



DocAve® 6.0.1 Connector

User Guide

Revision B
Issued April 2012

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About DocAve Connector

Use DocAve Connector to collaborate upon network file shares and cloud storage resources directly through SharePoint without migration. Connected content appears as normal SharePoint content, and can be leveraged exactly as if it were residing within a SharePoint document library. All of SharePoint's powerful document management functionality- including permissions management, workflows, alerts, and versioning- can be applied to connected content.

In addition, Connector enables organizations to manage and present their audio and video files through a dedicated SharePoint Media Library. All wmv, wma, mp3, aac, vp6, mp4, mpeg, mpg, avi, and wav files stored in network file shares and cloud storage resources are streamed and presented via SharePoint for fast delivery and reduced burden of storage. "Connected" media content is managed with all of SharePoint's powerful document management functionality, including permissions management, workflows, alerts, and versioning.

Complementary Products

Many products and product suites on the DocAve 6 platform work in conjunction with one another. The following products are recommended for use with Connector:

- DocAve Content Manager for SharePoint for restructuring or moving SharePoint content
- DocAve Replicator for SharePoint for copying SharePoint content within the same SharePoint farm or from one SharePoint farm to another
- DocAve Report Center for SharePoint to examine pain points in the SharePoint infrastructure and report on SharePoint user behavior and changes
- DocAve Data Protection for setting backup and recovery points prior to adjusting SharePoint governance policies in this product

Submitting Documentation Feedback to AvePoint

AvePoint encourages customers to provide feedback regarding our product documentation. Click the following URL to access the **Submit Your Feedback** form on our Web site:

<http://www.avepoint.com/resources/documentation-feedback/?flush=1>

Before You Begin

Refer to the sections for system and farm requirements that must be in place prior to installing and using DocAve Connector.

Configuration

In order to use DocAve Connector, the DocAve 6 platform must be installed and configured properly on your farm. Connector will not function without DocAve 6 present on the farm.

Agents

DocAve Agents are responsible for running DocAve jobs and interacting with the SharePoint object model. At the minimum, DocAve must have at least one agent installed on the Web front-end server. DocAve Agents enable DocAve Manager to communicate with the respective servers, allowing for Connector commands to function properly.

***Note:** The use of system resources on a server increases when the installed agent is performing actions. This may affect server performance. However, if the agent installed on a server is not being used, the use of system resources is very low and, therefore, the effect on server performance is negligible.

For instructions on installing the DocAve Platform, DocAve Manager, and DocAve Agents, see the [DocAve 6 Installation Guide](#).

Licensing and Permissions

To install and use Connector properly, ensure that the Agent account has the following permissions:

1. Local System Permissions: These permissions are automatically configured by DocAve during installation. Refer to [Local System Permissions](#) for a list of the permissions automatically configured upon installation.
2. SharePoint Permissions: These permissions must be manually configured prior to using DocAve 6 Connector; they are not automatically configured.
 - User is a member of the Farm Administrators group. Since Administrator works across farms and on all SharePoint settings and configurations, this account is needed in order to provide the best and most complete quality of service.
 - Full control to all zones of all web applications via User Policy for Web Applications.
 - User Profile Service
 - User Personal Features
 - Create Personal Site
 - Use Social Features

3. SQL Permissions: These permissions must be manually configured prior to using DocAve 6 Connector; they are not automatically configured.
 - Member has a Database Role of db_owner for all the databases related to SharePoint, including Content Databases, Config Database, and Central Admin Database.
 - Member has a Database Role of db_creator to SQL Server since it must create a stub database before performing any Connector job.

Local System Permissions

The following Local System Permissions are automatically configured during DocAve 6 installation:

- User is a member of the following local groups:
 - IIS WPG (for IIS 6.0) or IIS IUSRS (for IIS 7.0)
 - Performance Monitor Users
 - DocAve Users (the group is created by DocAve automatically; it has the following permissions):
 - Full control to the Registry of HKEY_LOCAL_MACHINE\SOFTWARE\AvePoint\DocAve6
 - Full control to the Registry of HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\EventLog6
 - Full Control to the Communication Certificate
 - Permission of Log on as a batch job (it can be found within Control Panel > Administrative Tools > Local Security Policy > Security Settings > Local Policies > User Rights Assignment)
 - Full Control Permission for DocAve installation directory

Getting Started

SharePoint and the DocAve platform modules have common functionality. While some of this shared functionality is covered in this guide, the primary focus of this document is the functionality that is specific to the DocAve module.

For information on the shared functionality not covered in this document, refer to SharePoint Help.

Refer to the sections below for important information on getting started with Connector.

Launching Connector

To launch Connector and access its functionality, follow the instructions below:

1. Log in to DocAve. If you are already in the software, click the **DocAve** tab. The **DocAve** tab displays all modules on the left side of the window.
2. Click **Storage Optimization** to view the Storage Optimization modules.
3. Click **Connector** to launch this module.

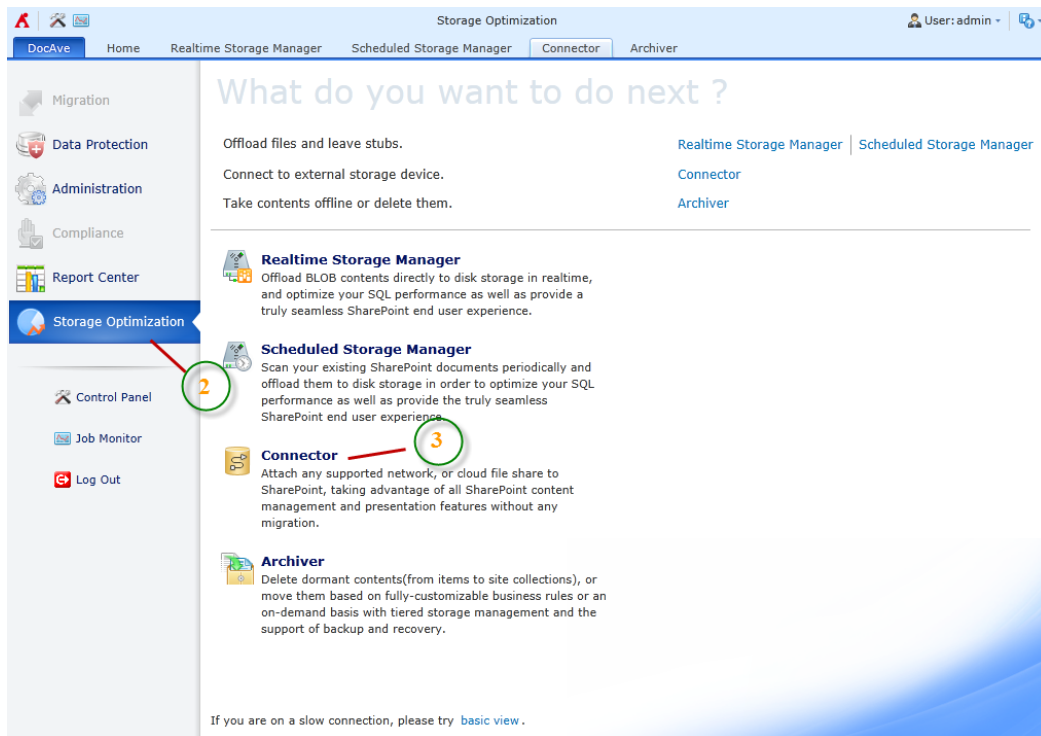


Figure 1: DocAve module launch window.

User Interface Overview

After clicking **Connector**, the Storage Optimization suite user interface launches with the **Connector** tab active. This tab displays your farm environment and allows for quick access to a list of Connector features.

