Quest

Content Matrix 9.9

SharePoint Edition

Contents

Introduction

Whether you are migrating between SharePoint servers, upgrading from one version of SharePoint to another, migrating to Microsoft 365, or simply reorganizing your SharePoint content, Quest Content Matrix Console is an easy to use, convenient way of moving SharePoint data. With its familiar copy-and-paste style user interface, SharePoint content can be quickly migrated between servers, while preserving valuable associated metadata.
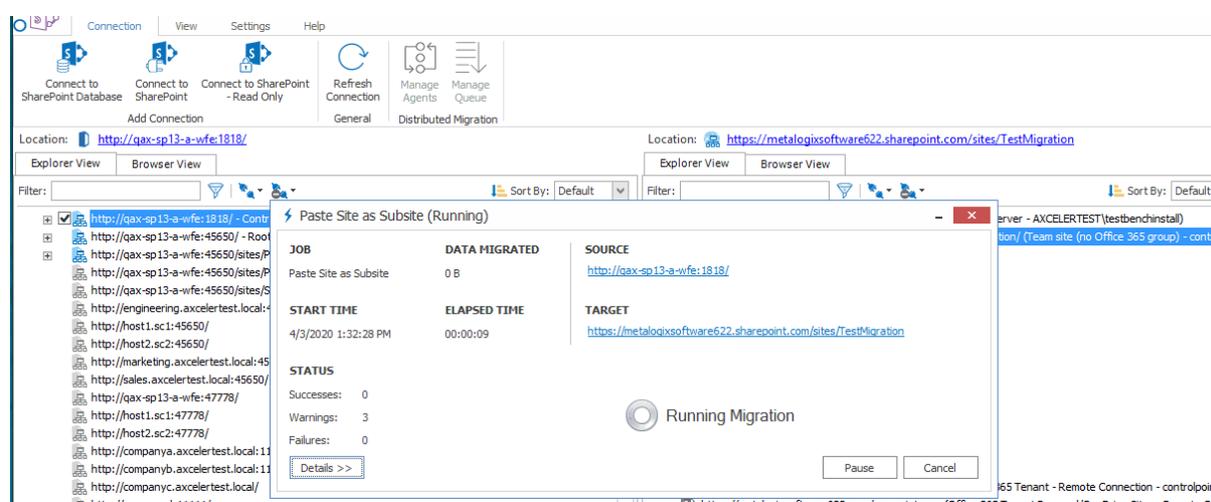
Supported Source and Target SharePoint Versions

Content Matrix Console supports the following versions of SharePoint.

NOTE: With Content Matrix SharePoint Edition, you can migrate into a target version of SharePoint that is *the same or later* than the version of SharePoint on the source. (Migration from a later version of SharePoint to an earlier version is supported for documents and list items only.)

Source Version*	Target Version (All Editions)				
	SharePoint 2013 (Foundation and Server)	SharePoint 2016	SharePoint 2019	SharePoint Server Subscription Edition	Microsoft 365 (SharePoint Online)
SharePoint 2007 (WSS and MOSS)	✔	✔	✔		✔
SharePoint 2010 (Foundation and Server)	✔	✔	✔		✔
SharePoint 2013 (Foundation and Server)	✔	✔	✔	✔	✔
SharePoint 2016		✔	✔	✔	✔
SharePoint 2019			✔	✔	✔
SharePoint Server Subscription Edition				✔	✔

* While it may be possible to migrate from earlier versions of SharePoint (e.g., SharePoint 2003), some long out-of-date functionality may present special challenges when migrating to a supported target. However, Quest Professional Services can provide assistance.

If you want to migrate from a SharePoint Online source to a SharePoint Online target:

Quest offers On Demand Migration, which specializes in Microsoft 365 and SharePoint Online migrations.

Key Features

There are many advantages to using Content Matrix Console, including the following:

Ease of use
Similar to the Windows File Explorer, Content Matrix Console has a familiar, tree-based copy-and-paste style user interface.

Migration list types
Document libraries, issues, tasks, contacts, announcements, discussions, and custom lists can all be migrated, while preserving views, metadata, and user-edit information.

Valuable data retention
All version chains, metadata, user-edit information, and most views can be preserved.

Multiple site connections
Connect to multiple SharePoint sites, across any number of servers, for easy consolidation or distribution of your SharePoint data.

Working remotely
Do all the heavy lifting for your SharePoint migration from the convenience of your own machine. Content Matrix Console connects to any SharePoint site that you can access with your browser, even those outside your organization's intranet.

Batch work
Multiple list migration operations can be batched up for convenience, and re-run at any time. Run your migrations at night and view the results/logs in the morning.

Compliance
All migration activity is done through the supported SharePoint APIs. There are no unsupported, direct writes to the SharePoint database.

PowerShell functionality
PowerShell functionality is incorporated into the Content Matrix User Interface (UI), and any action in the UI can also be performed with PowerShell. Cmdlets are also included, so scripts can be manually created and run.

Product Announcements Splash Screen

When you launch the Content Matrix Console, a splash screen displays with the latest Content Matrix product announcements. If you have internet access, you will receive announcements directly from the Quest website. If you do not have internet access, the splash screen displays offline text included with your Content Matrix installation.

You have the option of preventing this screen from displaying in the future by clicking the **Do not show this screen again** box. (If you select this option, display of the splash screen will resume the next time you perform a Content Matrix Console installation or upgrade.)

Automatic Updates

Content Matrix Console can automatically check online to see if a more recent version of the product is available for download. This takes place when Content Matrix starts. To help ensure that you are taking advantage of the latest features and fixes, it provides a direct line to download and installation of new Content Matrix builds.

Automatic Upgrades requires access to the internet. While Content Matrix will check every time it is opened, it is also possible to run a manual check. To do so, go to the main toolbar and choose **Help > Check for Updates**.

If you are already running the latest build, the **Check for Updates** dialog will open and you will be informed that you already have the latest version installed. If there is a new build available for download, the **Download and Install Update** dialog will open.

Running the Automatic Update

When Content Matrix checks for updates and finds a newer build available for download, users will be prompted to update with the **Download and Install Update** dialog.

1. Click **[Download]** to directly download the latest build to your current machine.

    The progress of the download is displayed in the **Download progress** bar.

    NOTE: If you are accessing the internet through a proxy server, the here link can be clicked on to open the proxy configuration dialog.

2. Once the download is complete, click **[OK]** to continue.

    The Download and Install Update dialog will still be open, but the Download button will be replaced with the **[Install]** button.
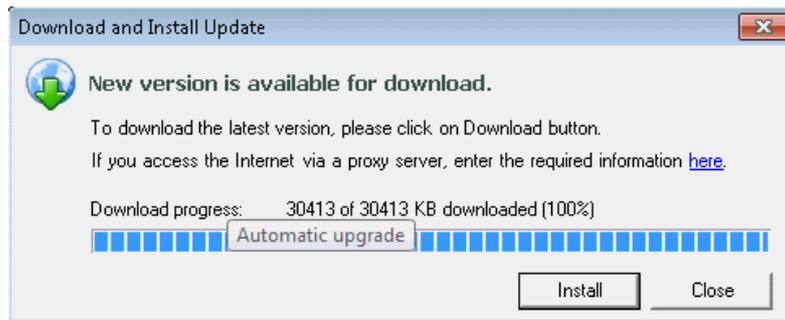
You will have the option of installing the new build directly from here by clicking the **[Install]** button. This will open the Installation guide. If you are continuing the installation process directly from this dialog, then the Content Matrix Console will close itself down, so the install process can be run.

NOTE: When running the automatic upgrade process, only the latest build of the Content Matrix Console will be updated. Any installations of the Metalogix Extensions Web Service will have to be updated manually. See the *Content Matrix Advanced Install Guide* for details.

Activating the License Key

You will be prompted to input an Activation License Key when launching the Content Matrix Console:

- for the first time after it has been installed if an existing license is not detected

OR

- after your license has expired.

NOTE: If users are not required to be a local administrators on the machine where Content Matrix is installed, every user who launches a Console needs to enter a license key. If users are required to be a local administrator, only the first user who launches a Console needs to enter a license key.

IMPORTANT: During installation, all Editions of the Console (SharePoint, File Share, and Public Folder) are installed. However, the license will only be activated for Editions that are covered by it. If an Edition is not covered by the license, the message *Invalid license: License key is not valid for the given product*. will display in the Activate License Key dialog.

If you are performing an online activation, you can also do it silently, using Powershell.

To enter a license key:

1. In the **Activate License Key** dialog, select **I have a license key**, and enter the license key provided by Quest (the key can be copied and pasted into the provided space).

> NOTE: If you are updating from a Content Matrix installation **older than version 6**, select the **I am updating from an older version and have an old-style key** option, and enter the key in the provided space (or paste into the first field from your clipboard).

2. Select the appropriate activation method.

> NOTE: Most systems can use the Online activation method **as long as** the system has internet access. If you are unable to use the online activation method due to security settings or lack of internet access, the Offline activation option can be used.

Online Activation

> NOTE: In order to activate your license, the following URL must be unblocked by your firewall: https://license.metalogix.com

1. After entering the license key, select **Online activation**.

2. If you need to configure proxy settings:

   ▪ Click the Set proxy… link.

   ▪ Follow the procedure for Configuring Proxy Settings.

3. Click **[Next]**.

> Content Matrix will contact the licensing server and attempt to authenticate the license key, after which, on successful activation, a 'Congratulations!' message will be returned, and the license key will be active and in use.

4. Click **[Finish]** to complete the process.

Offline Activation

NOTE: The offline activation option is generally used in cases where you cannot use the online activation due to security settings or lack of internet access. This option will still require some internet access, but allows for the authentication to be done from another machine that is not as restricted by security or has a connection to the internet.

1. Select **Offline activation**.

2. Click **[Next]**.

   A **Generate Activation Request** dialog displays with a different key. This key can be copied from the window, or the **Save to file** option can be used to save the key into a text file (in case it needs to be copied to another machine).

3. Copy the **Activation URL** (listed under the Activation Request) to a web browser that has internet access.

   Alternately if the system the Content Matrix Console is on does have internet access through a Web browser, click **Go** to automatically open a web browser to this URL.

4. On a machine that has internet access, use the Activation URL to navigate to the Offline Activation page.

5. Either:

   - Enter the key into the **Activation data** text box.

   OR

   - If the key was saved to a file, select **Browse** and navigate to the file.

6. Click **[Activate]**.

   Upon successful activation, a new key displays in the text box.

7. Do one of the following:

   - To save the key as a DAT file, click **[Download file]**.

   OR

   - To copy the key to the clipboard (if the license will be activated on the same machine), click **[Copy text].**

8. Click **[OK]** to continue.

9. Return to the Activate License dialog.

10. If the Generate Activation Request window is still active, click **[Next]**. to the **Enter your Activation Response** window.

11. Use one of the following options:

    - If you copied the key to the clipboard on the same machine, paste it into the window.

    - If you saved the key to a DAT file, navigate to, and select the DAT file.

12. Click **[Next]**. The license key will be active and in use.

13. Click **[Finish]** to complete the process.

Checking the Content Matrix Console License

To check the status of the license key in use, open the About dialog. Here, information such as the license type, expiration date (if any), size limitations for migrations, and how much data has already been migrated can be seen.

NOTE: If an offline license is used, the offline activation process will need to be used to do this update instead, unless the system that the Content Matrix Console is installed on has internet access.

To check the current license:

1. In the Content Matrix Console ribbon toolbar, choose **Help > About**.

2. In the dialog that opens, click **[Refresh]**. This will initiate a refresh of this data from the licensing servers and update the information.

Selecting the SQL Database You Want to Connect to

The first time you launch the Content Matrix Console you will be prompted to select the SQL database that you want to connect to. Options are:

- Connect to Job Database (SQL Server)

- Connect to Distributed Database (SQL Server)*

  * NOTE: . In order to use this option, [Distributed Migration must be configured](#).

- Connect to New Job List (SQL Server Compact 4.0* Required)

- Connect to Existing Job List (SQL Server Compact 4.0* Required)

  NOTE: The use of SQL CE in a production environment is discouraged because of the following limitations:

  - It uses a single .lst file that is less robust and reliable and may be corrupted after the database reaches 4 GB.

  - Data compression is not supported.

  - Support for large objects is limited.

  - Microsoft support for SQL CE has ended.

  If you still want to use SQL CE, SQL Server Compact 4.0 must already be installed on your machine. You can download it from [Microsoft](#), install it, then restart the Console.

  NOTE: If you have upgraded from version 9.3 or earlier and are using SQL CE (.lst) files but SQL Server Compact is not installed, a pop-up will display. You will be given the option of either installing SQL Server Compact 4.0 or selecting a different Job database.

To create or connect to a full SQL database:

IMPORTANT: If you are connecting to an Azure SQL database, the database must already have been created via Azure Portal. You cannot create or delete an Azure SQL database from within Content Matrix.

1. From the **Please connect to a job database** dialog, select **Connect to Job Database (SQL Server)** or **Connect to Distributed Database (SQL Server)**.

2. Complete the **Connect to SQL Server** dialog:

   - If you are connecting to an **on premises SQL database**, create (using the New Database option) or select the database you want to use.

- If you are connecting to an **Azure SQL database**, select the database that has been created in Azure Portal for use by Content Matrix. (Note that the New Database and Delete Database options will be disabled.)

3. If you want to use an encrypted connection to the database, check the **Encrypt Connection** box.

   NOTE: If the certificate used for encryption is not trusted, you will also need to check the **Trust Server Certificate** box.

4. Select an **Authentication** method for connecting to SQL server.:

   - **Use Current Windows User**

   OR

   - **Use SQL Server Login**

NOTE: Currently, **Use SQL Server login** is the only valid option for an Azure SQL server.

5. Click **[OK]**.

Content Matrix Console End User Interface

The Content Matrix Console User Interface (UI) is simple and easy to use. There are three high level components to the configurable interface:

- **Explorer View 1** - At minimum, the interface will always display one Explorer Control, providing multiple ways to view the content for any active connections to source and target environments.

- **Explorer View 2** - A second explorer control can be displayed simultaneously. Having two explorers visible allows the user to simultaneously view two different parts of the connected content set. For example, in many cases it makes sense to show a migration source on the left in Explorer Control 1, and a SharePoint migration target on the right in Explorer Control 2.

- **Job List** - Beneath the Explorer Control windows is a Job list that shows the history of migration jobs and other tasks that have been run or batched in Content Matrix.

More information on these UI components is provided in the topics that follow.

Main (Ribbon) Toolbar

At the top of the Content Matrix Console is a ribbon toolbar allowing access to the following five menu group settings:

- **Connection**

- **View**

- **Settings**

- **Help**

The Content Matrix Console menu ribbon can be expanded or minimized to fit the user's needs. When expanded, a set of options will be available depending on the selected menu heading.
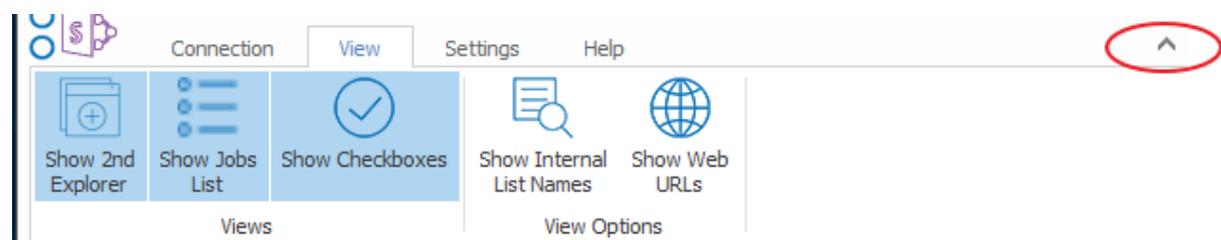
When minimized, options will only be visible when a menu heading is selected. Otherwise, only menu headings will show. The minimize and expand options can also be accessed by right-clicking an option in the ribbon itself. This opens a context (right-click) menu where the **Minimize the Ribbon** option can be selected or deselected.
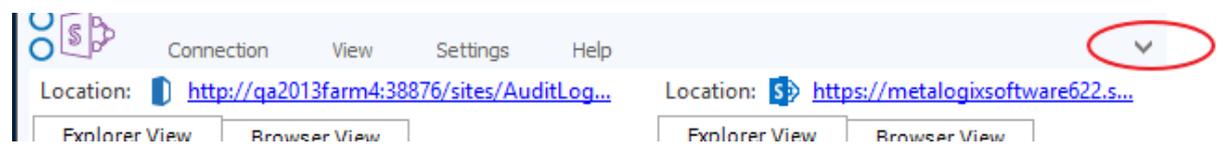
Quick Access Toolbar

The **Quick Access Toolbar** can be accessed above the ribbon. The Quick Access Toolbar can also be moved just below the ribbon by selecting the drop down menu (on the top left-hand side) and choosing **Show Quick Access Toolbar Below the Ribbon**, or it can be placed back above the ribbon by choosing **Show Quick Access Toolbar Above the Ribbon**. Any option that is available under one of the menu group headings can have a shortcut for the option placed into the Quick Access Toolbar. This can be done by right-clicking on the option in the ribbon, and choosing **Add to Quick Access Toolbar**.
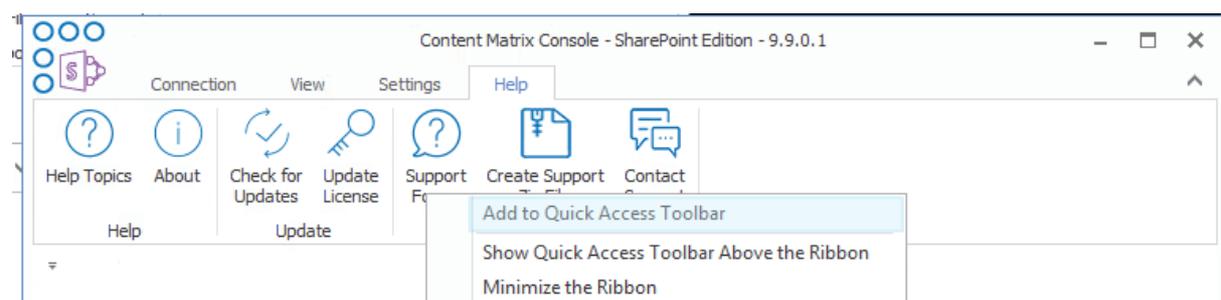
Shortcuts can also be removed from the Quick Access Toolbar either by selecting the option within the ribbon and opening the context (right-click) menu, or by selecting the shortcut option itself, opening the context (right-click) menu, and choosing **Remove from Quick Access Toolbar.**
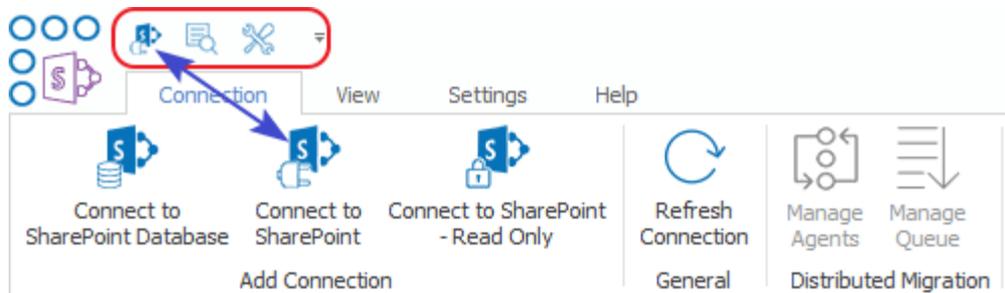
Explorer Control View Tabs

The Content Matrix Console user interface uses an Explorer Control style window which allows you to navigate, view, and select the desired content for migration. The Explorer Control window is broken up into three separate tab options, each of which contains its own set of options for viewing content and data. They are:

- Explorer View Tab

- Items View Tab

- Browser View Tab

Explorer View Tab

The Explorer view tab allows you to navigate through your various connections in a tree view. You can navigate to and selected a desired SharePoint site collect, site, list/document library or sub-folder or a under a specific connection.

There are a set of filtering options that are available in this tab, as well as a set of ordering options. This allows you to display, sort, and filter all of your connections as desired.
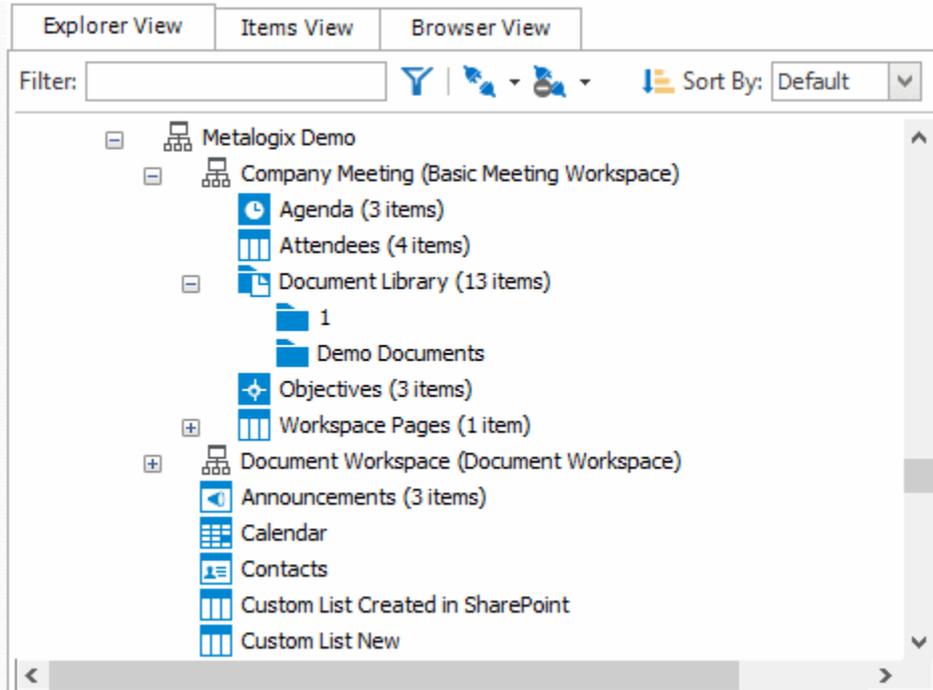
There are three primary Filtering options: **Text Filter**, **Connections Filter**, and **Status Filter**.

- **Text Filter**: For example, if you only want to view connections that contain "2010" in the URL, you can enter "2010" in the Filter text box, and click the Filter button to the right of the text value. The filter will then be applied to all connections in that Explorer View tab, and only connections that contain a "2010" value will be displayed.

NOTE: To remove a text box filter, delete the filter value from the text box and re-run the filter action.

- **Connections Filter** - This option consists of a drop down menu that allows you to filter by connection type. By default, all of these options are selected, but one or more can be DE-selected.
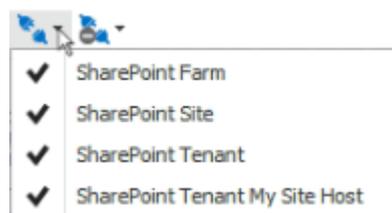
- **Status Filter** - This option consists of a drop-down list with the various connection status options.

  - **NotChecked** – Content Matrix has not tried to validate the connection yet.

  - **Checking** - Content Matrix is currently trying to validate the connection.

- **Valid** - Content Matrix has tried to validate the connection, and has been successful. A connection has been established.

- **Invalid** - Content Matrix has tried to validate the connection, and has been unsuccessful. A connection has not been established.

- **Warning** - Content Matrix has tried to validate the connection, and has been successful. A connection has been established, however, a warning message has been given.

By default all of the status types are selected but, as with the Connections Filter, one or more can be de-selected.
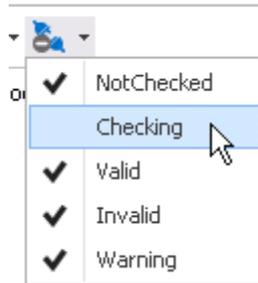
You can also Sort by

- **Default** - All of the connections in the order they were added.

- **Type** -These are the same types that are listed in the Connections Filter drop down menu. When selected, connection types will be sorted in the following order:

  - SharePoint farms (this includes all Web App and Farm connection to a server, as well as Database connections)

  - SharePoint Site connections, which include Site connection types, and Read-only connections to SharePoint

You can combine various filter and sort options.

Items View Tab

The Items View tab displays any items/documents that exist directly under the selected node (that is, the content of any subfolders under the selected node-will not be displayed), along with column metadata.
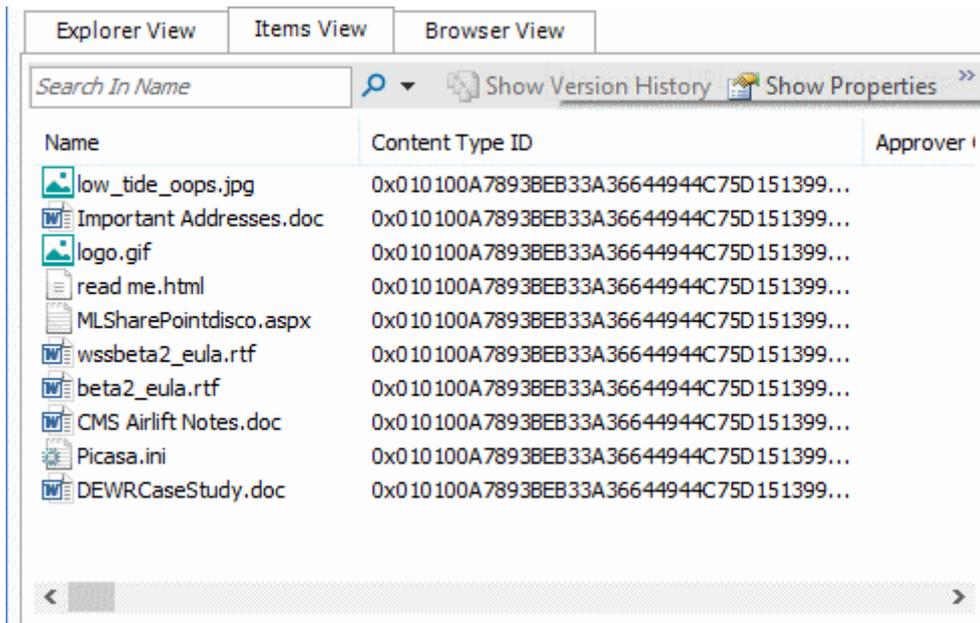
There are four main options that are available through this tab. These options are:

- **Search** – To perform a full or partial text search, enter the string in the search box then either and either press <Enter>, or click the magnifying glass icon to run the search.

  NOTE: The search will be run on the name column (the FileLeafRef) by default, but you can select a different column to search from the drop-down to the right of the search box.
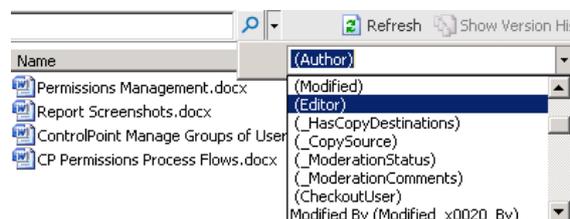
- **Refresh** - This button will refresh all of the items in the Items View tab.

- **Show/Hide Version History** - This button option is only available when the selected document library/list has versioning configured. When this button is selected the Items View tab will be divided into two sections, a top section displaying all of the items/documents and a bottom section displaying all of the versions for the selected item/document.
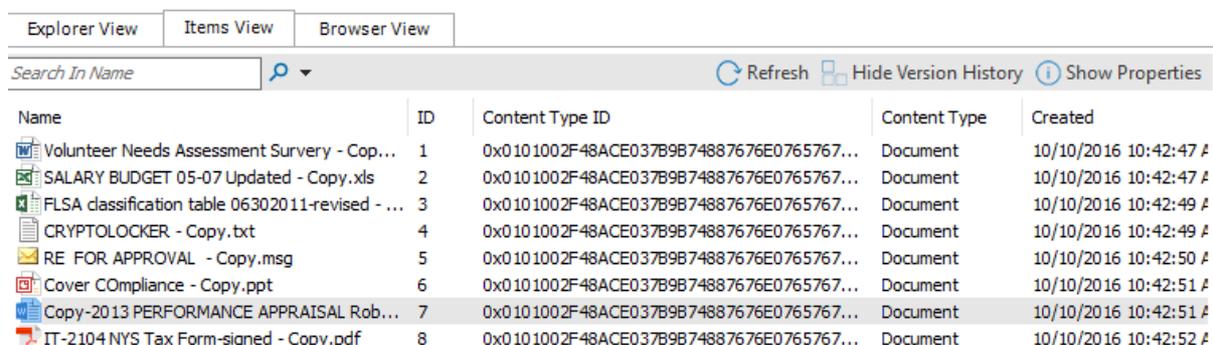
When an item/document is selected in the top window, all of that item/document's version's will be listed in the bottom half of the window. You can then look at the metadata for each item/document version that exists. This option can be combined with the **Show/Hide Properties** button.

If the **Show Version History** button has already been selected, this will change to be a **Hide Version History** button instead. You can use this option to stop looking at item/document version histories.

- **Show/Hide Properties** - The **Show Properties** button allows you to see a list-style view of the available fields (columns) and their values, for a selected item/document. Any value listed in dark text can be edited and within the window.
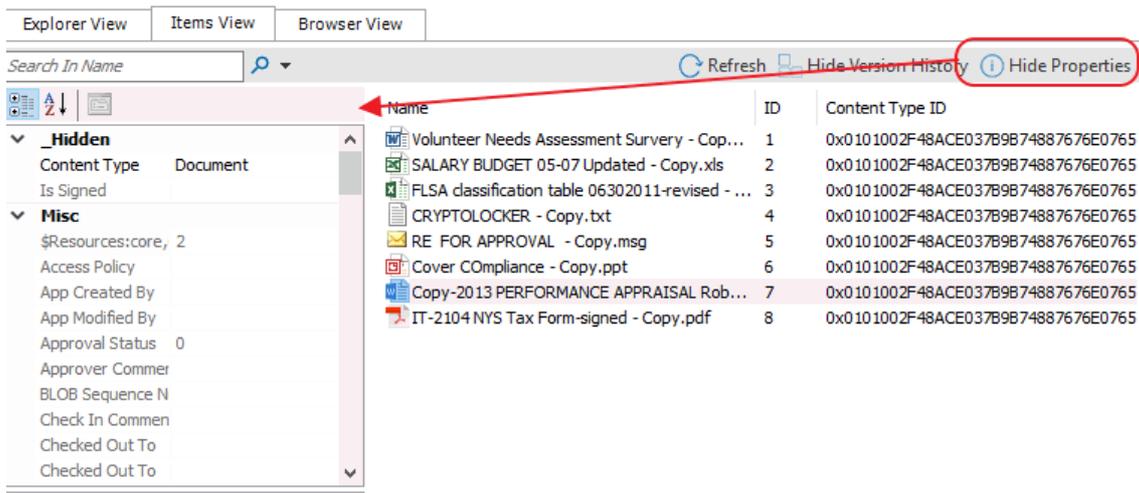
The fields in the **Properties** window can also be ordered by category, or alphabetically. By default, the fields are ordered by category, and are listed alphabetically within each category. If listed alphabetically, then all property fields (columns) will be listed in alphabetical order, with no breakdown by category. There are two buttons at the top of the Properties window that can be used to determine what ordering type is used. This option can be combined with the **Show/Hide Version History** button.

If the **Show Properties** button has already been selected, this will change to be a **Hide Properties** button instead. Use this option to close the Properties window.

Browser View Tab

The **Browser View** displays a view of the content as it would be seen in a web browser for a selected node. It is also available if selecting a single item in the **Items View**. When selected, this tab will display a fully functioning web browser view of the selected content. You can use this Browser View to navigate or work with their content, the same way they would through a normal web browser window.

NOTE: If an item/document is selected in the **Items View**, the entire SharePoint list/document library or folder will be displayed in the **Browser View** tab rather than the selected item/document.
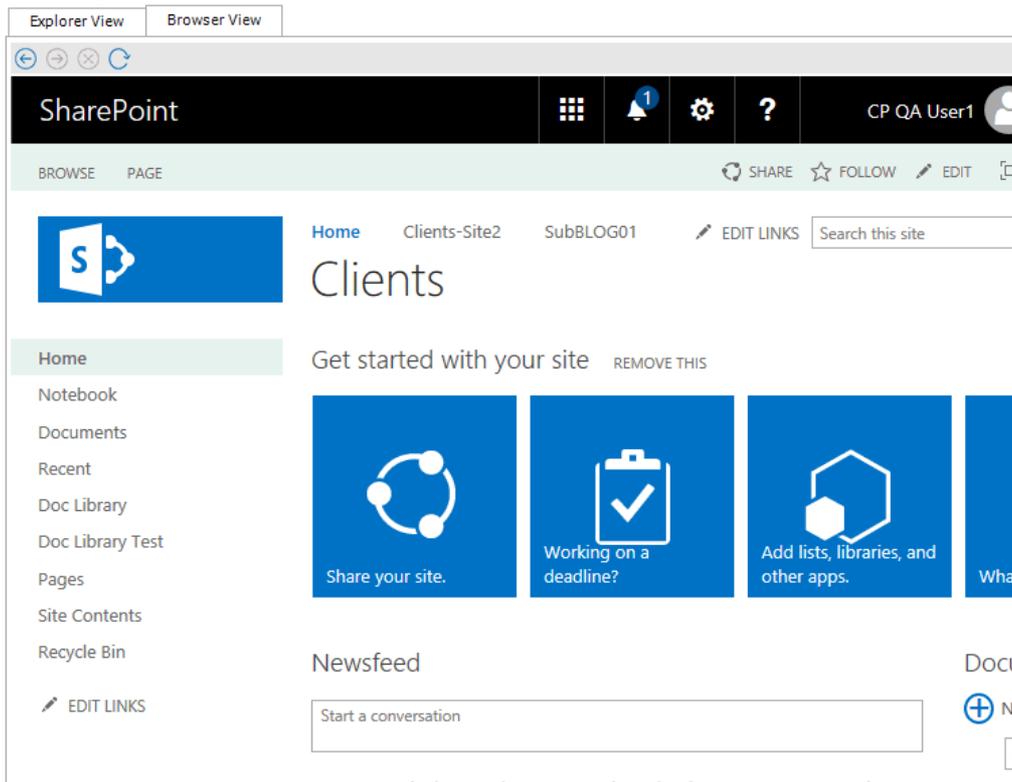
Jobs List

Jobs in Content Matrix Console can be managed from the Job List. Jobs are listed for migration actions that have already been run, as well as for actions that have been saved.

Using Multi-Select

Multi-select can be used to select a number of nodes on the source side Explorer View tree, and migrate those nodes to a target SharePoint instance. Multiple SharePoint connections can be selected at one time, but only to **Disconnect** or **Refresh** those connections. If connected to a SharePoint farm or web application, only a single site collection can be selected at a time, however, multi-select can be used on any sub-sites under a single site collection.

This feature also works for migrating a single list or site into multiple target locations at the same time; for example, if you have a document library that you want to migrate into two or more target SharePoint sites. After the library is copied, any number of desired target sites can be selected, as long as they are all under the same target connection node, and when pasted the list will be migrated to all of the selected target site nodes. The basic cases for multi-select are copying: multiple to one, one to multiple, and multiple to multiple.

In addition to using check boxes to multi-select, you can use **<Shift>** and the **<Ctrl>** keys in the conventional way.

Limitations of Multi-Select

There are a few limitations when using multi-select. These limitations are:

- **Only one node type can be selected at a time** - This means that if a SharePoint site node is selected, then only other site nodes can be selected, and included in the action.

  While the content under those nodes will be migrated (as per the selected options), only other site nodes themselves can be selected. This is the same for SharePoint lists/libraries, and folders. When connected to a SharePoint server only a single site collection can be selected at one time, but multiple sites under the site collection level can be selected.

  The first node selected in the multi-select will determine what type of node can be included, and if an invalid selection is made, then the node that you tried to select will only blink. For example, if a list is selected, then only other lists, within the site collection, can be selected. If you try to select a SharePoint folder or site, then this is an invalid selection, and the folder or site will blink.

- **Column Mapping** - Column mapping is not available in some cases when using multi-select. If multiple lists are selected (on the source or target) then the Column Mapping feature will not be available. Some basic examples are: pasting lists (on the source) as folders (on the target), or if pasting list Items into multiple lists on the target.

- **Available Context (Right-Click) Menu Options** - When using multi-select the options that are available in the context (right-click) menu can change depending on where the multi selection is taking place.

When copying multiple nodes from the source side, only a few context menu options are available. These options are: **Copy [Object]**, **Check Links, Delete [Object]**, **Refresh Nodes**. Additionally, when multiple source items are selected in the Explorer View, only the **Paste [Object]** option is available on the target, and not the **Paste Special > Paste [Specific Object]** option.

If only one source item is selected and pasted to multiple locations, a few more of the Paste context menu options become available. While most of the Paste Special options become available there are still a few of these that are not. When pasting a single node to multiple locations the following options are available: **Paste [Object]**, **Paste Special**, **Check Links**, **Delete [Object],** and **Refresh Nodes**. The options that are not available for multi-select are under the **Paste Special** action, and these are: **Paste alerts**, **Paste master page gallery**, **Paste site navigation**, and **Paste users**. All the remaining context menu options should be available.

Enabling Advanced Mode

Some options in Content Matrix are considered "advanced" and are disabled by default. Options that require Advanced Mode are identified throughout this documentation.

To enable Advanced Mode:

In Content Matrix Console ribbon toolbar, choose **Settings > Enable Advanced Mode**.

NOTE: When the button is highlighted, Advanced Mode is enabled, and additional options become available for nodes/items selected in Explorer and Item View tabs. Transformation Options become available as well.
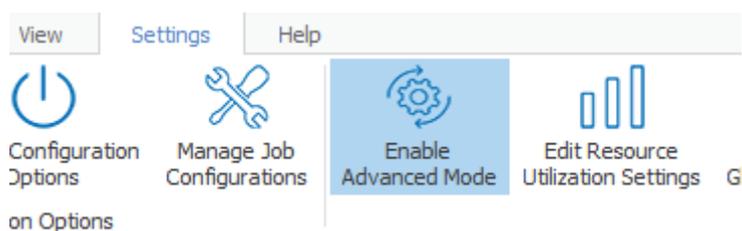
Multilingual Support

Content Matrix supports migrations to SharePoint Online when the default language used on the source is different than the default language used on the target.

NOTE: Multilingual migrations have been fully tested for a limited number of language combinations (including English, French, Spanish, Italian, and Arabic). However, you can perform migrations using other language combinations. If you encounter issues, contact Quest Support.

Prerequisites

- When making a connection to the target, the default language of the connecting account must use the same default language as the source.

  EXAMPLE: If you are migrating from English to Spanish, connect to the target with an account whose default language is English.

- The following keys in the ApplicationSettings.xml file must be set to **True** before performing a migration to a target with a different default language:

  - IsMultiLingualMigration

  - SkipExistingColumnsAndContentTypes

Supported Objects

The following objects are supported for cross-language migrations:

- Lists and Libraries

- Columns

- Content Types

- Workflows and Forms

- Users and Permission

- Site and List settings

- Web Parts

- Out of Box items and pages

- Views

NOTE: Item-level (user-created) content is migrated in the source language. This is a SharePoint limitation.

Connecting to SharePoint

The following basic connection adapters are supported for making connections to SharePoint from Content Matrix Console:

- A local connection to a SharePoint site or server *

- A remote connection to a SharePoint site or server

- A client side object model (CSOM) connection for SharePoint Online at the site level

- An Microsoft 365 Tenant connection (based on the CSOM connection type) `

- A read-only connection to a SharePoint Database (DB)

 * As of version 9.3 the Content Matrix Console client application requires Microsoft .NET Framework 4.7.2 to run. Since this .NET requirement applies to the machine on which Content Matrix is installed, Content Matrix cannot make a local Object Model (OM) connection on a SharePoint 2007 or 2010 environment, because SharePoint 2007 and 2010 require an earlier version of the .NET Framework (v.3.5), which prohibits Content Matrix from completing the connection. Because of this, any migration 'jobs' configured to connect to SharePoint 2007 and 2010 environments using a Local OM connection type will cease to work, and these jobs will need to be recreated for use over MEWS or DB.

The following table identifies the connection adapter types for each supported version of SharePoint:

SharePoint Server Type	Local Object Model (OM) Connection (Content Matrix Console - installed on server)	Remote Object Model (OM) Connection (Metalogix Extensions Web Service installed on remote server)	SharePoint Client Side Object Model (CSOM) Connection	SharePoint Database (DB) Connection (Read Only)	Microsoft 365 Tenant Connection
Microsoft SharePoint 2007 (WSS and MOSS)	–	✔	–	✔	–
Microsoft SharePoint 2010 (Foundation and Server)	–	✔	–	✔	–

SharePoint Server Type	Local Object Model (OM) Connection (Content Matrix Console - installed on server)	Remote Object Model (OM) Connection (Metalogix Extensions Web Service installed on remote server)	SharePoint Client Side Object Model (CSOM) Connection	SharePoint Database (DB) Connection (Read Only)	Microsoft 365 Tenant Connection
Microsoft SharePoint 2013 (Foundation and Server)	✔	✔	--	✔ **	–
Microsoft SharePoint 2016	✔	✔	--	✔ **	–
Microsoft SharePoint 2019	✔ *	✔ *	--	✔ **	–
Microsoft SharePoint Server Subscription Edition	✔ *	✔	--	✔ **	–
Microsoft 365	–	–	✔	–	✔

* Currently, if Content Matrix is installed in a FIPS-enabled environment, you cannot connect to or migrate to/from SharePoint 2019 with a local or remote server connection. For SharePoint Server Subscription Edition in a FIPS-enabled environment, you can only connect using a remote object model connection. See Errors Connecting to SharePoint 2019 or SharePoint Server Subscription Edition in a FIPS-Enabled Environment for more information.

**

- If Content Matrix Console is installed on a server where SharePoint is also installed, the appropriate version of the adapter will be configured automatically. If SharePoint is not installed on the same machine as the Content Matrix Console, the installer will prompt for the configuration of a SharePoint 2013, SharePoint 2016, *or* SharePoint 2019/Subscription Edition database adapter, as more than one cannot exist on the same non-SharePoint machine at the same time. If you need to switch from one version of the database adapter to the other, you will need to first uninstall and then re-install the SharePoint edition using **Modify** operation. If you are

using [Distributed Migration](), you will also need to [update the database adapter version on the agents]().

- You cannot connect to a SharePoint Server database from a machine that has SharePoint Server Subscription Edition installed, or to a SharePoint Server Subscription Edition database from a machine that has SharePoint Server installed.

For each of the direct connections to SharePoint (local OM, remote OM, CSOM, and Tenant) there is a full connection and a read-only connection (with the exception of DB connections, which are read-only by default). The Write and Read-Only connection states are available under the Add Connection menu, and are differentiated in the Explorer View tab by different icons (the read-only icon has a lock over the system connection).

Connection Type Functional Comparison

SharePoint Database Connection

The [SharePoint Database connection]() is a read-only connection that accesses the SharePoint data by reading the content databases directly from the SQL server used by an on premises SharePoint farm.

NOTE: After connecting to a 2013 or later SharePoint database, you have the option of making an External Connection to a SharePoint server to allow large file migration.

Required Permissions	• For **SharePoint 2013, 2016**, **2019, and SharePoint Server Subscription Edition**: The combination of Reader and Execute on the Content Database is the minimum set of required permissions, but the combination of db_dataReader and SPDataAccess can also be used. • For **SharePoint 2007** and **2010:** Only Reader or DBReader on the Content Database is required.
Okta authenticaton support	N/A
When to Use	• When connecting to the source farm • When there is a need to optimize migration performance • When there is a requirement to use the [Search function in SharePoint 2013]()
Optimal Use Cases	• [Migrating SharePoint 2010 lists and libraries containing Managed Metadata using the Import Pipeline](), provided all affected Metadata is migrated to the target and the source and target GUIDs of all affected Metadata is mapped • [Migrating workflows]() • [Migrating alerts]() to a SharePoint on premises target

	• Connecting SharePoint 2019 or SharePoint Server Subscription Edition in a FIPS-enabled environment. NOTE: You cannot connect to a SharePoint Server database from a machine that has SharePoint Server Subscription Edition installed, or to a SharePoint Server Subscription Edition database from a machine that has SharePoint Server installed
Unsupported Operations	• Creating and deleting SharePoint objects (because it is a read-only connection) • Migrating Managed Metadada • Migrating MySites (because they will be migrated as site collections and will not include some of the User Profile data) • Migrating InfoPath forms • Mapping site templates (because it can only detect site templates for any site that exists under the selected source node)

Local Object Model (OM) Connection

The local Object Model connection accesses the SharePoint on premises OM API locally on the machine, which allows it to preserve more existing metadata and grant deeper access for some Content Matrix features.

Required Permissions	Site collection and db_owner on SharePoint Admin, Config and content databases. NOTE: The connecting account must be the currently logged-in user.
Okta authenticaton support	N/A
When to Use	• When the Content Matrix Console is installed on a WFE server of an on premises SharePoint farm. • On the target farm, to help with performance.
Optimal Use Cases	• Updating site collection settings • Migrating web part connections • Migrating Managed Metadata • Migrating InfoPath forms • Migrating List Template Gallery • On the source farm:

	- migrating alerts to SharePoint on premises - migrating Audiences - migrating Records Centers to SharePoint Online using the Import Pipeline - preserving workflow associations • On the target farm: - migrating Site collections, including site collection administrators - migrating MySites - migrating Master Page Gallery - preserving Site themes - preserving SharePoint List and List Item IDs - preserving Authorship metadata - setting site quotas - transforming list and site columns into a Managed Metadata column
Unsupported Operations	• Connecting to SharePoint 2019 or SharePoint Server Subscription Edition in a FIPS-enabled environment

Remote Object Model Connection Using Metalogix Extensions Web Service

The Remote Object Model connection allows Content Matrix to have a remote connection to the SharePoint on premises OM API through a SharePoint solution, which grants all of the same access for features and metadata that is available from the Local OM connection.

Required Permissions	Site collection administrator
When to Use	When the Metalogix Extensions Web Service (MEWS) is installed on the SharePoint farm
Okta authenticaton support	Supported* with the following limitations: • Content Matrix SharePoint Edition only • Must be used with Web Browser Authentication (which is not auto-detected) NOTE: Because Okta requires web browser authentication, running a job via a PowerShell script and Distributed Migration are not supported. • Not supported for a connection that uses a proxy and/or certificate

Required Permissions	Site collection administrator		
	EXCEPTION: Okta supports the use of certificates for SharePoint 2010 only. Refer to the article For SharePoint 2010 only: Import security certificate to Trusted Root Certificate Authority on the Okta website for details. * Only connections to SharePoint 2016 have been tested by Quest.		
Optimal Use Cases	- Migrating classic web parts - Migrating Managed Metadata - Migrating InfoPath forms - Migrating List Template Gallery - Updating site collection and navigation settings - On the source farm: - migrating alerts to SharePoint on premises - migrating Audiences - migrating Records Centers to SharePoint Online using the Import Pipeline - migrating Workflows - On the target farm: - migrating Site collections, including site collection administrators - migrating MySites - migrating Master Page Gallery - preserving Site themes - preserving SharePoint List and List Item IDs - preserving Authorship metadata - migrating site quotas - transforming list and site columns into a Managed Metadata column		
Unsupported Operations	Connecting to SharePoint 2019 in a FIPS-enabled environment		

Client Side Object Model (CSOM)

The Client Side Object Model connects through the SharePoint CSOM. It is the only method for making site-level connections to SharePoint Online.

Required Permissions	Site collection administrator
When to Use	When making a site-level connection to SharePoint Online
Okta authenticaton support	N/A
Optimal Use Cases	- Migrating Managed Metadata - Migrating libraries that contain .aspx files, even if migration using the Import Pipeline is enabled - Migrating OOB and SPD workflows - Preserving major, minor, and draft versions of a document - Preserving Web Part views (in most cases) - Transforming list and site columns into Managed Metadata columns
Unsupported Operations	- Preserving list/library settings such as Quick Edit, Open document in browser, Launch form in a dialog and Allow items to be downloaded to offline clients - Migrating Access request settings - Preserving workflow instances

Microsoft 365 Tenant Connection

The Microsoft 365 Tenant connection works the same as a CSOM connection to an Microsoft 365 environment, but since it connects at the tenant level it can also be the migration target for site collections, MySites, and Managed Metadata.

Required Permissions	SharePoint Administrator (and Site Collection Administrator for each target site collection in the Microsoft 365 tenant environment)
Okta authenticaton support	N/A
Optimal Use Cases	From an on-premises source: - Migrating Site collections, including site collection administrators - Migrating Managed Metadata (This also requires the Term Store Administrator role) - Migrating classic web parts

	- [Transforming list and site columns into a Managed Metadata column](#) - [Miigrating MySites](#) - [Migrating SPD workflow associations for lists and content types](#) - [Preserving SharePoint list item IDs](#)
Unsupported Operations	On the target: - Preserving workflow instances - preserving Web Part Views - preserving major, minor, and draft versions of documents.

Connecting to SharePoint On Premises

You can connect to SharePoint on premises by:

- making a read-only connection to a [SharePoint database](#)

OR

- by connecting to a [SharePoint site or server](#) at the farm, Web application, or site level.

Connecting to a SharePoint Database

This connection type is read only and can be used as a source connection for SharePoint on premises content databases. In case of performance concerns, this connection type can also help, as the source data would be read directly from the database.

 When you are migrating large files (over 400 MB) particularly from a client machine, or if the database connection is not successfully fetching files, it is recommended that you also make an [external server connection to SharePoint](#).

> EXCEPTION: You cannot make an external connection to a SharePoint server for SharePoint 2019 or SharePoint Server Subscription Edition in a FIPS-enabled environment. See [Errors Connecting to SharePoint 2019 or SharePoint Server Subscription Edition in a FIPS-Enabled Environment](#).

See [Connection Type Functional Comparison](#) for required permissions as well as optimal use cases and unsupported migration actions.

SharePoint Version Connection Requirements

- You cannot connect to a SharePoint database from a server on which a different version of SharePoint is installed.

- *For SharePoint 2013 and later*: You cannot connect to a SharePoint Server database from a machine that has SharePoint Server Subscription Edition installed, or to a SharePoint Server Subscription Edition database from a machine that has SharePoint Server installed.

- A client connection to a SharePoint database is supported from a non-SharePoint 64-bit machine that has had the compatible version of the SharePoint Database Adapter configured. If you are using Distributed Migration, you will also need to update the database adapter version on the agents.

> **IMPORTANT:** If you are running Content Matrix on a machine that does not have SharePoint installed, you must have dependencies for the version of SharePoint you want to connect to installed on the machine. If the dependencies are missing or for a different SharePoint version, a pop-up will display with a link to a Support Knowledge Base article with instructions for installing the dependencies.

To connect to a SharePoint database:

1. From the ribbon toolbar, choose **Connections > Connect to SharePoint Database** to display the **Connect to SharePoint SQL Server** dialog.
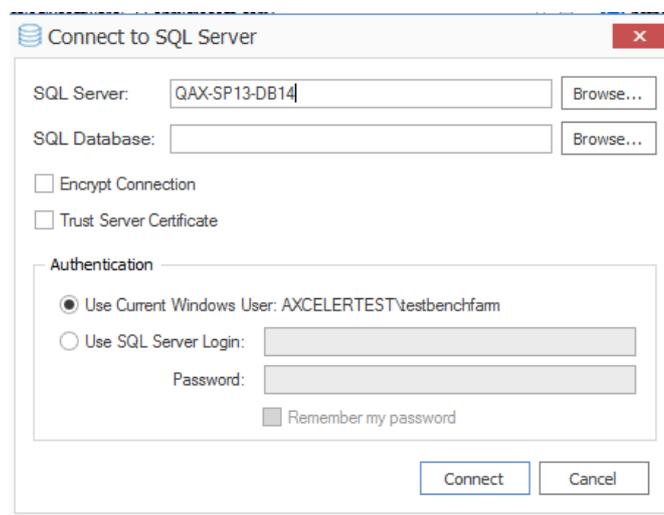
2. For **SQL Server**, enter or browse to the SQL Server that hosts the SharePoint database you want to connect to.

   > NOTE: You can enter the server's name or IP address.

3. For **SQL Database**, either:

   - enter the name of the SharePoint database (the fastest way to make the connection)

   OR

   - browse to the SharePoint database.
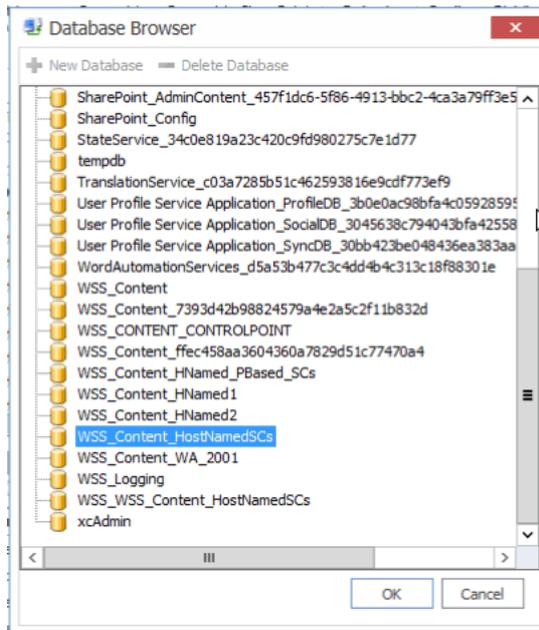
NOTES:

- Remote connections must be enabled in order for Content Matrix to connect to any remote database.

- The Database Browser lists all databases in SQL server, not just SharePoint databases. This allows for faster retrieval of the database list, especially in large environments.

- You will receive an error of you try to connect to anything but a SharePoint database.

4. If you want to use an encrypted connection to the database, check the **Encrypt Connection** box.

    NOTE: If the certificate used for encryption is not trusted, you will also need to check the **Trust Server Certificate** box.

5. For **Authentication User Current Windows user**, either:

    - Accept the default (**Use Current Windows user**)

    OR

    - Select **Use SQL Server login** and enter the credentials used to authenticate with the selected SQL Server.

NOTE: Currently, **Use SQL Server login** is the only valid option for an Azure SQL server.

6. Click **[Connect]**.

    The **Connect to SharePoint SQL** Server dialog displays.

7. Select either the database (for a connection to all sites within the database) or a single site.
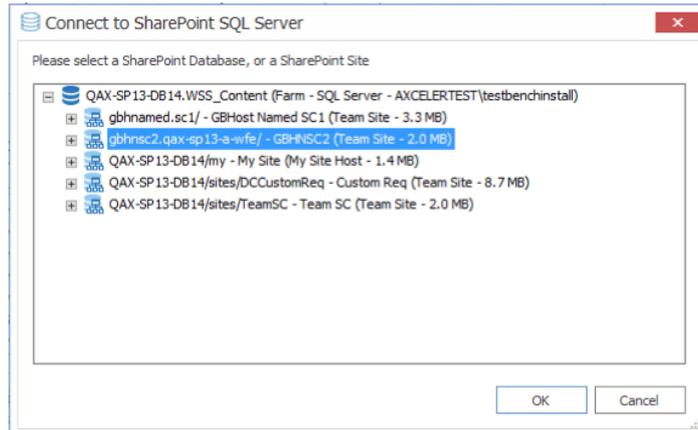
8. Click **[OK]**.

   The **Set Host Name** dialog displays.

9. Use the information in the following table to determine the appropriate action to take.

If you are …	Then …
• planning to use Link Correction as part of the migration • planning to migrate Quest® StoragePont content that has been externalized by the Storage Large File Support feature • planning to use On Demand Migration - Hybrid Content Matrix for the migration	Enter the Host Name in the format "**http://<ServerName>:<PortNumber>**" For example, if connecting to a SharePoint database for a system that has the web URL of http://questsoftware:1818, you would want to use that as the Host Name, even though the database name will be different. When connecting to a database, the URLs for links that point internally to the SharePoint server have a different format. The host name is used to replace the different formatting from the database connection.
not planning to use any of the migration scenarios above	Click **[Cancel]**.

NOTE: It is possible to go back and set the Host name after a database connection has been made. To do this, select the DB connection, right-click, and choose **Properties**. In the Properties dialog

click the **[...]** button at the end of the Host column, and this will open the Set **Host Name** dialog, allowing this value to be edited.

The selected node will now appear in **Explorer View**.

Making an External SharePoint Server Connection to Allow Large File Migration (SharePoint 2013 and 2016):

1. After making the database connection, select the site from which you will be migrating data.

2. Right-click and choose **Attach External Connections > SharePoint Server Connection**.

3. Either:

   • use the full **Address** of the site

   OR

   • if you specified a **Host Name** when connecting to the database, click **[Fill in default URL]** to have it auto-populated.

   4. If necessary, change the **Authentication Type** and **Connect As** user.

      NOTE: You can chose Windows or Forms Based authentication.

Once the connection is made, files will be migrated using CSOM. Large files will be migrated in chunks.

Setting the Template Path for a Database Connection (When Using Link Correction)

If you are planning on using Link Correction, your Database (DB) connection must point to a specific file location from which to fetch template data. The specified folder location must contain all of the templates that will be used.

1. In the **Explorer** view tab, navigate to the Database connection for which the template location should be specified.

2. Select the root node of the DB connection, right-click and choose **Properties**.

3. In the **Node Properties** dialog line, click the **[...]** button to the right of the Template Path field, then select the folder that contains the template data.

4. Click **[OK].**

   The following warning message displays:

   Changing this setting impacts how data is read from this connection. If there are any actions currently running that use this connection, changing the setting may invalidate their results. Continue?

5. To continue, click **[OK]**.

   The specified folder location is now listed next to the Template Path line, and all the template data for the DB connection will be called from this location.

Connecting to a SharePoint On Premises Site or Server

The same connection methods and options can be used for a normal connection to SharePoint and a read-only connection to SharePoint. The below steps can be used for both connection types. The read-only connection can be used to help users keep their source and target connection separate (and it can help ensure that users do not accidentally migrate any data to a source connection).

> NOTES:
>
> - When making a secure connection to a SharePoint URL that is configured with TLS, Content Matrix can use any version of TLS that is compatible with .NET Framework 4.7.2. The default version of TLS used by the operating system on the machine from which you are connecting will be used by Content Matrix.
>
> - Currently, connections to a SharePoint server cannot be made for SharePoint 2019 in a FIPS-enabled environment. (See Errors Connecting to SharePoint 2019 or SharePoint Server Subscription Edition in a FIPs-Enabled Environment for more information.) You will need to make a SharePoint Database connection instead.

To connect to a SharePoint site or server:

Use the information in the following table to determine the appropriate action to take.

If you want to make …	Then in the Content Matrix ribbon, choose …
a full connection	**Connection > Connect to SharePoint.**
A read-only connection	**Connection > Connect to SharePoint – Read Only**
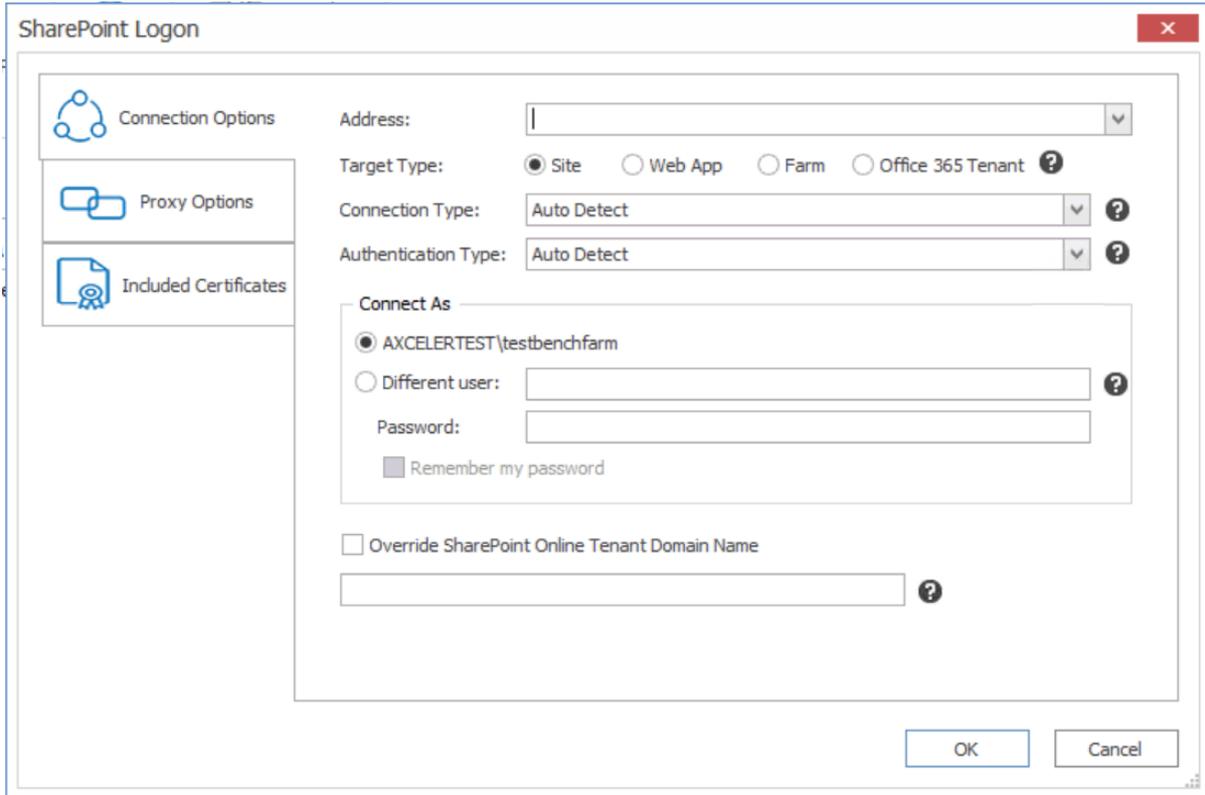
To complete the Connection Options tab:

1. For **Address**, enter either the URL or IP address of the SharePoint site or server to which you want to connect.

   Note that the drop-down menu displays a list of previous connections.

2. For **Target Type**, select the connection type. Use the information in the following table for guidance.

If you want to connect…	Select …
directly to a SharePoint site	Site.
to a specific Web application on a SharePoint server	Web App. NOTE: This option can only be used if using the **Local** or **Metalogix Extensions Web Service** connection type.
to a SharePoint instance at the Farm/server level	Farm.

If you want to connect…	Select …
(which will allow you to see all site collections for all Web Application on the selected server)	NOTE: This option can only be used if using the **Local** or **Metalogix Extensions Web Service** connection type.

3. Select a **Connection Type** from the drop-down. Use the information in the following table for guidance.

Connection Type: Remote Connection (Metalogix SharePoint Extensions Web Ser...) ▾

Auto Detect
Local Connection (SharePoint Object Model)
Remote Connection (Metalogix SharePoint Extensions Web Service)
Remote Connection (SharePoint Client-Side Object Model O365)

If …	Select …	Notes
you want to have Content Matrix choose the connection adapter type that makes the most sense for the target SharePoint instance	**Auto Detect**	• If the SharePoint instance is local (installed on the same machine as the Content Matrix Console), the **Local Connection (SharePoint Object Model)** will be used • If the SharePoint instance is remote (installed on another machine), and the Metalogix Extensions Web Service is installed, the **Remote Connection (Metalogix Extensions Web Service)** type will be used.

Content Matrix Console is installed locally (that is, on the same SharePoint server or one of its Web Front Ends (WFEs)	**Local Connection (SharePoint Object Model)**	This connection type
		
		• is generally recommended for the target SharePoint instance if possible, to help with performance and to help provide the product with greater leverage into SharePoint.
		
		AND
		
		• the account used for the connection. must **be the logged in user** and have the following permissions:
		
		  • **Farm Administrator**
		
		  • **Site Collection Administrator**
		
		  • **DB_Owner on the Content Database** (to allow the connecting

If …	Select …	Notes
		user access to the local SharePoint Object Model).
		NOTES:
		• A local connection to connection to a SharePoint server cannot be made for SharePoint Server Subscription Edition in a FIPS-enabled environment. (See [Errors Connecting to SharePoint 2019 or SharePoint Server Subscription Edition in a FIPs-Enabled Environment](#) for more information.) You will need to make a [SharePoint Database connection](#) instead.
		• If a StoragePoint is installed and running on the same SharePoint instance, the connecting account must also have access to the **BlobStore**, as well as both **DataReader** and **DataWriter** permissions to the **StoragePoint Database**.
• Content Matrix Console is not installed locally AND • Metalogix Extensions Web Service (MEWS) is installed on the SharePoint server/WFE to which you are connecting	**Remote Connection (Metalogix Extensions Web Service)**	The connecting account requires Full Control over the content being connected to and migrated. Additional permissions are provided through the use of the Metalogix Extensions Web Service. NOTE: Although it is strongly recommended that the version of the Metalogix Extensions Web Service (MEWS) match the installed version of Content Matrix, you can [override it to use an earlier MEWS version](#).

NOTE: As of version 9.5, Content Matrix no longer supports CSOM connections to SharePoint on premises. The option will work for backward compatibility with existing jobs, but if you select it for a new connection, a pop-up warning will display.

4. For **Authentication Type**, select the method to use when trying to connect to the specified SharePoint instance.

    Use the information in the following table for guidance.

If …	Select ….	Notes
you want Content Matrix to automatically check against the SharePoint environment	**Auto Detect**	Content Matrix will check for non-Microsoft 365 authentication types listed in the drop-down (in order), and use the first method that is found.
you want to connect to the SharePoint environment using the currently logged in Windows user's credentials	**Windows Authentication**	• The logged in user credentials are used by default; however, other credentials that use this authentication method can also be entered. • This is the authentication type that most environments use.
• you selected **Metalogix Extensions Web Service** as the Connection Type AND • you want to connect using Forms Based Authentication	**Forms Based Authentication**	• Most setups for Forms Based Authentication are supported. • This method is limited to the **Metalogix Extensions Web Service** connection type because it authenticates through IIS and not Active Directory (AD). NOTE: This authentication type is not supported for running a job using a PowerShell script or Distributed Migration. Refer to the Quest Support Knowledge Base article Connections that will work with PowerShell and Connections that doesn't work with PowerShell for complete details.
you want to connect through a Web browser	**Web Browser Authentication (Not Auto Detected)**	This option is not searched for within the "Auto Detect" option, and needs to be manually set. In order for the Content Matrix Console to logon to the system, users must have logged on to the system

If …	Select ….	Notes
		being connected to through the web browser on that system first (only before the initial connection). Since this is all done using the Web browser for authentication, the credentials section of the window will be grayed out (since it is not needed), and it is limited to the Metalogix Extensions Web Services Connection Type because it authenticates through IIS and not the Active Directory (AD). NOTES: • Select this authentication type if you are using Okta authentication. • Because this authentication type uses cookies from the browser, it may require multiple logins when running a single migration. However, this is only likely if the migration is running for a long session; this is mainly determined by the web browser settings for authentication. In the event that a login is required, a dialog box appears that lets users log in. After the user logs in, the migration will continue from where it left off. • This authentication type is not supported for running a job using a PowerShell script or Distributed Migration. Refer to the Quest Support Knowledge Base article [Connections that will work with PowerShell and Connections that doesn't work with PowerShell](#) for complete details.

5. For **Connect As**, enter/select the login credentials you want to use to connect to the SharePoint site/server. Use the information in the following table for guidance.

   NOTE: This option is disabled if you selected **Local Connection (SharePoint Object Model)** or **Web Browser Authentication (Not Auto Detected).**

If you want to …	Then …
use the current Windows user's authentication credential	Select the (default) <Domain>\<user> radio button.
use different authentication credentials	• Select the **Different User** radio button, and • Enter the applicable user name and **Password**. In cases where alternate credentials are entered, it is recommended that you select the **Remember my password** check box so Content Matrix will automatically remember that user account password. This is especially important if you chose **Web Browser Authentication**, as credentials must be stored in the Credential Manager vault before the connection is made.

6. If you need to configure proxy settings:

   a) Select the **Proxy Options** tab.

   b) Follow the procedure for Configuring Proxy Settings.
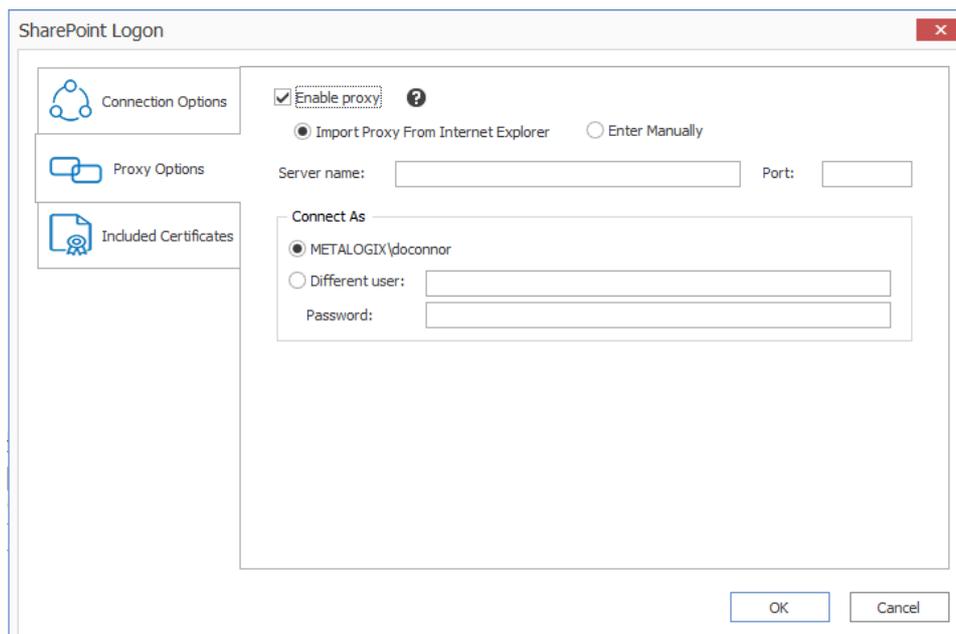
7. If you want to Add or Remove certificates to be included when connecting to SharePoint:

   a) Select the **Included Certificates** tab.

   Please see the Connecting with Certificates for more details on connecting to SharePoint instances that require certificates.

   b) After all of the desired connection options have been set, for all options tabs, click **[OK]** to establish the connection.

   If you selected a connection type other than Site, the Limit Site Collections dialog displays, giving you the option to limit the site collections to include in your connection (when importing an xml file

with the list of URLs you want to include). This is useful if the environment you are connecting to includes a very large number of site collections. In this case, limiting displayed site collections can improve performance.
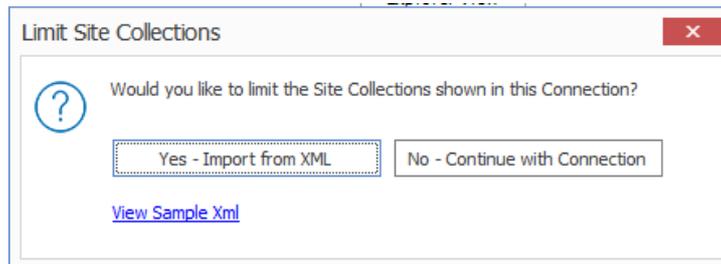
> NOTE: If you want to **View Sample xml**, click the link on the dialog. The xml file you import must follow the same format as this sample.

8. Either:

-   Click **[Yes – Import from XML]** to specify the URLs of the sites you want to include in the connection, then browse/upload the file

    OR

-   Click **[No – Continue with Connection]** to add all sites within the selected scope to the connection.

If Content Matrix successfully makes the connection, a new node will appear in the Explorer View, and you can expand this node and navigate through the SharePoint objects.

Connecting and Migrating Account Requirements

The following table provides an overview of the minimum account permissions required to connect to SharePoint and perform various Content Matrix operations.

> NOTE: For additional requirements needed to register the Content Matrix SharePoint Client application for OAuth Authentication, see Registering the Content Matrix SharePoint Client Application for OAuth Authentication.

Operation	SharePoint				SQL		
	Global Admin	Farm/ SharePoint Admin	Site Collection Admin	Term Store Admin	db_owner on SP Databases	Reader on SP Content Database*	Execute on SP Content Database*
Connecting to SharePoint							
SharePoint 2013, 2016, or 2019/Subscription Edition Database Connection						✔	✔
SharePoint 2007 or 2010 Database						✔	

Operation	SharePoint				SQL		
	Global Admin	Farm/ SharePoint Admin	Site Collection Admin	Term Store Admin	db_owner on SP Databases	Reader on SP Content Database*	Execute on SP Content Database*
Connection							
Local Object Model Connection			✔		✔		
Remote Object Model Connection			✔				
Client side Object Model Connection (Site Level)			✔				
Microsoft 365 Tenant Connection		✔	✔				
Migration Actions							
Deploying Nintex Apps to SharePoint Online	✔						
Migrating as a Site Collection		✔					
Migrating Managed Metadata				✔ **			

 * For a SharePoint 2013, 2016, or 2019/Subscription Edition database connection, the combination of Reader and Execute is is the minimum set of permissions required, but the combination of db_dataReader and SPDataAccess can also be used.

** For a source farm, read permissions to the term store may be sufficient (depending on your environment), but it is recommended that Term Store Administrator permissions be set.

Overriding the Version of the Metalogix Extensions Web Service (MEWS) When Making a SharePoint Connection

It is strongly recommended that when you select **Remote Connection (Metalogix SharePoint Extensions Web Service)** to connect to SharePoint, the version of MEWS is installed on the remote server is the same as the installed version of Content Matrix Console. However, when you select MEWS as the connection type, you will have the option to **Override the MEWS Version** and specify an earlier MEWS Version (in the format n.n.n.n) when making a connection. Note that you will receive a warning message that the installed version of MEWS may be incompatible.
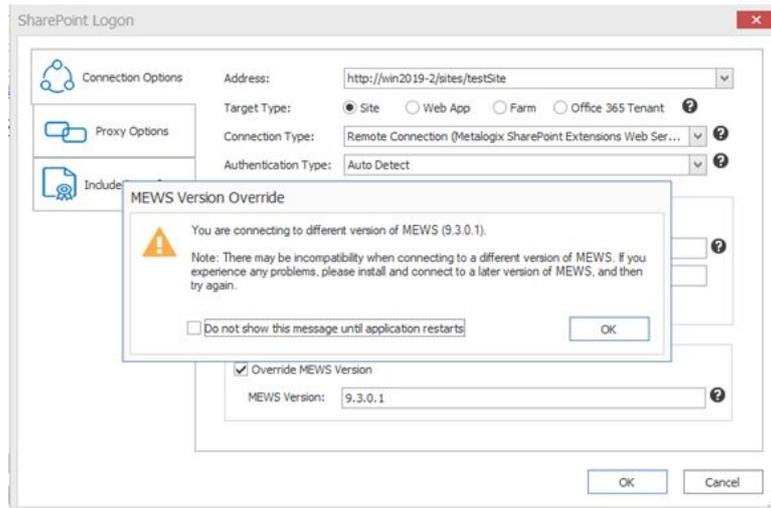
You can hide the warning message for any new connections and re-connections made during the current session by checking the **Do not show this message until application restarts** box.

IMPORTANT: You cannot update the MEWS version once the connection has been created.

If the MEWS version is overridden, the job log will display the warning message. (If both the source and target connections use an older version of MEWS, an entry will display for each.)
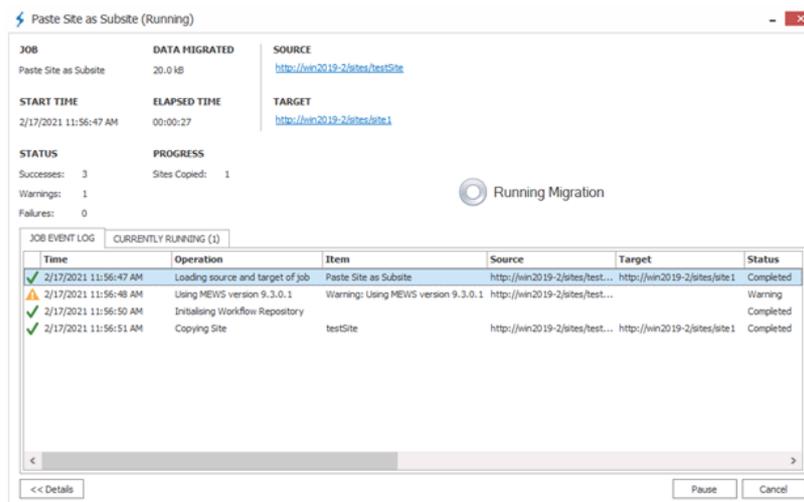
Connecting to SharePoint Online

Content Matrix Console can make a tenant or site level connection to a SharePoint Online environment.   While a tenant connection is similar to the   connection type, the process of creating the connection is slightly different, and also involves some prerequisite steps to set up permissions.

