Connectors** and select `<SharePointWorkflowConnectorServer>.SharePoint Workflow Connector` from the drop-down list.

**Figure 51 - Assign a SharePoint Workflow Connector to a SharePoint Workflow Source**

6. If multiple sources will be created and assigned to the same Connector, select the **Mapping** checkbox and enter the **Name** and metadata **Value** pair associated with the content to be submitted from SharePoint. Both the **Name** and **Value** fields are case-sensitive. For more information about determining the precise syntax of a metadata item that is being passed in from SharePoint, see [Working with Metadata](#).
The syntax required to identify metadata names in property bags and column names are different. Metadata names identifying column names must be qualified (i.e. a Column Name in SharePoint needs to be specified as Adlib.Connectors.Workflow.SharePoint.<ColumnName>) in the Source mapping Name field. Metadata items specifying property bag names (keys) do not need to be qualified (i.e. the property key App_ID is specified as App_ID in the Source mapping Name field).

Figure 52 - SharePoint Workflow Source Information

7. If desired, click the **Metadata** button and select the **Name** and/or **Value** using the **Metadata Selector**.

Figure 53 - Metadata Selector

8. Click **Save**.
9. Navigate back to the Environments Page. The green caution icon indicates that unpublished changes have been detected. Click the icon to **Publish** the Environment and activate the configuration changes.

*Figure 54 - Publish Changes to Environment*
Assigning a Source to an Instruction Set

At least one SharePoint Workflow Source must be assigned to an Instruction Set of processing rules before it can be used for content transformation.

To Assign a SharePoint Workflow Source to an Instruction Set:

1. Navigate to the Job Settings tab. The unassigned Sources are listed in the left pane.
2. Drag one or more SharePoint Workflow Sources into an Instruction Set.

3. If desired, create Job Acceptance and/or Transformation Rules within this Instruction Set. By default, Adlib PDF will convert content to PDF without the need for any additional rule configuration.

For more information on creating Job Acceptance and Transformation Rules see the Adlib PDF User Guide.
4. If any rules have been added or modified, select **Publish** from the Instruction Set **Edit** menu to activate the rules.

*Figure 56 - Publish Instruction Set*

For more information on using the Adlib Management Console see the Adlib PDF User Guide.
Installing the Property Bag CodePlex Add-In

In order to use property bag settings to identify particular Source mappings to Farms, Web Applications, Site collections, Sites and Lists, the user must first install and deploy the Property Bag CodePlex Add-In. The .wsp file must be added to the solution store and deployed within SharePoint before property bag settings will be available.

To Deploy the Property Bag CodePlex within SharePoint 2007:
1. Download the Property Bag CodePlex from http://pbs.codeplex.com/
2. Open a command prompt and enter:
   ```
   cd "C:\Program Files\Common Files\Microsoft Shared\web server extensions\12\BIN"
   
   Type the following command, substituting the location of the downloaded codeplex:
   ```
   ```
   stsdadm.exe -o addsolution -filename "<PATH_TO_WSP>\PropertyBagSettings_3.0.wsp"
   ```
   4. Deploy the solution using either SharePoint Central Administration (Operations/Global Configuration/Solution Management) or through the following command prompt:
   ```
   stsdadm.exe -o deploysolution -name PropertyBagSettings_3.0.wsp -allowGacDeployment -immediate
   ```
   5. Property Bag settings will be available at the Farm, Web Application, Site Collection, Site and List levels. The key/value settings for a particular level can be used to identify a Source mapping between SharePoint and Adlib PDF.

To Deploy the Property Bag Codeplex within SP2010:
2. Open the SharePoint 2010 Management Shell.
3. Enter the following command to add the solution:
   ```
   Add-SPSolution <PATH_TO_WSP>\PropertyBagSettings2010.wsp
   ```
4. Deploy the solution using either SharePoint Central Administration or through the Management Shell using the following command:
   ```
   stsdadm.exe -o deploysolution -name PropertyBagSettings2010.wsp -allowGacDeployment -immediate
   ```

To Deploy the Property Bag Codeplex within SP2013:
2. Open the SharePoint 2013 Management Shell.
3. Enter the following command to add the solution:
   ```
   Add-SPSolution <PATH_TO_WSP>\PropertyBagSettings2013.wsp
   ```
4. Deploy the solution using either SharePoint Central Administration or through the Management Shell using the following command:
   ```
   stsdadm.exe -o deploysolution -name PropertyBagSettings2013.wsp -allowGacDeployment -immediate
   ```
**Viewing and Modifying Property Bag Settings**

Property Bag settings can be used to administer properties at multiple levels within SharePoint, including the Farm, Web Application, Site Collection, Site and List levels.

At the onset of workflow content processing, Adlib PDF checks for property bag settings at each level, starting at the most specific List level, and working its way up the levels until it finds the first valid metadata value. This order of evaluation should be kept in mind when assigning Property Bag Settings for use with SharePoint Workflow Connector Source mapping and content processing rules.

**To View and Modify Property Bag Settings in SP 2010:**

1. Open the SP2010 Central Administration site.
2. Click the **System Settings** link.
3. On the **System Settings** page, click the **Property Bag Settings** link under the **Custom Settings** section.

![Property Bag Settings Link](image)

4. On the **Property Bag Settings** page, select the desired Farm, Web Application, etc. from the drop-down list and click the corresponding **View Property Bag** button.
Figure 58 - Property Bag Settings Page

Use this page to administer properties on your site.

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
<th>View Property Bag</th>
</tr>
</thead>
<tbody>
<tr>
<td>Server</td>
<td>VMSP2010-FE (VMSP2010-FE)</td>
<td>View Property Bag</td>
</tr>
<tr>
<td>Web Application</td>
<td>SP Connector Test - 22413 (<a href="http://vmssp2010-fe122413">http://vmssp2010-fe122413</a>)</td>
<td>View Property Bag</td>
</tr>
<tr>
<td>Site Collection</td>
<td>Test Collection (<a href="http://vmosp2010-fe122413">http://vmosp2010-fe122413</a>)</td>
<td>View Property Bag</td>
</tr>
<tr>
<td>Site</td>
<td>No selection</td>
<td>View Property Bag</td>
</tr>
<tr>
<td>List</td>
<td>No selection</td>
<td>View Property Bag</td>
</tr>
</tbody>
</table>

Property Bag
5. The current property bag settings are displayed.

*Figure 59 - Property Bag Settings*

6. To add a new property, click the **New Property** link. The **Modify Property** window opens.

*Figure 60 - Modify Property Window*

7. Complete the **Key** and **Value** fields and click **Save**.

8. If these property bag settings are to be used for SharePoint Workflow Source mapping, transfer the values to the **Name** and **Value** fields in the Source setting in the Adlib Management Console. See **Source Mapping** for more information.
To View and Modify Property Bag Settings in SP 2013:

1. Open the SP2013 Central Administration site.
2. Click the System Settings link.
3. On the System Settings page, click the Property Bag Settings link under the Custom Settings section.

Figure 61 - Property Bag Settings Link

4. On the Property Bag Settings page, select the desired Farm, Web Application, etc. from the drop-down list and click the corresponding View Property Bag button.

Figure 62 - Property Bag Settings Page
5. The current property bag settings are displayed.

**Figure 63 - Property Bag Settings**

![Property Bag Settings](image)

6. To add a new property, click the **New Property** link. The Add Property window opens.

**Figure 64 - Add Property Window**

![Add Property Window](image)

7. Complete the **Key** and **Value** fields and click **Save**.

8. If these property bag settings are to be used for SharePoint Workflow Source mapping, transfer the values to the **Name** and **Value** fields in the Source setting in the Adlib Management Console. See **Source Mapping** for more information.
Using SharePoint Workflows

Overview
Two pre-configured Adlib transformation workflows are deployed during the installation of the SharePoint Workflow Connector:

- **Convert Content to PDF** converts any supported documents to PDF format.
- **Merge Content to PDF** converts and merges multiple supported documents to PDF.

These workflows are easily configured through the Management Console and can be used for either user-initiated or automatic content conversions. They can also be integrated into a larger business process workflow within Microsoft SharePoint.

Using metadata that is passed in with SharePoint workflows as the basis for Source mapping and content transformation rules will provide users with the ability to further customize Adlib PDF to meet their unique processing requirements.

The Adlib SharePoint Workflow Activities can be used to develop custom workflows for SharePoint using Microsoft Visual Studio. It is also possible to invoke the sample workflows from within any workflow created using Microsoft SharePoint Designer 2007 or 2010.

Refer to [SharePoint Workflow Connector Installation](#) for installation and deployment instructions.