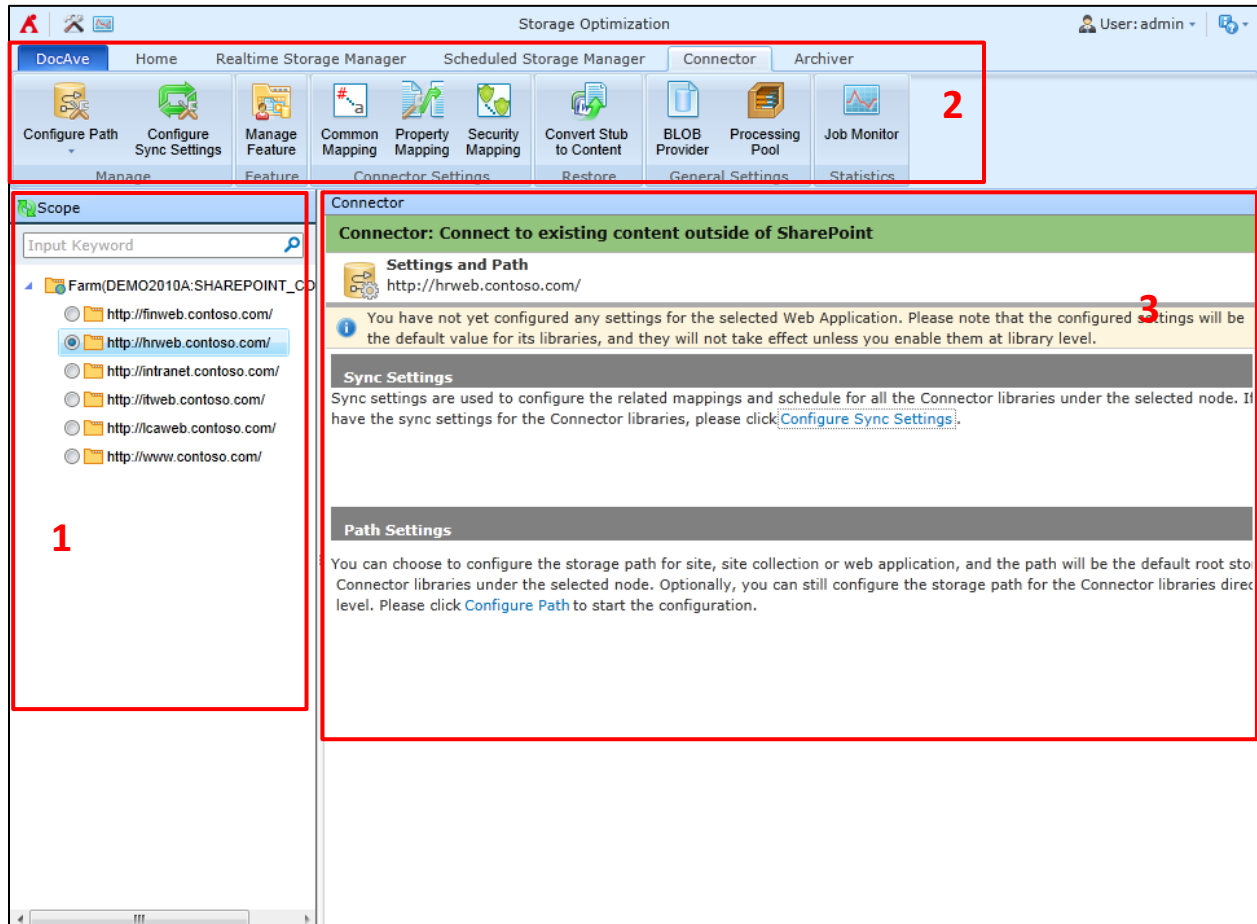


Figure 2: Connector user interface.

1. The **SharePoint tree (Scope panel)** displays all content within your farm(s). Use this panel to select the content that you wish to perform actions on. Selecting content often reveals new tabs and functionality on the **ribbon**.
2. The **ribbon** shows the available actions and wizards for the selected nodes. This content is dynamic; it will often change depending on what is selected in the SharePoint tree.
3. The **workspace** shows all form-based content that is used during the configuration of actions performed in DocAve products.

Selecting Farms and Nodes

To select farms and nodes:

1. From the **Scope** panel on the left, double-click the farm that contains the relevant SharePoint content.
2. Select the relevant content from which you want to perform further operations by clicking the checkbox(es) to the left of the content.
3. After selecting content, you will be able to perform the procedures described throughout this guide.

Basic Steps to Configuring and Deploying Connector

The following are the basic steps required in order to properly run Connector. Click the link to jump to the corresponding section.

1. [Configure and enable the BLOB Provider \(EBS or RBS\).](#)
2. [Configure the mapping settings \(Common Mapping, Property Mapping, and Security Mapping\).](#)
Configuring these settings is optional, as the Connector module comes with default mapping settings.
3. [Deploy the Connector Solution.](#)
4. [Activate the Connector features in the applicable nodes.](#)
5. [Create a Connector library in SharePoint](#) (optional step; existing SharePoint document libraries can be “connected” as well).
6. [Create a connection between a library and storage path.](#)

Configuring the BLOB Provider

In order to use DocAve Connector, the BLOB Provider must be enabled.

A binary large object (BLOB) is a collection of binary data stored as a single entity in a database management system. By default, any file or attachment that is uploaded into SharePoint is stored as a BLOB in the content database. By configuring the BLOB provider, you decide which BLOBs are kept in the database and which are stored externally. The BLOB Provider feature intercepts SharePoint database traffic and redirects all of the BLOB traffic to the external BLOB storage; what remains in SharePoint is a stub of the data.

However, for the purpose of Connector, the BLOB Provider is used only to configure a stub database in SQL and to enable the provider (event handler) on the specified farm or node. In order to move BLOB content in the manner explained in the paragraph above, [DocAve Storage Manager](#) is required.

The two types of providers are External BLOB Store (EBS) provider and Remote BLOB Store (RBS) provider; both are described below.

EBS and RBS Providers: Differences and Recommendations

EBS is a COM interface provided by Microsoft SharePoint Server 2007 and 2010, while RBS is a set of standardized Advanced Programming Interfaces (APIs) that are incorporated as an add-on feature pack for Microsoft SQL Server.

***Note:** RBS can be run on the local server running Microsoft SQL Server 2008 R2, SQL Server 2008, SQL Server 2008 R2 Express, or SQL Server 2008 R2 Developer edition. To run RBS on a remote server, you must be running SQL Server 2008 R2 Enterprise edition. RBS is not supported for Microsoft SQL Server 2005.

EBS was an earlier attempt by Microsoft in SharePoint 2007 (available as a hot fix to MOSS 2007 SP1 and later) to help customers externalize their BLOBs. However, EBS was hard to implement and had some limitations. Microsoft introduced EBS as an immediate aid; it was designed in a way that is an evolutionary approach, where administrators can move to RBS later. EBS will continue to be supported for SharePoint 2010, but it is on the deprecation list, which means its support will end in a future release of SharePoint. Microsoft recommends using RBS in SharePoint 2010 not only because EBS is on the deprecation list, but also because RBS is more powerful and maintainable. The table below illustrates some of the advantages of RBS over EBS.

***Note:** If the user does not want to use a third-party vendor, RBS is the only option.

Feature	RBS	EBS
BLOB store scope	RBS can be enabled at content database level and web application level. Each content database can have its own BLOB store. RBS is more flexible.	EBS can be enabled only at the farm level.
Number of providers	Multiple RBS providers can be in the same SharePoint farm.	Only one EBS provider per SharePoint farm.
Interface	Managed. RBS is a purely .NET-based solution. From a technology perspective, RBS fits in to .NET quite nicely.	Unmanaged. EBS relies on a legacy COM interface.
Migrating BLOBs from SQL Server stores to BLOB stores and vice versa	Windows PowerShell	Custom
SharePoint interface	SharePoint 2010 ships with many Windows PowerShell command lets that can be used to manage RBS installation and configuration.	None

Enabling the BLOB Provider

To enable the BLOB Provider on your server(s), follow the instructions below.

To access the BLOB Provider, click the **Connector** tab > **BLOB Provider**. The **BLOB Provider** page appears in the workspace.

***Note:** You can also use the **SP2010StorageEBSTool.exe** and **SP2010StorageRBSTool.exe** to enable the corresponding BLOB Provider. For more information, refer to [Enabling the BLOB Provider Using the Tool](#).

1. **Install the BLOB Provider Binaries** on the specified farm(s). This page displays the information of all the front-end Web servers that have a DocAve agent installed. By default, the BLOB Provider is installed with the Agent installation. If the BLOB Provider is not installed, **Not Installed** is displayed in the **BLOB Provider Binaries** column. If necessary, click **Install** to install the corresponding BLOB Provider. Click **Next** when finished. The **Configure Stub Database** page appears.