Requirements for Making a Tenant-level Connection

NOTE: A tenant level connection works the same as a CSOM connection to an Microsoft 365 environment, except that the tenant connection can also migrate Site Collections, MySites, and Managed Metadata.

- In order for users to make a SharePoint Online tenant-level connection, the connecting user must have the SharePoint Administrator permissions , as well as Site Collection Administrator permissions for each site collection being migrated.

  Refer to the Office Support article Assigning admin roles in the Microsoft 365 admin center for details.

  If the connecting user does not have sufficient permissions, the connection will not be completed and the following connection error will display:
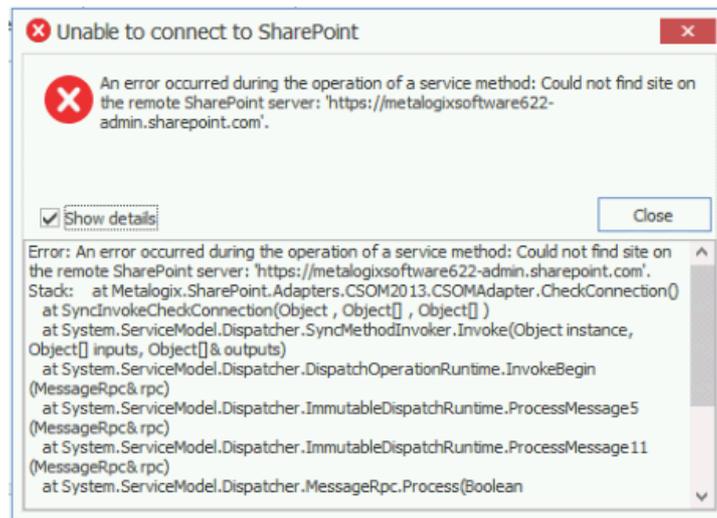
- The SharePoint Administration URL must be used in order for a tenant-level connection to be completed; that is:

  "https://<CompanyTenantName>-admin.sharepoint.com"

  If an incorrect URL, such as a specific site or Site Collection URL is used, then the connection will not be completed and the following connection error will display:
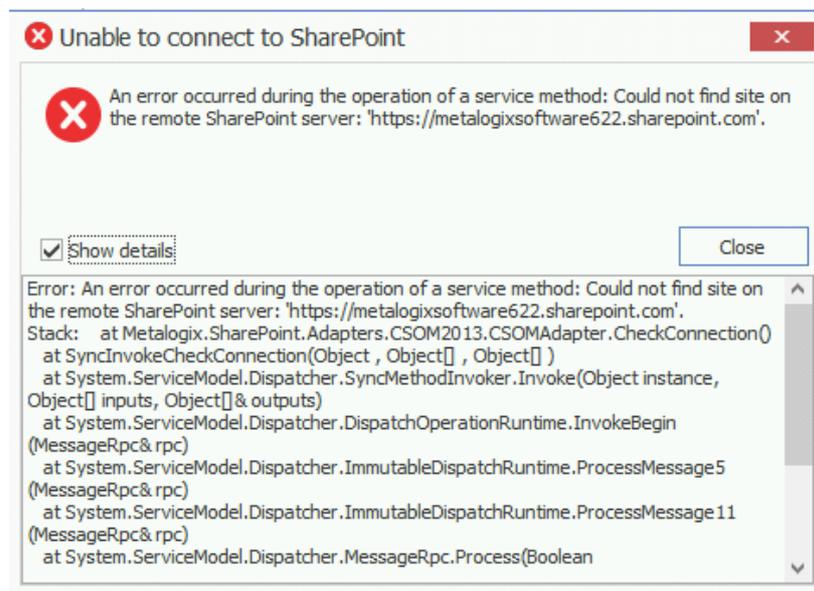
To connect to SharePoint Online:

In the Content Matrix ribbon, choose **Connection > Connect to SharePoint**.

To complete the Connection Options tab:

1. For **Address**, enter either the URL or IP address of the SharePoint site or tenant to which you want to connect.

   Note that the drop-down menu displays a list of previous connections.

2. For **Target Type**, select the connection type. Use the information in the following table for guidance.

If you want to connect…	Select …	Notes
directly to a SharePoint site	Site.	This option must be used for a site-level connection to a Microsoft 365 tenant NOTE: If you want to connect to a Microsoft 365 tenant root node, use the Microsoft 365 Tenant connection type.

If you want to connect...	Select ...	Notes
to the root of a Microsoft 365 Tenant environment (comparable to a farm-level connection in an on premises environment)	Microsoft 365 Tenant.	This connection type has most of the limitations of the CSOM connection adapter, but can run Site Collection migrations.

3.   For **Connection Type**, select **Remote Connection (SharePoint Client Side Object Model O365)**.

> NOTE: If you accept the default (**Auto Detect**), this option will be detected automatically.
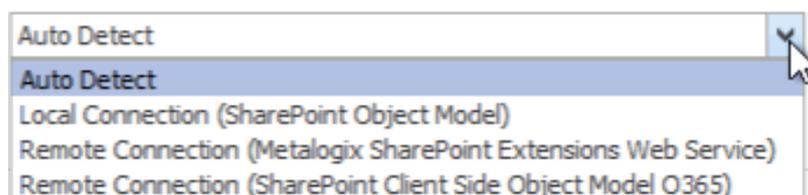
4.   For **Authentication Type**, select the method to use when trying to connect to the specified SharePoint instance. When connecting to Microsoft 365, the two main Authentication Types will be Microsoft 365 OAuth/Standard/ADFS Authentication and Microsoft 365 Web Browser Authentication (Not Auto Detected). Use the information in the following table for guidance.
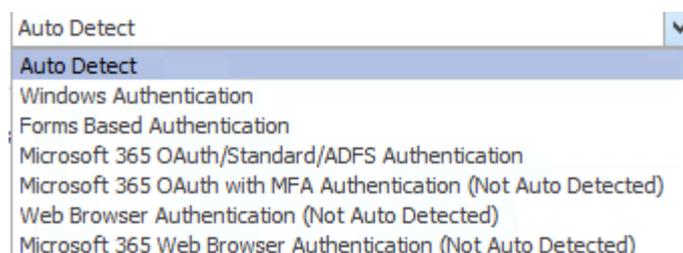
For a SharePoint Online connection that uses"modern" (not "legacy") authentication, you must select one of the Microsoft 365 OAuth Authentication options or Microsoft 365 Web Browser. If the account is also part of a SharePoint Online Multi-Factor Authentication Policy, Microsoft 365 Web Browser or Microsoft 365 OAuth with MFA Authentication must be used.

> NOTE: Microsoft 365 Web Browser Authentication is not supported for jobs run from a PowerShell script or Distributed Migration.

For more information about legacy vs. modern authentication, refer to the Microsoft Support article How modern authentication works for Office 2013 and Office 2016 client apps.)

If ...	Select	Notes
you want Content Matrix to automatically check against	**Auto Detect**	Content Matrix will check for authentication types listed in the drop-

If …	Select ….	Notes
the SharePoint environment		down (in order), and use the first method that is found. NOTE: At the time you click **[OK]** to complete the connection, a pop-up box will display that asks if you want to use Microsoft 365 OAuth. See Using Microsoft 365 OAuth Authentication to Connect to SharePoint Online for details.
• you want to connect to Microsoft 365 OAuth, Microsoft 365 – Standard editions, or systems with ADFS AND • MFA is not being used	**Microsoft 365 OAuth/Standard/ADFS Authentication***	By default the logged in user credentials will be unavailable, since this uses the Windows authentication method, and the Microsoft 365 credentials will need to be entered. NOTE: At the time you click **[OK]** to complete the connection, a pop-up box will display that asks if you want to use Microsoft 365 OAuth. See Using Microsoft 365 OAuth Authentication to Connect to SharePoint Online for details.
your account requires the use of Multi-Factor Authentication (MFA)	**Microsoft 365 OAuth with MFA Authentication (Not Auto Detected)***	With this authentication type, you do not have to enter account credentials in Content Matrix, and the Connect As options will be disabled. NOTE: There are some migration limitations with this connection type. See Migration Limitations When Using Microsoft 365 OAuth with MFA Authentication for details.
you want to connect through a Web browser	**Web Browser Authentication (Not Auto Detected)**	This option is not searched for within the "Auto Detect" option, and needs to be manually set. In order for the Content Matrix Console to logon to the system, users must have logged on to the system being connected to through the web browser on that system first (only before the initial connection). Since this is all done using the Web browser for authentication, the credentials

If …	Select ….	Notes
		section of the window will be grayed out (since it is not needed), and it is limited to the Metalogix Extensions Web Service Connection Type because it authenticates through IIS and not the Active Directory (AD). NOTES: • Because this connection method uses cookies from the browser, it may require multiple logins when running a single migration. However, this is only likely if the migration is running for a long session; this is mainly determined by the web browser settings for authentication. In the event that a login is required, a dialog box appears that lets users log in. After the user logs in, the migration will continue from where it left off. • This authentication type is not supported for running a job using a PowerShell script or Distributed Migration. Refer to the Quest Support Knowledge Base article Connections that will work with PowerShell and Connections that doesn't work with PowerShell for complete details.
you want to connect through a Web browser using authentication for Microsoft 365	**Microsoft 365 Web Browser Authentication**	This option works the same as **Web Browser Authentication (Not Auto Detected)** *except*: • it looks for more specific Microsoft 365 cookies • it requires that users first log into Microsoft 365 through the browser • instead of allowing multiple logins, only one "request" for data can be made at a time, which ensures that

If …	Select ….	Notes
		no data is missed or lost due to the system locking from too many requests (but which may result in a slower connection).
		NOTE: This authentication type is not supported for running a job using a PowerShell script or Distributed Migration. Refer to the Quest Support Knowledge Base article Connections that will work with PowerShell and Connections that doesn't work with PowerShell for complete details.
you want to make a site-level connection to a GCC High site using Microsoft 365 User Provided Authentication	**Microsoft 365 User Provided Authentication** (hidden by default)	You must first run a utility provided by Quest Support and enable the setting **EnableUserProvidedAuthentication**. Refer to the Quest Support Knowledge Base article Enabling User Provided Authentication in Content Matrix for details.

* If you are connecting to SharePoint Online using OAuth authentication and you used a custom domain as the **Address**, you will also need to check the **Override SharePoint Online Tenant Domain Name** and enter the *default* tenant domain name (which can be found at https://admin.microsoft.com/Adminportal#/Domains) to allow Content Matrix to route the request to the proper region.
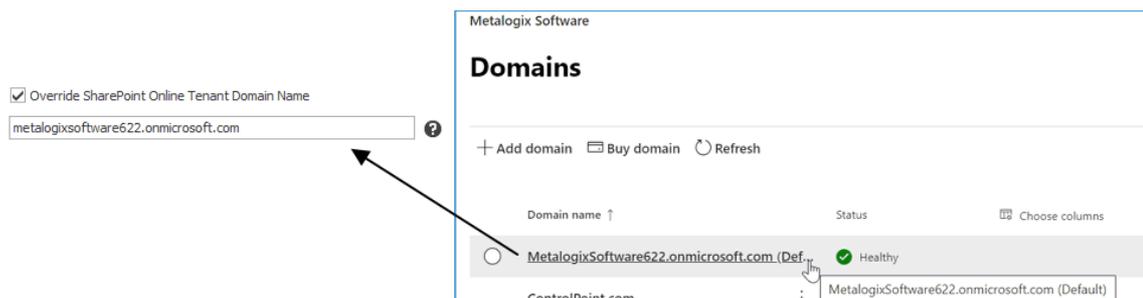
5. For **Connect As**, enter/select the login credentials you want to use to connect to the SharePoint site/server. Use the information in the following table for guidance.

NOTE: This option is disabled if you selected **Microsoft 365 OAuth with MFA Authentication**, or **Web Browser Authentication (Not Auto Detected).**

If you want to …	Then …
use the current Windows user's authentication	Select the (default) <Domain>\<user> radio button.

If you want to …	Then …
credential	
use different authentication credentials	• Select the **Different User** radio button, and • Enter the applicable user name and **Password**. In cases where alternate credentials are entered, it is recommended that you select the **Remember my password** check box so Content Matrix will automatically remember that user account password. This is especially important if you chose **Web Browser Authentication**, as credentials must be stored in the Credential Manager vault before the connection is made.

6. If you want to Add or Remove certificates to be included when connecting to SharePoint:

a) Select the **Included Certificates** tab.

Please see the Connecting with Certificates for more details on connecting to SharePoint instances that require certificates.

b) After all of the desired connection options have been set, for all options tabs, click **[OK]** to establish the connection.

If you are making a tenant-level connection, the Limit Site Collections dialog displays, giving you the option to limit the site collections to include in your connection (which by importing an xml file with the list of URLs you want to include). This is useful if the environment you are connecting to includes a very large number of site collections. In this case, limiting displayed site collections can improve performance. Additionally, the **Include Microsoft 365 tenant my site host connection** allows One Drives to display under their own top-level connection node (alongside the main tenant node) with the following URL format: **http://[Tenant URL]-my.sharepoint.com**. It is selected by default, but if you want to exclude them from the connection, uncheck this box.
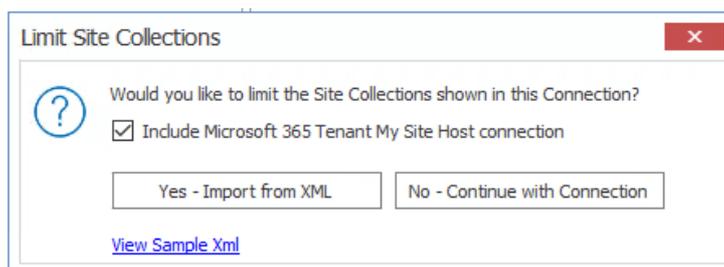
NOTE: If you want to **View Sample xml**, click the link on the dialog. The xml file you import must follow the same format as this sample.

7. Either:

▪ Click **[Yes – Import from XML]** to specify the URLs of the sites you want to include in the connection, then browse/upload the file

OR

▪ Click **[No – Continue with Connection]** to add all sites within the selected scope to the connection.

If Content Matrix successfully makes the connection, a new node will appear in the Explorer View (two if you opted to include One Drives), and you can expand the node(s) and navigate through the SharePoint objects.

NOTE: Should the log file ever show a "could not find site on remote SharePoint server" exception message when working with CSOM connections, simply restart the CSOM service on all machines running the Content Matrix console and then rerun the action.

Using Microsoft 365 OAuth Authentication to Connect to SharePoint Online

Microsoft 365 OAuth Authentication is a token-based authentication method that can be used as an alternative to Standard/ADFS Authentication to reduce throttling.

If Multi-Factor Authentication is set up for the tenant and enabled for the account (as described in the Microsoft TechNet article SharePoint Online - Microsoft 365: Set up Multi-Factor Authentication), you can connect using **M365 OAuth with MFA Authentication** as an alternative to Microsoft 365 Web Browser authentication.

NOTE: If you are using the **M365 OAuth with MFA Authentication** type, be aware that some migration limitations apply.

Registering the Content Matrix SharePoint Client Application for OAuth Authentication

The very first time OAuth Authentication is selected, the application **Content Matrix SharePoint Client** must be registered for the tenant.

IMPORTANT: Prior to version 9.2, the **Metalogix SharePoint Migration Client** application was used for OAuth Authentication. Jobs created before version 9.2 (including those that use PowerShell or Distributed Migration) will continue to use this application (as long as it is still registered in Entra ID). Starting with version 9.2, all jobs using OAuth Authentication will use the **Content Matrix SharePoint Client** application.

Required Permissions

At a minimum, the following permissions are required to register and provide consent for the Content Matrix SharePoint Client application.

- For a **site-level connection**, the account must have a minimum of **Site Administrator** and **Application Administrator** permission roles.

- For a **tenant-level connection**, the account must have a minimum of **Application Administrator** permission role.

Providing Consent to Grant the Application Requested Permissions

The first time a Content Matrix user attempts to connect to SharePoint Online using Microsoft 365 OAuth Authentication, a dialog displays requesting that you grant the permissions that the application needs to perform migrations.

A Global Administrator can check the **Consent on behalf of your organization** box, which will prevent this dialog from displaying for other users. If the account is not a Global Administrator, the **Consent on behalf of your organization** option will be hidden.

> **IMPORTANT:** If a Global Administrator does not consent on behalf of the organization, each Content Matrix user who attempts to connect using Microsoft 365 OAuth Authentication for the first time must sign in with an account that has the **Application Administrator** and **SharePoint Administrator** permission role.

After **[Accept]** is clicked, the connection is created (and the application will be registered if it does not already exist in Entra ID). In addition, the token cache file **ConnectionsTokenCache.dat** is created in the AppData/Roaming/Metalogix folder. (Note, if you have used OAuth Authentication in an earlier version of Content Matrix, this file will already exist.)

Completing a Connection to SharePoint Online Using Office 365 OAuth Authentication

When you select one of the Microsoft 365 OAuth authentication types, before making a connection to SharePoint Online, a pop-up specific to the authentication type will display, as described in the following table.

> NOTE: If you click the **Do not show the message again.** box, Content Matrix will continue to use the selected option and no longer display the pop-up. You can resume having the pop-up display by clicking **Reset Configuration Options** on the ribbon toolbar Settings tab.

If you selected...	Then ...
Auto Detect or **Office365 OAuth/Standard/ADFS Authentication**	the pop-up will ask you to confirm that you want to use the Microsoft 365 OAuth option. Choose **[Yes - Use OAuth]**.
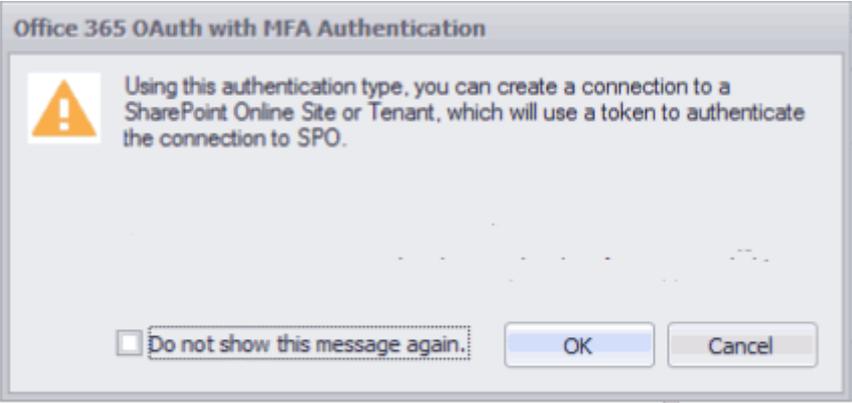
If you selected...	Then ...
Microsoft 365 OAuth with MFA Authentication (Not Auto Detected)	the pop-up will inform you of some migration limitations associated with this authentication type. See the topic Migration Limitations When Using Microsoft 365 OAuth with MFA Authentication for details.

Signing into your Microsoft 365 Account to Use Microsoft 365 OAuth Authentication

When prompted to sign into your Microsoft 365 account, for **Auto Detect** or **Micrososft 365 OAuth/Standard/ADFS Authentication**, you must use the account you specified as the **Connect As** account in Content Matrix. The connection will fail if you try to sign in with another account. (This is not an issue with **Microsoft 365 OAuth with MFA Authentication**, which does not use a Connect As account.)
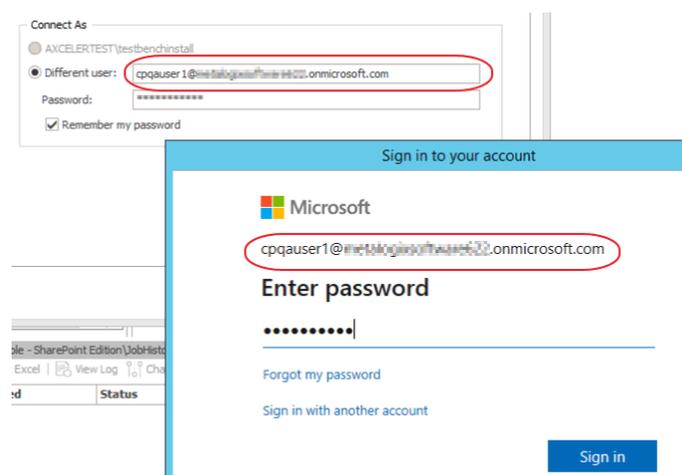
IMPORTANT: If you are using OAuth Authentication for the first time, a dialog may display requesting that you consent to granting permissions that the application needs to perform migrations. To provide this consent, the account must be an **Application Administrator**. (This dialog will not display if a Global Administrator has granted consent on behalf of the organization.)
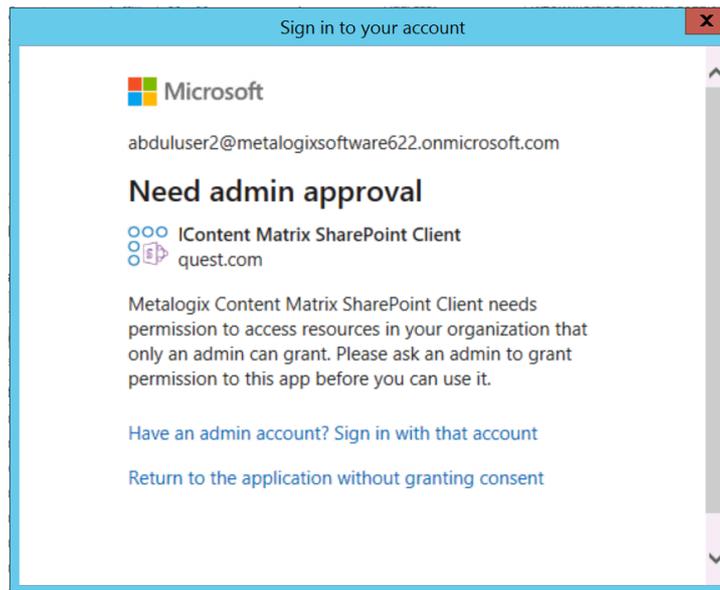
Migration Limitations When Using Microsoft 365 OAuth with MFA Authentication

The following migration options are currently not supported when **Microsoft 365 OAuth with MFA** is used as the Authentication Type, and they will be disabled.

NOTE: If your SPO tenant is configured for Multi Factor Authentication and it is important for you to migrate these objects, you will need to use **Microsoft 365 Web Browser Authentication** instead. **Microsoft 365 OAuth/Standard/ADFS Authentication** does not work in an MFA-configured environment.

- The following List Settings:

  - Survey Options (under list settings for Survey List)

  - Browser enabled InfoPath form templates (that is, they will not be browser-activated at the target)

- Classic web parts, unless the Import Pipeline is being used

- Nintex Forms

- Nintex Workflows

  NOTE: Even if the options are checked, Nintex workflows will not be migrated for Microsoft 365 OAuth with MFA Authentication. SPD 2013 style workflows, however, will be migrated.

- Content type InfoPath forms

- List and Site level content type information management policies.

Migrating to SharePoint Online Using the Import Pipeline

Content Matrix currently has limited support for migration using the Import Pipeline.

By default, when the **Use Import Pipeline** option is checked on the List Content Options tab, the **SPO Provided Azure Containers** option is selected. However, if you want to use **Azure Private Containers**, you will also need to populate the **Azure Storage Connection String** field.

For detailed information on additional system and configuration requirements for using the Import Pipeline, please see:

- Configuring Settings for Migrations Using the Import Pipeline

- the *Content Matrix Performance Optimization Guide* for information on configuring Azure Private Containers for use with Content Matrix.

Objects and Actions Supported Using the Import Pipeline

Supported Objects

The following is a list of objects that can be migrated using the Import Pipeline:

- Announcements

- Alerts

  EXCEPTION: If the scope contains unsupported lists, the lists themselves will migrate over the CSOM connection, but the migration of alerts for these lists will fail, as CSOM connections do not support the migration of alerts**.**

- Calendars

- Contacts

- Custom lists

- Discussion boards, including versioning for discussion topics and replies (as opposed to non-Azure migrations, which do not migrate discussion topic versions).

     NOTE: **Featured Discussion** and **Best Reply** metadata is currently not supported.

- Document libraries

- Issue tracking

- Links

- Managed metadata (also known as taxonomy fields) in lists and libraries

     IMPORTANT: If using a SharePoint 2010 Database connection as the source, before migrating lists and libraries containing Managed Metadata using the Import Pipeline all affected metadata must already be migrated to the target (using a non-database connection) and the source and target GUIDs of all affected metadata must already be mapped. For information about mapping GUIDs, see GUID Mapping.

- Multi-language migration

- Project tasks

- Surveys with single or multiple responses

     NOTE: Currently, if you are using Microsoft 365 OAuth with MFA Authentication, Survey Options for a Survey list are not migrated.

- Tasks

- Classic web parts

     NOTE: For a list of supported web parts, requirements, and limitations, see Using the Import Pipeline to Migrate Classic Web Parts.

- large files (15 GB or larger)

In order to perform any of the supported migration actions using the Import Pipeline, the applicable options must be checked on the Copy Options Dialog > List Content Options tab.

Unsupported Objects

Migration using the Import Pipeline currently does not support:

- .aspx files

- InfoPath forms

- SharePoint 2007 Publishing Images libraries (which migrate as Asset Libraries over CSOM unless part of an override)

See also How Content Matrix Handles Objects Not Supported for Import Pipeline Migration.

Supported Actions

The following is a list of actions that are currently supported for Import Pipeline migration:

- Paste Site Collection

- Paste Site as Sub Site

- Paste All Site Content

- Paste MySites

- Paste List as Folder

- Paste List Content > All List Items and Folders (to an empty document library only, Full Copy mode only)

- Paste Folder

- Paste Folder Content > All List Items and Folders

- Paste Site Objects > Alerts*

- Paste List Objects > Alerts*

    * If the scope contains unsupported lists, the migration of alerts for the unsupported lists will fail.

How Content Matrix Handles Objects Not Supported for Migrations Using the Import Pipeline

By default, when Import Pipeline migration is enabled:

- If a library contains both supported and unsupported objects:

    - for optimal performance, supported objects will be migrated first using the Import Pipeline, then unsupported objects will be migrated using CSOM

    AND

    - objects that are unsupported will be identified as such in the log file.

    NOTE: You have the option of overriding the default behavior so that if a library contains both supported and unsupported objects, the entire library will migrate using CSOM. To do this, change the value of the key `AllowPartialPipelineMigration` in the configuration variable file EnvironmentSettings.xml from *true* to *false*.

CSOM Migration Limitation

When a CSOM connection is used, while item IDs for other types of lists can be preserved, library document IDs (and by extension, lookup columns, which rely on these IDs) are not preserved on the target. Document ID preservation is only supported for objects migrated using the Import Pipeline.

See also Preserving SharePoint List Item IDs with a CSOM Connection Type.

How Content Matrix Determines Import Pipeline Migration Batch Sizes

When migrating using the Import Pipeline, the EnvironmentSettings.xml file includes configurable thresholds for batch sizes in both number of items (200 by default) and size (1000 MB by default). Content Matrix determines the size of a batch to upload to SPO when the lower threshold is met.

For example:

- If a library has 20 documents, each of which is 100 MB, Content Matrix will use the size threshold and will create two batches of 1000 MB.

- If a library has 1000 documents, each of which is 1KB, Content Matrix will use the item threshold and will create five batches of 200 items.

NOTE: If more than one version of an item is being migrated, Content Matrix will count each version as a separate item when determining batch size.

Refer to the topic Configuration Settings for Migrations Using the Import Pipeline for information on changing batch sizes and other Import Pipeline configuration settings.

Excluding Individual Items from a Migration Usng the Import Pipeline

It is possible to migrate individual lists and document libraries that are supported by the Import Pipeline using CSOM instead of the Import Pipeline, even if **Use Import Pipeline** is enabled on the **Copy Options > List Content Options** dialog.

To exclude individual items from Import Pipeline migration:

1. Navigate to **ApplicationSettings.xml** (located by default in C: \Users\<USER>\AppData\Roaming\Metalogix\Content Matrix Console - SharePoint Edition) and open it in a text editor.

2. Navigate to the `ListNamesToIgnoreForAzure` entry. The default code block is shown below:

   ```
   <XmlableEntry>
   <Key>ListNamesToIgnoreForAzure</Key>
   <Value>FormServerTemplates|SiteAssets</Value>
   </XmlableEntry>
   ```

3. In the `Value` element, insert the internal names of the lists and document libraries to be excluded from using the Import Pipeline during migration.

   If multiple lists and libraries are provided, they must be separated by the '|' character, as shown in the default code block above.

4. Save and close **ApplicationSettings.xml**.

Migrating individual Lists/Libraries Created from Third Party Custom List Templates Using the Import Pipeline

If you want to migrate lists created using a third party custom list template and the Base Template ID is not available in the ListTemplateTypes, do the following:

1. Navigate to **ApplicationSettings.xml,** located by default in the folder C:
   \Users\<USER>\AppData\Roaming\Metalogix\Content Matrix Console - SharePoint Edition.

2. Open **ApplicationSettings.xml** in a text editor.

3. Navigate to the `ListNamesToIncludeForAzure` entry. The default code block is shown below.

   ```
   <XmlableEntry>
   <Key>ListNamesToIncludeForAzure</Key>
   </Value>
   </XmlableEntry>
   ```

4. In the `Value` element, insert the internal names of the lists and document libraries to be included for Azure migration.

   If multiple lists and libraries are provided, they must be separated by the '|' character, as shown below.

   ```
   <Value>TestLibrary1|TestLibrary2</Value>
   ```

5. Save and close **ApplicationSettings.xml**.

Connecting with Certificates

When connecting to SharePoint, there are two options that can be used to add certificates to the list of included certificates: **Add Installed Certificate** and **Add Certificate From File**.

SharePoint connections do not actually save the certificate information directly, but instead they save the data on how to locate the certificates that are in use. This means that if the certificates are deleted or moved from the referenced location, they will no longer be used with the SharePoint connection and will have to be manually re-added.

SharePoint Certificates are also supported when generating a PowerShell script. It is still recommended that the initial SharePoint connection is first configured in the Content Matrix Console. The recommended process when working with certificates and PowerShell is to first add the connection (with certificates) in Content Matrix, then set up a migration action in the UI and generate a PowerShell script. This will allow you to get the connection format that is required to create a connection in PowerShell, and it can then be written out manually (if desired).

It should also be noted that the **Web Browser Authentication** type does not automatically detect certificates. In order for certificates to be included with this method, they must first be installed in the appropriate locations in order for a web browser itself to access them.

NOTE: In some cases, including certificates can potentially result in receiving "maximum request length" messages when migrating smaller files because the certificate information is included when the data is being migrated.

To Add Installed Certificates:

Only "Personal" certificates can be added in this manner because it is the only store that web browsers use to find certificates when accessing a website.

1. In the **SharePoint Logon** dialog, select the **Include Certificates** tab.
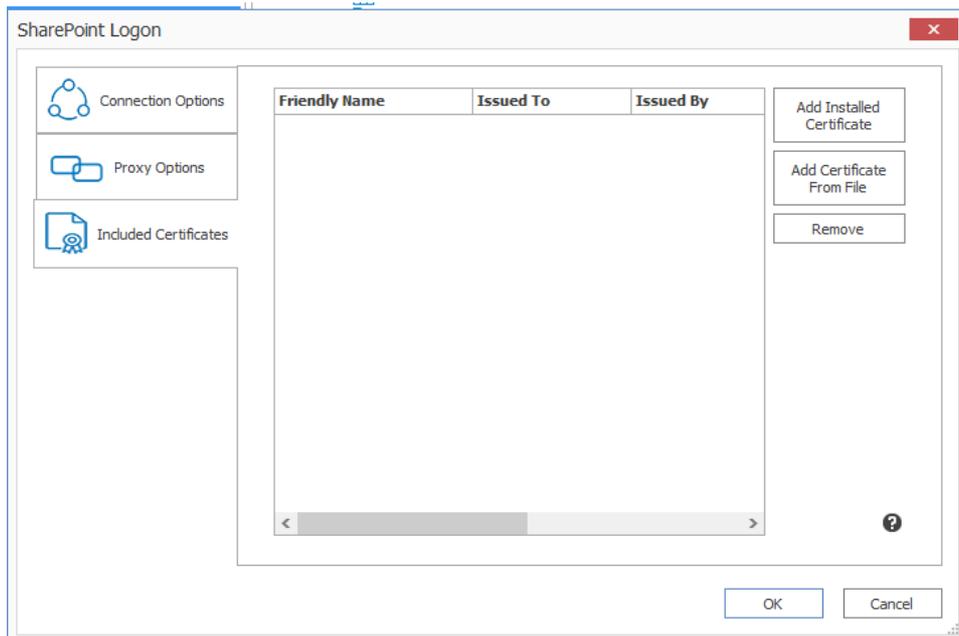
2. Click **[Add Installed Certificate]**.

   The **Add Installed Certificates** dialog displays all of the certificates that are installed in the logged in user account's "Personal" certificate store.

3. Select any certificates that should be included, and click **[OK].**

When you return to the **SharePoint Logon** dialog the selected certificates be displayed in the **Included Certificates** list, and they will be included whenever Content Matrix is running an action to or from the SharePoint connection.

To Add a Certificate from a file:

1. In the **SharePoint Logon** dialog, select the **Include Certificates** tab.

2. Click **[Add Certificate From File]**.

3. Either:

   ▪ enter a filename and location into the **Certificate File** text box

   OR

- select the **Browse** button to open a file explorer dialog and navigate to, and select, the desired certificate.

4. If a password is required to use with the certificate, enter it in the **Password (optional)** text box.

> NOTE: When a connection to SharePoint is made, Content Matrix will save the password field for any certificates so it can re-establish a connection to that SharePoint instance at a later date. If you are not comfortable with entering the password in the Password (optional) field, you can move the certificate into the user account's "Personal" folder, and use the Add Installed Certificate option instead, provided the user account/password is the same.

When you return to the **SharePoint Logon** dialog, the selected certificate will display in the **Included Certificates** list, and it will be included whenever Content Matrix is running an action to or from the SharePoint connection.

Important Note About Self-Signed Certificates

For security purposes, Content Matrix always attempts to validate a certificate when connecting to a TLS/SSL site. Content Matrix cannot validate a self-signed certificate for an on-premises connection however, and if it attempts to do so you will be unable to complete the connection. To avoid this issue, you must change the value of the key `BypassCertificateValidation` in the EnvironmentSettings.xml file to **True**.

Removing Certificates

Any certificates that have previously been added through the two **Add Certificates** options can also be removed from the list of **Included Certificates**.

To remove a certificate:

1. In the **SharePoint Logon** dialog, select the **Include Certificates** tab.

2. Select the certificate(s) that you want to remove.

3. Click **[Remove]**.

Connecting to SharePoint Using PowerShell

You can create and edit connections to SharePoint using PowerShell. These connections will display in the Content Matrix Console.

To access the PowerShell cmdlets for connecting to SharePoint:

Open a PowerShell or PowerShell ISE session and add the PowerShell snap-ins for the application framework.

The following cmdlets are now available:

- Get-MLSharePointConnections

- [New-MLSharePointConnection](#)

- [Set-MLSharePointConnection](#)

- [New-MLSharePointDbConnection](#)

- [Set-MLSharePointDbConnection](#)

- [Remove-MLSharePointConnection](#)

To retrieve information about active connections in the Console:

Select (from the PowerShell ISE Command Window) or enter **Get-MLSharePointConnections**, then run the cmdlet.

Details display for each active connection.

To create a new connection to SharePoint:

1. Select (from the PowerShell ISE Command Window) or enter **New-MLSharePointConnection**.

   > NOTE: If you want to create a connection to a SharePoint database, use the [New-MLSharePointDbConnection](#) cmdlet.

2. Select or enter the applicable parameters. Use the information in the following table for guidance.

Parameter	Notes
Address (Required)	The Url of the SharePoint object (Site, Farm, WebApp or Tenant) you want to connect to.
AuthenticationType (Required)	Valid values are: • Windows • FormsBased • Adfs NOTE: Currently this cmdlet does not support connecting to SharePoint Online with OAuth authentication. • UserProvided NOTE: UserProvided authentication is used to make site-level connections to special types of tenants, such as GCC High. To use this type of authentication, you must first run a utility provided by Quest Support and enable the setting **EnableUserProvidedAuthentication**. Refer to the Quest Support Knowledge Base article [Enabling User Provided Authentication in Content Matrix](#) for details.

Parameter	Notes
ConnectionType **(Required)**	Valid values are: • Om (local object model) • MEWS (remote connection using Metalogix Extensions Web Service) • CSOM (for SharePoint Online targets only)
TargetType **(Required)**	Valid values are: • Site • WebApp • Farm • Tenant
ConnectAsCurrentUser	Use this parameter if you want to make a SharePoint on-premises connection using the currently logged-in user. NOTE: This parameter is not necessary when using an OM connection, which automatically connects as the currently logged-in user.
MewsVersion	This parameter is only necessary if you want to use an older version of the Metalogix Extension Web Service.
Password	The password of the account making the connection.
RememberPassword	This option is recommended to to ensure that the connection remains active after the PowerShell session has ended. If it is not used, the password will have to be re-entered.
Readonly	Use this parameter if you want to make a read-only connection to a SharePoint source.
SkipConnectionCheck	Use this parameter if you want to skip validation of the connection. This is useful if you use a connections factory and speeds up the creation of connections.
User	The user account making the connection.

3. Run the cmdlet.

Example Scripts:

```
New-MLSharePointConnection -Address http://win-pvf4cd21m55/ -
AuthenticationType Windows -ConnectionType MEWS -TargetType Site -Password
"Pass" -User Administrator -RememberPassword


New-MLSharePointConnection -Address https://metalogixsoftware-
admin.sharepoint.com -AuthenticationType Adfs -ConnectionType Csom -
TargetType Tenant -Password "Pass" -RememberPassword -User
cpqauser@metalogixsoftware.onmicrosoft.com
```

To edit a connection to SharePoint:

1. Select (from the PowerShell ISE Command Window) or enter **Set-MLSharePointConnection**.

2. Enter the **ConnectionId**.

   NOTE: You can obtain the ConnectionId by running the **Get-MLSharePointConnections** cmdlet.

You can now update any of the following parameters, then run the cmdlet:

- **ConnectAsCurrentUser** (on premises connections only)

- **Password**

- **RememberPassword**

- **SkipConnectionCheck**

   NOTE: Use this parameter if you want to skip validation of the connection. This is useful if you use a connections factory and speeds up the creation of connections.

- **User**

Example Script:

```
Set-MLSharePointConnection -ConnectionId '91335f9c-9311-439e-9b8e-
78d6f7ef480a' -Password pass -RememberPassword -User Administrator
```


To connect to a SharePoint database:

1. Select (from the PowerShell ISE Command Window) or enter **New-MLSharePointDbConnection**.

2. Select or enter the applicable parameters as you would if you were [connecting to a SharePoint database](#) from the Content Matrix Console:

   - **Database**

   - **Server**

   - **ConnectAsCurrentUser**

   - **EncryptConnection**

   - **Hostname**

   - **Password**

NOTE: It is recommended that you select the **RememberPassword** option to ensure that the connection remains active after the PowerShell session has ended.

- **SQLUser**

- **TrustServerCertificate**

An additional parameter, **SkipConnectionCheck** allows you to skip connection validation. This is useful if you use a connections factory and speeds up the creation of connections.

Example Script:

```
New-MLSharePointDbConnection -Database TestDb -Server sqlServer2 -
ConnectAsCurrentUser
```

To edit a SharePoint database connection:

1. Select (from the PowerShell ISE Command Window) or enter **Set-MLSharePointDbConnection**.

2. Enter the **ConnectionId**.

   NOTE: You can obtain the ConnectionId by running the **Get-MLSharePointConnections** cmdlet.

You can now update any of the following parameters, then run the cmdlet:

- **ConnectAsCurrentUser**

- **Password**

- **RememberPassword**

- **SkipConnectionCheck**

- **SQLUser**

Example Script:

```
Set-MLSharePointDbConnection -ConnectionID '2F91B056-C300-4263-9FA6-
17EEDF583594' -Password newPassword
```

To remove a SharePoint connection:

1. Select (from the PowerShell ISE Command Window) or enter **Remove-MLSharePointConnection**.

2. Enter the **ConnectionId**.

   NOTE: You can obtain the ConnectionId by running the **Get-MLSharePointConnections** cmdlet. You can remove multiple connections using the PowerShell pipeline variable.

3. Run the cmdlet.

Example Scripts:

```
Remove-MLSharePointConnection -ConnectionID '2F91B056-C300-4263-9FA6-
17EEDF583594'
```

Remove multiple connections using the PowerShell pipeline variable:

```
Remove-MLSharePointConnection -ConnectionID '2F91B056-C300-4263-9FA6-
17EEDF583594 ,'2F91B056-C300-4263-9FA6-17EEDF583594','2F91B056-C300-4263-
9FA6-17EEDF583594' | Remove-MLSharePointConnection
```

Preparing for a Migration

Content Matrix offers a number of tools to help you locate and organize data and in preparation for your migration. You can:

- Search for SharePoint sites, lists, folders, and/or items/documents that meet criteria you specify

- Preview documents

- Create SharePoint objects

- Delete SharePoint objects

- Compare SharePoint objects on source and target

- Check links

- View StoragePoint details

Using the Search Function

This search feature allows you to do a search through the top-level node of a SharePoint connection for sites, lists, folders, and files. Filters can also be applied to the search criteria using the four main metadata fields (Created, Created By, Modified, Modified By) as well as content types. The search results can be sorted through, and you can view each returned item's properties. You can also run actions on returned items using the right-click menu.

This option is only available when Advanced Mode is enabled.

For SharePoint 2013, the Search function is only available when using a **SharePoint Database connection**.

To run a Search:

1. In **Explorer View**, select the connection in which you want to search.

2. Right-click and choose **Search**.

3. Enter a **Search Term/Filter** and/or click **[Advanced Options]** and select any additional criteria you want to use.
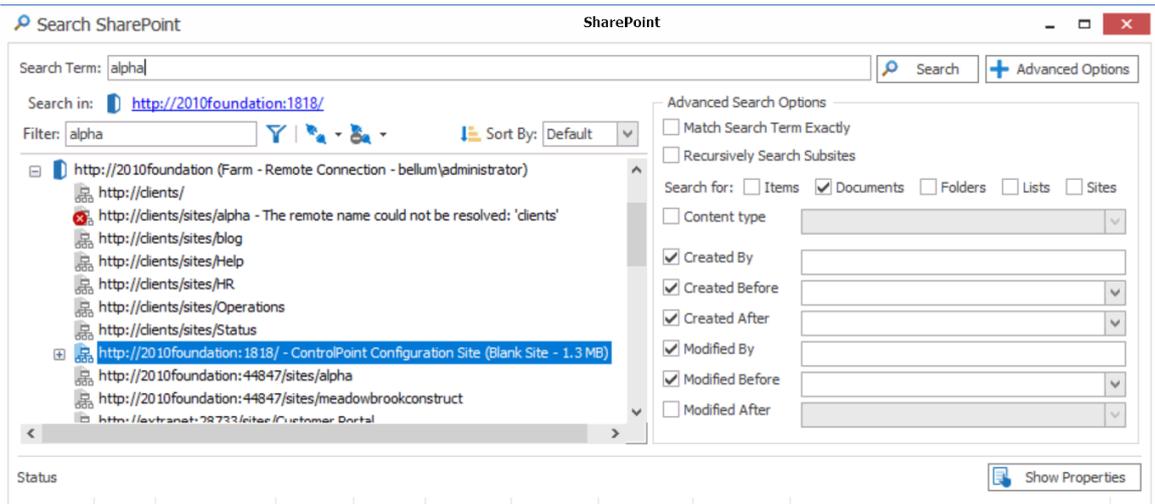
4. Click **[Search]**.

All the results of the search display in the bottom pane. Select a result from the list to:

- View the metadata field properties for a selected item (by clicking **[Show Properties]).**

- Perform an action on a selected item (by right-clicking it and choosing the action).

Working with Search Results

Search results display in the bottom half of the dialog. You can sort results by any available column.

To view an object's Properties:

Select an object in the results list to populate the **Search Properties** section.
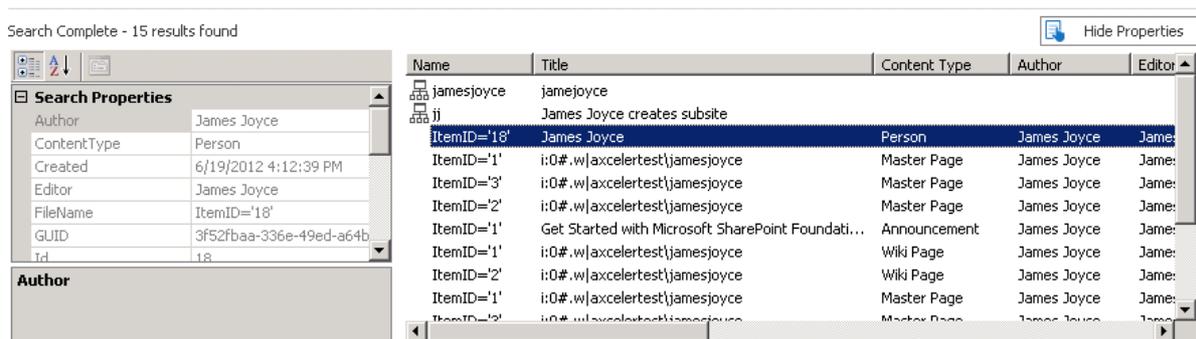
From Search results, you can perform the same actions that are available in the explorer view for the selected object type.

To act on a search result:

Select an object in the results list, right click, and choose the appropriate option. Refer to the applicable topic in this guide for details.

Previewing Documents

Content Matrix can let you preview documents that are in a Document Library before any actions are taken on them. Any documents that are being previewed will open in the appropriate (associated) application on the Desktop.

> NOTE: Items from a SharePoint List view cannot be previewed, as these items are not actual documents. The option to preview a document is only available from the Items view tab.

To Preview a Document:

1. In the **Explorer View** tab, navigate to the desired Document Library that contains document that you want to preview.

2. Switch to the **Items** view tab.

3. Select any document that you want to preview, right-click, and choose **Preview Document**.
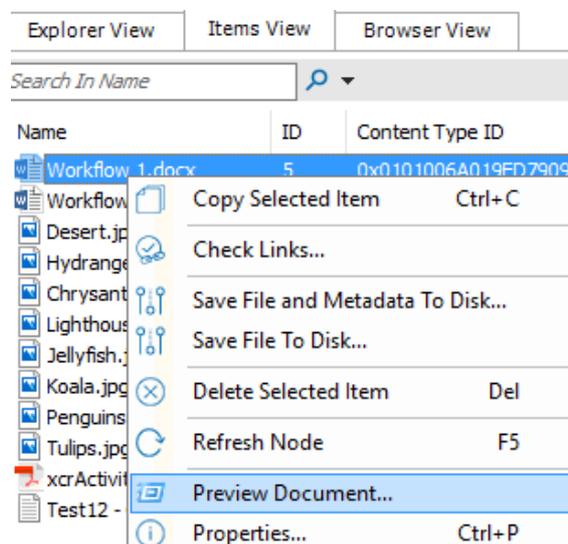
The selected document will open in the appropriate (associated) application on the Desktop.

Creating a SharePoint Object

You can create new SharePoint site collections, sites, folders, and lists via the Content Matrix Console.

These options are only available when [Advanced Mode](#) is enabled.

You may want to create these new SharePoint objects, or "containers," that you can then migrate existing source content into the new container as an alternative the more conventional method of performing a migration, which involves copying source content into *existing* containers on the target.

Creating a SharePoint Site Collection

You can create a site collection for a read/write (source/target) connection type at the farm/tenant, or Web application level. If creating a site collection is invalid for the connection type, this option will be disabled.

This option is only available when Advanced Mode is enabled.

To create a new SharePoint site collection:

1. In the Explorer View navigate to the SharePoint Farm/ Web Application (on premises) or Tenant (SharePoint Online) where the new site collection should be created.

2. Right-click and choose **Create Site Collection.**

3. Complete the fields on the Create Site Collection dialog for the selected Mode as you would if you were creating a site collection from within SharePoint.

    NOTE: In addition, you have the option to create a host named site collection using the Host Header option. Refer to the Microsoft TechNet article details about host-named site collections.

SharePoint On Premises   **SharePoint Online**

Note that if you are migrating to SharePoint Online or SharePoint 2019, the default template is (modern) **Team Site (no Microsoft 365 group) (STS#3)**. For SharePoint Online, Content Matrix does not support connections to tenant-level groups.

4. After completing the dialog, click **[OK].**

The new site collection now displays in the Explorer View.

Creating a SharePoint Site

You can create a new SharePoint site via Content Matrix under an existing site collection or site as long as the connection type is not read-only. If site creation is not valid for the connection type, the option will be disabled

This option is only available when <u>Advanced Mode</u> is enabled.

To create a new SharePoint site:

1. In the Explorer View, select the site collection or site under which you want to create the new site.

2. Right-click and choose **Create Site**.

    The Create Site dialog displays, prompting you to enter the **Site Title**, **Site URL Name**, **Description**, and **Template** for the new site.

    NOTE: For **Site URL Name**, it is only necessary to enter the name of the site as you want it to appear in the URL, not the entire URL path**.**

     Note that if you are migrating to SharePoint Online or SharePoint 2019, the default template is (modern) **Team Site (no Microsoft 365 group)**. For SharePoint Online, Content Matrix does not support connections to tenant-level groups.

3. When you have completed the fields on the Create Site dialog, click **[OK].**

The new site will now display in **Explorer View**.

Create a SharePoint List

You can create a new SharePoint list via Content Matrix under an existing site as long as:

* the connection type is not read-only, and

* the new list can use any site template that is installed on the SharePoint environment.

If site creation is not valid for the connection type, the option will be disabled.

 This option is only available when [Advanced Mode](#) is enabled.

To create a new list:

1. Navigate to the SharePoint Site where the list/library should be created.

2. Right-click and choose **Create List**.
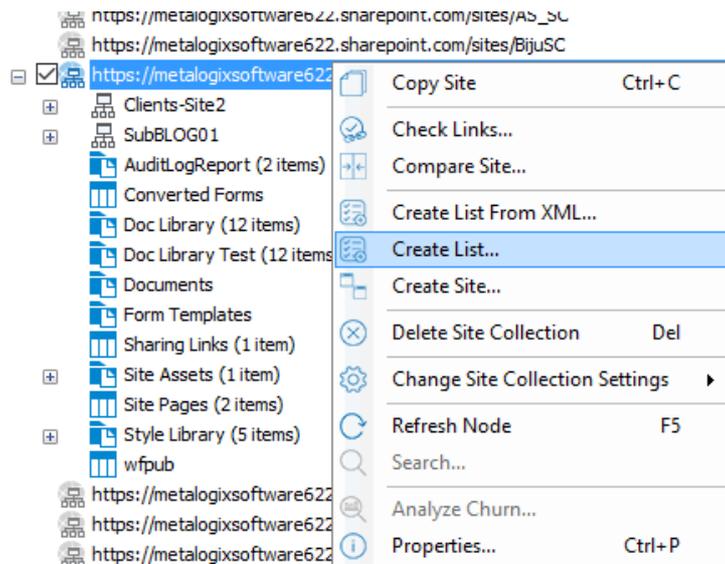
3. Complete the Create List dialog as you would if you were creating a list from within SharePoint.

4. After completing the dialog, click **[OK].**

The new site collection now displays in **Explorer View**.

Create SharePoint Folder

You can create a new SharePoint list via Content Matrix under an existing list or library (or within an existing folder) as long as the connection type is not read-only.. If folder creation is not valid for the connection type, the option will be disabled.

This option is only available when [Advanced Mode](#) is enabled.

To create a new SharePoint folder:

1. Navigate to the SharePoint Document Library, List, or Document Folder under which the new folder should be created.

2. Right-click and choose **Create Folder**.
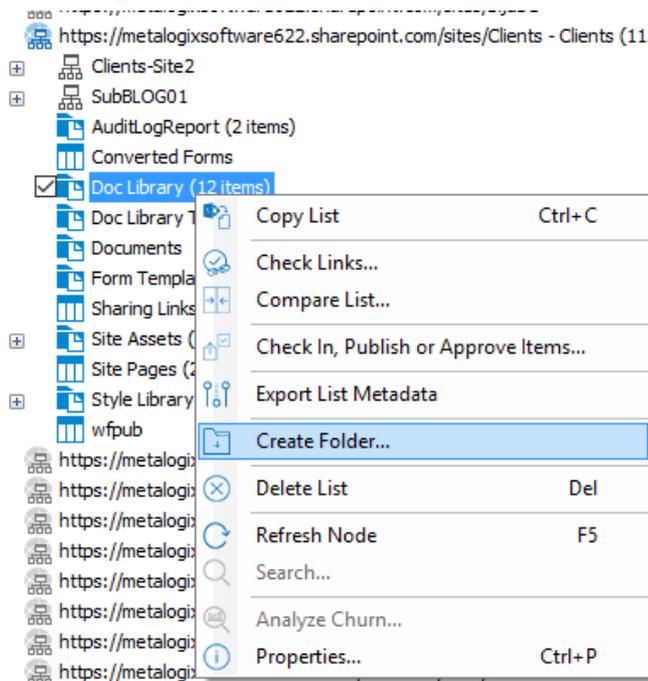
3. Complete the **Create Folder** dialog.

    Note that the Folder Type drop down allows you to select the content type with which to create the folder. if only one content type exists on that list/library/folder, the option will be grayed out. There is also a check-box option to overwrite any existing folder that uses the same folder name at the level the folder is being added.
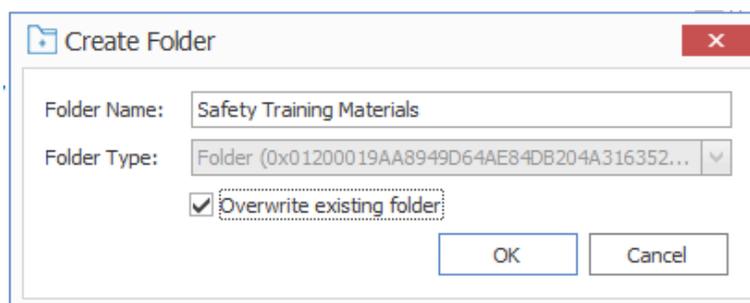
4. After completing the dialog, click **[OK].**

The new folder now displays in **Explorer View**.

Deleting SharePoint Objects

You can delete one or more SharePoint objects via Content Matrix as long as the connection type is not read-only. SharePoint objects that can be deleted via Content Matrix are:

- SharePoint Sites
- SharePoint Lists
- SharePoint Document Folders
- SharePoint Documents
- SharePoint List Items

If the action is not valid for the connection type, it will be disabled.

NOTE: Document versions and list item versions cannot be deleted via Content Matrix.

To delete one or more SharePoint Objects:

WARNING: When this action is used at the site level or below, the object will be deleted permanently (i.e., it will not be sent to the Recycle Bin). However, a pop-up dialog will display that allows you to cancel the action.

1. Select the SharePoint object(s) to be deleted.

    NOTE: Depending on the type of object, this may be in the Explorer View or in the Items View.

2. Either:

    - **Press the Delete key on the keyboard.**

    - **Righ**t-click on the object and choose **Delete [Object].**
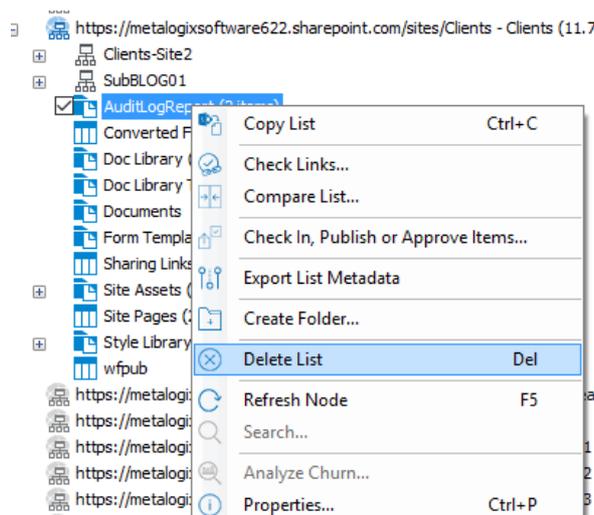
You will be prompted to confirm the action before continuing.

Comparing SharePoint Objects

Content Matrix can compare SharePoint sites and lists for differences, including sites and lists between live sites and database connections. The comparison action lists any new, deleted, edited, or missing items between the two locations, gives the specific location for each file, and identifies the basic nature of the difference(s).

You can, for example, compare a development site with a production site to determine whether the content matches or there are any updated differences between the two.

A compare can be done within SharePoint sites, lists, or folders, but not within items. However, the compare action itself runs down to the item level, and Content Matrix shows results for everything under the selected node.

NOTE: A compare is only possible between lists of the same type. For example, two "Shared Documents" lists can be compared, but a "Shared Document" list cannot be compared to an "Announcements" list. This is not the same for sites. Any site type can be compared to any other site type. For example, a "Team Site" can be compared to either another "Team Site" or to a "Publishing Site."

 This option is only available when [Advanced Mode](#) is enabled.

To compare SharePoint objects:

1. In the Explorer View, select the site, list or folder that you want to use as the base for the comparison.

2. Right-click and choose **Compare <Object>**.

3. In the **Compare <Object>** dialog, under To, navigate to the site/list/folder that you want to make a comparison with.

   NOTE: If you want to change the base location (site or list node) of the comparison, **click [+ Show Explorer]** to switch to a tree view from which a new comparison base node can be selected. To return to the "To" tree, select **[– Hide Explorer].**
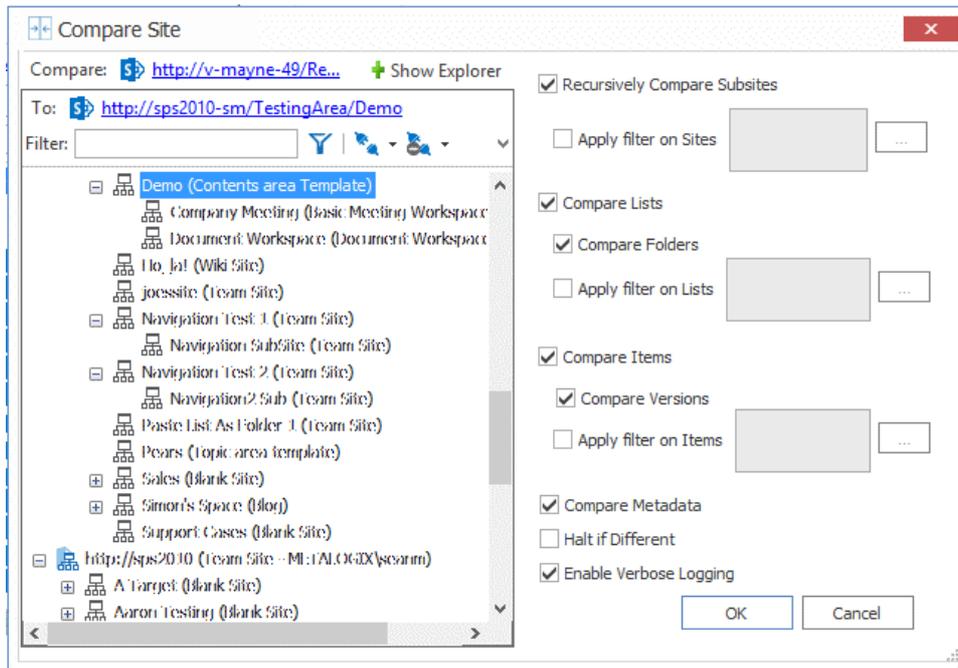
4. On the right side of the dialog, select the appropriate Compare options. Use the information in the following table for guidance.

If …	Select…
• you are comparing *sites* AND • you want all subsites under the selected node to be included in the compare	**Recursively Compare Subsites**, and optionally, **Apply filter on Sites**.
• you are comparing *sites* AND • you want all lists under the selected site to be included in the compare (including lists in subsites if the **Recursively Compare Subsites** option is checked).	**Compare Lists**.
you want all folders under the selected node to be included in the compare	**Compare Folders**, and optionally, **Apply filter on Folders**.
you want all items under the selected node to be included in the compare	• **Compare Items**, and • optionally, **Apply filter on Items**.
you want all item versions under the selected node to be included in the compare	**Compare Versions**.
you want all item metadata to be included in the compare	**Compare Metadata**.

If …	Select…
you want the compare action to halt when it encounters and differences between the objects being compared	**Halt if Different.**
You want more detailed logging to be taken during the compare	**Enable Verbose Logging.**

5. After all the desired options and filters have been set, click **[OK].**

   A status box displays the progress of the comparison between the selected objects. In the bottom left corner of the status box, results of the compare display, including the number of completions and some differences that may have been detected.

6. To display a "live view" of the operation log, click **[Details>>].**

   The compare log contains useful information, such as:

   - time copied,

   - item name,

   - item type,

- source and target locations of items,

- status of the item, and

- the nature of the difference(s).

Working with SharePoint Object Comparison Results

Differences in the log are marked, both with color and by icon, which help you quickly determine, at a glance, discrepancies between the base and target sites/lists/folders/items, along with information to help resolve these differences. The significance of icons and color is described in the following table.

Item	Description
Compare Icons	
Green Check mark	There are no differences between the object(s) on the base and target site/list.
Two boxes with an "X" between them	The object on the base site/list and the object on the target site/list are different.
An "=" sign with a box on the right	there is missing content on the target site/list side.
A box with an "=" sign on the right	There is missing content on the base site/list side.
Compare Text	
Black Text	The object(s) in the base and target site/list match
Blue Text	The object(s) on the base and target site/list are different.
Red Text	The object(s) on the base and target site/list are missing from one side

To view more detail about an individual object:

1. Select the object for which you want to view detail.

2. Either:

    - Double click the object

    OR

    - Right-click and choose **View log item**.

NOTE: You can also copy any selected results to the clipboard, and paste them into another application.

To navigate to the source or target location of an object:

1. From the log, select the object to which you want to navigate.

2. Right-click and choose either:

   ▪ **Navigate > to Source** (to display the source-side object in the left side of the Explorer View).

   OR

   ▪ **Navigate > to Target** (to display the target-side object in the right side of the Explorer View).

3. When finished with the log, click **[Close]**.

Checking Links

Content Matrix can check links within a SharePoint site, list, folder, and item, either before or after a migration.

Unlike Link Correction, which will correct and update links that have been migrated to the target, the **Check Links** feature runs a check of the links to see if they point to valid URLs inside lists and web parts. Results are returned in an XML file that contains a summary, and lists successes, failures, and flagged links.

The **Check Links** action can be run on any SharePoint node in the Explorer View tab, regardless of the connection type.

This option is only available when Advanced Mode is enabled.

To run a link check:

1. In the **Explorer View**, select the node whose links you want to check.

2. Right-click and choose **Check Links**.

3. Make sure the applicable options on the **Check Links – General Options** tab are selected. Use the information in the following table for guidance.

If …	Then make sure the following option is checked …
• you are checking links at the *site* level AND • you want to recursively check links through any sub sites.	**Check child sites recursively**. NOTE: If you uncheck this box, the Check Links action will be performed on the selected site only.
• you are checking links at the site level AND • You want to check links on web parts, including the links in the web part's properties.	**Check web parts.** NOTE: This option is also useful for identifying links you may not have known were present in the web parts.
you want the Check Links action to: • parse through all of the "text" type fields columns (single line of text, multi-line, etc.) for the selected SharePoint node AND • run the check on any absolute URLs This check will only work on absolute URLs (such as "http://Metalogix/Production" but it will not work for relative URLs (such as "./Production").	**Check list item text fields (this can take a long time).** If this option is selected, it can significantly increase the amount of time it takes to run the Link Check action. This is because Content Matrix will have to parse all the text values, for the included "text" type field columns, and look for links within that content before it can check them. The amount of time taken will be dependent on the amount of data within the text columns.
you want to include successful URL checks in the XML output file	**Show successes**. NOTE: If you uncheck this box, only failed or flagged URLs will be included in the output file.

In addition, you can change the "X" Pages response timeout (ms) value, which represents number of miliseconds after which Content Matrix will wait before it considers the URL data request to be failed due to a timeout.

4. If you want to flag URLs based on specified conditions, select the **Link Flagging** tab.
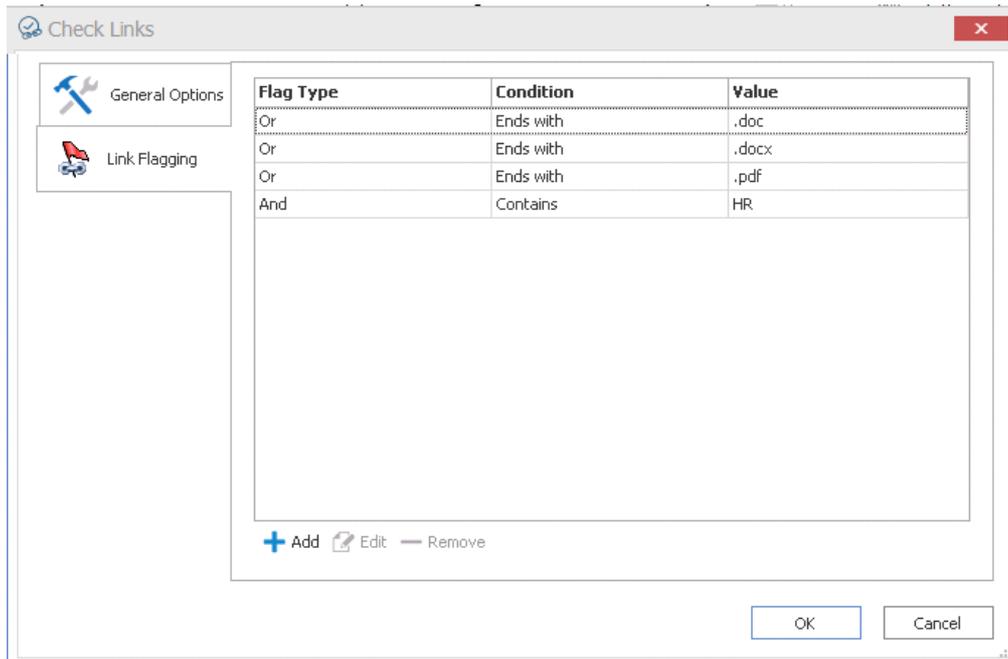
5. To Add a URL flag to the list:

   a) Click **[Add]**.

   b) In the Check Link Flags Editor dialog, select a **Condition** from the drop-down.

   c) For **Value**, enter the string within the URL that should be flagged.
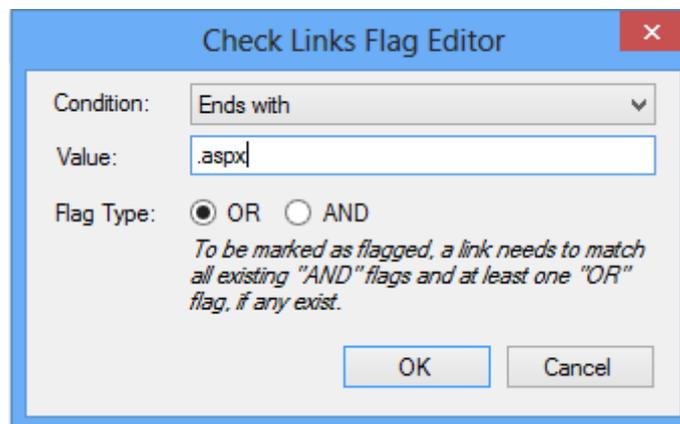
6. For **Flag Type**, choose how the condition is to be applied. The options are:

   ▪ **OR** - When multiple "OR" conditions are set, only one of them need to be present in the checked URL for it to be flagged. For example, if one "condition is "OR Ends with .aspx" and a second condition is "OR Ends with .docx" then the checked link will be flagged if it ends with either ".aspx" OR ".docx" file extensions.

   ▪ **AND** – When multiple "AND" conditions have been set, then ALL of these conditions must be met in order for the link to be flagged.

7. Once of the flag conditions have been set, click **[OK].**

   The conditions display in the window.
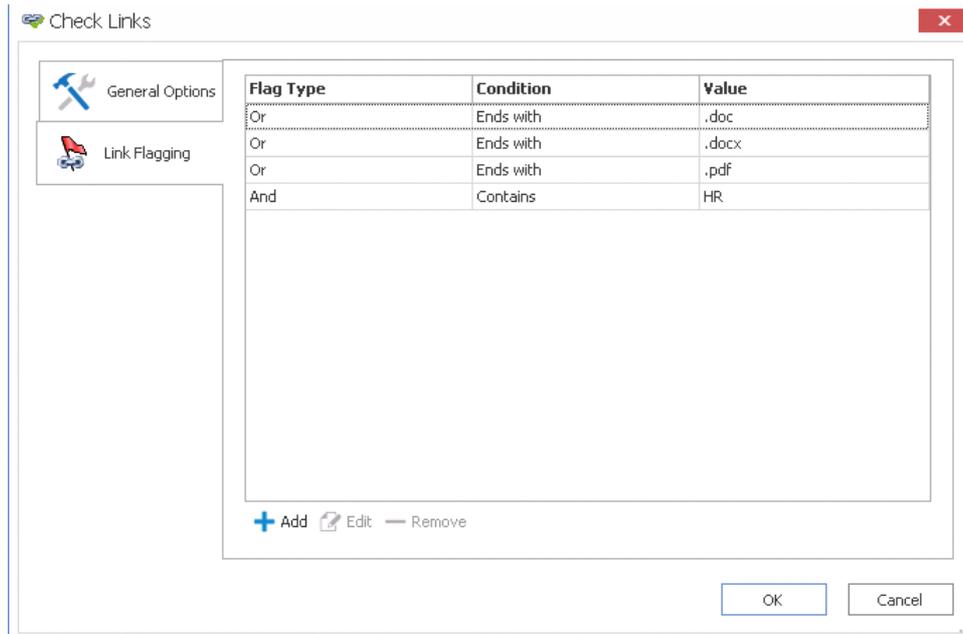
NOTE: You can also **Edit** and **Remove** previously created flags.

8. To start the Link Check action, click **[OK].**

   The Link Check will start and a status box will be displayed.

   The Log Files can be viewed (in progress or after the migration is finished) by clicking the **[Details>>]** button. After the action has completed a note will be displayed in the bottom left corner of the dialog stating the number of completions, as well as any warnings or errors that may have been encountered.

Once the check is complete, a dialog window will open giving users the option to **view the XML results**. Click **[Yes]** to review the XML log, or click **[No]** to close the dialog. The dialog window will also display the location of the generated XML from the Link Check.

Additionally, you can access the results log of the resultsd3de at a later date from the Job List section.

Viewing StoragePoint Details

Content Matrix can display the Quest® StoragePoint details for any document items that have been offloaded to StoragePoint.

To view StoragePoint details:

1. In Explorer View, navigate to a SharePoint Document Library that contains items that have been offloaded to StoragePoint.

2. Switch to the **Items View** tab.

3. Select an item, right-click and choose **StoragePoint Details**.

NOTE: The StoragePoint Details option will only be available in the menu if the selected items have been offloaded into StoragePoint. If the selected item has not been offloaded to StoragePoint the StoragePoint Details options will not be available. Only one item can be selected at a time.
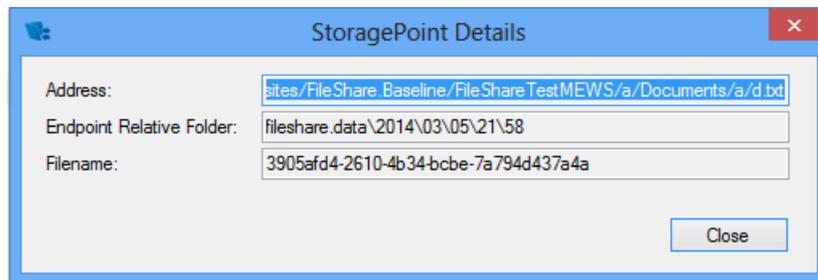
The **Storage Point Details** dialog provides the below information:

- **Address** - The web address for the specified item within SharePoint.

- **Endpoint Relative Folder** - The folder that has been configured as endpoint for the offloaded item (i.e. the location of the item in the offloaded storage space).

- **Filename** - The StoragePoint file name reference that is left behind in SharePoint after the item has been offloaded.

4. When finished, click **[Close]**.

How Content Matrix Handles Various SharePoint Components

Before configuring a migration, it is important to understand how Content Matrix migrates various SharePoint components so that you can plan appropriately. These include:

Team Sites to Modern Team Sites

SharePoint Sites to Communication Sites

Promotion of First Level Subsites to Site Collections and Association of Promoted Site Collections as Hub Sites

MySites

"Share With" Metadata and "Sharing Links" Access Permissions

Records Centers (to SharePoint Online using the Import Pipeline)

Master Pages

List Template Galleries

Content Types

Document Versions and Checked Out Files

Ghosted and Unghosted pages

Document Sets

Navigation

Classic Web Parts

Site Themes

Site Features

Managed Metadata

Users and Permissions

BCS and BDC Data

[OneNote Notebooks](#)

[Customized Form Pages](#)

[InfoPath Forms](#)

[SharePoint Workflows](#)

[Quest StoragePoint Content](#)

[Link Correction](#)

Team Site to Modern Team Site Migration

Content Matrix supports the migration of:

- a classic team site to a SharePoint 2019 or SharePoint Online modern team site

AND

- a modern team site from a SharePoint 2019 source to a SharePoint 2019 or SharePoint Online target, using the STS#3 (modern team site without Microsoft 365 groups) template.

If you upgraded from a version earlier than 9.2:

Because of the complexities involved with connecting to Microsoft 365 groups when migrating to SharePoint Online, as of version 9.2 a separate option to Paste as a Modern Team Site is no longer available. Instead:

- Modern team sites will automatically be loaded into the Console as part of the hierarchy without connecting to Microsoft 365 groups.

- You will need to [connect to the M365 groups](#) after the migration is completed.

  IMPORTANT: If you have upgraded from a version of Content Matrix that is earlier than 9.2 and have existing jobs that include the Paste as Modern Team Site action (including PowerShell jobs), you will no longer be able to run them.

Team Site Target Template Options When Migrating a Classic Team Site

By default, when you configure a migration from a classic Team site to SharePoint Online or SharePoint 2019, the option **Automatically upgrade Classic Team Sites (STS#0) to Modern Team Sites (STS#3)**, which is a modern team site with no Microsoft 365 groups, is enabled.

NOTE: For migrations to SharePoint Online, Content Matrix does not support connections to tenant-level groups at the target. You can, however, make these connections after completing the migration.
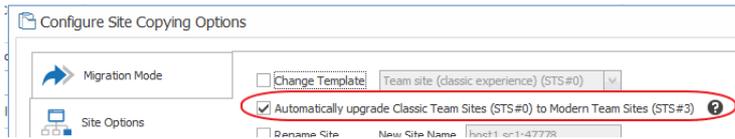
The table below describes how team site templates are applied to sites and subsites on the target, based on whether **Automatically upgrade Classic Team Sites (STS#0) to Modern Team Sites (STS#3)** is enabled.

If the Automatically Upgrade Classic Team Sites option is ...	And ...	Then ...
enabled	**Team site (classic experience) (STS#0)** is selected on the Configure Site Copying Options > Site Options tab.	the selected site collection/site and any child sites that use or are mapped to the Classic Team Site (STS#0) template will use the Modern Team Site without M365 Groups (STS#3) template on the target.
	a non-team site template is selected on the Configure Site Copying Options > Site Options tab.	• the selected site collection/site will use the non-team site template on the target AND • any child sites that either use or are mapped to the Classic Team Site (STS#0) template will use the Modern Team Sites without M365 Groups (STS#3) template on the target
disabled	**Team site (classic experience) (STS#0)** is selected on the Configure Site Copying Options > Site Options tab.	both the selected site collection/site and any child sites that either use or are mapped to the Classic Team Site (STS#0) template will use the Classic Team Site template on the target.
	the selected site collection/site uses a non-team site template	• the selected site collection/site will use the non-team site template on the target AND • any child sites that either use or are mapped to the Classic Team Site

If the Automatically Upgrade Classic Team Sites option is …	And …	Then …
		(STS#0) template will use the Classic Team Site template on the target.