- **Running Adlib Workflows**
- **Merge Content to PDF Workflow**
- **Working with Metadata**
- **Using Metadata Items to Create Rules in Adlib PDF**
- **Developing Custom Workflows using Microsoft Visual Studio**
- **Deploying InvokeSPWorkflow for use in SharePoint Designer**
Running Adlib Workflows

Once workflows are installed, deployed and associated with a list, document library or content type, they can be used to send content to Adlib PDF for processing. There are various methods available to manually start a SharePoint workflow:

 pena From a Document’s Edit Control Block (ECB) menu:

1. Select Workflows from the document’s ECB menu.

   Figure 65 - Edit Control Block Menu.

2. Select an Adlib workflow from the Workflows page.
From the SharePoint 2010 ribbon bar:

1. Select the document.
2. Select the **Workflows** icon in the ribbon bar.

*Figure 66 - SharePoint 2010 Ribbon Bar*

3. Select an Adlib workflow from the **Workflows** page.
**From the SharePoint 2013 ribbon bar:**

1. Click the *File* tab and select the document.
2. Select the *Workflows* icon in the ribbon bar.

*Figure 67 - SharePoint 2013 Ribbon Bar*

3. Select an Adlib workflow from the *Workflows* page.
**From Within a Microsoft Office 2007 application (e.g. Word, Excel, etc.):**

1. Click the Microsoft Office icon at the top left of the application.
2. Select **Workflows**.

*Figure 68 - Office 2007 Workflows.*

3. Select an Adlib workflow from the **Workflows** page.
From Within a Microsoft Office 2010 application (e.g. Word, Excel, etc.):

1. From the File menu, select **Save & Send**.
2. Select the Adlib workflow from the **Workflows** list.

*Figure 69 - Office 2010 Workflows.*
Merge Content to PDF Workflow

The **Merge Content to PDF** workflow requires two columns to be defined in the document library or Document Set.

- The **Merge Document** column is used to include or exclude a document from the merge.
- The **Merge Document Order** column is used to define the order in which a document is merged into the resulting PDF.

**To Merge Content to PDF**

1. Create two columns in your SharePoint document library. Column names and settings must be defined exactly as described below.
   - The data type for **Merge Document** must be **Yes/No** (check box), with default value Yes.
   - The data type for **Merge Document Order** must be **Number** (1, 1.0, 100).

   ![Figure 70 - Merge Columns Properties](image)

2. In the document library, assign values for these columns to the documents to be merged.
   - Select **Edit Properties** from the document’s ECB menu.

   ![Figure 71 - Edit Document Properties](image)
- **Merge Document** will default to Yes if not explicitly assigned.
- Enter a number for **Merge Document Order** which defines the order in which the document will be merged into the PDF.
  
  It is not necessary to number documents in sequential order (e.g. 1, 2, 3, 4). It may be desirable to leave gaps in the numbering to allow documents to be inserted later (e.g. 1, 5, 10, 15), or to use decimal digits.

  In the example below, SOP Document will be included first in the merge, Installation Document will be merged second, and My Document will be merged third. The Quality document is excluded from the merge.

  *Figure 72 - Merge Document Columns*

<table>
<thead>
<tr>
<th>Type</th>
<th>Name</th>
<th>Merge Document</th>
<th>Merge Document Order</th>
</tr>
</thead>
<tbody>
<tr>
<td>DP</td>
<td>Installation Document</td>
<td>Yes</td>
<td>2</td>
</tr>
<tr>
<td>DP</td>
<td>My Document</td>
<td>Yes</td>
<td>3</td>
</tr>
<tr>
<td>DP</td>
<td>Quality Management System Manifesto</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>DP</td>
<td>SOP Document</td>
<td>Yes</td>
<td>1</td>
</tr>
</tbody>
</table>

3. Once merge values are assigned, start the workflow.
   - Select **Workflows** from the ECB of any of the documents to be merged.
   - Select **Merge Content to PDF** on the **Workflows** page.

4. When the workflow has completed, open the resulting PDF to view the transformation results.
To Merge Document Sets

In SharePoint 2010, the Merge Content to PDF workflow can be used to merge documents in a Document Set into a single PDF file.

1. Select the Document Set.
2. Select Workflows from the Document Set ECB menu.
3. Start the Merge Content to PDF workflow.

Figure 73 - Merge Document Set
Working with Metadata

Leveraging metadata will greatly increase the capability of Adlib PDF to provide custom content processing solutions geared to the unique needs of the user. The term metadata refers to contextual information that describes elements of a set of data (sometimes referred to as “data about data”).

One way to employ metadata is to create content processing rules within Adlib PDF based on column name variables found in SharePoint documents. Since the naming conventions employed by SharePoint can be highly variable, it may be beneficial to run a test workflow in order to identify the precise syntax and spelling of the metadata variable being passed into Adlib PDF so that any processing rules being created will be accurate.

For example, a user may create a column name called “Document Status” within a particular document library, intending to use that column name as the basis for a Transformation rule within Adlib PDF. When that column name is submitted as a metadata item to Adlib PDF, the name may actually appear as Document_Status or DocumentStatus, etc. In order to create processing rules within Adlib PDF that will evaluate this metadata value, it is necessary to input the item name accurately.

This process involves several steps, including:

1. Creating the custom column name within a SharePoint document and assigning a value to it.
2. Changing the logging level of the SharePoint Workflow Connector to expose the name of the metadata being passed in with the SharePoint workflow.
3. Running a test workflow.
4. Examining the logs to determine the precise syntax of the metadata item.
5. Adding the metadata item to the list of metadata extracted by the SharePoint Workflow Connector when a workflow is submitted to Adlib PDF.
6. Creating one or more Job Acceptance or Transformation rules using the metadata variable.

Performing the following workflow test procedure when working with metadata should reduce the likelihood of unexpected results once jobs are rendered in the production environment.

The first step of the process is to create a new column name (or choose an existing column name) and assign a value to it. This step is important because it will be easier to identify the metadata item name within the Adlib PDF logs by searching for the column value rather than the column name, because the exact syntax of the column name is unknown.

**To Identify a Metadata Item Name passed in from SharePoint:**

1. Choose (or create) the column name in SharePoint that will be used for Adlib PDF processing rules and assign a value to that column within a SharePoint document. For example, create a column called “Document Status” and assign a value of “Approved”.
2. Since the default logging level for a successful job is “Information”, the logging level needs to be increased to “Trace” in order to expose all of the metadata items being passed with a job in the log. To change the logging level, login to Adlib PDF and navigate to the Monitoring page and select the System Status tab.
3. If necessary, scroll to the right of the grid to locate the Log Level column. In the line for the SharePoint Workflow Connector, double-click the Log Level column and select Trace from the drop-down menu.

Figure 74 - Modify Log Level

4. In SharePoint, run the Adlib Convert to PDF workflow from the document containing the column name and value set up in Step 1.

5. Once the workflow has completed, click the workflow status link to view the workflow information.

Figure 75 - View Workflow Information
6. On the Workflow Status page, make note of the time the workflow was started. This information is used to narrow the window of time in which to search through the Adlib PDF logging information.

Figure 76 - Workflow Information

7. In the Adlib Management Console, navigate to the System Log tab on the Monitoring page.

8. Filter the logging information in the following manner and click the Execute Query button:
   - Start/End Date: Set the start time that corresponds with the time that the workflow was initiated in SharePoint.
   - Component Name: SharePointConnector
   - # Records to Return: 3000

Figure 77 - Filter Log Information
9. Scroll to the far right and click the **Sequence** column header to reorder the logging entries in ascending order. Metadata is submitted at the beginning of the rendering process, therefore reordering the log will display the extracted metadata items at the beginning of the entries.

**Figure 78 - Reorder Logging Message Sequence**

10. Type the column name value (e.g. Approved) in the **Search** field. All the lines featuring that value are displayed below. The name of the metadata item will begin with the following syntax: `Adlib.Connectors.Workflow.SharePoint.SPWorkflowActivationProperties.Item.File.Properties`.

**Figure 79 - Filter Search Results**
11. To copy the metadata item name, click the plus (+) sign to expand the appropriate log entry and copy (Ctrl + c) the item name beginning with **Adlib.Connectors**...and ending with the column name. Do not include the dash (-) or the value assigned to that column name in the test document.

*Figure 80 - Copy Metadata Item Name from Log*

12. See [Using Metadata Items to Create Rules in Adlib PDF](#) for the next step in the process.
Using Metadata Items to Create Rules in Adlib PDF

Once the correct metadata item name has been identified it must be added to the list of metadata items being extracted by the SharePoint Workflow Connector during the processing of a job. This list is maintained in the SharePoint Filter Submission Metadata System Setting. The second step in the process is to create Job Acceptance and/or Transformation rules using the SharePoint metadata item.