2. **Configure Stub Database** – Specify where to store all of the Connector stubs’ information. Click the farm name to expand the tree and to select the farm level, web application levels, and/or the content database levels.

For ease of use, it is recommended to configure one stub database for the entire farm. In some cases (records management, for example, where there may be millions of files), it may be necessary to configure different stub databases down to the web application or content database level. For more information on this process, see [Appendix A: Configuring Stub Databases](#).

3. After selecting which nodes you want to link to a stub database, click **Configure** in the **Manage** group on the ribbon.
 - **Configure Stub Database** – Specify the **Database Server** (where the stub database resides) and **Database Name** for the stub database. See [Appendix A: Stub Database Inheritance](#) for additional information on stub inheritance.

***Note:** Once the stub database of a content database is configured and saved, the configuration cannot be changed.

By default, the database server used by the farm is loaded automatically. For ease of management and maintenance of the stub databases, it is recommended to use the admin default database server. You must specify other database servers if any one of the following conditions is applicable:

- The account does not have enough permission to connect to the default SQL server.
 - The account does not have enough permission to create the stub database on the default SQL server.
 - The default SQL server is located on a machine in another location and the network status is “poor”.
- **Authentication** – Select the authentication method used to access the database.
 - **Windows authentication** (recommended; the default option) – Use this method when you want the user identity to be confirmed by Windows.
 - **SQL authentication** – SQL server confirms the user identity according to the specified account and password. The specified account must be added to the **sysadmin** role in SQL server.
 - Click **OK** to proceed to the **Enable BLOB Provider** page.
4. **Enable BLOB Provider** – Shows the **BLOB Provider Status** of the farms that have DocAve agents installed. Enable or disable the BLOB Provider on the specified farm in this step. Click **Configure** in the **Action** column; the following options appear:
 - **Enable RBS for Farm** (farm name) – Displays the component of the farm and the schedule of enabling RBS.

- **Tree Structure** – Click the farm name to expand the tree; you can view the RBS status and enable the RBS on the specified content database by selecting the check-box in the **Enable** column, if necessary. The RBS can be enabled at the web application level and content database level. If you enable RBS at the web application level, RBS for all content databases under the specified web application is enabled.
 - **Include New Content Databases** – Selecting the **Enable** checkbox at this level enables RBS for all of the newly-added content databases by the scheduled jobs. In order to use this function, a schedule must be configured in the **Schedule** field.
- **Schedule** (available when **Enable RBS for Farm** is selected) – This schedule checks for newly-added content databases; the purpose is to enable RBS. Choose whether to enable RBS based on a schedule. Connector runs a search on your farm for new content databases according to your specified schedule. If any new content databases are found, Connector enables the RBS for them.
 - **No schedule** – Enables the RBS immediately.
 - **Configure the schedule myself** – Configure a schedule and enable RBS according to the schedule. Select a **Start time** and **Interval** value.

Note the following:

- If the parent node does not have a stub database, the stub database of the grandparent node will be applied to the newly-added content database.
 - The stub database rule will be applied to the newly-added content database immediately after it is added to the corresponding web application. It is not related to the schedule specified here.
- **Enable EBS for Farm** (farm name) – Shows the EBS status of the farm and specify whether to enable the EBS. Select **Enable** to enable EBS and select **Disable** to disable it. **If your environment is SharePoint 2010, it is recommended that you enable RBS for the farm.**

***Note:** If both EBS and RBS are enabled, RBS will be used.

5. **Overview** – Shows all of the information of the farms. If desired, click **Edit** to edit the configuration. Click **Finish** to enable/disable the EBS Provider immediately or save the configuration of the RBS Provider without enabling/disabling it. Click **Finish and Run Now** to save the configuration and then enable/disable the corresponding BLOB Provider immediately.

***Note:** For enabling RBS Provider without using a schedule, you must click **Finish and Run Now** to enable it immediately. If you click **Finish**, only the configuration of the RBS Provider is saved, but the RBS BLOB Provider will not be enabled.

Enabling the BLOB Provider Using the Tool

This section describes the steps needed to enable EBS or RBS using the .exe tool. Refer to [EBS and RBS Providers: Differences and Recommendations](#) for more information on these providers.

See the information below.

Enabling EBS

To enable EBS using the tool, follow the steps below.

1. Access the installation path of DocAve Agent. The default path is ...`\AvePoint\DocAve6\Agent\bin`.
2. Locate **AgentToolSP2010StorageEBS.exe**, right-click on it, and select **Run as administrator**.
3. The following buttons are shown in the tool.
 - In **Check EBS Status** field:
 - **Check EBS** – Checks whether EBS is enabled on the farm.
 - **Enable EBS** – Enables EBS on the farm. You can choose to restart the IIS now or later in the pop-up.
 - **Disable EBS** – Disables EBS on the farm. You can choose to restart the IIS now or later in the pop-up.
 - In **Install Blob Com** field:
 - **Install** – Installs BLOB COM on the farm. You can choose to restart the IIS now or later in the pop-up.
 - **Uninstall** – Uninstalls BLOB COM from the farm. You can choose to restart the IIS now or later in the pop-up.
 - In **Check whether the Blob Com has been installed correctly** field:
 - **Check** – Checks the status of the items listed in the left field.

Enabling RBS

To enable RBS using the tool, complete the steps below:

1. Access the installation path of DocAve Agent. The default path is ...`\AvePoint\DocAve6\Agent\bin`.
2. Locate **AgentToolSP2010StorageRBS.exe**, right-click on it, and select **Run as administrator**.
3. The following buttons are shown in the tool.
 - In **Remote Blob Storage Installation Status** field:
 - **Check** – Checks the installation status of RBS in this farm.
 - **Install** – Installs RBS on the farm.

- **Uninstall** – Uninstalls RBS from the farm.
- After verifying the RBS installation status using the three options above, you can perform the following actions in the **Remote Blob Storage Enable Status** field:
 - **Browse** – Generates a tree structure of the farm. The tree is detailed to the content database level.
 - **Check** – Select some SharePoint components on the tree and click this button to check whether RBS is enabled for the selected components.
 - **Enable** – Enables RBS on the specified components.
 - **Disable** – Disables RBS on the specified components.

Configuring Mapping Settings

This section describes how to configure the mapping settings, which include Common Mapping, Property Mapping, and Security Mapping. Configured mapping settings determine how the synchronized files (and their metadata and security properties) are managed in SharePoint. Configuring these settings is optional, as the Connector module comes with default mapping settings.

Common Mapping

SharePoint does not support file or folder names that are longer than 127 characters, or filenames that contain invalid characters (such as " # % & * : < > ? \ / { | } ~"). This can cause problems, for example, during bulk synchronizing, when an attempt to synchronize an invalid file or folder name results in the file/folder being blocked and the entire synchronization being terminated.

To avoid such a situation, use Common Mapping to configure rules for character length and illegal character replacement.

To set up Common Mapping:

1. From the **Connector** tab, select **Common Mapping** in the **Connector Settings** group. The **Common Mapping** pop-up page appears. Here, you can view all of the existing Common Mapping profiles. By default, DocAve applies a default common mapping named **DefaultConnectorCommonSetting**, which cannot be edited or deleted.
2. To create a new mapping rule, click **Create** in the **Manage** group. The **Create Common Mapping** page appears in the workspace.
3. Configure the following settings for Common Mapping.
 - **Common Mapping Name** – Enter a name and an optional description for the common mapping profile.
 - **Character Length Settings** – Specify the maximum length of the folder/file name displayed in the Connector Library. You can define the length of the folder/file name in the range of 1 to 127 characters. If the folder/file name exceeds the length that is defined, the system automatically prunes the extra characters and saves the name according to the length defined. The folder/file name is pruned according to the following rules.
 - For the pruning of one file name, the length of the file extension is counted. For example, if the maximum length specified is 8, for a file that is named **abcde.exe**, the maximum length of the files name is 4 and the file name will change to **abde.exe** after pruning.
 - DocAve starts the pruning from the middle part of the file name. For example, if the maximum length of the file name is 4 and the original file name is **abcde**, the file name after pruning will be **abde**. If the maximum length of the file name is 3 and the original file name is **abcd**, the file name after pruning will be **abd**; if the

maximum length of the file name is 3 and the original file name is **abcde**, the file name after pruning will be **abe**.