Converting Classic Pages to Modern Pages After Migration

After migrating from a classic site to a modern site, you can use a solution provided by the PnP Community to convert classic pages to modern pages via the Content Matrix Console.

SharePoint Sites to Modern Communication Site Migration

Content Matrix supports the migration of classic Publishing sites (that is, site collections that use the BLANKINTERNETCONTAINER#0 template) to modern Communication sites However, there are limitations due to differences between classic and modern site designs. Refer to the Microsoft article Moving from publishing sites to communication sites for more information.

NOTE: Content Matrix can also migrate SharePoint 2019 Communication sites to SharePoint 2019 or SharePoint Online Communication sites. However, the following are *not* supported:

- Migration of the following objects:

  - user comments

  - workflows

  - features, such as Publishing, that cannot be activated in SharePoint Online

- Translation to a different language on the target.

Migrating a Publishing Site as a Site Collection

Using the **Paste Site Collection** option, Content Matrix can migrate a Publishing site from a SharePoint 2013, 2016 source to a SharePoint 2019 or SharePoint Online Communication site collection.

When configuring your migration, you can select the Communication site template from the Site Collection Options tab, although it is not selected by default.

NOTE: The Communications site template is not available for unsupported source/target combinations.

If the site collection you are migrating also has subsites, a dialog displays warning that Microsoft does not recommend having subsites under a Communications site. See "Migrating as a Subsite" below for a list of sites that can be migrated as subsites.

Migrating a Publishing Site as a Subsite

When migrating a SharePoint site as a subsite to a SharePoint Communication site collection (using the **Paste as Subsite**, **Paste All Subsites**, or **Paste All Site Content** option), a dialog displays warning that Microsoft does not recommend having subsites under a Communications site. However, Content Matrix will allow the migration of sites that use any of the following templates:

- Team site (no Microsoft 365 group)

- Team site (classic experience)

- Blog

- Project Site

- Records Center

- Document Center

- Basic Search Center

- Visio Process Repository

- SAP Workflow Site

Subsites using any other templates will be skipped.

Unsupported Objects

Because of differences between classic and modern site designs, even if applicable options are selected when Configuring a Migration, the following objects are not supported when migrating from a Publishing site to a Communications site and will be skipped:

Unsupported Lists and Libraries	Unsupported Features	Other Unsupported Objects

- **Publishing Lists\Libraries:**
  ▪ Content and Structure Reports
  ▪ Reusable Content
  ▪ Pages
  ▪ Images
- **Hidden Lists\Libraries:**
  ▪ DeviceChannels
  ▪ Cache Profiles
  ▪ Long Running Operation Status
	- **Site Collection Features:**
	  ▪ Project Web App Settings
	  ▪ Review
	  ▪ Cross Site Collection Publishing
	  ▪ SharePoint server publishing infrastructure
	- **Site Features:**
	  ▪ Announcement Tiles
	  ▪ Duet Enterprise reporting
		- **Pages:**
		  ▪ Classic Publishing pages
		  ▪ Wiki pages
		  ▪ Web Part pages
		- **Columns:**
		  ▪ All columns under the groups "Page Layout Columns" and "Publishing Columns"
		- **Web Parts:**
		  ▪ Classic web parts

Unsupported Lists and Libraries	Unsupported Features	Other Unsupported Objects
- Notification List - PersistedManagedNavigationListEA69B38CE5CE4F1199 - Quick Deploy Items - Suggested Content Browser Locations (Published Links) - Translation Packages - Translation Status - Variation Labels - Badges **Community Site Lists\Libraries:** - Site Pages - Site Assets - Discussion List - Community members - Categories - Abuse Reports	- Duet Enterprise SAP Workflow - Community Site feature - The following Community Site-dependent hidden features: - Discussion list - Membership list - Category list - Abuse Reports list - Site MailBox - SharePoint Server Publishing - Publishing Mobile (hidden feature)	- List Forms and List View web parts **Content Types:** - Publishing content types (under the groups "Page Layout Content Types" and "Publishing Content Types") - Community content types - Any custom content type whose parent is a Publishing or Community content type - Video content type **Workflows:** - Out-of-the-box workflows - SharePoint Designer 2010 style workflows **Navigation settings:** - Top Link Bar - Global Navigation structure NOTE: Quick Launch and the current navigation structure are migrated but will not be functional for any unsupported subsites, pages, and lists/libraries.

Disabled Configuration Options

When migrating from a Publishing site to a Communications Site, the following options are disabled on the **Configure Site Collection Copying Options - Site Collection Options** tab, as they are not supported:

- **Copy Master Page Gallery**
- **Copy List Template Gallery**
- **Copy Audit Settings**

Converting Classic Pages to Modern Pages After Migration

After migrating from a classic site to a modern site, you can use a solution provided by the PnP Community to convert classic pages to modern pages via the Content Matrix Console.

Promotion of First Level Subsites to Site Collections

If you are migrating to SharePoint Online using the Paste as Site Collection option (or the PowerShell Copy-MLSharePointSiteCollection command) you have the option to promote first level subsites to site collections on the Site Collection Options tab. You can also configure promoted site collections as hub sites.

> NOTES:
>
> - If a corresponding site collection does not exist on the target, a new site collection will be created. If a corresponding site collection already exists, the existing site collection will be updated.
>
> - If the source subsite has its own subsites, those subsites will be migrated as subsites of the promoted site collections on the target.

Prerequisites

The option to promote subsites is enabled only:

- if you are migrating from SharePoint on premises to SharePoint Online using a Microsoft 365 tenant connection on the target

- the source site contains at least one subsite

- the **Copy Child Sites recursively** option is selected

- the target template is **Team site (no Microsoft 365 group) (STS#3)** or **Communication site (SITEPAGEPUBLISHING#0)**

Mapping of Source and Target Templates

When a subsite is promoted, it is migrated to the appropriate modern template on the target.

Source Template	Mapped Target Template
Publishing/ Wiki	Communication (SITEPAGEPUBLISHING#0)
All other templates	Team site (no Microsoft 365 group) (STS#3)

Limitations

Some objects in migrated subsites, such as Lookup columns referring to the parent site and workflow/workflow associations from parent site, may not be migrated properly for the promoted site collection.

Association of Promoted Site Collections to a Hub Site

If you are migrating to SharePoint Online using the Paste as Site Collection option and have chosen to promote first level subsites to site collections, you also have to option to either:

- associate the promoted site collections on the target to an existing hub site

OR

- register a new hub site for the promoted site collections.

MySite Migration

The following are the supported source/target combinations for migrating MySites:

- Any source server with SharePoint 2007 or later (using the Web App or Farm connection types) to any supported target server (using the Web App or Farm connection types).

- Any source server with SharePoint 2007 or later (using the Web App or Farm connection types) to an Microsoft 365 Tenant environment.

This option is only available when Advanced Mode is enabled.

When migrating MySites, the **target side connection** must be a **Web App** or Farm connection type, using the **Local Object Model** or **Metalogix Extensions Web Service (MEWS)** connections for on premises installations of SharePoint. For Microsoft 365 target environments, the **Microsoft 365 Tenant** connection type must be used. This allows users to connect at a Site Collection level to the Microsoft 365 environment so they can run Site Collection migrations.

It is recommended that the Web App or Farm connection types be used on the source side as well. Other connection types can be used on the source, such as the Database connection. However, this will have some limitations. If these other connection types are used on the source, MySites can still be migrated to the target, but they will be migrated as Site Collections (not using the MySite template), and as a result, will not include some of the User Profile data and other data that the normal MySite migration will preserve.

When migrating SharePoint MySites, a Local OM or a Remote OM connection can be used. However, due to some User authentication changes that have been made beginning in SharePoint 2013 that inadvertently restrict the creation of Site Collections (MySites are a type of Site Collection), using the SharePoint OM remotely, Content Matrix needs to use a set of elevated permissions to create Site Collections. In order for these elevated permissions to be used, the migrating user account must explicitly (by name) have "Full Control" permissions on the Web Application that the Site Collection is being created on. A preliminary check will be made before elevation occurs to ensure the migrating user has enough permissions initially to be able to use the elevated Site Collection creation. Creating Site Collections with the Local OM connection type does not have this same restriction, but the same permissions are recommended in case elevated permissions are needed. Please see Connecting to SharePoint Online for more details on this connection types. For more information on this specific issue, please see SharePoint Site Collection Creation Issue.

Note that in order to view MySites when migrating to an Microsoft 365 Tenant environment, the Include Microsoft 365 tenant my site host connection check box must be enabled when the connection is created. The MySites are then displayed under their own top-level root node. For more information, please see Connecting to SharePoint Online.

Migrating MySites to a Target that Uses OneDrive

When migrating MySites to a target SharePoint environment that uses **OneDrive**, Content Matrix will use a slightly different method to migrate some of the content. Any documents on the source that are in the MySite **Shared Documents** or **Personal Documents** library will be migrated into a **Shared with Everyone** folder in OneDrive. This is done instead of migrating the documents into Document Libraries of the same name. As a result, this can cause some navigation copy issues because the **Shared** and **Personal** document libraries will not exist on the target, and because they do not exist, they cannot be added to the navigation.

Additionally, web parts that exist on landing pages in SharePoint 2007 or 2010 will not be migrated.

See also "Share With" Metadata Migration to SharePoint OnlineUsing the Import Pipeline.

IMPORTANT: If you are migrating to OneDrive on a SharePoint Online target, Owners, Members, and Visitors groups must be created on the target. If these groups are missing, an error will occur. See Error: 'The object is associated with property AssociatedMemberGroup.' in the Frequently Asked Questions section.

Required Permissions for Migrating MySites

Migrating MySites to a SharePoint on premises target requires slightly higher permissions than other copy actions. The basic permissions needed to migrate MySites are as follows:

- **Full Control** permissions are required on the target Web Application. This is because when migrating MySites, the migrating user will not necessarily have access to the newly created MySite, and without access to the new MySite, you would be unable to migrate any other general content into it without getting permission errors. If this account has Full Control on the web application that the MySite is being created on, then it would still be able to migrate content into the new MySite because it will still have access (without making the migrating account a Site Collection Administrator on the MySite).

- **Farm Administrator** permissions are required on the target SharePoint server to which the MySites will be migrated when migrating to a target that is using the **Local Object Model (OM)** connection.

  EXCEPTION: If the target connection is using the **Remote OM** connection through the use of the Metalogix Extensions Web Service, then the Farm Administrator permission is not needed.

- **Manage Profile permissions** are required on the User Profile application (in Share Services). This option is mainly required when migrating User Profiles, and to help create and manage Managed Metadata for the user profiles.

These basic permissions allow for the creation and migration of MySites (personal sites) on the target, use of personal features, management of user profiles, and management of permissions (these can all be accessed through the Shared Service Applications in Central Administration).

Migrating User Profiles with MySites

User Profiles can be migrated with the MySites, then later be converted into audiences. When migrating MySites, any custom User Profile properties will only be migrated if the following conditions are met:

- The User Profile property from the source has already been created on the target before migration.

- The target side User Profile property has the same property name as it did on the source.

- The target side User Profile property has the same property type as it did on the source.

When migrating User Profiles to an Microsoft 365 Tenant target, the following limitations apply:

- Any Quick Links on the source profile will not be migrated.

- Any Privacy settings in the profile settings will not be migrated.

- If a profile picture is set on the source profile, it will not be migrated.

"Share With" Metadata and "Sharing Links" Access Permissions Migration

"Share With" Metadata

When a SharePoint 2016 or 2019 Team Site or MySite is migrated to SharePoint Online and the Import Pipeline is used, documents that have been shared by a user will be visible in the OneDrive Shared by you tab of that user, as well as on the Shared with you tab of the user(s) with whom the document has been shared. Users' Access Request Settings are also copied for site collection and site level migrations.

NOTE: For Access Request settings, a user's email will be correct for the target as long as the email was provided and the user was mapped correctly on the source.

Additionally, if you are migrating to a newly created site collection in SharePoint Online, SharedWithUsers are added to sites and lists.

This functionality has been verified for a SharePoint 2016 and 2019 source:

- to migrate MySites to OneDrives using an **Object Model (OM)** source connection, either local or remote (through the Metalogix Extensions Web Service (MEW)).

AND

- to migrate Team Sites to Team Sites using one of the above source connection types, as well as **Database** connections.

Current Limitations

- For SharePoint 2016, the migration of Sharing Details is not supported.

- Because of functionality not currently supported by Microsoft, the following limitations apply:

  - Documents shared with an Active Directory Group or SharePoint Group are not visible in the Shared With Me tab after migration. Documents are only visible on this tab if they are shared with the user directly.

  - Documents are not visible under the Shared With Me tab after a Modern OneDrive site is returned to classic OneDrive mode.

  - The Shared Time shows as the migrated time rather than the actual document shared time.

"Sharing Links" Access Permissions

Sharing Links are not migrated to the target. However, permissions granted to files and folders via these links can be converted to direct permissions on the target if the following criteria are met:

- the source is SharePoint 2019

- the "People in your organization" option was used to share links

- on the Permissions Options tab, the option **Convert Sharing Links permissions to direct permissions** is checked.

  NOTE: This option is not available for SharePoint 2016 or earler.

Records Center to SharePoint Online Migration Using the Import Pipeline

A Records Center is an Enterprise SharePoint site with a number of specialized components and settings. A Records Center can be migrated either to a Records Center on the target, or to a Classic Team Site with Record Center features activated.

IMPORTANT: Currently, Content Matrix cannot migrate from a *source* Team Site to a Records Center on the target using Azure.

> This functionality has been verified for SharePoint 2010 and 2013 source environments using an **Object Model (OM)** source connection, either local or remote (through the Metalogix Extensions Web Service (MEWS).

When migrating a Records Center to SharePoint Online using the Import Pipeline, Content Matrix preserves the following on the target:

- Content Organizer Settings

- Site and list level Record Declaration Settings

- The following library and folder level Content type-based Based Retention Policy actions:

  - Move to Recycle Bin

  - Remove all previous versions

  - Permanently Delete

  - Skip to Next Stage

- Record, hold, exemption status and retention stages

  NOTE: You cannot preform an incremental migration for items that have already been declared records or placed on hold on the target.

Current Limitations

Currently, Content Matrix does *not* migrate the following to SharePoint Online using the Import Pipeline:

- Complex retention actions and custom formulas (for example, Send to Another Location, custom formulas, start a workflow).

- Retention formulas/stages defined on custom list items

- Record, hold, exemption status and retention stages for custom lists or any list with custom list as base type

- Metadata for items that must be migrated via CSOM (such as Aspx files, InfoPath forms, and large files).

In addition, you cannot currently preform an incremental migration for items that have already been declared records or placed on hold on the target.

Master Page Migration

The **Master Pages Gallery** is basically a Document Library at the root of a site.

Content Matrix can work with Master Pages at two levels:

- **At the Site Collection level**, where it can copy master pages and page layouts.

- **At the Site level**, where it can preserve the master page association.

When a SharePoint site is migrated, Content Matrix will run a check to see if a master page with the same name as the source site's master page exists. There are then two main scenarios:

- **Migrating from an older version of SharePoint to a newer version of SharePoint** - Because master pages are quite different between different versions of SharePoint, when master pages are migrated from an older version of SharePoint to a newer version, a suffix will be appended to the end of the master page name based on the source UI version. For example, if you are migrating from MOSS 2007 to a later version, the master pages will have "_2007" appended to the end of the master page name. If migrating from SharePoint 2010 to a later version, the suffix would be "_2010" instead.

  When a SharePoint site is migrated, Content Matrix will look for the source master page by name. If the master page name is found, Content Matrix will then do another check to ensure that the correct UI version is being used on the target site collection. If this UI version also matches, then the master page will be used for the migrating site. If the UI version is not the same, then the current default master page will be used instead.

  If the master page cannot be found by name, then Content Matrix will check to see if there is another master page that has the same name plus the appended UI version suffix that would represent the source. For example, if migrating from SharePoint 2013 to SharePoint 2016 and the master page is named "AccountMaster3," then Content Matrix will look for a master page with the same "AccountMaster3" name. If that fails it will then look for a master page with the same name

plus "_2013" appended to the end, like "AccountMaster3_2013." If this is found, then the same UI version check will be run that is used for the exact same master page name, and the same results will be given.

If no master page with the same name is found, either the direct same name, or the name with the UI version appended to the end, then the current default master page will be used instead.

> NOTE: If the master page belongs to a UI version that is not supported by the target SharePoint instance, the master page will be skipped.

- **Migrating between similar versions of SharePoint** - For migrations that are run between the same basic UI version of SharePoint, such as SharePoint 2016 to SharePoint 2019 and SharePoint 2019 to SharePoint 2019, Content Matrix will look for a master page with exactly the same name as the master page on the source. If one is found, then Content Matrix will use that master page. If no master page with the same name is found, then the current default master page will be used instead.

List Template Gallery Migration

Content Matrix lets you copy the List Template Gallery from a source SharePoint Site Collection to a target SharePoint Site Collection.

> In order for the List Template gallery to be migrated, you must have an **Object Model (OM) connection** (through either a Local or Remote Metalogix Extensions Web Service (MEWS)) on both the source and target environments for SharePoint .

The List Template Gallery can be migrated as part of a Site Collection copy (when copy a Site Collection and pasting as a Site Collection), or it can be copied as a separate action. Any list templates that are copied from the source will overwrite any list templates on the target that have the same name. If the file names are different, then the list templates will be added to the existing List Template Gallery.

For example, if there are two templates on the target named "Template A" and "Template B", and these are migrated to the target where there are also two templates, which are named "Template B" and "Template C" then only "Template B" will be over written. In this case "Template A" will be copied to the target, and since there is no existing file with the same name it will be added without overwriting any other files. Since there was no file with the "Template C" name that was migrated to the target, the "Template C" file will also exist (as is) on the target. However, since both the source and the target have a file with the "Template B" name, the "Template B" file on the target will be overwritten by the one from the source. The end result is that three files will now exist on the target: Template A, Template B (which is a copy of the source version of the file), and Template C.

Content Types Migration

Content Matrix can migrate content types at the site and list level. Copying of content types is done as part of a normal copy, or they can be copied separately (at the site level) using the context (right-click) menu.

When Content Matrix copies over content types at the site level they will be copied to the target site with the same name and fields that they had on the source. All content types that are available within the scope of the migration will be copied. In other words, all content types within the selected source site, as well as all the content types that exist within any sub-sites, will be copied. Content Matrix will also copy any content types that the source site inherits from its parent site. The copying of these inherited content types is done in order to maintain any dependencies that may exist.

For example, let's look at a scenario where you have a site (Site 1) that has a parent site (Site 0) and two child sites at the same level (Site 2-a and Site 2-b), and all of these sites have content types. In this example, if you select Site 1 and copy content types, when pasted Content Matrix will copy over all the content types from Site 1, Site 2-a, and Site 2-b, and it will also copy over all of the content types from Site 0, in case there are any dependencies. If you select Site 2-a to copy from, then it will only copy over the content types from Site 2-a, Site 1, and Site 0 (again because of the inheritance). But the content types from Site 2-b would not be copied since it is outside the scope of the copy, and there is no inheritance. If Site 0 is selected, then Content Matrix would copy over all the content types for all four sites.

If you are copying at the list level and the list uses any content types that are not available on the target site, Content Matrix will automatically create them on the site during the migration and apply them to the list. For content types that are specific to the list (i.e., they were created using an STP template), the content types will be migrated along with the list.

Please see the following Microsoft article for more information on SharePoint content types and content type inheritance: https://support.office.com/en-us/article/use-content-types-to-manage-content-consistently-on-a-site-48512bcb-6527-480b-b096-c03b7ec1d978

Out of the Box (OOB) Content Types on the Target

By default, Content Matrix will preserve the following OOB content types if they exist on a target list, even if they did not exist on the source.

Content Type	ID
System	0x
Item	0x01
Document	0x0101
Event	0x0102
Issue	0x0103
Announcement	0x0104
Link	0x0105

Content Type	ID
Contact	0x0106
Message	0x0107
Task	0x0108
Workflow History	0x0109
Post	0x0110
Comment	0x0111
East Asia Contact	0x0116
Folder	0x0120

NOTE: You have the option of overriding the default behavior so that OOB content types are removed from the target if they do not exist on the source. To do this, change the value of the key `PreserveOOBContentTypesForList` in the configuration variable file EnvironmentSettings.xml from *true* to *false*.

Document Version and Checked Out File Limitations

At least one Approved version of a folder or file (that is, version 1.0 at a minimum) must have been published for it to be migrated. If only a Pending ("draft") version of a folder or file exists on the source, it will not be migrated to the target. As long as at least one Approved version exists, subsequent Pending versions will be migrated.

If a file on the source is currently checked out, the last checked in copy of the file will be migrated.

If no checked in copy exists (which may be the case if the list's Versioning setting **Require documents to be checked out before they can be edited?** is set to **Yes**, then a file is uploaded but is never checked in), the file will not migrate.

Ghosted and Un-Ghosted Page Migration

Content Matrix can migrate the following types of pages:

- **Ghosted page** - A page whose contents are not stored in the content database but are read from a site definition file; a page that has not been customized.

  NOTE: When ghosted pages are migrated they will remain ghosted.

- **Un-ghosted page** - A page that has been modified from the site definition file, and whose contents are stored in the content database. (These are also known as "customized" pages in Microsoft Office SharePoint Services (MOSS) 2007).

  NOTES:

  - If un-ghosted pages are migrated between *the same* version of SharePoint, un-ghosted pages can have their customizations preserved, and be migrated as un-ghosted pages.

  - If un-ghosted pages are migrated between *different* versions of SharePoint, Content Matrix is unable to retain the customizations needed for un-ghosted pages, and will reattach these pages to their page layouts. Once these pages have become ghosted, manual steps would have to be taken in order for them to become un-ghosted again.

Converting Un-Ghosted Pages into Ghosted Pages in a Migration

When migrating between the same version of SharePoint, the **Reattach Publishing Page Layouts** option on the Configure Copy Options – List Content Options tab allows you to convert un-ghosted pages back into ghosted pages, When selected, un-ghosted pages will be reattached to their page layout, and become ghosted again.

NOTE: When you copy un-ghosted pages between different version of SharePoint, this option is disabled because the conversion is done automatically.

Content Matrix is unable to retain the customizations needed for un-ghosted pages, and will reattach these pages to their page layouts. Once these pages have become ghosted, manual steps would have to be taken in order for them to become un-ghosted again.

Document Set Migration

When migrating from SharePoint 2010 or later, as long as the Copy List Items and Documents option is selected, Content Matrix will automatically copy existing Document Sets. You also have the option of copying snapshots (versions) of both the Document Sets themselves and the files stored within them.

Note that you can also configure copying options to apply new Document Sets to libraries, lists, folders, and documents as part of a migration.

When a **CSOM** target connection is used, Document Set version history migration does not preserve associated **Managed Metadata, users and groups**, or **lookup fields**. These limitations do not apply, however, when an **Object Model** target connection is used.

Navigation Migration

Content Matrix can copy the navigation settings of a site as a part of a site migration or as a separate action. This includes the quick launch navigation (left-hand navigation) and the global navigation (top bar navigation). Navigation migration can be performed at the site, site collection, and MySite levels.

Content Matrix can migrate the navigation settings, and node structure for the global and quick launch navigation. This includes preservation of any navigation that has been modified on the source, or doesn't inherit navigation from its parent site. The main restriction on navigation copying is that the site structure on the target side must be the same as the source side, in order for everything to be preserved. In cases where there has been some restructuring or if some of the endpoints for the navigation have not been migrated, these navigation links will not be created on the target, because there is nothing for the navigation to add (point at).

There are some basic limitations when migrating navigation:

- To be correctly migrated, the navigation content must exist on the target SharePoint side, in the same structure as it exists on the source. This means that in order for a site, list, or library's navigation listings to be migrated correctly to the target, the site, list, or library the navigation is pointing to must exist on the target SharePoint server. If not, the navigation item will not be migrated.

- When migrating navigation as a part of a site copy, Link Correction will be enabled by default. Specifically, the Enable Link Correction option will be enabled and grayed out, forcing link correction to be run. This is because Link Correction helps Content Matrix correct and update any of the navigation links to point to the new correct target location. Without Link Correction being checked the navigation would not be able to correct the navigation links with the new data, which would result in the navigation failing to copy, or for the navigation to copy incorrectly.

- When migrating from a SharePoint 2013 source, if the Managed Navigation option is selected for either the global or quick launch navigation settings, Content Matrix will migrate it as a Structural Navigation setting. This should still produce results that are similar to the source, but it will be listed under the Structural Navigation setting instead.

Classic Web Parts Migration

Content Matrix can migrate web parts for:

- landing pages (default.aspx pages)

- web part pages

- publishing content pages, and

- list view pages.

Web parts can be copied as part of a normal migration copy or as a separate action.

NOTES:

- Currently, If you are using Microsoft 365 OAuth with MFA Authentication, classic web parts can be migrated only if you are using the Import Pipeline.

- Modern web parts are copied as part of page metadata.

Essentially, Content Matrix reads the XML information of the web parts, processes the data, and moves it over to the target side, where the XML is then written out on the target location. Content Matrix will automatically perform link correction on the data within the web part (the data for the settings), as a part of the migration.

In order for any custom or third party web parts to be properly migrated, these web parts must be manually installed or created on the target server before migration. Content Matrix does not migrate the actual code of the web part, it only migrates the data within the web part. In order for an actual migration, the desired web part must first exist on the target SharePoint instance, otherwise the migration will fail.

Content Matrix can preserve web part views, however, there are a few known issues with this. In the case of list view web parts, you need to make sure that the list being referenced has already been migrated to the target to ensure that the web part, and it's view, will migrate properly. If the list being referenced in the web part is within the scope of the migration, then Content Matrix will make sure the list has been copied first, and will then copy web parts.

There is an additional web part view limitation when using the CSOM or Tenant connection adapter on the target, where Content Matrix is unable to set the type of a web part view. The most common manifestation of this is to have a web part lose its calendar appearance during migration. However, the other properties of that view will still be preserved. The resulting outcome will be that the content within the web part will be correct, but it will not look the same as the source because the view type is different. This can be corrected by manually, after migration, by changing the web part view to match the same web part view on the source.

NOTE: In some cases the web part view type may migrate correctly. This can only occur if the web part is using the same view type that it was using when it was first created. However, this behavior is not reliable.

There is also a web part limitation on migrating web part connections. Web part connections are connections that exist between web parts (one web part pointing to another web part, etc.). Content Matrix is only able to migrate these web part connections if there is an OM connection type (through the use of the Local or Metalogix Extensions Web Service connections) on both the source and target SharePoint environments. Other connection types are unable to access this setting, meaning that if any other connection type is used on either the source or target, the web part connection setting cannot be preserved. This also means that this setting cannot be preserved when migrating to M365 environments.

Using the Import Pipeline to Migrate Classic Web Parts

You can use the Import Pipeline to migrate the classic web parts identified in the following table.

NOTE: Classic web parts not supported by the Import Pipeline are migrated using CSOM. However, if Web Part pages or Wiki pages contain non-supported web parts, these web parts will not be migrated.

Category	Web Part Name
Blog	Blog Archive
	Blog notification
	Blog tools

Category	Web Part Name
Community	Join
	Tools (community admin)
	About this community
	My membership
	Whats happening
Content Rollup	Project Summary
	Relevant Documents
	Site Aggregator
	Sites in category
	Table of contents
	Timeline
	XML viewer
	Content By Query
	RSS Viewer
	Summary Link(s)
List	Document library
	List View
Media and Content	Page Viewer
	Picture Library SlideShow
	Content Editor
	Getting Started
	Image Viewer
	Script Editor

Category	Web Part Name
	SilverLight web part
Social Collaboration	Announcement
	Analytics Hash Tag
	Contact Details
	Micro Feed
	Note Board
	Organization Browser
	Site Feed
	Site Users
	User Tasks
XSLT	XSlt List View

NOTES:

- The same limitations with web part views and connections that apply to CSOM connections also apply when using the Import Pipeline.

- Some web parts require 'Allow Custom Script' setting enabled for the target tenant. If this is not set at least 24 hours before migration, these web parts will not be migrated. Refer to the Microsoft article Allow or prevent custom script for details on enabling this feature.

- Closed web parts on the source will be migrated as closed on the target.

Site Theme Preservation

Preserving themes for a site requires Content Matrix to use an **Object Model (OM)** connection, either local or remote (using the Metalogix Extensions Web Service (MEWS)) on the target side.

When migrating to/from SharePoint 2013 or later (including SharePoint Online), Content Matrix will migrate some additional required components when preserving themes. In these versions there is a hidden list called "Composed Looks" that contains some of the Theme information, and this list also references the MasterPage Gallery for additional information. Content Matrix will also migrate the

corresponding items from the "Composed Looks" and MasterPage Gallery. This will be done for each theme that is copied, so if only the current theme is copied, only the related item from the "Composed Looks" list and the related MasterPage Gallery item will be copied as well. If all themes are copied, then all items in the "Composed Looks" list and MasterPage Gallery will be copied.

Site Feature Migration

Content Matrix can copy over site features and activate them as a part of a site level migration. Content Matrix does not actually copy over the feature itself, it only adds the feature to the target site and activates it.

In order for the feature to be added to the target site it must first be manually installed and available on the target server. If the features from the source do not exist on the target, the migration of features will fail, but the remaining content will continue to copy over.

Managed Metadata Migration

Content Matrix can copy Managed Metadata values for items and copy and map term stores from a SharePoint 2010 or later environment into a target SharePoint environment.

Managed Metadata term stores consist of the following Managed Metadata: term groups, term sets, and terms. Term stores cannot be created by Content Matrix, which means that the target side term store must be manually created before any content is migrated. After a term store is created on the target, all the Managed Metadata and term hierarchy structure from the source can be migrated.

You can migrate Managed Metadata using any of the following connection types:

- **Object Model (OM) Connection** - This is either a Local or Remote (Extensions Web Service) connection type and can be used for SharePoint on premises source/target environments.

  NOTE: You can also use either of these connections to migrate managed metatada using GUID Mappings, which may significantly improve performance over choosing to Resolve by Name and Hierarchy, which requires Content Matrix to crawl through the entire term store.

- **Microsoft 365 Tenant Connection** - This is a server level target connection to an Microsoft 365 Tenant environment.

- **Client Side Object Model (CSOM) connections** This connection type can only be used for a SharePoint Online target.

The Managed Metadata (or taxonomy) options are available when migrating from SharePoint 2010 Server or later and can be selected at all migration levels (site collection, site, list, and item).

NOTE: For these options to function properly the term stores must be created on the target before migration, which will then allow for the migration (and mapping) of the terms, and the migration of data using these terms.

The TaxonomyMigrator utility, which is run outside of Content Matrix, can also be used to migrate term groups and term sets. The utility also creates mapping files, which can be imported and used in future migrations that use the Content Matrix Console. The utility, along with instructions, is included in the product download zip file. Mappings can then be imported and migrated via the Content Matrix Console.

Prerequisites for Migrating Managed Metadata:

You can migrate Managed Metadata only if all of the following conditions are met:

- The migrating account has the following permissions for the **Term Store** that will be used:

  - **Full Access to Term Store** and **Term Store Administrator** for the Managed Metadata Service being used on the target.

    NOTE: It is recommended that the same permissions be set on the source, although Read permissions may be sufficient, depending on your environment). If you encounter the error *The Managed Metadata Service is inaccessible because the current web application has not been granted permissions to access it*, it may also be necessary to add the account that the App Pool user is running under in order to have permissions.

  - When migrating at the site collection level, or when migrating the Term Store explicitly, it is highly recommended that you map term stores before migration to ensure that the correct term store is being used.

    NOTE: A 1:1 relationship must exist between Source/Target term store mappings. That is, a term store from the source can only be mapped to one term store on the target, and the same target term store cannot be mapped to more than one source term store.

- You are migrating using the **Full Copy** mode. (These options are not currently available when running an Incremental copy.)

- When using the **Resolve managed metadata by name and hierarchy** option, make sure that the default storage location for column specific term sets option is enabled in the target SharePoint environment. See the following TechNet article for more information for SharePoint 2013/2016.

Copying Managed Metadata Before Migrating Content

It is a recommended best practice that you copy Managed Metadata to the target before migrating content. You can copy the global Managed Metadata term store, and If a site collection uses Local term sets, site collection-level Managed Metadata groups.

NOTE: For a more robust solution for copying global Managed Metadata before migrating content (using GUID Mappings), it is recommended that you use the TaxonomyMapping utility instead.

You can also use the procedure below to fix errors that may occur when Managed Metadata has been copied (using GUID Mappings) as part of a content migration. See the Quest Support Knowledge Base article "Certain managed metadata term guids not found" message (263211).

To copy Managed Metadata before migrating content:

1. Use the information in the following table to determine the appropriate action to take.

If you want to copy ...	Then ...
global Managed Metadata term stores	A. Select the top-level source node. B. Right-click and choose **Copy Farm Managed Metadata**. C. Select the top-level target node. D. Right-click and choose **Paste Managed Metadata Term Stores**.
local Managed Metadata groups	A. Select the source site collection. B. Right-click and choose **Copy Site**. C. Select the target site collection. D. Right-click and choose **Paste Site Object > Managed Metadata Local Sites Collection Group**.

2. Use the information in the table below to determine the appropriate action to take.

If you want to ...	Then ...
use GUID mappings	In the Configure Managed Metadata Options > Managed Metadata Options tab, ensure that: • **Resolve managed metadata by name and hierarchy** is NOT selected AND • **Map term stores for migration** is selected.
NOT use GUID mappings	In the Configure Managed Metadata Options > Managed Metadata Options tab, ensure that: • **Resolve managed metadata by name and hierarchy** is selected 　NOTE: This option allows Content Matrix to check both the source and target environments to find any existing Managed Metadata term structure and then migrate a copy of the source term structure over to the target. AND • **Map term stores for migration** is selected.

3. If the SharePoint Enterprise Metadata and Keywords Settings option is enabled on the source and you do not want to migrate the Keywords term set, check the **Skip Keyword term set migration** box.

Now you can save or run the job.

Users and Permissions Migration

Content Matrix can migrate SharePoint permissions. Permission migration is broken down into two pieces: permission levels, and user/group permissions. This section will review how to migrate permissions for users/groups. Content Matrix can migrate site, list and item level permissions from one SharePoint instance to another.

There are two methods of migrating permissions. The first method is to copy permissions as a part of a migration action by selecting them in the Copy Options dialog, and the second method is to copy them to a target node using the context (right-click) menu as a separate action.

When talking about permissions in SharePoint it is important to keep in mind that there are three different aspects of permissions to be considered when doing a migration. They are as follows:

• **Roles** - These are also known as permission levels, and are a collection of rights that can be assigned. In SharePoint, it is possible to create custom permission levels (or custom roles). Content can migrate any custom Roles.

• **Securable Objects** - These are basically permissions or rights that can be assigned to an object in SharePoint. Only users or groups that have the same level of permissions or higher can access the

content holding these permissions. Content Matrix can migrate permissions on securable objects at the SharePoint site, list, folder, and item levels.

- **Principals** - These are permission roles that are assigned to a user or group. In order for a user or group to have access to a secured object, they would need to have the same or higher permission rights as the permissions on the object. Users can also have access to a secured object if they are a part of a group that has access through its assigned permission level.

When permissions are migrated, an algorithm is used to find the best matching permission level (role) on the target, as compared to the source. For example, if a permissions level exists on a source SharePoint environment, and permissions are migrated to the target, Content Matrix will look on the target for the closest matching role. Whatever the closest permission level is (by included permissions) will be the permission level that is used on the target. In the case that permission levels (roles) are also migrated, these migrated permission levels will be used, because these created roles will have the closest matching permissions when compared to the existing permissions on the target. If permission levels are not copied, the closest matching permission level will be used instead.

NOTE : Whenever Content Matrix copies content, it will migrate the user groups that are associated with the migrating content, provided they have not already been copied to the target server.

Limitation when Migrating Modified Permissions Levels

If you modify a built-in permissions level on the source and you are migrating permissions to a *subsite* using a CSOM connection on the target, these modifications will not be reflected on the target site and the following message will be logged:

You cannot customize permission levels in a web site with inherited permission levels.

This issue will *not* occur:

- using a local or remote Object Model (OM) target connection.

OR

- when the target is a site collection, regardless of the connection type.

Migrating Access Request Settings

Access Request Settings is an option within a site's permissions that allows SharePoint to specify a specific user's (usually the site administrator's) email and/or contact information. This happens when another user is requesting authorization to access that site, and is done through a link on the site in question. When enabling this checkbox, you should take into account the following considerations:

- This setting is only supported when performing the following actions: **Paste Site Collection**, **Paste Site as Subsite**, and **Paste Site Content > All Site Content**. This option is not supported for any other migration actions.

- **Allow access requests** must be enabled in the Access Requests Settings options on the target.

- In order to manage email triggers, the following flags have been added to the product's ApplicationSettings.xml file: **EnableAccessRequestItemsNotifications** (set to 'False' by default) and

NotificationEmailAddress (set to 'CM@CM.CM' by default). The following table describes what flag values to set to achieve the desired outcome:

Desired Outcome	EnableAccessRequestItemsNotifications setting	NotificationEmailAddress setting
An email is to be sent to the user whose email is specified in the Access Request Settings options on the target.	True	Any valid or invalid email address.
An email is to be sent to a different email address than the one specified in the Access Request Settings options on the target.	False	The email address of the intended recipient.
No notification emails are to be sent.	False	Any invalid email address (CM@CM.CM by default).

BCS/BDC Data Migration

Content Matrix can migrate content that is using Business Data Catalog (BDC) data or Business Connectivity Services (BCS) data. Both BDC and BCS data are connections to Line-Of-Business (LOB) content that is external to SharePoint. Content Matrix does not migrate this external data itself, but migrates the references to it that exist within SharePoint.

BDC data connections are used in SharePoint 2007 (only in MOSS, WSS 3.0 does not support BDC) and are generally read only connections. BCS data connections are used in SharePoint 2010 and later and are generally read/write connections. For a more basic description of what BDC and BCS are, please see the following MSDN articles:

For SharePoint 2010

For SharePoint 2013 and later

Prerequisites for Migrating BCS and BDC Data

In order for BDC or BCS data to be properly migrated:

- the Definition for the external data must be created on the target before migration.

- The name of the external content type on the target must match the external content type from the source, and there should be only one external content type with this name on the target (in SharePoint 2010 and later there can be multiple external content types with the same name, but with a different name space).

- The appropriate account (depending on the connection type used), must have access to the external system:

  - For the **Local OM (Object Model)** connection, the **migrating user account**

  - For all other connection types, the **application pool user account**

- The **Business Data Connectivity Service** must be enabled and started on the target server before migration. This can only be done through a manual process, since the external data cannot be connected to or modified by Content Matrix.

  This definition can be imported from SharePoint 2007, or it can be manually moved from SharePoint 2010 and later.

Types of BDC and BCS Data

There are three basic types of BDC and BCS data connections that exist in SharePoint, and all three can be migrated between on premises versions with Content Matrix, as described in the following table.

Data Type	Description
External Lists (SharePoint 2010 and later)	In Content Matrix, BCS lists will appear as any other SharePoint list (listed under the SharePoint site), but will have a slightly different icon, as seen in the below image. Since this data is read from the external system, the available actions on its Explorer View node are limited. The Items View tab can be selected to view the items within the external list. The items in the External list will also have a slightly different icon, as well as a BDC Identity column to give the item ID within the external data. This ID is also an encoded reference

Data Type	Description
	in the external system. In the case of an external Database (DB) connection, this ID will contain a primary key value. NOTE: The Items View tab is not available for the DB connection.
BDC/BCS Web Parts	These are web parts within SharePoint that are connected to the external BDC or BCS data. Content Matrix will migrate these web parts the same as any other web parts, provided that the web part itself has been installed, and the definition has been created on the target before migration. Once the web part has been migrated it will be reconnected to the BDC or BCS data. EXCEPTION: Any web parts that have "web part connections" (which are connections between two web parts) will not have connections preserved in a migration.
External Columns	These are columns that have been added to lists and libraries in SharePoint. These columns contain BDC or BCS data that comes from the external connection (from the external content type), and this data has been associated with items in the lists. These columns will automatically be added to the target SharePoint list and libraries when they are migrated, so long as the definitions have been created on the target before migration

OneNote Notebooks Migration

The migration of SharePoint OneNote Notebooks relies on the Site Notebook feature being activated. This topic describes the basic steps for migration and lists some of the possible outcomes of a migration. This will allow you to have a better idea of any possible hurtles that might be encountered when migrating OneNote Notebooks.

Prerequisites and Requirements for Migrating OneNote Notebooks

In order to migrate OneNote Notebooks:

- On both the source and target, the Site Notebook feature must be activated.

   NOTES:

   - For SharePoint Online, the Site Notebook feature is activated by default.

   - For SharePoint on premises, the Office Web Application Server must be deployed before the feature can be activated.

- The action must be a Full migrations (i.e. with Overwrite settings enabled).

NOTE: Incremental migrations are not supported.

- The **Copy Subfolders recursively** options must be checked in the List Content Options.

   NOTE: If migrating a site, It is recommended that you also select the **Copy Site Features** option.

Overview of OneNote Migration Process

When running a migration of SharePoint OneNote Notebooks, Content Matrix will make the following checks:

A. First Content Matrix will check the target site (if it already exists) to ensure that the Site Notebook feature has been activated. If the target site does not already exist, it will check the parent site, and then will create the new target site and will try to activate the feature on the new site.

   NOTE: If you initiated a list-, folder-, or item-level migration and the feature is not already activated, then Notebooks will not be migrated.

B. Next, Content Matrix will check the target for a document library that corresponds to the library on the source where the Notebooks are kept. (This library is frequently called "Site Assets," but may be any document library.) If the library does not already exist, Content Matrix will create it. Content Matrix will also create a <Site Name> Notebook folder if one exists on the source but not on the target.

   NOTES:

   - If a <Site Name> Notebook folder exists on both the source and the target, the folder on the target will be overwritten.

   - If the migration is performed on the root level, the target is SharePoint Online, and the Team Site template has been activated, a "Team Site Notebook" will be created in Site Asset Library instead of "<Site Name> Notebook".

Limitation on Migrating OneNote Navigation

While links to OneNote Notebooks will be copied as part of a full or navigation-only migration, the copying of OneNote navigation is *not* supported when migrating from SharePoint Online to SharePoint on premises.

Customized Form Pages Migration

It is possible to migrate your SharePoint Designer (SPD) customized Form pages when migrating a SharePoint list, library, site, or Site Collection.

> Customized form pages cannot be migrated when a **database (DB)** connection type is used on the source.

When migrating between the same versions of SharePoint, Content Matrix will copy the customized Form page to the target environment, and all customizations will be preserved.

If migrating between two different versions of Content Matrix will only migrate the contents of the **Content Area - PlaceHolderMain** on the Forms page. This is because not all of the file content is compatible between SharePoint versions. Each Forms page only has one **Content Area**, so Content Matrix will search the page for the **Content Area** tag, and will migrate the contents of "**PlaceHolderMain**" to the target.

The **Content Areas** are marked with the tag:

<asp:Content ID="Content7" ContentPlaceHolderId="PlaceHolderMain" runat="server">

> NOTE: Depending on the Form page customizations in your source environment, the Content Areas tags may appear different from the tag listed above.

If content is found under the tags in the content area, then Content Matrix will move that data to the same section of the content area on the target SharePoint Form page. Only the content of these tags are migrated to the target, instead of migrating the actual page itself. If any of the customizations actually block Content Matrix from finding these tags on the source page, then the contents will not be migrated because Content Matrix will not be able to find anything to migrate (but the web parts will still be migrated). In fact, when the **Copy Customized For Pages** option is selected, Content Matrix will automatically select the **Copy Web parts on Form Pages** check-box option (under the Classic Web Part Options tab) because web parts must be copied if migrating Form page customizations.

InfoPath Forms Migration

InfoPath forms can be migrated through the same process as migrating a SharePoint list.

> **IMPORTANT:** InfoPath forms can only be migrated to the *Enterprise* edition of SharePoint 2019.

> The **Database (DB)** connection types cannot be used to migrate InfoPath Forms because these types of connections cannot fully access the source and target metadata.

> NOTE: Currently, if [Microsoft 365 OAuth with MFA Authentication](#) is used, Content Type InfoPath forms will not be migrated, and browser enabled InfoPath form templates will not be browser-activated at the target.

Criteria for Link Correction

When migrating **InfoPath** forms, Content Matrix will automatically try to run link correction, provided the **Enable Link Correction** option in the **General Options** tab is enabled, on any items that meet the below criteria:

- If the **BaseTemplate** for the list is a **FormLibrary**.

- If the item contains ".XML" in its **FileName** field.

  NOTE: If an XML file is manually uploaded to a forms library it will undergo this [link correction process](link) as well. However, since these XML files will not actually have the necessary InfoPath form links to correct, no links will be corrected for the file. No logging will occur for the link correction in these types of files.

If the item does not meet both of these requirements, then the link correction process will not try to correct the link data for **InfoPath** forms.

If the **Verbose** logging option under the **General Options** tab is not enabled, then this link correction will not be reported in the migration logs. However, if the **Verbose** option is enabled, then any successfully corrected links in the **InfoPath** forms will be reported in the migration logs.

  NOTE: A mandatory **InfoPath Item Content Link Corrector** transformer for this **InfoPath** link correction ability can be found in the **Transformations** tab, under the SharePoint Items transformer definition.

SharePoint Workflow Migration

Before continuing into the SharePoint workflow migration process, it is a good idea to have a better understanding of what each of these workflow pieces are.

- A **workflow association** contains all the data necessary to run the workflow at a given level (i.e. all the variables). For example, they contain all the parameters for a workflow Instance, default values, a list of steps that need to be taken, and other tasks (such as sending email to specified users). Workflow associations can be present in the following:

  - In SharePoint 2007, they can be found in lists, libraries, and content types.

  - In SharePoint 2010, they can be found in sites and site collections.

  - SPD 2010 platform workflow associations can be found in sites and site collections, and SPD 2010 platform and Out-of-Box workflow associations can be found in lists and content types.

  - SPD 2013 platform workflow associations can be found in sites, site collections, and lists.

  Only the most recent version of the workflow associations will be migrated.

- Content Matrix can also migrate the **workflow template**, so long as the template is defined locally on the source SharePoint server (and is in a hidden list called "Workflows") and is not defined at the server level. This is usually the case for SharePoint Designer (SPD) workflow templates and Nintex workflow templates. Basic Out-of-Box (OOB) templates are not defined locally (they are not listed in this "Workflows" folder), so OOB Templates are not supported for migration. However, Content Matrix will look for these OOB templates on the target, and while it cannot migrate the OOB templates themselves, it will activate the required features to enable them.

- Content Matrix is also able to migrate **workflow instances.**

  EXCEPTION: Migration of SPD 2013 platform workflow instances is not supported.

  The instances are the actual running processes of a workflow, and are only present on items. Each instance is attached to an association, so if the associations are not migrated, the instance cannot

be migrated either. Additionally, only the running or completed workflows that are associated with the latest workflow instance version will be migrated.

> **IMPORTANT**: For workflow instance migration to be enabled, migration of workflow associations and a switch that allows Content Matrix to write the data directly to the database must be enabled.

- **Workflow histories** are currently always migrated from SharePoint 2010 and never migrated from SharePoint 2013 and later, regardless of whether workflow instances are migrated.

Pre-Workflow Migration Considerations

If you are performing workflow migration, it is highly recommended you have a general understanding of their workflows and where the data is located to ensure that data integrity is preserved after a migration.

Consider the following questions:

- What type of workflows are being used?
  - Are there out of box (OOB) workflows?
  - Are there SharePoint Designer (SPD) or Nintex Workflows?
  - Are there other third party workflows?

Depending on the answer to this question, there can be different steps that need to be taken, or even a slightly different approach to the migration. The following are some general responses to this question:

- **If there are OOB workflows** - OOB workflows are installed as a SharePoint solution file, and are deployed across the entire farm. As a result, they are defined at the server level. In this case, Content Matrix will not migrate the template definitions, but will instead activate the features on the target side to allow the OOB workflow templates to be used. If migrating at the site collection level, these templates will be activated by Content Matrix, and only the features will be activated. If migrating at a site or list level (and not the site collection level), you must ensure that the templates are already activated at the site collection level before a migration is run so that the features can be activated. This is especially notable when migrating from SharePoint 2007 to SharePoint 2013 or later.

  > NOTE: In some cases, you may need to manually activate the **SharePoint 2007 Workflows** feature on a SharePoint 2013 or later target environment before the workflows can be properly migrated.

- **If there are SharePoint Designer or Nintex workflows** - SharePoint Designer and Nintex workflows have a local install of the workflow template (WFA) definition. This definition is usually held in a hidden list called "Workflows." If the **Preserve workflow associations for SharePoint Designer and Nintex Workflow** option is enabled, then Content Matrix can migrate the template as well. As long as the workflow templates are defined locally, Content Matrix should be able to migrate them.

  > NOTE: If you are performing a list-level migration that includes SPD workflows, the "Workflows" list must already exist on the target. You should migrate the "Workflows" list first, then migrate the list containing the workflow(s). (It will be part of a site collection- or site-level migration.)

- **If there are third party workflows** - The answer here can vary depending on the workflow in question. If the third party workflow works in the same way as a SharePoint Designer or a Nintex Workflow, then the workflow can be migrated using the same steps as SPD and Nintex Workflows.

  If the third party workflows are set up in a different way from OOB or SPD and Nintex Workflows, then migration of those workflows is currently not supported.

Once you have a better understanding of what type of workflow is being migrated, the actual migration process can begin.

For additional Nintex workflow-specific considerations, see Additional Considerations for Nintex Workflows.

Workflow Migration Requirements and Limitations

The following list describes some requirements and limitations to be considered when migrating workflows. Note that this list may not exhaustively cover every migration scenario.

NOTE: SP 2010 OOB and SPD 2010 style workflows are no longer supported by Microsoft for SharePoint Online, so they will be skipped during migration to a SharePoint Online target.

WARNING: SharePoint 2013 workflow will be turned off for new tenants as of April 2, 2024 and will be removed from existing tenants and will be fully retired as of April 2, 2026. Refer to the Microsoft article Support update for SharePoint 2013 workflow in Microsoft 365 for complete details.

- For a migration at the site level or higher:

  - The source connection can be **Database** (SharePoint 2010 or later); **Object Model (OM) connection** (through either a Local or Remote Metalogix Extensions Web Service (MEWS) connection) (SharePoint 2013 or later). However, for a SharePoint 2013 source, the only supported target is another SharePoint 2013 or Microsoft 365 tenant connection.

  - The target connection must be Local OM, MEWS, SharePoint 2013 or later, or Microsoft 365 Tenant.

- For a migration at the list level (OOB and SPD workflows), the source connection can be SharePoint on premises local Object Model (OM) or Metalogix SharePoint Extensions Web Service (MEWS).

Migration of SharePoint Designer 2013 style workflows is not supported:

  - If a source Database connection is used.

  - If the source site has a read-only lock.

In these cases, SharePoint Designer 2013 style workflows will be skipped, even if the "Preserve workflow associations for SharePoint Designer and Nintex Workflows" option is checked on the Workflow Options tab.

- When migrating SPD 2013 platform workflows, the SuppressEvents property must be set to False in order for workflows to be published after migration. For more information, please see Modifying the SuppressEvents Property.

- If you initiate a list-level migration and you want to migrate workflows for the lists, all of the site-level dependencies must already exist at the target. See also Pre-Workflow Migration Considerations.

- Content Matrix does not support the migration of workflows at the item level because the item level scope of the migration cannot properly fetch all of the necessary data, as this data is usually stored at the site or list level (this includes actions that reference other lists, site level content types, and so on).

- Workflow histories are currently always migrated from SharePoint 2010 and never migrated from SharePoint 2013 and later, regardless of whether workflow instances are migrated. This applies to Nintex workflows as well, regardless of whether the option "Preserve Nintex Workflows instance history" is checked. This is a known issue that will be addressed in a future release.

Nintex Workflows and Forms Migration

Before Nintex workflows and forms can be migrated, there are prerequisites to be met and some limitations to be aware of.

NOTE: Currently, the migration of Nintex workflows and forms is *not* supported:

- if Microsoft 365 OAuth with MFA Authentication is used

- if SharePoint Server Subscription Edition is installed on the source and/or target.

The option to migrate Nintex forms will disabled on the List Content Options tab, and the failure to migrate Nintex workflows will be written to the Job Log.

Prerequisites When Migrating to SharePoint Online

In order to migrate workflows and forms to SharePoint Online:

- the following URLs must be unblocked:

  - https://discovery.nintexO365.com

  - https://nintex.onmetalogix.com

- the Workflow for O365 (and if used, Nintex Forms for O365) must be deployed to applicable site collections on the target. See Deploying Nintex Apps to SharePoint Online for instructions.

Additional Considerations

Refer to the following topics for additional considerations for workflows and forms respectively:

- Additional Considerations for Nintex Workflows

- Additional Considerations for Nintex Forms

Additional Considerations for Nintex Workflows

When migrating Nintex workflows, additional considerations include:

- adding external connections to preserve Nintex Workflow database entries

- determining whether Nintex Features are activated before migrating to a SharePoint on premises target

- configuring a temporary storage location and deploying the Nintex Workflow app when migrating to SharePoint Online (SPO).

SharePoint Designer and Nintex workflows have a local install of the workflow template (WFA) definition. This definition is usually held in a hidden list called "Workflows." If the **Preserve workflow associations for SharePoint Designer and Nintex Workflow** option is enabled, then Content Matrix can migrate the template as well. As long as the workflow templates are defined locally, Content Matrix should be able to migrate them.

> NOTE: With Microsoft's announcement that SharePoint 2013 workflows will be retired, Nintex has announced a Nintex Upgrade Program for migrating SP2013 and Nintex workflows to the Nintex Process platform."

Adding External Connections When Migrating Nintex Workflows

In Content Matrix it is possible to add a connection to an external database to help with migration actions, such as migrating workflows. Currently this option is only available for Nintex Workflows databases, and is needed when preserving Nintex Workflow database entries, when migrating workflows. After an External Database connection has been made, it can then be attached to a SharePoint site node in Content Matrix.

To add an external database connection when migrating Nintex workflows:

1. In the ribbon toolbar choose **Settings > Manage Nintex databases**.

   The Manage Nintex Workflow databases lists any existing external database.

   Note that the **Configure** option can be used to modify any selected connection's Authentication credentials. The SQL Server and SQL Database data cannot be configured through this option. After the credentials have been modified the connection can be made again.
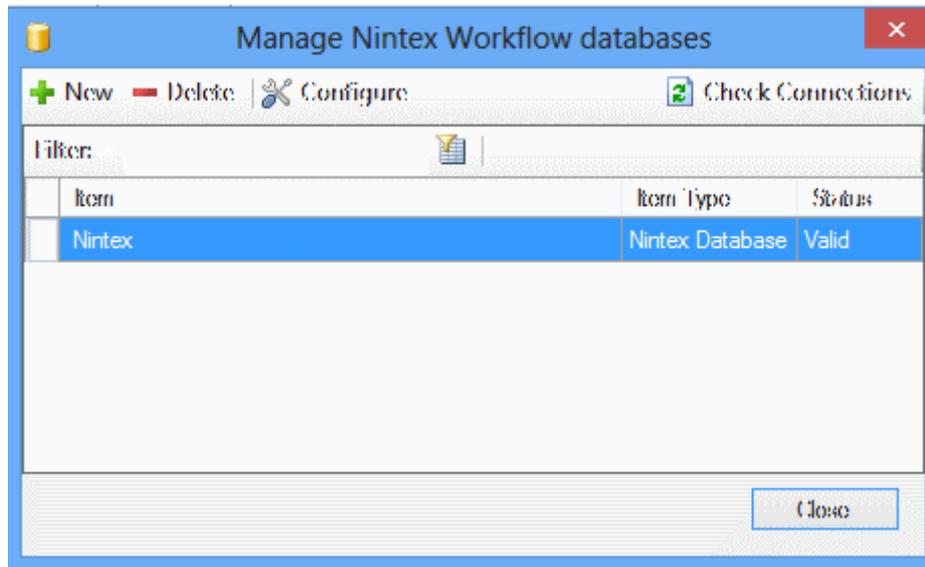
2. To add a new connection:

    a) Click **New**.

    b) Complete the **Connect to SQL Server** dialog, making sure that you select a valid Nintex database.

NOTE: Currently, **Use SQL Server login** is the only valid option for an Azure SQL server.

3. If you want to use an encrypted connection to the database, check the **Encrypt Connection** box.

    NOTE: If the certificate used for encryption is not trusted, you will also need to check the **Trust Server Certificate** box.
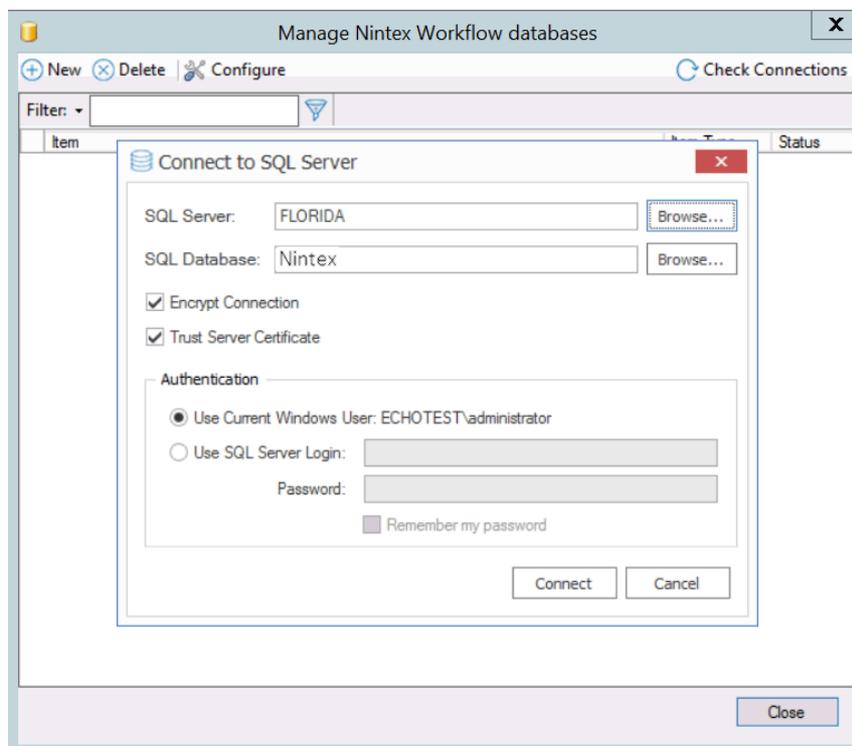
To attach Nintex Databases to a SharePoint node:

NOTE: Multiple databases can be attached to a single SharePoint site, and a single database can be mapped to multiple SharePoint sites.

1. In **Explorer View**, select the SharePoint site to which you want to attach the database.

2. Right-click and choose **External Connections > Attach Nintex Workflow Database** to display the **Nintex Database Picker** dialog.
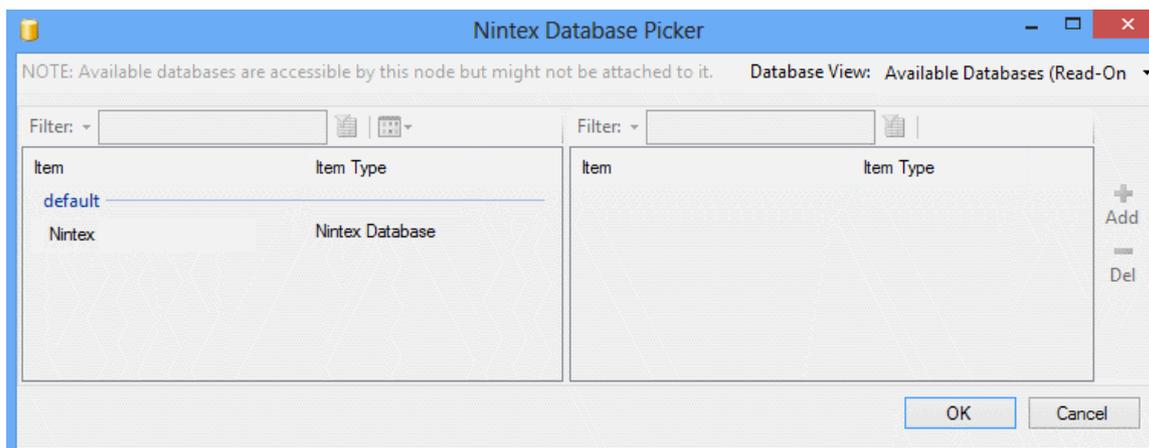
3. From the **Database View** drop-down, select **Attached Databases**.

4. Move any databases that you want to attach from the list of available databases in the left pane to the right pane using the **Add** option. (You can also use the **Del** option to move an already attached database and make it available again.)

5. Click **[OK]**.

Migrating Nintex Workflows to an On Premises Target

When migrating Nintex Workflows between SharePoint on premises site collections and sites, if Nintex Features are not activated on the target site collection, duplicate site columns may be created. Therefore, when an option that includes the migration of Nintex workflows is enabled on the **Configure Copying Options** - Workflow Options tab, Content Matrix will check to ensure that Nintex Features are activated on the target site collection(s). If they are *not* activated, a warning message will display. You have the following options:

- Activate the Nintex Features on the target before the migration.

- Exclude Nintex workflows from the migration.

- Proceed with the migration of Nintex workflows without the features activated on the target.

   NOTE: If you chose this option, after migration you will need to activate Ninte Features on the target then fix any duplicate columns issues manually.

Migrating Nintex Workflows to SPO

Content Matrix can facilitate the migration of Nintex sites and lists workflows to SharePoint Online. Individual sites and site content can be pasted with ease.

> NOTE: Currently, Content Matrix does not support Nintex workflow migration if the migration was initiated at the list level.

Prerequisites

- Two configuration keys in ApplicationSettings.xml relate to Nintex workflow migration to SharePoint Online, namely:

  - **NintexWorkflowsTempStorage:** The temporary local path where Nintex workflow-related files will be stored prior to being migrated to SharePoint Online. If the value of this key is not modified, the files will be stored in the default temp folder on the system.

  - **NintexCleanupWorkflowsTempStorage:** The value of this key determines whether or not the temporary storage folder described above will be cleaned after the migration completes. The default setting for this key is True.

- The Nintex Workflows for O365 app must be deployed to target site collections prior to migration.

  > **IMPORTANT:** Because this app is deployed at the site collection level and must be present before workflows are migrated, it will be necessary to first create the site collection on the target, deploy the Nintex app(s), then migrate the content (using the **Paste Site Content** option).

Supported Actions

For a list of supported Nintex actions available when migrating from SharePoint On-Premises to SharePoint Online, refer to Supported Nintex Actions for SPO Migration.

> NOTE: If the workflow contains an action that is not supported, this unsupported action will be created as a comment in the migrated workflow. The comment will contain the name of this unsupported action.

Deploying Nintex Apps to SharePoint Online

Before you can migrate workflows (and forms) to SharePoint online you must deploy them to your SharePoint Online tenant to make it available to specified site collections, as described below.

To deploy Nintex apps to SharePoint Online:

1. Sign into your tenant's SharePoint Admin Center using an account that is a Global Administrator.

2. From the left navigation bar, select **More Features.**

3. Under **Apps**, click **[Open].**

4. Select **App Catalog**.

    NOTE: If the App Catalog site does not open, select **Create a new app catalog site**, and then click **[OK]**. On the **Create App Catalog Site Collection** page, enter the required info, and then click **[OK]**.

5. If you do not have Nintex Workflows for O365 or Nintex Forms for O365 as part of your Site Contents, then select **Add an App** and install the application(s).

    NOTE: Make sure you are in classic view in order to perform the deployment, as deployment cannot be done in modern view.
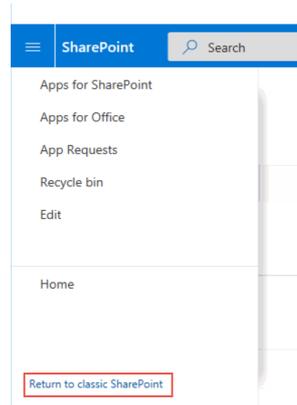
6. On the Site Contents page, Select the ellipses (**...**) next to the installed Nintex application, and click on **Deployment**.

7. On the Manage App Deployments page, enter the site collection URL or select one from the list available, select and **add** the managed paths to deploy to, and select and **add** the templates to deploy to.
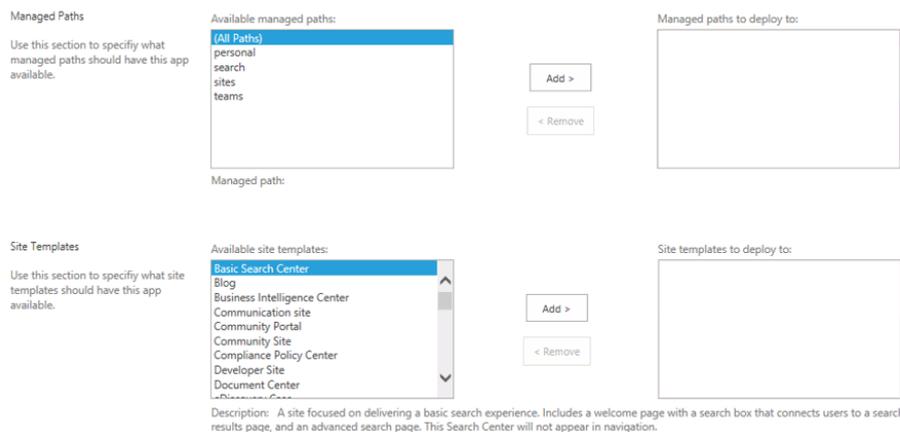
8. Click [**OK**] to apply your selections.

9. When asked whether you trust workflow0365.nintex.com click **Trust It**. This will start the actual deployment.

    NOTE: Microsoft is now deploying the Nintex app to your tenant. It may take from a minute to hour(s) depending on the complexity of your site collection structure. Please verify your site collection for apps before starting a migration.

Additional Considerations for Nintex Forms

Content Matrix can migrate Nintex Classic and Responsive forms.

> The migration of Nintex forms is supported for Object Model (OM) on premises connections, either local or remote (through the Metalogix Extensions Web Service (MEWS)).
>
> Even if you elect to Use Import Pipeline to migrate to SPO, Nintex forms will be migrated to the target using CSOM.

Prerequisites

- For migrated Nintex forms to be published on a SharePoint on premises target, the SharePoint features Nintex Forms Prerequisites and Nintex Forms for SharePoint List Forms must be activated.

- For Nintex forms to be published on an SPO target, the Nintex Forms for Microsoft 365 app must be deployed.

If prerequisites are not met before migration, the forms will need to be published manually after the features or app is installed on the target.

Current Limitations

- Nintex forms do not migrate for default content types of Asset Libraries.

- The following Nintex Responsive forms controls in SharePoint on premises are not supported in SharePoint Online and will be replaced with label controls on the target:

    - SQL Request

    - Web Request

    - Change Content Type

Link Correction

Content Matrix can correct links as a part of a migration. Link correction can only be done at the time of migration, and links will only be corrected for sites, lists, pages, and web parts within the scope of the migration. Any links within documents or files will not be corrected.

If the link that is being corrected is a relative link, Content Matrix will try to correct it as a relative link, and if it is an absolute link, then it will be corrected as an absolute link.

Each time a copy operation runs a central repository is created for link correction, and is populated with a list of link mappings. These mappings are found and determined based on the actions that are performed. If a site copy is performed, link mappings relevant to that site copy will be created and placed into the repository. If lists are included in this copy, then Content Matrix will also include list link mappings in the repository. Links will be identified on a case by case basis.

Any link correction that is done will access this repository set of link mappings, when correcting URL or HTML links.

Content Matrix gathers the link mappings at the start of each migration (copy) action, as soon as we know they might be needed. It then adds them to the central repository. For example, if a site is copied, then the link mappings for the site are added to the repository. Then when a list or web part is copied the link mappings specific for the copying of that object are added to the repository as well.

When a link is corrected, Content Matrix will check to see if that link is in the list of mappings in the central repository. If the link is found it will be corrected according to the mapping that exists for it. If the link is not found the last element of the link will be cut off to see if the shorter link address is in the mappings. This will continue on until all of the link's elements have been removed. Any time a link element is removed the Content Matrix will keep track of it, and then append all the removed elements on to the end of a link once a suitable mapping from the repository is found. If one of these higher level mappings is found, then use that mapping, and append all of the cut elements on to the end. If the last element is cut off and no mapping has been found, the link correction will stop, and fail.

Link Correction Examples

Example 1

If a link reads as Sales/FactsAndFigures/Output/default.aspx, and Content Matrix cannot find this link in the central repository, then it will cut off the last portion of the URL and try again. If the remaining portion of the URL doesn't work Content Matrix will try cutting off another element, and will continue to try until all the elements of the link have been cut off. So link correction will step though the link URL in the following steps:

Sales/FactsAndFigures/Output/default.aspx

Sales/FactsAndFigures/Output

Sales/FactsAndFigures

Sales

Stop

Example 2

A link on the source side is pointing to "TargetSales/Figures/Output/default.aspx" and this link is on a page that is being migrated to "Sales/FactsAndFigures/Output/default.aspx," and Content Matrix only has a mapping in the link mapping repository for "TargetSales/Figures" mapped to "Sales/FactsAndFigures." When link correction is run it will look for a mapping for "TargetSales/Figures/Output/default.aspx" to be mapped to "Sales/FactsAndFigures/Output/default.aspx" but will not find any mapping. Content Matrix will then cut off "default.aspx" and look for a mapping to "Sales/FactsAndFigures/Output/." Again, no mapping for this exists, so the next element ("Output") will be cut off and "Sales/FactsAndFigures" will be looked for. This time a mapping will be found, and the link will update with this URL. Because Content Matrix

keeps track of the elements that it cuts off, it can then append these to the end. So "Sales/FactsAndFigures" will have the cut elements "/Output/default.aspx" appended to the end, for a final corrected link of "Sales/FactsAndFigures/Output/default.aspx."

StoragePoint Content Migration

There are a number of different behaviors to expect when migrating to a target SharePoint environment that has Quest® StoragePoint installed. The different results you will see depend on which option is selected in the StoragePoint Options tab.

Prerequisites for Migrating StoragePoint Content

You can use Content Matrix to migrate StoragePoint content if Content Matrix detects that StoragePoint version 5.1 or later (or for SharePoint Server Subscription Edition, StoragePoint version 6.2 or later) is installed on the target.

For content to be externalized:

- An endpoint must be configured on the target.

  NOTE: If you do not have an endpoint configured, content will be migrated directly into SharePoint.

- For a SharePoint 2010 source Database connection, an external connection to StoragePoint must be made.

- For a SharePoint 2013 or later source Database connection, an external SharePoint server connection must be made.

  NOTE: Content cannot be externalized if the source is SharePoint 2007.

To allow the migration of large files:

- Large File Support must be enabled in StoragePoint.

- If a source Database connection is used, a Host Name must be set.

- If migrating to SharePoint Online, the Import Pipeline must be used.

  NOTE: Use of the Import Pipeline allows you to migrate files *over* 2 GB. For migrations to SharePoint on premises, you can migrate files *up to* 2 GB.

- An external connection to StoragePoint must be made.

To make an external connection to StoragePoint (to allow Large File Support):

1. Select the site whose StoragePoint content you want to migrate.

2. Right-click and choose **Attach External Connections > StoragePoint Connection**.

3. For **Host Name** when connecting to the StoragePoint database, click **[Fill in default URL]** to have it auto-populated.

StoragePoint Options - Successful Outcome

- **Add documents to StoragePoint if an endpoint is configured -** This option is for when content from a non-externalized environment (a source environment that does not have StoragePoint installed) is being migrated into an externalized SharePoint target. In this case, any of the files or documents that are included in the migration will be externalized, meaning that those files and documents will call StoragePoint as they are being migrated, and will be externalized directly with the reference link left behind in the file or document's place (in the target SharePoint environment). Once the migration is complete, users can navigate to one of the migrated documents in Content Matrix, switch to the Items View, right-click the document, and then select **StoragePoint Details**. Here, users should be able to see the StoragePoint endpoint folder location for the externalized content, as well as the externalized file name. If the document is opened through SharePoint directly, it will open as expected.

- **None** - This option is for cases where users do not want to use StoragePoint as part of the migration process. When this option is selected, content will be migrated directly into SharePoint with all StoragePoint-related features ignored. However, if the target environment is configured to be externalized with StoragePoint, it is possible that the content will be migrated into the SharePoint target as if the StoragePoint options are ignored, but the target SharePoint environment would then externalize the content separately after the migration completes. While the end result would be the externalization of the data, the migration process itself is only migrating content directly into the SharePoint target.

StoragePoint Options - Unsuccessful Outcome

- **Add documents to StoragePoint if an endpoint is configured** - If this option failed to migrate the documents/files into StoragePoint, then when users go to the **StoragePoint Details**, there will be nothing set. This indicates that the files were not placed into the StoragePoint EndPoint and were not externalized.

- **None** - If this option is selected but fails, then the content migration to the target will have failed. This means that the documents/files that are included in the migration action will not exist on the target (externalized or not).

Initiating a Migration

From the Content Matrix Explorer View, you can "copy" an object from the source connection then "paste" it to the appropriate location on the target connection. You will then be prompted to configure Copy Options.

Before you initiate a migration, it is strongly recommended that you review How Content Matrix Handles Various SharePoint Components.

Migrating as a Site Collection

Content Matrix can migrate SharePoint Site Collections and promote sub-sites into Site Collections. These migrations can be made within the same SharePoint instance, or can be performed between two separate SharePoint instances. Any site can be promoted into a Site Collection in the same way any Site Collection can be copied to become a sub-site. The location in the hierarchy of the target node is what determines if a site will copy as a Site Collection or as a sub-site.

- For migrations to an on premises SharePoint target, an **Object Model (OM)** level connection must be made with the target environment.

  NOTE: Due to some User authentication changes that have been made starting with SharePoint 2013, which inadvertently restrict the creation of Site Collections using the **SharePoint OM remotely,** Content Matrix will use a set of elevated permissions to create Site Collections, which means the migrating user account must explicitly (by name) have "Full Control" permissions on the Web Application that the Site Collection is being created on. A preliminary check will be made before elevation occurs to ensure the migrating user has enough permissions initially to be able to use the elevated Site Collection creation. Creating Site Collections for a SharePoint 2013 or later target with the **Local OM** connection type, does not have this same restriction, but the same permissions are recommended in case elevated permissions are needed.

- For migration to a Microsoft 365 tenant, a Microsoft 365 Tenant connection must be used.

To initiate a Site Collection migration:

1. In **Explorer View**, select the source site collection or site that you want to migrate.

2. Right-click and choose **Copy Site**.

3. Select the target node under which you want to create the site collection.

4. Right-click and choose **Paste Site Collection.**
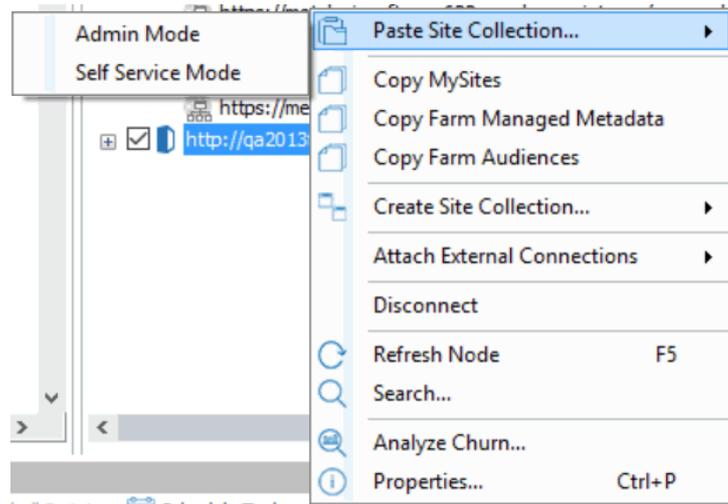
The **Configure Site Collection Copying Options** dialog displays.

Continue with Configuring Copying Options.

Migrating MySites

Before you initiate a MySites migration, it is recommended that you review the information in the section MySites Migration.

To initiate a MySites migration:

1. In **Explorer View**, navigate to the (Farm" or "Web app) node from which you want to copy MySites.

2. Right-click and choose **Copy MySites**.

3. Select the target node.

4. Right-click and choose **Paste MySites**.

Continue with Configuring Copying Options.