To Create Rules Based on SharePoint Metadata:

1. Navigate to the System Settings page and select SharePoint Workflow Connector from the Configure menu in the Default Environment.

Figure 81 - Environment Settings Menu


Figure 82 - Edit Rule Setting
3. The Filter Submission Metadata Rule Setting is configured by default with a subset of the available metadata from SharePoint. To add a new metadata item, scroll to the bottom of the list and check the Filter Submission Metadata Handler field.

4. Paste the name of the metadata item copied from the System Status log (Ctrl+v) in the Name field. Select the Value checkbox but leave the Value field blank to enable SharePoint to return a value (rather than assigning a specific value).

The Metadata item name will use the following syntax:
Adlib.Connectors.Workflow.SharePoint.SPWorkflowActivationProperties.<metadata name>

**Figure 83 - Add Filter Submission Metadata Item**

5. Click OK. Click Save in the Rule Set Editor.
6. Navigate back to the Environments page and select Publish from the Environment Action menu to activate the changes to the System Settings.

Figure 84 - Publish System Setting Modifications

7. To create a Transformation Rule that will insert the value of the column name into the header of the workflow document, navigate to the Job Settings page and select Transformation Rules from the Instruction Set Configure menu.

Figure 85 - Instruction Set Edit Menu

8. The Rule Set Editor opens. Click the Edit tab to enable editing of the rules.

9. Drag a Rule into the area labelled “Drag a Rule here...”
10. Drag the setting, (eg. the PdfProcessing.Header Rule Setting) into the area labelled “Drag a Setting here...”

Figure 86 - Drag a Rule Setting

11. Select **Edit** from the Rule Setting **Edit** menu.

12. Select the **Text** field and type `${Document Status}` in the **Left** field. Ensure that the column name matches the exact spelling and syntax of the column name shown in the Adlib PDF logs. When the content is rendered to PDF, the actual value of the Document Status column will be inserted into the header.

If using a metadata item in a Rule Condition, the item name must be enclosed in quotation marks, e.g. "${Document Status}". If the metadata item will be used as a Rule Condition in the SharePoint Workflow Connector System Settings, use the following syntax: "${aswc:<MetadataName>}". For more information on creating Rule Conditions and Settings see the Adlib PDF User Guide.

13. Click **OK**. Click **Save** in the **Rule Set Editor**.

14. Navigate back to the **Instruction Set** page and select **Publish** from the **Instruction Set** Action menu to activate the changes to the rules.

15. If desired, submit a test workflow to ensure that the rule has been configured correctly.

The procedure listed above outlines the steps required to create a specific Transformation Rule using a metadata item. Other rules can be created based on these instructions provided that the metadata item syntax is duplicated in both the System Settings and Job Acceptance and/or Transformation Rules.

**Changing Job Status Log Levels**

As the system default logging level provide only “information” messages for successful jobs, it may be necessary to occasionally increase logging levels on a temporary basis in order to further investigate a certain aspect of a successful job. These investigations might include the determination of which rule settings were evaluated during the processing of a job. In contrast to the test workflow procedure in **Working with Metadata** which involved changing the System Log settings, the following procedure can be used to change Job Status Log levels from the system defaults.
Due to performance and database size considerations, we recommend that system defaults be restored during normal operations.

To Change Logging Levels for the Job Status Log:

1. Login to Adlib PDF and navigate to the System Settings page and select System Manager from the Environment Settings menu.

2. In the Rule Set Editor, click the Edit tab to enable editing of the rule settings.

4. In the **Completed Job Log Retention** section, select an alternate logging level from the drop-down lists in the **On Error** and/or **On Success** fields and click **OK**.

*Figure 89 - Logging Threshold Settings*

5. Click **Save** in the **Rule Set Editor**.

6. Click the **System Settings** tab again to navigate back to the **Environments** page and repeat this process in the Adlib.JobManagementService.Settings rule for the **Job Management Service** Component.

7. Navigate to the **Environments** page again and select **Publish** from the **Action** menu to activate the changes to the Components.

8. Navigate to the **Monitoring** tab and click the **System Status** button.
9. Double-click the Log Level value for each Component and select the new log level (e.g. Trace) from the drop-down list.

Figure 90 - Change Component Log Levels

10. Re-run the job and view the modified Job Status log on the Monitoring page.
Developing Custom Workflows using Microsoft Visual Studio

The Adlib SharePoint Workflow Activities can be used to develop custom workflows for SharePoint using Microsoft Visual Studio. It is not necessary to perform these steps unless you are planning to develop custom workflows using Adlib workflow activities. The sample workflow code is provided to serve as an example when developing your own workflows.

To Add the SharePoint Workflow Activities to the Visual Studio Toolbox:

2. Create a custom category for the workflow activities that will be selected.
3. Right-click in the Toolbox and select “Choose Items…”

Figure 91 - Visual Studio Toolbox
4. In the Choose Toolbox Items window, select the Activities tab and click Browse...

Figure 92 - Choose Toolbox Items Window

5. Navigate to the [INSTALL_DIR]\GAC folder, where:

   - [INSTALL_DIR] = C:\Program Files\Adlib\Workflows for SharePoint\vX.X.X.X by default.
   - Or,

     If a custom installation directory was specified during installation, navigate to that folder.
6. Select the desired workflow activities. The assembly base names ending with "Activity" are valid workflow activity assemblies that can be selected and added to the toolbox.

Figure 93 - SharePoint Workflow Activity Selection
Deploying InvokeSPWorkflow for use in SharePoint Designer

It is possible to invoke the sample workflows supplied with Adlib PDF from within any workflow created using Microsoft SharePoint Designer 2007 or 2010.

To make this feature available, a custom activity called InvokeSPWorkflow must be deployed.

This procedure involves three steps:

1. Add InvokeSPWorkflow to the GAC (Global Assembly Cache)
2. Deploy the associated ACTIONS file.

Once deployed, this activity will appear under the Custom Actions category in the Actions drop-down menu.

At least one of the default Adlib SharePoint workflows must first be added to a SharePoint library in order to be available for use within SharePoint Designer.

To Configure the Action in SharePoint Designer:

1. Select Create a Reusable Workflow in SharePoint Designer from the Workflow Settings drop-down menu.
2. In SharePoint Designer, select **Start a document conversion workflow from Adlib Software** from the Actions drop-down menu.
3. To configure the action, enter either one of the following parameters:
   - **WorkflowName** - The EXACT name used when the workflow was associated to a Document Library.
   - **WorkAssociationID** - The Association Id of the workflow, created when the workflow was associated to a Document Library.

   Adlib workflows initiated from within workflows created in SharePoint Designer will run asynchronously. Once the defined workflow is invoked, it will run independently of the SharePoint Designer workflow.

   **To Add the Assembly to the Global Assembly Cache:**
   The Global Assembly Cache (GAC) contains assemblies that are shared among processes. SharePoint related assemblies must be placed in the GAC before WSS (Windows SharePoint Services) can leverage them.

   1. Open Windows Explorer and navigate to the assembly folder. Typically, this folder is called `C:\Windows\Assembly`.
   2. Locate and drag the target assembly "Adlib.SPWorkflow.InvokeSPWorkflowActivity.dll" into the assembly folder and it will automatically be added to the Global Assembly Cache.
   3. If this assembly was previously added to the GAC, IIS must be restarted before the new version of the assembly is recognized by WSS. To restart IIS:
      1. On the **Start** menu, select **Run**.
      2. Type "iisreset" into the **Run** dialog and click **OK**.

   **To Deploy the Associated ACTIONS file:**
   1. Copy the ACTIONS file ("InvokeSPWorkflow.ACTIONS") from `[INSTALL_DIR]\ACTIONS` where,
[INSTALL_DIR] = C:\Program Files\Adlib\Workflows for SharePoint\vX.X.X.X by default.

If a custom installation directory was specified during installation, navigate to that folder.

2. Paste the ACTIONS file to the following folders on the server:

   For SharePoint 2007:
   "C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\12\TEMPLATE\1033\Workflow"

   For SharePoint 2010:
   "C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\14\TEMPLATE\1033\Workflow"

WSS monitors the previous folder for files that have an ACTIONS file extension and uses the information within these files to determine how to display actions within SharePoint Designer.

To Update the web.config File:

The web.config for the web application that will run the custom action must be updated to allow SharePoint Designer to use the custom action.

   Code in the GAC runs without code restrictions, therefore updating the web.config file will enable this code to run inside WSS unrestricted.