- If there is already a file with the same name in SharePoint after DocAve prunes the filename, a suffix (which is a number) is added to the original name of the file/folder after pruning.
- **Illegal Character Replacement Settings** – Replace the illegal characters in folder/file names with legal characters when synchronizing content to SharePoint. By default, all of the illegal characters are replaced with an underscore (_).

Property Mapping

Files that are uploaded to SharePoint from a file system lose their metadata. Property Mapping allows you to configure rules that map the file system properties to SharePoint metadata, thereby preserving the metadata.

To set up Property Mapping:

1. From the **Connector** tab, select **Property Mapping** in the **Connector Settings** group. The **Property Mapping** pop-up page appears. Here, you can view all of the existing Property Mapping profiles. By default, DocAve applies a default common mapping named **DefaultConnectorPropertySetting**, which cannot be edited or deleted.
2. To create a new property rule, click **Create** in the **Manage** group. The **Create Property Mapping** page appears in the workspace.
3. Configure the following settings for Property Mapping.
 - **Property Mapping Name** – Enter a name and an optional description for the Property Mapping profile.
 - **Property Mapping** – Map the file system properties to SharePoint properties. Click either the **Content Library** or **Media Library** tabs above the table to set the corresponding properties. By default, the file system properties are mapped to SharePoint properties with the original property names.

Security Mapping

Files that are uploaded to SharePoint from a file system lose their permission settings. Security Mapping allows you to configure rules that map the file system permissions to SharePoint permissions.

To set up Security Mapping:

1. From the **Connector** tab, select **Security Mapping** in the **Connector Settings** group. The **Security Mapping** pop-up page appears. Here, you can view all of the existing Security Mapping profiles. By default, DocAve applies a default common mapping named **DefaultConnectorSecuritySetting**, which cannot be edited or deleted.
2. To create a new property rule, click **Create** in the **Manage** group. The **Create Security Mapping** page appears in the workspace.
3. Configure the following settings for Security Mapping.
 - **Security Mapping Name** – Enter a name and optional description for the Security Mapping profile.
 - **Security Mapping** – Map file system permissions to SharePoint permissions. Select a SharePoint Permission from the drop-down list to apply it to the corresponding File System Permission.
4. To create a new SharePoint permission level for the permission mapping, click **New SharePoint Permission Level**. In the pop-up window, you can view the default SharePoint permission levels: **Contribute**, **Design**, **Full Control**, **None**, **Read**, and **View Only**. These default SharePoint permission levels cannot be edited or deleted.
 - Click **Create** in the **Manage** group. The **Create SharePoint Permission Level** page appears. Configure the following settings to create a new permission level.
 - **Name and Description** – Enter a name and optional description for the SharePoint permission level.
 - **Permissions** – Select the detailed permissions for the new SharePoint permission level by clicking the corresponding checkboxes. Select **Select All** to include all the permissions.
 - Click **OK** when finished. The newly-created SharePoint permission level is listed on the **Manage SharePoint Permission Level** page and the **SharePoint Permission** drop-down lists on the **Create Security Mapping** page.

Deploying the Connector Solution

To use the Connector feature in DocAve, you must first deploy the DocAve Connector solution to your SharePoint farm. There are two Connector solutions that need to be deployed: **SP2010ConnectorContentLibrary.wsp** and **SP2010ConnectorMediaLibrary.wsp**. Once you install and deploy the DocAve Connector solution, the Connector feature will be listed in the Site Collection Feature List.

Follow the steps below to deploy the DocAve Connector solution.

1. Navigate to the **DocAve** tab > **Control Panel** > **Solution Manager**.
2. Select the target farm from the **Farm** drop-down list.
3. Check the following checkboxes: **SP2010ConnectorContentLibrary.wsp** and **SP2010ConnectorMediaLibrary.wsp**. Click **Install** in the **Actions** group.
4. Once the solutions are installed on the SharePoint farm, check the **SP2010ConnectorContentLibrary.wsp** and **SP2010ConnectorMediaLibrary.wsp** checkboxes again and click **Deploy** in the **Actions** group.
5. After the solutions are deployed successfully, the status of the solutions is shown as **Deployed** in the **Status** column.

Refer to the **Solution Manager** section of the [DocAve 6 Control Panel Reference Guide](#) for more operations on the solutions.

Proceed to the next section for information on activating the Connector features.

Activating the Connector Features

Once the [Connector solution is deployed](#), it must be activated through SharePoint or, less commonly, through DocAve. Refer to the applicable section below to enable the Connector features.

Activating Connector through SharePoint

To activate the Connector features through SharePoint:

1. In SharePoint, access the site collection for which you want to activate Connector. Navigate to **Site Actions > Site Settings > Site collection features**. The **Site Collection Features** page appears.
2. Click **Activate** next to the **DocAve Connector Library Converting**, **DocAve Content Library**, and **DocAve Media Library** Connector features. This enables the features for the selected site collection.

***Note:** The **DocAve Connector Library Converting** feature is used to convert the SharePoint Document library to a DocAve Content library. The Document library can have Connector settings applied to it after being converted to the Content library. In DocAve, this feature is merged with the **Content Library** feature.

3. After activating the Connector feature, the status of the feature reads **Active** in the **Status** column.

Activating Connector through DocAve

To activate the Connector features through DocAve:

1. From the **Connector** tab, click **Manage Feature** in the **Feature** group. The **Manage Feature** page appears.
2. Select the Connector library (**Content** or **Media**) that you wish to activate in the **View** group. Configure the following settings for the selected library:
 - **Tree selection** – Select the target destination on which you wish to activate the Connector feature.
 - Expand the SharePoint farm tree to the site collection level and click **Activate** in the **Action** column to activate the Connector features on the selected site collection. Alternatively, click **Activate All** on the web application level to activate the Connector features on all of the site collections under the selected web application.
3. After activating the Connector features, the status of the features on the corresponding site collection is changed from **Inactive** to **Active** in the **Status** column.

Creating a Connection between SharePoint and a Storage Path

DocAve Connector allows you to create a connection between one or more SharePoint libraries and one or more storage paths. The connection can be made at the web application, site collection, site, or library level:

- To directly connect file share content to a SharePoint library, [configure a connector path on the library level](#).
- When connecting [web application/site collection/site levels](#) or multiple libraries to a file share, DocAve Connector creates subfolders in the file share that reflect the hierarchy of the farm nodes selected.
- For [web application, site collection, and site levels](#), only Net Share storage is supported. DocAve Connector supports cloud storage on the [library level](#).

Regardless of which level the connection is configured on, only the DocAve Connector libraries (Content Library/Media Library) and SharePoint document libraries are actually connected to the storage path. Once the connection is made and a synchronization job is run, any content that is uploaded to the SharePoint library is stored in the connected storage path instead of in the SharePoint SQL database. What exists in the SQL database is a stub, not the actual data. However, content in the SharePoint library appears and functions normally, as though the actual data was still stored in SQL.

***Note:** If connecting an existing SharePoint document library to a storage path, all content in the existing SharePoint document library will be moved to the storage path, even the content that was uploaded to the document library prior to making the “connection” to the storage path.

Overview

The Connector settings for web application, site collection, and site levels are divided into two parts, **Configure Path** and **Configure Sync Settings**.

***Note:** Only **Configure Path** is supported at the library level. Sync settings are not able to be configured at the library level, so the **Configure Sync Settings** option is not available for libraries.

- In the **Configure Path** wizard, you can configure the storage path and enable the libraries that you want to connect with the storage path.
- In the **Configure Sync Settings** wizard, you can configure Sync settings such as mapping settings and schedule settings.

Configuring the Connector Path

Follow the steps below to connect a SharePoint library to a storage path:

1. From the **Scope** panel, select the object that you wish to connect to a storage path.
2. Click the **Configure Path** drop-down in the **Manage** group and select **Configure Path**.
3. Refer to the appropriate section below depending upon the level you selected.