Migrating a SharePoint Site

To initiate a site-level migration:

1. In **Explorer View**, select the site that you want to copy.

2. Right-click, and choose **Copy Site**.

3. Select target node.

4. Right-click and choose **Paste Site as Subsite**.

Continue with Configuring Copying Options.

Migrating a SharePoint List

To initiate a list-level migration:

1. In Explorer View, navigate to the list that you want to copy.

2. Select the target site, list, or document set into which you want to copy the source list.

3. Use the information in the following table to determine the appropriate action to take.

If you are migrating the list to …	Then …
a site on the target	right-click and choose **Paste as List**.
another list on the target	Right-click and choose the appropriate option: • **Paste List as Folder** - This will paste the source list into the target list as a folder. All the items from the source list will be copied inside this folder. • **Paste Special > Paste all list items** - This will paste all the items from the source list into the target list.
a document set on the target	right-click and choose **Paste List**.

4. Continue with Configuring Copying Options.

Migrating a Duplicate List

The **Paste Duplicate List** option allows you to migrate a list that already exists on the target site, by giving it a new name (and allowing you to configure different copying options).

This option is only available when Advanced Mode is enabled.

Library Type Limitations

The migration of Page Libraries and other System Libraries (such as Style Libraries and Images) are not supported for a local object model (OM) connection or a SharePoint Online target.

To paste a duplicate list:

1. In Explorer View, select the list that you want to duplicate to the target site.

2. Right-click and choose **Copy List**.

3. Select the site to which you want to paste the list.

4. Right-click and choose **Paste Duplicate List**.

5. In the Rename Settings dialog, enter a new **List Name** and (optionally) **List Title**.
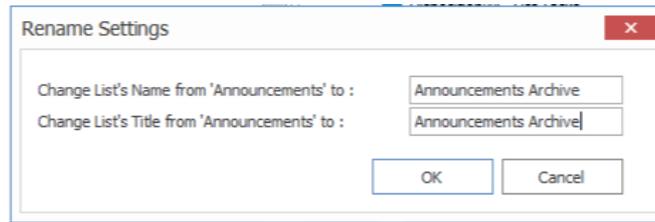
6. Click **[OK]**.

   The Configure List Copying Options dialog displays.

7. Continue with Configuring Copying Options.

Migrating One or More SharePoint Items

To initiate a SharePoint item-level migration:

1. In the **Explorer View**, navigate to the list that contains the item(s) you want to copy.

2. Switch to the **Items View.**

3. Select the items that you want to migrate (items can be multi-selected by holding the Ctrl button and clicking on another item).

4. Right-click and choose Copy Selected Item(s).

5. Select the target list or folder.

6. Right-click and choose **Paste Selected Items** (or **Paste Item Objects**).

Continue with Configuring Copying Options.

Configuring Copying Options

The **Paste [Object]** dialog provides a tabbed interface that enables you to configure a migration according to your specifications. Available tabs will vary based on the type of migration that you initiated.

Migration Mode
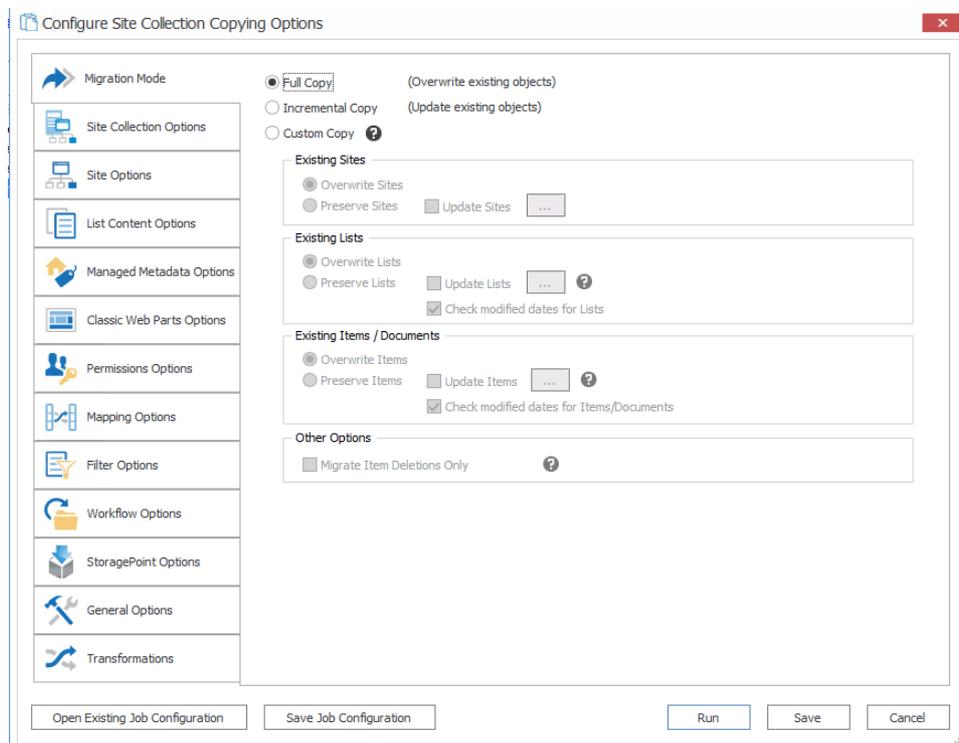
To configure Migration Mode:

1. Select the mode that you want to use. Use the information in the following table for guidance.

If …	Select …
you are performing an initial copy or want a clean copy of the source to be migrated to the target. AND/OR	**Full Copy**. NOTES: Comparing whether an object from the source matches an object on the target is usually

If …	Select …
• you want to **overwrite** any existing data on the target that matches migrated content	performed by comparing the names of the objects. The only exception to this is that items in custom lists are matched by ID number (documents in document libraries are matched by file name). • When this option is selected, the Preserve Item IDs option for items in lists (not libraries) is enabled. This is to ensure that the target has the exact same item IDs as the source so that the copy is a mirror of the source. This is required in order to perform incremental migrations later, since item ID values are used to match corresponding items on the source and target.
• you are performing an incremental migration AND/OR • you want to preserve (not overwrite) data on the target.	**Incremental Copy**. NOTES: • Only objects that do not yet exist on the target are copied. EXCEPTION: For lists and libraries that have versioning enabled, new versions will be copied from the source, while all versions that already exist on the target will be preserved. • When this option is selected: ▪ the **Preserve Item IDs** option is enabled, and ▪ the **Workflow Copy Options** is disabled . (Incremental copies cannot be run on workflows.)
you want to choose which objects to preserve or overwrite on the target	**Custom Copy**.

2. If you selected **Custom Copy** as the migration mode, you can select the objects that you want to preserve, as well as individual settings that you want to update. (By default, all options are set to Overwrite, as with a Full Copy.)
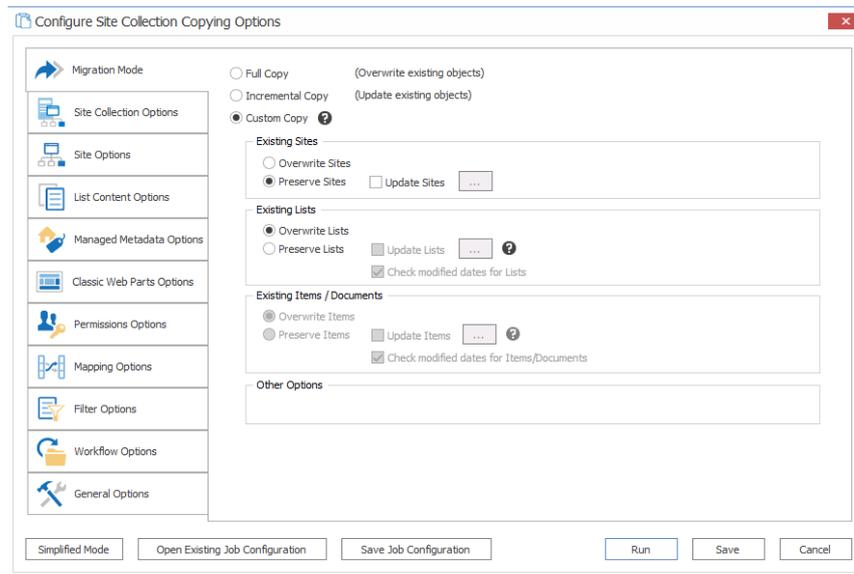
NOTE: If you selected **Full Copy** or **Incremental Copy**, these options will be disabled.

If you want to ...	Then ...

• preserve existing sites, and
 	
• (optionally) select specific site settings to be updated (if newer on the source)
	A. Choose **Preserve Sites**.
	
	B. If you want to update individual site settings, select **Update Sites** then, from the **Update Existing Options** dialog, select the settings you want to update (if newer on the source). Options are:
	
	    ▪ **Update Core Metadata** (such as the "web" name, time zone settings, site descriptions, display name, etc
	
	    ▪ **Update Site Columns**
	
	    ▪ **Update Content Types**
	
	    ▪ **Update Site Navigation Settings**
	
	    ▪ **Update Features**
	
	    ▪ **Update Site Web Parts**
	
	    ▪ **Update Permissions** (at the site-level)
	
	    ▪ **Update Permission Levels** – If Update Permissions is selected, you can also choose to update any permissions levels that exist on the sites
	
	    ▪ **Update Associated Group Settings** - These are settings for the three basic groups that are associated with a site, the **Owners**, **Members**, and **Visitors** groups.

If you want to …	Then …

• preserve existing list settings
 	
AND
 	
• (optionally) select specific list settings to update (if newer on the source)
	A. Choose **Preserve Lists**.
	
	B. If you want to update individual list settings, select **Update Lists** box then, from the Update List Options dialog, select the elements you want to update (if it is newer on the source). Options are:
	
	  ▪ **Update Core Metadata** (including list description, title, etc).
	
	  ▪ **Update Fields** – (including settings for columns/fields that are within the lists, but not the values for data within those fields)
	
	  ▪ **Update Views** - When selected, this option will only update the views for lists and libraries that are within the scope of the migration. This will check to see is any views have been edited or added to the lists within the migration, and adds any new or modified views that it finds. This will not migrate any "Personal" views.
	
	  ▪ **Update Content Types** at the list level
	
	  ▪ **Update Permissions** at the list level
	
	C. **Check modified dates for Lists** - update the list metadata if the value on the source is greater than the value on the target.
	
	When selected, this option will check the **Modified Date** for a SharePoint list, and will only update the list metadata if the value on the source is greater then the value on the target.

If you want to …	Then …
	Update List Options ☐ Update Core Metadata ☐ Update Fields ☐ Update Views ☑ Update Content Types ☑ Update Permissions [OK] [Cancel] This option is available only if you have already chosen to **Preserve Existing Sites**.

• preserve existing list item settings
 	
AND
 	
• (optionally) select specific list item settings to update (if newer on the source)
	A. Choose **Preserve List Items**.
	
	B. If you want to update individual list item settings, select **Update List Items** box then, from the Update Items/Documents Options dialog, select the settings you want to update. Options are:
	
	  ▪ **Update Core metadata** (including the Authorship fields)
	
	  ▪ **Update Permissions** – When selected, this option will only update the item level permissions, within the scope of the migration.
	
	Update Items / Documents Opti…
	☑ Update Core Metadata
	☑ Update Permissions
	[OK] [Cancel]
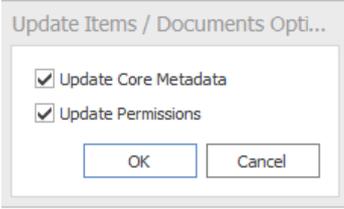	
	This option is available only if you have already chosen to **Preserve Existing Lists**.

• delete any items on an premises target that have since been deleted on the source (using item/document ID comparison)	Select **Migrate Item Deletions Only**. (If this option is *not* selected—which is the behavior for all other Migration Modes—and a file has been deleted from the source, Content Matrix will *not* delete those files from the target.) NOTE: This option is available *only* if you chose to **Preserve List Items**.

Site Collection Options

If you initiated a site collection level migration, select the **Site Collection Options** tab and specify the options described below.

Site Collections can only be pasted to a **Web App** or **Farm** connection type, using an **Object Model (OM)** level connection (through the use of a local or Extensions Web Service connection). A similar (but slightly limited) set of Site Collection options is also available for migrating to Microsoft 365 environments, when an **Microsoft 365 Tenant** connection is used.

To configure Site Collection Options:

1. Use the information in the following table to determine the appropriate action to take.

If your target environment is ….	Then …
On premises	select the **Web Application** into which you want to migrate the site collection from the drop-down.
Microsoft 365	For **Web Application**, select the appropriate URL from the drop-down:

If your target environment is ….	Then …
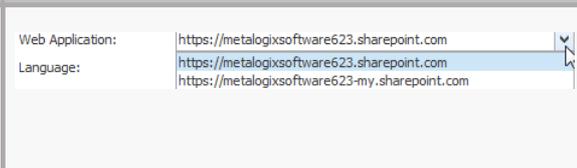
2. If different from the default, select an available **Language** from the drop-down.

3. If different from the default (the template used on the source), select a Site Collection **Template** from the drop-down.

NOTE: For SharePoint Online and SharePoint 2019 targets, you also have the option to **Automatically upgrade Classic Team Sites (STS#0) to Modern Team sites (STS#3)**.
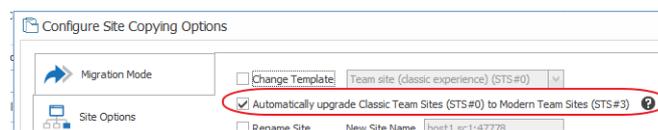
See for a complete explanation of this option.

4. If you are migrating from a SharePoint 2010 source to a SharePoint 2013 on premises target, choose the **Experience Version** (2013 or 2010) from the drop-down.

   NOTE: This option is only visible when you are migrating from SharePoint 2010 to 2013.

5. *If your target is SharePoint on premises*: If the Web Application into which you are migrating the Site Collection has more than one **Content Database** and you would like to specify the one you want to use, select it from the drop-down.

6. Use the information in the following table to determine the appropriate action to take.

If you want to use …	Then …
a **Host Header** for your Site Collection URL (For a SharePoint on premises target only)	• check the Host Header box, and • enter the host name in the **Site URL** field.
a **path-based URL** for your site collection	select the appropriate managed path and enter the URL name in the **Site URL** field.

7. Use the information in the following table to determine the appropriate action to take.

If your target environment is ….	Then …
On premises	• If different from the default (the migrating account), enter the user account that will be the **Primary Administrator** for the new Site Collection. The migrating account should be set as the **Primary (or Secondary) Administrator** to help ensure that the account can access the new site collection after its creation, so it can migrate the remaining content. • (Optional) Enter a user account that will be the **Secondary Administrator** for the Site Collection. NOTE: This field does not authenticate, so any spelling mistakes will not be automatically corrected.
Microsoft 365	Enter the Microsoft 365 account that will be the **Owner/Site Collection Administrator** of the new Site Collection.

8. *For SharePoint Online tenants:* If different than the default(s), adjust the values for:

   ▪ **Storage Quota** (the amount of storage allocated to the site collection by Microsoft), and/or

   ▪ **Server Resource Quota** (the amount of resources—such as CPU and RAM—allocated to the site collection by Microsoft).

9. If you want to copy **Master Pages**, **Page Layouts**, and/or **Other Resource from the Master Page Gallery** on the source site, select **Copy Master Page Gallery**.

   By default, Content Matrix will copy all three components Pages, Layouts, and Resources), but you can choose components to include/exclude by clicking the **[…]** button and selecting/deselecting individual components.

   Depending on the source and target SharePoint version(s), there are limitations on how Master Pages are migrated. For details, see Master Page Migration.

   Note that, if you choose to **Copy Master Pages**, you also have the option to **Correct Links on Master Pages (**that is, so links point to the same relative path on the target). If you leave this box unchecked, links will continue to point to the source.
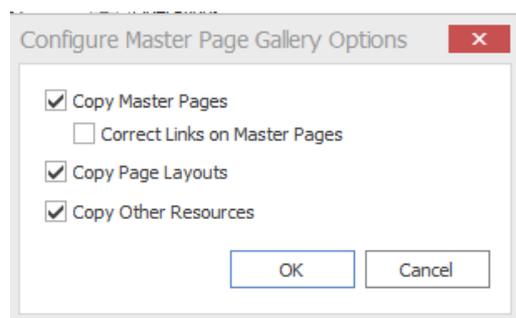
For more detailed information on link correction, see [Link Correction](#).

10. If your source and target use either the same version of SharePoint or you are migrating from 2010 to 2013 using the 2010 experience and you want to **Copy List Template Gallery**, check this box.

> NOTE: This option
>
> - Requires an Object Model (OM) connection on both the source and target environments, and
>
> - is not available if you are migrating to a different version of SharePoint (unless you are migrating from 2010 to 2013 using the 2010 experience).
>
> For more information on this option, see [List Template Gallery Migration](#).

11. *For a SharePoint On Premises target:* If you want to set a **Site Quota**:

- select **Set Site Quota**, and

- Click the **[…]** button to display the **Set Site Quota** dialog, and select the appropriate option:
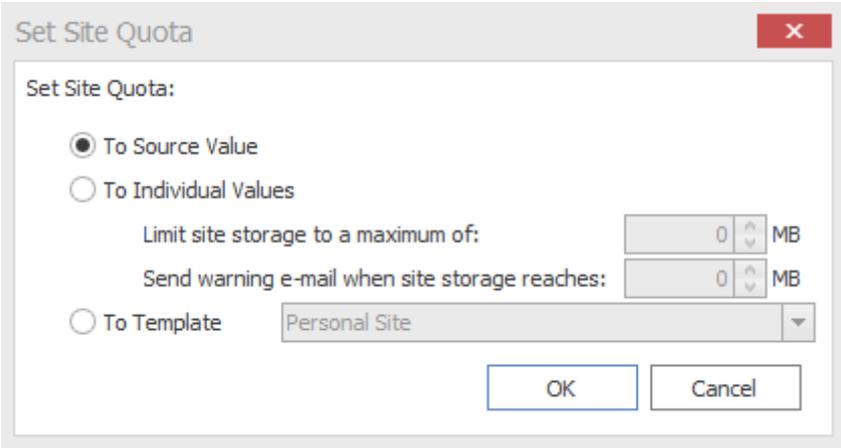
- **To Source Value** (default) - the quota value from the source site will be used.

- **To Individual Values:**

   - **Limit site storage to a maximum of: "X" Mb** - The maximum size of the new site collection., in megabytes (Mb)

   - **Send warning e-mail when site storage reaches: "X" Mb** - The size at which to send a warning e-mail to the Site Collection Administrator, that the site collection is getting near it's set volume capacity.

   - **To Template** - Match the same value for a site template on the target side.

> NOTE: This drop down list will only display site templates that contain a site quota value.

12. If you want to **Copy Site Collection Admins** from the source site collection, make sure this option is selected. Click the **[…]** button to view the **Site Collection Administrator(s) on the source Site Collection**.)

This option is separate from the Primary Administrator and the Secondary Administrator fields, as it will copy all of the users that are set in the Site Collection Administrators field in the SharePoint Users/Groups section and requires an Object Model connection for both source and target. If removing all of the users from this list users will not be able to add a new user value unless the account that is running the migration has permissions (on the target Site Collection) to add any

new accounts. If the migrating account does not have permissions to add a new account, then it is recommended that at least one of the old user accounts that is currently set as a Site Collection Administrator is left in the dialog.*

13. If you want to preserve the source Site Collection's audit settings on the target, select **Copy Audit Settings**.

14. If you are migrating to SharePoint Online and want to **Promote first level of subsites to site collections on the target**, check this box.

   NOTE: This option is only enabled if the site you want to promote has at least one subsite.

   For more information, including prerequisites and limitations, see Promotion of First Level Subsites to Site Collections.

15. If you have chosen to promote first level subsites to site collections on the target, and you want to **Associate site collections with Hub**, check this box and either:

   - select **Register root site as a Hub site, and associate promoted subsites to it** (to create a new hub, which will use the name of the site from which subsites were promoted)

   OR

   - select **Associate root site and promoted subsites to Hub Site** and select an existing hub site from the drop-down.

MySite Options

If you initiated a MySite migration, select the **MySite Options** tab and specify the options described below.

These options are only available when Advanced Mode is enabled.

Because language packs are not included in the migration action, the base language setting of the MySite being migrated must already be installed on the target environment. If it is not, an error message containing the language code of the missing language pack will be displayed.
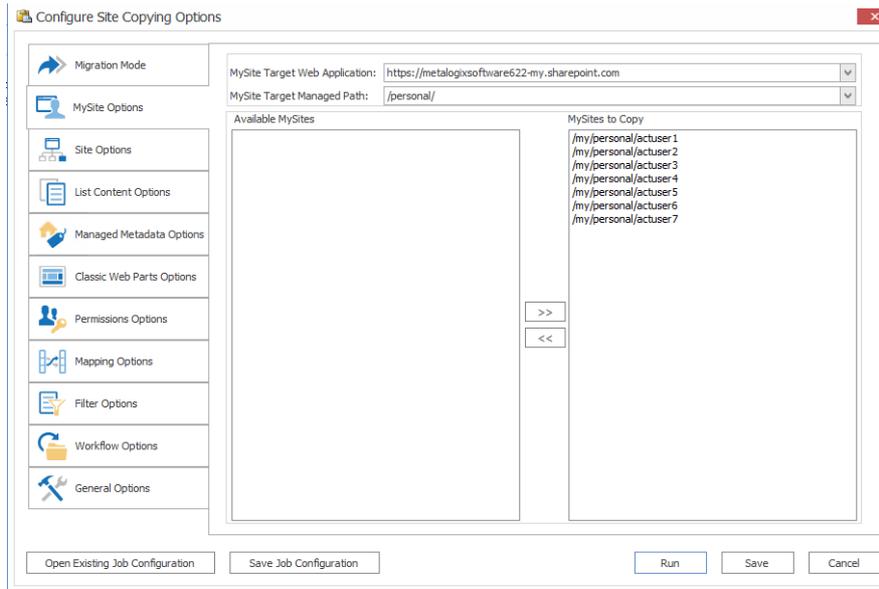
NOTE: Only sites that are using a MySite template (such as SPSPERS#0) and that the current user account has access to are available for migration. Any MySites that do not meet these requirements will not be displayed. It is also possible that a MySite might not appear because it has run into a timeout issue, but if a Refresh is done for the server, the MySite may then be displayed.

For a SharePoint Online target:	The **MySite Target Web Application** and **MySite Target Managed Path** are pre-populated.
For a SharePoint On Premises target:	1. From the **MySite Target Web Application** drop-down, select the Web application in the target environment into which you want to migrate the MySites. NOTE: When selecting a web application to use for the migration be sure that the selected target web application contains the MySite host site collection (the site collection that hosts all the MySites). If it doesn't then you won't be able to link the **user profile** to the site collection. However, different **managed paths** under the same web application will link the user profiles. 2. From the **MySite Target Managed Path** drop-down, select the managed path (which already exists on the target server) that you want to use In most cases you can select between **/sites/** and **/my/personal/** for the path, provided these exist in your environment: ▪ Any sites pasted with the **/sites/** option will be displayed as "**[Server Name]/sites/[MySite Name]**."

	▪ Any sites pasted with the **/my/personal/** option will be displayed as "**[Server Name]/my/personal/[MySite Name]**."

To remove a MySite from the copy action, move it from the **MySites to Copy** panel back to the **Available MySites** panel.

Site Options

If you initiated a migration for a Site Collection or site, complete the **Site Options** tab as described below.

NOTES:

- Preservation of Search and Offline Availability settings is not supported when migrating to SharePoint Online

- If you are copying OneNote Notebooks as part of a site-level migration, there are some pre-requisites to consider. See OneNote Notebooks Migraion for details.
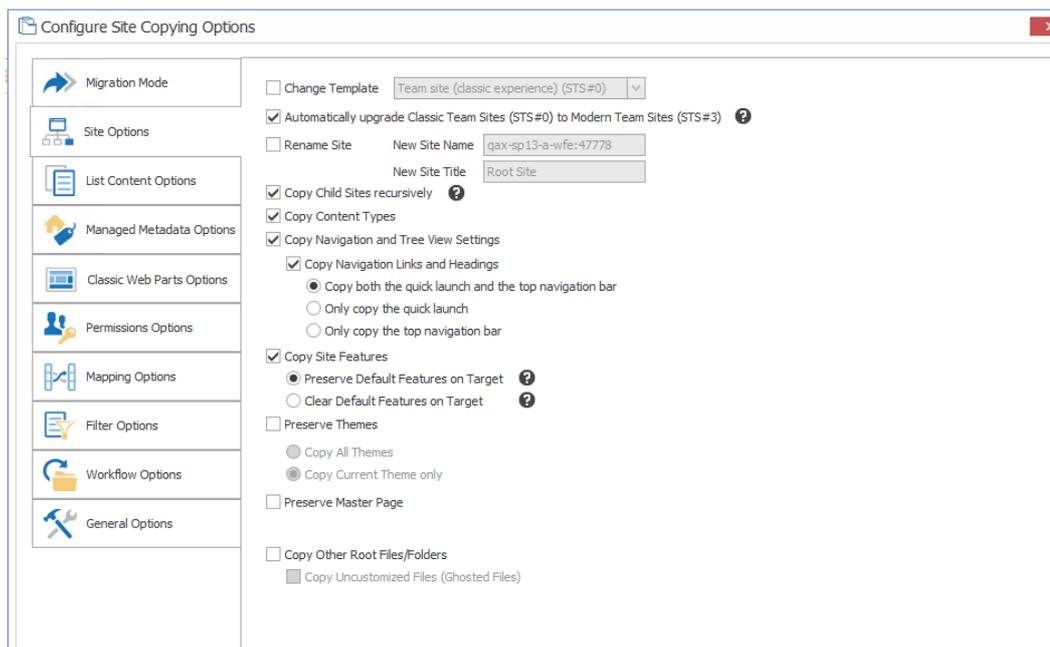
To configure Site Options:

1. If you initiated a copy at the site level and want to change the Site Template:

    ▪ Select the **Change Template** box, and

    ▪ Select a site template from the drop-down.

    (This option is not available if you chose to **Paste Site Collection or Paste MySites**, as the template is selected as one of the Site Collection options.)

NOTE: For SharePoint Online and SharePoint 2019 targets, you also have the option to **Automatically**

upgrade Classic Team Sites (STS#0) to Modern Team sites (STS#3).
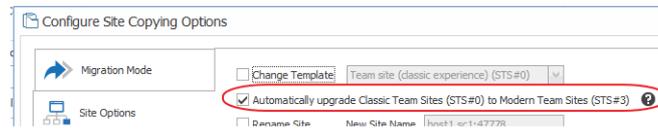
See Team Site to Modern Team Site Migration for a complete explanation of this option.

2. If you want to rename the site at the target:

    ▪ Select the **Rename Site** option, and

    ▪ Enter a **New Site Name** and **New Site Title**.

    NOTE: The **Name** is the internal name of the site and cannot include any spaces. The **Title** is the display name.

3. If you want to copy all child sites that are under the site or server node being migrated, select **Copy Child Sites (recursively)**.

    NOTE: If you select this option, migration options specified for the parent site will apply to child sites as well.

4. If you want to **Copy Content Types**, make sure that this box is checked.

    NOTE: When this box is checked, all content types will be copied from the source to the target. You can also copy *selected* content types as a separate action.

5. If you want to **Copy Navigation and** (**Tree View Settings**), select this option.

    See also Navigation Migration.

    NOTE: When this option is selected, the *settings* for the navigation will be copied, not the actual navigation.

6. If you chose to **Copy Navigation and Tree View Settings** and want to also change the navigation items themselves, check the **Copy Navigation Links and Headings** box then select the appropriate option:

    ▪ **Copy both the quick launch and the top navigation bar**

    ▪ **Only copy the quick launch.**

    ▪ **Only copy the top navigation bar.**

    NOTE**:** It is highly recommended that you select the Link Correction option in the **General Options** tab, to enable link correction for navigation links.

7. If you want to **Copy Site Features**, select this option, then select the appropriate option. Use the information in the following table for guidance.

    NOTE: In order for a theme to be properly preserved in a migration, it must exist (be manually installed) on the target server before migration. See Site Features Migration for more detail.

If you want to ….	Select…
• preserve any existing features on the target side that are already	**Preserve Default Features (on Target)**.

If you want to ….	Select…
• active, and • add and activate the features from the source to this list.	NOTE: Both the pre-existing features and the features being copied from the source, should be active on the target after migration.
clear any features that are already active on the target before any features are copied over from the source	**Clear Default Features** (**on Target**). NOTE: Any features on the target that are already active will be stopped and removed, and the features from the source will be copied over and activated to match the source side.

8. If you want to **Preserve Themes**, check this box then select the appropriate option. Use the information in the following table for guidance.

   NOTE: In order for a theme to be properly preserved in a migration, it must exist (be manually installed) on the target server before migration. See also Site Theme Preservation.

If you want to copy …	Select …
all of the existing source themes over to the target, even if they are not currently in use	**Copy All Themes**.
the currently used theme on the source over to the target.	**Copy Current Theme only**.

9. If you want to **Preserve Master Page**, check this box.

   NOTE: By default, if the source and target connections are the same version of SharePoint, Content Matrix will use the same Master Page on the target, as it exists on the source. If the source side Master Page doesn't exist on the target, the target side will then be set to use its default Master Page. See also Master Page Migration.

10. If you want to copy any files, folders, and sub-folders from the root of a site to the root of the target site. (for example, if some content (files/folders) has been deployed to the root of the source site) check the **Copy Other Root Files/Folders** box.

11. If you chose to Copy Other Root Files/Folders and also want to copy any "Uncustomized" or ghosted files that exist on the root of the site, check the **Copy Uncustomized Files (Ghosted Files)** box.

   NOTE: Ghosted files are files that are not stored in the content database but are read from a definition file instead, and in this case these definition files are stored on the root of the site. These are generally template files. If this option is not selected, Content Matrix will instead skip these files when migrating content. See also Ghosted and Un-Ghosted Page Migration.

List Content Options

If you want to copy lists as part of the migration, select the **List Content Options** tab and select the applicable options.
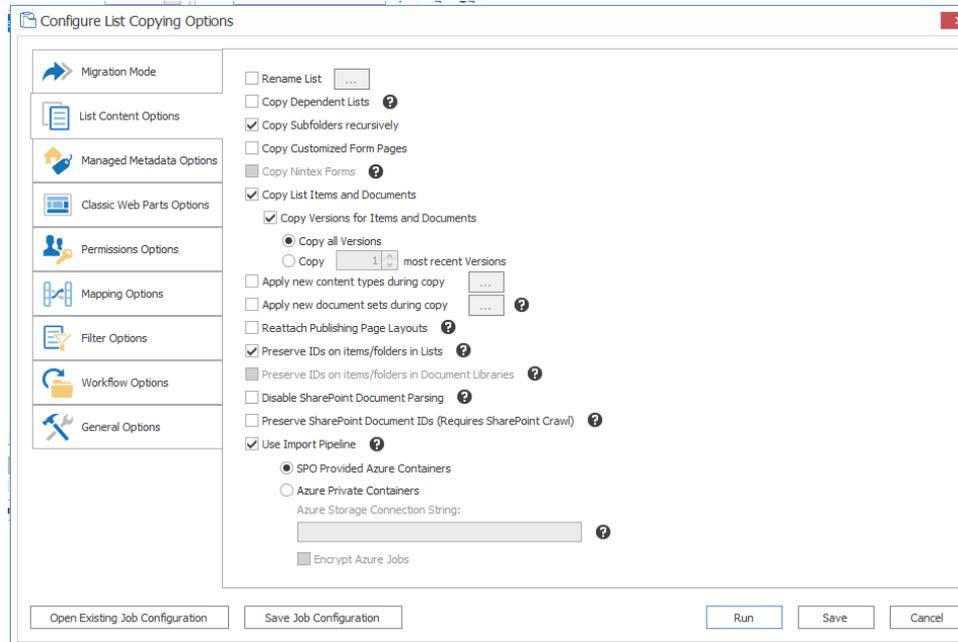
NOTE: Depending on the level at which the migration was initiated, and whether you are migrating to a SharePoint on premises or Online target, options may vary.

To configure List Content Options:

1. If you initiated a site collection or site level migration, make sure the **Copy Lists** option is selected.

2. If you initiated the migration of a single list, and want to rename the list at the target:

   a) Check the **Rename List** box.

   b) Click the **[...]** button to display the **Rename List** dialog.

   c) Enter the new list name and/or the list title.
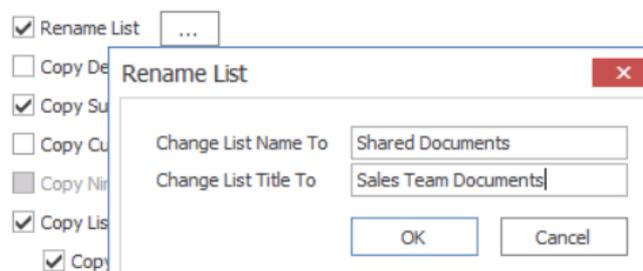
3. If you initiated the migration at the list level and want to copy dependent lists (LookUp columns, as well as Task and History lists associated with workflows) check the **Copy Dependent Lists** box.

4. If you want folders and sub-folders to be copied recursively, down through any existing levels of a site, list, or item copy operation, make sure the **Copy Subfolders recursively** box is checked.

NOTE: Make sure this box is checked if you are migrating OneNote Notebooks. See OneNote Notebook Migration for prerequisites and special considerations.

5. If you want Form pages that have been customized using SharePoint Designer (SPD) to be migrated, make sure the **Copy Customized Form Pages** box is checked.

NOTE: When selected, this option will cause the **Copy Web Parts on Form Pages** option to be selected on the Classic Web Parts Options tab, because web parts must be copied if migrating Form page customizations. See Customized Form Page Migration for requirements and limitations.

6. If you want to **Copy Nintex Forms**, check this box.

NOTES: Please review Nintex Workflows and Forms Migration for supported SharePoint versions and connection types, prerequisites, and current limitations.

7. If you want to **Copy List Items and Documents**, make sure this box is checked.

NOTES:

- This option does not apply if you initiated a migration at the item level.

- Meetings Workspace Attendees List and Meeting Workspace Instances are not migrated to SharePoint Online.

- This option must be selected if you want to migrate Document Sets.

8. For lists and libraries that have versioning enabled, if you want to **Copy Versions for Items and Documents**, select the appropriate option. Use the information in the following table for guidance.

NOTE: The option you select also applies for snapshots (versions) of any Document Sets being migrated.

If you want to copy ….	Then …
all existing versions of an item or document	select **Copy all Versions**.
a specified number of versions of an item or document	• select **Copy [number] most recent Versions**, and • select the number of versions you want to keep. NOTE: This number includes both major and minor versions.

9. If you want content types to be applied to SharePoint lists, libraries, and items during a migration:

a) Check the **Apply new content types during copy** box.

b) Follow the instructions in the topic Applying Content Types to Lists and Libraries.

10. If you want libraries, folders, or document libraries to be migrated as a SharePoint document set:

a) Check the **Apply new document sets during copy** box.

b) Follow the instructions in the topic Applying Document Sets to Libraries, Folders, or Documents.

NOTE: Content Matrix automatically migrates *existing* document sets in SharePoint 2010 and later. See Document Sets Migration for requirements and limitations.

11. If you are migrating *within the same version of SharePoint,* and want any un-ghosted Publishing pages from the source to be ghosted on the target, check the **Reattach Publishing Page Layouts** box.

    NOTES:

    - If you are migrating to a different version of SharePoint, this option will be checked and disabled as Publishing pages will always be re-ghosted on the target.

    - For more information on this option, see Ghosted and Un-Ghosted Page Migration.

12. If you want to preserve IDs for any folders and items in SharePoint lists, so each item and folder will have the same ID on the target as it does on the source, make sure the **Preserve IDs on items/folders in Lists on the target** option is selected.

    NOTES:

    - If this option is not selected then SharePoint will assign an item ID automatically.

    - This option is used for Incremental Migrations, and does not apply to Document Libraries.

    - For more information on incremental copying and preserving IDs, see Preserving SharePoint List Item IDs When Migrating to SharePoint Online.

13. If you want to **Preserve IDs on items/folders in Document Libraries**, select this option.

    NOTES:

    - This option is used for an Incremental Migration and only includes SharePoint Document Libraries, not Lists.

    - This option is different from the Preserve SharePoint Document IDs option. For more information on this feature, please contact Quest Support.

14. If you want Content Matrix to disable the normal document parsing methods for SharePoint in order to fetch all of the metadata properties for files, check the **Disable SharePoint Document Parsing** box.

    NOTES:

    - This option is only required in some very specific cases. In some cases customer document parser may be used on the source SharePoint instance, or there may be some heavily customized metadata creation that can affect a normal migration. These cases are usually determined by a special error message when migrating documents ("Unable to update the information in the Microsoft Office document").

    - This option affects all items within the scope of the migration. If the **Preserve Configuration Options** (in the **Settings** tab of the ribbon) are enabled, this option will need to be turned off for any subsequent migrations if you no longer want the SharePoint document parsing methods to be disabled.

    CAUTION: Disabling the SharePoint document parsing methods can potentially cause issues if migrating InfoPath forms.

15. If you are migrating from SharePoint 2010 or later, and want to preserve the values in the **Document ID** field that is enabled with the Document ID Service feature (which must be activated

at the Site Collection level on the target), check the **Preserve SharePoint Document IDs (Requires SharePoint Crawl)** box.

> NOTES:

- If you select this option and the Document ID Service feature is not activated on the target site collection, a warning message will display informing you that you will not be able to use this option. If you enable the feature after initiating the migration, you will need to refresh the connections before continuing.

- Please see the [Migrating with Document IDs](#) FAQ for more details on the differences between the item and folder IDs (in the ID field) and Document IDs (in the Document ID field).

16. If you want to migrate to a SharePoint Online target using the Import Pipeline, check the **Use Import Pipeline** box and either:

- keep the default option - **SPO Provided Azure Containers**

OR

- select **Azure Private Containers** (if configured), and enter the **Azure Storage Connection String** in the following format:
DefaultEndpointsProtocol=https;AccountName={your account name};AccountKey={your account key}

> NOTE: When using Azure Private Containers, you also have the option to **Encrypt Azure jobs**. (When using SPO Provided Azure Containers, jobs are always encrypted.) See also [Migrating to SharePoint Online Using the Import Pipeline](#).

Applying Content Types to Lists and Libraries

You can map items in lists to the newly applied content types (or map new items in a list to an existing content type).

This option can be useful when migrating a list and applying a new content type to that list and its items. Another example would be if items are being copied from the source site to a different existing list on the target, and a different content type needs to be applied to those items.

When the **Apply new content types during copy** option is selected and the **[...]** button is clicked from the [List Content Options](#) tab, one of the following dialogs displays:

- **Apply Content Types to Lists** (if migrating a site)
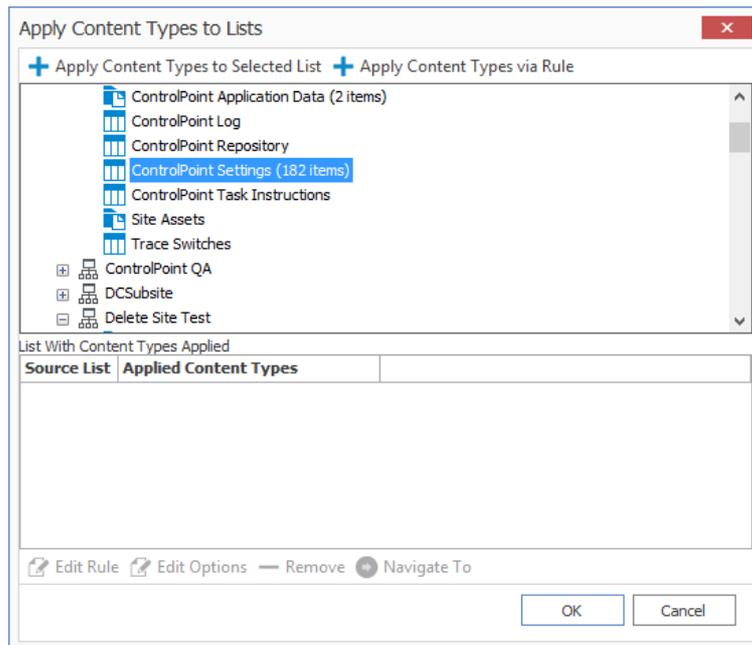
> NOTE: Any existing mappings display in the bottom section of the dialog.

OR

- **Content Type Application Options** dialog (if migrating a list or items).
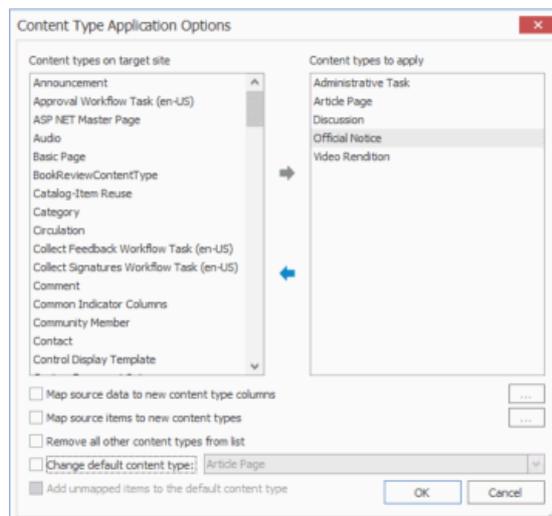
To apply content types to a list or library:

1. In the dialog's top section, use the explorer tree view window to navigate to, and select, the list or library that the content type(s) will be applied to.,

2. Either:

    ▪ click the **Apply Content Types to Selected List** button at the top of the dialog. to display the **Content Type Application Options** dialog.

    OR

- use the **Apply Content Types via Rule** option to display the **List Filter Conditions** window, and apply filter expressions.

Note that the left From the left (**Content types on target site**) window lists all of the available content types that exist on the target SharePoint instance.
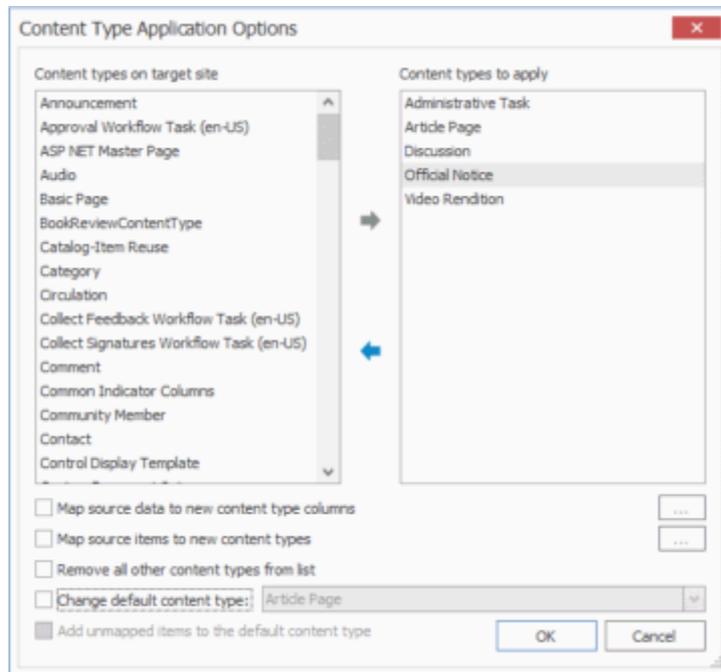
4. From **Content types on target site** window, select all the desired content types you want to be applied to the selected list, and move them to the right (**Content types to apply**) window.

5. Select any of the remaining options that you want to apply. Use the information in the following table for guidance

If you want to ...	Then ...
map a content type column on the source to a column on the target, as the new content type column	A. Check the **Map source data to new content type columns** box. B. Click the **[...]** button to display the **Edit Column Mappings** dialog. C. Continue with the procedure for Mapping Columns.
map items from the source into a new content type on the target based one or more specified filters	A. Check the **Map source data to new content type columns** box. B. Click the **[...]** button to display the **Map Items to Content Types** dialog. C. Continue with the procedure for Mapping Items to Content Types. NOTE: This option is available only when migrating Exchange folders (not individual items).

If you want to ...	Then ...
change the default content type for the target list or library	A. Check the **Change default content type** box B. Select a content type from the drop-down. NOTE: When you check this box, the **Add unmapped items to the default content type** is automatically enabled and checked.

Mapping Items to Content Types

You can specify content types for target items when you click the **[...]** button from the Content Type Application Options dialog.

To map items to content types:
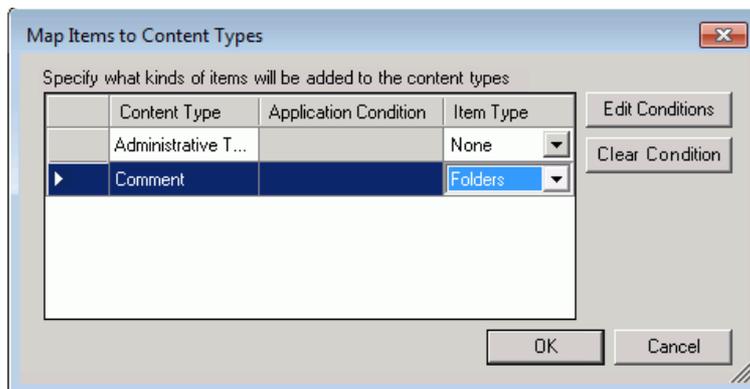
1. Select the content type, and click **[Edit Conditions]** to display the **List Items and Documents Where filter** dialog.

2. Select the filter(s) you want to apply as you would when Applying Filter Expressions.

    NOTE: If you select **[Clear Condition]**, all conditions that are currently applied to that content type will be cleared.

3. Once all filters have been set, click **[OK]** to return to the **Content Type Application Options** dialog.

Applying New Document Sets to Libraries, Folders, and Documents

Content Matrix can apply Document Sets to libraries, folders, or documents as a part of a migration. Document Sets can be applied when migrating to SharePoint 2013 and later (including Microsoft 365) environments, and can be configured at the time of migration. This feature allows for any SharePoint folders, or document libraries to be migrated as a SharePoint Document Set. Please see Microsoft's Document Sets planning page for more basic details on document sets.

NOTE: If you want to apply an existing Document Set to a list, library, or folder, initiate a list-level migration and paste the object to a Document Set on the target.

When you check the **Apply new document sets during copy** check box and click the **[...]** button from the **List Content Options** dialog, the **Apply Document Sets** dialog displays.
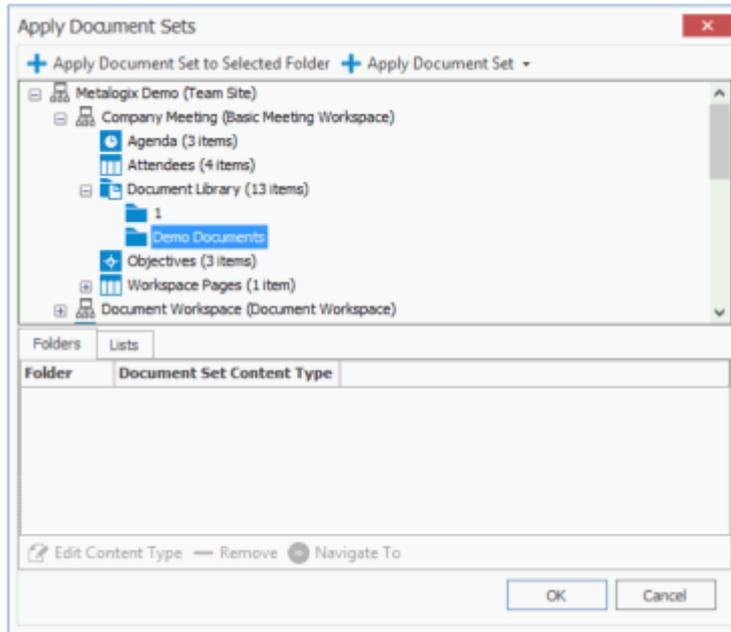
To apply new Document Sets:

1. In the upper (tree view) window, select the content to which you want to apply the Document Sets.

2. Select the appropriate **Apply Document Set** option. Use the information in the following table for guidance.

If ...	Then ...
• you selected a *folder* AND • you want to apply a **Document Set Content Type**	A. Select **Apply Document Set to Selected Folder** to display the **Document Set Content Type** dialog. B. Select an available **Content Type** from the drop down. C. Click **[OK]** to dismiss the **Document Set Content Dialog** and return to the **Apply Document Sets dialog,** which now displays the newly added mapping in the **Folders** tab.
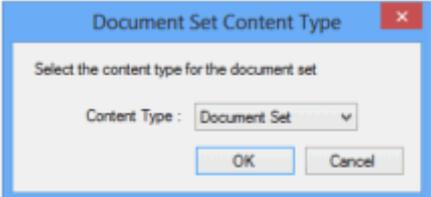
If ...	Then ...
• you selected a document library AND • you want to apply a new Document Set to all or selected items within the library based on a filter expression	A. Select **Apply New Document Set To Library** to display the **Map Documents to Document Sets** dialog. **Map Documents to Document Sets** Specify what kind of documents will be added to each document set Name Content Type Application Condition Edit Conditions Clear Conditions Remove New Document Set OK Cancel B. Click **[New Document Set]** to display the **Enter Name dialog** and enter a name for the new Document Set. C. Click **[OK]** to dismiss the **Enter Name** dialog, and display the **Document Filter Conditions** dialog. D. Apply the desired filter expressions for the item-level Document Set. NOTE: If no condition filter value is entered in the **Document Filter Conditions** dialog, no items in the document library will be applied to the Document Set. E. Click **[OK]** to dismiss the **Document Filter Conditions** dialog and re-display the **Map Documents to Document Sets** dialog. F. Select the appropriate **Content Type** to apply to the Document Set from the drop-down. G. Click **[OK]** to dismiss the **Map Document Sets dialog** and return to the **Apply Document Sets dialog, which** now displays the newly added mapping in the **Lists** tab.
• you selected a site AND • you want to apply new Document Sets lists and/or items on the site based on filter expressions	A. Select **Apply New Document Set via Rule** to display the **Lists Filter Conditions** dialog. B. Apply the desired filter expressions for the list-level Document Set.
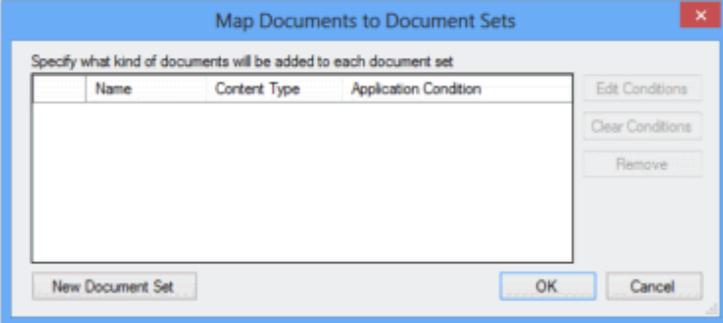
If ...	Then ...

C. Click **[OK]** to dismiss the **List Filter Conditions** dialog and display the **Map Documents to Document Sets** dialog.

D. Click **[New Document Set]** to display the **Enter Name dialog** and enter a name for the new document set.

E. Click **[OK]** to dismiss the **Enter Name** dialog, and display the **Document Filter Conditions** dialog.

F. Apply the desired filter expressions for the item-level document set.

G. Click **[OK]** to dismiss the **Map Document Sets dialog** and return to the **Apply Document Sets dialog,** which now displays the newly added mapping in the **Lists** tab.

    H. Repeat Steps A-G to apply lists and items within the site to document sets. |
| • you initiated an item-level migration

AND

• you want to apply a new document set to individual items to based on filter expressions | A. Select **Apply New Document Set via Rule** to display the **Map Documents to Document Sets** dialog.

B. Click **[New Document Set]** to display the **Enter Name dialog** and enter a name for the new document set.

C. Click **[OK]** to dismiss the **Enter Name** dialog, and display the **Map Documents to Document Sets** dialog.

D. Apply the desired filter expressions for the item-level document set.

E. Select the appropriate **Content Type** to apply to the document set from the drop-down. |

If ...	Then ...
	F. Click **[OK]** to dismiss the **Map Document Sets dialog** and return to the **Apply Document Sets dialog,** which now displays the newly added mapping in the **Lists** tab.

Note that you can use the **Navigate To** option to locate the object to which a selected filter applies in the upper (tree view) window.

Managed Metadata Options

Before configuring Managed Metadata options, it is strongly recommended that you review the Managed Metadata Migration section for allowable connection types, permissions, and prerequisites.
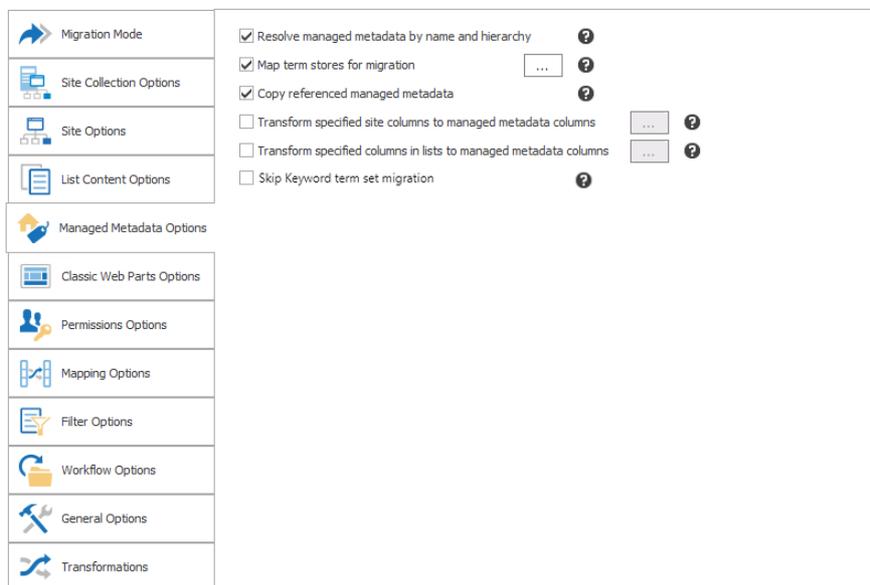
NOTE: You can also import Managed Metadata taxonomy mappings.

To configure Managed Metadata options:

1. If you want Content Matrix to check both the source and target environments to find any existing Managed Metadata term structure and then migrate a copy of the source term structure over to the target, make sure the **Resolve managed metadata by name and hierarchy** box is checked.

    NOTE: If there are terms that do not exist, they will be added (using the same hierarchy structure with new GUIDs), and if there are terms that already exist the terms on the target will be used. If you want terms on the target to be overwritten with those on the source, make sure **Map term stores for migration** is selected, as described in the next step.

2. If you want to map the term store on the source to a term store on the target:

    NOTE: Migrating Managed Metadata at the site level will only copy the global Managed Metadata, and will not copy any site collection term sets. Site collection term sets are only copied when the

Copy referenced managed metadata and **Map term stores for migration** options are enabled as part of a SharePoint site or list level migration.

a) Check the **Map term stores for migration** box, then click the **[...]** button.

The Map Term Store dialog displays with a list of all term stores that currently exist on the target.
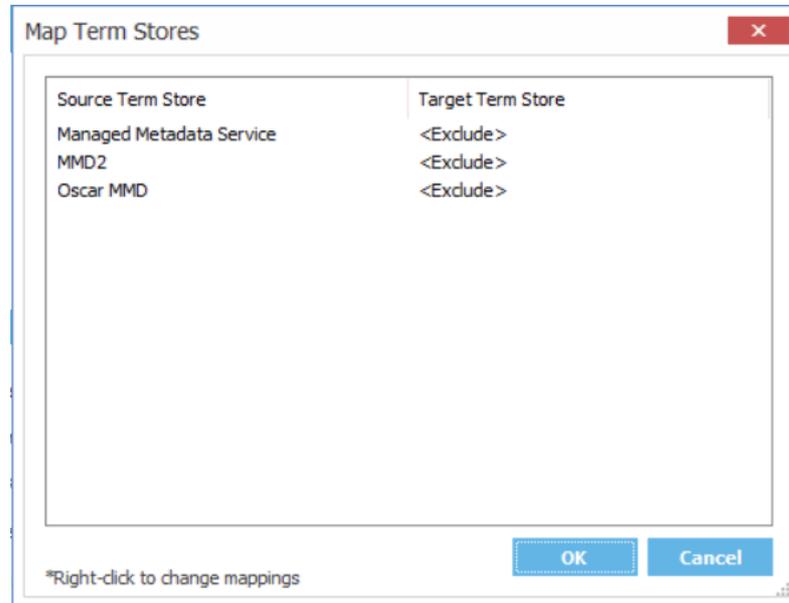
NOTES:

- This option is primary used in the following situations:
    - When migrating the entire term store (the global term store).
    - When migrating term stores by their ID value
    - When migrating at the site collection level that uses more than one Term Store, to ensure that the correct Term Store is used.
- This option is *required* when migrating to a Microsoft 365 Tenant target environment. In such a migration, this option is enabled by default and cannot be deselected.
- If the **Resolve managed metadata by name and hierarchy** option is selected, this option would only be selected if you want to map and overwrite the values the target.

b) Right click the **Source Term Store** you want to map, and select the **Target Term Store** you want to **Map to**.

NOTE: If the **Target Term Store** is set to <Exclude> (the default value), the term store will not be mapped. A 1:1 Relationship must exist between Source/Target term store mappings

3. When you are finished mapping term stores, click **[OK]**.

4. If you want to migrate Managed Metadata columns for items and lists, check the **Copy referenced managed metadata** box.

NOTE: This option will not actually create Term Stores. It is recommended that this option be used in conjunction with the **Resolve managed metadata by name and hierarchy** and/or **Map term stores for migration.**

5. If you want SharePoint site columns (fields) to be transformed into Managed Metadata fields on the target:

   a) Check the **Transform specified site columns to managed metadata columns** box.

   b) Click the **[...]** button.

   c) Complete the Configure Transformations for a Site Column dialog as described in the topic [Transforming a Site or List Column into a Managed Metadata Columns](#).

6. If you want SharePoint list columns (fields) to be transformed into Managed Metadata fields on the target:

   a) Check the **Transform specified list columns to managed metadata columns** box.

   b) Click the **[...]** button.

   c) Complete the **Configure Transformations for a List Column** dialog as described in the topic [Transforming a Site or List Column into a Managed Metadata Columns](#).

7. If the SharePoint Enterprise Metadata and Keywords Settings option is enabled on the source and you do not want to migrate the Keyword term set or the Enterprise Keyword columns in lists/libraries, check the **Skip Keyword term set migration** box.

   NOTE: The 'Skipping Keywords term set migration' and 'Skipping Enterprise Keywords column' events will only display in the [Job Log](#) if the **Copy referenced managed metadata** box is also checked.

NOTE: By default, Content Matrix migrates terms in batches of 50. You can, however, change this value (for example, decrease it if you are experiencing timeout errors during the migration operation or increase it if you are migrating an excessively large number of terms or keywords). However, It is recommended that you not change the batch size unless absolutely necessary. See [Changing the Managed Metadata Migration Batch Size](#).

Importing Managed Metadata Taxonomy Mappings

If the [TaxonomyMigrator](#) has been used to migrate Managed Metadata term groups and term sets and a json file with taxonomy mappings has been generated, these mappings can be imported to the Content Matrix Job Database and/or Distributed Database using PowerShell for use in future migrations.

NOTES:

- Taxonomy migration creates all the term groups and term sets that are not present in the global taxonomy mappings.

- After importing to Content Matrix, mappings will be resolved during content migration and not remigrated.

- The imported mappings are handled as global mappings and not distinguished between multiple term stores.

- The mappings are not visible on UI and can be listed only via PowerShell.

Before Importing Managed Metadata Mappings:

Open the Content Matrix Console and from the Jobs List **File** menu select the option for the database to which you want to copy the mappings:

- **Connect to Distributed Database**

OR

- **Connect to Job Database**

To access the PowerShell cmdlets for importing taxonomy mappings:

Open a PowerShell or PowerShell ISE session and add the PowerShell snap-ins for the application framework.

The following cmdlets are now available:

Load-GlobalTaxonomyMappings

Get-GlobalTaxonomyMappings

Clear-GlobalTaxonomyMappings

To import global taxonomy mappings to the selected database:

Select (from the PowerShell ISE Command Window) or enter **Load-GlobalTaxonomyMappings** and enter the path to the **JSON File** , then run the cmdlet.

Example script:

```
Load-GlobalTaxonomyMappings –JsonFile "C:\Temp\mappings.json".
```

> NOTE: It will be necessary to restart the Content Matrix Console after taxonomy mappings are loaded.

To display a list of global taxonomy mappings:

Select (from the PowerShell ISE Command Window) or enter **Get-GlobalTaxonomyMappings**, then run the cmdlet.

A list of the unique identifiers for each source/target mapping displays.

To clear global taxonomy mappings from the selected database:

Select (from the PowerShell ISE Command Window) or enter **Clear-GlobalTaxonomyMappings**, then run the cmdlet.

Classic Web Parts Options

If you want to copy classic web parts as part of the migration, select the **Classic Web Parts Options** tab.

> NOTE: Modern web parts are copied as part of page metadata.
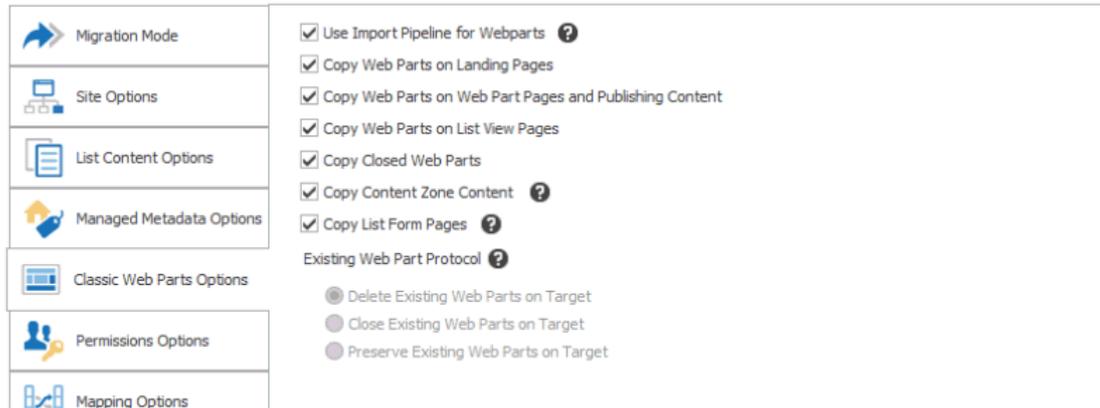
> NOTE: For special considerations when migrating classic web parts, see Classic Web Parts Migration.

To configure Classic Web Parts Options:

1. If you want to **Use Import Pipeline for Webparts**, check this box.

   > NOTE: This option is available only if Advanced Mode is enabled and you chose to **Use Import Pipeline** on the List Content Options tab. See Using the Import Pipeline to Migrate Classic Web Parts for supported web parts, requirements, and limitations.

2. If you initiated a site collection or site-level migration and want to **Copy Web Parts on Landing Pages**, make sure this box is checked.

   > NOTE: Landing pages are usually the **default.aspx** pages, but these pages can also have other names. For example, starting in SharePoint 2010 these have been changed to home.aspx pages when Wiki features are enabled. While the method to migrate these pages is the same as for other web parts, the logging may be slightly different.

3. If you want web parts to be copied on any other web part pages (aside from landing pages) or in any publishing content, make sure the **Copy Web Parts on Web Part Pages and Publishing Content** box is checked.

4. If you want to copy SharePoint lists or libraries that have a "view" set on them, check the **Copy Web Parts on List View pages** box.

   > NOTES: In some cases these views have web parts added to them, which only appear within that specific view. This option preserves the addition of these web parts within the views.

   In SharePoint 2010 there is an issue relating to adding web parts to a list or library "view." When a web part is added to a list or library the "view" option (or the ability to select a specific view) is no longer available for that list either next to the title, or in the ribbon. This is caused by SharePoint 2010, and not by Content Matrix.

Content Matrix does not currently support the preservation of views on SharePoint 2010 XSLT list view web parts.

5. If you want to copy web parts that exist on a page but are no longer displayed, select **Copy Closed Web Parts**.

6. If you want to copy HTML content from a "Content Zone" on a page, make sure the **Copy Content Zone** box is checked.

   NOTES:

   ▪ A "Content Zone" is a location on a page (introduced in SharePoint 2010) where general text can be added, AND a web part can also be embedded into that same location (for example, a Wiki page/Wiki content). When selected this option will help ensure that web parts that are embedded in these "Content Zones" will appear in the correct location on the target after migration. This option is only available when migrating from SharePoint 2010 or later.

   ▪ It is recommended that this option be enabled for most migration scenarios.

7. If you have any web parts that are on custom created "Form" pages to be migrated, make sure the **Copy List Form Pages** box is checked.

   NOTES:

   ▪ This option does not support any customizations of an Out Of Box (OOB) form that is not related to web parts and is customized through the direct modification of the ASPX page (aside from adding or modifying a web part).

   ▪ This option is automatically selected if you checked the **Copy Customized Form Pages** box on the List Content Options tab.

8. If you are copying web parts as a post-migration task and you want to **Copy Web Parts Recursively** down through the content structure, check this box.

   NOTE: This option is only available when migrating web parts as a separate action.

9. For **Existing Web Part Protocol**, select how you want to have Web Parts that already exist on the target handled before migration:

   ▪ **Delete Existing Web Parts on Target** (default)

   ▪ **Close Existing Web Parts on Target**

   This will close, but not delete, any web parts that exist on the target, before migration.

   ▪ **Preserve Existing Web Parts on Target**

Permissions Options

For users to be migrated, they must exist on the target side Active Directory (AD), so that SharePoint can authenticate them. A good rule of thumb is if the user cannot be manually authenticated in the target SharePoint instance, then Content Matrix will not be able to add them.

In cases where data was migrated and the referenced user cannot be authenticated, Content Matrix will set the migrating user account into the files metadata instead, and a warning will be listed in the logs. In these cases user mappings can be set up, to map these users to another account.

You can also migrate only users from a source to a target as a separate action.

If a migration is initiated at the **site collection** or **site** level, Content Matrix can migrate permission levels as well as permissions. This includes any default permission levels that have been modified, as well as any custom created permission levels.

Permission levels are a set of permission rights that can be assigned to a user or group as a "permission." Content Matrix can migrate these permission levels as part of a site level migration, or they can be migrated separately through the context (right-click) menu.

For example, if there is a custom permission level on the source called "Marketing Team," that is applied to a group and some users, then this permission level would not normally be migrated, unless this option is used. If this option is not used, Content Matrix will try to map the permissions over to the target, but will fail because the "Marketing Team" permission level does not exist, even if the users/groups exist, so we will try to match these permissions to the next closest match. If the copy Permission Levels option is used, the permission level will be created on the target SharePoint instance (otherwise it would have to be created manually). Once the permission level is created on the target, all the user/group permissions can be migrate and mapped over to the target SharePoint instance without issue.

> NOTE: If a site level copy is being performed, and the **Copy Child Sites recursively** option is enabled (in the **Site Options** section), all the sites, lists, folders, and items under the selected source node will be migrated, and any enabled options for permissions copying will be applied recursively down through the migration. If Copy Child Sites recursively is not enabled, only permissions for the selected (top-level) site will be copied.

Configuring Permissions Options

If you want to copy permissions as part of the migration, select the **Permissions** tab.
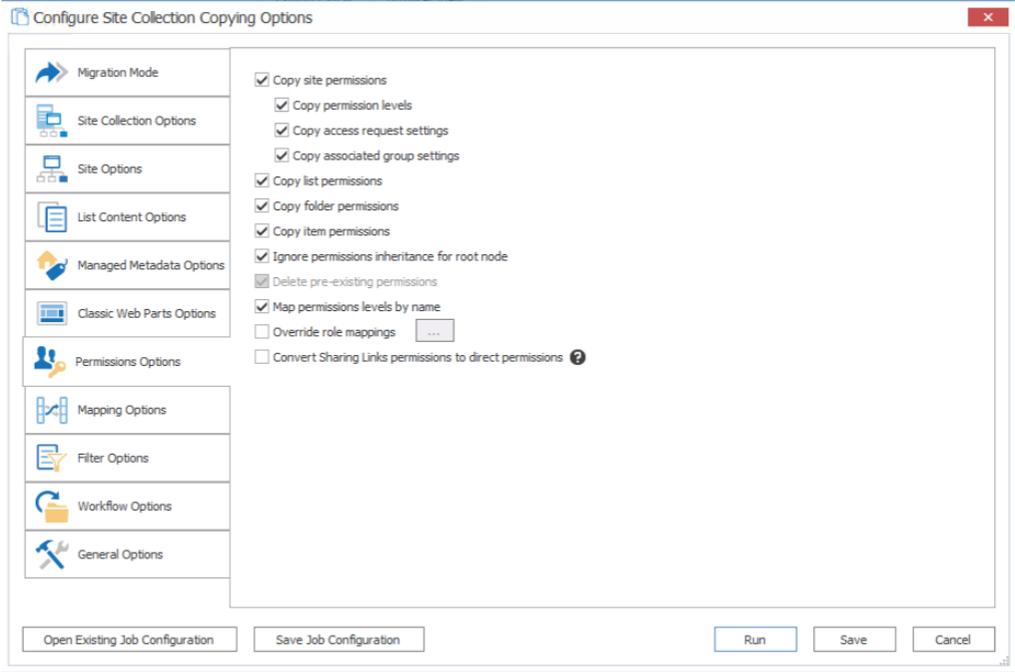
To configure Permissions Options:

1. If you want to **Copy site permissions**:

   ▪ make sure this option is selected

   AND

   ▪ make sure the appropriate additional options are selected. Use the information in the following table for guidance.

If ...	Then ....
you want to allow any custom permission levels (roles) that exist on the source to be copied and created onto the target (includes any default permissions that have been modified, or any custom permission level that have been created)	make sure the **Copy permissions levels** box is checked.
you want to copy any access request settings (provided that the target SharePoint location is configured for sending emails)	make sure the **Copy access request settings** box is checked.me

If ...	Then ....
	This option is only available for a SharePoint on premises target with an **OM** or **MEWS** adapter. See also Migrating Access Request Settings.
you want to copy any associated group settings for any sites that are within the scope of the migration.	make sure the **Copy associated group settings** box is checked. NOTES: Associated groups are the **Owners**, **Members**, and **Visitors** groups that are created by default and associated to each site at its creation.

2. If you want **Copy list permissions**, make sure this option is selected.

   NOTE: This option is not available if you initiated a folder- or item-level migration.

3. If you want to **Copy folder permissions** and/or **Copy item permissions**, make sure each applicable option is selected.

   NOTE: Copy folder permissions is not available for an item-level migration.

4. If you want the existing permissions inheritance of the root node being migrated to be ignored and have any permissions levels and permissions migrated directly for the site, make sure the **Ignore permissions inheritance for root node** box is checked.

5. If you are migrating permissions as a post-migration task and want to **Delete pre-existing permissions on the target**, check this box.

   NOTE: If you are performing a full migration, this box will be checked and disabled, to ensure that any permissions that exist on the target, within the scope of the migration, are deleted so that no issues are encountered when the migration is run and the source permissions are migrated

6. If you want to copy permissions levels from the source to the target by matching names make sure **Map permission levels by name** is selected.

   For example, if an "Admin" role exists on both the source target, the "Admin" permissions on the source will map over to the "Admin" role on the target, even if they use different levels of permissions. Any item, group, or user that has "Admin" permissions on it will still have "Admin" permissions, though the level of access might be slightly different (if the rights for the "Admin" role are different between the source and target servers).

   NOTE: If this option is selected and the role does not exist on the target, it will be skipped.

7. If you chose to **Map groups by name** and you also want to overwrite any groups on the target, make sure the **Overwrite existing groups** option is selected.

   NOTE: If you leave this box unchecked, users will be appended into existing groups.

8. If you want roles on the source to be mapped to different roles on the target:

   a) Check the **Override role mappings** box.

b) Click the **[…]** button.

c) Follow the procedure for [Mapping Roles](#).

NOTE: When you use this option, any other existing permissions role mapping that is set up will be overridden.

9. If you are migrating from a SharePoint 2019 source and want to **Convert Sharing Links permissions to direct permissions**, check this box.

NOTE: This option is disabled if the if the source is SharePoint 2016 or earlier. See ["Share With"](#) [Metadata and "Sharing Links" Access Migration](#) for details.

Mapping Roles

When you select **Override Role Mappings** and click the **[…]** button from the Permissions Options tab, you can set a name based mapping for permissions role mappings that will override any other existing permissions role mapping that is set up.

This option uses conditional logic so these mappings can be set for all cases, or can be set to only be used in specific cases. For example, an Override Role Mappings can be set up to map "Admin" to "Manage Hierarchy" for any nodes that start with a specific value. Or the same mapping can be set up for an entire site.

To set up a role mapping:

1. In the **Edit Role Mappings** dialog, click **Add** to add a new mapping.
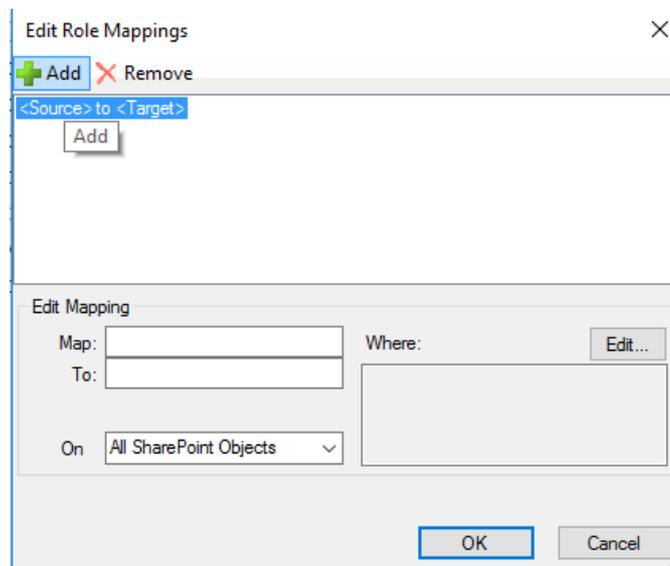
2. In the **Edit Mapping** section:

a) Enter the permission role from the source that you want to **Map**.

b) Enter the permission role in the target that you want to map **To**.

c) From the **On** drop-down, select the scope of the mapping: **All SharePoint Objects**, **Sites**, **Lists and Libraries**, **Folders**, or **List Items and Documents**.

3. If you want to filter the objects to which you want to apply the mapping, click **[Edit]** to display the **Define Mapping Condition** dialog and apply any filter expressions

    When you close the **Define Mapping Condition** dialog, the filter(s) you applied will display in the **Where** box.
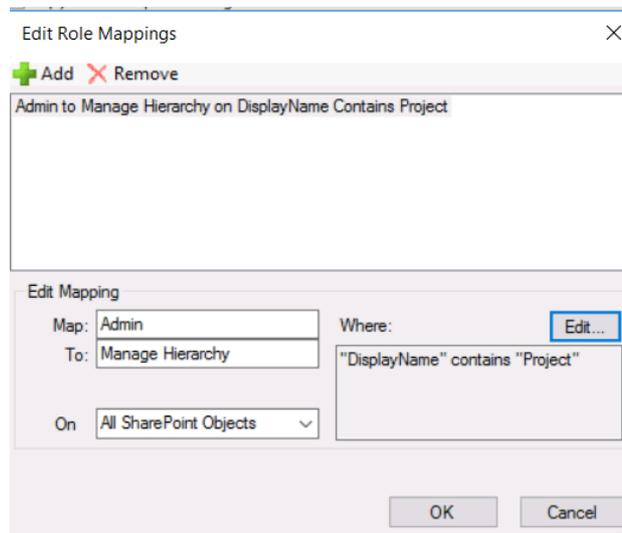
4. If you want to add another mapping, repeat Steps 1-3.

5. When you have finished mapping roles, click **[OK]** .

    These mappings will now be used in the migration.