1. Back up the web.config file.

   The default location of the web.config file is:
   C:\inetpub\wwwroot\wss\VirtualDirectories\portnumber\web.config
   where:
   portnumber = the port number of the SharePoint web application

   If the web.config file is misconfigured, the SharePoint web application will cease to function until the issue within the web.config is resolved.

2. Open the web.config file with the text editor of your choice.

   If data is copied directly from this PDF document, it should be pasted into a text editor before being inserted into the web.config file.

3. Locate the tag named <System.Workflow.ComponentModel.WorkflowCompiler>
4. Within the XML node named <authorizedTypes>, add the following <authorizedType> nodes:

```xml
<System.Workflow.ComponentModel.WorkflowCompiler>
  <authorizedTypes>

  ...

  <!- xml nodes to insert -->

  <authorizedType Assembly="Adlib.SPWorkflow.InvokeSPWorkflowActivity, Version=X.X.X.X, Culture=neutral, PublicKeyToken=2aaaac22aad34a04"
                  Namespace="Adlib.SPWorkflow.InvokeSPWorkflowActivity"
                  TypeName="*"
                  Authorized="True"/>

  <authorizedType Assembly="Adlib.Workflow.BaseActivityActivity, Version=X.X.X.X, Culture=neutral, PublicKeyToken=eee6d2ddc8f594f9"
                  Namespace="Adlib.Workflow.BaseActivityActivity"
                  TypeName="*"
                  Authorized="True"/>

  <authorizedType Assembly="Adlib.Common.Utils, Version=X.X.X.X, Culture=neutral, PublicKeyToken=d4c6e00e44de0b8b"
                  Namespace="Adlib.Common.Utils"
                  TypeName="*"
                  Authorized="True"/>

  <!- xml nodes to insert -->

  ...

  </authorizedTypes>
</System.Workflow.ComponentModel.WorkflowCompiler>
```
“X.X.X.X” refers to a particular product version. To obtain the version number, navigate to the C:\Windows\Assembly directory where the DLL was copied and note the Version column:

<table>
<thead>
<tr>
<th>Assembly Name</th>
<th>Version</th>
<th>Culture</th>
<th>Public Key Token</th>
<th>Process ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessibility</td>
<td>2.0.0.0</td>
<td>5b90e5f711e820a8</td>
<td>MEL</td>
<td></td>
</tr>
<tr>
<td>ADLS Collections</td>
<td>2.1.6.0</td>
<td>5a53e3f70e5e7f56</td>
<td>MEL</td>
<td></td>
</tr>
<tr>
<td>ADLS Core</td>
<td>3.5.0.0</td>
<td>3a54e820e54e7f56</td>
<td>MEL</td>
<td></td>
</tr>
<tr>
<td>ADLS Core Utilities</td>
<td>2.1.4.0</td>
<td>64e4e006b440e7f56</td>
<td>MEL</td>
<td></td>
</tr>
<tr>
<td>ADLS Core Workflow MultipleDocumentWorkflow</td>
<td>2.1.6.0</td>
<td>187e2b55e0e820a8</td>
<td>MEL</td>
<td></td>
</tr>
<tr>
<td>ADLS Core Workflow SingleDocumentWorkflow</td>
<td>2.1.6.0</td>
<td>39b7e39b4b40e7f56</td>
<td>MEL</td>
<td></td>
</tr>
<tr>
<td>ADLS Core Workflow WorkflowActivity</td>
<td>2.1.6.0</td>
<td>22e8e5f940f820a8</td>
<td>MEL</td>
<td></td>
</tr>
<tr>
<td>ADLS Security Encrypt/Decrypt</td>
<td>3.5.0.0</td>
<td>72b2e1e9e5f5f5f5</td>
<td>MEL</td>
<td></td>
</tr>
<tr>
<td>ADLS Security Settings</td>
<td>2.1.6.0</td>
<td>4e59e2e3e5f5f5f5</td>
<td>MEL</td>
<td></td>
</tr>
<tr>
<td>ADLS SharePointWorkflowImportWorkflowActivity</td>
<td>2.1.6.0</td>
<td>2a32e2e3e5f5f5f5</td>
<td>MEL</td>
<td></td>
</tr>
<tr>
<td>ADLS SharePointWorkflowSubmitDocumentWorkflowActivity</td>
<td>2.1.6.0</td>
<td>e957e2e3e5f5f5f5</td>
<td>MEL</td>
<td></td>
</tr>
<tr>
<td>ADLS SharePointWorkflowSubmitDocumentWorkflow</td>
<td>2.1.6.0</td>
<td>e957e2e3e5f5f5f5</td>
<td>MEL</td>
<td></td>
</tr>
<tr>
<td>ADLS Web Services DocumentImportServiceProxy</td>
<td>2.1.6.0</td>
<td>01b8e7e9e5f5f5f5</td>
<td>MEL</td>
<td></td>
</tr>
<tr>
<td>ADLS Web Services EnterpriseLoggingServiceProxy</td>
<td>2.1.6.0</td>
<td>01b8e7e9e5f5f5f5</td>
<td>MEL</td>
<td></td>
</tr>
<tr>
<td>ADLS Web Services RepositoryServiceProxy</td>
<td>2.1.6.0</td>
<td>e957e2e3e5f5f5f5</td>
<td>MEL</td>
<td></td>
</tr>
<tr>
<td>ADLS Workflow</td>
<td>2.1.6.0</td>
<td>1e52e2e3e5f5f5f5</td>
<td>MEL</td>
<td></td>
</tr>
</tbody>
</table>

5. Save the web.config file.

Changes to configuration settings in web.config files will indirectly cause the application domain to restart.
SharePoint Workflow Connector System Settings

Common Scenarios
The following section lists the SharePoint Workflow Connector System Settings in detail and outlines several modifications that can be made in order to customize the performance of Adlib PDF to suit the individual needs of the user.

Turn off File Extension Preservation
By default, input file extensions are preserved after rendering (e.g. salesforcast.doc.pdf). To turn off this feature, the SharePoint Workflow Connector System Settings must be modified using the following procedure:

To Turn Off Source Filename Extension Preservation:
1. In the Adlib PDF Management Console, click the System Settings tab and select SharePoint Workflow Connector from the Configure drop-down menu.

Figure 94 - SharePoint Workflow System Settings
2. Click the Edit tab in the Rule Set Editor and click the pencil icon in the Adlib.Workflow.Settings.SubmitDocumentsToSharePointActivity Rule Setting in the Convert Document to Pdf Rule.

3. In the Preserve Source Filename Extension drop-down field select False and click OK.

Figure 95 - Preserve Source Filename Extension field

4. Save the changes to the Rule Setting.

5. If desired, repeat the process for the Merge Document Library Folder to Pdf Rule.

6. Navigate back to the System Settings page and click the green Publish icon to activate the changes.

Create a Rule Condition Based on a Specified File Type
Use the following method to create a Rule Condition based on specified file type(s). The Rule Condition can be used in conjunction with a job processing or system setting rule within Adlib PDF.

- To Create a Rule Condition Based on a File Type
  1. Drag the desired Rule into the Rule Set Editor.
  2. Click Edit in the Rule Condition.
  3. Deselect the Always Evaluate to True checkbox.
  4. Type the following in the first Metadata field (this example is used to specify files with the .pdf and .PDF file extensions)

5. Type the following into the next Rule Condition field:
   
   
   
   
   
   "pdf"

6. If desired, click the ADD button and select OR to add a second file extension condition.

7. Repeat the first Rule Condition but type ".PDF" in the second Metadata field.

8. Save the Rule Condition and add the desired Rule Setting to complete the rule.

Figure 96 - File Extension Rule Condition

Change the Output Destination for all SharePoint Workflows
By default, all rendered SharePoint Workflows are returned to the input destination, however users can direct the output to a destination of their choice. This configuration change is necessary if workflows are to be converted automatically, in order to prevent the same workflows from being converted repeatedly.

Adlib PDF can also be configured to change the default output location based on metadata such as the input location of the SharePoint workflow. For more information on this procedure see Change the Output Destination based on Input Metadata.

To Control the Output Destination for all Rendered Workflows:

1. In the Adlib PDF Management Console, click the System Settings tab and select SharePoint Workflow Connector from the Configure drop-down menu.

2. Click the Edit tab to enable rule editing and click the pencil icon in the Adlib.Workflow.Settings.SubmitDocumentsToSharePointActivity Rule Setting in the Convert Document to Pdf or Merge Document Folder to PDF Rule.

3. Modify the Rendition Document Locations to add information similar to the following:

   Type: Folder
4. Click **OK** and **Save** the Rule Setting.

5. Navigate back to the **System Settings** page and select **Publish** from the Action tab.

**Change the Output Destination based on Input Metadata**

Adlib PDF can also be configured to change the default output location based on metadata such as the input location of the SharePoint workflow. A new SharePoint Workflow Connector Rule must be created that specifically defines the metadata in the Rule Condition and the output location in the Rule Setting.