Web Application, Site Collection, or Site Level

To configure the Connector settings on the web application, site collection, or site level:

1. Follow the instructions in [Configuring the Connector Path](#) to select a node.
2. **Configure Storage Path** appears. Configure a physical storage path to connect to the desired nodes in your SharePoint environment. For information regarding inheritance, refer to [Configuring Inheritance Settings](#).
 - **Managed Path** (web application level only) – Specify the managed path where you want to configure the Connector settings. The site collections, sites, and libraries under the selected managed path inherit the Connector settings from the web application automatically. Other objects that do not belong to the selected managed path do not inherit the Connector settings from the web application. Only the web application level has the **Managed Path** setting.
After specifying a managed path, click the **Add Selected Managed Path** to add it. You can add several managed paths.
 - **Storage Type** – Select the storage device type. Note that only the **Net Share** type is supported for the web application, site collection, and site level.
 - **Storage Path**
 - **UNC Path** – Specify a UNC path to the location where you want to store data. The path must be an existing one. This will be the default root storage path for all libraries under the selected node.
 - **Username** – Enter an account that has permission to access the specified UNC path.
 - **Password** – Enter the corresponding password for the specified account above.
3. Click **Next** when finished. The **Enable Library** page appears.
4. **Enable Library** – Using the tree to the right, navigate down to the library level. Only document libraries, content libraries, and media libraries are displayed. Select the libraries where you want to enable the Connector settings. The checkboxes for the libraries that already have Connector settings configured are not available in the tree.
5. When finished, click **Next**. The **Overview** page appears.

6. Review and edit the Connector settings in the **Overview** page. Click **Back** to modify your configuration, click **Finish** to complete the configuration, or click **Cancel** to quit. After clicking **Finish**, folders are generated in the storage path you specified in the **UNC Path** field in the format *UNC Path\Site Name\Library Name*. The content in each library is stored in the corresponding path/folder on the file share.

Library Level

Configure a Connector storage path on the library level to directly connect existing file share content to a SharePoint library. Checkboxes for libraries that already have Connector settings configured are not available in the tree.

For [web application, site collection, and site levels](#), only Net Share storage is supported. DocAve Connector supports cloud storage on the [library level](#).

***Note:** The only Connector option available at the library level is **Configure Path**. The **Configure Sync Settings** option is not available for configurations made at the library level.

***Note:** If connecting an existing SharePoint Document library to a storage path, all content in the existing SharePoint Document library will be moved to the storage path, even the content that was uploaded to the Document library prior to making the “connection” to the storage path.

The Connector settings at the library level can also be configured from SharePoint. Refer to [Configuring Connector Library Settings from SharePoint](#) for details.

To configure a Connector path on the library level:

1. Follow the instructions in [Configuring the Connector Path](#) to select a node.
2. The **Settings and Path** page appears.
3. **Use path from parent** is selected by default if the storage path is already configured at site level; if it is checked, the library inherits the storage path from its parent site. The **UNC Path** and **Username** fields cannot be modified, but the Password is required. If unchecking this option, you can specify a unique storage path for the library. If the parent site is not configured to any storage path, this option is not available in the library configuration page. For information regarding inheritance, refer to [Configuring Inheritance Settings](#).
4. Select a **Storage Type** from the drop-down list.
 - **Net Share** – Specify the path you want to synchronize with this library, and then enter the **Username** and **Password** to set up access to the path that data will be written and stored to.
 - **Cloud Storage** – Select a **Cloud Type** from the drop-down list. There are five options: **RackSpace Cloud Files**, **Windows Azure Storage**, **Amazon S3**, **EMC Atmos**, and **AT&T Synaptic**.
5. **Load Permissions from File System** – By default, the library inherits permissions from its parent site. If you select this option, it breaks the library permissions inherited from the parent site. The

permissions of the storage path are synchronized to the library after running the synchronization job. This option is only for the **Net Share** storage type.

- **Load the root folder's permission only** – If you select this option, it breaks the library permissions inherited from the parent site after the synchronization. The permissions of library are replaced with the permissions of the root folder of the storage path (that is, the permissions of the storage path). The files and folders under the library inherit the permissions from the library.
 - **Load and preserve all the items' permissions from file system** – If you select this option, it breaks the library permissions inherited from the parent site, and breaks the item (folder/file) permissions inherited from the library after the synchronization. The permissions of the root folder and sub folder in the storage path are synchronized to the library.
6. **Load Metadata from File System** – Specify whether to load metadata from file system while loading files and folders from file system. This option is only for the **Net Share** storage type.
 7. **Keep Name Consistent** - Specify whether to keep the file name and folder name in the content library and storage path consistent.
 - If disabling this option, the file names will be modified in SharePoint according to the [mapping](#) rules after synchronization. The file names in storage path will stay the same. For example, if a file name contains illegal characters, the illegal characters will be replaced with legal characters according to the [Common Mapping](#) settings after the file is synchronized to SharePoint. The illegal characters of the file name in storage path will not be replaced.
 - If enabling this option, the file names in storage path will be consistent with the file names in SharePoint after synchronization.
 8. **File Size Limitation** - Select **Allow Link Large File (Larger than 2GB)** to allow data that is larger than 2GB to be linked from the storage device and synchronized between the storage device and SharePoint. This option is only for the **Net Share** storage type.

***Note:** Due to SharePoint limitations, only a link will be uploaded to SharePoint for the item which is over 2GB in size. There are some issues on files that are larger than 2GB in SharePoint:

- The content type of the large file cannot be changed.
- The large file cannot be renamed.
- If you generate a version for the large file, it is only a link in SharePoint. The large file of this version will not be generated in the connected path.
- The index will not be generated for the content of the large file during the SharePoint crawling.
- You cannot copy or move the large file in Explorer View.

If you are configuring a Media Library, there are two more Connector settings to configure: **Player** and **Rich Text Settings**.

9. **Player** – Configure the settings for the media player.
 - **Player size** – Customize the size of the player screen.
 - **Enable auto play** – Enables the videos to play automatically once the video icon is clicked.
10. **Rich Text Settings** – This feature allows you to add a button in the column of **Rich Text type** to play videos. This provides a method to enable the video for each item on the current site. The followings are the detailed steps to use this feature.
 - a. In the **Media Library Settings** page, select **Enable Video in Rich Text for Entire Site**. Click **Save** to save the setting.
 - b. Access a list in the target site and create a column in the list. Select **Multiple lines of text** and **Enhanced rich text (Rich text with pictures, tables, and hyperlinks)** in the **Create Column** page.
 - c. Select an item in the list and click **Edit Item** in the **Manage** group on **Items** page. The **Item Edit** page appears. Click the column you just created and navigate to **Format Text > HTML > Rich Text Settings**. The **Player Settings** page appears.
 - d. Configure the Rich Text settings in this page, including **Video Source URL**, **Player Type**, and the **Player Size**. If you want the video to be automatically played, check the **Enable Auto Play** checkbox.

***Note:** This column only exists in items; it does not exist in libraries.

Configuring Sync Settings

After completing the [Configure Path Wizard](#), you can configure the sync settings. This section describes how to set up the synchronization settings for the paths you have configured. The default sync settings are used if you do not configure sync settings in the **Configure Sync Settings Wizard**.

***Note:** The **Configure Sync Settings** option is not available for configurations made at the library level.

Follow the instructions below.

1. Navigate to **Configure Sync Settings** in the **Manage** group.
2. **Configure Sync Settings** – Configure synchronization-related settings for the selected object.
 - a. Select a **Common Mapping** from the corresponding drop-down list. There is a default common mapping profile in the drop-down list. You can select **New Common Mapping** from the drop-down list to create new common mapping profiles. Refer to [Common Mapping](#) for more information.
 - b. Select a **Property Mapping** from the corresponding drop-down list. There is a default property mapping profile in the drop-down list. You can select **New Property Mapping**

from the drop-down list to create new property mapping profiles. Refer to [Property Mapping](#) for more information.