Mapping Options
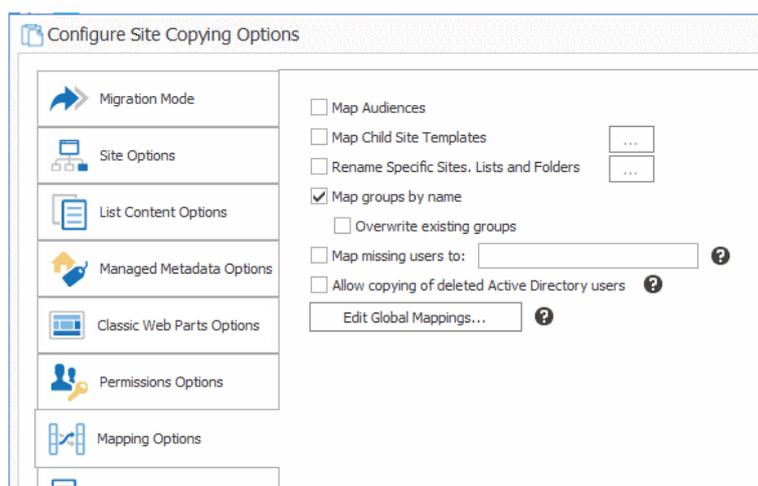
To configure Mapping options:

1. If you want to **Map Audiences**, check this box.

NOTE: Unlike the **Copy Audiences** option, the **Map Audience** option uses an algorithm to map the source audiences GUIDs (Globally Unique Identifier) to target audiences GUIDs. This mapping is based on the audience name, and allows Content Matrix to maintain any audience targeting information between servers. If an audience on the source doesn't have an equivalent audience on the target, it gets mapped to the closest matching one. The mapping algorithm is used since audiences on the source and target can have different properties available to them, and they may not match exactly.

2. If you are migrating sites and want to map child sites to different site templates on the target:

    a) Check the **Map Child Site Template** box.

    b) Click the **[...]** button to display the **Map Web Templates** dialog.

    c) Select the row containing the **Source Web Template** you want to map, right click, and choose the new corresponding **Target Web Template**.
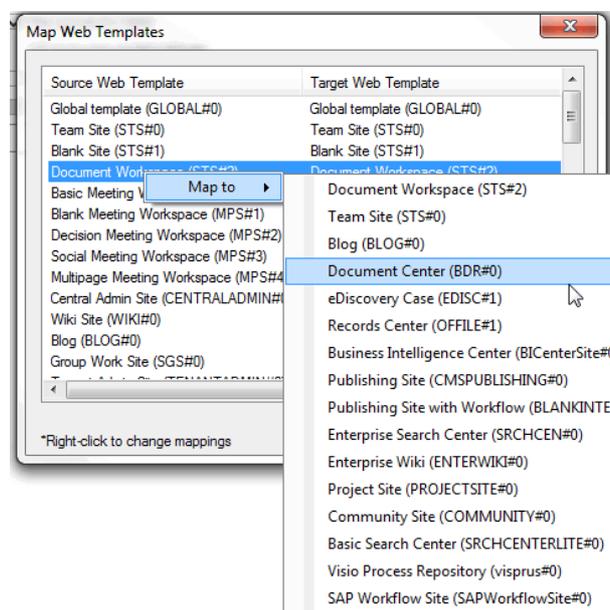
NOTES: For subsequent migrations, site template mappings will persist until changed.

This options will change the site template mapping for any sub-sites within the migration (and the mapping for any subsequent site migrations). Depending on the level at which you initiated the migration, you can change the top-level template on either the Site Collections Options tab or the Site Options tab.

3. If you want to rename any sites, lists, and/or folders at the target:

    a) Check the **Rename Specific Sites, Lists and Folders** box.

    b) Click the **[...]** button to display the **Rename Specific Site, Lists and Folders** dialog.

    c) Enter the new internal **Name** and **Title** (that is, the display name).

NOTE: A slightly different version of this feature is available depending on the level of the migration.

4. If you want groups to be mapped to the target site by name instead of by membership, check the **Map groups by name** box.

5. If you chose to **Map groups by name** and you also want to overwrite any groups on the target, check the **Overwrite existing groups** box.

    NOTE: If you leave this box unchecked, users will be appended into existing groups.

6. If you initiated the migration from the folder or item level and want to map source columns to different target columns:

    a) Check the **Map list item data to different columns** box.

    b) Click the **[…]** button to display the **Column Mapping** dialog.

    c) Follow the procedure for Mapping Columns.

7. Once the source and target side columns have been selected, click **Map**. These columns will now be mapped to each other, and the mapping will populate in the bottom window.

8. When you have finished mapping columns, click **[OK].**

9. If you want to map missing users from the source to a specified user account:

    a) Check the **Map missing users to**: box.

    b) Enter the full account name of the user you want to map to.

    NOTES:

    ▪ This text field does not authenticate, so any spelling mistakes will not be automatically corrected.

    ▪ This option does not apply to the Primary Administrator or Secondary Administrator options, when migrating a SharePoint Site Collection.

10. For migrations to SharePoint Online using the Import Pipeline, if you want to migrate the *names* of users who are disabled in or have been deleted from Active Directory, check the **Allow copying of deleted Active Directory users** box. When you select this option, the name of a disabled or deleted user will display as metadata (for example, in the Modified by column of a list/library) but will not be associated with an actual Active Directory account.

    NOTES:

    • If missing users are mapped to another user account, the mapping to the user account will take precedence.

    • This option is disabled for migrations to SharePoint on premises.

11. If you want to map users, domains, URLs, and/or GUIDs between source and target, click **[Edit Global Mappings...]** to display the **Specify Global Mappings...** dialog. Continue with the procedure for Global Mappings.

Mapping Columns

You can map columns from the source connection into separate columns on the target when migrating content into a SharePoint target when you select Map list item data to different columns and click the […] button from the Mapping Options tab.

NOTES:

- This option is only available when migrating folders or items from the source into an existing list or document library on the target. If migrating a site or list, this option will not be available.

- Currently, Content Matrix supports mapping of single column at the source to a single Managed Metadata column at the target. Mapping the same source column to multiple Managed Metadata columns at the target may cause problems.

To map columns:

1. Use the information in the following table to determine the appropriate action to take.

   NOTE: You can **Filter** items in each window to narrow displayed lists.

If you want to ...	Then...
manually map each individual source column to a target SharePoint column	- From the left (source) window, select the **Item** that you want to map. - From the right (target) window, select an available **Item.** - Click the **Map** icon.

create a new column on the target for any columns that are selected on the source side	- From the left (source) window, select the **Item** that you want to map.
	
	- Click the **Target** icon to display the **New Mapping Target** dialog.
	
	- Enter a **Column Name**.
	
	- If you want the column to be created as a site column, check the **Create as Site Column**, , and choose a column type from the **Group** drop-down.
	
	- If you want to add the column to a content type that exists on the target:
	
	  ▪ check the **Add to content type scoped at target site box**
	     AND
	
	  ▪ select the content type to which you want to add the column from the **Type** drop down.

The mappings you create will display in the bottom window. (Note that you can also **Unmap** individually-selected mappings in the bottom window or **Clear** all mappings from the bottom window.)

2. Click **[OK]** once all desired mappings have been made and return to the Configuration Options dialog.

Global Mappings

When you click **[Open Global Mappings]** from **Mapping Options** tab, the Specify Global Mappings dialog displays, allowing you to set:

- User Mappings

- Domain Mappings

- URL Mappings

- GUID Mappings

  NOTE: Global Mapping can also be performed as a separate action.

User Mappings

During a migration, user mappings are carried out in the following order of precedence:

A. Explicit mapping

B. Domain Mapping

C. Auto mapping

D. Mapping missing users to a user specified on the Mapping Options dialog

E. Mapping to logged-in user

Explicit User Mappings

Explicit user mappings are generally used when trying to migrate a user account that is "orphaned": that is, it exists on the source but is no longer active (or may not be in Active Directory). While the user may not exist, the user's data may still need to be migrated to the target.

One alternative to adding such an orphaned user to the target is to map the account to another user account. All of the user's basic metadata would be migrated, but the user name would be populated with the mapped account name instead.

User mappings can also be imported using the Import mappings from XML option.

If you want to map all users (which includes "orphaned" users) from the source domain to a different domain on the target, you can do so using Domain Mappings.

To configure explicit user mappings:
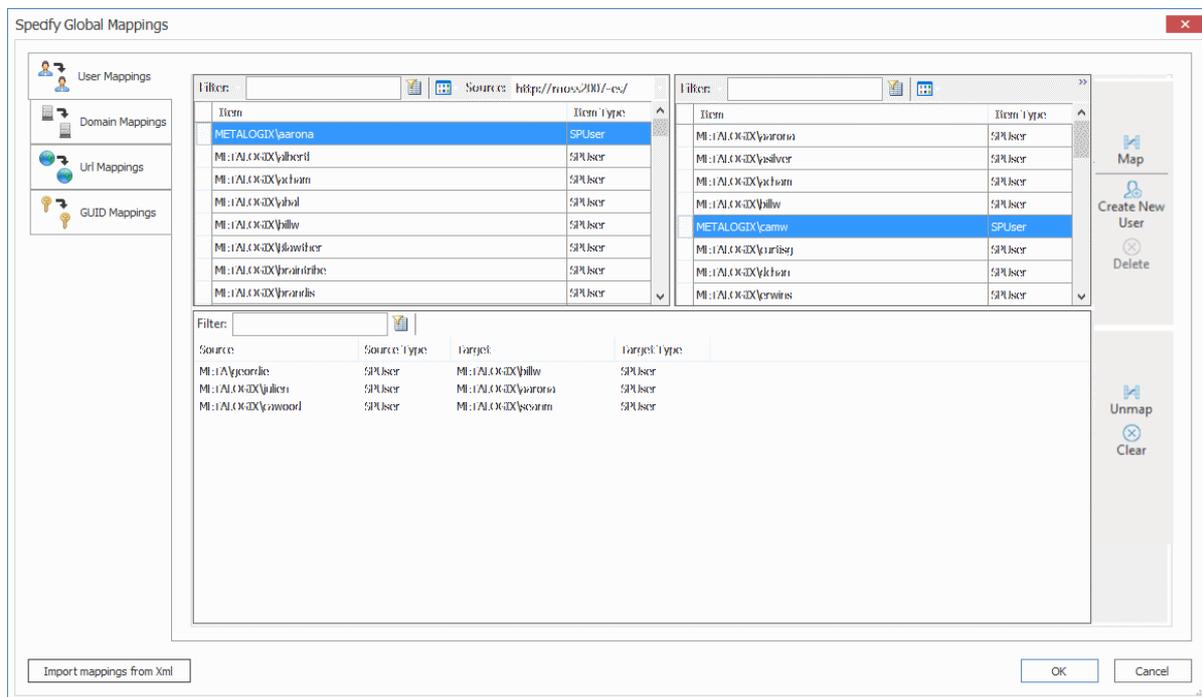
1. In the **Specify Global Mappings** dialog, make sure the **User Mappings** tab is selected.

2. From the **Source:** drop-down on the left side of the dialog, select the source object containing the users you want to map to the target.

   The Source list becomes populated with the users that have permissions for that object.

3. Use the information in the following table to determine the appropriate action to take.

If the user …	Then …
already exists on the target	A. Select the source user that you want to map. B. From the drop-down on the right (target) side of the dialog, select the target object containing the user to which you want to map. C. The target list becomes populated with users that have permissions for the selected object. D. Select the target user to which you want to map the source user.
does not already exist on the target	A. Click **Create New User** to display the Create New User dialog.

If the user ...	Then ...
	  B. (Required) Specify a **Login Name**. NOTE: This is the most important field as it is used to create/add a new user and should automatically retrieve any necessary values from the target side authenticator. Be sure to use the appropriate format for the authentication method (for example domain\user name, the Microsoft 365 login name, or, if using Claims authentication, the appropriate Claims prefix and format). C. (Optional) Complete the Display Name and/or Email fields. If the Login Name does not authenticate for any reason, these fields will be used to fill out the user data. D. Click **[OK]**.

4. Click **Map**.

   The mapping displays in the lower half of the dialog.

5. Repeat steps 2-4 until you have completed mapping users.

   NOTE: You can map multiple source users to a single target user.

Auto User Mapping

For migrations to SharePoint Online, unless users are mapped explicitly all users will be automatically mapped from a source domain to a domain with the same name on the target.

 IMPORTANT: Users will not be automapped if the Import Pipeline is used.

For example, if you are migrating users from an Active Directory domain called quest on the source to users in a Microsoft 365 tenant domain has the same name, the users would be migrated as follows:

quest\amahfudh -> amahfudh@quest.onmicrosoft.com

quest\doconnor -> doconnor@quest.onmicrosoft.com

quest\fsullivan -> fsullivan@quest.onmicrosoft.com

quest\gbond -> gbond@quest.onmicrosoft.com

and so on.

> NOTE: If the source and target domains have different names, you can use Domain Mappings.

To bypass some of the limitations with Auto User Mapping (including use of the Import Pipeline) and to provide more flexible mapping options for both on premises and online targets, you can instead use a utility available from Quest Support to generate, configure, and import User Mappings.

Generating, Configuring, and Importing User Mappings with the UserMappingCLI Utility

Quest Support offers a powerful command line utility to help with automatically generating and configuring user mapping files, along with PowerShell Cmdlets for importing user mappings as a .csv file. For a copy of the utility with complete instructions, visit https://support.quest.com/content-matrix/kb/311358/best-practices-for-generating-configuring-and-importing-user-mapping.

Domain Mappings

In addition to allowing you to map individual users explicitly, Content Matrix allows you to map all users from one domain to another, across both SharePoint on premises and SharePoint Online environments.

Domain Mapping can be used in conjunction with explicit user mapping. For example, you can map all users across a domain, and then map specific users into other user accounts.

> NOTE: Domain mappings can also be imported using the Import mappings from XML option, but Quest recommends the use of the UserMappingCLI utility as the most powerful way to generate, configure, and import user mappings for a variety of scenarios.

> IMPORTANT: If you want to migrate an AD group to a Microsoft 365 group that does not already exist on the target site, then you must use the Import mappings from XML option to map the source AD group SID to the target Microsoft 365 group ID.
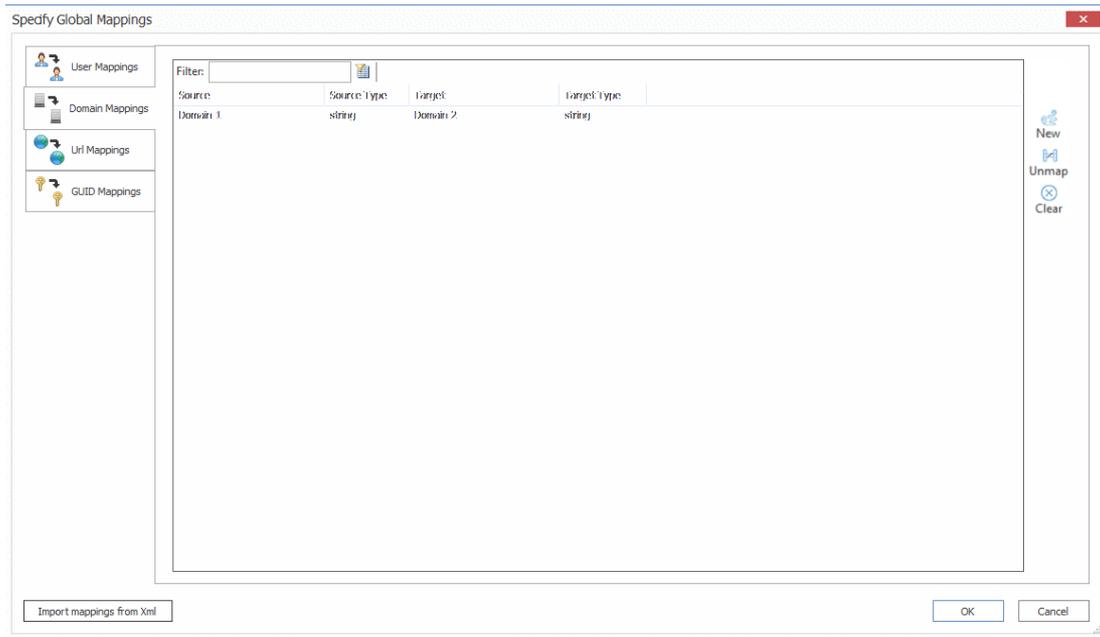
Domain Mapping supports the following connection types on both source and target:

- SharePoint on premises local and remote (MEWS) **Object Model**

- SharePoint Online **CSOM** and the **Import Pipeline.**

NOTE: If you do not specify an extension for an online domain, .com will be used.

EXAMPLES:

- If you have an on premises source domain called **quest**, and you map it to a SharePoint Online target domain called **questsoftware.com**, you could enter the mapping as shown below.
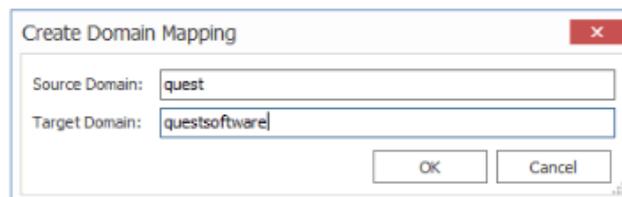
In this example, users would be migrated as follows:

quest\amahfudh -> amahfudh@questsoftware.com

quest\doconnor -> doconnor@questsoftware.com

quest\fsullivan -> fsullivan@questsoftware.com

quest\gbond -> gbond@questsoftware.com

and so on.

- If you have an on premises source domain called **quest**, and you map it to a SharePoint Online target domain called **questsoftware.net**, you would enter the mapping as shown below.
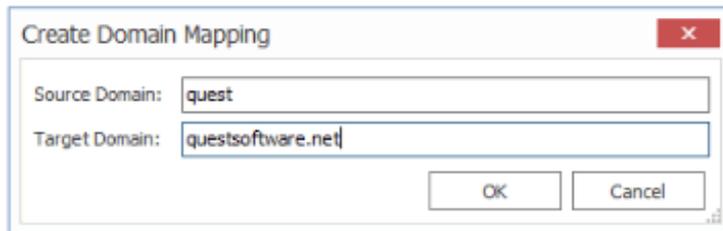
In this example, users would be migrated as follows:

quest\amahfudh -> amahfudh@questsoftware.net

quest\doconnor -> doconnor@questsoftware.net

quest\fsullivan -> fsullivan@questsoftware.net

quest\gbond -> gbond@questsoftware.net

and so on.

- If you have an online source domain called **questsoftware.com** and you map it to a target domain called **questsoftware.net**, you could enter the mapping as shown below.
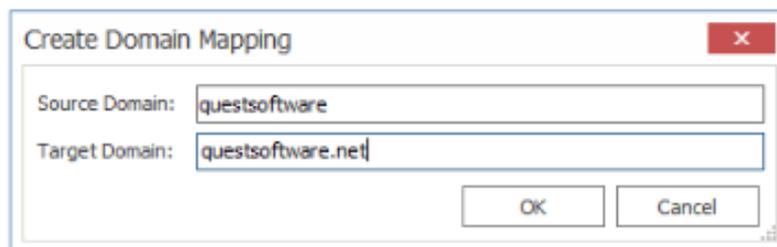
In this example, users would be migrated as follows:

amahfudh@questsoftware.com -> amahfudh@questsoftware.net

doconnor@questsoftware.com -> doconnor@questsoftware.net

fsullivan@questsoftware.com -> fsullivan@questsoftware.net

gbond@questsoftware.com -> gbond@questsoftware.net

To map domains:

1. In the **Specify Global Mappings** dialog select the **Domain Mappings** tab.

2. Click **New** to display the Create Domain Mapping dialog.
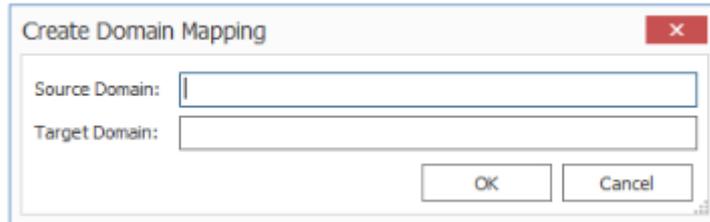
3. Enter the **Source Domain** name and the **Target Domain** name. Use the information in the following table for guidance.

Source	Target	Format/Example
On Premises	On Premises	**Source Domain:** quest **Target Domain:** questsoftware NOTES: When migrating Claims-enabled accounts, remember to include the Claims prefix. For example: i:0#.w|quest -> i:0#.w|questsoftware.
On Premises	SPO	**Source Domain:** quest **Target Domain:** questsoftware (or questsoftware.com)
SPO	On Premises	**Source Domain:** questsoftware (or questsoftware.com) **Target Domain:** quest

4. Click **[OK]**.

URL Mappings

Content Matrix can set explicit mappings for URLs which can be used with link correction. While link correction only applies to the content that exists within the scope of the migration, URL mapping can help by-pass this issue for any mappings that are specifically set.

For example, if there is a link within some content that is being migrated, and this link points to a URL location that is outside of the migrating content, a URL mapping can be set up for it. Then after migration, this link will point to the URL that the mapping was set up for, despite the target URL being outside the scope of the migrating content. If there are any other links to content that exists under the location that the URL is mapped to, the links to that sub-content will be corrected as well. For example,

if a URL mapping is set to a document library in a location that is outside the scope of the current migration, the URL mapping will correct the links that point to this document library. In addition, any links within the migrating content that are pointing to any folders or documents within the document library will also be corrected. Links that point to that document library's site, or other lists in the same site, will not be corrected.

The URL mapping behavior may change if the URLs being mapped exist within the scope of the migration. In this case the link correction within Content Matrix will likely override the URL mapping, if the source link has a mapping created for it through the normal link correction process.

You have the option of using the Sites, Lists, and Folders renamed on target option. This option allows you to specify any sites, lists, or folders that may have been renamed during migration. This is only used for link correction purposes, and will not actually rename any sites, lists, or folders

For example, if a site was renamed during migration, this renaming would be entered here so that the link correction would be able to correctly identify the site and correct all the necessary navigation links for it, during the navigation copy.

You can add as many additional mappings as desired. You can also map a single source URL to multiple target URLs.

URL mappings can also be imported using the Import mappings from XML option.

To map URLs:

1. In the **Specify Global Mappings** dialog select the **URL Mappings** tab.
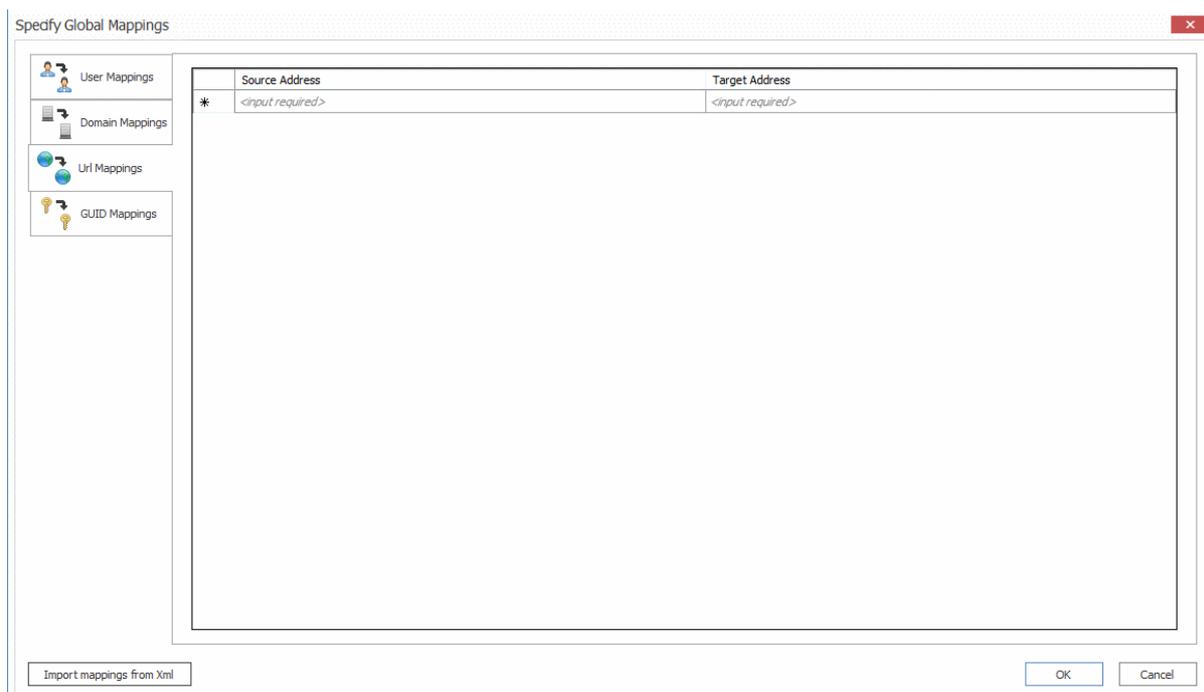
2. In the **Source Address** column enter the URL for the source location.

    This must be a *full* URL, and cannot be a relative URL. For example, "http://OldServer/Sales/FactsAndFigures" would be a valid URL value, while "./Sales/FactsAndFigures" or "www.OldServer/Sales/FactsAndFigures" would both be considered relative or invalid URL values.

3. Enter a value in the **Target Address** column.

    This is the same relative address as the **Source Address**, but using the location of the target side URL.

    NOTE: Content Matrix will check to see if any entered values in the URL mappings window are valid. This check will ignore any letter case differences or encoding (meaning that "encoding space" and "encoding%20space" are viewed as the same). It should also be noted that spaces in the hostname of the URL are not considered valid. This check applies to both the **Source Address** and **Target Address** columns.

4. Click **[OK]** to return to the **Specify Global Mappings** dialog.

GUID Mappings

While this feature is not required in most migration cases, there are some scenarios that may require GUID mapping for successful migration of SharePoint objects, like classic web parts. GUID Mapping will replace the specified GUID from the source with a different GUID on the target SharePoint environment.

Content Matrix will check the GUIDs to see if any entered values in the GUID mappings window are valid. This check will ignore any letter case differences or brackets ("{}").A warning message will be given for any entered GUID values that are not valid.

NOTE: One source GUID can be mapped to a single target GUID, or multiple source GUIDs can be mapped to a single target GUID.

GUID mappings can also be imported using the Import mappings from XML option.

NOTE: If you are using GUIDS Mappings to migrate Managed Metadata, it is recommended that you first Migrate Term Stores to the target.

To create GUID Mappings:

1. From the **Specify Global Mappings** dialog, select the **GUID Mapping** tab.
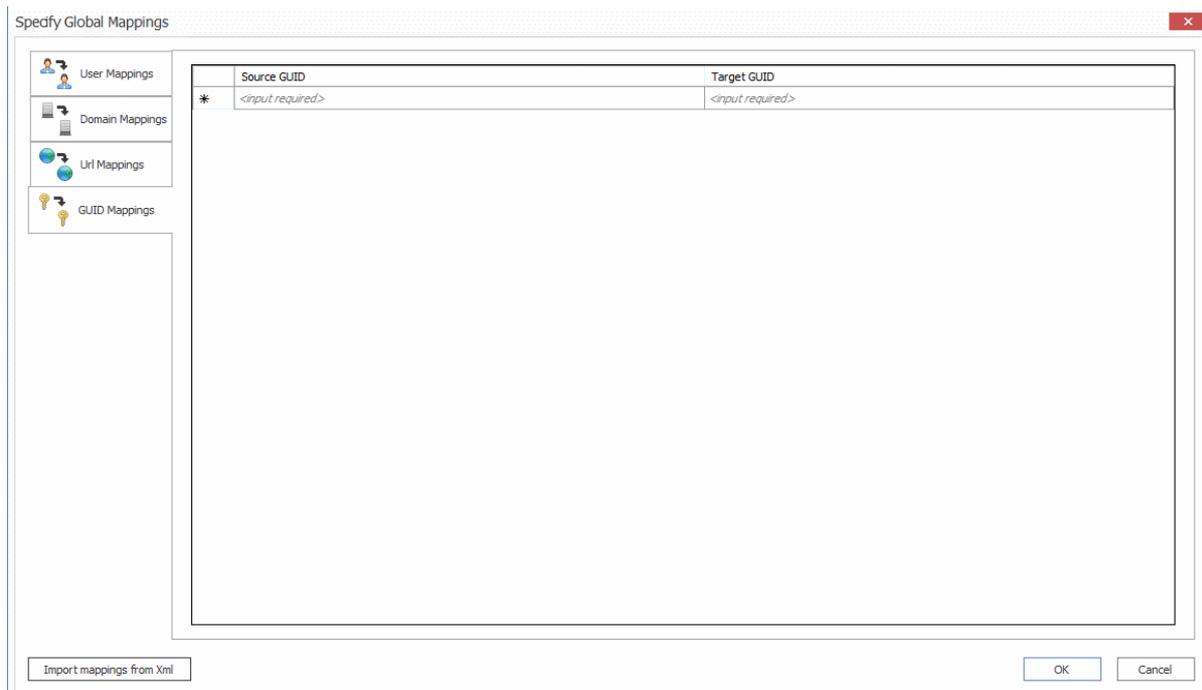
2. For each GUID you want to map:

   a) In the **Source GUID** column enter a valid GUID from the source location.

   b) In the **Target GUID** column, enter the replacement value for the target side.

3. When you have finished mapping GUIDs, click **[OK]**.

   When running a migration, if the migration action itself creates a mapping for a GUID value that is already mapped (though the **GUID Mappings** tab), the mapping from the migration will be used instead of the manually set mapping.

Importing Mappings from an xml File

Content Matrix can import any desired user mappings from an XML file. Importing user mappings from an XML file involves creating an XML file with the desired mappings, then importing that file. This option is generally used if migrating from an environment that has a large number of users/groups.

A single XML file can include: **User mappings**, **Domain mappings**, **URL mappings**, and **GUID mappings**. However, each type of mapping must have its own child node. The format for these child nodes is:

- **User Mapping** - <Mapping Source="Domain\User1" Target="Domain\User2" />

- **Domain Mapping** - <DomainMapping Source="Domain1" Target="Domain2" />

- **URL Mapping** - <URLMapping Source="URL1" Target="URL2" />

- **GUID Mapping** - <GuidMapping Source="GUID1" Target="GUID2" />

  NOTE: If you want to migrate an AD group to a Microsoft 365 group that does not already exist on the target site, then you must use the Import mappings from XML option to map the source AD group SID to the target Microsoft 365 group ID.

# To Import Mappings from an XML file:

1. Create a file, with any name, that contains any desired user or permissions mappings.

   The file must be an XML file, and must contain a root level node named **Mappings**, and have one child node for every mapping that you want imported. Each child node must contain two attributes: **Source** and **Target**.

   EXAMPLE:

   In the case of a mapping, The **Source** is the **Login Name** of the source side user, and the **Target** attribute is the **Login Name** of the target user that is being mapped to.

   Note that if you are mapping AD *groups*, you must use the group's SID in the mapping:

   ```
   <Mappings>
   <Mapping Source="Metalogix\User1" Target="Metalogix\User87" />
   <Mapping Source="Metalogix\User2" Target="Metalogix\User254" />
   <Mapping Source="[SID]" Target="[SID]" />
   </Mappings>
   ```

   > **IMPORTANT:** If you want to map an AD group to a Microsoft 365 group you must also add `[IsDomainGroup = "True"]`to the last line of the xml, as shown below. Otherwise, the error *User Not Found. Error: The remote server returned an error: (404) Not Found* will be generated.
   >
   > ```
   > <Mapping Source="[SID]" Target="[M365 Group ID]" IsDomainGroup = "True" />
   > ```

2. From the **Specify Global Mappings** dialog, click **[Import mappings from XML]** to open the **Select xml file to import** dialog.

3. Browse to and select the xml file you want to import, then click **[Open]**.
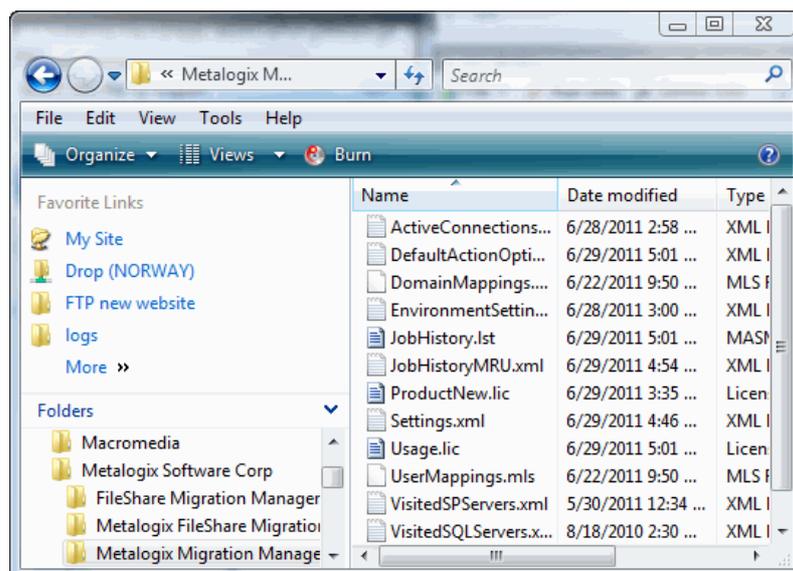
The mappings will be sorted and appear in the appropriate tabs of the **Specify Global Mappings** dialog.

Filter Options

In Content Matrix, filters can be set and applied to items within the scope of a migration. Content Matrix uses inclusive filters, and these can be added and applied to any level of a migration. Any filters that are set in a migration will be applied to all items within the scope of the migration. Multiple filters can be applied to each level of a migration.

To configure Filter Options:

1. Select the appropriate filter option(s). Use the information in the following table for guidance.

   NOTE: In some cases, when you check one of the filter options users may be prompted with a warning "Information" message regarding workflows. If no workflows are being migrated, click **[OK]** to continue. If workflows are being migrated, please read the message over and be cautious when setting any filters that they are not part of any migrating workflow.

If …	Select …
• you initiated a site collection- or site-level migration AND • you want filters to be applied to child sites within the scope of your migration	**Apply filter on Child Sites**.
• you initiated a site collection- or site-level migration AND	**Apply filter on Lists and Libraries.**

If …	Select …
• you want filters to be applied to lists and libraries within the scope of your migration	
you want filters to apply to items or documents within the scope of the migration	**Apply filter on Items and Documents**.
• you initiated a site collection or site-level migration AND • you want to exclude selected site columns from the migration	**Apply filter on Site Columns**.
• you initiated a list-level migration AND • you want to exclude selected list columns from the migration	**Apply filter on List Columns**.
• you initiated a site collection- or site-level migration AND • you selected the **Copy Other Root Files/Folders** option in the Site Options tab AND • you want filters to apply to custom *folders* that exist at the root of a SharePoint site the scope of your migration	**Apply filters on Other Root Folders**.

2. Follow the procedure for Applying Filter Expressions.

Applying Filter Expressions

> NOTE: This procedure applies to all filter types except Site Columns and List Columns.

To apply filter expressions:

1. For each option you selected:

   a) Click the **[…]** button to the right of the option to display the **Filter [Object]** dialog.

   b) Select a **Field** (that is, a field column from the source) and **Operator**, then (depending on the Operator) enter or select a **Value**.

      NOTES:

- Fields are listed by their internal name (and not their display name). The available options in the **Operator** and **Value** fields will be based on the **Field** value that is selected.

- If setting a filter at the Item/Document level, the **Field** value can be manually entered, and is not limited to the options that are available in the drop down list. This gives the filter a little more flexibility at the Item/Document level.
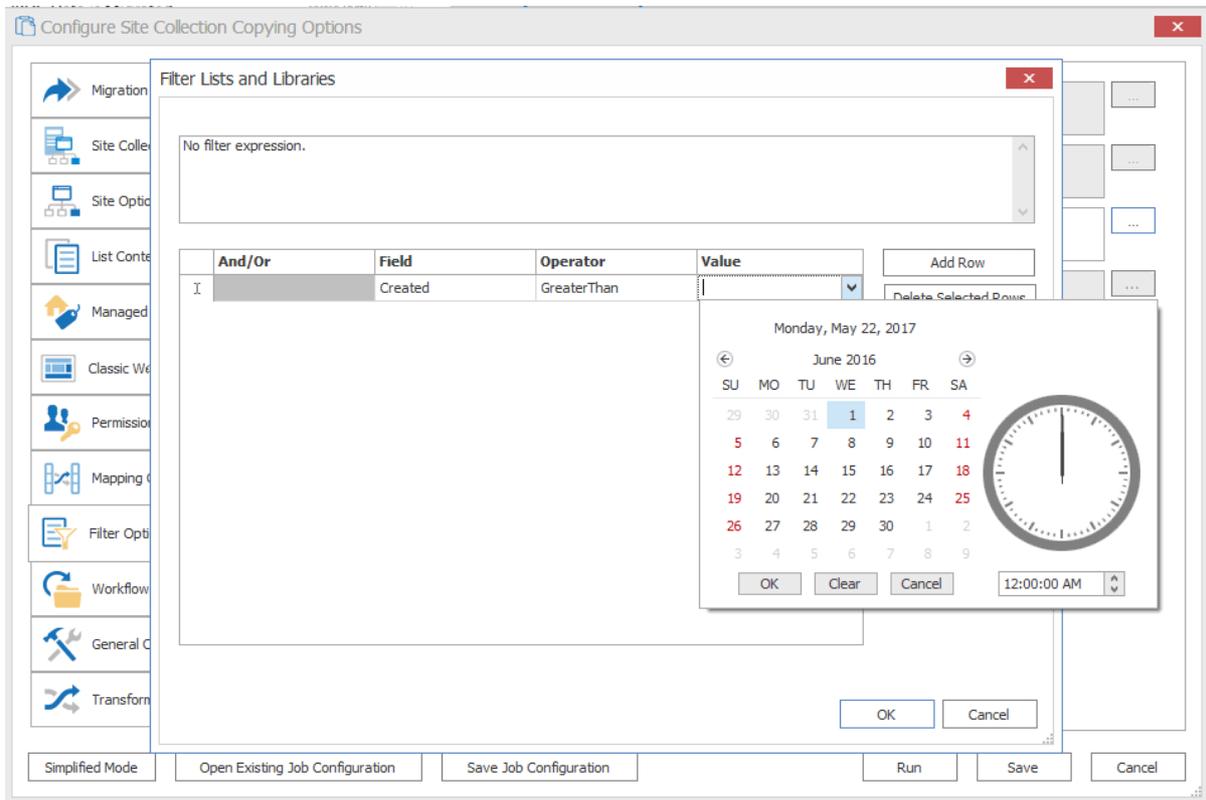
2. If you want to add additional expression to the filter:

   a) Click **[Add Row]** or the **[Tab]** key.

   b) Select the appropriate **And/Or** option:

      - If you want the condition to be applied *in addition to* any filter expressions that precede it, select **And.**

      - If you want to condition to be applied *as an alternative to* any filter expressions that precede it, select **Or** value is set, the filter will be added as an alternative filter value.

      The **Or** value is more likely to be used in scenarios where some [filters are grouped](#).

   Select/enter a **Field**, **Operator**, and **Value** as described in Step 2(b) above.

   Note that, as each expression is applied it displays in the box at the top of the dialog.

3. If you want to group filter expressions, continue with the procedure for "Grouping Filter Expressions," following.

   NOTE: Currently, you cannot change the ordering of filter expressions. To do so, you must remove then re-add them.
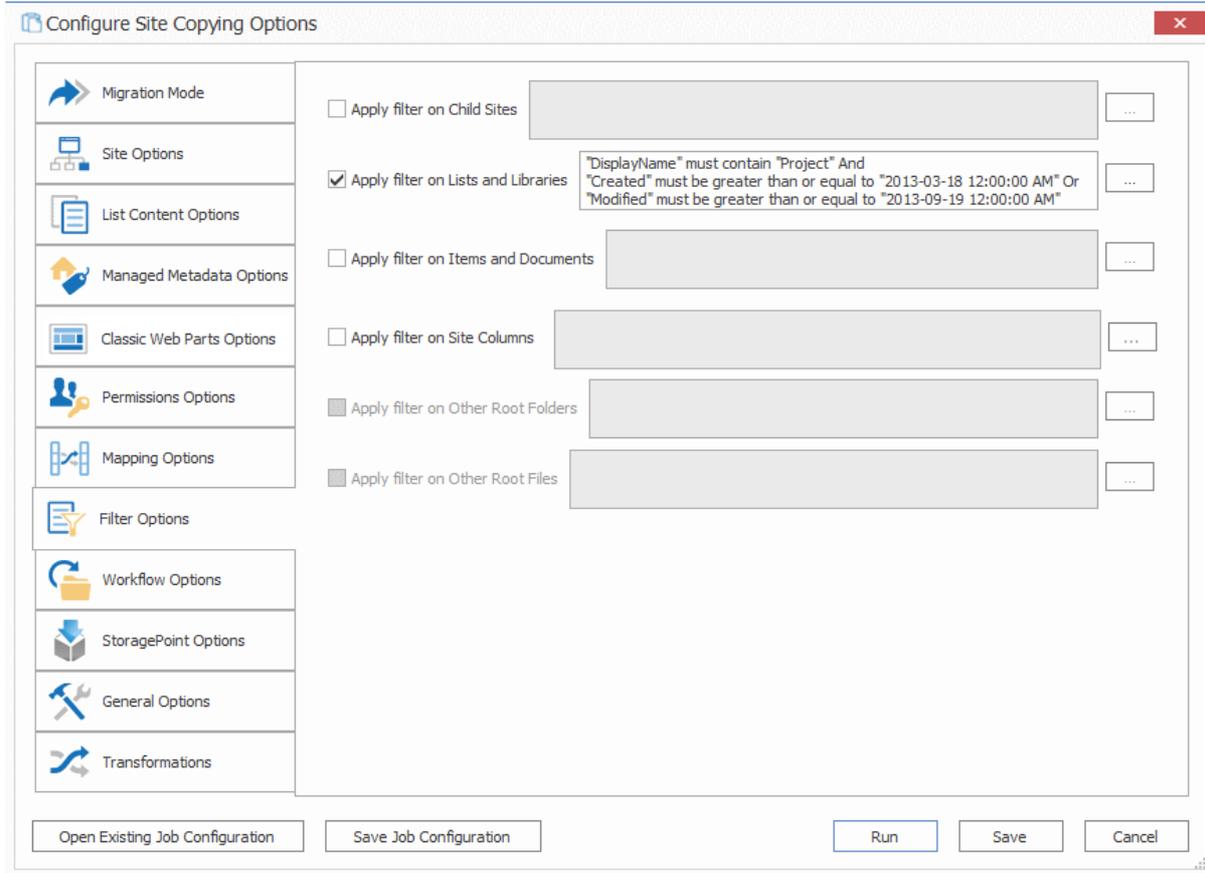
To remove any filter, select the entire row and open the context menu (by right-clicking), and select **Delete Filter(s)**. Alternately, once a filter row is selected, you can use the **[Delete]** key. The ordering of filters cannot currently be modified. They would have to be removed and re-added to change the ordering.

Grouping Filter Expressions

You can group two or more filter expressions that you want Content Matrix to process as a unit. Only filters that are adjacent to each other can be grouped. For example, if you have six filters (numbered 1 to 6), you can group, numbers 1 and 2, or 4 and 5, or even 2, 3, 4, and 5. But you would not be able to group 1 and 3, 2 and 5, or 2, 4, and 6. In the case trying to make a grouping of 3,4, and 6, you would be able to group 3 and 4, but you would not be able to add 6 to that group, unless 5 was also included. Multiple groups can also be grouped together into a single group, provided they are adjacent each other.

EXAMPLE:

 In the below image there are six filters added at the Lists and Libraries level, and these contain three groupings. There are two sub-groupings that are grouped together into a third, larger one.

Filter Lists and Libraries,

Filter

Filter Expression

"Created" must be greater than "2012-04-17 12:00:00 AM" And
"Modified" must be greater than or equal to "2013-06-05 12:00:00 AM" And
"Title" must contain "Project" Or
"Name" must contain "Migration" Or
"ID" must be greater than "483" And

	And/Or	Field	Operator	Value
		Created	GreaterThan	2012-04-17 12:00:00 ...
▶	And	Modified	GreaterThanOrEqualTo	2013-06-05 12:00:00 ...
	And	Title	Contains	Project
	Or	Name	Contains	Migration
	Or	ID	GreaterThan	483
	And	CreatedBy	NotEquals	Metalogix\JohnD
*				

Add Row

Delete Selected Rows

Group Rows

Remove Grouping

OK   Cancel

If you were to read through the filters they would be applied as follows: First a Created filter would be applied for the specified date. Next another filter would be applied to that content on the Modified date for a separate date value. Next the end result of the third, large group would be applied. To determine what the result of this is, you need to take a closer look at the smaller groups.

This first of the smaller groups starts by applying a filter to the Title where the "Project" value is contained within the title. The second line in this first group then applies an Or condition based on a Name value. So the result of this group would be any file that contains "Project" in the Title value, Or and file that's actual Name starts with "Migration."

Then we look at the second sub-group. Here the first filter condition starts with Or, meaning that the whole group is part of an Or statement. This second sub-groups states that the files must have a Status value that equals "Active," as well as the CreatedBy user must not be "Metalogix\JohnS."

All together the results of the filters would be any files that have:

- A **Created** date greater than, or equal to the specified date.

- A **Modified** date greater than, or equal to the specified date.

- A **Title** value that contains the "Project" value in it **Or** a **Name** value that starts with "Migration."

- **Or** a **Status** value of "Active" **And** a **CreatedBy** value that is not "Metalogix\JohnS."

To group filter expressions:

1. In the Filter [Object] dialog, highlight the rows you want to group together.

2. Either:

   ▪ Click **[Group Filters]**.

   OR

   ▪ Right-click and choose **Group Filters**.

To remove a filter grouping:

1. In the Filter [Object] dialog, highlight the rows within the grouping you want to remove.

2. Either:

   ▪ Click **[Remove Grouping]**.

   OR

   ▪ Right-click and choose **Remove Group**.

Applying Site Columns or List Columns Filters

By default, all source columns are included in a migration. You can use this filter option to select specific columns that you want to *exclude*. Excluded columns and their data will not be migrated to the target, but the rest of their data will still be migrated.

NOTE: The name of this feature depends on the level of the migration. For site collection or site-level migrations the option is called **Apply filter on Site Columns**. If the migration is at the list level or below, the option is called **Apply filter on List Columns**.

To apply Site or List Column filters:

1. Click the **[...]** button to the right of the Apply filter on **Site** (or **List**) **Columns** option to display the **Filter [Object]** dialog.
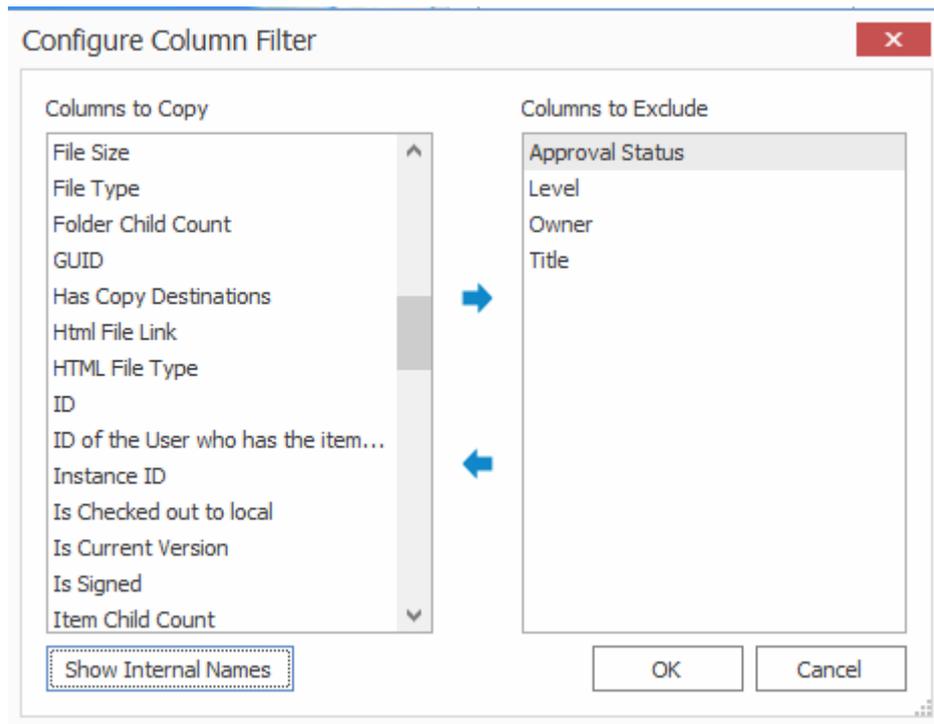
2. From the **Columns to Copy** section, highlight the columns from the source that you want to exclude.

    NOTE: By default, columns show the Display Names, but you can, alternatively, choose to show Internal Names (by clicking **[Show Internal Names]**).

3. Click the right-facing arrow to move columns to the **Columns to Exclude** section.

    NOTE: If you want to return columns to the **Columns to Copy** section, click the left-facing arrow.

4. When you have finished selecting columns to exclude, click **[OK]**.

Workflow Options

Before migrating workflows, it is strongly recommended that you review the SharePoint Workflow Migration and Nintex Workflows and Forms are Migratiion sections for requirements and limitations.

NOTES:

- If you are performing a list-level migration:

    ▪ Dependent workflow task lists should be available on the target.

    ▪ If the workflow has any dependencies on *other* list or site items, those dependencies should be migrated to the target first.

- When migrating SPD 2013 platform workflows, the SuppressEvents property must be set to `False` in order for workflows to be published after migration.

- When migrating any workflow, it is recommended that site and site collection features also be migrated.

    WARNING: SharePoint 2013 workflow will be turned off for new tenants as of April 2, 2024 and will

be removed from existing tenants and will be fully retired as of April 2, 2026. Refer to the Microsoft article [Support update for SharePoint 2013 workflow in Microsoft 365](#) for complete details.

[Nintex has announced](#) a Nintex Upgrade Program for migrating SP2013 and Nintex workflows to the Nintex Process platform.

To configure workflow options:

1. Select the **Workflow Options** tab.

    Note that available options depend on the level at which you initiated the migration and, in some cases, the version of SharePoint.
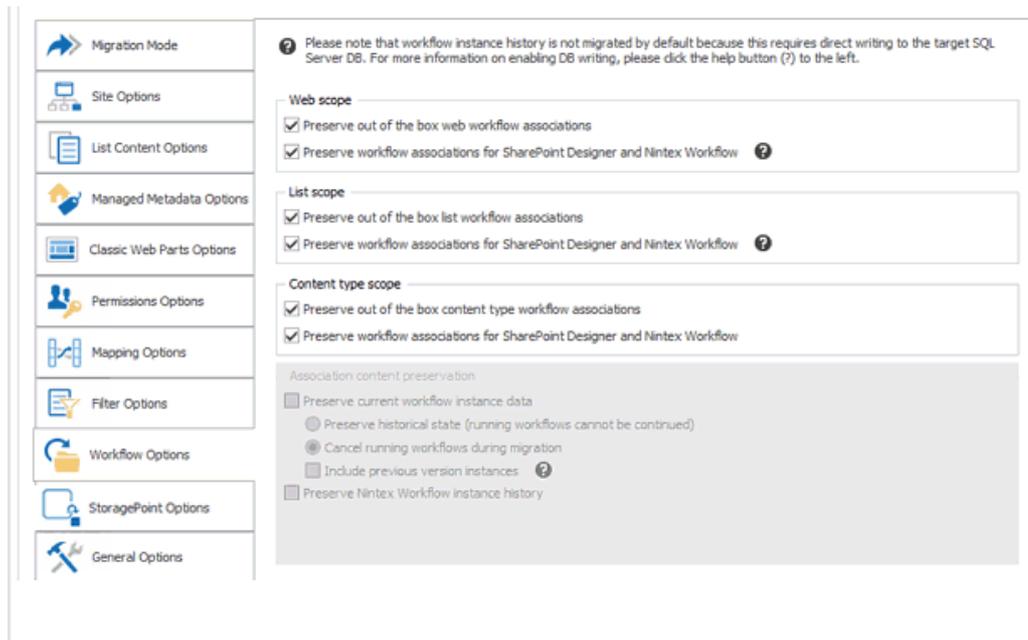
> NOTE: SP 2010 OOB and SPD 2010 style workflows are no longer supported by Microsoft for SharePoint Online, so they will be skipped during migration to a SharePoint Online target.

2. If you are migrating **from a SharePoint 2010 or later site collection** and want to migrate SPD Globally Reusable Workflows, make sure the **Preserve globally reusable workflow templates** box.

    > NOTE: This option only applies to globally reusable workflow *templates*. Globally reusable workflow associations are treated as out-of-the-box workflow *associations*.

3. If you are migrating **from a SharePoint 2010 or later site collection or site**, select the appropriate option(s). Use the information in the following table for guidance.

If you want to migrate …	Then ….
site and site-collection level workflow *data*	check the **Web scope – Preserve migrating site level workflow data** box.

If you want to migrate …	Then ….
site and site-collection level workflow *associations*	check the applicable **Web scope** box(es): • For SharePoint out of the box workflows: **Preserve out of the box web workflow associations** • For SPD and/or workflow associations: **Preserve workflow associations for SharePoint Designer and Nintex Workflow**. NOTE: It is possible for SPD workflow associations (at the Site level) to be migrated to SharePoint Online. This option will be renamed to **Preserve workflow associations for SharePoint Designer Workflow**, and workflow instances will not be migrated.

4. If you want to migrate list-level workflow associations, check the applicable **List scope** box(es):

    ▪ For SharePoint out of the box workflows: **Preserve out of the box list workflow associations.**

    ▪ For SPD and/or Nintex workflows**: Preserve workflow associations for SharePoint Designer and Nintex Workflow**.

5. If you initiated the migration at the site collection or site and want to migrate both site and list workflow content types, check the applicable **Content type scope** box(es):

    ▪ For SharePoint out of the box workflows: **Preserve out of the box content type workflow associations**.

    ▪ For SPD and/or Nintex workflows: **Preserve workflow associations for SharePoint Designer and Nintex Workflow.**

If database writing is enabled for an on premises target and you want to preserve workflow instance data for workflows that are not currently active or "In Progress," (including any complete, rejected, or terminated workflows), the **Association content preservation options** are enabled.

IMPORTANT: For an on premises target, these options are *only* available for selection if Content Matrix is able to write data directly to the Database. However, on premises database writing methods are not supported by Microsoft, and if used, **will impact your Microsoft warranty**. Please contact Quest Support for guidance and see the procedure for Association Content Preservation When Writing Directly to a Database .

Association Content Preservation When Connected to a Database

If database writing is enabled and you want to preserve workflow instance data for workflows that are not currently active or "In Progress," (including any complete, rejected, or terminated workflows), the Association content preservation options are enabled.

IMPORTANT: These options are *only* available for selection for an on premises environment, and Content Matrix is able to write data directly to the Database. However, database writing methods are

not supported by Microsoft, and if used, will impact your Microsoft warranty. Please contact Quest Support for guidance

To configure Association Content Preservation options:

1. Check the **Preserve current workflow instance data** box.

   When this option is selected a warning message about the Database write method will be displayed. Click **[OK]** to continue.

2. Use the information in the following table to determine the appropriate option to select.

If you want to ...	Select ...
preserve instance data that is still active within the workflows	**Preserve historical state (running workflows cannot be continued)**. NOTE: Any workflow instances in the "Running or "In Progress" state cannot be continued after migration. Rather, the preservation of "state" is only for historical purposes.
cancel the status of any workflow instance that is currently running	**Cancel running workflows during migration**.

3. If you want to migrate any previous versions of a workflow instance to the target, check the **Include previous version instances** box.

   NOTE: Content Matrix will first try to connect to an external Nintex Workflow database connection. If one exists, it will then check for any Nintex Workflow database entries corresponding to the list of SharePoint workflow instances that it has migrated. If corresponding entries exist inside the source external Nintex Workflow database connection, then Content Matrix will try to write the data directly into the specified target external Nintex Workflow database connection. This option is only available if the database writing option is enabled. For more information on enabling Database writing, please contact Quest Support.

   IMPORTANT: Nintex workflow histories are currently always migrated from SharePoint 2010 and never migrated from SharePoint 2013 and later, regardless of whether the option **Preserve Nintex Workflows instance history** is checked. This is a known issue that will be addressed in a future release.

Modifying the SuppressEvents Property

When migrating SPD 2013 platform workflows, the **SuppressEvents** property must be set to `False` in order for workflows to be published after migration.

To modify the SuppressEvents Property:

1. Close the Content Matrix Console, if it is not already closed.

2. Navigate to **ServerAdapterConfig.xml** (located by default in **C:\Program Files\Common Files\microsoft shared\Web Server Extensions\15\ISAPI\ML**) and open it in a text editor.

   NOTE:: If the **...\ML** folder does not exist, manually create the folder and create a text file inside it named **ServerAdapterConfig.xml**.

3. In **ServerAdapterConfig.xml**, copy and paste the following code:

   ```
   <ServerAdapterConfig>
   ```

   ```
   <SuppressEvents>False</SuppressEvents>
   ```

   ```
   </ServerAdapterConfig>
   ```

4. Save and close **ServerAdapterConfig.xml** and reopen the Content Matrix Console.

StoragePoint Options

If this option is selected, then during the migration, any documents and attachments are added directly through the StoragePoint API if an endpoint profile is configured, and the end reference will be added in SharePoint. This can potentially improve migration speed when migrating data that contains a large number of documents and/or attachments.

Please review the StoragePoint Content Migration section for allowable connection types, pre-requisites, limitations, and expected outcomes.

These options are only available when Advanced Mode is enabled.

The StoragePoint options will only affect **documents** and **attachments** that are being migrated into SharePoint. Other content will not be affected.
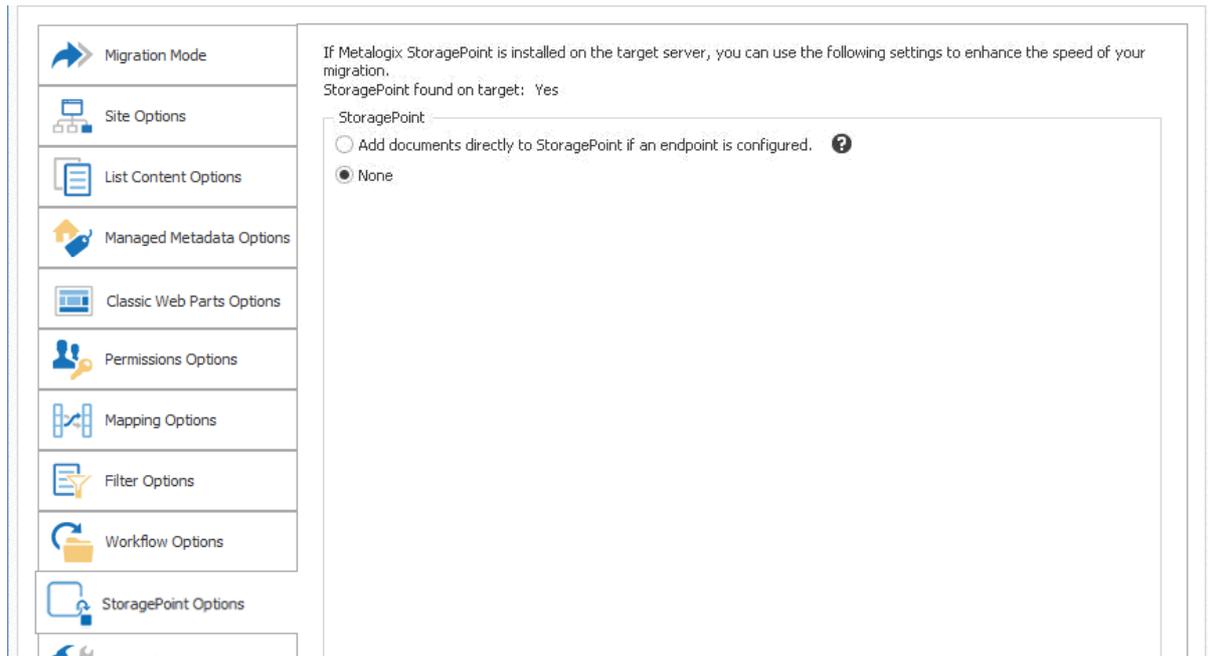
To configure StoragePoint options:

Use the information in the table below to determine the appropriate action to take.

If you are migrating ...	Select ...
to a target environment where StoragePoint is installed and you want to use StoragePoint as part of the migration	**Add documents to StoragePoint if an endpoint is configured.** NOTE: Any of the files or documents that are included in the migration will call StoragePoint as they are being migrated, and will be externalized directly with the reference link left behind in the file or document's place (in the target SharePoint environment).
to a target environment where you do not want to use StoragePoint as part of the migration	**None**. NOTE: If this option is selected, content will be migrated directly into SharePoint with all StoragePoint-related features ignored.

General Options

The **General Options** tab lets you specify a number of "other" migration options, such as link correction and logging.
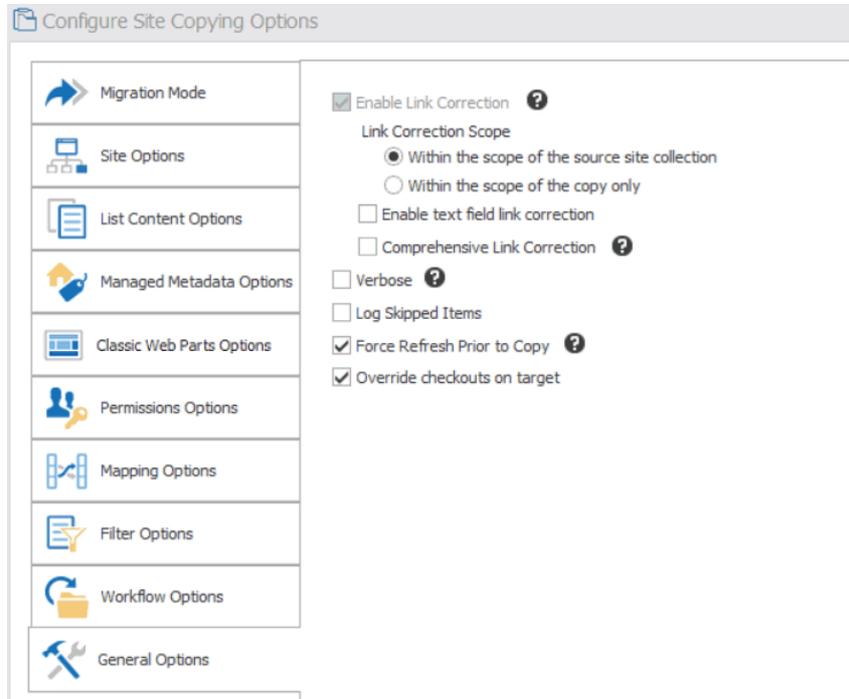
1. Complete the **Correct Links** (**Enable Link Correction**) options using the procedure for Enabling Link Correction.

2. If you want more detailed logging for the migration action, check the **Verbose** box.

3. If you want any items that are skipped within the migration to be fully logged within the migration job/log file, check the **Log Skipped Items** box.

4. If you want Content Matrix to forces the source side to do a Refresh of the selected node prior to any copy actions, make sure the **Force Refresh Prior to Copy** box is checked.

5. If you want Content Matrix to ignore any item/document checkouts on the target and migrate content as if all documents are currently checked in, make sure the **Override checkouts on target** box is checked.

Enabling Link Correction

From the General Options tab, you can enable a variety of Link Correction options.

See also Link Correction
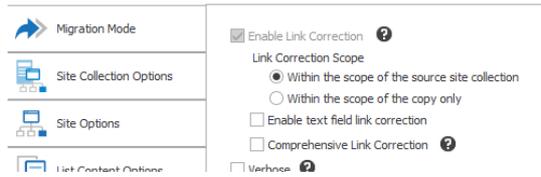
To configure Link Correction options:

1. Use the information in the following table to determine the appropriate option to select for **Link Correction Scope**.

If you want to correct any links that are …	Then …
within the source site collection	select **Within the scope of the source site collection**. When you select this option, Content Matrix will map any links it finds that point to the old site collection to the new site collection location. For example, if a link is pointing to "http://OldServer/Sales/FactsAndFigures" on the source, and it is then corrected during migration, then this option will correct the link to point to http://NewServer/Sales/FactsAndFigures on the target. All links that point to the old site collection location, that are within the scope of the migration, will be corrected to point to the new site collection location after migration, even if the target for those links doesn't exist yet.
within the object(s) being copied	select **Within the scope of the copy** (**only**). For example, if a list is migrated, then the links within that list will be corrected, but any links that point to the source site collection will not be corrected since that is beyond the scope of the migration. Any links that point to content at a higher level than the migration will not be corrected.

2. If you want Content Matrix to parse through all the "text" type metadata columns (such as single line of text, multi-line, etc.) and run link correction on any absolute links (for example, "http://Quest/Production") that it finds, select **Enable text field link correction**.

   NOTE: When this option is selected:

   - Content Matrix will skip over any relative links (for example, "./Main/Quest/Production") in the text.

   - Link correction is run on text columns only; not text within documents.

   If this option is selected, it can significantly increase the amount of time it takes to run the Link Correction. Content Matrix must parse all the text values for the included "text" type field

columns, and look for links within that content before it can check them. The amount of time taken will depend on the amount of data within the text columns.

3. If you are renaming the object being migrated, and you want Content Matrix to pre-populate the link correction list using the renaming scheme, so it can correctly apply link correctio, nselect **Comprehensive Link Correction.**:

   NOTE: This link correction option is only required when you are renaming an object. When content is renamed in a migration, the *basic* link correction cannot always properly map the new links on the target side, especially for cases with a large amount of sub-content.

4. If you want Content Matrix to compare source and target objects:

   - Check the **Check Results** box.

   - Select a comparison Level from the drop-down:

     - **Moderate** (the default value and recommended setting, especially if you are anticipating a number of differences)

     OR

     - **Strict**

   NOTE: These options will only be visible if they have been enabled. See also [Comparing SharePoint Objects](#).

Transformation Options

If both [Advanced Mode](#) and Custom Transformers are enabled, you can view, create, and edit Transformers.

Transformers are used primarily to "transform" fields and columns into Managed Metadata. There are also several built-in, non-editable transformers that Content Matrix uses to process data during the migration. Advanced users can also create custom transformers [using PowerShell](#).

The Transformations tab is divided into two sections:

- The **Available Definitions** section list all of the transformation definitions that are available for the current migration action, in alphabetical order. Only definitions that are valid for the level at which the migration was initiated are listed.

- **The Applied Transformers For <Object>** dialog displays all of the transformations for the selected definition.

Grayed out items are mandatory transformations that are run during the course of a normal migration, and these actions cannot be edited or removed. However, they can be reordered by using the up and down arrows to the right-hand side of the window. This allows you to create and apply a transformation action before a mandatory action, if you want your action to run earlier in the process.

You can even add a second instance of a mandatory transformer to run at a different stage of the migration process.
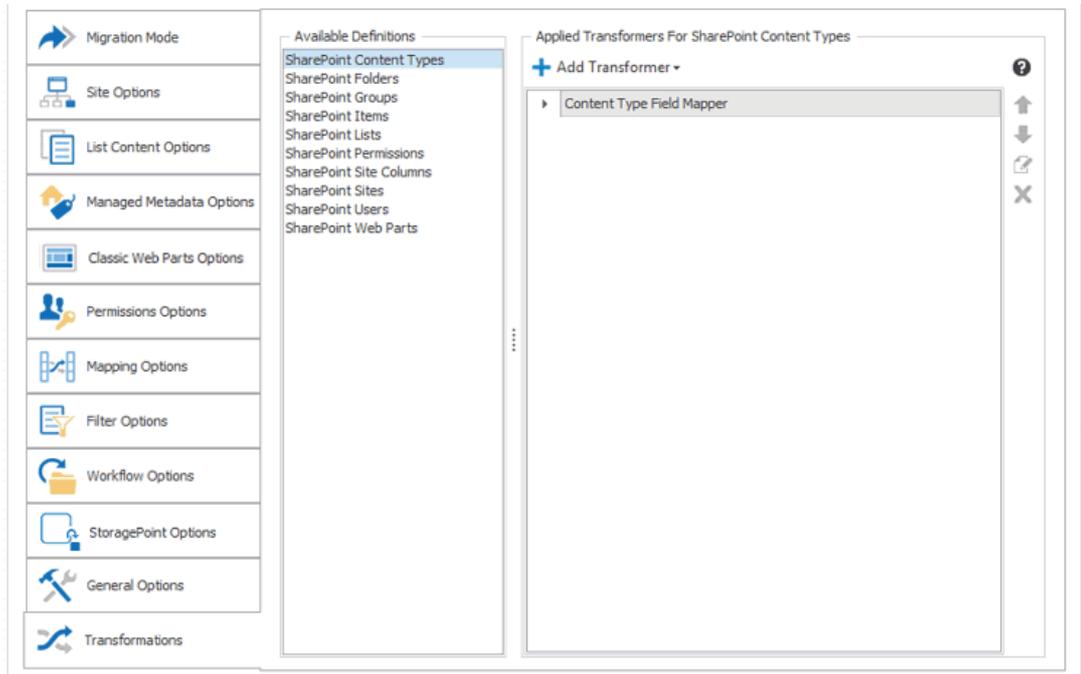
Transforming a Site or List Column into a Managed Metadata Columns

Content Matrix can transform SharePoint site or list columns (fields) into Managed Metadata columns, as a part of a migration. This allows users to transform columns on the source into SharePoint Managed Metadata columns on the target.

Column to Managed Metadata transformation settings are not preserved, so they will have to be configured for each migration that is run.

NOTE: This option is only available when:

- The prerequisites for migrating Managed Metadata are met.

  AND

- The **Resolve managed metadata by name and hierarchy option** is selected.

Additional Considerations for Site Column Transformations

A site column can be transformed into a Managed Metadata column even if the site column's root site is not being migrated. In this case, Content Matrix will add the Managed Metadata site column(s) to the top level site that is included in the migration, and all of the content in the scope of the migration will inherit these new site columns in place of the old ones. When applying a transformation of site columns in a migration, the site columns transformation will be applied to all of the content within the

scope of the action that uses the specified site column. This includes any sites, lists, libraries and even content types that use the site column, and are within the scope of the migration.

For example, if a subsite is being migrated to the target, and this subsite contains lists and/or content types that use a site column which is inherited from the top level site, then when the sub site is migrated these inherited site columns will be replaced by new Managed Metadata site column. These new Managed Metadata site columns will use the subsite as their root site (since it was the top level site), and all of the content within the migration scope will inherit these new columns instead of using their original site columns. All the data for these columns will be converted to Managed Metadata values. Any site columns within content types (in the scope of the migration) will be converted the same way, and placed at the top level site in the migration.

NOTE: Content Matrix can only apply this transformation to action to site columns of a certain type. The available column types include: **Choice**, **MultiChoice**, **Text**, **Lookup**, **LookupMult**i, **Numbe**r, **DateTime**, **Currency**, **Boolean**, **Note**, and **User**.

Transforming List Columns into Managed Metadata Fields

1. In the Managed Metadata Options tab, make sure you select the appropriate option(s):

    - **Transform specified site columns to managed metadata columns**

        AND/OR

    - **Transform specified columns in lists to managed metadata columns**

2. Click the **[…]** button to the right of the selected option to display the **Configure List Column Transformations options** window.

3. In the Explorer View section of the Configure List Column Transformations window, navigate to the top level site or list node to which the transformation(s) should be applied.

    The top level node displayed in this window will be the target node that was selected for the migration. This allows users to either:

    - Select the top level node and apply the transformation to content beneath it

    OR

    - Select a specific sub-site, list, or document library and apply the transformation to selected items.
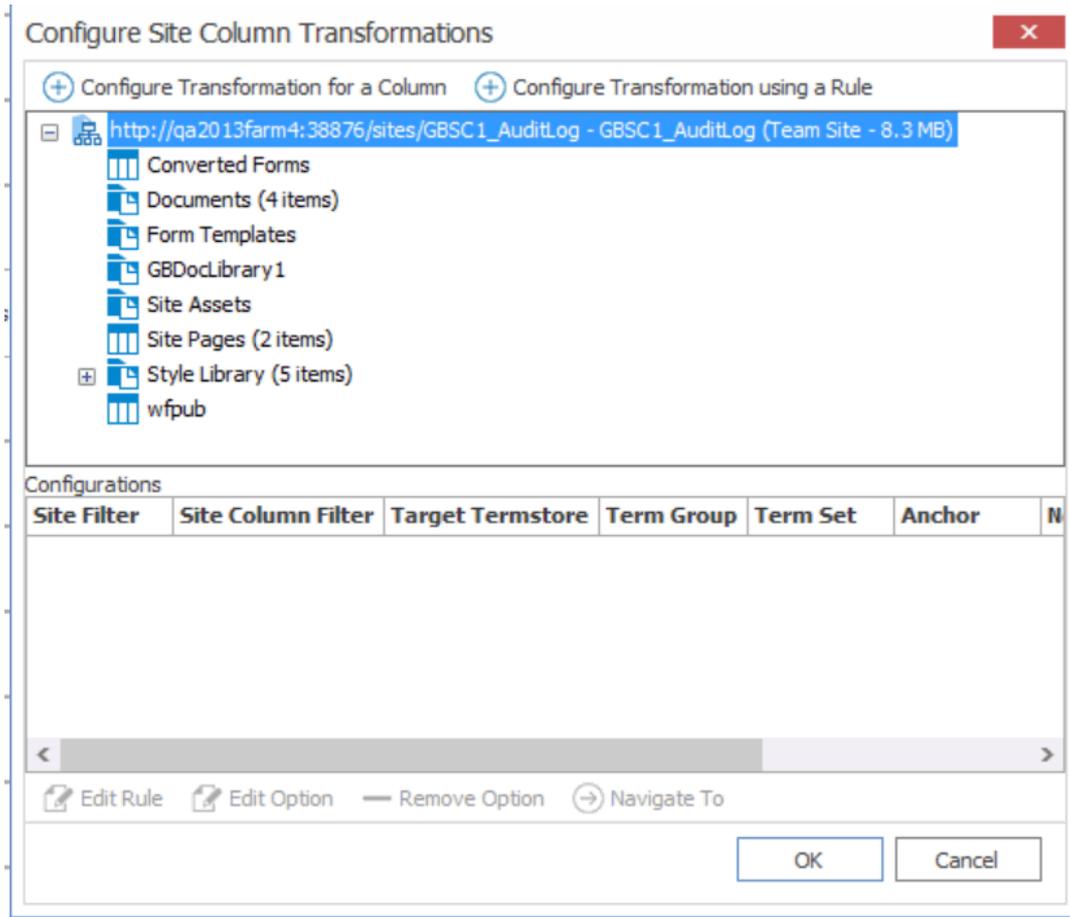
NOTE: In the case of site column transformation, the site column will be applied to all instances of that site column from the top level node down.

4. Select the appropriate configuration option to apply: Use the information in the following table for guidance.

If you want to …	Then …
transform a column from the selected site or list	Select **Configure Transformation for a Column**. NOTE: The Configure Transformation for a [Object] Column dialog > Transform Columns tab pre-populates the Source List field with the URL for the selected site or list.
select one or more sites or lists containing the column to transform based on filter conditions	A. Select **Configure Transformation using a Rule**. B. Click the **[…]** button and apply filter conditions For example, you can choose to transform columns for all lists that whose internal name contain the word "Library."

If you want to …	Then …

5. In the Transformation Columns tab - Source section, specify the **Site Column** or **List Column** to which you want to apply the transformation.   Click the **[…]** button and apply a filter to narrow the scope to which that the transformation will be applied. For example:

- If you set the **List Filter Conditions** to "DisplayName Contains Marketing" then only content that contains "Marketing" within the DisplayName column will be included in the transformation.