**↓ To Change the Output Destination based on SharePoint Input Metadata:**

1. In the Adlib PDF Management Console, click the **System Settings** tab and select **SharePoint Workflow Connector** from the **Configure** drop-down menu.
2. Click the *Edit* tab and drag a new Rule from the toolbox to the area labelled “Drag a Rule here…” in the work area.

*Figure 98 - Drag a New Rule*

3. Click the pencil icon to edit the Rule Condition. Give the Rule Condition a descriptive name, such as “Convert and Redirect”.

---

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4. Deselect the Always Evaluate to True checkbox and edit the rule conditions to be identical to either the "Convert Document to Pdf" or "Merge Document Library Folder to Pdf" rule conditions, depending on the input workflows to be redirected in this rule.

*Figure 99 - Modify Rule Conditions*
5. Click the **Add** button to add another rule condition to specify the workflow input location.

The following example will configure the rule to redirect the output from all single conversion workflows coming from http://vmsp2010-fe/sites/input

```
"${Adlib.Connectors.Workflow.SharePoint.SPWorkflowActivationProperties.SiteUrl}" = = Equals
"http://vmsp2010-fe/sites/input"
```

Ensure the rule conditions are enclosed in quotation marks.

6. Click the checkbox labelled **Do not process subsequent rules if this rule evaluates to:**

**True.** This will ensure that the change to the default output location is not overwritten by the default rule that applies to all SharePoint Workflow input.

7. Save the Rule Condition.
8. Drag each of the following Rule Settings from the toolbox to the area labelled “Drag a Setting here...” adjacent to the new Rule Condition:
   - SubmitDocumentsFromSharePointActivity
   - SubmitDocumentsToSharePointActivity
   - Workflow

9. Verify that the default values in these Rule Settings are the same as the Settings within the Convert Document to PDF Rule.

*Figure 101 - Drag Rule Conditions*

10. Click and drag the “Convert and Redirect” Rule so that it comes before the “Convert Document to PDF Rule” in the hierarchy. This will ensure that this more specific rule will be applied to all input from the specified location. To move the rule, click the Rule Condition and drag it up until it covers the “Convert Document to PDF” Rule Condition.

   If the Rule being moved does not completely cover the rule it is replacing, a copy of Rule being moved may be created at the bottom of the hierarchy. If this happens, simply delete it from the Rule Condition edit menu and try to moving process again.

11. To set the output destination, click the pencil icon in the Adlib.Workflow.Settings.SubmitDocumentsToSharePointActivity Setting within the “Convert and Redirect” rule setting.
12. Modify the **Rendition Document Location** as desired. For example:

   - **Type**: Folder
   - **Web Site Url**: http://vmsp2010-fe
   - **Web Site Relative Folder Url**: sites/output

   ![Figure 102 - Modify Rendition Document Locations](image)

13. Click **OK** and **Save** the changes.

14. Navigate back to the **System Settings** page and select **Publish** from the Action tab.

### Using Hidden Features

During the installation of the SharePoint Workflow Connector, the user has the option to hide the Adlib workflows features from the site collection feature gallery so that site collection administrators will not be able to view those features.

In order to activate the features a powershell script must be run at the site collection level. This procedure will make the Adlib features visible only in the **Add Workflows** page, not in the site collection.

↓ **To Make the Workflows Visible in SP2010:**

1. Open the SharePoint 2010 Management Shell.
2. To activate the "Adlib-Convert Content to PDF" feature, enter the following:

   ```bash
   Enable-SPFeature SingleDocumentWorkflow<version number> -url http://server/site/subsite
   ```
3. To activate the "Adlib-Merge Content to PDF" feature, enter the following:

   Enable-SPFeature MultipleDocumentWorkflow<version number> -url http://
   server/site/subsite

4. Navigate back to the site collection created earlier and click on the library settings.

5. Click the Workflow settings link under the Permission and Management heading. The two
   workflow templates will now be visible.

The feature folders are found in the following directory: %Program Files%\Common
Files\Microsoft Shared\Web Server Extensions\14\Template\Features\. Check this directory
to verify the current SharePoint Workflows Connector version number.

#### To Make the Workflows Visible in SP2007:

1. Open a command prompt and go to C:\Program Files\Common Files\Microsoft Shared\web
   server extensions\12\BIN

2. Enter the following:

   stsadm.exe -o activatefeature -name
   FeatureFolderName -url http://server/site/subsite -force

#### To Deactivate a Hidden Feature in SP2010:

1. Enter the following in the SharePoint 2010 Management Shell:

   Disable-SPFeature FeatureFolderName -url http://server/site/subsite

#### To Deactivate a Hidden Feature in SP2007:

1. Open a command prompt and go to C:\Program Files\Common Files\Microsoft Shared\web
   server extensions\12\BIN

2. Enter the following:

   stsadm.exe -o deactivatefeature -name
   FeatureFolderName -url http://server/site/subsite -force

It is not necessary to deactivate the features before undeploying the solution package.

### Job Timer

Since the default job timer is set to process a workflow only once every five minutes, it may be beneficial to
adjust the settings in order to direct SharePoint to poll for workflow activity more frequently.

#### To Adjust the Workflows Job Timer in SP 2010:

1. Access the SharePoint 2010 Central Administration site.
2. Click the **Monitoring** section link.

*Figure 103 - SP2010 Central Administration - Monitoring Link*
3. On the **Monitoring** page, click the **Review Job Definitions** link under the **Timer Jobs** section.

**Figure 104 - Monitoring Page - Review Job Definitions**

4. On the **Job Definitions** page, scroll down as necessary and click the **Workflows** link.

**Figure 105 - Job Definitions Page - Workflows Link**
5. On the **Edit Timer Job** page, modify the default frequency that the job timer is scheduled to run workflows and click **OK**. Note: the frequency selected should be balanced with processing capacity and workload demands.

**Figure 106 - Edit Timer Job Page**

![Edit Timer Job Page](image)

**To Adjust the Workflows Job Timer in SP 2013:**

1. Access the SharePoint 2013 Central Administration site.
2. Click the **Monitoring** section link.
3. On the Monitoring page, click the **Review Job Definitions** link under the **Timer Jobs** section.

*Figure 107 - Monitoring Page - Review Job Definitions*

4. On the Job Definitions page, scroll down as necessary and click the **Workflows** link.

*Figure 108 - Job Definitions Page - Workflows Link*
5. On the *Edit Timer Job* page, modify the default frequency that the job timer is scheduled to run workflows and click **OK**. Note: the frequency selected should be balanced with processing capacity and workload demands.

*Figure 109 - Edit Timer Job Page*
Component Friendly Names

Components can be assigned “friendly names” to assist the user in differentiating among multiple components installed on the same machine.

To Assign a Friendly Name to a Component:

1. Within the Component Name column, click twice on the name of the Component to be changed to enable it for editing.
2. Type the Friendly Name. Repeat as necessary to rename additional Components.
3. Click the Component Name column header to sort by the Component list by name.

Figure 110 - Assign Component Friendly Name
SharePoint Workflow Connector System Settings

The following section lists the fields and values of each of the SharePoint Workflow Connector System Settings Rules.

Rule Setting and Field descriptions can be viewed within the Management Console by clicking the right mouse button and selecting “What’s this?” when hovering over a field or Rule Setting name.

Filter Submission Metadata (Adlib.Workflow.Settings.FilterSubmissionMetadata)

Control the list of metadata that will be submitted from the workflow with each job. Use this schema in conjunction with the RetrieveDataActivity schema, which controls the high level categories of metadata that will be returned.

SharePoint has literally hundreds of available metadata names. By default, it will submit all the metadata that is associated with the document being submitted, including properties of the document itself as well as properties defined within SharePoint. The workflow will use the defined list of FilterSubmissionMetadataHandlers to filter the metadata extracted and sent by the workflow.

This schema can also be used to inject metadata into the job. This can be done by specifying both a name and a value for the desired FilterSubmissionMetadataHandler(s).