- c. Select a **Security Mapping** from the corresponding drop-down list. There is a default security mapping profile in the drop-down list. You can select **New Security Mapping** from the drop-down list to create new security mapping profiles. Refer to [Security Mapping](#) for more information.
- d. **Schedule Selection** – Choose whether or not to synchronize the content between the storage path and SharePoint periodically.
 - **No Schedule** – Does not configure any schedule to synchronize data. If you select this option, you must run the synchronization job manually from SharePoint.
 - **Configure the schedule myself** – When you select this option, the **Schedule Settings** option and **Processing Pool** option become available.
 - **Schedule Settings** – Specify the start time and interval for the schedule. Click the calendar icon or **Calendar View** to the **Interval** field to view the interval in the calendar. Then specify an end time for the schedule and when to end the schedule.
 - **Processing Pool** – Specify a processing pool for the synchronization process. There is a default processing pool for each SharePoint farm, **DocAve_Farm(FarmName)**. You can create new processing pools by selecting **New Processing Pool** from the drop-down menu. For more information, refer to [Configuring the Processing Pool](#).

Configuring the Processing Pool

The Processing Pool feature allows you to control the maximum number of synchronization jobs that can be run at the same time. Normally, a synchronization job is fairly resource-intensive, so running multiple synchronization jobs simultaneously may affect the performance of the server. To avoid this condition, use the Processing Pool feature.

Synchronization jobs that are added into the Processing Pool become threads. The number of threads you allow in the processing pool is the maximum number of synchronization jobs that can be run simultaneously. The remaining synchronization jobs are placed in a queue.

Each SharePoint farm has a default processing pools: **DocAve_Farm(FarmName)**. The number of threads set in the default processing pool is **5**.

To create a new Processing Pool:

1. Click **Connector** tab > **Processing Pool** in the **General Settings** group.
2. Click **Create** in **Manage** group on the **Processing Pool** tab. The **Processing Pool** page appears.
3. Enter a **Processing Pool Name** and an optional **Description**.

4. Select the **Farm** from the drop-down list.
5. Select an **Agent Group** from the drop-down list. The agents in the specified agent group are used by this Processing Pool to perform the synchronization jobs. For more information about creating agent groups, refer to the [DocAve 6 Control Panel Reference Guide](#).
6. Specify the **Number of Threads** that will be used for the synchronization jobs. For example, if you enter **8** in this field, then 8 synchronization jobs can be run at the same time.

Configuring Inheritance Settings

The site collection, site, and library levels inherit Connector settings from their parent nodes automatically. When setting up the connection between SharePoint and a storage device, inheritance is just a recommendation. The connection between SharePoint and the storage device is actually a connection between a SharePoint library and the storage device. Only the Connector settings on the library level have an effect on the connection relationship between SharePoint and storage.

If you accept this inheritance, it is not necessary to configure the Connector settings (such as **Storage Path** and **Mapping Settings**) at each level manually. Inheritance saves time by only requiring the aforementioned settings to be configured once.

If desired, you can break inheritance and configure unique Connector settings for each level. As mentioned previously, only the Connector settings on the library level have an effect on the connection relationship between SharePoint and the storage device.

If you want to break inheritance, select the child node beneath the configured parent node and select **Configure Path** and **Configure Sync Settings** to configure unique setting for the selected node.

Refer to the descriptions below for the inheritance details of each level.

Site Collection

If the upper-level web application has configured Connector settings, by default, the site collections below it inherit the Connector settings.

- To break inheritance, access the [Configure Path](#) and [Configure Sync Settings](#) features to configure unique settings for the selected site collection.
- If the upper-level web application does not have any Connector settings applied to it, access [Configure Path](#) and [Configure Sync Settings](#) in the **Manage** group to configure Connector settings for the selected site collection.

***Note:** Only when the managed path of a site collection is configured at the web application level do the site collections under the specified web application inherit the Connector settings.

Site

If the upper-level site collection has configured Connector settings, by default the site inherits the Connector settings from its parent site collection.

- To break inheritance, access [Configure Path](#) and [Configure Sync Settings](#) to configure unique settings for the selected site.
- If the upper-level site collection does not have any Connector settings applied to it, click [Configure Path](#) and [Configure Sync Settings](#) to configure Connector settings for the selected site.

Library

If the upper-level site has been configured Connector settings, by default the library inherits the Connector settings from its parent site. You cannot change sync settings at the library level.

***Note:** The sync settings, including mapping settings and schedule settings, cannot be configured at the library level. The library inherits sync settings from its parent automatically. But if no Connector settings are configured at site level or above, the library uses the default Common Mapping, Property Mapping, and Security Mapping. In addition, the library uses the default schedule setting (**No Schedule**). In this case, it is necessary to run the synchronization job from SharePoint manually.

Creating a Connector Library in SharePoint

After [activating the Connector feature](#), you can, in SharePoint, create a Connector library and specify a path to a storage path. When a Connector library is created in SharePoint, any files uploaded to the library are automatically moved to the specified storage device path rather than remaining in SQL storage.

The two types of Connector libraries are **Content Library** and **Media Library**. Neither library has restrictions on the file types that can be uploaded, but the Media Library contains special functionality for viewing thumbnails of certain file types. Refer to [Viewing Thumbnails in Media Library](#) for more details.

***Note:** When configuring Connector settings for the library, there is a setting called **File Size Limitation**. If this option is unchecked, the files uploaded into the library must no more than 2 GB. If this option is checked, files that are larger than 2 GB are able to be uploaded to the library.

To create a Connector library (Content Library/Media Library) in SharePoint:

1. In SharePoint, access the site where the Connector feature is activated.
2. Click **Site Actions** on the upper-left corner of the page and select **More Options** in the drop-down list. Locate **Content Library/ Media Library** under the **Libraries** column. Select the library you want to create.
 - **Name and Description** – Enter the name of the library and the optional description.
 - **Navigation** – Specify whether to display this library on the Quick Launch.
 - **Document Version History** – Specify whether to create a version each time you edit a file in this library.
 - **Document Template** – Select from the **Document Template** drop-down list to determine the default template for all new files created in this library.

For more information, including details on specifying a default path for Connector libraries created in SharePoint, see [Managing Connector Libraries in SharePoint](#).

***Note:** If you have ever accessed DocAve 5 Connector libraries, you must clear your browser cookies and cache before accessing DocAve 6 Connector libraries. This ensures proper functionality from the DocAve 6 Connector libraries.

Managing Connector Libraries in SharePoint

Refer to the sections below for information on managing Connector libraries in SharePoint.

Configuring Connector Library Settings from SharePoint

It is possible to configure initial Connector settings for the library level from either the DocAve GUI or from SharePoint. Only the library level can be configured from both the DocAve GUI and SharePoint. Other levels (such as web application, site collection, and site) can only be configured from the DocAve GUI.

The Connector setting options for the library level are exactly same on both the DocAve GUI and SharePoint. The [Library Level](#) section details how to configure Connector settings for the library level from the DocAve GUI. This section describes how to configure the library level from SharePoint.

***Note:** If a library has configured Connector settings that were applied from the DocAve GUI, you can edit these Connector settings from SharePoint as well, and vice versa.

To configure the Connector library from SharePoint:

1. Access the library that you wish to connect to your storage path.
2. Click the **Library** tab on **Library** page, and then click **Library Settings** in the **Settings** group.
3. Select **Content/Media Library Settings** for a Content/Media Library or **Connector Settings** in the **General Settings** column for a Document Library. The **Content/Media Library Settings** page appears.
4. Configure the settings for a DocAve Connector library (Content Library/Media Library) and a SharePoint Document library from SharePoint. Refer to [Library Level](#) for information on these settings.

Manually Synchronizing the Library with the Connected Path through SharePoint

If you did not set up a schedule when configuring the sync settings for your connected library, the library and storage path need to be manually synced; this ensures that the library stubs are displaying the most current content that exists in the storage path. Access the **Connector Settings** page in SharePoint to manually perform the synchronization operations.

- **Synchronization** – Synchronizes the current library with the connected storage path.
- **Edit Connect Settings** – Returns to the **Library Settings** page, where you can [edit the Connector settings for the current library](#).

After the synchronization completes, the stubs for the files and folders in the file system are created or updated in the library.

Viewing Thumbnails in the Media Library

The Media Library allows you to view thumbnails for the following file types: videos, pictures, and PPTs. Refer to [Appendix B: Video/Audio/Picture Files in Media Library](#) for more information on these file types.