- If you set the **Site/List Column Filter Conditions** to if the value is set as "Name Contains Sales" then only columns that contain "Sales" within the **Name** value will be transformed into Managed Metadata columns.
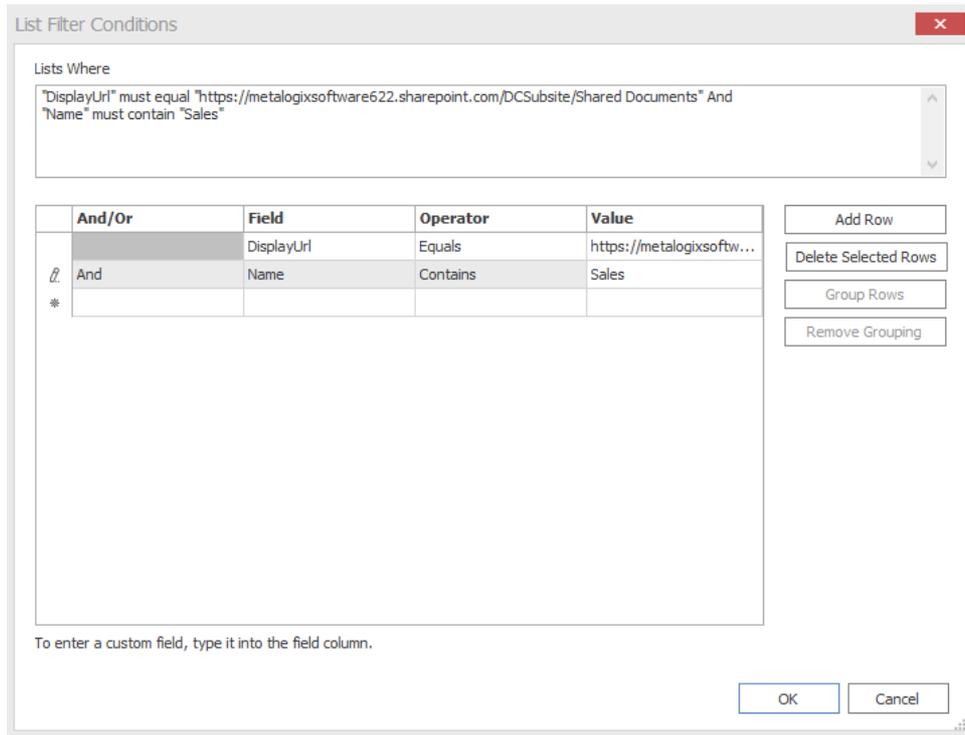
6. Complete the **Transform Columns** tab – **Target** section as follows:

   a) Select the Term Store to use for the new Managed Metadata field on the target from the drop-down.

   This drop down menu displays all of the available Term Stores for the target node.

   b) Select a **Term Group** from within the selected Term Store from the drop-down.

   NOTE: If you want to create a *new* **Term Group** and/or **Term Set** instead of using a pre-existing one, you can manually enter a text value in the **Term Group** and/or **Term Set** field, and Content Matrix will create the new group/term within the **Term Store**, and apply it to the transformation.

7. If you want to set an anchor point below the selected Term Set for adding new taxonomy terms, enter the **Term Anchor**.

   EXAMPLE: The selected Term Store contains a Term Group called People, within which is a Term Set called Department.
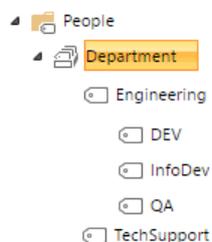
   If you do not set a Term Anchor, Content Matrix will add new terms directly below the Department Term Set.
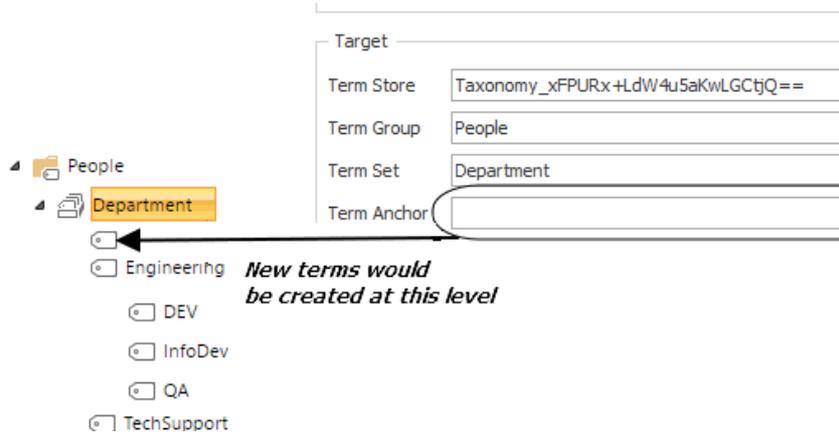
If you were to set the Term Anchor to Engineering, new terms would be added as child terms of the Engineering Team.
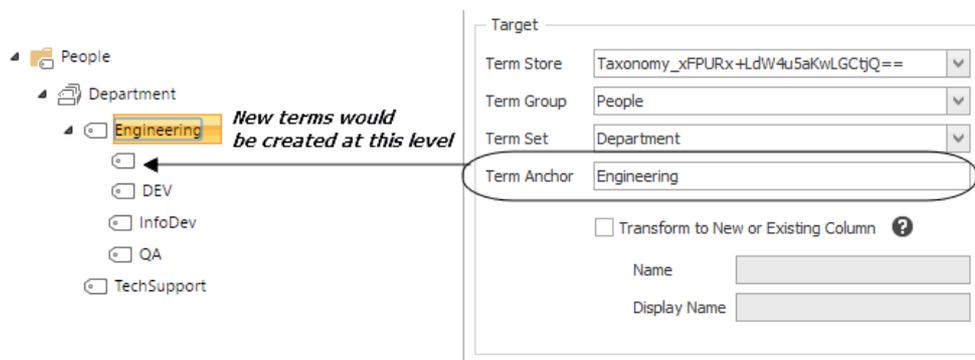
To set a Term Anchor further down in the term hierarchy, use the ">" sign to "drill down" to the desired level.

You can even create a *new* term as a parent for transformed terms. For example, if you want to create a new term, Toronto, as a child term of existing term DEV, you would enter the Term Anchor as Engineering>DEV>Toronto. New terms would then be added below Toronto.
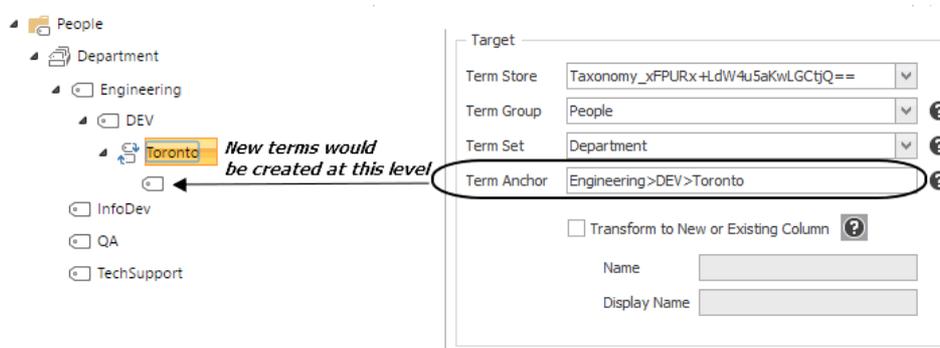
8. If you want the transformation to apply to a column other than the column that corresponds to the selected source column, check the **Transform to New or Existing Column** box.

The following table describes how Content Matrix handles transformations when this box is checked.

If …	Then …
both the Name and Display Name entered are identical to an existing column on the target	the column on the source will be transformed into that column on the target.
either the Name or the Display Name do not match an existing column on the target	• a new column is created on the target with a new Name and Display Name, and • the Managed Metadata transformation is applied to this new column. EXAMPLE: If there is a column on the source named "Author", and the values in this column are to be transformed into Managed Metadata values, then this option could be used to create a new column named "AuthorID". All the values from the "Author" column on the source would be copied into the "AuthorID" column on the target, and the Managed Metadata transformation is only applied to "AuthorID", leaving "Author" unchanged.

9. If you checked the **Transform to New or Existing Column** box, enter the Internal **Name** and **Display Name** of the new column you want to create or the existing column you want to use.

> NOTE: The Internal Name should not contain spaces. If you are transforming to an existing column, make sure you enter both the Internal Name and Display Name exactly as they appear on the target.

10. If you want to substitute source item values with new values that will be used as Managed Metadata terms:

b) Select the **Substitute Source Item Values** tab

Either:

- enter the **Value** you want to substitute exactly as it appears on the source

OR

- click the Filter icon ( ) and apply one or more filter conditions.
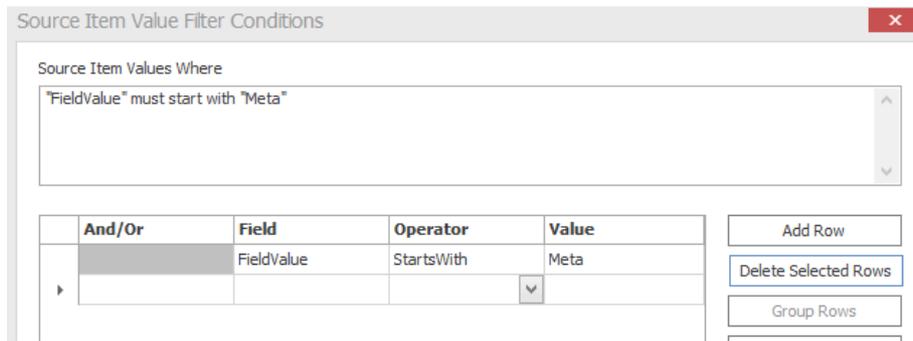
11. Enter the **Substitute** value exactly as you want it to appear on the target.
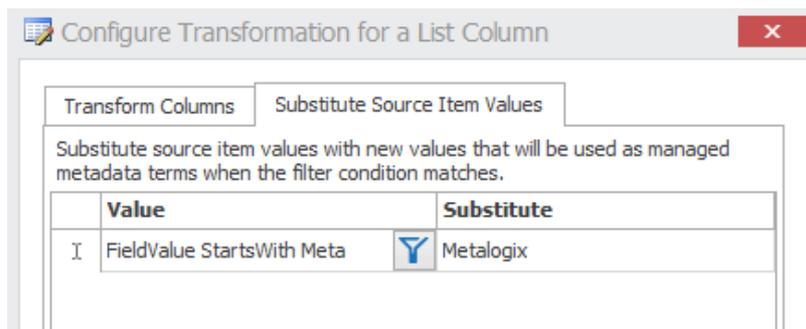
12. Click **[OK]** to close the Configure Transformation dialog.
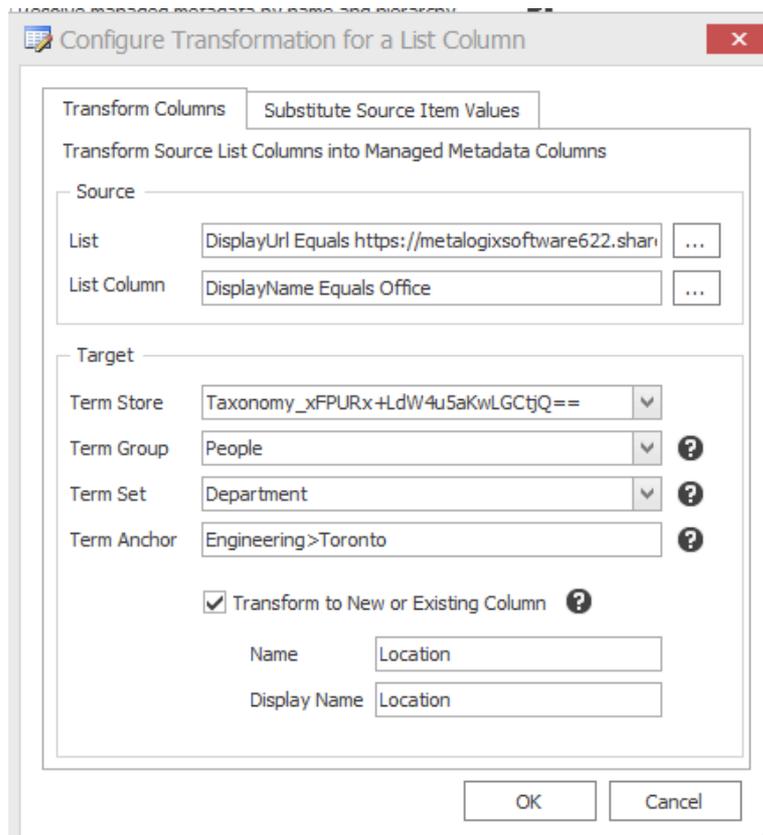
13. Click **[OK]** to close the Configure Transformation for a List Column dialog.

The new transformation now displays in the bottom (Configurations) section of the window.

- When a site column transformation is set, the Transform specified columns in list to Managed Metadata columns option in the Managed Metadata Options tab will now be selected as well. Because a site column is still a column in a list, the site column transformation will also be visible in the list column transformation dialog. However, you will be unable to edit the site column transformation from the Configure List Column Transformations dialog even though it is visible. The List Filter value in the "Configuration" section of this dialog will also be empty, which will help you differentiate between a list/field transformation and a site column transformation.

- If a site column transformation is being applied, and the specified site column exists within a content type, you must also check the **Copy Content Types** option in the Site Options tab of the configuration options. If this option is not set when applying a transformation to a site column in a content type, then not all of the columns will be available for edit in SharePoint's item edit dialog, after migration.

Using PowerShell to Create Custom Transformations

When you select the **Add Transformer > Invoke PowerShell script** option for an Available Definition, you can use custom PowerShell scripts to create your own transformations beyond the built-in capabilities of the Content Matrix.

Specify when you want the script to run by selecting one of the following options:

Begin Transformation – The transformation script will run before the migration of the affected objects, allowing you to read and make changes to objects on the source before objects themselves migrate.

Transform – The transformation script will run while the migration of the affected object(s) is in progress. For example, the user mapping between source and target would be run using the Transform option.

End Transformation – The transformation script will run after the migration of affected object(s), allowing you to read and make changes to objects on the target.

EXAMPLE: The following Transformer consists of two scripts for disabling and re-enabling the Required setting for a column list.

- The first script entered into the **Begin Transformation** tab sets the setting of any columns that are Required to false before copying begins.
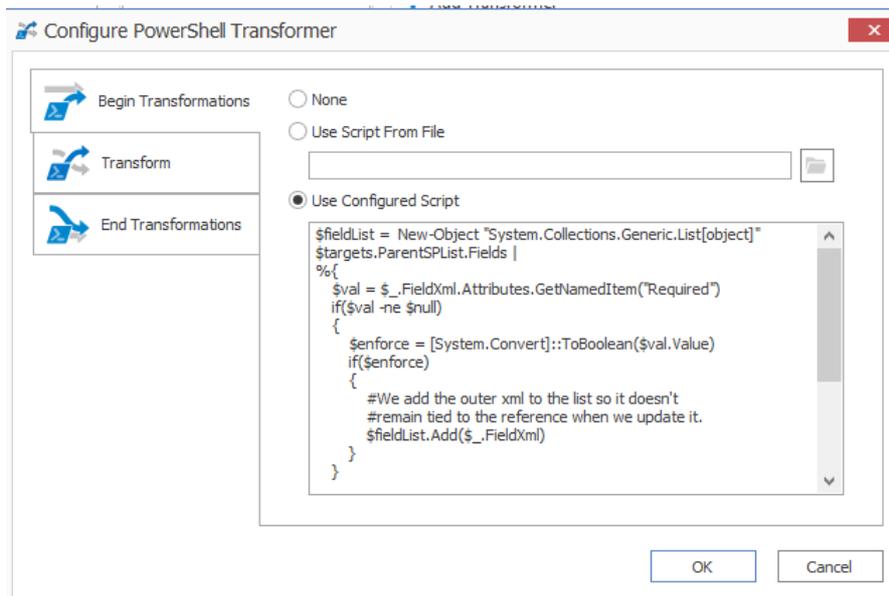
- The second script, entered into the **End Transformations** tab, sets the setting back to true after item migration has completed.
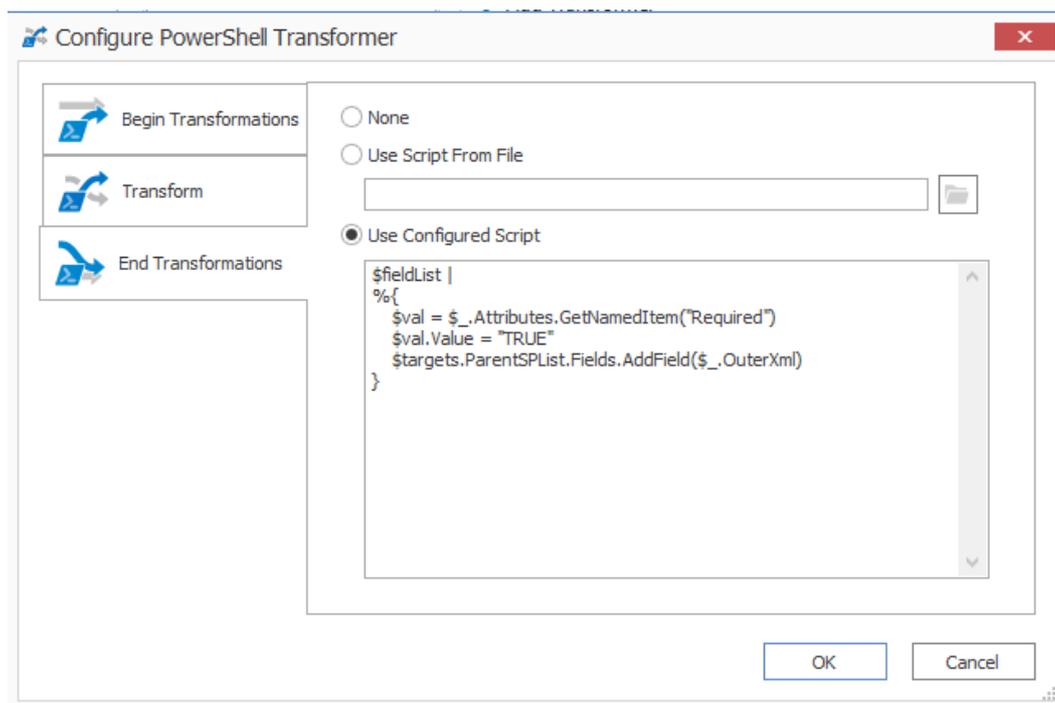
Saving or Running a Migration Job

When you finish configuring a migration action, you can run it immediately or save a copy of the settings to a job file, which displays in the Job List section. You can then:

- run a migration directly from the Job List section

OR

- If your environment is configured for Distributed Migration, submit a Distributed Migration job.

OR

- create a PowerShell script and schedule it to run as a Windows Scheduled Task

OR

- trigger jobs in the Content Matrix Console to run using PowerShell.

You can also save the job configuration as a template so that you can preserve and reuse settings for future migration jobs.

When the migration starts, a status dialog box will appear. The job logs can be viewed (in progress or after the migration is finished) by clicking **[Details>>]**. The Status section of the status box will list a live count for the number of successes, warnings, failures, etc. for the migration. The Progress section of this dialog will list any completions and the type of completion (Sites, lists, items, users, groups, etc.). A Migration Completed message will appear when finished. Click **Close** to exit the status dialog.

Connecting to a Full SQL Job Database

If you are using SQL CE to host your Content Matrix Jobs Database, you will receive a warning in the job log (and as a pop-up if you are running the job from the Console interface).

The use of SQL CE in a production environment is discouraged because of the following limitations:

- It uses a single .list file that is less robust and reliable and may be corrupted after the database reaches 4 GB.

- Data compression is not supported.

- Support for large objects is limited.

To switch to a full-feature SQL Server for the Content Matrix Job Database:

1. From the Job List choose **File > Connect to Job Database**.

2. Complete the **Connect to SQL Server** dialog:

   ▪ If you are connecting to an **on premises SQL database**, create (using the New Database option) or select the database you want to use.

   ▪ If you are connecting to an **Azure SQL database**, select the database that has been created in Azure Portal for use by Content Matrix. (Note that the New Database and Delete Database options will be disabled.)

3. If you want to use an encrypted connection to the database, check the **Encrypt Connection** box.

   NOTE: If the certificate used for encryption is not trusted, you will also need to check the **Trust Server Certificate** box.

4. Select an **Authentication** method for connecting to SQL server.:

   - **Use Current Windows User**

   OR

   - **Use SQL Server Login**

   NOTE: Currently, **Use SQL Server login** is the only valid option for an Azure SQL server.

5. Click **[OK]**.

Saving a Job Configuration as a Template

You can create job configuration templates for a set of selected settings which can be saved and reused, including any options that are not normally preserved using the **Preserve Configuration Options** option (in the ribbon **Settings** menu).

These templates can also be moved to another machine and used with a separate install of Content Matrix Console (provided that it is the same Edition of Content Matrix, and the same version number or greater).

To save a job configuration template:

1. After initiating a migration, complete the Configure (Object) Copying Options with the settings that you want to include in the template.

   Save Job Configuration

   Enter a name for the configuration

   [   ]

   [OK]   [Cancel]
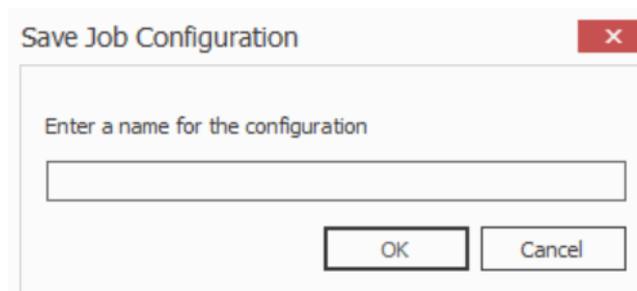
2. Click **[Save Job Configuration].**

   Here you can set the **display name** for the job template. This is **not** the actual file name, but it is the name that Content Matrix will use to list the template.

   NOTE: In most cases, when a job template is saved by Content Matrix it will be saved to the following location:
   C::\Users\<User>\AppData\Roaming\Metalogix\Content Matrix Console - <Product> Edition

However, it is highly recommended that you do not interact with this system location. If you are trying to save a job template so it can be exported to another system the template can be exported from the Manage Job Configurations dialog.

3. Enter the desired **display name** value and click **[OK]** to continue.

Once the **save** is complete, you will be returned to the **Configure <Object> Copying Options** dialog where the migration can either be **Run** or **Saved**.

The saved job templates will now be visible in the Manage Job Configurations dialog.

NOTE: If you are looking to save a job template and move it to another system for use, this should be done using the Export option in the Manage Job Configurations window. Additionally, if you are trying to Import a job template from another system, this must also be done from either the Manage Job Configurations dialog or it can be imported when applying a template.

Applying a Job Template

Any job templates that have been imported or saved, and are available in the Manage Job Configurations dialog can be applied to another migration of the same type. For example, if migrating at the site level, you would not be able to use a job template that is created for a migration at the list level. It would only be able to use a template that migrates at the site level.

The source and target connection types do not apply directly to a job template, so it does not matter if the connection types for the new migration are the same as the connection types for the job template. If the connection types are different than any options that are not applicable for the connection types that are being used will not be available, but all other options will be set.

1. After initiating a migration, click **[Open Existing Job Configuration]** in the bottom left corner of the **Configure <Object> Copying Options** dialog to display the **Select Job Configuration to Apply** dialog.

NOTE: Any options you have specified directly in the dialog will be overwritten once a job template is applied.
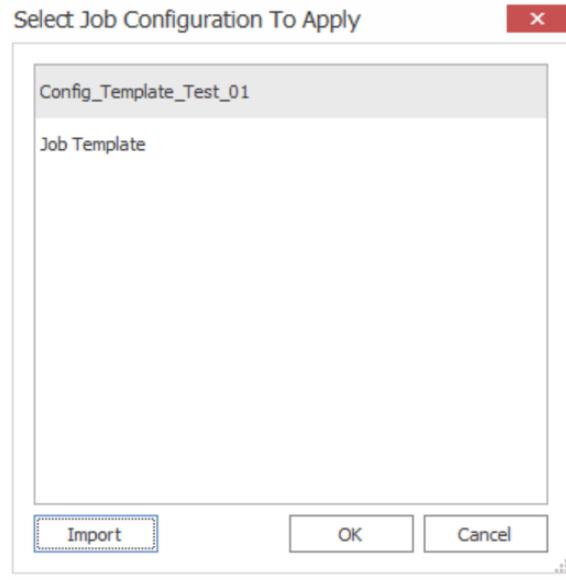
The dialog lists all of the job templates that are currently available for the migration type (i.e. a site, list, item, etc. migration), as well as only the templates for the specific Edition of Content Matrix that is being used.

2. Select the desired job template and click **[OK]**.

You will be prompted to confirm your action before continuing. Remember that if you choose to apply the template, any other settings that you entered directly in the **Configure <Object> Copying Options** will be lost.

The **Configure <Object> Copying Options** dialog will now reflect all of the template options. Any additional configuration options can be set or modified, and the migration can continue as normal.

Managing Job Templates

Content Matrix Console job templates can be managed in the **Manage Job Configurations** dialog. This dialog allows users to **Import**, **Export**, **Delete**, or **Filter** any job templates. Below is a breakdown of the available options in the **Manage Job Configurations** dialog.

- **Import** - This button allows users to Import a job template. The imported job template must be from the same Edition of Content Matrix Console. For example, if users are importing a template into SharePoint Edition then the template must have been exported from SharePoint Edition.

- **Export** - This button allows users to Export a job template. The export will create an XML file in a desired folder location so the file can be copied and placed into another location as needed.

- **Delete** - This button will **delete** any selected job templates from Content Matrix Console. When deleting a template, a **confirmation** dialog will open and must be confirmed before the templates are deleted. Deleting will **permanently delete** the selected templates from Content Matrix Console.

- **Filter** - This is a text box that allow users to enter a value that Content Matrix will filter the job templates against. The filter will only display items that contain the specified value. There is a Filter icon to the right-hand side of the filter text box. Clicking this icon will apply the filter text value to

all of the job templates listed in the **Manage Job Configurations** dialog, so only the templates that contain/include the matching filter value will be shown. Filtering can be cleared by removing the text value from the filter text box, and clicking the filter icon button.

Importing and Exporting Job Templates

In some cases, users may want to save and export a job template to another environment in order for other users (or a separate installation of Content Matrix) to utilize the same configuration settings. To do this, users will need to export the specific job template, move the exported file to the new location, and then import the job template. The section below describes how to Export and Import job templates.

Exporting a Job Template

To export a job template:

1. In Content Matrix's ribbon toolbar, switch to the **Settings** tab and click **[Manage Job Configurations]** button to display the **Manage Job Configurations** dialog.
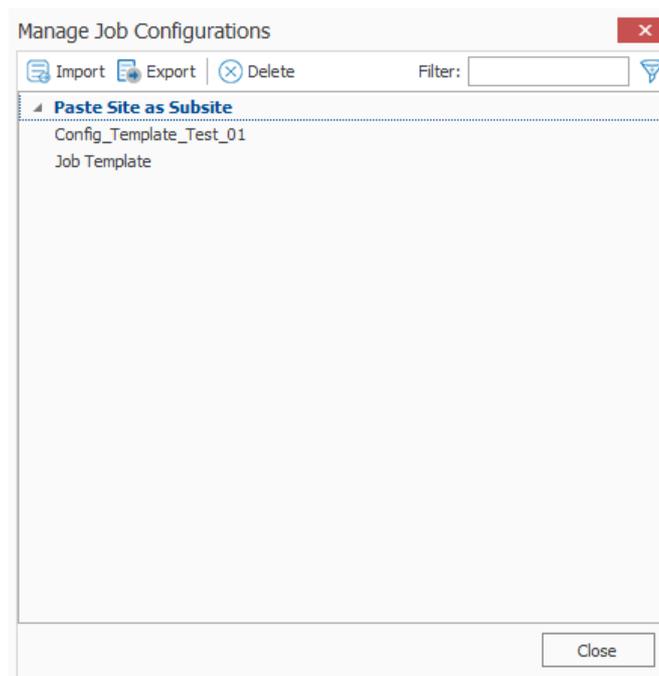
2. Select the template you want to export then click the **Export** button at the top of the **Manage Job Configurations** dialog, .

3. Navigate to the desired folder location where you want to save the job template, enter a **File name**, and click **[Save]**.

4. The job template XML file will be saved to the selected folder location, and Content Matrix will return to the **Manage Job Configurations** dialog. Any additional importing, exporting, or deleting of job templates can be done. Click **Close** to return to the main Content Matrix window.

Now that the job templates have been **exported** and saved to a folder location they can be manually moved to another location as required.

Importing a Job Template

Only templates that have been created from the same Edition of Content Matrix Console can be imported. For example, a job template from SharePoint Edition cannot be used in Public Folder Edition, it can only be imported into SharePoint Edition.

To import a job template:

1. In Content Matrix's ribbon toolbar, switch to the **Settings** tab and click **[Manage Job Configurations]** button to display the **Manage Job Configurations** dialog.
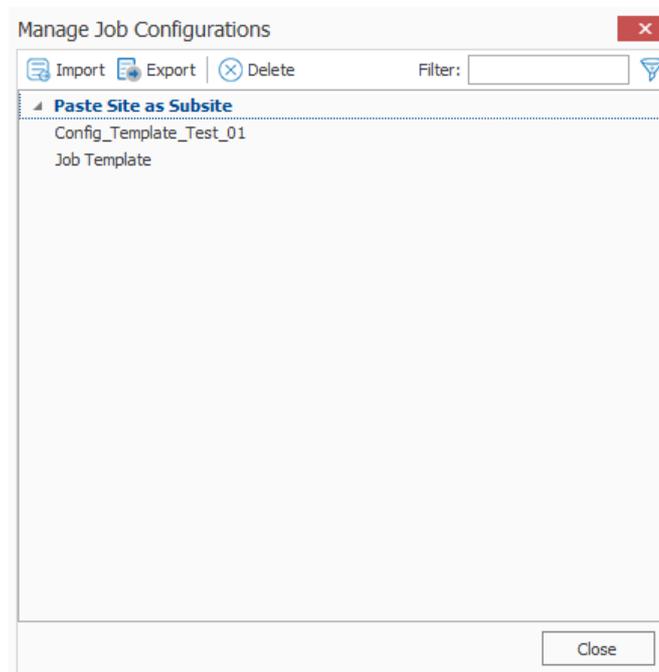
2. Click the **Import** button at the top of the **Manage Job Configurations** dialog, navigate to the folder location for the template XML file, then click **[Open]**.

    The job template will be added to the list of templates in the **Manage Job Configurations** dialog. The template will be listed using the same **Display name** that was used when the task was created on the original system, and will **not** have its file name displayed.

The job template is now imported and can be applied to any migration.

Importing and Exporting Migration Jobs Using Xml Files

From the Job List, you can export a job to an xml file. This functionality allows you to:

- Copy a job from one instance of Content Matrix to another (as long they are for the same Edition).

- Manually modify a job, then re-import it.

To export a job to an xml file:

1. In the **Job List**, select the job(s) you want to export.

   NOTE: If you select multiple jobs, they will be saved to a single xml file.

2. Right-click, and choose **Export selected job to xml**.

   The xml file will automatically open in whatever program is set as the default application for xml files, and it can be saved to any desired location.

To import an xml file to the Job List:

1. Make sure the file you want to import uses a different Job ID than any existing jobs (this should only be an issue if the xml file was previously exported from the same Content Matrix Console).

   NOTE: If you import an xml file via the Console and the file being imported contains the same Job ID as an existing Job, then the import will fail. However, you can create a duplicate job with a different Job ID if you import the xml file using PowerShell.

2. From the Job List menu, choose **File > Import Jobs From Xml**.

3. Select the xml file to import.

If the import is successful, the job will be listed in the Job List section. If unsuccessful, an error message will be displayed.

Importing Jobs from Xml Using PowerShell

You can import jobs that have been previously exported to xml using PowerShell.

To access the PowerShell cmdlets for connecting to SharePoint:

Open a PowerShell or PowerShell ISE session and add the PowerShell snap-ins for the application framework.

To import jobs from an xml file:

1. Select (from the PowerShell ISE Command Window) or enter **Load-JobXml**.

2. Select or enter the applicable parameters. Use the information in the following table for guidance.

Parameter	Notes
XmlFilePath **(Required)**	The path to the xml file containing the job(s) you want to import.

ImportDuplicate
 (Optional)
	If you use this parameter and the job already exists in the Jobs Database, it will be imported with a new Job ID.
	
	 If you omit this parameter and the job already exists in the Jobs Database, it will not be imported. For an xml file that contains multiple jobs, only those that are not in the Jobs Database will be imported. If trace logging is enabled, the detail will be logged in the file MetalogixGlobalLog.txt.
	
	 ```2022-08-24 09.39.51.7569: Error```
	 ```2022-08-24 09.39.51.7569: User=srishtir, Domain=CYBAGE```
	 ```2022-08-24 09.39.51.7569: Could not import below Jobs:```
	 ```JobId: 78d256af-96b1-460b-871a-d58e574ce033, Reason: Job with same JobID already exists```

Example Scripts with Results:

With ImportDuplicate parameter

```
Load-JobXml -XmlFilePath C:\Users\Administrator\Desktop\MigrateToSPO.xml –
ImportDuplicate
6 job(s) successfully imported out of a total of 6 job(s), in 0m 0s
```

Without ImportDuplicate parameter

```
Load-JobXml -XmlFilePath C:\Users\Administrator\Desktop\MigrateToSPO.xml
4 job(s) successfully imported out of a total of 6 job(s), in 0m 0s
```

Refreshing the Jobs List

NOTE: The refresh is applied to whichever job list Content Matrix is currently connected to, whether that is the Distributed Database (for the Distributed Migration feature) or via a standard connection.

To refresh the Job List:

1. From the **Manage Queue** dialog, select a job in the Job List. The row selector icon and the highlighted row indicates the selected row.

2. From the Job List menu bar, choose **File > Refresh**.

If the status of the job has changed, the Status value will indicate the new status of the job.

Submitting a Distributed Migration Job

If the Content Matrix Console is configured for [Distributed Migration](), you can run a job remotely, on a Distributed Migration agent machine.

Distributed Migration Job Limitations

- **If a migration job is using SP 2013 or later DB as a source connection, then users can only run jobs remotely on an agent that meets the connection requirements for the same DB version as the machine from which the migration is configured.** This means that the agent machines must either:

  - Have the same version of SharePoint installed on or be a SharePoint WFE for a comptible version.

  OR

  - Be a 64-bit machine that has no version of SharePoint installed on it.

- **Local Object Model (OM) connections to SharePoint are not supported when using Remote Agents.** - A Local OM connection to SharePoint can only be made when Content Matrix is installed on a machine that is running SharePoint (a SharePoint server or WFE). Since this type of connection can be made on the Host machine, but cannot be guaranteed to also be available on an agent machine, it is not a supported connection adapter for running migrations using remote Agents. For making **remote Object Model connections**, make sure the **Metalogix Extension Web Service (MEWS)** is installed on each agent machine.

- **The following Authentication types are *not* supported:**

  - Forms based Authentication

  - Web browser Authentication

  - Microsoft 365 Web browser authentication

- **Transformer scripts will not work using a remote agent if the script is used as an attachment (i.e. if the script is stored as a file on the local file system, and added to the migration configuration as an attachment)** - When running a migration, uses can go to the 'Transformations' tab in the configuration options and set the migration to use a transformer. If the transformer is added by using the Invoke PowerShell script > Use Script From File option, then the transformer will be added by selecting a script file from the file system and attaching it to the configuration options. Transformer script files that are attached in this manner do not get transferred to the agent machines, so when the agent tries to run the migration it will run without the configured transformer script.

- **If an action in Content Matrix is not supported for generating/running the action over PowerShell, then that action is not supported to run remotely on an agent machine.** - Not all actions in Content Matrix are supported when using PowerShell. Since running a migration on a remote agent relies on PowerShell, some actions are not supported to be run remotely. For example:

- Copy Site > Paste Site Objects > List E-mail Notification

- Copy Site > Paste Site Objects > Managed Metadata Local Site Collection Group

- Copy Site > Paste Site Objects > Managed Metadata Term Store

- Copy Site > Paste Site Objects > Site column

- Copy List > Paste List Objects > Permission

- Currently, **Distributed Migration does not support External Connections** (which are needed to migrate Nintex Workflows/Forms and BDC and BCS Data)

Procedure for Submitting a Distributed Migration Job

NOTE: For Global (Domain, Url, Guid, and User) Mappings, the Distributed Database is populated with the local mappings from the very first connecting agent, and these mappings are shared among all agents that connect to the Distributed Database.

To submit a Distributed Migration job:

1. Make sure the machine is connected to the Distributed Database (from the Job List, choose **File > Connect to Distributed Database**).
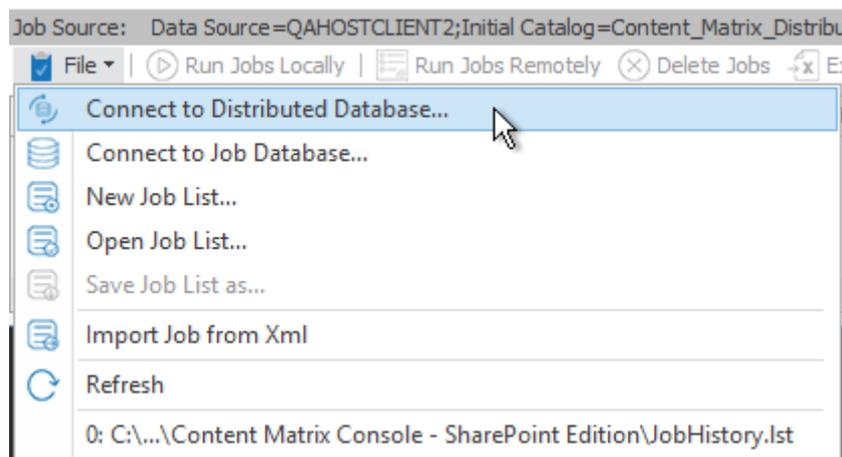
2. When prompted, if you would like to copy current Global Mappings and local settings to the Distributed Database, click **[Yes]**.

   This will overwrite Global Mappings and local settings currently saved in the Distributed Database and used by all agents
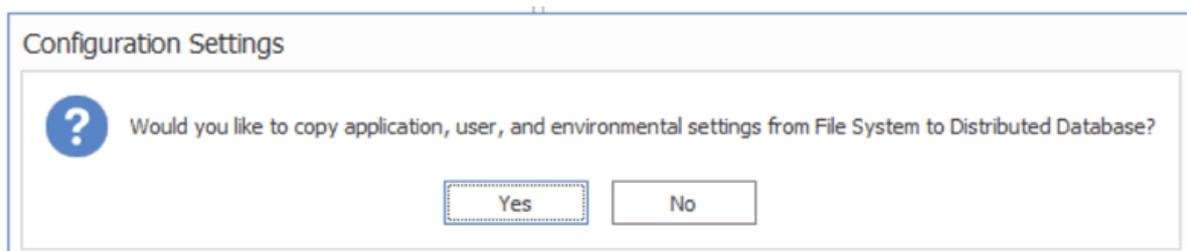
NOTE: If you made changes to Global Mappings and/or local settings after you connected to the Distributed Database and would like to use them, disconnect from the Distributed Database (by

choosing **File > Connect to Jobs Database**) then reconnect to the Distributed Database to display this dialog.

3. From the Job List, select the job(s) you want to submit.'

   NOTE: You can select multiple rows to submit more than one job at a time.

4. From the Job List, select **Run Jobs Remotely** to submit the job for Distributed Migration. Alternatively, right-click the selected row to display the pop-up action menu. Select the **Run selected job remotely** option.
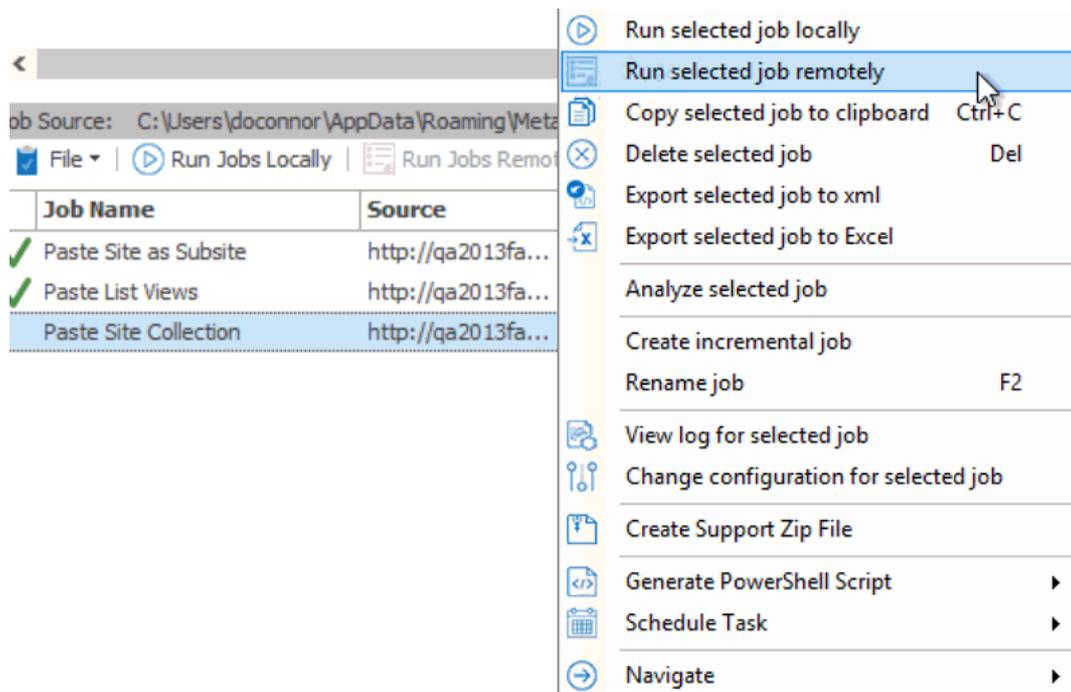
The **Manage Queue** dialog opens. You can now monitor your jobs from this dialog.

5. To view logs that are **Running** or **Done**, from the Job List toolbar, choose **File > Refresh**.

Managing the Distributed Migration Job Queue

If Content Matrix has been configured for Distributed Migration, you can manage the Distributed Migration job queue from any machine that is connected to the Distributed Database.

To open the Manage Queue dialog:

From the Content Matrix Console ribbon Connection tab, select **Manage Queue**.
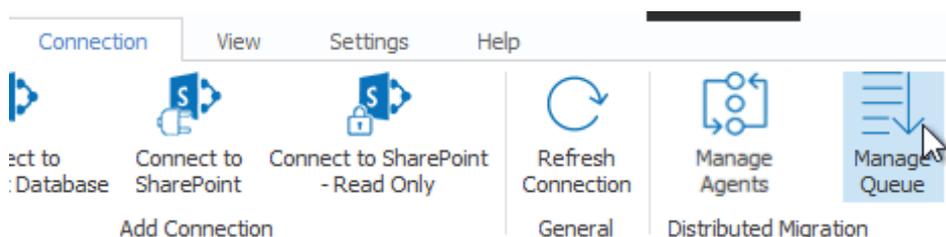
NOTE: If the Manage Queue button appears disabled, the Content Matrix Console is not connected to use a configured Distribution Database.

The **Manage Queue** dialog displays a list of migration Jobs, called the Distributed Migration Job list. The information presented in the various columns are as follows:

Column	Description
Job ID	The unique identifier of the job.
Job Name	The name of the job.
Created	The date and time the job was saved (and not when the job was queued).
Source Url	The source of the migration content.
Target Url	The target of the migration content.
Created On	The name of the Agent where the job is running. The value is blank when the job is queued.
Status	Recent state of the job. The status values could be one of the following values: • **Queued** - the migration job is ready to start. • **Running** - a migration is in progress. • **Failed** - the job has encountered a fault condition. • **Done** - the migration has completed.

You can select a job from the list by clicking anywhere on the row. A row selector icon and the highlighted row indicates the selected row.

Deleting a Distributed Migration Job

1. From the **Manage Queue** dialog, select the job that you want to delete from the Distributed Migration Job list. The row selector icon and the highlighted row indicates the selected row.

   NOTE: Only jobs with a status of **Queued** or **Done** can be deleted. Deleting a job from the queue will **not** remove or delete any of the logging information that has already been sent to the main Job list for the Agent Database.

2. Click **Delete Job**.

(If the button is disabled, check that the selected job has a status that is either **Queued** or **Done**.)

A dialog will display asking you to confirm the deletion.

Creating and Running a PowerShell Script from the Jobs List

In order to create a PowerShell (PS) script for Content Matrix, a job list (or batch file) must first exist in the Job List section of the Content Matrix Console. Once created, it can be run from the PowerShell console or scheduled to run as a Windows Scheduled task.

> NOTES:
>
> - It is recommended that the connections to the source and target environments have the **Remember my password check-box** selected. This is to ensure that the PowerShell scripts will be able to establish a connection to both the source and target environments when they are being run. If a password is required and this check-box is not set, the migration will fail. However, users can manually enter this value into the PowerShell script itself if the option was not checked when the script was first generated.
>
> - Web Browser Authentication, O365 Web Browser Authentication, and Forms-based Authentication are not supported for running a job using a PowerShell script.

Refer to the Quest Support Knowledge Base article Connections that will work with PowerShell and Connections that doesn't work with PowerShell for complete details.

To create a PowerShell script:

1. In Job List, and select the job (or jobs) that you want to run in PowerShell.

2. Click the **Generate PowerShell Script** button in the Job List tool bar, or right-click on one of the items and select Generate PowerShell Script from the context menu.

3. From the drop-down, choose the appropriate option. Use the information in the following table for guidance.
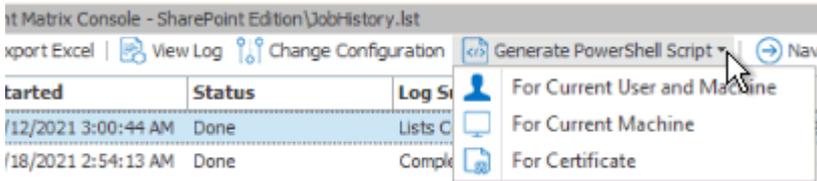
If you want to generate a PowerShell script for scheduling …	Choose …
that can be used only by the currently logged in User Account on the machine it is generated on	**For Current User and Machine**. NOTE: Any PowerShell scripts that are generated for scheduling through this option can only be run by the logged in user on the machine they were generated on.
that can be used by any User account on the machine it is generated on	**For Local Machine**.

If you want to generate a PowerShell script for scheduling …	Choose …
that can be used by any User account on any machine that has the certificate that is specified when the script is created	**For Certificate.** When you save the PowerShell script using this method you will be prompted to select a security certificate that exist on that machine. The selected certificate will be required on any system that attempts to run the script at a later date.
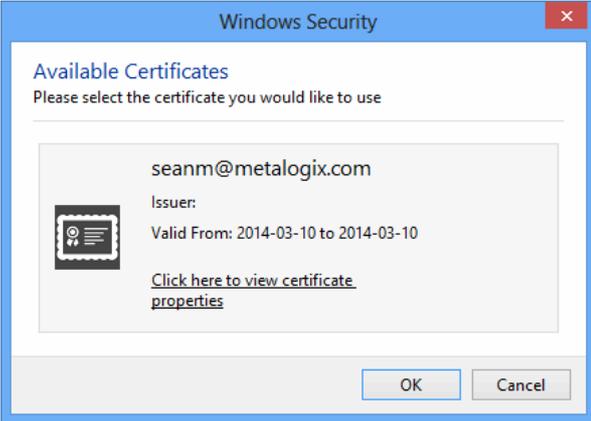
Once the PS script generation type is selected, Content Matrix Console will generate a PS script for the select Job, which will be written to a Microsoft Notepad file. If multiple jobs are selected they will all be written to the same file.

4. Choose **File > Save As...** and select any desired save location for the PowerShell script. Give the file any name you want, but change the **file type** to **.PS1**.

The PowerShell (PS) script itself contains five sections. They are:

- Section 1 - This first section at the top (starting with an "if" statement) runs a check in the PowerShell console to make sure that the Metalogix snap-ins have been added. If they are not found then it will add them to that instance of the PS console.

- Section 2 - **Load Configuration settings** - This section will find and load all of the Content Matrix client application configuration settings into the PowerShell script. These are the client application's environmental settings and not the migration/action settings.

- Section 3 - **Load source** - This section will load all of the data for the source environment connection.

- Section 4 - **Load target** - Similar to the previous section, this will load target environment's connection information.

- Section 5 - **Run the action** - Last is the "Run the action" section. This last section will contain all of the other data for the migration, such as the type of migration (i.e. a site migration, list migration, item migration, etc.) and all of the settings and configurations for the migration/action that is being run. This includes things like settings for versions, content types, permissions, etc.

Now you can run or schedule the PowerShell script.

Running a PowerShell Script

Once a PowerShell script has been [created](#), you can run it from the PowerShell console.

To run the PowerShell script:

NOTES:

- If you have more than one edition of Content Matrix, only one edition can be run per PowerShell session.

- If Content Matrix settings or a connection to a Distributed Database is changed, in order to apply new settings all PowerShell sessions must be restarted.

To add the PowerShell cmdlets for the application framework:

1. Open a Powershell ISE or PowerShell console session.

2. Run the Add-PSSnapin command and by pasting in the following text:

```
if ( $PsVersionTable.PSVersion.Major -lt 3 ) { Write-Host "Windows
PowerShell Version 3.0 or later needs to be installed in order to run
Content Matrix PowerShell scripts."; exit; }if ( (Get-PSSnapin -Name
Metalogix.System.Commands -ErrorAction SilentlyContinue) -eq $null )
{ add-pssnapin Metalogix.System.Commands | out-null }if ( (Get-PSSnapin -
Name Metalogix.SharePoint.Commands -ErrorAction SilentlyContinue) -eq
$null ) { add-pssnapin Metalogix.SharePoint.Commands | out-null }if (Get-
Command Set-MetalogixJobPrerequisites -ErrorAction SilentlyContinue)
{ Set-MetalogixJobPrerequisites -Value "Content Matrix Console -
SharePoint Edition"if ( $PsVersionTable.PSVersion.Major -lt 3 ) { Write-
Host "Windows PowerShell Version 3.0 or later needs to be installed in
order to run Content Matrix PowerShell scripts."; exit; }if ( (Get-
PSSnapin -Name Metalogix.System.Commands -ErrorAction SilentlyContinue) -
eq $null ) { add-pssnapin Metalogix.System.Commands | out-null }
if ( (Get-PSSnapin -Name Metalogix.SharePoint.Commands -ErrorAction
SilentlyContinue) -eq $null ) { add-pssnapin
Metalogix.SharePoint.Commands | out-null }if (Get-Command Set-
MetalogixJobPrerequisites -ErrorAction SilentlyContinue){ Set-
MetalogixJobPrerequisites -Value "Content Matrix Console - SharePoint
Edition" }
```

2. Set the directory to the location where the PowerShell script is located.

3. Enter the name and extension of the PowerShell Script (at its specified location), and the script will run.

   In the case that you are running a script from the same directory you would use the format: .\[ScriptName].ps1. So if your PowerShell scrip was named "ResourceScript.ps1" then you would enter: .\ResourceScript.ps1 into the window, and the script would run.

If the script is in a different directory, you would enter the location of that directory relative to your current location, followed by the script name. For example, if your prompt is at the "C:\" drive and your PowerShell script, named "ResourceScript.ps1" is on the desktop you would enter: C:\Users\[User]\Desktop\ResourceScript.ps1, and the script would run.

NOTE: In some cases the Execution Policy may prevent you from running a PowerShell script. In this case you will likely see the message: [Script].ps1 cannot be loaded because the execution of scripts is disabled on this system. Please see "get-help about_signing" for more details. In this case, running the command: set-executionpolicy RemoteSigned should change the existing script policy to allow you to run these scripts for your location. It is advised that you check with your System Administrators before doing this to ensure that no Company Policies are being broken by this action. If this is an action you need to take, you should only need to run this command once.

The migration will begin, and any warnings and/or errors that are encountered in running the script will be displayed in the PowerShell window.

Scheduling a PowerShell Script to Run as a Windows Scheduled Task

Once a PowerShell script has been created, you can run any migration job as a scheduled task on the system that the client application is installed on. This can be any migration action that exists in the Job List section, whether it's a migration job that was saved or a job that was previously run.

The **Generate PowerShell Script** option saves configurations for the selected job(s) as a PowerShell script. After the script has been saved, you must create a Windows Scheduled task directly in the Windows Task Scheduler.

Once these jobs have been created as scheduled tasks they can no longer be viewed (as scheduled tasks) in Content Matrix. If you want to make any other modifications or remove the task you can do so directly in the Windows Task Scheduler. If a task has been scheduled, the system will be able to run the task at the appointed time(s), regardless of whether Content Matrix client application is open.

To schedule a PowerShell script to run via the Windows Task Scheduler:

1. On the system where the scheduled task will run, open the Windows Task Scheduler.

2. Choose **Actions > Create Task.**

3. Enter a task **Name** and **Description**.

4. In the **General** tab, go to **Security** options and specify the user account that the task should be run under. Change the settings so the task will run regardless of whether the user is logged in.

5. Select the **Triggers** tab, and click **[New]** to add a new trigger for the scheduled task. This new task should use the **On a schedule** option. The start date can be set to a desired time, and the frequency and duration of the task can be set based on your specific needs. Click **[OK]** when your desired settings are entered.

6. Select the Actions tab and click **[New]** to set the action for this task to run. Set the Action to **Start a program.**

7. In the **Program/script** box enter "PowerShell."

8. In the **Add arguments (optional) box** enter the value ".\[Your PowerShell Script Name]." For example, if your PowerShell Script is named "Migration1.ps1" then you would enter ".\Migration1.ps1" as the value.

9. In the **Start in (optional**) box, add the location of the folder that contains your PowerShell script.

    NOTE: The location used in the Start in box will also be used for storing the scheduled task run times, the job history for the copies, and any additional logging that may occur.

10. When all the desired settings are made, click **[OK].**

11. Set any other desired settings in the Conditions and Settings tabs.

12. Once all the desired actions have been made (or added), click **[OK]**.

The task will be immediately set, and is ready to run.

After the scheduled task has run, a new entry will be added to Content Matrix's Job List section.

Triggering a Job in the Content Matrix Console to Run Using PowerShell

As an alternative to generating a PowerShell script, you can use PowerShell to trigger jobs that have been created in the Content Matrix Console.

To access the PowerShell cmdlets for triggering jobs to run:

Open a PowerShell or PowerShell ISE session and add the PowerShell snap-ins for the application framework.

The following cmdlets for running jobs are now available:

- Get-MLJobs

- Invoke-MLJob

To retrieve information about jobs in the Console:

1. Select (from the PowerShell ISE Command Window) or enter **Get-MLJobs**.

2. (Optional) Enter one or more of the following parameters if you want to filter jobs:

    - **JobNameOrTitle**

    - **JobStatus**

    - **Source**

    - **Target**

> NOTE: If you do not apply filters, all jobs in the Console will be retrieved.

3. Run the cmdlet.

Example scripts:

```
Get-MLJobs
```

```
Get-MLJobs -Source http://win-pvf4cd21m55/HR -Target
https://metalogixsoftware.sharepoint.com/sites/HR -JobStatus Failed -
JobNameOrTitle "Paste List"
```

To run one or more jobs:

1. Select (from the PowerShell ISE Command Window) or enter **Invoke-MLJob**.

2. Select or enter additional parameters. Use the information in the following table for guidance.

Parameter	Notes
JobID	• You can obtain the JobId by running the Get-MLJobs cmdlet. • You can run multiple jobs using the PowerShell Pipeline variable.
JobStatus	Valid statuses are: • Running • Warning • Not Running • Failed • Paused • Queued • Aborted • Triggered • Aborting • Cancelling • Done • Cancelled
Quiet	Use this parameter if you do not want to display a status of the job as it is running.
RunRemotely	Use this parameter if you want to submit the job for Distributed Migration. > NOTE: This option is valid for SharePoint Edition only.

3. Run the cmdlet.

Example Scripts

```
Invoke-MLJob -JobId '92416012-4b69-4d4e-b3c2-984cde279909'
```

```
Invoke-MLJob -JobStatus Failed
```

Run multiple jobs using the PowerShell pipeline variable:

```
Invoke-MLJob -JobID 'c8176dd1-f1fd-484c-bc66-c002f5406f05' -RunRemotely
'5ca0d97f-4d1d-445f-a6d9-3292abe89a6f', '0a2e0874-a759-46f4-b459-
bb98ec2991ad' | Invoke-MLJob '30bf6d71-0a28-4012-b612-2d22562b5b46',
'0b094765-46e0-4919-8922-cc5fe841e1f5' | Invoke-MLJob -Quiet
```

Job Log Files

You can view the progress of a migration tab in real-time via interactive log files. The logs are fully searchable.

To view an interactive log:

After starting an action, click **Details>>** in the progress dialog box.

> NOTE: All logging in Content Matrix is done through jobs. If a job list is deleted from the Job List, all logging for those actions will also be deleted. There is no backup for the job lists, unless the job is manually saved to another location. Once a job list is deleted, all logging for the actions within that job list are gone. Content Matrix will automatically hold any job lists created through any copy or compare actions, in the Job Lists section, and these job lists can only be deleted through the appropriate Delete commands. The job lists can also be manually selected and saved through the Job list section.

There are two types of jobs in Content Matrix:

A **job list** is a collection of job items. A Job list is created for each copy or compare action that is made. Any "Copy" action/job that is in the Job List section can be used as the base of an incremental copy job. Job items can be viewed in the Log Viewer, by opening a job list. There are three basic ways to open a job list to access the Log Viewer:

- Double-click on a job list.
- Select a job list, then in the Job List section of the toolbar click **View Log**.
- Select a job, right-click, and choose **View log**.

Job items are job files, or logging, for individual items within the scope of an action. For example, if a SharePoint site is copied, there would be a job item for adding each list and each item in that list, and one job item for adding or creating each site or sub-site. If a SharePoint list with five documents is copied, then there would be a job item for adding/creating the list, and then one job item for adding each of the documents.

Job items are job files, or logging, for individual items within the scope of an action. For example, if a SharePoint site is copied, there would be a job item for adding each list and each item in that list, and one job item for adding or creating each site or sub-site. If a SharePoint list with fie documents is copied, then there would be a job item for adding/creating the list, and then one job item for adding each of the documents.

From the Log Viewer you can select and view any job items that exists within that job list.

NOTE: Some actions in Content Matrix have the ability to run with **Verbose Logging**. This option will increase the size of the log file.

Log Item Details

To view Log Item Details:

1. From the Log Viewer, select the item whose details you want to view.

2. Use one of the following options:

    ▪ Double-click on the item.

    OR

    ▪ Right-click and choose **View Job Item**.

    OR

    ▪ If the job is currently running, click **Details>>.**
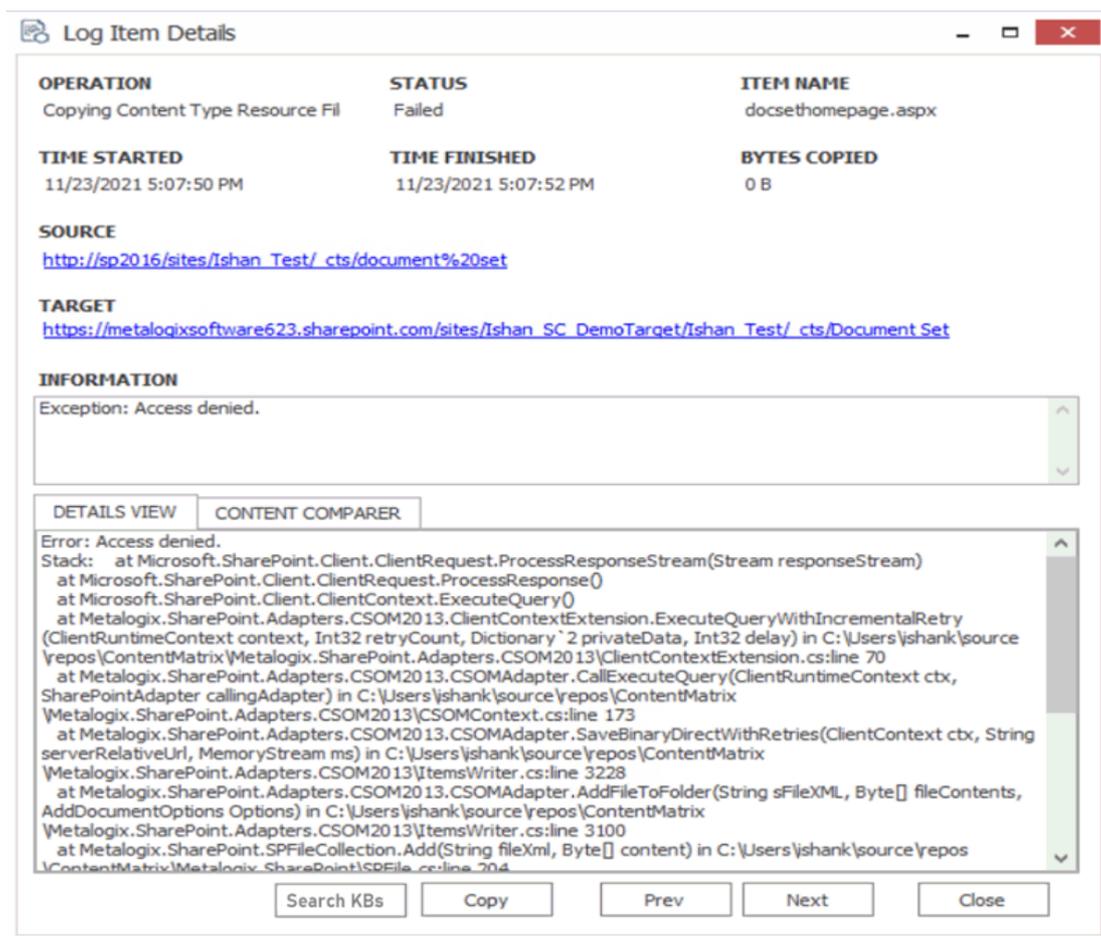
The Job Details dialog contains the following information:

- **Operation** - The last operation performed on the item.

- **Status** – The status of the item. If a compare action is being performed then this could be: completed, different, or missing.

- **Item Name** - For items, the Item ID. For documents, the Filename.

- **Time Started** – The time the action for the item was started.

- **Time Finished** – The time the action for the item was finished.

- **Bytes Copied** – The bytes (B) that were copied in the action. This will be displayed in KB in some cases.

- **Source** - The Source URL for the item.

- **Target** - Target URL for the item.

- **Information** - Provides an informational message about the item, such as. This section will provide a description for any different and/or missing attributes/metadata for an item.

- **Details View** - Any errors that were encountered with the item when an action was performed.

- **Content Comparer tab** - Any differences between Source and Target content (from a compare action). You can display this information in either a **Grid View**, which displays a metadata property grid for the item, or as a **Text View**, which displays a XML text format of the item. This option is most useful if **Verbose Logging** has been checked

You can also:

- Use **[Search KBs]** to have Content Matrix query the Quest Support Knowledge Base for relevant articles if you selected a failed item.

- Use **[Copy]** to copy all of the item information and details (including the Details tab) into the system's clipboard. You can then paste the information when it can then be pasted to another location. When pasted the information will look similar to that of the actual Log Item Details dialog. This can be used for easy copy/pasting of an items migration log details.

- Use **[Prev]** and **[Next]** buttons to move to the previous or next item on the list (if applicable).

Copying Job Logging to Other Applications

It is possible to copy the results of migration jobs from log files to other applications. This can be beneficial if you want to keep track of copy or incremental information outside of Content Matrix, or want to manipulate the information for reporting or retention purposes. The log information is copied as text, to the clipboard, and can then be pasted within any other application that allows text pasting. For example, if a copy action was made, the logging can be copied into a Word file, or into an Excel spreadsheet, then saved.

NOTE: Only the end results of the total action will be copied.

To copy the logging for a job list:

1. Select a job from the **Job List**.

2. Right-click, and choose **Copy selected job to clipboard** (alternately Ctrl+C can be used).

3. Open the desired target program (for example: Microsoft Word, Microsoft Excel, Notepad, etc), then paste the content into the application (Ctrl+V, or the paste command in the application itself).

   NOTE: The logging for each action within the list must be copied separately.

To copy the logging for job items:

- Select the desired job list or job item(s) that the logging is to be copied from, and open the job list to access the Log Viewer.

- Select any job items that are to be copied. Single or multiple items can be selected in the Log Viewer. In order to copy the logging for the entire job, all job items in the Log Viewer must be selected.

- When all of the desired items are selected, right-click on one of them, and select Copy Log Items to Clipboard, and select to either copy them with, or without details. The Details are a set of extra columns that are added to the logging. These columns are typically: **Details**, **SourceContent**, and **TargetContent**. These columns do not always contain extra information. The default copy option (Ctrl+C) is to copy the logging without the Details.
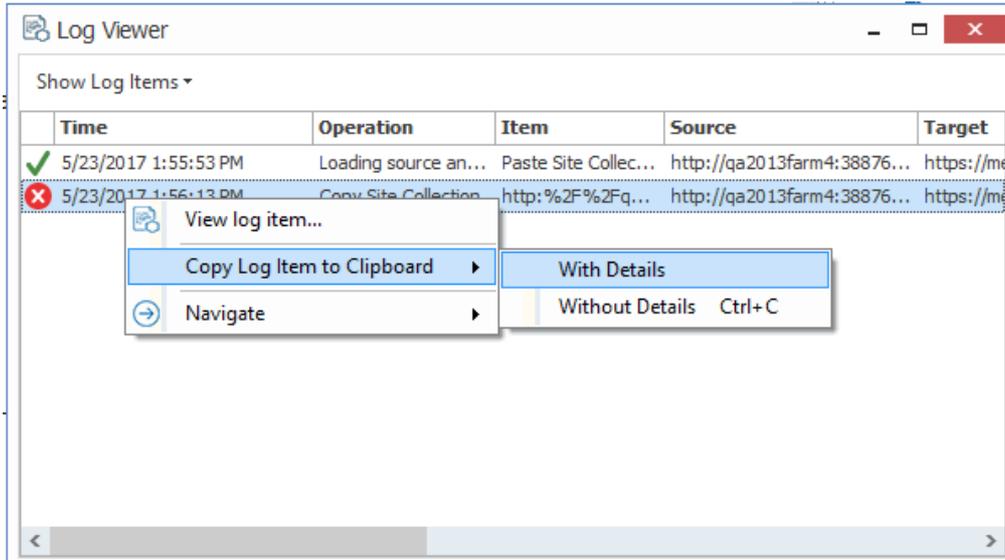
Creating a Support Zip File for a Migration Job

You can generate a zip file of data associated with a single migration job to help Quest Support facilitate troubleshooting.

The high-level data collected in the zip file includes:

- Application Settings files.

- Product information (product version, license, etc.).

- Information about the job (what action settings were set, the job log, etc.).

For a migration job to SharePoint Online that was run using the Import Pipeline, if there are batches with a Status of **Failed** or **Warning** an additional folder, **<Date[YYYYMMDD]>_UploadManagerStatus**, is automatically included for those batches only. This folder contains the same files as the API Support Zip file.

IMPORTANT: Sensitive Information

Please review the contents of the zip file before sending it to Support. While this feature attempts to only collect non-sensitive data, no guarantees can be made - it is up to you to ensure that any files in the zip folder are stripped of any confidential data. Regardless, Quest assures that the contents of the zip file will only be used for troubleshooting the associated support ticket. For added security, Content Matrix removes the encrypted password and token information from the file.

NOTE: Because passwords are removed, if you try to import a job from a Support zip file and there is no active connection to both the source and target, the import will fail. It is recommended that you create xml jobs using Export to Xml functionality instead of using the xml file generated by the Create Support Zip File operation. Refer to the Knowledge Base article While Importing a Job from a Support

To create a Support zip file:

1. In the **Job List**, select the job for which the zip file is to be generated.

2. Use one of the following options:

   - In the main ribbon, click the **Help** tab, then **Create Support Zip File**.

   - Right-click and choose **Create Support Zip File**.

3. Save the file to the desired location using the desired file name.

4. If you wish to review the zip file for sensitive information, click **Yes** to open the zip file. Once you are satisfied with the contents of the zip file, it can be sent to Quest Support to aid in troubleshooting.

Enabling Trace Logging

You can enable trace logging on the machine where Content Matrix is installed and migrations are run to assist Quest Support with troubleshooting.

NOTE: For Distributed Migration, trace logging must be enabled on each agent machine.

To enable trace logging:

1. Open the file **LogSettings.xml**, which can be found in one of the following folders:

   - If you are required to be a local administrator on the machine where Content Matrix is installed: C:\ProgramData\Metalogix

   OR

   - If you are *not* required to be a local administrator on the machine where Content Matrix is installed: C:\Users\<username>\AppData\Roaming\Metalogix\Common

2. Set `<LoggingLevel>` to one of the values described in the following table.

   WARNING: When trace logging is enabled, entries are appended to the log file for each migration job that is run, and the same log file is used for all editions. This means the log file can become very large, which is why it is recommended that you only enable trace logging at the request of Quest Support.

Value	Description
None [Default]	Trace logging is disabled (i.e., no entries are written to the log file).
Error	Only Error messages are logged.

Value	Description
Debug	Error and Debug messages are logged. NOTE: Debug should only be used for advanced troubleshooting as it may impact migration performance.

Log entries are written to the file **MetalogixGlobalLog.txt**, which is located in the same folder as LogSettings.xml.

Exporting Jobs to an Excel File

You can export a selected job or multiple jobs from the Job List section into a Microsoft Excel file. The export will include all of the operations within each job (whether it is a migration action or some other action), and their details. This is to help users better understand their migration data and results, and provides another way to review the resulting logs.

In addition to the log details that are provided, there are also a number of tables and charts that can be accessed in different tabs within the Excel file. These tables and charts will help breakdown the information in a more visible manner.

To export one or more jobs to an Excel file:

1. In the Job List, select the job(s) you want to export.

2. Use one of the following options:

   ▪ From the Job List menu, select **Export Excel**

   OR

   ▪ Right-click and choose **Export selected job to Excel**.

3. Save the file to the desired location.

By default the Excel file will open after it has been created. This process may take a few minutes depending on the size of the selected job(s) and the number of actions in the log(s).

Information in Exported Excel Files

When an Excel file is exported from the Content Matrix Job List there are a number of page tabs that can be viewed. Each page tab will display a different set of data, and some of these tabs will also display pivot graphs (with pivot tables behind them).

NOTE: The data within all of these Excel tabs (both the tables and the graphs) should only be considered a starting point when looking at your migration data. You can modify the existing graphs through various methods, such as applying filters, changing the data values, etc. You can also take the "raw" data from the LogItems tab and use it to create your own graphs or sets of data as required.

The exported file contains the following tabs:

- Jobs - All of the specific jobs that are included in the export. This includes migration jobs as well as other actions.

- LogItems - All of the operations that have been run by Content Matrix and provide all of the logging details that are available in the Log Viewer and Log Item Details windows. Some examples of these operations are: adding lists, adding content types, copying documents, adding users, updating lists, etc.

- Error Rates - A a graph that represents the number of errors and warnings that Content Matrix encounters during a migration on a "per minute" basis. The vertical axis will list the number of errors/warnings that are encountered (at the specified time), and the horizontal axis lists the amount of time (displayed in a "per minute" value). The horizontal axis can also be changed to display in month, day, or hour time values as well. Below the graph is a table that provides a different view of the same error/warning breakdown.
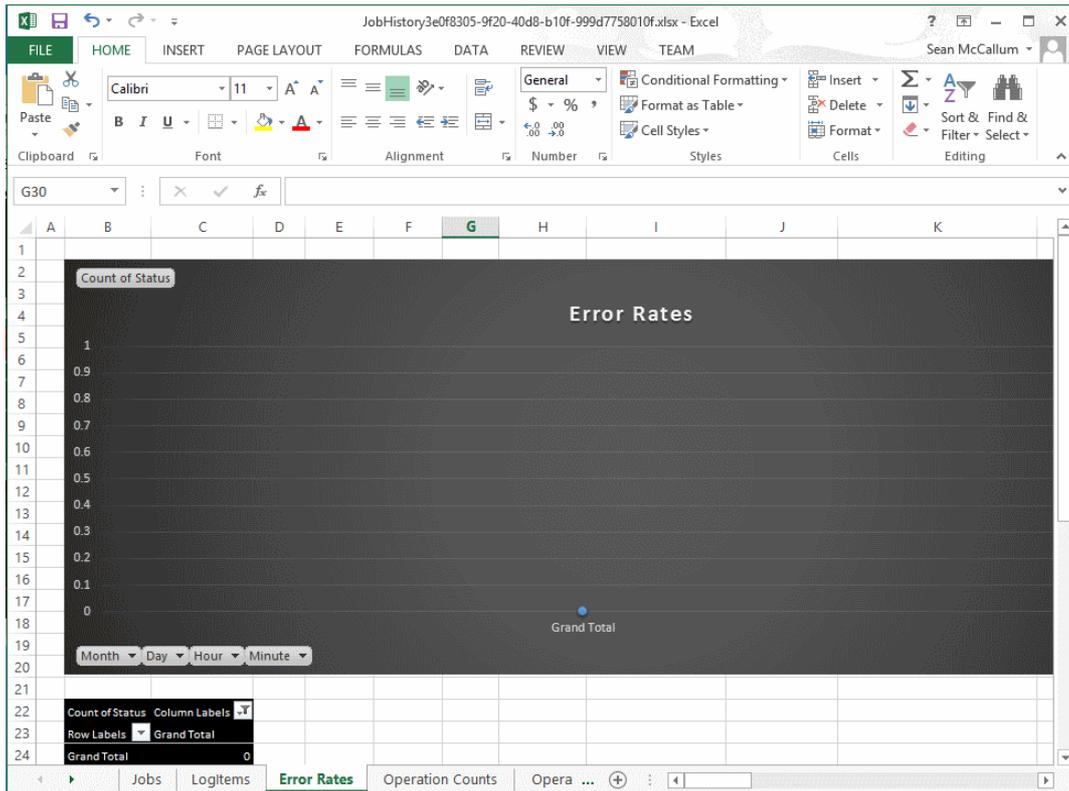
- Operation Counts - The number of operations/actions that are run over a period of time. Some examples are: copying sites, copying lists, copying documents, adding SharePoint groups, adding users, copying permissions, etc., and each operation has its own line representation on the graph. The vertical axis lists the number of operations that are running (at the specified time), and the horizontal axis lists the amount of time (this is displayed in a "per minute" value). The horizontal axis can also be changed to display in month, day, or hour time values as well. Below the graph there is a table that provides a different view of the same migration operation data.
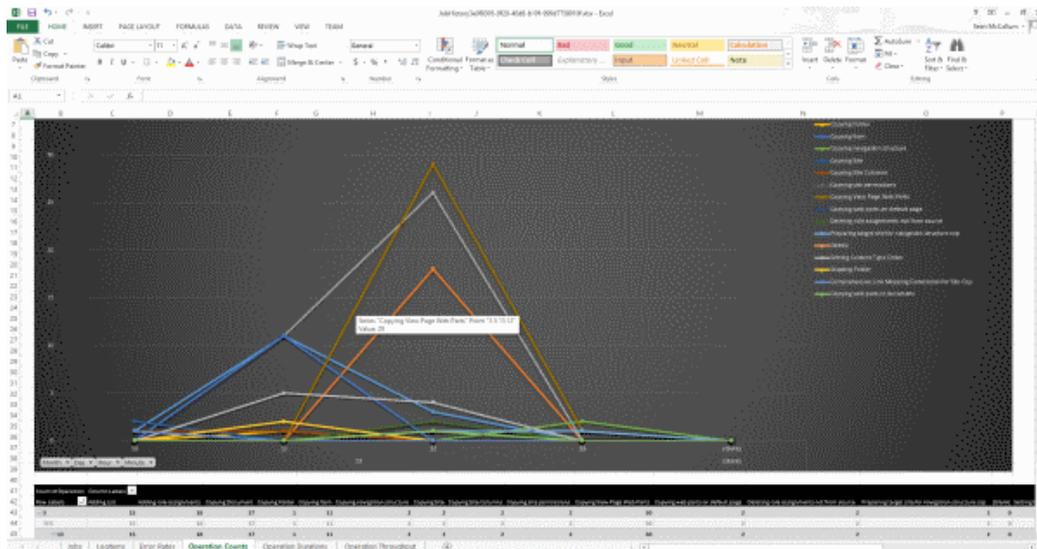
- Operation Duration - The total duration of time for each operation/action type against the total migration time.   This is potentially the most confusing graph to read in the exported Excel file. The vertical axis lists the total duration time for each action. This is determined by finding the difference between each operation/actions Time Started and Time Finished values, and then

adding the totals together for all of that operation/actions of that type that are running. This is then displayed against the horizontal axis which lists the time (displayed in a "per minute" value) for the migration. The horizontal axis can also be changed to display in month, day, or hour time values as well. Below the graph there is a table that will provide a different view of the same migration data.

An example of how to read this graph is: if at minute 25 (of the hour, **not** the 25 minute of the migration) a large number of small documents are copied and completed (all in the 25th minute), then at minute 25 in the graph there will likely be a spike in the "duration time" for the "Copying Document" operation/action. If each document was copied in 2 seconds, and there were 41 small documents, then the **Sum of Duration** value would be listed as 82 seconds (or 0:01:22). So the results in the graph would show a spike for the **Copying Document** operation/action and minute 25, with a value of 0:01:22.