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filter Submission Metadata Handlers</td>
<td>A list of name value pairs that specify which metadata will be submitted by the workflow with each job. Name is required for each item, Value is optional. If a value is supplied, it will be injected as a metadata item with every job. Tokens can be used in the Value and the token will be replaced by its runtime value when the job executes.</td>
</tr>
<tr>
<td>Name</td>
<td>Specify the Name used to identify the pair throughout the system. Data is stored and accessed using this name. These names can be referenced within user data by wrapping it in token delimiters ${Name}. Example: A metadata item named Document.Author can be referenced anywhere as ${Document.Author}. This will then be replaced by the specific value for Document.Author that is submitted with the job.</td>
</tr>
<tr>
<td>Values</td>
<td>User-defined alphanumeric.</td>
</tr>
</tbody>
</table>
Retrieve Data (Adlib.Workflow.Settings.RetrieveDataActivity)

Specify which categories of metadata will be extracted by the workflow each time it is initiated. Items extracted from these categories can be further filtered using the FilterSubmissionMetadata schema. The suggested best practice is to return the smallest amount of metadata required to obtain the desired result. This will increase overall job throughput by limiting the time taken to extract metadata, reducing data size for transmission to the Job Management Service, and reducing Transformation Engine processing time by limiting the number of metadata items that must be evaluated.

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metadata</td>
<td>Enable extraction of metadata that is part of the host SharePoint configuration for objects in this category. SharePoint permits user configuration of metadata that is then associated to objects stored within a particular SharePoint scope (site, list, document library, etc.). Selecting items in this category will enable extraction of this SharePoint metadata for the item indicated.</td>
</tr>
<tr>
<td>File</td>
<td>Enable extraction of SharePoint metadata for files stored within SharePoint.</td>
</tr>
<tr>
<td>Values</td>
<td>True (Default)</td>
</tr>
<tr>
<td></td>
<td>False</td>
</tr>
</tbody>
</table>

Example: A metadata item named Company.Department that has a Value set as "Marketing" can be referenced anywhere as ${Company.Department}. This will then be replaced by the specific value “Marketing” at runtime by the system.
<table>
<thead>
<tr>
<th>Field Name</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Properties</td>
<td>Enable the extraction of properties that are part of the physical objects in this category. Properties differ from metadata in that they are typically fixed attributes of the object itself, and not user configurable.</td>
</tr>
<tr>
<td>Environment</td>
<td>Enable the extraction of properties of the Environment on which the workflow is hosted.</td>
</tr>
<tr>
<td>Values</td>
<td>True (Default)</td>
</tr>
<tr>
<td>False</td>
<td></td>
</tr>
<tr>
<td>File</td>
<td>Enable the extraction of properties of the File on which the workflow has been initiated.</td>
</tr>
<tr>
<td>Values</td>
<td>True (Default)</td>
</tr>
<tr>
<td>False</td>
<td></td>
</tr>
<tr>
<td>User</td>
<td>Enable the extraction of properties associated with the user who either authored, last modified, or created the SharePoint list item on which the workflow has been initiated.</td>
</tr>
<tr>
<td>Author</td>
<td>Extract the name of the User who authored the SharePoint list item on which the workflow has been initiated.</td>
</tr>
<tr>
<td>Values</td>
<td>True (Default)</td>
</tr>
<tr>
<td>False</td>
<td></td>
</tr>
<tr>
<td>Modified By</td>
<td>Extract the name of the User who last modified the SharePoint list item on which the workflow has been initiated.</td>
</tr>
<tr>
<td>Values</td>
<td>True (Default)</td>
</tr>
<tr>
<td>False</td>
<td></td>
</tr>
<tr>
<td>Originator</td>
<td>Extract the name of the User who originated the SharePoint list item on which the workflow has been initiated.</td>
</tr>
<tr>
<td>Values</td>
<td>True (Default)</td>
</tr>
<tr>
<td>False</td>
<td></td>
</tr>
<tr>
<td>Workflow Activation</td>
<td>Extract the properties related to the activation of the workflow. Examples: SiteId, ItemId, WorkflowId. Searching the web for &quot;Sharepoint workflow properties&quot; will yield good results for the full list of items that are included.</td>
</tr>
<tr>
<td>Values</td>
<td>True (Default)</td>
</tr>
<tr>
<td>False</td>
<td></td>
</tr>
</tbody>
</table>
**Send Email (Adlib.Workflow.Settings.SendEmailActivity)**

Specify the settings that will be used to send a notification by email once the workflow completes.

All aspects of the email itself (Sender, Recipients, Subject, Body, etc.) can be configured, as well as email server settings.

Tokens can be used within the configuration to allow context specific data to be inserted into the email. As an example, a subject might contain "Workflow for ${Document.Filename} Completed". If a metadata item named Document.Filename is included with the job, the value from that item will replace the ${Document.Filename} token in the subject line.

Use the SendEmail setting in Workflow.xsd to specify whether or not a notification email will be sent.

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Email</td>
<td>Specify sender, recipients, subject, body, inclusion of the output as an attachment, and credentials. The attachment itself is not configurable and is always the output from the job executed by the workflow. Most email servers require credentials that match the Sender of the email, so credentials are configured as part of the email itself.</td>
</tr>
<tr>
<td>Sender</td>
<td>Specify a valid email address for the sender. The credentials entered under the Credentials section of this configuration must resolve to match the sender's email address. <strong>Values</strong> User-defined email address</td>
</tr>
<tr>
<td>Recipients</td>
<td>Specify one or more recipients for the email. These will end up in the To line of the email, Cc and Bcc recipients can be specified below.</td>
</tr>
<tr>
<td>Address</td>
<td>Specify the email address for this recipient. <strong>Values</strong> User-defined email address</td>
</tr>
<tr>
<td>CC Recipients</td>
<td>Specify one or more cc recipients for the email.</td>
</tr>
<tr>
<td>Address</td>
<td>Specify the email address for the cc recipient. <strong>Values</strong> User-defined email address</td>
</tr>
<tr>
<td>BCC Recipients</td>
<td>Specify one or more bcc recipients for the email.</td>
</tr>
<tr>
<td>Address</td>
<td>Specify the email address for the bcc recipient. <strong>Values</strong> User-defined email address</td>
</tr>
<tr>
<td>Field Name</td>
<td>Description</td>
</tr>
<tr>
<td>------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Subject</td>
<td>Specify a subject for the email. Tokens can be used within the subject to allow context specific data to be inserted into the email. As an example, a subject might contain &quot;Workflow for ${Document.Filename} Completed&quot;. If a metadata item named Document.Filename is included with the job, the value from that item will replace the ${Document.Filename} token in the subject line.</td>
</tr>
<tr>
<td>Values</td>
<td>User-defined alphanumeric</td>
</tr>
<tr>
<td>Body</td>
<td>Configure the body of the email. Tokens can be used within the body text to allow context specific data to be inserted into the email. As an example, the body might contain &quot;Workflow was initiated by ${SharePoint.CurrentUser}&quot;. If a metadata item named SharePoint.CurrentUser is included with the job, the value from that item will replace the ${SharePoint.CurrentUser} token in the body.</td>
</tr>
<tr>
<td>Values</td>
<td>User-defined alphanumeric</td>
</tr>
<tr>
<td>Text</td>
<td>Specify the text for the body. Tokens can be used within the text to allow context specific data to be inserted into the email. As an example, the body might contain &quot;Workflow was initiated by ${SharePoint.CurrentUser}&quot;. If a metadata item named SharePoint.CurrentUser is included with the job, the value from that item will replace the ${SharePoint.CurrentUser} token in the body.</td>
</tr>
<tr>
<td>Values</td>
<td>User-defined plain text or Html based on the format selected in the Body: Format field.</td>
</tr>
<tr>
<td>Format</td>
<td>Specify the format for the email. Valid values are Text and Html. Selecting Text will result in the email being sent as plain text, and only plain text should be entered in the Text value above. Selecting Html will result in the email being sent as Html, and you may include Html markup in the Text value above.</td>
</tr>
<tr>
<td>Values</td>
<td>Text: The email will be sent as plain text. If this format is selected, only plain text should be entered in the Body:Text field. (default) Html: The email will be sent as Html. If this format is selected, Html markup can be included in the Body: Text field.</td>
</tr>
<tr>
<td>Field Name</td>
<td>Description</td>
</tr>
<tr>
<td>------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Attachment</td>
<td>Specify whether to include the attachment as a link, an embedded file, or both. The attachment itself cannot be specified and is always the output from the job created by the workflow.</td>
</tr>
<tr>
<td>Hyperlink</td>
<td>Select this option to include a hyperlink in the output file in the email.</td>
</tr>
<tr>
<td>File</td>
<td>Select this option to embed the output file as an attachment to the email.</td>
</tr>
<tr>
<td>Credentials</td>
<td>Supply the credentials that will be used to send the email. Most email servers require that these credentials match the Sender of the email.</td>
</tr>
<tr>
<td>Use Default</td>
<td>Use the credentials of logged in (or impersonated) user who initiated the workflow.</td>
</tr>
<tr>
<td>User</td>
<td>Specify explicit user credentials to authenticate the sender of the email.</td>
</tr>
<tr>
<td>Username</td>
<td>Specify the username in the domain\username format.</td>
</tr>
<tr>
<td>Password</td>
<td>Specify the password corresponding to the username.</td>
</tr>
<tr>
<td>STMP Server</td>
<td>Specify the SMTP server that will handle the email. Enter the name of the server, and the port that is configured on the server to handle SMTP traffic.</td>
</tr>
<tr>
<td>Name</td>
<td>Specify the name of the SMTP server.</td>
</tr>
<tr>
<td>Port</td>
<td>Specify the port number configured to handle SMTP traffic on the server.</td>
</tr>
</tbody>
</table>

The Submit Documents from SharePoint, Submit Documents To SharePoint and Workflow Rule Settings are created by default for both the Convert Document to PDF and Merge Document Library Folder to PDF workflows. If a custom action is required for one or both workflows at the Connector level, ensure that the appropriate set of Rule Settings is utilized.
Submit Documents from SharePoint  
(Adlib.Workflow.Settings.SubmitDocumentsFromSharePointActivity)

Specify settings that control how files are selected from the SharePoint list, then ordered and transmitted to the Job Management Service for processing. For the workflow that merges files; filters and sorts can be configured.