To view the thumbnails, it is recommended to install ffmpeg and set the configuration file or install the SMPlayer. For more information on installing and configuring ffmpeg or SMPlayer, refer to [Installing and Configuring ffmpeg or SMPlayer](#).

To view PPT thumbnails, [install and configure SMPlayer or ffmpeg](#), then install Microsoft Office PowerPoint 2007 or Microsoft Office PowerPoint 2010 on all client machines.

Installing and Configuring ffmpeg or SMPlayer

In order to view thumbnails in the Media Library, first install and configure SMPlayer or ffmpeg.

ffmpeg

Refer to the following steps for information on installing and configuring the ffmpeg.

1. Download the **ffmpeg.zip** file from <http://www.videohelp.com/tools/ffmpeg> to the installation path of the agent, which is ... \AvePoint\DocAve5\Agent\bin by default, and extract it.
2. Find the **DocAve.SP2010.Connector.cfg** file in the following path:
... \AvePoint\DocAve6\Agent\data\SP2010\Connector.
3. In the **DocAve.SP2010.Connector.cfg** file, change the value of *getsnapshot exeopath* to the full path of the **ffmpeg.exe** file. For example:

```
<getsnapshot exeopath="C:\Program Files\AvePoint\DocAve6\Agent\bin\ffmpeg\ffmpeg.exe" interval="10" NetShareCon-flictFlag="-1"/>
```
4. Navigate to **Start > All Programs > AvePoint DocAve 6 > DocAve 6 Agent Tools**, click **Agent Restart Service Tool**, and restart the **Agent Service** in the pop-up window.

SMPlayer

Refer to the following steps for information on installing and configuring the SMPlayer.

1. Download the SMPlayer installation package from <http://sourceforge.net/projects/smplayer/>.
2. Choose **English** in the drop-down box when selecting the language.
3. Click **Next** and select **I accept the terms of the License Agreement**. Click **Next**.
4. Choose the **Typical** install type from the drop-down box and click **Next**.
5. Specify the destination folder, and then click **Install**.
6. When the installation process to completes, click **Finish** to finish the installation process.
7. Be sure to set the **Player** metadata column to designate which player you want to use when opening the file.

Using the Library

After [creating a Connector library](#) and [syncing the content](#), access the **Library** page and manage your library. The following actions can be performed:

The Document Tab

- **New Document** – Creates a new document in this library.
- **Upload Document** – Uploads one file or multiple files to this library. Please note that there is only the file's stub in the SharePoint library; the uploaded file(s) are saved in the specified folder in the connected path. You can also click **Upload Large Documents** to upload to the library documents that are larger than 2GB.
- **New Folder** – Creates a new folder in this library.
- **Edit Document** – Opens the selected document for editing.
- **Check Out** – The checked out document is read only to everyone and cannot be edited.
***Note:** When you check out one file in the Connector library (Content Library/Media Library) in SharePoint, the original user permissions of the corresponding file stored in the Net Share storage is changed to **Read Only** to all users. After you check in the file or discard the check out, the original permissions are then recovered in the Net Share storage.
- **Check In** – Checks in the document that you checked out and accept the changes made during the check out.
- **Discard Check Out** – Checks in the document that you checked out and discards the changes made during the check out.
- **View Properties** – Views the properties of the selected file.
- **Edit Properties** – Edits the properties of the selected file.
- **Version History** – Views and manages the version history of the selected file.
- **Document Permissions** – Accesses **Permission Tools** to manage the permissions of the selected file.
- **Delete Document** – Deletes the selected file from current library.
***Note:** If a file is deleted in SharePoint, it is moved to the Recycle Bin. As long as you do not empty the Recycle Bin, the synchronization between the connected path and the SharePoint library will not synchronize the deleted file. If you empty the Site Collection Recycle Bin after deleting the file, the corresponding file in the connected path is also deleted.
- **E-mail a Link** – E-mails a link to the selected file.
- **Download a Copy** – Downloads a copy of the selected file to your computer.
- **Send To:**
 - **Other Location** – Moves or copies the selected file to another location.
 - **Create Document Workspace** – Creates a Document Workspace for the selected file.
- **Manage Copies** – Manages all linked copies of the selected file.
- **Go To Source** – Navigates to the source file that is linked to the selected file.
- **Workflows** – Go to the Workflows page to start a new workflow on the selected document or to view the status of a running or completed workflow.

- **Publish** – Publish a major version of the selected document.
- **Unpublish** – Unpublish the current version of the selected document.
- **Approve/Reject** – Approve or reject submissions to this library.
- **Cancel Approval** – Cancel approve/reject submission and unpublish the selected document.
- **I Like It** – Tags the selected item with “I Like It”.
- **Tags & Notes** – Adds tags on the selected item. Adds notes on the item to help clarify the item; the notes are public.

The Library Tab

- **Standard View** – Views the items in the standard list format.
- **Datasheet View** – Views the items in the datasheet list format.
- **New Row** – Add a new row to this list.
- **Show Task Pane** – Opens task pane to access additional commands.
- **Show Totals** – Displays totals under each column.
- **Refresh Data** – Reloads the data to display changes made by other users.
- **Create View** – Selects columns, filters and other settings according to your requirements to create a new view.
- **Modify View** – Modifies the existing views.
- **Create Column** – Adds a new column to store additional information about each item in current library.
- **Navigate Up** – Navigates to the parent folder of current folder.
- **Current View** –
 - Select different views from the drop-down list.
 - Click the triangles next to the **Current Page** field to go to the next page or previous page.
- **E-mail a Link** – E-mails a link to this library.
- **RSS Feed** – Goes to the RSS Feed page for this library to view and subscribe to its feed.
- **Sync to SharePoint Workspace**: Creates a synchronized copy of this library on your computer using SharePoint Workspace.
- **Connect to Office** – Creates a shortcut to the library in the **SharePoint Sites** folder of the favorites list in the Office **Save As** and **Open dialog** boxes. You can conveniently access commonly used libraries from a Microsoft Office program.
- **Connect to Outlook** – Synchronizes items and makes them available offline using Microsoft Outlook.
- **Export to Excel** – Exports items in this library using Microsoft Excel.
- **Open with Explorer** – Opens this library as a standard Windows Explorer folder.
- **Form Web Parts** – Modifies the web parts in the forms associated with this library.
- **Edit Library** – Edits the current library in SharePoint Designer.
- **New Quick Step** – Creates your own Ribbon button to perform a custom action on the items in the library.

- **Library Settings** – Configures the setting such as permissions, columns, and views for current library.
- **Library Permissions** – Manages permissions for current library.
- **Workflow Settings** – Modifies the settings of the workflows associated with this library.

The AvePoint Connector Tab

- **Synchronization Operations** – Runs synchronization jobs for current library.
- **View Report** – Views the latest synchronization job report.

***Note:** The SharePoint Document library does not have this tab.

Converting Stubs to Content

After running a synchronization job, Connector moves the data to the storage path and creates stubs in SharePoint in place of the original data. Should you want to convert these stubs back to data on SharePoint's SQL server, use the **Convert Stub to Content** function.

***Note:** Refer to [How to Determine the Data is Stub or Real Content](#) for information on identifying stubs and content.

1. Click **Connector** tab > **Convert Stub to Content** in the **Restore** group. A pop-up window appears.
2. In the pop up window, select the scope where you want to perform the stub restore. You can enter the criteria in the textbox and click the magnifier to search for the specified object.
3. The tree can be expanded down to the item level. Click **Items** and all stubs of the synchronized items are displayed in the **Stub Browser** area. The name of the stub, the type of the stub, and the size of the stub's real data are displayed.
4. Choose to convert the stubs immediately or on a specified time in the **Schedule** field; configure the following settings.
 - **Convert now** – Choose this option if you want to convert the stubs immediately.
 - **Configure the schedule myself** – Choose this option to convert the stubs based on a schedule. If this option is selected, the following option will appear and need to be set up.
 - **Schedule Settings** – Specify the start time of the converting job.
5. Click **OK** to start the convert job and the stubs of the selected scope will be converted to the real data.

How to Determine the Data is Stub or Real Content

There are no identifying markers for Connector stubs in SharePoint. Refer to the methods below to determine if the data is a stub or real content.