- Operation Throughput – The amount of data/throughput (in MB) that is migrated on a "per minute" basis. The vertical axis lists the amount of data that is being pushed through Content Matrix for a given operation (at the specified time), and the horizontal axis lists the time (displayed in a "per minute" value) at which that the action was performed. The horizontal axis can also be changed to display in month, day, or hour time values. Below the graph there is a table that will provide a different view of the same throughput data.

Monitoring and Managing SPO Migration Jobs that Use the Import Pipeline

For migrations to SharePoint Online that use the Import Pipeline, you can monitor the progress of the job, including Microsoft-side processing, via the SharePoint Online Migration Jobs window.

> NOTE: This window is used to monitor Objects and Actions Supported Using the Import Pipeline only. Any components of a migration that use CSOM can be monitored via Log Item Details.

To launch the SharePoint Online Migration Jobs window:

1. In the Job List, select the migration job you want to monitor/manage.

2. Right-click and choose **Manage SharePoint Online Jobs**.
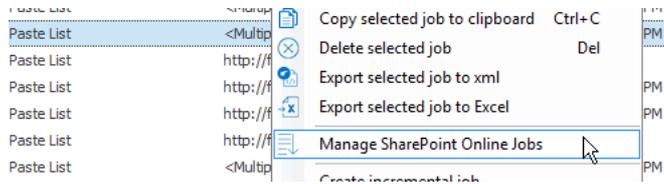
> NOTE: This option is available only if the **Use Import Pipeline** option was selected on the Configure Copy Options - List Content tab, and the window can be open for only one job at a time.

Status Messages

The following are the status messages that display in the SharePoint Online Migration Jobs window.

NOTE: By default, every run of each batch displays in the SharePoint Online Migration Jobs window. If you want to show only the *latest* status of each batch, check the **Hide previous batch runs** box.

- **Processing** - Content Matrix is preparing batches for upload to the Import Pipeline.

- **Queued** - The batch is awaiting upload to the Import Pipeline.

- **Running** - The batch has been uploaded to the Import Pipeline and is being processed by Microsoft.

- **Success** - The batch has been processed successfully.

- **Warning** - The batch has been processed with one or more issues.

- **Failed** - Microsoft-side batch processing has failed.

To view batch details:

1. Select the batch whose detail you want to view.

2. In the ribbon menu, click **View Job**.

NOTE: The identifying URIs (Manifest, Blob Storage, and Azure Queue) are generated by Microsoft and can be used by Support for troubleshooting purposes.
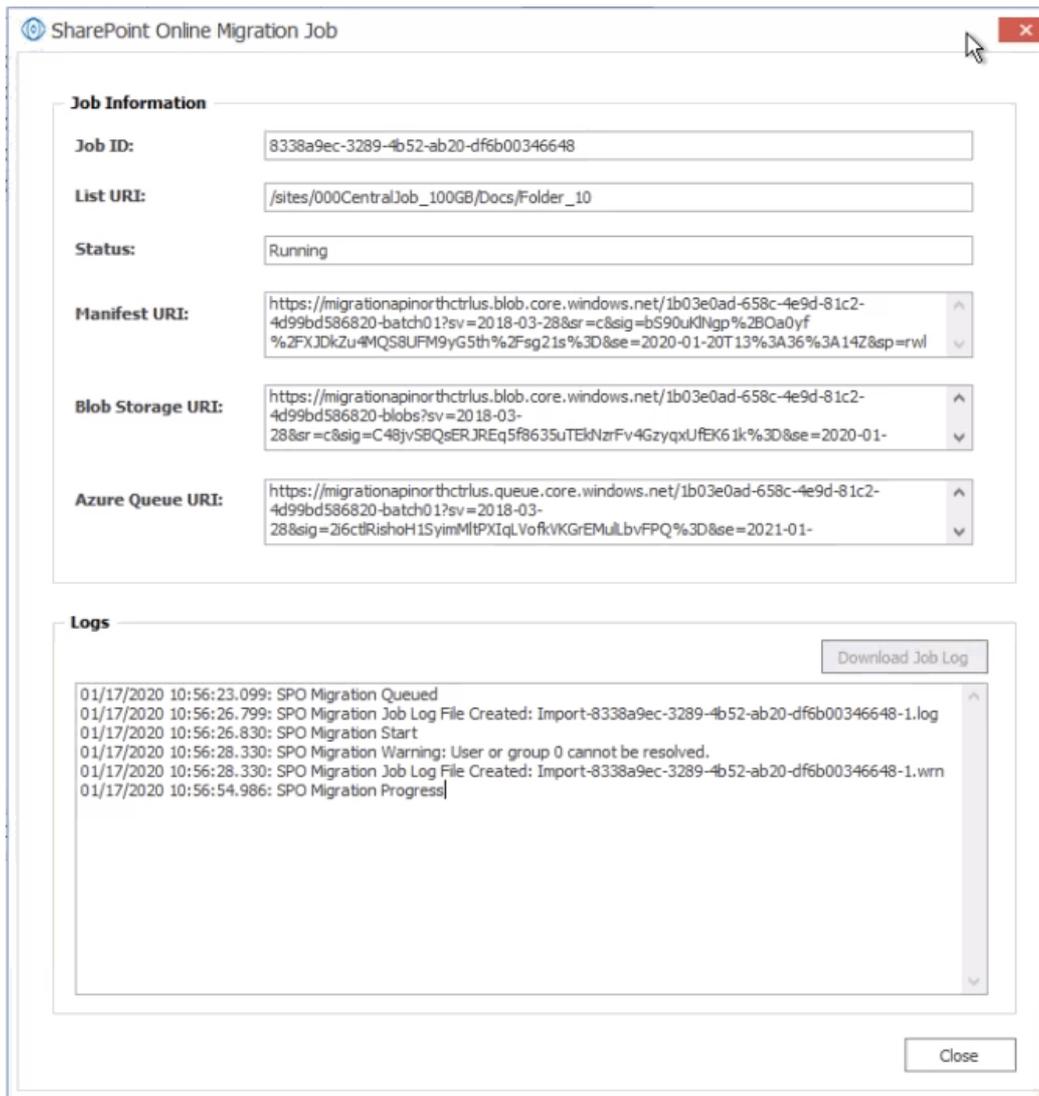
While the job is running, you can view the progress in the **Logs** section of the window.

EXCEPTION: The progress of a running job cannot be viewed if it was configured using PowerShell.

Once the job has finished processing (or if the job was configured using PowerShell), the **[Download Job Log]** button becomes enabled, and you can view complete job details.

Job List Upload Duration Column

The column **Upload Duration** in the Job List displays the time it took for the job to upload via the Import Pipeline. If the migration was done with CSOM only, or the target was SharePoint on premises, the field will be blank.

Retrying Failed Batches

Content Matrix automatically retries a failed batch up to five times by default. (This can be changed via the EnvironmentSettings.xml `MaxAzureBatchRetryCount` key.) You can also manually retry batches directly from the SharePoint Online Migration Jobs window. Highlight each batch you want to retry and click **Retry Job** in the ribbon menu.

TIP: You can filter the Status column to display only failed batches.

Note About Expired Azure SAS URLs

You can retry job batches any time before the Azure SAS URL for the job expires (which is 30 days for private containers and a number of days determined by Microsoft for SharePoint Online provided Azure containers). If you want to resubmit a job after this time period, you will need to re-create the migration job.

Creating an API Support Zip File to Send to Quest Support for Troubleshooting

To assist Quest Support with troubleshooting, you can generate a zip file, which includes several xml files, a log file and a Summary file, for all batches that used the Import Pipeline.

NOTE: A standard Support zip file includes the same content, but only for batches with a status of **Failed** or **Warning** so that Quest Support may provide more efficient troubleshooting.

1. Select the batch(es) for which you want to create the zip file. (Note that you can multi-select to create a separate zip file for each batch.)

2. In the ribbon menu, click **API Support Zip**.

3. Save the zip file(s), and send to Quest Support for troubleshooting.

By default, a zip file's name is its SPO Job ID. You can, however, rename it.

NOTE: If the Azure SAS URL has expired, only the log file and Summary file will be included in the zip file. (A full API Support zip file *may* be generated between the time that the Azure SAS URL expires and Microsoft destroys a container.)

Copying SharePoint Objects as a Separate Action

Many migration actions can be performed as a separate action after the initial migration is performed.

The following objects and settings can *only* be copied as a separate, post-migration task:

- Alerts
- Audiences
- SharePoint Email Notification Settings
- List Views

The following objects and settings can be copied both as part of a full migration or as a separate action:

- Content Types
- Classic Web Parts
- Users
- Groups
- Permissions
- Permissions Levels
- Master Page Gallery
- Site Collection settings
- Navigation settings

Copying Alerts as a Post-Migration Task

Content Matrix can copy:

- Site, list, and item level alerts to SharePoint on premises targets
- Site and list (but not item) level alerts to SharePoint Online targets

This option is only available when Advanced Mode is enabled.

Alerts can be copied *only* as a separate, post-migration action, using the context (right-click) menu, or by creating a job/batch file.

NOTE: It is recommended that alerts not be migrated within five to ten minutes of the site, list or item being migrated to the target. This is to avoid the risk of having SharePoint send out any unnecessary email alerts regarding any modifications (migrations) that may have been made.

For SharePoint on premises targets:

When using a Database connection or an Object Model connection through the Local Object Model connection or the Metalogix Extensions Web Service (MEWS), the migrating user (or the Web Service account) must have access to the alerts either in SharePoint or through the database.

For SharePoint Online targets:

- Alerts can only be copied using the Import Pipeline, to which your SharePoint Online target environment must be connected.

If your scope includes lists not supported by migration using the Import Pipeline, the migration of alerts for the unsupported lists will fail.

- Target objects (site, list, and item) must have the same ID on the target as they do on the source (which means that, as part of the migration, the option to **Preserve IDs on items/folders** must have been checked on the List Content Options tab).

To copy alerts as a post-migration action:

1. In **Explorer View**, select the source site, list, or item from which you want to copy alerts.

   EXCEPTION: The migration of alerts for *individual items* is not supported for SharePoint Online targets.

2. Select the target object to which you want the alerts copied.

3. Right-click, and choose **Copy [Object]**.

   NOTE: Item level alerts can only be copied one at a time.

4. Select the target object to which you want to copy the alerts, right click and choose **Paste Site Objects > Alerts**.

5. On the Configure Alert Coping Options dialog, check the applicable option(s):

   - **Recursively Copy Alerts for all Child Sites** - This will copy alerts for all sites and lists recursively down through any content, within the scope of the migration. Item level alerts are not included in this option.

   - **Recursively Copy All Item Alerts** - This will copy all item level alerts recursively down through any content, within the scope of the migration.

   - If the target is SharePoint Online, the **Use Import Pipeline** option is checked and grayed out by default, as it is currently the only supported method for migrating alerts to SharePoint Online.

     NOTE: If you are using **Azure Private Containers** and want migration job manifest files encrypted, check the **Encrypt Azure Jobs** box. (These files are always encrypted for SPO Provided Azure Containers.)

Now you can save or run the action.

Alert Migration Error Handling

When copying alerts Content Matrix will check to see if the user already exists on the target. If the user the alert is assigned to does not exist on the target, then Content Matrix will try to copy that user to the target before the alert is copied. If for some reason the user cannot be copied to the target an error message will be placed in the log file.

In the case that alerts are not turned on, in the target SharePoint server, Content Matrix will give the following error:

```
Exception thrown: Server was unable to process request. ---> Alerts have
been turned off for this virtual server. For assistance, contact your
server administrator.
```

To resolve this issue, activate the alerts feature on the target SharePoint server, and try the migration again.

Copying Audiences as a Post-Migration Task

Content Matrix can copy audiences if:

- You are copying to a full, on premises version of SharePoint

  NOTE: References to Distribution/Security Groups will be preserved as long as the source and target systems are running the same version of SharePoint and are both using the Active Directory (AD). References to SharePoint Groups will always be preserved as long as the groups themselves have been copied to the target.

AND

- The Target Type is "Farm" or "Web App"

  NOTE: Audiences do not exist in SharePoint Foundation.

This option is only available when Advanced Mode is enabled.

References to Distribution/Security Groups will be preserved as long as the source and target systems are running the same version of SharePoint and are both using the Active Directory (AD). References to SharePoint Groups will always be preserved as long as the groups themselves have been copied to the target.

> The source and target farms must use a **local Object Model** or remote **Metalogix Extensions Web Service (MEWS)** connection in order to map references to audiences between servers.
>
> NOTE: Because the above connection types cannot be made to Microsoft 365, audiences cannot be copied from or to this environment.

Prerequisites for Copying Audience

In order to copy audiences, the migrating account must have permissions to manage audiences. Refer to the following Microsoft TechNet articles for details:

- For SharePoint 2007 (personalization services): https://technet.microsoft.com/en-us/library/cc263168(v=office.12).aspx

- For SharePoint 2010 (User Profile Service): https://technet.microsoft.com/en-us/library/ee721065(v=office.14).aspx

- For SharePoint 2013 and 2016 (User Profile Service): https://technet.microsoft.com/en-us/library/ee721057.aspx

It is also recommended that It you migrate MySites before copying and compiling audience memberships, because User Profiles (which are copied as part of a MySite migration), can then be added to the audiences, so when the audiences are compiled into audience memberships they will have the MySites User Profile data added to these memberships as well.

If MySites are not copied first, and the audiences are compiled before the MySites are migrated, then a second compiling of audiences would be necessary after MySites are migrated, so that the User Profile data of the MySites can be added into the audiences and compiled into audience memberships.

To copy Audiences as a post-migration task:

After audiences are copied over, a compilation of them will need to be done in order to get the audience membership. Content Matrix also can run this compilation as a part of the audience copying process, so that it doesn't have to be done separately.

1. In **Explorer View**, navigate to the source Farm or Web App node that you want to copy audiences from.

2. Right-click, and choose **Copy Farm Audiences**.
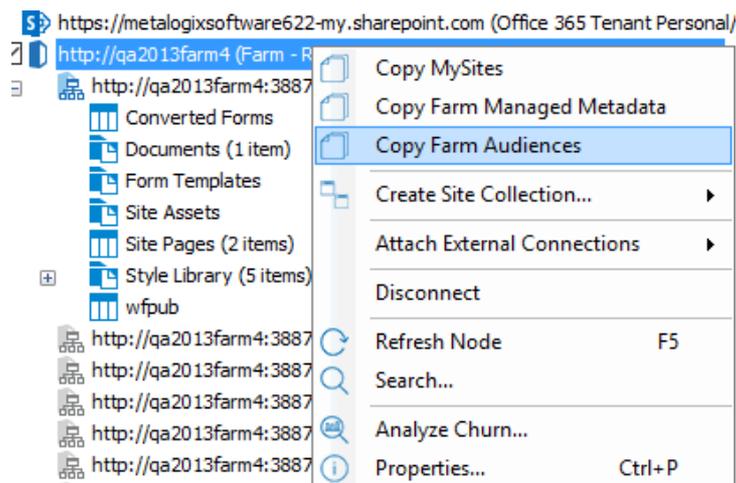
3. Select the desired target server node.

4. Right-click and choose **Paste Audiences**.

5. In the **Configure Audience Copying Options** dialog select the appropriate **How should existing audiences be handled?** option. Use the information in the following table for guidance.
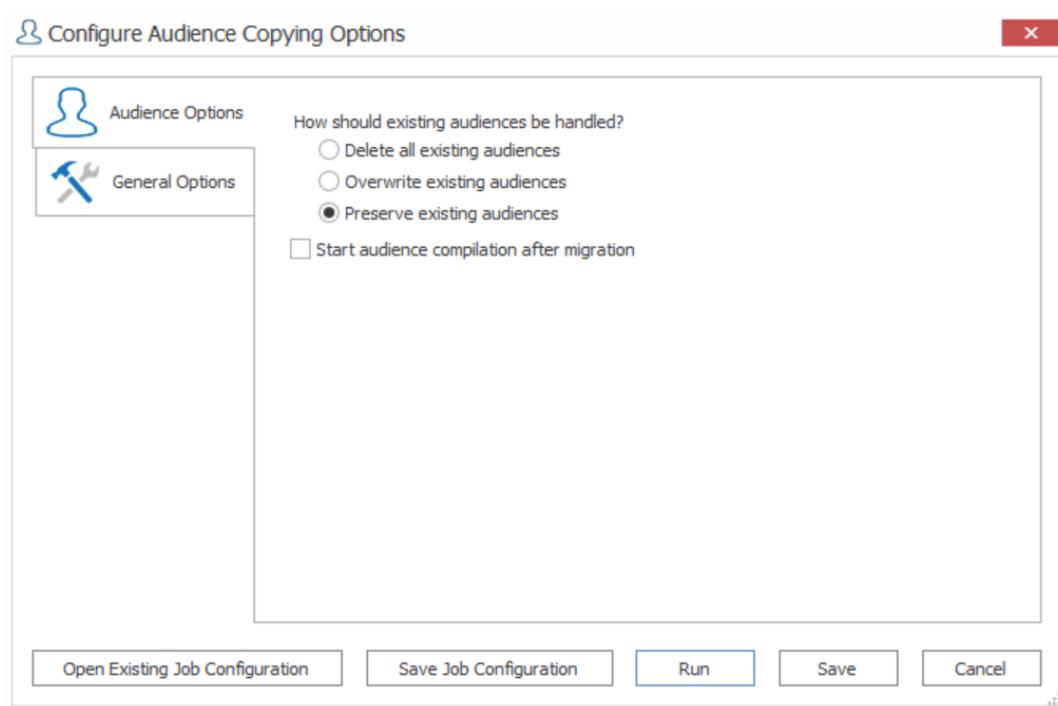
If you want to …	Then …
delete all audiences that exist on the target site prior to migration	select **Delete all existing audiences**.
delete only audiences on the target that have the same name as an audience that is being copied.	select **Overwrite existing audiences**.

If you want to …	Then …
only copy audiences that do not already exist on the target.	select **Preserve existing audiences.** NOTE: If audience with the same name already exists on the target, it will not be copied from the source.

6. If you want Content Matrix to do a compilation of the audiences in order to populate audience memberships, check the **Start audience compilation after migration** box.

   NOTE: If this option is left unchecked, audience memberships will not be populated. The audience compilation would then need to be started manually, or through a subsequent audience migration action.

7. Select any other desired migration options from the General Options tab.

Now you can save or run the action.

Copying SharePoint's E-mail Notification Settings as a Post-Migration Task

Content Matrix can do a post-migration copy of the source SharePoint environment's email notification settings.

This option is only available when Advanced Mode is enabled.

To copy SharePoint Email Notification Settings:

1. In **Explorer View**, select to the site or list for which you want to copy the email notification settings.

2. Right-click, and choose **Copy [Object]**.

3. Select the target node under which you want to copy the notification settings .

4. Right-click and choose **Paste Site Objects > E-Mail Notification Setting**.
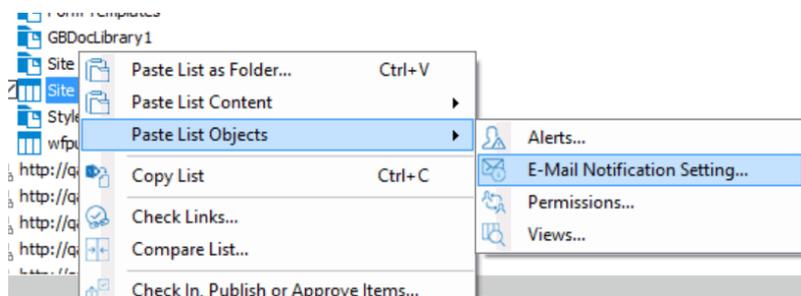
A message displays warning about the possibility that an email notification may be sent out if the selected target has been modified (by a migration or any other action) within the previous five minutes. Click **[OK]** to continue.

5. If you initiated the action at the *site* level, select the desired option(s). Use the information in the following table for guidance.

> NOTE: If you initiated the action at the *list* level, the action will automatically run without further configuration.

If you want to …	Then …
migrate the source e-mail notification settings (for all lists that have this setting configured) for all sites and sub-sites under the selected target node	select **Copy notification settings recursive in subsites**.
Rename mappings between the source and target	• Select **Sites and lists renamed on target**. • Click **[…]** and in the **Specify new names of sites and lists dialog,** configure the renamed mappings. For example, if a list was renamed during the initial migration, you could use this option to create a rename mapping from the lists old name to the lists new name. then when the E-mail notifications are migrated Content Matrix will look for the new list name instead of the old list name.

Now you can save or run the action.

Copying List Views as a Post-Migration Task

By default, a migrated list uses the list type-specific Default view on the target. You can, however, copy custom views from the source list to one or more target lists as a separate, post-migration task.

This option is only available when [Advanced Mode](#) is enabled.

To copy list views as a post-migration task:

1. In **Explorer View**, select the list whose view(s) you want to copy.

2. Right-click and choose **Copy List.**

3. Select the target list(s) to which you want to copy the view(s).

4. Right-click and choose **Paste List Objects > Views**.

5. On the **Configure List Views Copying Options List Views Options** tab, make sure the **Overwrite Existing Views** box is checked.
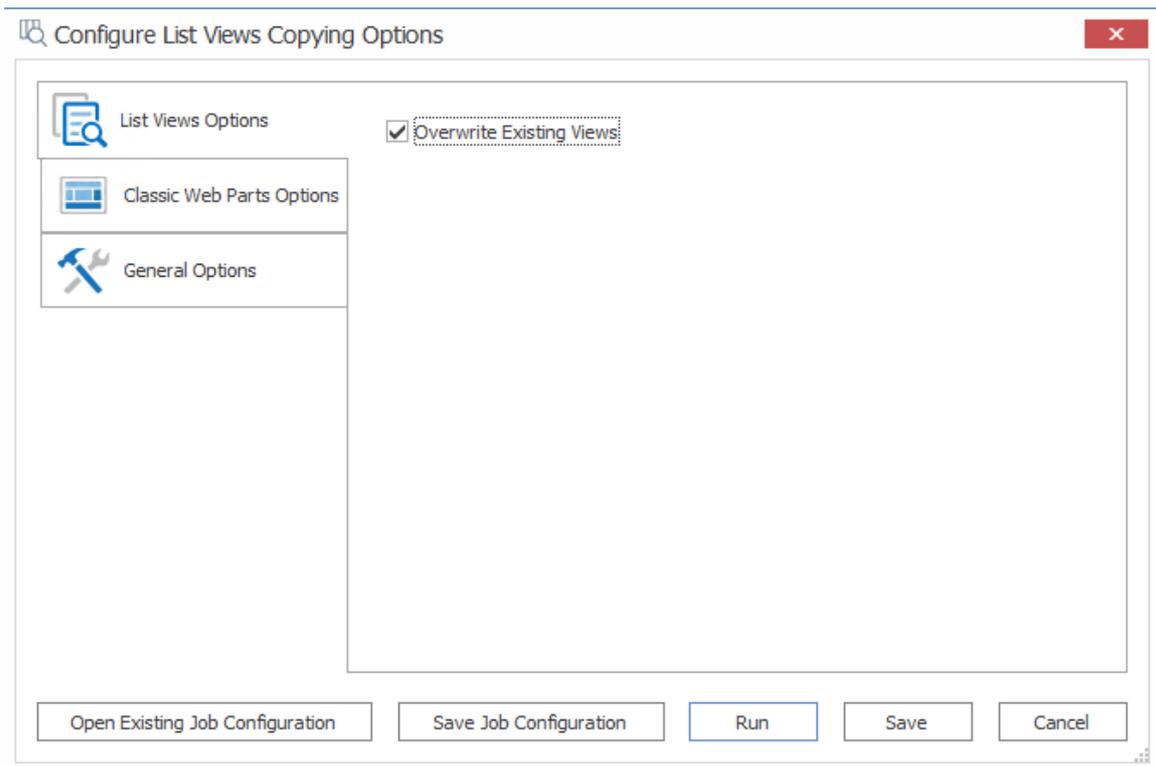
NOTE: You can also configure [Classic Web Part Options](#) and [General Options](#) for the list(s) as part of the action.

6. Now you can [save or run](#) the action.

Copying Users Groups, and Permissions as a Separate Action

Whenever Content Matrix runs a migration action it will always try to copy over any users and groups that are referenced in the metadata of files that are being migrated, users referenced in groups (if groups are being migrated), and users referenced in permissions (if permissions are being migrated).

Copying Users as a Separate Action

In order for users to be migrated the must exist on the target side Active Directory (AD), so that SharePoint can authenticate them. A good rule of thumb is if the user can't be manually authenticated in the target SharePoint instance, then Content Matrix will not be able to add them either.

This option is only available when Advanced Mode is enabled.

To copy users as a separate action:

1. In **Explorer View**, select the site from which you want to copy users.

2. Right-click, and choose **Copy Site**.

3. Select the target location, right-click and choose **Paste Site Objects > Use**rs.
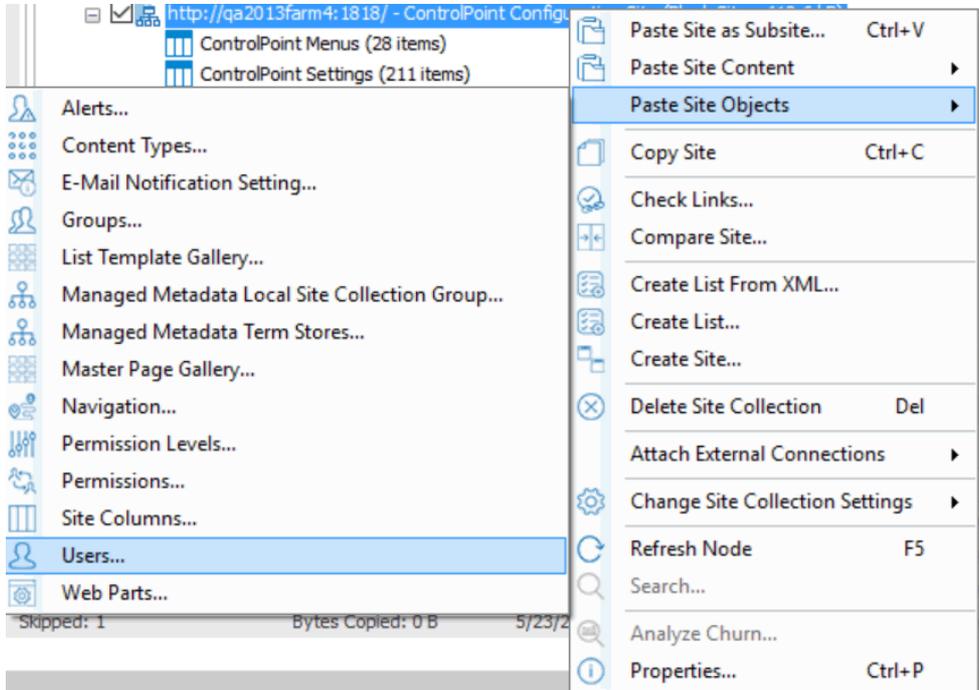
The **Copy Users** dialog displays with all of the domains and, when expanded, all of the users within those domains, that have been detected by Content Matrix for the selected site.

4. Check the users that you want to copy. (If you check a domain, all of the users within that domain will be copied.)
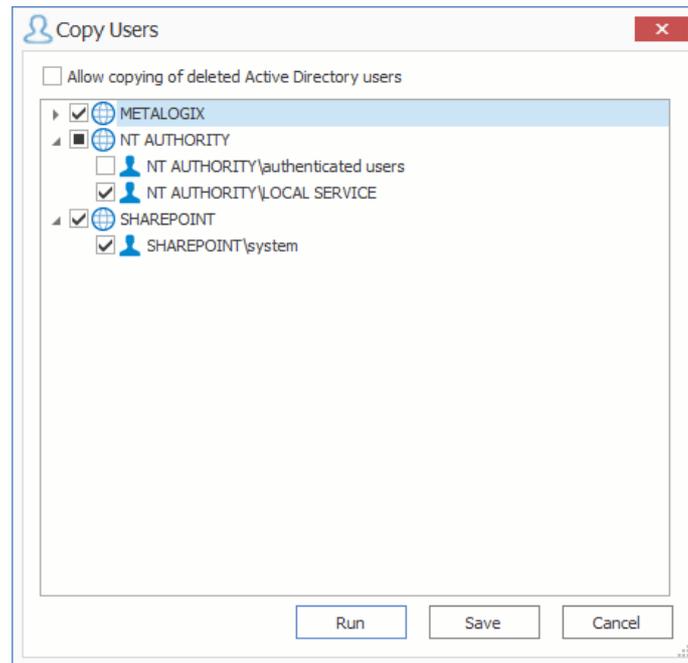
Content Matrix can copy users that have been deleted from AD. This option involves writing the users to the content database, and is not supported by Microsoft. For information about how to enable this feature please contact Quest Support.

Now you can save or run the action.

When the action starts, a Job log will be created. The logs can be viewed (in progress or after the action is finished) by clicking **[Details>>]**. After the action has completed a note will be displayed in the bottom left corner of the dialog stating the number of completions, as well as any warnings or errors that may have been encountered (if there were any).

Copying SharePoint Groups as a Separate Action

During a part of any normal migration action, SharePoint groups will be copied automatically to the target side whenever they are referenced in the data that is being migrated. For example, if a group is referenced within some document's metadata, that group will be migrated to the target. Or if permissions are being migrated, and the groups is referenced, it will be copied.

This option is only available when Advanced Mode is enabled.

Groups can also be migrated separately, however, at the site level or higher.

NOTE: SharePoint groups are scoped at the site collection level.

To copy SharePoint groups as a separate action:

1. In the **Explorer View**, select the site that you want to copy groups from.

2. Right-click, and choose **Copy Site**.

3. Select target location to which you want to copy the groups.

4. Right-click and choose **Paste Site Objects > Groups**.

    The Configure Group Copying Options dialog displays, with a list of all available SharePoint groups from the source and when expanded, the membership of those groups.

5. Complete the **Group Options** tab as follows:

    a) Check the groups that you want to copy to the target. (By default, all groups and members are selected.)
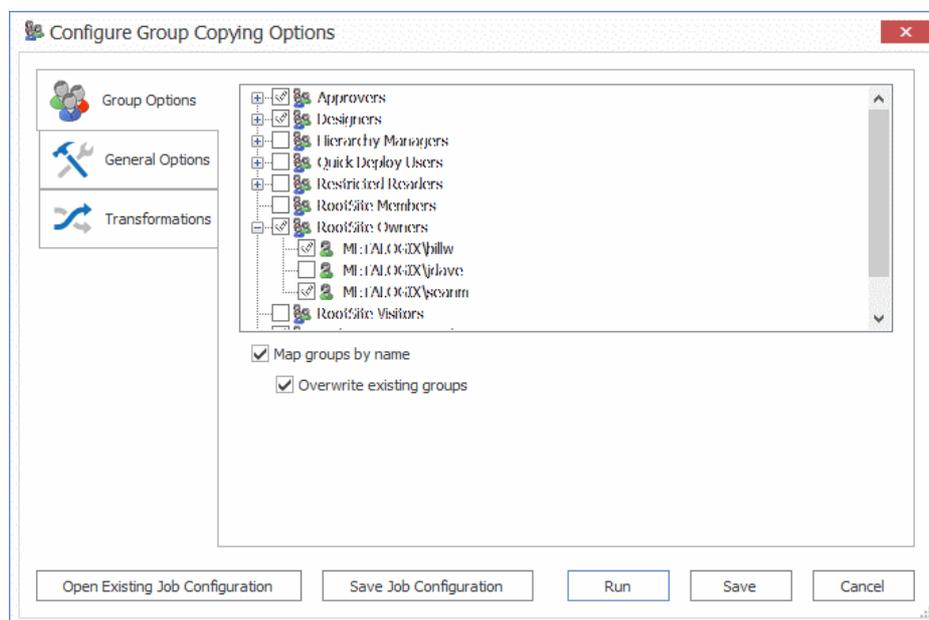
6. If you want to migrate groups from the source to the target and map the groups by name instead of membership check the Map groups by name box.

7. If you checked **Map groups by name** and you also want to overwrite any groups on the target, or will append users into existing groups check the **Overwrite existing groups** box.

You can now save or run the action.

Copying Permissions as a Separate Action

Content Matrix can copy permissions using the context (right-click) menu. Copying permissions using this method is different from copying them as part of a full migration in that th this method will only copy permissions to the selected target node.

NOTE: You would not use this method for pasting permissions if you wanted to paste permissions recursively in a selected node.

This option is only available when [Advanced Mode](#) is enabled.

EXAMPLE 1:

If you want to copy the site level permissions for a source site, and paste them to a target site without copying any of the list, folder, or item level permissions for that site, this is the method use.

EXAMPLE 2:

If you want to paste permissions for a specific list or item, you can select the target node for that list/item and paste the permissions. Then the permissions would only be migrated to the list/item permissions for the selected target node would have the permissions pasted to it, and no other permissions under the selected node would be migrated.

To copy permissions as a separate action:

1. In **Explorer View**, select the object whose permissions you want to copy.

2. Right-click and choose **Copy [Object]**.

3. Select the target object to which you want to copy the permissions.

4. Right-click and choose **Paste Site Objects > Permissions**.

5. Complete the **[Configure Permissions Copying Options - Permissions Options](#)** tab as you would if you were performing a full migration.

Copying Permissions Levels as a Separate Action

> REMINDER: Permission levels can only be copied at the site or site collection level.

To copy permissions levels as a separate action:

1. In the **Explorer View**, select the site from which you want to copy permissions levels.

2. Right-click, and choose **Copy Site**.

3. Select the target location, right-click and choose **Paste Site Objects > Permissions**.

4. If you want to **Copy Permissions Levels recursively** down through the site structure, check this box.

   > NOTE: If you leave this box unchecked, permissions levels will be copied to the selected site only.

You can now save or run the action.

Copying Content Types as a Separate Action

> NOTE: This option is generally only recommended if the source site has already been migrated over to the target, or if you are trying to copy content types over to a different target location.

This option is only available when [Advanced Mode](#) is enabled.

To copy content types as a separate action:

1. In **Explorer View**, select the site from which you want to copy content types.

2. Right-click and choose **Copy Site**.

3. Select the target location.

4. Right-click and choose Paste **Site Objects > Content Types.**

5. If you want to copy the content types to any child sites below the selected node, check the **Copy Content Types Recursively** box.

   > NOTE: If you leave this box unchecked, content types will be copied to the selected site only.

6. Select the **Content Types on the source site that you want to** copy and move them to the **Content Types to copy** pane**.**
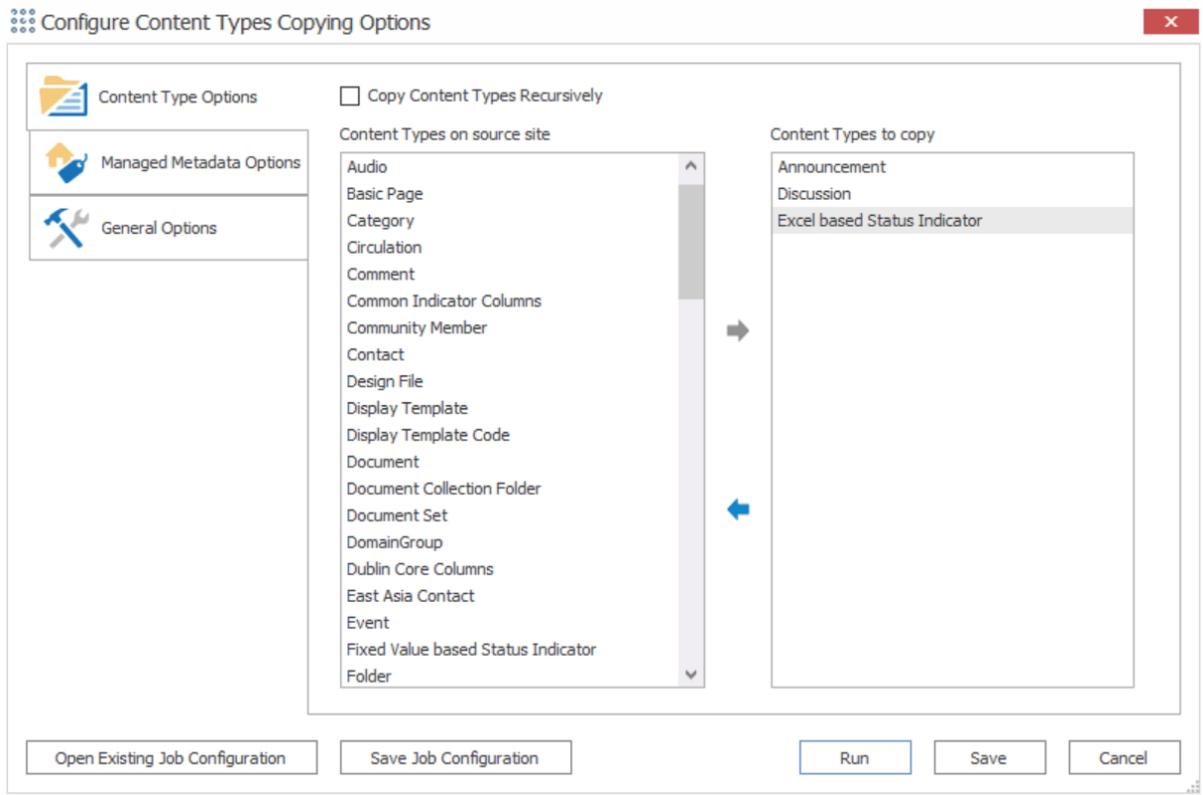
NOTE: Content types from the parent site structure will be copied in case there is any inheritance that needs to be preserved.

You can now save or run the action.

Copying Classic Web Parts as a Separate Action

NOTE: This option is generally only recommended if the source site has already been migrated over to the target, or if you are trying to copy content types over to a different target location

To copy classic web parts as a separate action:

1. In **Explorer View**, select site whose web parts you want to copy.

2. Right-click, and choose **Copy Site**.

3. Select the target site to which you want to copy the web parts.

4. Right-click and choose **Paste Site Objects > Web Parts**.

5. Complete the **Configure Default Web Part Page Copying Options dialog** - Classic Web Parts tab as you would if you were performing a full migration.

You can now save or run the action.

Configuring Global Mappings as a Separate Action

You can configure global (user, domain, URL, an/or Guid) Mappings as part of a full migration or as a separate action.

> REMINDER: Global Mappings are not migration-specific but rather apply to all environments to which Content Matrix is connected.

To initiate global mapping configuration as a separate action:

1. From the Content Matrix Console ribbon, select **Configure Global Mappings**.
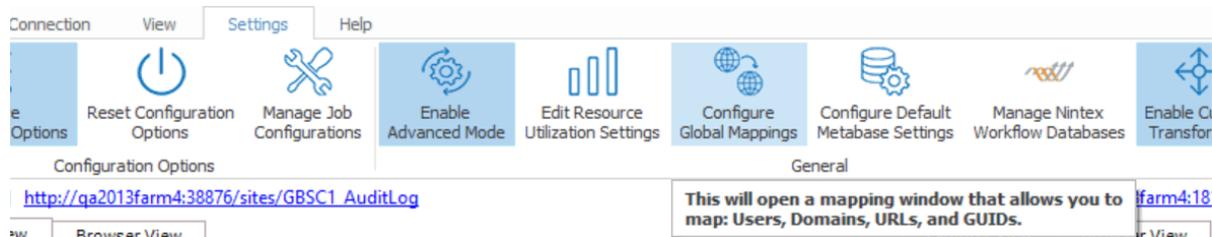
2. Continue as you would if you were configuring global mappings as part of a full migration.

Updating Site Collection Settings After a Migration

Content Matrix can update the Site Collection Administrators site collection quotas after the initial migration.

> NOTE: The account that is running Content Matrix must already be a Site Collection Administrator.

To update Site Collection Settings:

1. In the **Explorer View**, select the site collection whose settings you want to update.

2. Right-click and choose **Change Site Collection Settings > Admin and Quota Settings**.
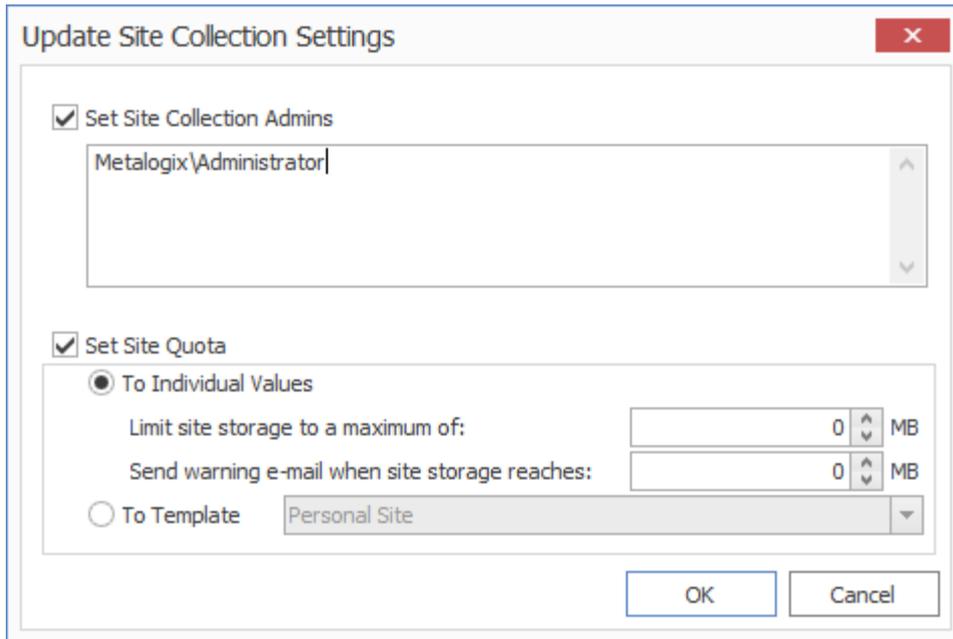
3. To update the list of Site Collection Administrators, check the **Set Site Collection Admins** box.

   NOTE: The current list of Site Collection administrators is listed in the window below the check-box. To add a user to the list, manually enter the domain/username in the window. Multiple users can be added by using a semicolon (";") to separate each user account.

Content Matrix does not validate these users, so if the user does not exist, or if there are any spelling error, they will not be detected.

Removing all users from the Site Collection Administrators collection, including the account that is currently logged into Content Matrix, can cause issues, since once the change has been updated the migrating account, as well as other accounts, would no longer have permissions to perform any actions (or migrations) on that Site Collection. It is highly recommended that at least one account (the migrating account) is left in the Site Collection Administrators collection.

4. To update the site quota settings, check the **Set Site Quota** box.

   ▪ check the **Set Site Quota** box, and

   ▪ select the appropriate option:

      ▪ **To Source Value (default)** - the quota value from the source site will be used.

      ▪ **To Individual Values:**

         • **Limit site storage to a maximum of: "X" Mb** - The maximum size of the new site collection., in megabytes (Mb)

         • **Send warning e-mail when site storage reaches: "X" Mb** - The size at which to send a warning e-mail to the Site Collection Administrator, that the site collection is getting near it's set volume capacity.

         • **To Template** - Match the same value for a site template on the target side.

      NOTE: This drop down list will only display site templates that contain a site quota value.

Changing Navigation Settings After a Migration

You can change both global navigation and quick launch settings for site collections and sites as a separate action.

> In order to have full access to these features in an on premises target, it is recommended that the **Metalogix Extensions Web Service (MEWS)** be used.

Changing Global Navigation Settings After a Migration

Global navigation, also known as the top-bar navigation, can be changed after a migration, at either the site collection or site level.

This option is only available when [Advanced Mode](#) is enabled.

To change global navigation settings after a migration:

1. In the **Explorer View**, select the site or site collection for which you want to change the global navigation.

2. Right-click and choose **Change Site** (or **Site Collection**) **Settings > Global Navigation Settings.**
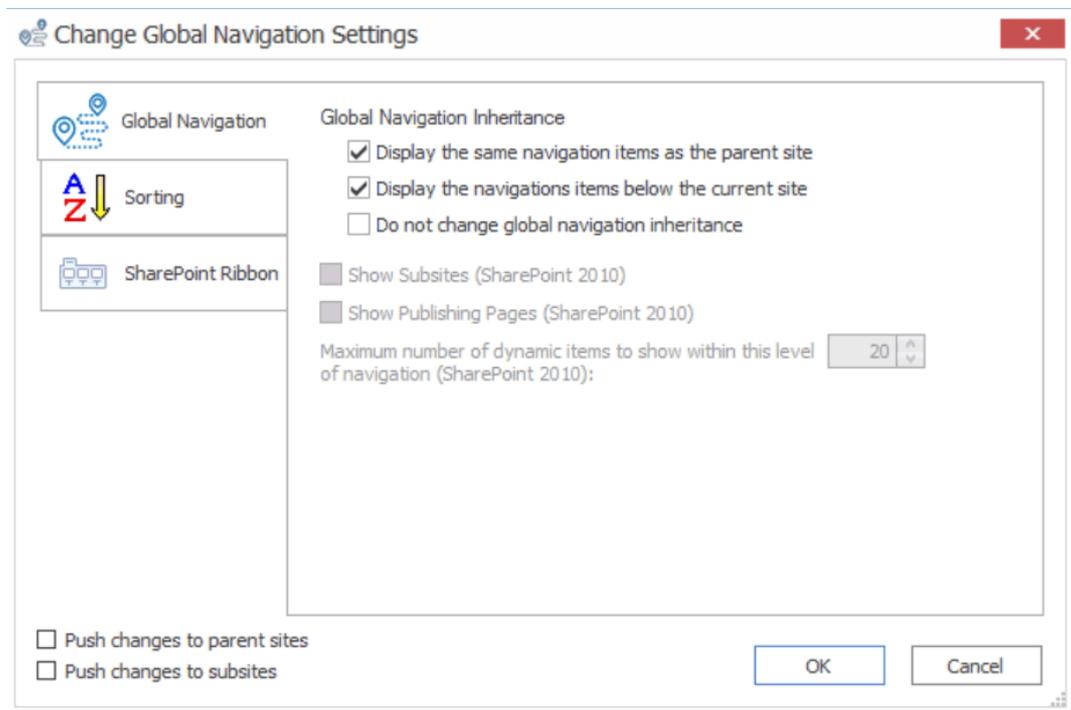
3. If you want any changes to global navigation settings to be applied to any parent sites, check the **Push changes to parent site** box.

4. If you want any changes you make to global navigation settings to be applied to any child sites, check the **Push changes to subsites** box.

5. Select the appropriate option(s) on the Global Navigation tab- **Global Inheritance options**.

If you want the global navigation for the selected site collection/site to…	Then…
be the same as that of the parent site	check the **Display the same navigation items as the parent site** box.
display any navigation items that exist within any sub-site of the selected node	check the **Display the navigation items below the current site** box.
retain its current inheritance settings	check the **Do not change global navigation inheritance** box.

NOTE: Remaining options on the Global Navigation tab are disabled for all versions of SharePoint except SharePoint 2010.

6. Select the appropriate options on the **Sorting** tab.

NOTE: Any sorting options that you specify will apply to both Global and Quick Launch navigation.
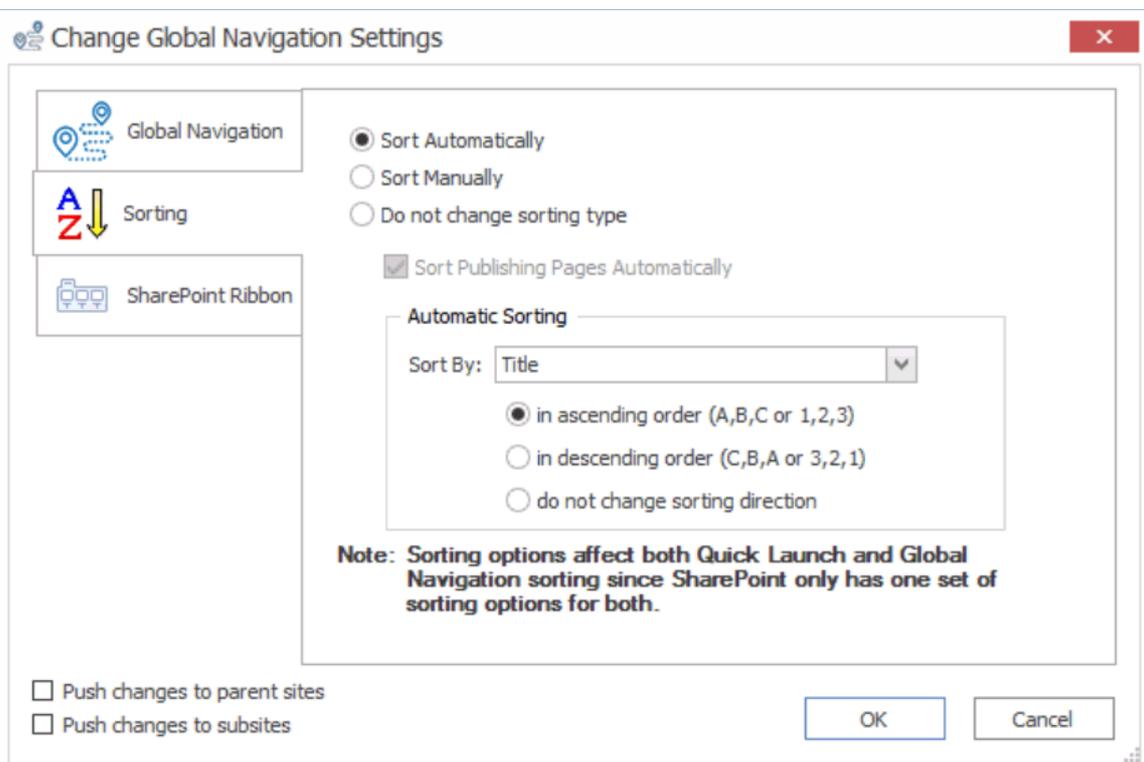
a) Chose a sorting type. Use the information in the following table for guidance.

If …	Then …
you want navigation to be sorted automatically, based on the set Automatic Sorting options	select **Sort Automatically**.
you want to be able to sort navigation manually	select **Sort Manually**. NOTES: When you select this option, the settings are changed within SharePoint, to allow for manual sorting of the navigation, and does not actually change the navigation through Content Matrix itself.
you want any existing sorting options to remain unchanged	select **Do not change sorting type**.
• you selected **Sort Manually** AND • you want any publishing pages within the site to be sorted according to **Automatic Sorting** settings	check the **Sort Publishing Pages Automatically** box. NOTE: This option is only available if you chose to Sort Manually.

b) If you chose to **Sort Automatically** or **Sort Manually with the Sort Publishing Pages Automatically** option enabled, complete the options in the Automatic Sorting section (**Sort By:** and sorting direction).

7. Select the appropriate option on the **SharePoint Ribbon** tab.   Use the information in the following table for guidance.

> These options are available for an on premises target only if you are using an **Object Model** connection (either **local** or using the **Metalogix Extensions Web Service (MEWS)**).
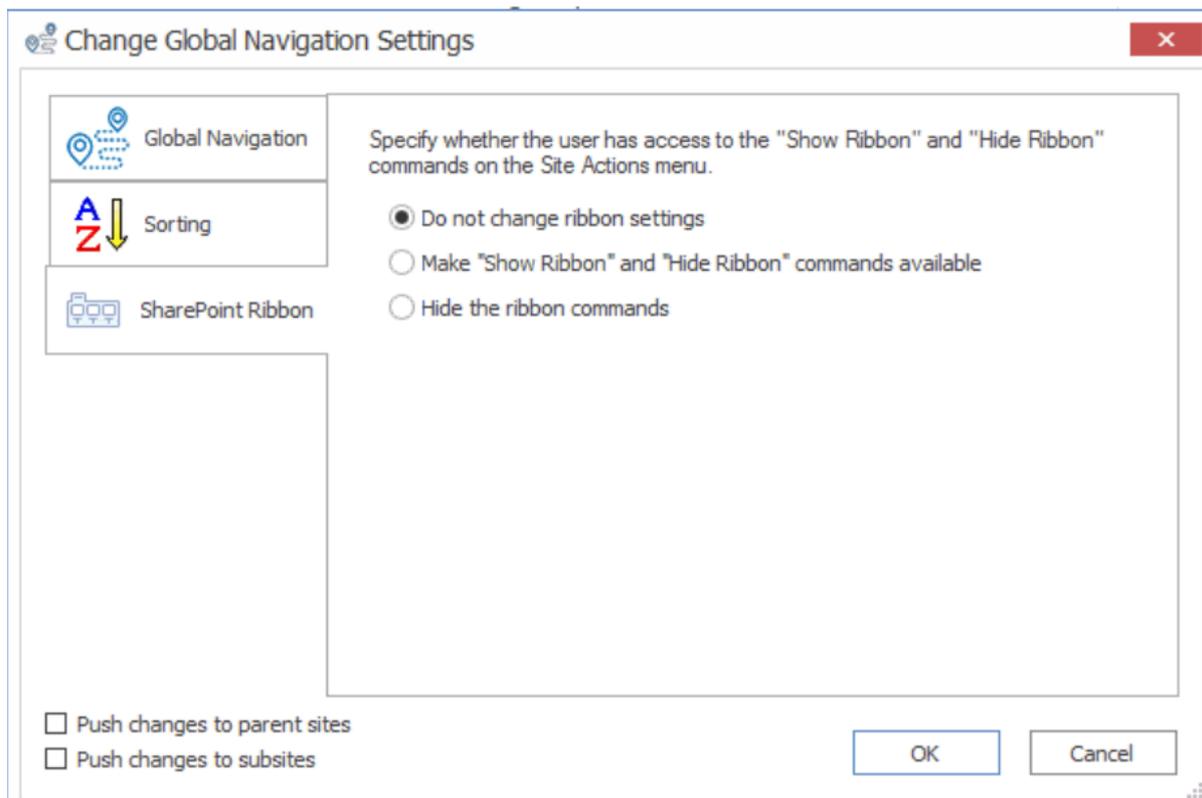
If you want to...	Select ...
preserve any current settings for the SharePoint ribbon	**Do not change ribbon settings**.
make the **Show Ribbon** and **Hide Ribbon** commands available within the **Site Actions** drop down menu	**Make "Show Ribbon" and "Hide Ribbon" commands available**.
hide the ribbon, making ribbon commands unavailable	**Hide the ribbon commands**.

8. To run the action, click **[OK]**.

Changing Quick Launch Settings After a Migration

Quick Launch settings, also known as the top-bar navigation, can be changed after a migration, at either the site collection or site level.

This option is only available when Advanced Mode is enabled.

To change Quick Launch settings after a migration:

1. In the Explorer View, select the site or site collection for which you want to change the global navigation.

2. Right-click and choose **Change Site** (or **Site Collection**) **Settings > Quick Launch Settings.**
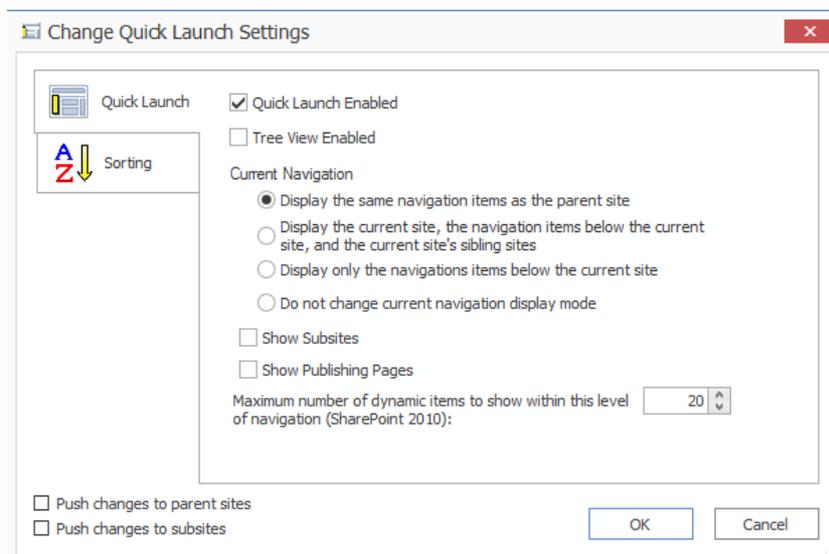
3. If you want any changes you make to Quick Launch settings to be applied to any parent sites, check the **Push changes to parent site** box.

4. If you want any changes you make to Quick Launch settings to be applied to any child sites, check the Push changes to subsites box.

5. If you want Quick Launch Enabled on the site, make sure this box is checked.

6. If you want **Tree View Enabled on the site,** make sure this box is checked.

7. Select the appropriate **Current Navigation** option. Use the information in the following table for guidance.

If you want ...	Then…
to allow the Quick Launch to display the same Quick Launch items that are displayed in the parent site	**Display the same navigation items as the parent site.**
the Quick Launch navigation to display navigation items that exist in both existing sub-sites and sibling sub-sites	**Display the current site, the navigation items below the current site, and the current site's sibling sites.**
the Quick Launch navigation to only display navigation items for its existing sub sites	**Display only the navigation items below the current site.**

If you want ...	Then…
preserve the current quick launch navigation display settings	**Do not change current navigation display mode.**

8. If you want sub-sites to be shown in the Quick Launch, check the **Show Subsites** box.

9. If you want Publishing pages to be shown in the Quick Launch, check the **Show Publishing Pages** box.

10. *If you migrated to a SharePoint 2010 target* and you want to set the number of dynamic items that can be displayed within that level of the Quick Launch:

   ▪ Check the Maximum number of dynamic items to show within this level of navigation (SharePoint 2010) box.

   ▪ Select the applicable number.

   NOTE: This option is disabled for all versions of SharePoint except 2010.

11. Complete the appropriate options on the **Sorting** tab, as you would if you were Changing Global Navigation Settings After a Migration.

   NOTE: Any sorting options that you specify will apply to both Global and Quick Launch navigation.

Converting Classic Pages to Modern Pages After a Migration

After migrating from a classic site to a modern site, you can use a solution provided by Microsoft and PnP Community to convert classic pages within the migrated site to modern pages via the Content Matrix Console.

IMPORTANT: The assemblies required to run this action are not shipped with Content Matrix and must be obtained from the PnP Community. If you initiate a Convert Classic Pages to Modern Pages action and the assemblies are missing, a pop-up message will display which includes a link to a Knowledge Base article with step-by-step instructions. Quest does not provide support for this solution, as Content Matrix only provides users with the capability to run it.

Supported Objects

The Convert Classic Pages to Modern Pages action converts all applicable classic pages and their web parts to modern pages. It is available for the following objects:

Site Level:

- Team Site with no Microsoft 365 group (STS#3)

- Team Site with Microsoft 365 group (GROUP#0)

   NOTE: Currently, Content Matrix does not support migrations to this site type.

- Communication Site (SITEPAGEPUBLISHING#0)[

Note that site root pages will also be converted

List level:

Document libraries within a supported site type.

Item level:

Classic pages in a document library within a supported site type.

Converted Page Naming Conventions

Converted modern pages are saved in Site Pages library, along with the original classic pages. By default, the converted page uses the same name as the classic page and the classic page is renamed "Previous_<original_page_name>.aspx." If you want classic pages to retain the original name (and continue to display using the existing url), you must change the value of the configuration variable `TargetModernPageTakesSourcePageName` in the Application Settings.xml file to **False**. The modern page will then be named "Migrated_<original_page_name>.aspx; however, the content approval status of the classic page will be changed from Draft to Pending, and a new version of that page will be created.

To convert classic pages to modern pages:

1. Select the object whose pages you want to convert.

2. Right-click and choose **Convert Classic Pages to Modern Pages**.

    NOTE: This menu option is available only for supported objects.

You can monitor the progress of the action in the Job List.

Current Limitations and Known Issues

- This action is not supported for use with PowerShell or Distributed Migration.

- Conversion of classic publishing pages is not supported.

- If the Site Pages library requires checkout, target pages are checked out as unpublished.

- If a classic page is checked out by another user during migration, there may be issues in converting the page.

- Approval status is not preserved.

- Metadata except "CreatedBy, Created, Modified" are not preserved on the target page.

- The Modified by field on the target page is set to the connecting user.

- If Content Matrix is uninstalled, DLLs and files deployed for this action are not be removed automatically and will need to be removed manually.

Connecting a Top-level SharePoint Online Site Collection to a New Microsoft 365 Group

Microsoft offers a PowerShell cmdlet that enables you to connect a top-level SharePoint Online site collection to a new Microsoft 365 group. Refer to the Microsoft article Set-SPOSiteOffice365Group (Microsoft.Online.SharePoint.PowerShell) | Microsoft Docs for details.

You can also create group connections in bulk. Refer to the Microsoft article Connect to a Microsoft 365 group | Microsoft Docs for details.

Configuring Hub Sites

[Hub sites in SharePoint Online](#) provide a way to connect **modern team sites** and **communication sites** so that they share the following experiences without the constraints of a site/subsite relationship:

- Common navigation

- News roll up

- Search within a hub

You can register/unregister a hub, associate sites with the hub and change hub associations, and edit hub site settings either [from the Content Matrix Console](#) or [using PowerShell](#).

> Note: You can also register and associate hub sites as part of a migration to SharePoint Online if you choose to [promote first level sites to site collections](#).

Requirements and Restrictions

- A tenant-level connection is required to perform hub site actions.

- You cannot perform hub site actions on a site that uses a read-only connection.

- Hub site actions are supported for modern team site and communication site templates only.

- Hub site actions can only be performed on one site at a time.

Configuring Hub Sites from the Content Matrix Console

From the Content Matrix Console right-click menu, you can:

- register/unregister a modern team or communication site as a hub site

- edit hub site settings

- associate a site with a hub site

- change hub site associations

To register a site as a hub site:

1. Select the modern team or communication site that you want to register as a hub site.

2. Right-click and choose **Register as a Hub Site**.

3. Complete the Register as a Hub Site Dialog with the following information:

a) If different than the default (the Title of the site), enter a **Hub Name**.

b) For **Authorized People**, enter either the Display Name or email address of the user(s) or security group(s) authorized to you want to allow to associate sites with the hub. You can enter multiple users/groups as a comma-separated list.

> NOTE: If you leave this field blank, all users will be able to associate their sites with the hub.

4. Click **[OK]**.

When a modern team or communication site is registered as a hub site, the icon to the left of the site is changed to [icon] .

To edit hub site settings:

1. Select the hub site for which you want to edit settings.

2. Right-click and choose **Edit Hub Site Settings**.

3. Update the **Hub Name** and/or **Authorized People** as appropriate.

4. Click **[OK]**.

To associate a site with a hub site:

1. Select the modern team or communication site site that you want to associate with a hub site.

2. Right-click and choose **Associate with a Hub**.

3. From the Edit Hub Association dialog, **Select a hub** from the drop-down.

4. Click **[OK]**.

When a site is associate with a hub, the icon to the left of the site is changed to [icon] .

To change a hub site association:

1. Select the site whose hub association you want to change.

2. Right-click and choose **Change Hub Association**.

3. From the Edit Hub Association dialog, **Select a hub** from the drop-down.

> NOTE: If you want to remove a hub association completely, select **None** from the drop-down. The site theme and shared navigation of the last associated hub will be retained.

4. Click **[OK]**.

To unregister a hub site:

1. Select the hub site you want to unregister.

2. Right-click and choose **Unregister as a Hub Site**.

3. Click **[OK]**.

All sites associated with the hub site will be disassociated. However, these sites will retain the site theme and shared navigation previously inherited from the hub.

Configuring Hub Sites Using PowerShell

Using PowerShell, you can:

- register/unregister a modern team or communication site as a hub site

- edit hub site settings

- associate a site with a hub site

- change hub site associations

To access the PowerShell cmdlets for configuring hub sites:

Open a PowerShell or PowerShell ISE session and add the PowerShell snap-ins for the application framework.

The following cmdlets for configuring hubs are now available:

- Get-MLHubSites

- Register-MLHubSite

- Edit-MLHubSiteSetting

- Join-MLHubSite

- Unregister-MLHubSite

To connect to the SharePoint Online tenant:

Use the New-MLSharePoint Connection cmdlet or connect via the Content Matrix Console.

To display a list of sites in the tenant that are already registered as hub sites:

Run the **Get-MLHubsites** cmdlet and specify *either* the **TenantConnectionID** or **TenantUrl**.

To register a site as a hub site:

1. Select (from the PowerShell ISE Command Window) or enter **Register-MLHubSite**.

2. Provide the following information:

    a) For **HubName**, enter the name that you want to assign to the hub.

b) Enter the **SiteUrl** of the modern teams or communication site that you want to register as a hub site.

c) For **AuthorizedPeople**, enter either the Display Name or email address of the user(s) or security group(s) authorized to you want to allow to associate sites with the hub. You can enter multiple users/groups as a comma-separated list.

> NOTE: If you leave this field blank, all users will be able to associate their sites with the hub.

3. Enter *either* the **TenantConnectionID** or **TenantUrl**.

4. Run the cmdlet.

Example Scripts:

```
Register-MLHubSite -TenantConnectionId 555cff48-babd-000b-b000-12132f929d35
 -SiteUrl
"https://metalogixsoftware.sharepoint.com/sites/IB_Demo_STS3Source_Register
AsHubSite" -HubName "Communication Hub" -AuthorizedPeople
"devadminuser2@metalogixsoftware.onmicrosoft.com, Dev Admin User 1"

Register-MLHubSite -TenantUrl "https://metalogixsoftware-
admin.sharepoint.com" -SiteUrl
"https://metalogixsoftware.sharepoint.com/sites/IB_Demo_STS3Source_Register
AsHubSite" -HubName "A" -AuthorizedPeople
"devadminuser2@metalogixsoftware.onmicrosoft.com, Dev Admin User 1"
```

When a site is registered as a hub, the icon to the left of the site in the Content Matrix Console is changed to   .

To edit hub settings:

1. Select (from the PowerShell ISE Command Window) or enter **Edit-MLHubSiteSetting**.

2. Enter the **SiteUrl** of the hub site that you want to edit and *either* the **TenantConnectionID** or **TenantUrl**.

3. Enter the **HubName** and **AuthorizedPeople** with the appropriate values**.**

> **IMPORTANT:** You will need to re-enter all AuthorizedPeople, even those that have not changed. If you leave this parameter blank, all users will be able to associate their sites with the hub.

4. Click **[OK]**.

Example Scripts:

```
Edit-MLHubSiteSettings -TenantConnectionId 555cff48-babd-000b-b000-
12132f929d35 -SiteUrl
"https://metalogixsoftware.sharepoint.com/sites/IB_Demo_STS3Source_Register
AsHubSite" -HubName "HR Hub" -AuthorizedPeople
"devadminuser3@metalogixsotware.onmicrosoft.com"
```

To associate a site with a hub site:

1. Select (from the PowerShell ISE Command Window) or enter **Join-MLHubSite**.

2. Enter the **HubSiteUrl** of the hub site with which you want to associate the site.

3. Enter the **SiteUrl** of the modern team or communication site you want to associate.

4. Enter *either* the **TenantConnectionID** or **TenantUrl**.

5. Run the cmdlet.

Example Script:

```
Join-MLHubSite –HubSiteUrl
"https://metalogixsoftware.sharepoint.com/sites/vlad_hubSite" -
TenantConnectionId 555cff48-babd-484b-b381-12132f929d35 -SiteUrl
"https://metalogixsoftware.sharepoint.com/sites/IB_Demo_STS3Source_Register
AsHubSite"
```

When a site is associated with a hub, the icon to the left of the site in the Content Matrix Console is changed to   .

To change a hub association:

1. Select (from the PowerShell ISE Command Window) or enter **Join-MLHubSite**.

2. Enter parameters as you would if you were associating a site with a hub site, using the new **HubSiteUrl**.

    > NOTE: If you want to remove a hub association completely, enter a value of `None` for the **HubSiteUrl**. When the association is removed, the site theme and shared navigation of the last associated hub will be retained.

3. Run the cmdlet.

Example Script (to remove an association):

```
Join-MLHubSite –HubSiteUrl none -SiteUrl
"https://metalogixsoftware.sharepoint.com/sites/IB_Demo_STS3Source_Register
AsHubSite" -TenantUrl "https://metalogixsoftware-admin.sharepoint.com"
```

To unregister a hub site

1. Select (from the PowerShell ISE Command Window) or enter **Unregister-MLHubSite**.

2. Enter the **SiteUrl** of the hub site you want to unregister.

3. Enter *either* the **TenantConnectionID** or **TenantUrl**.

4. Run the cmdlet.

All sites associated with the hub site will be disassociated. However, these sites will retain the site theme and shared navigation previously inherited from the hub.

Example Script:

```
Unregister-MLHubSite -TenantConnectionId 555cff48-babd-484b-b381-
12132f929d35 –SiteUrl
"https://metalogixsoftware.sharepoint.com/sites/IB_Demo_STS3Source_Register
AsHubSite"
```

Incremental Migration

After an initial migration is run, an incremental copy (also known as a delta migration) will copy any new and updated data from the source to the target.

There are three different methods to run an incremental copy from Content Matrix:

- **Incremental Copy Mode - Update Existing Objects option on the Migration Mode tab**

  The incremental copying option enables migrations that can preserve and update objects on the target of the migration. This mode is used when you just want to make sure nothing on the target gets overwritten. Only new objects that do not yet exist on the target are copied.

  > EXCEPTION: For lists and libraries with versioning enabled, any new versions that have been created since the initial migration will be copied to the target.

  When this option is selected there are two options that are toggled. The first is **the Preserve Item IDs** option is enabled. The second is that the workflow copy options are turned off. This is because Incremental copies cannot be run on workflows.

- **The Custom Copy option on the Migration Mode tab**

  The custom copy option allows you to run incremental copies for selected content. This option allows you to configure a mix of the Overwrite and the Incremental modes, meaning that incremental copies can be performed on select content in a migration, while allowing other content to be overwritten.

- [The creation of an incremental job based on a previously run job](#)

IMPORTANT: Preserving IDs on items/folders in Lists

When running an incremental copy the Preserve IDs on items/folders in Lists option must have been enabled in the original copy. This is so Content Matrix can reference the item ID when looking to see if the items already exists on the target side. If this option was not selected, the incremental copy for SharePoint lists can return some strange results. Generally, in cases where this option was not selected, an incremental copy will create some duplicate content on the target for items it thinks are not in the list, even though they may be (but use a different item ID). The other possible consequence is that some data may be missing, because Content Matrix may think that some data exists on the target, even though it may not (but the IDs may be in use). For more information on incremental copying and preserving IDs for SharePoint list items please see [Preserving SharePoint List Item IDs When Migrating to SharePoint Online](#).

The preservation of Document ID/s is not an issue for incremental copying of SharePoint documents. Incremental copying for documents is referenced by the folder path/filename of the document instead of the item ID. Content Matrix will look for the URL path of the document, and if found, will then

compare the modified date between the original target document and the source document to see if any modifications have been made to the file. If any modifications are found, as compared to the target, these will be migrated to the target. If no file was found when looking back to the source/target URL path, then that document/folder will be added.

To perform an incremental copy using Migration mode:

1. Initiate a migration.

2. On the Migration Mode tab, select **Incremental copy**.

    When this option is selected:

    ▪ the **Preserve Item IDs** option is enabled, and

    ▪ the **Workflow Copy Options** is disabled. (Incremental copies cannot be run on workflows.)

Creating an Incremental Migration from an Existing Job

REMINDER: When running an incremental copy the **Preserve IDs on items/folders in Lists** option must be enabled so that Content Matrix can determine if the item already exists or if it has been updated. (When copying documents the folder path and document name are used instead.)

To perform an incremental migration job from an existing job:

1. In the Job List, select the job(s) for which you want to perform an incremental migration. (Use [Ctr] click to select multiple jobs.)

2. Right-click and choose **Create incremental job**.
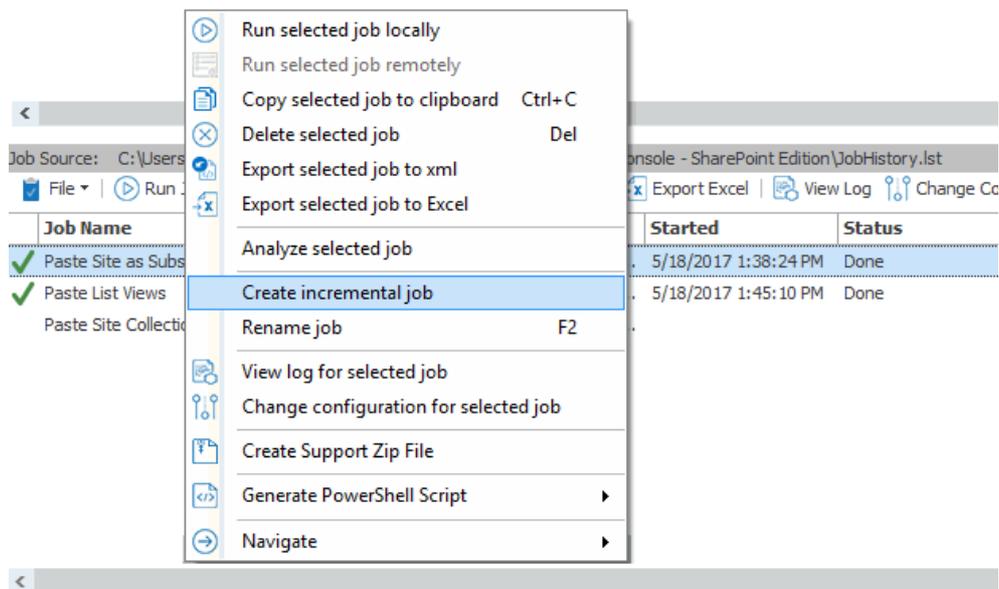
NOTE: The new job will use the same name as the initial job with " Incrementally" appended to the end of the name

Using PowerShell with Content Matrix

Content Matrix can generate PowerShell scripts to be used to migrate SharePoint content through the PowerShell command window. You can also use PowerShell to perform other actions, including:

- connecting to SharePoint

- triggering a job in the Content Matrix Console to run

- configuring hub sites

The Content Matrix PowerShell Console shortcut is added to the same Start Menu folder location where the to Content Matrix Consoles are placed after installation. The same PowerShell console can be used for any edition, as long as the edition-specific snap-ins are used. You can also use a standard PowerShell console or PowerShell ISE.

Adding PowerShell Snap-Ins for the Application Framework

Whenever a new PowerShell session is launched, the edition-specific snap-ins must be added before you can perform a Content Matrix action.

NOTES:

- If you have more than one edition of Content Matrix, only one edition can be run per PowerShell session.

- If Content Matrix settings or a connection to a Distributed Database change, in order to apply new settings all PowerShell sessions must be restarted.

To add the PowerShell cmdlets for the application framework:

1. Open a Powershell ISE or PowerShell console session.

2. Copy and paste the PowerShell snap-ins from the Quest Support Knowledge Base article located at https://support.quest.com/content-matrix/kb/333879.

Content Matrix PowerShell Commandlet List

Content Matrix can generate PowerShell script for you, for any migration action that is available through it. The below cmdlets are used in the generated PowerShell script, but can also be used to write your own script, should you desire to do so. For more information on each cmdlet, simply type **get-help [cmdlet]**. For example, if you want more information on **Copy-MLSharePointList** cmdlet you would enter **get-help Copy-MLSharePointList**, followed by the Enter (return) key.

Below is a list of the available cmdlets (and their parameters), broken up into the available commands for each snap-in.

Metalogix.System.Commands

Set-ApplicationDataPath

- **Path** - The path to be used as the root folder for the application path. Note that relative path elements relating to the product being used will still be generated within this directory, and that the application data will be contained within those folders. (Mandatory)

- **IncludeCompanyName** - Indicates that the Metalogix company name should still be used as part of the relative path from the specified directory to the application data folder.

Set-CommonDataPath

- **Path** - The path to be used as the root folder for the common data path. Note that relative path elements relating to the product being used will still be generated within this directory, and that the common data will be contained within those folders. (Mandatory)

- **IncludeCompanyName** - Indicates that the Metalogix company name should still be used as part of the relative path from the specified directory to the common data folder.

Get-MetalogixConfigurationVariable

- **Name** - The name of the configuration variable. (Mandatory)

- **ValueType** - Specify the value type of the configuration variable. This type must be IConvertible. (Default: IConvertible).

New-Filter

- **PropertyName** - The name of the parameter to compare the value to on the object being filtered. (Mandatory)

- **Operand** - The operand to use to compare the specified value to the given property value. (Mandatory)

- **Value** - The value to compare the given property to. (Mandatory)

- **CaseSensitive** - Indicates if the comparison should be case-sensitive. This parameter is only meaningful when the property to be compared to is a string.