Filters are used to exclude files in the SharePoint list being processed by the workflow so that only the desired files are merged. Sorts are used to determine the order in which files will be merged together into the final PDF. Transmission options can also be set to handle special cases where the defaults are not appropriate. In most cases, it is recommended to use the defaults.

The number of attempts that will be made to transmit a file to the Job Management Service can also be configured. This is useful if the host network has stability issues.

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filter Criteria</td>
<td>Specify a list of filter criterion that will be used to restrict the list of submitted files.</td>
</tr>
<tr>
<td>Filter Criterion</td>
<td>Specify a single filter criterion that will be used to restrict the list of submitted files.</td>
</tr>
<tr>
<td>Property Name</td>
<td>Specify the name of the property on which the filter will be applied. The name can be a defined metadata name from the SharePoint list against which the workflow is operating, or a property name available from the files in the list.</td>
</tr>
<tr>
<td>Values</td>
<td>User-defined alphanumeric</td>
</tr>
<tr>
<td>Comparison</td>
<td>Specify the operator and value that will be compared against the value found in the specified PropertyName for each item in the SharePoint list.</td>
</tr>
<tr>
<td>Operator</td>
<td>It is important to note when using LessThan and GreaterThan that the defined PropertyName is always the first operand and the Value specified is always the second. For Example, if the PropertyName was specified as Document.WordCount, the Operator as LessThan, and the comparison value as 100, then the comparison would be configured as follows: Document.WordCount LessThan 100.</td>
</tr>
<tr>
<td>Values</td>
<td>EqualTo</td>
</tr>
<tr>
<td></td>
<td>LessThan</td>
</tr>
<tr>
<td></td>
<td>GreaterThan</td>
</tr>
<tr>
<td></td>
<td>NotEqualTo</td>
</tr>
<tr>
<td>Value</td>
<td>Specify the Value that will be used to compare against the value found in the specified PropertyName for each item in the SharePoint list.</td>
</tr>
<tr>
<td>Values</td>
<td>User-defined alphanumeric</td>
</tr>
<tr>
<td>Field Name</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Sort Criteria</td>
<td>Specify a list of sort criterion that will be used to sort the list of submitted files. Sorting is only relevant for the Merge workflow. Files will be merged and appear in the final document in the order specified by the sort.</td>
</tr>
<tr>
<td>Sort Criterion</td>
<td>Specify a single sort criterion that will be used to sort the list of submitted files.</td>
</tr>
<tr>
<td>Property Name</td>
<td>Specify the name of the property on which the sort will be based. The name can be a defined metadata name from the SharePoint list against which the workflow is operating, or a property name available from the files in the list.</td>
</tr>
<tr>
<td>Values</td>
<td>User-defined alphanumeric</td>
</tr>
<tr>
<td>Order</td>
<td>Specify the order for the sort.</td>
</tr>
<tr>
<td>Values</td>
<td>Ascending (Default) Descending</td>
</tr>
<tr>
<td>Transmission</td>
<td>Specify settings used to transmit files to the Job Management Service. By default these settings are automatically determined by the system.</td>
</tr>
<tr>
<td>Buffer Size</td>
<td>Advanced. Specify the size of the file transmission buffer. The file will be sent in segments matching the buffer size. Under normal conditions, the system will detect the optimal buffer size so this setting should only be used if transmission issues are occurring.</td>
</tr>
<tr>
<td>Values</td>
<td>User-defined value in Bytes, Kilobytes, Megabytes or Gigabytes. 8 Kilobytes (Default)</td>
</tr>
<tr>
<td>Verify File Integrity</td>
<td>Specify whether or not the integrity of the file will be verified after transmission. Setting this value to true will result in the file being analyzed before and after transmission to ensure they are exactly the same. Under normal circumstances this setting can be left as false since the integrity of file transmission is handled by the network protocol.</td>
</tr>
<tr>
<td>Values</td>
<td>True False (Default)</td>
</tr>
</tbody>
</table>
Submit Documents To SharePoint
*(Adlib.Workflow.Settings.SubmitDocumentsToSharePointActivity)*

Specify the location(s) in SharePoint to which the job's output document(s) will be delivered, additional metadata to attach to the document(s), version control, and file handling settings.

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max Retries</td>
<td>Specify how many times the workflow will attempt to transmit the file should transmission failures occur. The workflow will fail the job if the file cannot be transmitted after the specified number of attempts.</td>
</tr>
<tr>
<td><strong>Values</strong></td>
<td>User-defined numeric value.</td>
</tr>
<tr>
<td>2 (Default)</td>
<td></td>
</tr>
<tr>
<td>Rendition Document Locations</td>
<td>Specify a list of locations to which the job's output will be submitted.</td>
</tr>
<tr>
<td>Rendition Document Location</td>
<td>Specify one location to which the job's output will be submitted.</td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>Choose between specifying all the values required to uniquely identify the location by URL or specifying the single unique Id that maps to the desired SharePoint location.</td>
</tr>
<tr>
<td><strong>Values</strong></td>
<td>File (Default)</td>
</tr>
<tr>
<td>Folder</td>
<td></td>
</tr>
<tr>
<td>Web Site Url</td>
<td>Specify the URL for the SharePoint site containing the desired folder.</td>
</tr>
<tr>
<td><strong>Values</strong></td>
<td>User-defined URL</td>
</tr>
<tr>
<td>Web Site Relative Folder Url</td>
<td>Specify the URL for the folder, relative to the site URL specified in the Web Site Url field.</td>
</tr>
<tr>
<td><strong>Values</strong></td>
<td>User-defined URL</td>
</tr>
<tr>
<td>Filename</td>
<td>Specify the filename in cases where the location refers to a specific file. If no filename is specified, and the operation is acting on a file as would be the case when submitting a document into a location, the file's existing name will be used.</td>
</tr>
<tr>
<td><strong>Values</strong></td>
<td>User-defined alphanumeric</td>
</tr>
<tr>
<td>Field Name</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Unique Id</td>
<td>Specify the Unique Id identifying the desired folder within SharePoint. The unique Id for a folder can typically be found in the URL for that folder when viewed within SharePoint.</td>
</tr>
<tr>
<td>Include Subfolders</td>
<td>Specify whether or not to include subfolders found within the specified location. This is useful when processing all files in all folders under a particular location is desired.</td>
</tr>
<tr>
<td><strong>Rendition Document Metadata</strong></td>
<td>Specify a list of metadata items that will be added to the file in SharePoint.</td>
</tr>
<tr>
<td>Rendition Document Metadatum</td>
<td>Specify a metadata item to add to the file in SharePoint.</td>
</tr>
<tr>
<td><strong>Name</strong></td>
<td>Specify the Name used to identify the pair throughout the system. Data is stored and accessed using this name. These names can be referenced within user data by wrapping it in token delimiters ${Name}. Example: A metadata item named Document.Author can be referenced anywhere as ${Document.Author}. This will then be replaced by the specific value for Document.Author that is submitted with the job.</td>
</tr>
<tr>
<td><strong>Value</strong></td>
<td>Specify the Value represented by the named item. The Value will be used by the system to replace any tokens identified by the Name portion of the name value pair. Example: A metadata item named Company.Department that has a Value set as &quot;Marketing&quot; can be referenced anywhere as ${Company.Department}. This will then be replaced by the specific value marketing at runtime by the system.</td>
</tr>
</tbody>
</table>