- If using EBS Provider, navigate to the content database of the site collection in Microsoft SQL Server Management Studio. In the **AllDocs** table, if the value of the specified item in the **docflags** column is larger than **65533**, this item is stub. Otherwise, it is real content.
- If using RBS Provider, navigate to the content database of the site collection in Microsoft SQL Server Management Studio. In the **AllDocStreams** table, if the value of the specified item in the **RbsId** column is not **Null**, the item is a stub; if the value of the specified item in the **Content** column is not null, the item is real content.

Connector Tools

Some tools are provided with the Connector module. Refer to the [DocAve 6 Supplementary Tools User Guide](#) for instructions on using these tools.

- **AgentToolSP2010ConnectorCreateList Tool** – This tool is used to help perform Connector functions from outside of the DocAve GUI.
- **SP2010ConnectorEncryptPassword Tool** – This tool is used to encrypt passwords for Connector; it works in conjunction with the AgentToolSP2010ConnectorCreateList Tool.

Connector Caveats

- After the files are synchronized to a Content library or Document library, the **Modified by** attribute of the Microsoft Office file loads the value of the **Last Saved by** attribute. The **Modified by** attribute of the file that is not a Microsoft Office file loads the System Account as its value.
- After the files are synchronized to Media library, the **Modified by** attribute of all the files will load the System Account as its value.
- The **Title** attribute for the Media Library cannot be loaded.
- In Media Library, it is recommended that you download AVI files in order to play them.
- In RMS environment, if using DocAve Archiver or Extender on a Connector library, some of the files cannot be opened because the RMS environment will encrypt the data. Connector cannot load encrypted data.

DocAve Connector Use Case

A common obstacle encountered by organizations using SharePoint involves the question of how to incorporate into the environment the many files that reside on one or more file shares. Because these file shares exist on the network and are accessible by anyone within the organization, they often contain large amounts of unorganized data. From a storage optimization point of view, migrating these files into SharePoint's SQL Server is not desired.

This is the problem faced by Joe, the SharePoint administrator for a large hospital. Prior to SharePoint deployment, the hospital used three different file shares to store various types of data. Now, as SharePoint administrator, it is Joe's responsibility to determine a method of incorporating these files into SharePoint. Knowing that [SQL Server performs best](#) when it is not cluttered with [BLOBs](#), Joe decides to deploy DocAve Connector in order to "connect" these file shares to the SharePoint environment. That way, he can take advantage of SharePoint's metadata, security, and permission functionality while maintaining optimal SQL storage space.

First, Joe chooses [RBS as the BLOB provider](#). He configures the stub database (the location in SQL where the connected contents' stubs will reside) and [enables the BLOB provider](#). He then [deploys](#) and [activates](#) the Connector solution on his farm.

Once this is complete, Joe uses the **Configure Path** feature in Connector to [connect the desired SharePoint library to a file share](#). From the **Scope** panel, he navigates down to the **List** node of the applicable site and selects an existing library. He configures the following settings:

- He does not select **Load permissions from file system** because he wishes to manage permissions from SharePoint once the content is connected.
- For **Load metadata from file system**, and **Keep Name Consistent**, he selects **Yes**.
- Knowing that there are certain images in the file share that are large in size, Joe does not **Allow linking large file(larger than 2GB)**. These files will be linked rather than have stubs created.

Joe knows that in addition to connecting the file share content to this library, all existing content in this SharePoint library will be moved to the connected file share; this is his intent because he wants to move the existing content in this library out of SQL Server. Additionally, Joe does not have to configure any sync settings because he created a connection on the library level. Once the file share content is connected to the SharePoint library, any files that are uploaded to the SharePoint library will be moved to the configured file share path.

Now that Joe has successfully created a connected path between the SharePoint library and file share, he uses [DocAve Content Manager](#) to reorganize the connected files and place them in the appropriate library location in the SharePoint environment. Not only has Joe avoided a time-consuming migration, but he's prevented inundating SQL with BLOBs from the file share...all while still being able to use SharePoint's metadata, permissions, and security functionality on the connected content.

Appendix A: Stub Database Inheritance

In rare cases (records management, for example, where there will be millions of files), it may be necessary to configure stub databases down to the web application or content database level. Should this be the case, refer to the information below.

Note the following:

- If you configure the stub database on the farm level and do not specify a stub database at a lower level, newly-added web applications and content databases use the stub database of its parent node.
- If the stub database is not configured when running a Connector job, it will use the stub database of its parent node.

For example, assume that you only configured a stub database for a web application and set a Connector rule on it. You did not configure the stub database for any of the content databases under the web application. When the Connector rule is triggered on a specified content database in the web application, the content database inherits the stub database of the web application. The stub database configuration is saved and is used in all of the later Connector jobs performed on this content database.

The x in the table below indicates that the corresponding component remains not configured. If you do not wish for a lower level to inherit the stub database of a higher level, expand the tree to the specified level and configure a stub database for the lower level separately.

Selected Nodes	Configuration Status of the Stub Database			
	Existing Web Application	Existing Content Database	Newly-Added Web Application	Newly-Added Content Database
Only the Farm Node	x	x	Inherit the farm's stub database.	Inherit the farm's stub database.
Only a Web Application Node	Only the stub database of the selected web application node will be configured.	x	x	If the newly added content database is in the selected web application node, it will inherit the web application's stub database. Otherwise, it will remain not configured.
Only a Content Database Node	x	Only the stub database of the selected content database node	x	x

		will be configured.		
Farm Node and a Web Application Node	Only the stub database of the farm node and the selected web application node will be configured.	×	Inherit the farm's stub database.	If the newly added content database is in the selected web application node, it will inherit the web application's stub database. Otherwise, it will inherit the farm's stub database.
Farm Node and a Content Database Node	×	Only the stub database of the farm node and the selected content database node will be configured.	Inherit the farm's stub database.	Inherit the farm's stub database.
Web Application Node and a Content Database Node	Only the stub database of the selected web application node and content database node will be configured.	Only the stub database of the selected web application node and content database node will be configured.	×	If the newly added content database is in the selected web application node, it will inherit the web application's stub database. Otherwise, it will remain not configured.
Farm Node, a Web Application Node and a Content Database Node	Only the stub database of the farm node, the selected web application node and the content database node will be configured.	Only the stub database of the farm node, the selected web application node and the content database node will be configured.	Inherit the farm's stub database.	If the newly added content database is in the selected web application node, it will inherit the web application's stub database. Otherwise, it will inherit the farm's stub database.

Appendix B: Video/Audio/Picture Files in Media Library

Refer to the following table for the video file formats that can be uploaded onto a Media Library and the recommended player for each video format.

Format	Recommended Player
WMV	Windows Media Player
FLV	Flash Player
AVI	Windows Media Player
RM	Real Player
RMVB	Real Player
DAT	Windows Media Player
MP4	Windows Media Player, QuickTime Player
MOV	QuickTime Player
MPEG	Windows Media Player
MPG	Windows Media Player
SWF	Not supported, click its name and it can be opened in Internet Explorer directly
ASF	Not Supported
3GP	Not Supported
VOB	Not Supported

Refer to the following table for the audio file formats that can be uploaded onto Media Library and the recommended player for each audio format.

Format	Recommended Player
WAV	Windows Media Player
MID	Windows Media Player
WMA	Windows Media Player
MP3	Silverlight Player
FLAC	Not Supported, but you can download the file
APE	Not Supported, but you can download the file
OGG	Not Supported, but you can download the file

Refer to the following table for the picture file formats that can be uploaded onto Media Library and the thumbnail information of each picture format.

***Note:** The thumbnail information works both for **All Video Thumbnails** view and **All Video Details** view.

Format	Whether the File Has a Thumbnail	Whether the File Can be Previewed in the Preview Field
BMP	Yes	Yes
GIF	Yes	Yes
JPEG/JPG	Yes	Yes
PNG	Yes	Yes
EXIF	Yes	Yes
ICO	Yes	Yes
TIFF	Yes	Yes
PCX	No	No
TIF	No	No
FPX	No	No
SVG	No	No
UFO	No	No
CDR	No	No
PCD	No	No
DXF	No	No
PSD	No	No

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