 Values
User-defined alphanumeric
<table>
<thead>
<tr>
<th>Field Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check In</td>
<td>Specify values that will be used for version control when the document is submitted to the desired location.</td>
</tr>
<tr>
<td>Version</td>
<td>Specify how the version of the document will be set when it is submitted to the desired location.</td>
</tr>
<tr>
<td>Values</td>
<td><strong>OverwriteCurrentVersion</strong>: Do not increment the version, simply overwrite the current version.</td>
</tr>
<tr>
<td></td>
<td><strong>NextMinorVersion</strong>: Set the version to the next minor version. Example: increment version from 1.1 to 1.2 (default)</td>
</tr>
<tr>
<td></td>
<td><strong>NextMajorVersion</strong>: Set the version to the next major version. Example: increment version from 1.X to 2.0.</td>
</tr>
<tr>
<td>Comment</td>
<td>Specify the comment that will be applied during check-in. This comment will appear in the version history of the file in SharePoint.</td>
</tr>
<tr>
<td>Values</td>
<td><strong>User-defined alphanumeric</strong></td>
</tr>
<tr>
<td>Preserve Source Filename Extension</td>
<td>Specify whether or not to preserve the extension of the source file.</td>
</tr>
<tr>
<td>Values</td>
<td><strong>True</strong> (Default)</td>
</tr>
<tr>
<td></td>
<td><strong>False</strong></td>
</tr>
<tr>
<td>Field Name</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Transmission</td>
<td>Specify settings used to transmit files into the desired SharePoint location(s). By default these settings are automatically determined by the system.</td>
</tr>
<tr>
<td>Buffer Size</td>
<td>Advanced. Specify the size of the file transmission buffer. The file will be sent in segments matching the buffer size. Under normal conditions, the system will detect the optimal buffer size so this setting should only be used if transmission issues are occurring. <strong>Values</strong> User-defined value in Bytes, Kilobytes, Megabytes or Gigabytes. 8 Kilobytes (Default)</td>
</tr>
<tr>
<td>Verify File Integrity</td>
<td>Specify whether or not the integrity of the file will be verified after transmission. Setting this value to true will result in the file being analyzed before and after transmission to ensure they are exactly the same. Under normal circumstances this setting can be left as false since the integrity of file transmission is handled by the network protocol. <strong>Values</strong> True False (Default)</td>
</tr>
<tr>
<td>Max Retries</td>
<td>Specify how many times the workflow will attempt to transmit the file should transmission failures occur. The workflow will fail the job if the file cannot be transmitted after the specified number of attempts. <strong>Values</strong> User-defined numeric value. 2 (Default)</td>
</tr>
</tbody>
</table>

Control the behavior of the workflow including file and folder handling, notification via email and job status requests.

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source Processing Mode</td>
<td>Specify whether the workflow will act on a single file to convert to PDF or all files in a folder to convert to PDF and merge the results into a single PDF document.</td>
</tr>
<tr>
<td><strong>Values</strong></td>
<td></td>
</tr>
<tr>
<td>File (Default)</td>
<td></td>
</tr>
<tr>
<td>Folder</td>
<td></td>
</tr>
<tr>
<td>Include Subfolders</td>
<td>Specifies whether or not subfolders relative to the selected document or folder context will be processed in addition to the selected document or folder.</td>
</tr>
<tr>
<td><strong>Values</strong></td>
<td></td>
</tr>
<tr>
<td>True</td>
<td></td>
</tr>
<tr>
<td>False (Default)</td>
<td></td>
</tr>
<tr>
<td>Send Email</td>
<td>Specifies whether or not an email notification will be sent at the end of the workflow. If this option is set to true, and email will be created and sent based on the settings specified in the SendEmailActivity schema.</td>
</tr>
<tr>
<td><strong>Values</strong></td>
<td></td>
</tr>
<tr>
<td>True</td>
<td></td>
</tr>
<tr>
<td>False (Default)</td>
<td></td>
</tr>
<tr>
<td>Request Job Status</td>
<td>Control how the workflow will monitor for job completion. Timeout is used to specify how much time will pass before the workflow abandons the job. Poll Interval is used to specify the frequency at which the workflow will request the job status.</td>
</tr>
<tr>
<td>Timeout</td>
<td>Specify how much time will pass before the workflow abandons the job. After this time expires, Adlib System Manager will automatically detect that the job has been abandoned and will automatically set the job status to CompletedFailed.</td>
</tr>
<tr>
<td><strong>Values</strong></td>
<td></td>
</tr>
<tr>
<td>User-defined intervals specified by Seconds, Minutes, Hours, or Days.</td>
<td></td>
</tr>
<tr>
<td>3 Days (Default)</td>
<td></td>
</tr>
</tbody>
</table>
### Field Name | Description
--- | ---
Poll Interval | Specify the frequency at which the workflow will request the job status. At the specified interval, the workflow will request the job status from the Job Management Service for the job it is managing. **Values** User-defined intervals specified by Seconds, Minutes, Hours, or Days. 5 Seconds (Default)

**Source Configuration (Adlib.Connectors.Sources)**
List of source configurations for sources to which this connector is assigned

This system setting is for information only and should not be modified.

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>Source configuration</td>
</tr>
<tr>
<td>Format</td>
<td><code>${sourcesconfiguration}</code></td>
</tr>
</tbody>
</table>
Appendix A: Troubleshooting

This section serves as a guide to help troubleshoot problems that might occur while using the SharePoint Workflow Connector with Adlib PDF. It provides direction for diagnosing common issues and describes the steps required for resolution.

**Issue**
The message: “Unable to Add Solution to the SharePoint Solution Store. This will have to be done manually” is displayed at the end of the SharePoint Workflow Connector installation.

**Cause**
Permission related and/or setup issues.

**Solution**
1. Login as a SharePoint Farm Administrator and open the SharePoint Central Administration site.
2. Verify that the Adlib SharePoint Workflow solution does not exist.
3. Open a command line and access the path where stsadm.exe is located:
4. For SharePoint 2007, it is located at:
   `<drive>\Program Files\Common Files\Microsoft Shared\web server extension\12\BIN`
   For SharePoint 2010, it is located at:
   `<drive>\Program Files\Common Files\Microsoft Shared\web server extension\14\BIN`
   For SharePoint 2013, it is located at:
   `<drive>\Program Files\Common Files\Microsoft Shared\web server extension\15\BIN`
5. Type the command:
   `stsadm -o addsolution –filename "path where (.wsp) is located”`
   For example:
   `C:\Program Files\Common Files\Microsoft Shared\web server extension\12\BIN>stsadm -o addsolution -filename "C:\Program Files\Adlib\SharePoint Workflow Connector\v5.0.0.0\ASWC_5000.wsp”`
6. Verify that the Adlib SharePoint Workflow solution package has been added successfully.

**Issue**
The following exception message is generated when a workflow is sent to Adlib PDF for processing:

**Cause**
The SharePoint Workflow Component is not properly configured.

**Solution**
1. Ensure that the Connector has been dragged into the default Environment and that at least one SharePoint Workflow Source has been created and associated with the Connector. If multiple Sources have been created, ensure that each Source has a valid name/value pair.

   For more information on the manual system configuration that is required after installation of the SharePoint Workflow Connector, see [Manual System Configurations](#).

**Issue**
The user is experiencing long delays between workflow updates in the Workflow History.

**Cause**
Each sample workflow contains a WWF Delay activity. Even if the delay activity is to 1 second intervals, this will cause the workflow to become a candidate for "dehydration" (serialization). The Windows SharePoint Services timer service will "hydrate" (deserialize) the workflow when it is scheduled to do so. By default, this scheduled event is set to every 10 minutes.

**Solution**
The Windows SharePoint Services timer can be adjusted to minimize the delay between workflow deserialization events using the following STSADM command:

```
stsadm -o setproperty -pn job-workflow -pv "Every 1 minutes between 0 and 59" -url http://<WEB_APP_URL>
```

**Issue**
The workflow fails with the following fatal error message in the System Log:

**The list item could not be added or updated because duplicate values were found in one or more fields in the list.**

**The workflow is unable to add the rendered document to the target document library.**

**Cause**
One or more list / site columns implement the "Enforce Unique Values" option. Since the workflows essentially "copy" the associated metadata from the source list item to the target rendered list item, a duplicated value will occur in any field implementing the "Enforce Unique Values" option.
Solution
Do not use the "Enforce Unique Values" option on any column with which the workflows will participate.
Appendix B: Contact Adlib

Web Site      www.adlibsoftware.com/
Sales         sales@adlibsoftware.com
Support       support@adlibsoftware.com
Phone         1-905-631-2875 or
              1-866-991-1704 (North America)
Fax           1-905-639-3540
Mail          Adlib
              215-3228 South Service Road
              Burlington, Ontario
              Canada  L7N 3H8
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