- **TypeName** - The name of a type to apply the filter to. If not specified, the filter will apply to any object.

Join-Filter

- **Logic** - The logic to use in the join (and or or). (Mandatory)

- **FilterExpression** - The filter object to join together. Can be a set of filters). (Mandatory)

Invoke-Filter

- **Objects** (Mandatory)

- **Filter** (Mandatory)

Load-MetalogixConfigurationVariableSettings

- **FilePath** - The full file path of the configuration variable settings file to load. (Mandatory)

- **Scope** - The scope to load these settings into. (Default: Environment).

New-MetalogixSerializableObject

- **TypeName** - The name of the type of object to create. (Mandatory)

- **AssemblyName** - The name of the assembly containing the type to be created. (Mandatory)

- **SerializedValue** - The XML representation of a single serializable Metalogix object. (Mandatory)

- **Enumerate** - If set, any collections returned by the cmdlet will enumerated. Otherwise, collections will be returned as a single object.

New-MetalogixSerializableObjectCollection

- **SerializedValue** - The XML representation of a Metalogix object collection. Generally this will be obtained by requesting the PowerShell command for a job configured in the GUI. This cmdlet is not recommended for general use. (Mandatory)

Set-MetalogixConfigurationVariable

- **Scope** - The scope of the configuration variable. Possible values are Environment, EnvironmentSpecific, User, UserSpecific, Application, ApplicationSpecific, ApplicationAndUserSpecific. (Default: ApplicationAndUserSpecific). (Mandatory)

- **Name** - The name of the configuration variable. (Mandatory)

- **Value** - The value of the configuration variable. (Mandatory)

Set-MetalogixDefaultResolverSetting

- **Name** - The name of the configuration variable ("ResourceTableResourceTableLink"). (Mandatory)

- **Value** - The value of the configuration variable. This value will indicate where to obtain configuration key settings from. Options are local file system ("Metalogix.ResourceFileTableResolver") or agent database (Metalogix.Core.ConfigVariables.ResourceDatabaseTableResolver). (Mandatory)

Metalogix.SharePoint.Commands

Add-MLSharePointSiteCollection

- **WebApplicationName** - Name of the Web Application to Create the Site Collection in. Web Application must exist in the specified Target. (Mandatory)

- **WebTemplateName** - Web (Site) Template to use for the Site Collection. Web (Site) Template must exist. The value must be in the form name#configuration. E.g., STS#1 for Blank Site (Mandatory)

- **Language** - Language to use for the Site Collection. Can be Language Code (LCID) or Language Name. Language must exist in the specified Target. (Mandatory)

- **ExperienceVersion** - The experience version to use when creating the site. This setting is only used for SharePoint 2013. Use 15 for the 2013 UI and 14 for the 2010 UI.

- **Title** - The Title for the Site Collection. (Mandatory)

- **Description** - Description for the Site Collection.

- **Path** - Managed Path for the Site Collection. Include forward-slash characters where required. E.g., "/sites/" or "/sites/". (Mandatory)

- **URL** - Server Relative portion of URL solely used to identify the Site Collection itself. E.g., "TestSiteCollection" (Mandatory)

- **HostHeaderSiteCollectionURL** - The URL of the host-named Site Collection in the format http://servername.

- **OwnerLogin** - Domain and username to be used as the Primary Administrator for the Site Collection. E.g., "sampledomain\sample.user" (Mandatory)

- **SecondaryOwnerLogin** - Domain and username to be used as the Secondary Administrator for the Site Collection. E.g., "sampledomain\another.user"

- **ContentDatabaseName** - Content Database Name to use. Not specifying this value will use the default content database (auto detect).

- **SelfServiceCreateMode** - Allow users without Farm Administrator privileges to add the Site Collection.

- **SetSiteQuota** - Set Quota for the Site Collection.

- **QuotaMaximum** - Limit site storage to maximum size (Mb). SetSiteQuota must be set to true and SelfServiceCreateMode should be false. Mutually exclusive with QuotaID.

- **QuotaWarning** - Send a warning email when the site storage reaches this size (Mb). SetSiteQuota must be set to true and SelfServiceCreateMode should be false. Mutually exclusive with QuotaID.

- **QuotaID** - Use Quota Template. Can be the integer ID or the string name of the Quota. SetSiteQuota must be set to true and SelfServiceCreateMode should be false.

- **Transformers** - The collection of data transformers which the action needs to run. Note that if the passed-in value for this parameter does not include transformers which are considered mandatory, they will be added automatically.

- **Quiet** - If set, the operation will not report progress to the PowerShell console.

- **JobFile** - The name of a job file to use for logging. If the file does not exist it will be created.

- **Source** - The source node for the actions.

- **Target** - The target node for the actions.

- **JobDatabase** - The connection string of a jobs database to use for logging. If the connection string is invalid, an exception is thrown. If both '**JobFile**' and '**JobDatabase**' parameters are specified, then the '**JobDatabase**' parameter will take precedence and the job will only be written to the job database.

Add-Permissions

- **Name** - The name of the user or group you wish to assign a permission level to. (Mandatory)

- **PermissionLevel** - The name of the permission level you want to grant the specified user or group. (Mandatory)

- **Recurse** - A flag that indicates the given permissions level should be granted to the given user for each item below the target which has unique permissions.

- **Transformers** - The collection of data transformers which the action needs to run. Note that if the passed-in value for this parameter does not include transformers which are considered mandatory, they will be added automatically.

- **Quiet** - If set, the operation will not report progress to the PowerShell console.

- **JobFile** - The name of a job file to use for logging. If the file does not exist it will be created.

- **Source** - The source node for the actions.

- **Target** - The target node for the actions.

- **JobDatabase** - The connection string of a jobs database to use for logging. If the connection string is invalid, an exception is thrown. If both '**JobFile**' and '**JobDatabase**' parameters are specified, then the '**JobDatabase**' parameter will take precedence and the job will only be written to the job database.

Add-SharePointFolder

- **Name** - The name of the folder to be created. (Mandatory)

- **Transformers** - The collection of data transformers which the action needs to run. Note that if the passed-in value for this parameter does not include transformers which are considered mandatory, they will be added automatically.

- **Quiet** - If set, the operation will not report progress to the PowerShell console.

- **JobFile** - The name of a job file to use for logging. If the file does not exist it will be created.

- **Source** - The source node for the actions.

- **Target** - The target node for the actions.

- **JobDatabase** - The connection string of a jobs database to use for logging. If the connection string is invalid, an exception is thrown. If both '**JobFile**' and '**JobDatabase**' parameters are specified, then the '**JobDatabase**' parameter will take precedence and the job will only be written to the job database.

Add-SharePointList

- **Name** - The name for the new list. (Mandatory)

- **TemplateName** - The numeric code of the template to use. (Mandatory)

- **Description** - A description of the list.

- **Title** - The title for the new list.

- **IsOnQuickLaunch** - Indicates if the list should be added to the quick launch.

- **HasVersions** - Indicates if the list should enable major versions.

- **HasMinorVersions** - Indicates if the list should enable minor versions.

- **RequiresContentApproval** - Indicates if the list should require content approval.

- **Transformers** - The collection of data transformers which the action needs to run. Note that if the passed-in value for this parameter does not include transformers which are considered mandatory, they will be added automatically.

- **Quiet** - If set, the operation will not report progress to the PowerShell console.

- **JobFile** - The name of a job file to use for logging. If the file does not exist it will be created.

- **Source** - The source node for the actions.

- **Target** - The target node for the actions.

- **JobDatabase** - The connection string of a jobs database to use for logging. If the connection string is invalid, an exception is thrown. If both '**JobFile**' and '**JobDatabase**' parameters are specified, then the '**JobDatabase**' parameter will take precedence and the job will only be written to the job database.

Add-SharePointSite

- **URL** - The URL name for the new site. If not specified, it will be automatically generated from the given name.

- **Name** - The name for the new site. (Mandatory)

- **TemplateName** - The name of the template to use, either in [Name]#[Config] form or by the name of the STP file. (Mandatory)

- **Transformers** - The collection of data transformers which the action needs to run. Note that if the passed-in value for this parameter does not include transformers which are considered mandatory, they will be added automatically.

- **Quiet** - If set, the operation will not report progress to the PowerShell console.

- **JobFile** - The name of a job file to use for logging. If the file does not exist it will be created.

- **Source** - The source node for the actions.

- **Target** - The target node for the actions.

- **JobDatabase** - The connection string of a jobs database to use for logging. If the connection string is invalid, an exception is thrown. If both '**JobFile**' and '**JobDatabase**' parameters are specified, then the '**JobDatabase**' parameter will take precedence and the job will only be written to the job database.

Clear-GlobalMappings

- **ClearGuidMappings** - Indicates that global GUID mappings should be cleared.
- **ClearURLMappings** - Indicates that global URL mappings should be cleared.
- **ClearUserMappings** - Indicates that global user mappings should be cleared.
- **ClearDomainMappingss** - Indicates that global domain mappings should be cleared.

Compare-MLSharePointFolder

- **CompareFolders** - Indicates whether or not to compare folders.

- **CompareItems** - Indicates whether or not to compare items.

- **CompareVersions** - Indicates whether or not to compare item versions.

- **CompareMetadata** - Indicates whether or not to compare object metadata.

- **VerboseLog** - Indicates whether or not to compare object metadata.

- **HaltIfDifferent** - Indicates whether or not to halt the comparison if a difference is encountered.

- **FilterListsAndFolders** - Indicates whether or not to filter lists and folders.

- **ListAndFolderFilterExpression** - The filter expression applied to lists and folders.

- **FilterItemsAndVersions** - Indicates whether or not to filter list items and their versions.

- **ItemAndVersionFilterExpression** - The filter expression applied to list items and versions.

- **Transformers** - The collection of data transformers which the action needs to run. Note that if the passed-in value for this parameter does not include transformers which are considered mandatory, they will be added automatically.

- **Quiet** - If set, the operation will not report progress to the PowerShell console.

- **JobFile** - The name of a job file to use for logging. If the file does not exist it will be created.

- **Source** - The source node for the actions.

- **Target** - The target node for the actions.

- **JobDatabase** - The connection string of a jobs database to use for logging. If the connection string is invalid, an exception is thrown. If both 'JobFile' and 'JobDatabase' parameters are specified, then the 'JobDatabase' parameter will take precedence and the job will only be written to the job database.

Compare-MLSharePointList

This is the same as **Compare-MLSharePointFolder** with additional parameters.

Compare-MLSharePointSite

This is the same as **Compare-MLSharePointList** with additional parameters:

- **CompareLists** - Indicates whether or not to compare lists.

- **CompareSubSites** - Indicates whether or not to compare sub sites.

- **FilterSubSites** - Indicates whether or not to filter sub sites.

- **SubSiteFilterExpression** - The filter expression applied to sub sites.

Get-MLSharePointDatabase

- **Server** - The name of the database server. (Mandatory)

- **Database** - The name of the SharePoint content database. (Mandatory)

- **User** - A user to connect as, in DOMAIN\Login format.

- **Password** - The password for the user provided.

Get-MLSharePointFolder

This is the same as **Get-MLSharePointList** with an additional parameter:

- **FolderPath** - The list-relative path to the desired folder, seperated by "/". (Mandatory)

Get-MLSharePointFolderFromDatabase

This is the same as **Get-MLSharePointListFromDatabase** with an additional parameter:

- FolderPath - The list-relative path to the desired folder, separated by "/". (Mandatory)

Get-MLSharePointItembyFileName

- **FileName** - The filename of the SharePoint document. (Mandatory)

- **FolderPath** - The list-relative path to the desired folder, separated by "/".

- **ListName** - The name of the desired list. (Mandatory)

- **SiteURL** - The URL of the SharePoint site to connect to. (Mandatory)

- **User** - A user to connect as, in DOMAIN\Login format.

- **Password** - The password for the user provided.

- **AdapterType** - The short name of the adapter type you want to use for the connection. Use OM for a local SharePoint or WS for a remote SharePoint where the Metalogix Extensions Web Service is installed.

- **ReadOnly** - Indicates that the connection made to the SharePoint site should be read only.

Get-MLSharePointItembyID

- **Id** - The ID of the SharePoint item. (Mandatory)

- **FolderPath** - The list-relative path to the desired folder, separated by "/".

- **ListName** - The name of the desired list. (Mandatory)

- **SiteURL** - The URL of the SharePoint site to connect to. (Mandatory)

- **User** - A user to connect as, in DOMAIN\Login format.

- **Password** - The password for the user provided.

- **AdapterType** - The short name of the adapter type you want to use for the connection. Use OM for a local SharePoint or WS for a remote SharePoint where our Metalogix Extensions Web Service is installed.

- **ReadOnly** - Indicates that the connection made to the SharePoint site should be read only.

Get-MLSharePointItemFromDatabase

This is the same as **Get-MLSharePointListFromDatabase** with additional parameters:

- **FolderPath** - The list-relative path to the desired folder, separated by "/".

- **ItemName** - The filename or ID of the desired item. (Mandatory)

Get-MLSharePointList

This is the same as Get-MLSharePointSite with an additional parameter:

- **ListName** - The name of the desired list. (Mandatory)

Get-MLSharePointListFromDatabase

This is the same as **Get-MLSharePointSiteFromDatabase** with an additional parameter:

- ListName - The name of the desired list. (Mandatory)

Get-MLSharePointServer

- **ServerURL** - The URL of the SharePoint server to connect to. (Mandatory)
- **User** - A user to connect as, in DOMAIN\Login format.
- **Password** - The password for the user provided.
- **ReadOnly** - Indicates that the connection made to the SharePoint site should be read only.

Get-MLSharePointSite

- **SiteURL** - The URL of the SharePoint site to connect to. (Mandatory)
- **User** - A user to connect as, in DOMAIN\Login format.
- **Password** - The password for the user provided.
- **AdapterType** - The short name of the adapter type you want to use for the connection. Use OM for a local SharePoint or WS for a remote SharePoint where the Metalogix Extensions Web Service is installed.
- **ReadOnly** - Indicates that the connection made to the SharePoint site should be read only.

Get-MLSharePointSiteFromDatabase

Get-MLSharePointTenant

- **TenantURL** - The URL of the SharePoint tenant to connect to. (Mandatory)
- **User** - A user to connect as, in user@company.onmicrosoft.com format. (Mandatory)
- **Password** - The password for the user provided. (Mandatory)
- **ReadOnly** - Indicates that the connection made to the SharePoint tenant should be read-only.

Get-SharePointDatabase

Get-SharePointFolder

Get-SharePointFolderFromDatabase

Get-SharePointItembyFileName

Get-SharePointItembyID

Get-SharePointItemFromDatabase

Get-SharePointList

Get-SharePointListFromDatabase

Get-SharePointServer

Get-SharePointSite

Get-SharePointSiteFromDatabase

- **Server** - The name of the database server. (Mandatory)
- **Database** - The name of the SharePoint content database. (Mandatory)
- **SiteURL** - The server-relative URL of the SharePoint site to connect to.
- **User** - A user to connect as, in DOMAIN\Login format.
- **Password** - The password for the user provided.
- **HostHeader** - A host header for a specified subsite. Use this if you are connecting to a site or subsite with a host header name.

Refresh-SharePointNode

- **Transformers** - The collection of data transformers which the action needs to run. Note that if the passed-in value for this parameter does not include transformers which are considered mandatory, they will be added automatically.

- **Quiet** - If set, the operation will not report progress to the PowerShell console.

- **JobFile** - The name of a job file to use for logging. If the file does not exist it will be created.

- **Source** - The source node for the actions.

- **Target** - The target node for the actions.

- **JobDatabase** - The connection string of a jobs database to use for logging. If the connection string is invalid, an exception is thrown. If both '**JobFile**' and '**JobDatabase**' parameters are specified, then the '**JobDatabase**' parameter will take precedence and the job will only be written to the job database.

Remove-MLSharePointFolder

- **Folder** - The Folder object retrieved by using the Get-MLSharePointFolder Cmdlet. (Mandatory)

-

- **Transformers** - The collection of data transformers which the action needs to run. Note that if the passed-in value for this parameter does not include transformers which are considered mandatory, they will be added automatically.

- **Quiet** - If set, the operation will not report progress to the PowerShell console.

- **JobFile** - The name of a job file to use for logging. If the file does not exist it will be created.

- **Source** - The source node for the actions.

- **Target** - The target node for the actions.

- **JobDatabase** - The connection string of a jobs database to use for logging. If the connection string is invalid, an exception is thrown. If both '**JobFile**' and '**JobDatabase**' parameters are specified, then the '**JobDatabase**' parameter will take precedence and the job will only be written to the job database.

Remove-MLSharePointItem

- **Item** - The ListItem object retrieved by using the Get-MLSharePointItem Cmdlet. (Mandatory)

- **Transformers** - The collection of data transformers which the action needs to run. Note that if the passed-in value for this parameter does not include transformers which are considered mandatory, they will be added automatically.

- **Quiet** - If set, the operation will not report progress to the PowerShell console.

- **JobFile** - The name of a job file to use for logging. If the file does not exist it will be created.

- **Source** - The source node for the actions.

- **Target** - The target node for the actions.

- **JobDatabase** - The connection string of a jobs database to use for logging. If the connection string is invalid, an exception is thrown. If both '**JobFile**' and '**JobDatabase**' parameters are specified, then the '**JobDatabase**' parameter will take precedence and the job will only be written to the job database.

Remove-MLSharePointList

- **List** - The list object retrieved by using the Get-MLSharePointList Cmdlet. (Mandatory)

- **Transformers** - The collection of data transformers which the action needs to run. Note that if the passed-in value for this parameter does not include transformers which are considered mandatory, they will be added automatically.

- **Quiet** - If set, the operation will not report progress to the PowerShell console.

- **JobFile** - The name of a job file to use for logging. If the file does not exist it will be created.

- **Source** - The source node for the actions.

- **Target** - The target node for the actions.

- **JobDatabase** - The connection string of a jobs database to use for logging. If the connection string is invalid, an exception is thrown. If both '**JobFile**' and '**JobDatabase**' parameters are specified, then the '**JobDatabase**' parameter will take precedence and the job will only be written to the job database.

Remove-MLSharePointSite

- **Site** - The site object retrieved by using the Get-MLSharePointSite Cmdlet. (Mandatory)

- **Transformers** - The collection of data transformers which the action needs to run. Note that if the passed-in value for this parameter does not include transformers which are considered mandatory, they will be added automatically.

- **Quiet** - If set, the operation will not report progress to the PowerShell console.

- **JobFile** - The name of a job file to use for logging. If the file does not exist it will be created.

- **Source** - The source node for the actions.

- **Target** - The target node for the actions.

- **JobDatabase** - The connection string of a jobs database to use for logging. If the connection string is invalid, an exception is thrown. If both '**JobFile**' and '**JobDatabase**' parameters are specified, then the '**JobDatabase**' parameter will take precedence and the job will only be written to the job database.

Remove-MLSharePointSiteCollection

- **SiteCollection** - The Site Collection object retrieved by using the Get-MLSharePointSite Cmdlet. (Mandatory)

- **Server** - The parent Server object of the Site Collection, retrieve by using the Get-MLSharePointServer Cmdlet. (Mandatory)

- **Transformers** - The collection of data transformers which the action needs to run. Note that if the passed-in value for this parameter does not include transformers which are considered mandatory, they will be added automatically.

- **Quiet** - If set, the operation will not report progress to the PowerShell console.

- **JobFile** - The name of a job file to use for logging. If the file does not exist it will be created.

- **Source** - The source node for the actions.

- **Target** - The target node for the actions.

- **JobDatabase** - The connection string of a jobs database to use for logging. If the connection string is invalid, an exception is thrown. If both '**JobFile**' and '**JobDatabase**' parameters are specified, then the '**JobDatabase**' parameter will take precedence and the job will only be written to the job database.

Remove-Permissions

Remove-SharePointFolder

Remove-SharePointItem

Remove-SharePointList

Remove-SharePointSite

Remove-SharePointSiteCollection

Search-SharePointSite

- **SearchTerm** - The search term to use.

- **MaxResults** - The number of search results to output.

- **MatchExactly** - Indicates that the search term must match one of the searched fields exactly.

- **Recursive** - Indicates that data within all subwebs should be included in the search.

- **IncludeItems** - Indicates that the search results should include items.

- **IncludeDocuments** - Indicates that the search results should include documents.

- **IncludeFolders** - Indicates that the search results should include folders.

- **IncludeLists** - Indicates that the search results should include lists.

- **IncludeSites** - Indicates that the search results should include sites.

- **ContentType** - If specified, search results must include this value in their content type name.

- **Author** - If specified, search results must have been created by an author matching this value.

- **Editor** - If specified, search results must have been modified by an editor matching this value.

- **CreatedBefore** - If specified, search results must have been created before this date.

- **CreatedAfter** - If specified, search results must have been created after this date.

- **ModifiedBefore** - If specified, search results must have been modified before this date.

- **ModifiedAfter** - If specified, search results must have been modified after this date.

- **Transformers** - The collection of data transformers which the action needs to run. Note that if the passed-in value for this parameter does not include transformers which are considered mandatory, they will be added automatically.

- **Quiet** - If set, the operation will not report progress to the PowerShell console.

- **JobFile** - The name of a job file to use for logging. If the file does not exist it will be created.

- **Source** - The source node for the actions.

- **Target** - The target node for the actions.

- **JobDatabase** - The connection string of a jobs database to use for logging. If the connection string is invalid, an exception is thrown. If both 'JobFile' and 'JobDatabase' parameters are specified, then the 'JobDatabase' parameter will take precedence and the job will only be written to the job database.

Update-SharePointSiteCollectionSettings

- **SiteCollectionAdmins** - A list of login names to be granted site collection administrator privileges.

- **QuotaMaximum** - An independently defined maximum storage size for this site collection.

- **QuotaWarning** - An independently defined size at which to send a warning email for this site collection.

- **QuotaID** - A quota template ID to use for this site collection.

- **Transformers** - The collection of data transformers which the action needs to run. Note that if the passed-in value for this parameter does not include transformers which are considered mandatory, they will be added automatically.

- **Quiet** - If set, the operation will not report progress to the PowerShell console.

- **JobFile** - The name of a job file to use for logging. If the file does not exist it will be created.

- **Source** - The source node for the actions.

- **Target** - The target node for the actions.

- **JobDatabase** - The connection string of a jobs database to use for logging. If the connection string is invalid, an exception is thrown. If both '**JobFile**' and '**JobDatabase**' parameters are specified, then the '**JobDatabase**' parameter will take precedence and the job will only be written to the job database.

Global User Mapping Cmdlets

Print-GlobalUserMappings

This cmdlet generates a list the global user mappings in the PowerShell console.

Clear-GlobalUserMappings

This cmdlet clears the existing global user mappings.

Load-GlobalUserMappings

This cmdlet replaces existing global user mappings with mappings from a CSV file.

IMPORTANT: The mappings in the CSV file cannot contain any comma characters (,) because commas are used by Content Matrix as delimiters to separate source and target users.

- **"[*path to CSV file containing user mappings*]"** - Path to the CSV file containing the mappings.

- **Verbose** - Writes the progress of the operation in the PowerShell console.

- **SkipHeader** (optional) - Skips the first (header) row in the CSV file. (By default, the first row is included as a mapping.)

EXAMPLE:
```
Load-GlobalUserMappings "C:\user-mappings.csv" -Verbose -SkipHeader
```

Metalogix.Jobs.Reporting.Commands

Export-JobHistory

- **SqlCeDbFilePath** - Specify the path to the SQL database file that contains the Job History data. (Mandatory)

- **ServerName** - The name of the SQL Server. (Mandatory)

- **DatabaseName** - The name of the Job History database. (Mandatory)

- **AuthType** - Indicates whether to use Integrated (Windows) or SQL Authentication. If not specified will Integrated Authentication will be used.

- **Username** - Specify the username for SQL Authentication.

- **Password** - Specify the password for SQL Authentication.

Metalogix.SharePoint.Migration.Commands

Copy-AllListItems

Copy-AllSharePointSiteContent

Copy-ChildListPermissions

Copy-MLAllListItems

This is the same as **Copy-MLSharePointFolder** with additional parameters.

Copy-MLAllSharePointSiteContent

This is the same as **Copy-MLSharePointList** with additional parameters:

- **CopyNavigation** - Indicates that navigation should be copied.

- **OverwriteSites** - Indicates if the copy operation should overwrite existing sites. Overwriting sites takes precedence over the 'UpdateSites' parameter.

- **UpdateSites** - Specifies whether to update sites or not.

- **CopyContentTypes** - Indicates if the copy operation should include custom content types.

- **RecursivelyCopySubsites** - Indicates if the copy operation should recursively copy subsites.

- **CopyLists** - Indicates if the copy operation should include lists and libraries.

- **CopySiteWebParts** - Indicates if web parts on site landing pages should be copied.

- **WebTemplateMappingTable** - Defines a table of web template mappings to use to assign new web templates when copying subsites.

- **CopySiteFeatures** - Indicates if we should copy the features defined on the site.

- **MergeSiteFeatures** - Indicates if we should merge source site features into the target's site features set. If this switch is not set, target features which are not present in the source will be removed.

- **SiteFilterExpression** - Defines a filter expression used to determine if a subsite should be copied.

- **SiteFieldsFilterExpression** - Defines a filter expression used to determine if site columns to be filtered.

- **CustomFolderFilterExpression** - Defines a filter expression used to determine if a custom folder should be copied.

- **CustomFileFilterExpression** - Defines a filter expression used to determine if a custom file should be copied.

- **CopyCustomContent** - Indicates if we should copy the custom folders and files.

- **CopyUncustomizedFiles** - Indicates if we should copy files that are not customized outside of lists and libraries.

- **CopySitePermissions** - Indicates if the copy operation should include unique permissions for sites.

- **CopyAccessRequestSettings** - Indicates if the copy operation should include the request for access settings.

- **ApplyThemeToWeb** - Indicates if the copy operation should attempt to apply the theme used on the source to the target.

- **CopyAllThemes** - Indicates if the copy operation should copy either all available themes from source web or just the current theme.

- **PreserveMasterPage** - Indicates if the copy operation should attempt to preserve the master page used by the source site.

- **CopyAssociatedGroups** - Indicates if the copy operation should attempt to preserve the owner, member and visitor group settings by the source site. Groups specified by these settings will not automatically get permission to this site. To give these groups permissions, use the CopySitePermissions option.

- **CopyPortalListings** - Indicates if we should copy the portal listings defined on the site.

- **RunNavigationStructureCopy** - Indicates if the copy operation should run a navigation structure copy after all sites have been copied.

- **CopyGlobalNavigation** - If a navigation structure copy is being run, this indicates whether or not the nodes in the top navigation bar should be copied.

- **CopyCurrentNavigation** - If a navigation structure copy is being run, this indicates whether or not the nodes in the quick launch menu should be copied.

- **CopyPermissionLevels** - Indicates that the copy operation should include customized permission levels.

Copy-MLChildListPermissions

- **ListNames** - A comma-delimited list of list names to copy permissions for. If null, permissions will be copied for all matched lists.

- **CopyRootPermissions** - Indicates if the copy operation should copy the permissions for the highest-level objects copied, regardless of inheritance.

- **CopyListPermissions** - Indicates if the copy operation should include unique permissions for lists.

- **CopyFolderPermissions** - Indicates if the copy operation should include unique permissions for folders.

- **CopyItemPermissions** - Indicates if the copy operation should include unique permissions for list item and documents.

- **MapGroupsByName** - Indicates if the copy operations should map role assignments strictly by name, skipping role assignments without a match.

- **MapRolesByName** - Indicates if the copy operations should map role assignments strictly by name, skipping role assignments without a match.

- **ClearRoleAssignments** - Indicates if the copy operations should clear any existing role assignments prior to copying the source role assignments.

- **OverrideRoleMappings** - Indicates if the automatic permission level mappings should be overridden.

- **RoleAssignmentMappings** - Defines a collection of name to name role mappings, as well as conditional logic used to determine which objects to apply them on.

- **Transformers** - The collection of data transformers which the action needs to run. Note that if the passed-in value for this parameter does not include transformers which are considered mandatory, they will be added automatically.

- **Quiet** - If set, the operation will not report progress to the PowerShell console.

- **JobFile** - The name of a job file to use for logging. If the file does not exist it will be created.

- **Source** - The source node for the actions.

- **Target** - The target node for the actions.

- **JobDatabase** - The connection string of a jobs database to use for logging. If the connection string is invalid, an exception is thrown. If both 'JobFile' and 'JobDatabase' parameters are specified, then the 'JobDatabase' parameter will take precedence and the job will only be written to the job database.

Copy-MLSharePointAllChildLists

This is the same as **Copy-MLSharePointList** with additional parameters:

- **CopyContentTypes** - Defines whether content types should be copied or not.

- **SiteFieldsFilterExpression** - Defines a filter expression used to determine if a site field should be copied.

Copy-MLSharePointAllSubsites

This is the same as **Copy-MLAllSharePointSiteContent** with additional parameters:

- **WebTemplateName** - Defines the name of a web template for the site being copied.

Copy-MLSharePointAudiences

- **ExistingAudiencesAction** - Indicates what action the copy should take on audiences that already exist on the target. **(Mandatory)**

- **StartAudienceCompilation** - Indicates whether or not to automatically trigger audience compilation after the copy.

- **ForceRefresh** - Forces a refresh of the source and target nodes prior to copying to ensure that all cached data is up to date.

- **LogSkippedItems** - Indicates that actions which have been skipped should not be logged at all.

- **VerboseLog** - Enables verbose logging.

- **Transformers** - The collection of data transformers which the action needs to run. Note that if the passed-in value for this parameter does not include transformers which are considered mandatory, they will be added automatically.

- **Quiet** - If set, the operation will not report progress to the PowerShell console.

- **JobFile** - The name of a job file to use for logging. If the file does not exist it will be created.

- **Source** - The source node for the actions.

- **Target** - The target node for the actions.

- **JobDatabase** - The connection string of a jobs database to use for logging. If the connection string is invalid, an exception is thrown. If both 'JobFile' and 'JobDatabase' parameters are specified, then the 'JobDatabase' parameter will take precedence and the job will only be written to the job database.

Copy-MLSharePointContentTypes

- **Recursive** - Defines whether to copy content types recursively or not - as selected by user.

- **CopyContentTypeOOBWorkflowAssociations** - Defines whether to copy content type out of the box workflow associations.

- **CopyListSharePointDesignerNintexWorkflowAssociations** - Defines whether SPD or Nintex created list workflow associations will be copied.

- **CopyWebSharePointDesignerNintexWorkflowAssociations** - Defines whether SPD or Nintex created web wfa's will be copied.

- **CopyContentTypeSharePointDesignerNintexWorkflowAssociations** - Defines whether SPD or Nintex created CT wfa's will be copied.

- **FilterCTs** - Defines whether Content Types are filtered or not.

- **FilteredCTCollection** - Contains the source CTs to include.

- **LogSkippedItems** - Indicates that actions which have been skipped should not be logged at all.

- **CheckResults** - Indicates whether the user would like to use the Metalogix Comparison tool to compare the source and target. If chosen, differences will be outputted as warnings to the PowerShell console. All results for an operation can be seen by enabling verbose display.

- **OverrideCheckouts** - Indicates that the checkout status of a pre-existing target file will be overridden.

- **CorrectingLinks** - Indicates whether the user would like to employ automatic link correction to metadata fields within their copy.

- **LinkCorrectTextFields** - Indicates whether the user would like to employ automatic HTML link correction in text fields of items/documents.

- **LinkCorrectionScope** - Specifies the scope at which links are corrected. The current options are 'SiteCollection' and 'MigrationOnly' level scope.

- **UseComprehensiveLinkCorrection** - Indicates whether link correction mapping generation is performed before the migration or as the migration occurs.

- **ComparisonLevel** - Indicates whether a strict or moderate comparison is desired. Note that this has no effect if CheckResults is false.

- **MapGroupsByName** - Indicates if mapping of SharePoint groups should be done by name, rather than membership.

- **OverwriteGroups** - Indicates if groups with matching names should be overwritten. Note that this only applies when mapping is being done by name.

- **AllowDBUserWriting** - Sets user writing operations to use a direct database write when the user is no longer available in Active Directory. Requires that your environment settings be configured to allow DB writing.

- **ForceRefresh** - Forces a refresh of the source and target nodes prior to copying to ensure that all cached data is up to date.

- **MapAudiences** - Enabled the mapping of audiences during a copy.

- **VerboseLog** - Enables verbose logging.

- **MapMissingUsersToLoginName** - Map all missing users to this Login Name.

- **PersistMappings** - When set, any dynamically created link correction or GUID mappings will be persisted to the global mappings store. If the global mappings already contain an entry for a particular source GUID, it will be overwritten with the value dynamically generated by the action.

- **Transformers** - The collection of data transformers which the action needs to run. Note that if the passed-in value for this parameter does not include transformers which are considered mandatory, they will be added automatically.

- **Quiet** - If set, the operation will not report progress to the PowerShell console.

- **JobFile** - The name of a job file to use for logging. If the file does not exist it will be created.

- **Source** - The source node for the actions.

- **Target** - The target node for the actions.

- **JobDatabase** - The connection string of a jobs database to use for logging. If the connection string is invalid, an exception is thrown. If both 'JobFile' and 'JobDatabase' parameters are specified, then the 'JobDatabase' parameter will take precedence and the job will only be written to the job database.

Copy-MLSharePointFolder

This is the same as `Copy-MLSharePointItem` with additional parameters:

- **CopyListItems** - Indicates if the copy operation should include list items and documents.

- **OverwriteFolders** - Indicates if the copy operation should overwrite existing folders.

- **CopyFolderPermissions** - Indicates if the copy operation should include unique permissions for folders.

- **FolderFilterExpression** - Defines a filter expression used to determine if a folder should be copied.

- **TaskCollection** - Defines a collection of transformation tasks, such as renaming, to be applied to the data as it is copied.

Copy-MLSharePointFolderPermissions

This is the same as `Copy-MLSharePointPermissions` with additional parameters:

- **RecursivelyCopySubFolderPermissions** - Indicates that the copy operation should copy permissions for subfolders and items in subfolders.

- **CopyFolderPermissions** - Indicates that the copy operation should include unique permissions for folders.

- **CopyItemPermissions** - Indicates that the copy operation should include unique permissions for items and documents.

Copy-MLSharePointGroups

- **GroupExclusions** - A table of groups or users within groups to exclude from the group copying operation.

- **MapGroupsByName** - Indicates if mapping of SharePoint groups should be done by name, rather than membership.

- **OverwriteGroups** - Indicates if groups with matching names should be overwritten. Note that this only applies when mapping is being done by name.

- **AllowDBUserWriting** - Sets user writing operations to use a direct database write when the user is no longer available in Active Directory. Requires that your environment settings be configured to allow DB writing.

- **ForceRefresh** - Forces a refresh of the source and target nodes prior to copying to ensure that all cached data is up to date.

- **LogSkippedItems** - Indicates that actions which have been skipped should not be logged at all.

- **CheckResults** - Indicates whether the user would like to use the Metalogix Comparison tool to compare the source and target. If chosen, differences will be outputted as warnings to the PowerShell console. All results for an operation can be seen by enabling verbose display.

- **OverrideCheckouts** - Indicates that the checkout status of a pre-existing target file will be overridden.

- **CorrectingLinks** - Indicates whether the user would like to employ automatic link correction to metadata fields within their copy.

- **LinkCorrectTextFields** - Indicates whether the user would like to employ automatic HTML link correction in text fields of items/documents.

- **LinkCorrectionScope** - Specifies the scope at which links are corrected. The current options are 'SiteCollection' and 'MigrationOnly' level scope.

- **UseComprehensiveLinkCorrection** - Indicates whether link correction mapping generation is performed before the migration or as the migration occurs.

- **ComparisonLevel** - Indicates whether a strict or moderate comparison is desired. Note that this has no effect if CheckResults is false.

- **MapAudiences** - Enabled the mapping of audiences during a copy.

- **VerboseLog** - Enables verbose logging.

- **MapMissingUsersToLoginName** - Map all missing users to this Login Name.

- **PersistMappings** - When set, any dynamically created link correction or GUID mappings will be persisted to the global mappings store. If the global mappings already contain an entry for a particular source GUID, it will be overwritten with the value dynamically generated by the action.

- **Transformers** - The collection of data transformers which the action needs to run. Note that if the passed-in value for this parameter does not include transformers which are considered mandatory, they will be added automatically.

- **Quiet** - If set, the operation will not report progress to the PowerShell console.

- **JobFile** - The name of a job file to use for logging. If the file does not exist it will be created.

- **Source** - The source node for the actions.

- **Target** - The target node for the actions.

- **JobDatabase** - The connection string of a jobs database to use for logging. If the connection string is invalid, an exception is thrown. If both 'JobFile' and 'JobDatabase' parameters are specified, then the 'JobDatabase' parameter will take precedence and the job will only be written to the job database.

Copy-MLSharePointItem

- **ExistingWebPartsAction** - Indicates if the copy operation should update items on the target with new item data from the source. The comparison for item matching is done by name for document libraries and by ID for all other lists.

- **OverwriteItems** - Indicates if the copy operation should overwrite existing items and documents. Overwriting items takes precedence over the 'UpdateItems' parameter.

- **UpdateItems** - Indicates if the copy operation should update items on the target with new item data from the source. The comparison for item matching is done by name for document libraries and by ID for all other lists.

- **CheckModifiedDatesForItemsDocuments** - Indicates if only newer items/documents will be copied.

- **PropagateItemDeletions** - Indicates if items not appearing on the source should be deleted off of the target. The comparison is done by name for document libraries and by ID for all other lists.

- **CopyVersions** - Indicates if the copy operation should include list item and document versions.

- **CopySubFolders** - Indicates if the copy operation should include subfolders.

- **MaximumVersionCount** - Defines a maximum number of versions to copy for each item. Note that this has no effect if version copying is not requested.

- **PreserveDocumentIDs** - Indicates if the copy operation should preserve IDs for documents in libraries. Note that this requires writing directly to the database. Please contact Quest Support if you have any questions about this process.

- **PreserveItemIDs** - Indicates if the copy operation should preserve IDs for list items in lists.

- **PreserveSharePointDocumentIDs** - Indicates if the copy operation should preserve SharePoint Document IDs(from the SharePoint Document ID Feature) for documents.

- **CopyDocumentWebParts** - Indicates if web parts on web part pages in document libraries or pages libraries should be copied.

- **CopyClosedWebParts** - Indicates whether closed web parts from the source are copied to the target or not.

- **CopyContentZoneContent** - Indicates whether content zone content should be updated on the target as part of the copy.

- **ItemFilterExpression** - Defines a filter expression used to determine if a document or item should be copied.

- **ListFieldsFilterExpression** - Defines a field filter expression used to determine if a item field should be copied.

- **CopyRootPermissions** - Indicates if the copy operation should copy the permissions for the highest-level objects copied, regardless of inheritance.

- **CopyItemPermissions** - Indicates if the copy operation should include unique permissions for list item and documents.

- **MapRolesByName** - Indicates if the copy operations should map role assignments strictly by name, skipping role assignments without a match.

- **ClearRoleAssignments** - Indicates if the copy operations should clear any existing role assignments prior to copying the source role assignments.

- **RoleAssignmentMappings** - Defines a collection of name to name role mappings, as well as conditional logic used to determine which objects to apply them on.

- **TaskCollection** - Defines a collection of transformation tasks, such as renaming, to be applied to the data as it is copied.

- **ReattachPageLayouts** - Indicates if the copy operation should reattach the page layouts of any publishing pages with detached layouts as it copies them.

- **SideLoadDocuments** - Indicates that documents will be added directly to StoragePoint if an endpoint is configured.

- **ColumnMappings** - Defines a set of column mappings for the item copying operation.

- **ContentTypeApplicationObjects** - Defines a set of content type application rules for the item copying operation.

- **DocumentSetApplicationObjects** - Defines a set of document set application rules for the item copying operation.

- **FolderToDocumentSetApplicationObjects** - Defines a set of document set application rules for the item copying operation.

- **DisableDocumentParsing** - Indicates that SharePoint's automatic promotion and demotion of metadata for defined file types should be disabled during migration.

- **CopyWorkflowInstanceData** - Indicates whether or not to copy workflow instances.

- **CopyInProgressWorkflows** - Indicates whether or not to copy in progress workflow instances.

- **MapTermStores** - Indicates whether or not to map term stores within the copy.

- **CopyReferencedManagedMetadata** - Indicates whether or not to copy referenced taxonomy.

- **ResolveManagedMetadataByName** - Indicates that mapping of terms should be done by name and hierarchy, rather than guid.

- **TermstoreNameMappingTable** - The term store mapping table to be used in the copy mapping.

- **LogSkippedItems** - Indicates that actions which have been skipped should not be logged at all.

- **CheckResults** - Indicates whether the user would like to use the Metalogix Comparison tool to compare the source and target. If chosen, differences will be outputted as warnings to the PowerShell console. All results for an operation can be seen by enabling verbose display.

- **OverrideCheckouts** - Indicates that the checkout status of a pre-existing target file will be overridden.

- **CorrectingLinks** - Indicates whether the user would like to employ automatic link correction to metadata fields within their copy.

- **LinkCorrectTextFields** - Indicates whether the user would like to employ automatic HTML link correction in text fields of items/documents.

- **LinkCorrectionScope** - Specifies the scope at which links are corrected. The current options are 'SiteCollection' and 'MigrationOnly' level scope.

- **UseComprehensiveLinkCorrection** - Indicates whether link correction mapping generation is performed before the migration or as the migration occurs.

- **ComparisonLevel** - Indicates whether a strict or moderate comparison is desired. Note that this has no effect if CheckResults is false.

- **MapGroupsByName** - Indicates if mapping of SharePoint groups should be done by name, rather than membership.

- **OverwriteGroups** - Indicates if groups with matching names should be overwritten. Note that this only applies when mapping is being done by name.

- **AllowDBUserWriting** - Sets user writing operations to use a direct database write when the user is no longer available in Active Directory. Requires that your environment settings be configured to allow DB writing.

- **ForceRefresh** - Forces a refresh of the source and target nodes prior to copying to ensure that all cached data is up to date.

- **MapAudiences** - Enabled the mapping of audiences during a copy.

- **VerboseLog** - Enables verbose logging.

- **MapMissingUsersToLoginName** - Map all missing users to this Login Name.

- **PersistMappings** - When set, any dynamically created link correction or GUID mappings will be persisted to the global mappings store. If the global mappings already contain an entry for a particular source GUID, it will be overwritten with the value dynamically generated by the action.

- **Transformers** - The collection of data transformers which the action needs to run. Note that if the passed-in value for this parameter does not include transformers which are considered mandatory, they will be added automatically.

- **Quiet** - If set, the operation will not report progress to the PowerShell console.

- **JobFile** - The name of a job file to use for logging. If the file does not exist it will be created.

- **Source** - The source node for the actions.

- **Target** - The target node for the actions.

- **JobDatabase** - The connection string of a jobs database to use for logging. If the connection string is invalid, an exception is thrown. If both 'JobFile' and 'JobDatabase' parameters are specified, then the 'JobDatabase' parameter will take precedence and the job will only be written to the job database.

Copy-MLSharePointItemAlerts

- **Transformers** - The collection of data transformers which the action needs to run. Note that if the passed-in value for this parameter does not include transformers which are considered mandatory, they will be added automatically.

- **Quiet** - If set, the operation will not report progress to the PowerShell console.

- **JobFile** - The name of a job file to use for logging. If the file does not exist it will be created.

- **Source** - The source node for the actions.

- **Target** - The target node for the actions.

- **JobDatabase** - The connection string of a jobs database to use for logging. If the connection string is invalid, an exception is thrown. If both 'JobFile' and 'JobDatabase' parameters are specified, then the 'JobDatabase' parameter will take precedence and the job will only be written to the job database.

Copy-MLSharePointList

This is the same as `Copy-MLSharePointItem` with additional parameters:

- **CopyDependentLists -** Indicates if the copy operation should also include source lists of LookUp columns, as well as Task and History Lists of associated workflows..

- **SharePoint serverCopyListItems** - Indicates if the copy operation should include list items and documents.

- **CopySubFolders** - Indicates if the copy operation should include subfolders.

- **CopyFolderPermissions** - Indicates if the copy operation should include unique permissions for folders.

- **FolderFilterExpression** - Defines a filter expression used to determine if a folder should be copied.

- **OverwriteLists** - Indicates if the copy operation should overwrite existing lists. Overwriting lists takes precedence over the 'UpdateLists' parameter.

- **UpdateLists** - Specifies whether to update lists or not. Provide the value "All", or a comma-separated list of some of the following for only partial updating of the list: "CoreMetadata", "Fields", "Views", "ContentTypes".

- **CheckModifiedDatesForLists** - Indicates if only newer lists will be copied.

- **CopyFormWebParts** - Indicates if the copy operation should include web parts on list form pages (Disp, Edit, New).

- **CopyListPermissions** - Indicates if the copy operation should include unique permissions for lists.

- **CopyViewWebParts** - Indicates if the copy operation should include web parts on view pages.

- **ListFilterExpression** - Defines a filter expression used to determine if a list should be copied.

- **TaskCollection** - Defines a collection of transformation tasks, such as renaming, to be applied to the data as it is copied.

- **CopyCustomizedFormPages** - Indicates if the copy operation should include customizations made to the list's form pages.

- **MergeMySiteDocumentsIntoSharedFolder** - Indicates if the copy operation should merge content from "Shared Documents" and "Personal Documents" on source into "Shared with everyone" folder on target for MySites.

- **CopyListOOBWorkflowAssociations** - Indicates if the copy operation should copy list workflow associations.

- **CopyWebOOBWorkflowAssociations** - Indicates if the copy operation should copy web workflow associations.

- **CopyContentTypeOOBWorkflowAssociations** - Indicates if the copy operation should copy content type workflow associations.

- **CopyListSharePointDesignerNintexWorkflowAssociations** - Indicates if the copy operation should copy SharePoint Designer created list workflow associations.

- **CopyWebSharePointDesignerNintexWorkflowAssociations** - Indicates if the copy operation should copy SharePoint Designer created web workflow associations.

- **CopyContentTypeSharePointDesignerNintexWorkflowAssociations** - Indicates if the copy operation should copy SharePoint Designer created content type workflow associations.

- **CopyNintexDatabaseEntries** - Indicates if the copy operation should copy Nintex workflow database entries.

Copy-MLSharePointListAlerts

- **CopyListItemAlerts** - Indicates if the copy operation should copy the alerts for items in lists.

- **Transformers** - The collection of data transformers which the action needs to run. Note that if the passed-in value for this parameter does not include transformers which are considered mandatory, they will be added automatically.

- **Quiet** - If set, the operation will not report progress to the PowerShell console.

- **JobFile** - The name of a job file to use for logging. If the file does not exist it will be created.

- **Source** - The source node for the actions.

- **Target** - The target node for the actions.

- **JobDatabase** - The connection string of a jobs database to use for logging. If the connection string is invalid, an exception is thrown. If both 'JobFile' and 'JobDatabase' parameters are specified, then the 'JobDatabase' parameter will take precedence and the job will only be written to the job database.

Copy-MLSharePointListAsFolder

This is the same as `Copy-MLSharePointFolder` with additional parameters.

Copy-MLSharePointListPermissions

This is the same as `Copy-MLSharePointPermissions` with additional parameters:

- **CopyListPermissions** - Indicates that the copy operation should include unique permissions for lists.

- **CopyFolderPermissions** - Indicates that the copy operation should include unique permissions for folders.

- **CopyItemPermissions** - Indicates that the copy operation should include unique permissions for items and documents.

Copy-MLSharePointListTemplateGallery

This is the same as `Copy-MLSharePointList` with additional parameters:

- **CopyListTemplateGallery** - Indicates if the list template gallery should be copied. **(Mandatory)**

Copy-MLSharePointListViews

- **OverwriteExistingViews** - Indicates if the copy operation should overwrite existing views on the target.

- **CopyViewWebParts** - Indicates if the copy operation should copy the web parts on the view page.

- **CopyClosedWebParts** - Indicates if the copy operation should copy closed web parts on the view page.

- **ExistingWebPartsAction** - Indicates how the operation should deal with existing web parts on the target view page.

- **LogSkippedItems** - Indicates that actions which have been skipped should not be logged at all.

- **CheckResults** - Indicates whether the user would like to use the Metalogix Comparison tool to compare the source and target. If chosen, differences will be outputted as warnings to the PowerShell console. All results for an operation can be seen by enabling verbose display.

- **OverrideCheckouts** - Indicates that the checkout status of a pre-existing target file will be overridden.

- **CorrectingLinks** - Indicates whether the user would like to employ automatic link correction to metadata fields within their copy.

- **LinkCorrectTextFields** - Indicates whether the user would like to employ automatic HTML link correction in text fields of items/documents.

- **LinkCorrectionScope** - Specifies the scope at which links are corrected. The current options are 'SiteCollection' and 'MigrationOnly' level scope.

- **UseComprehensiveLinkCorrection** - Indicates whether link correction mapping generation is performed before the migration or as the migration occurs.

- **ComparisonLevel** - Indicates whether a strict or moderate comparison is desired. Note that this has no effect if CheckResults is false.

- **MapGroupsByName** - Indicates if mapping of SharePoint groups should be done by name, rather than membership.

- **OverwriteGroups** - Indicates if groups with matching names should be overwritten. Note that this only applies when mapping is being done by name.

- **AllowDBUserWriting** - Sets user writing operations to use a direct database write when the user is no longer available in Active Directory. Requires that your environment settings be configured to allow DB writing.

- **ForceRefresh** - Forces a refresh of the source and target nodes prior to copying to ensure that all cached data is up to date.

- **MapAudiences** - Enabled the mapping of audiences during a copy.

- **VerboseLog** - Enables verbose logging.

- **MapMissingUsersToLoginName** - Map all missing users to this Login Name.

- **PersistMappings** - When set, any dynamically created link correction or GUID mappings will be persisted to the global mappings store. If the global mappings already contain an entry for a particular source GUID, it will be overwritten with the value dynamically generated by the action.

- **Transformers** - The collection of data transformers which the action needs to run. Note that if the passed-in value for this parameter does not include transformers which are considered mandatory, they will be added automatically.

- **Quiet** - If set, the operation will not report progress to the PowerShell console.

- **JobFile** - The name of a job file to use for logging. If the file does not exist it will be created.

- **Source** - The source node for the actions.

- **Target** - The target node for the actions.

- **JobDatabase** - The connection string of a jobs database to use for logging. If the connection string is invalid, an exception is thrown. If both 'JobFile' and 'JobDatabase' parameters are specified, then the 'JobDatabase' parameter will take precedence and the job will only be written to the job database.

Copy-MLSharePointMasterPageGallery

This is the same as `Copy-MLSharePointList` with additional parameters:

- **CopyMasterPages** - Indicates if the copy operation should include master pages.

- **CopyPageLayouts** - Indicates if the copy operation should include page layouts.

- **CorrectMasterPageLinks** - Indicates if the links within the master page should be corrected or not.

- **CopyOtherResources** - Indicates if the copy operation should include other resources in the gallery.

Copy-MLSharePointMySites

This is the same as Copy-MLAllSharePointSiteContent with additional parameters:

- **WebApplicationName** - Target Mysite Web Application Name. (Mandatory)

- **Path** - Path of the mysite target. (Mandatory)

- **URL** - URL of the mysite target. (Mandatory)

- **MySitesToExclude** - Contains the source MySites to exclude.

- **CorrectMasterPageLinks** - Indicates if link correction should be run on the contents of master pages.

- **CopyAuditSettings** - Indicates if site collection level audit settings should be copied.

Copy-MLSharePointNavigation

- **UseComprehensiveLinkCorrection** - Indicates whether link correction mapping generation is performed before the migration or as the migration occurs.

- **ForceRefresh** - Forces a refresh of the source and target nodes prior to copying to ensure that all cached data is up to date.

- **MapAudiences** - Enabled the mapping of audiences during a copy.

- **CopySubSiteNavigation** - Indicates whether the copy should be run for all sub sites in addition to the copy source.

- **CopyQuickLaunch** - Indicates that the navigation copy should include the quick launch.

- **CopyTopNavigationBar** - Indicates that the navigation copy should include the top navigation bar.

- **TaskCollection** - Defines a collection of transformation tasks, such as renaming, to be used during link correction to correct links pointing to locations in renamed sites and lists.

- **VerboseLog** - Enables verbose logging.

- **PersistMappings** - When set, any dynamically created link correction or GUID mappings will be persisted to the global mappings store. If the global mappings already contain an entry for a particular source GUID, it will be overwritten with the value dynamically generated by the action.

- **Transformers** - The collection of data transformers which the action needs to run. Note that if the passed-in value for this parameter does not include transformers which are considered mandatory, they will be added automatically.

- **Quiet** - If set, the operation will not report progress to the PowerShell console.

- **JobFile** - The name of a job file to use for logging. If the file does not exist it will be created.

- **Source** - The source node for the actions.

- **Target** - The target node for the actions.

- **JobDatabase** - The connection string of a jobs database to use for logging. If the connection string is invalid, an exception is thrown. If both 'JobFile' and 'JobDatabase' parameters are specified, then the 'JobDatabase' parameter will take precedence and the job will only be written to the job database.

Copy-MLSharePointPermissionLevels

- **RecursivelyCopyPermissionLevels** - Recursively Copy Permission Levels.

- **VerboseLog** - Enables verbose logging.

- **Transformers** - The collection of data transformers which the action needs to run. Note that if the passed-in value for this parameter does not include transformers which are considered mandatory, they will be added automatically.

- **Quiet** - If set, the operation will not report progress to the PowerShell console.

- **JobFile** - The name of a job file to use for logging. If the file does not exist it will be created.

- **Source** - The source node for the actions.

- **Target** - The target node for the actions.

- **JobDatabase** - The connection string of a jobs database to use for logging. If the connection string is invalid, an exception is thrown. If both 'JobFile' and 'JobDatabase' parameters are specified, then the 'JobDatabase' parameter will take precedence and the job will only be written to the job database.

Copy-MLSharePointPermissions

- **LogSkippedItems** - Indicates that actions which have been skipped should not be logged at all.

- **CheckResults** - Indicates whether the user would like to use the Metalogix Comparison tool to compare the source and target. If chosen, differences will be outputted as warnings to the PowerShell console. All results for an operation can be seen by enabling verbose display.

- **ComparisonLevel** - Indicates whether a strict or moderate comparison is desired. Note that this has no effect if CheckResults is false.

- **ForceRefresh** - Forces a refresh of the source and target nodes prior to copying to ensure that all cached data is up to date.

- **AllowDBUserWriting** - Sets user writing operations to use a direct database write when the user is no longer available in Active Directory. Requires that your environment settings be configured to allow DB writing.

- **MapGroupsByName** - Indicates if mapping of SharePoint groups should be done by name, rather than membership.

- **OverwriteGroups** - Indicates if groups with matching names should be overwritten. Note that this only applies when mapping is being done by name.

- **MapMissingUsersToLoginName** - Map all missing users to this Login Name.

- **CopyRootPermissions** - Indicates that the permissions for the top-level node specified should be migrated even if that object inherits its permissions.

- **ClearRoleAssignments** - Indicates that permissions that previously existed on the source should be deleted. This options should be set except in the case of merging permissions from distinct sources.

- **MapRolesByName** - Indicates that the copy operation should map permission levels by name rather than by mapping to the level with the set of enabled rights most similar to the source.

- **RoleAssignmentMappings** - Defines a set of custom mappings to use for permission levels.

- **VerboseLog** - Enables verbose logging.

- **PersistMappings** - When set, any dynamically created link correction or GUID mappings will be persisted to the global mappings store. If the global mappings already contain an entry for a particular source GUID, it will be overwritten with the value dynamically generated by the action.

- **Transformers** - The collection of data transformers which the action needs to run. Note that if the passed-in value for this parameter does not include transformers which are considered mandatory, they will be added automatically.

- **Quiet** - If set, the operation will not report progress to the PowerShell console.

- **JobFile** - The name of a job file to use for logging. If the file does not exist it will be created.

- **Source** - The source node for the actions.

- **Target** - The target node for the actions.

- **JobDatabase** - The connection string of a jobs database to use for logging. If the connection string is invalid, an exception is thrown. If both 'JobFile' and 'JobDatabase' parameters are specified, then the 'JobDatabase' parameter will take precedence and the job will only be written to the job database.

Copy-MLSharePointSite

This is the same as `Copy-MLAllSharePointSiteContent` with additional parameters:

- **WebTemplateName** - Defines the name of a new web template for the site being copied.

Copy-MLSharePointSiteAlerts

- **RecursivelyCopySubsiteAlerts** - Indicates if the copy operation should copy the alerts for child sub sites.

- **CopyListItemAlerts** - Indicates if the copy operation should copy the alerts for items in lists.

- **Transformers** - The collection of data transformers which the action needs to run. Note that if the passed-in value for this parameter does not include transformers which are considered mandatory, they will be added automatically.

- **Quiet** - If set, the operation will not report progress to the PowerShell console.

- **JobFile** - The name of a job file to use for logging. If the file does not exist it will be created.

- **Source** - The source node for the actions.

- **Target** - The target node for the actions.

- **JobDatabase** - The connection string of a jobs database to use for logging. If the connection string is invalid, an exception is thrown. If both 'JobFile' and 'JobDatabase' parameters are specified, then the 'JobDatabase' parameter will take precedence and the job will only be written to the job database.

Copy-MLSharePointSiteCollection

This is the same as **Copy-MLSharePointSite** with additional parameters:

- **OwnerLogin** - The login name of the primary owner of the site collection to be added. (Mandatory)

- **WebApplicationName** - The name of the web application to add the site collection to. (Mandatory)

- **Path** - The managed path in the web application to add the site collection under. (Mandatory)

- **Name** - The site collection URL name. Can not include the managed path. (Mandatory)

- **URL** - DO NOT USE: The URL of the site collection. Includes managed path, and will be set automatically via other parameters. Exists for automated script generation purposes and bypasses validation.

- **SecondaryOwnerLogin** - The login name of the secondary owner of the site collection to be added.

- **Description** - The description of the site collection.

- **ContentDatabaseName** - The content database name to add the new site collection to.

- **ExperienceVersion** - The experience version to use when creating the site. This setting is only used for SharePoint 2013. Use 15 for the 2013 UI and 14 for the 2010 UI.

- **LanguageCode** - The 32 bit integer language code of the SharePoint language to use.

- **CopySiteQuota** - Indicates if a site quota template should be set on the target. If no QuotaID or individual values are specified, the quota will be set to match the source.

- **QuotaID** - The ID of the quota template to use.

- **QuotaMaximum** - The maximum storage limit to use for this site collection. Note that if a valid QuotaID is also specified, that quota template will be used instead.

- **QuotaWarning** - The storage level to send out a warning email to use for this site collection. Note that if a valid QuotaID is also specified, that quota template will be used instead.

- **StorageQuota** - The Microsoft 365 tenant storage quota.

- **ResourceQuota** - The Microsoft 365 tenant resource quota.

- CopySiteAdmins - Indicates if the source site collection administrators gets copied to the target. If not selected, the Primary and Secondary site admins will be copied.

- **SiteCollectionAdministrators** - The source site collection administrators to be migrated to the target site collection.

- **CorrectMasterPageLinks** - Indicates if link correction should be run on the contents of master pages.

- **CopyAuditSettings** - Indicates if site collection level audit settings should be copied.

- **CopyListTemplateGallery** - Indicates if the list template gallery should be copied.

- **CopyMasterPageGallery** - Indicates if the master page gallery should be copied.

- **CopyMasterPages** - Indicates if master pages in the master page gallery should be copied.

- **CopyPageLayouts** - Indicates if page layouts in the master page gallery should be copied.

- **CopyOtherResources** - Indicates if other resources, such as images, in the master page gallery should be copied.

- **PromoteSubsiteToSiteCollection** - Indicates if the first level of subsites should be promoted as site collections on the target.

- **AssociateSiteCollectionWithHub** - Indicates if the source root site should be migrated as a hub site and the promoted site collections should be associated to the new hub site.

- **AssociateRootAndPromotedSubSiteToHubSite** - Indicates if the root site and the promoted site collections should be associated to an existing hub site of the same tenant.

- **HubSiteUrlToAssociate** - Indicates existing hub site URL to which the root and the promoted site collections need to be associated to.

Copy-MLSharePointSiteCollectionWithConfigFile

- **Source** - The source node for the actions. **(Mandatory**, should be specified as **Get-MLSharePointSite)**

- **Target** - The target node for the actions. **(Mandatory**, should be specified as **Get-MLSharePointServer)**

- **JobConfigFile** - The filepath of the job configuration XML file. **(Mandatory)**

- **JobFile** - The name of a job file to use for logging. If the file does not exist it will be created.

  Note: If any additional parameters are provided, or if the job configuration XML file is improperly formatted, an error may appear and the migration action may fail.

Copy-MLSharePointSiteWithConfigFile

Source - The source node for the actions. **(Mandatory**, should be specified as **Get-MLSharePointSite)**

Target - The target node for the actions. **(Mandatory**, should be specified as **Get-MLSharePointSite)**

JobConfigFile - The filepath of the job configuration XML file. **(Mandatory)**

JobFile - The name of a job file to use for logging. If the file does not exist it will be created.

Note: If any additional parameters are provided, or if the job configuration XML file is improperly formatted, an error may appear and the migration action may fail.

Copy-MLSharePointUsers

- **SourceUsers** - A collection of users to be copied to the target site.

- **LogSkippedItems** - Indicates that actions which have been skipped should not be logged at all.

- **CheckResults** - Indicates whether the user would like to use the Metalogix Comparison tool to compare the source and target. If chosen, differences will be outputted as warnings to the PowerShell console. All results for an operation can be seen by enabling verbose display.

- **OverrideCheckouts** - Indicates that the checkout status of a pre-existing target file will be overridden.

- **CorrectingLinks** - Indicates whether the user would like to employ automatic link correction to metadata fields within their copy.

- **LinkCorrectTextFields** - Indicates whether the user would like to employ automatic HTML link correction in text fields of items/documents.

- **LinkCorrectionScope** - Specifies the scope at which links are corrected. The current options are 'SiteCollection' and 'MigrationOnly' level scope.

- **UseComprehensiveLinkCorrection** - Indicates whether link correction mapping generation is performed before the migration or as the migration occurs.

- **ComparisonLevel** - Indicates whether a strict or moderate comparison is desired. Note that this has no effect if CheckResults is false.

- **MapGroupsByName** - Indicates if mapping of SharePoint groups should be done by name, rather than membership.

- **OverwriteGroups** - Indicates if groups with matching names should be overwritten. Note that this only applies when mapping is being done by name.

- **AllowDBUserWriting** - Sets user writing operations to use a direct database write when the user is no longer available in Active Directory. Requires that your environment settings be configured to allow DB writing.

- **ForceRefresh** - Forces a refresh of the source and target nodes prior to copying to ensure that all cached data is up to date.

- **MapAudiences** - Enabled the mapping of audiences during a copy.

- **VerboseLog** - Enables verbose logging.

- **MapMissingUsersToLoginName** - Map all missing users to this Login Name.

- **PersistMappings** - When set, any dynamically created link correction or GUID mappings will be persisted to the global mappings store. If the global mappings already contain an entry for a particular source GUID, it will be overwritten with the value dynamically generated by the action.

- **Transformers** - The collection of data transformers which the action needs to run. Note that if the passed-in value for this parameter does not include transformers which are considered mandatory, they will be added automatically.

- **Quiet** - If set, the operation will not report progress to the PowerShell console.

- **JobFile** - The name of a job file to use for logging. If the file does not exist it will be created.

- **Source** - The source node for the actions.

- **Target** - The target node for the actions.

- **JobDatabase** - The connection string of a jobs database to use for logging. If the connection string is invalid, an exception is thrown. If both 'JobFile' and 'JobDatabase' parameters are specified, then the 'JobDatabase' parameter will take precedence and the job will only be written to the job database.

Copy-MLSharePointWebParts

- **ExistingWebPartsAction** - Indicates what action the copy should take on web parts that already exist on the target.

- **MapGroupsByName** - Indicates if mapping of SharePoint groups should be done by name, rather than membership.

- **OverwriteGroups** - Indicates if groups with matching names should be overwritten. Note that this only applies when mapping is being done by name.

- **ForceRefresh** - Forces a refresh of the source and target nodes prior to copying to ensure that all cached data is up to date.

- **CopyClosedWebParts** - Indicates whether closed web parts from the source are copied to the target or not.

- **CopyContentZoneContent** - Indicates whether content zone content should be updated on the target as part of the copy.

- **CopyWebPartsRecursive** - Indicates whether webparts should be copied recursively for each sub-site or not.

- **MapAudiences** - Enabled the mapping of audiences during a copy.

- **MapMissingUsersToLoginName** - Map all missing users to this Login Name.

- **UseComprehensiveLinkCorrection** - Indicates whether link correction mapping generation is performed before the migration or as the migration occurs.

- **TaskCollection** - Defines a collection of transformation tasks, such as renaming, to be applied to the data as it is copied.

- **Transformers** - The collection of data transformers which the action needs to run. Note that if the passed-in value for this parameter does not include transformers which are considered mandatory, they will be added automatically.

- **Quiet** - If set, the operation will not report progress to the PowerShell console.

- **JobFile** - The name of a job file to use for logging. If the file does not exist it will be created.

- **Source** - The source node for the actions.

- **Target** - The target node for the actions.

- **JobDatabase** - The connection string of a jobs database to use for logging. If the connection string is invalid, an exception is thrown. If both 'JobFile' and 'JobDatabase' parameters are specified, then the 'JobDatabase' parameter will take precedence and the job will only be written to the job database.

Copy-MLSharePointWebPermissions

This is the same as **Copy-MLSharePointListPermissions** with additional parameters:

- **RecursivelyCopySubSitePermissions** - Indicates that the copy operation should copy permissions recursively in child sites of the target site.

- **CopySitePermissions** - Indicates that the copy operation should include unique permissions for sites.

- **CopyPermissionLevels** - Indicates that the copy operation should include the migration of copied or modified permission levels.

Copy-SharePointFolder

Copy-SharePointItem

Copy-SharePointList

Copy-SharePointListViews

Copy-SharePointListSite

Copy-SharePointSiteCollection

Copy-SharePointSiteCollectionWithConfigFile

Copy-SharePointSiteWithConfigFile

Modifying Content Matrix Configuration and Settings

You can configure and customize a number of Content Matrix settings, including:

- the use of encrypted SQL database connections

- proxy settings

- available actions and events

- default settings in configuration variable files

- client-side settings

- resource utilization settings

Using Encrypted SQL Database Connections

When connecting to a SQL database via Content Matrix, you are given the option to connect using TLS/SSL encryption.

NOTE: Content Matrix can use any version of TLS that is compatible with .NET Framework 4.7.2. The default version of TLS used by the operating system on the machine from which you are connecting will be used by Content Matrix.
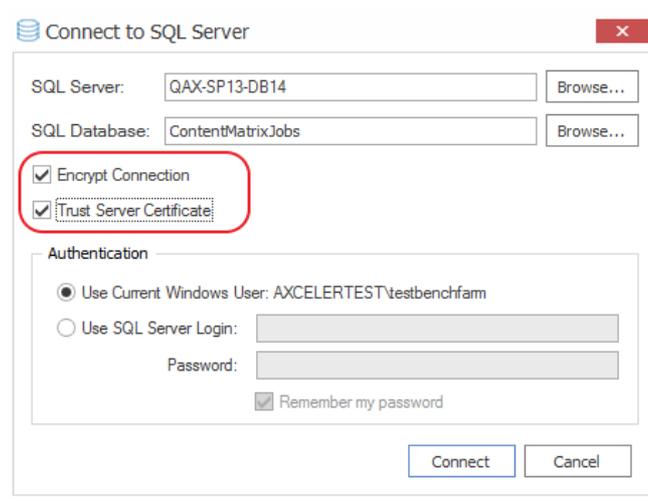
The encrypted connection can use either:

- a self-signed certificate or a trusted certificate from the third party authority (refer to the Microsoft article https://docs.microsoft.c om/en-us/sql/database-engine/configure-windows/enable-

encrypted-connections-to-the-database-engine?view=sql-server-ver15 for instructions on configuring an encrypted connection using a certificate)

OR

- a SQL-generated certificate, which does not require configuration.

NOTE: If a trusted certificate is used, it is not necessary to check the **Trust Server Certificate** box. However, if the box is not checked and the certificate is not trusted, the following message will display:

In this case, the **Trust Server Certificate** box must be checked in order to continue the connection.

Configuring Proxy Settings

In most cases Content Matrix can automatically connect to SharePoint and authenticate license keys, through an environment's proxy setting, However, in some cases the proxy may need to be configured within Content Matrix. In these cases users can specify the proxy settings though the connecting dialog.

There are two basic places where this proxy setting can be configured. The first of these is when activating a license key, and the second when connecting to SharePoint. The dialogs for these options look slightly different, and the when you are using a proxy to connect to SharePoint, you have the additional option to **Import Proxy from Internet Explorer**.
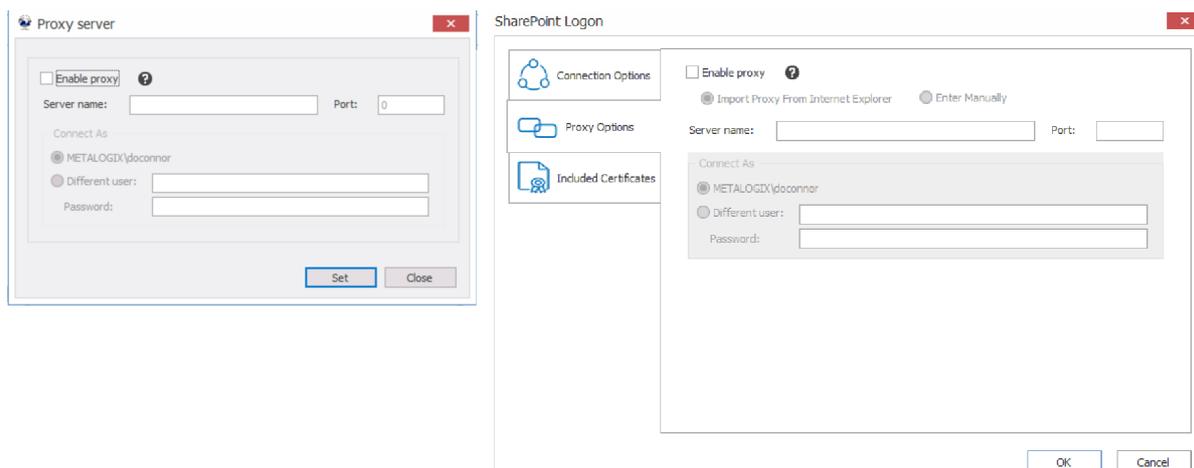
To configure proxy settings:

1. In the Proxy server dialog, check the **Enable proxy** box.

2. Use the information in the following table to determine the appropriate action to take.

If ...	Then ...
you want to manually enter proxy information	A. Select **Enter Manually**. B. Enter the **Server name** (or IP) and **Port** for the proxy. C. Specify the credentials to be used when connecting to the target server. The Windows authenticated credentials of the current user will be selected by default. You can specify alternate SharePoint credentials by clicking the **Different user** radio button, and entering an alternate username and password.
Internet Explorer has been configured to use a proxy server via a proxy auto-configuration (.PAC) file and you want to connect to SharePoint using this method	select **Import Proxy from Internet Explorer**. NOTE: This option is currently available only when connecting to SharePoint. Refer to the Microsoft article Auto proxy configuration settings for Internet Explorer for more information.
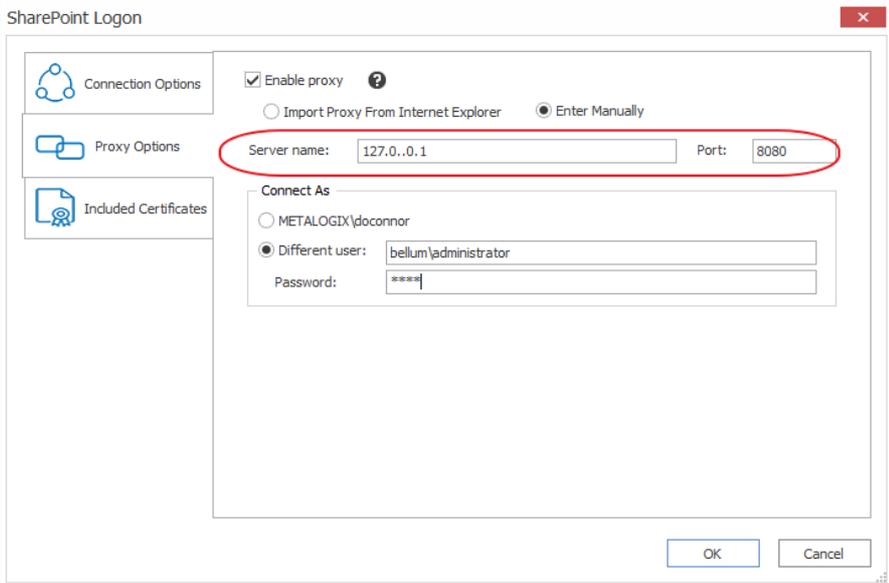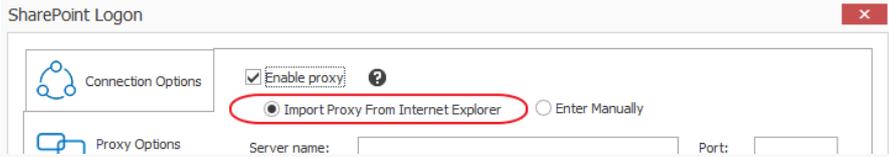
3. If you accessed the dialog from the License Activation dialog, click **[Set]**.

Restricting Available Actions and Suppressing Events

Content Matrix provides you with the ability to control what actions are available to the client application through configuring on the SharePoint server. Product behaviors can be restricted along three dimensions:

- Available actions

- Unrestricted users

- Suppressed events

Configuring the behavior of the Content Matrix client from target SharePoint servers requires that an XML configuration file be added to the target SharePoint server web application directory. The XML file must be named **ServerAdapterConfig.xml** and placed in the ML folder directory located within the SharePoint hive (this is the same directory where the Metalogix SharePoint Extensions Web Service files are). Below are some examples of the typical directory location of the ML folder, depending on SharePoint product version and configuration:

- SharePoint 2013: - C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\15\isapi\ML

- SharePoint 2016: - C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\16\isapi\ML

- SharePoint 2019:- C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\16\isapi\ML

ServerAdapterConfig.xml File Format

Below is an example of the simple XML format required for ServerAdapterConfig.xml.

```
    <ServerAdapterConfig>
```
```
     <DisabledActions>
```
```
        <Action>Metalogix.SharePoint.Actions.Migration.PasteSiteAction</Action>
```
```
        <Action>Metalogix.SharePoint.Actions.Migration.PasteSiteCollectionAction</Action>
```
```
        <Action>Metalogix.SharePoint.Actions.Migration.PasteSiteLists</Action>
```
```
      <Action>Metalogix.SharePoint.Actions.Migration.CopyRoleAssignmentsAction</Action>
```
```
      <Action>Metalogix.SharePoint.Actions.Migration.CopyWorkflowAssociationsAction</Action>
```

```
        <Action>Metalogix.SharePoint.Actions.Migration.PasteFolderActio
n</Action>
      </DisabledActions>
      <ExemptUsers>
        <User>METALOGIX\geordie</User>
        <User>METALOGIX\julien</User>
      </ExemptUsers>
      <SuppressEvents>False</SuppressEvents>
    </ServerAdapterConfig>
```

There are three main sections within the root **ServerAdapterConfig** section of this XML:

- DisabledActions: This section defines the set of actions that cannot be run on the client. See Actions That Can Be Disabled on the Server Side for a complete list.

- ExemptUsers: This section defines the set of users by user name who are exempt from any DisabledActions. In other words, a user in the ExemptUsers is not subject to any restrictions imposed on Content Matrix clients by the DisableActions section.

- SuppressEvents: This section defines if any of SharePoint's event receivers are suppressed/disabled during a migration and then restarted once the action is complete. The value for this section is set to "True" by default, but can be manually configured if want event suppression to be disabled. Suppression of event receivers allows Content Matrix to avoid any potential concurrency issues when migrating (mainly with regards to workflows).

Actions That Can Be Disabled

Many of the SharePoint related actions available in the Content Matrix Console can be disabled on the server side. The table below lists the complete set of client actions that can be disabled from the server and provides the format of the action name required in the DisabledActions section of the ServerAdapaterCongifuration.xml file.

NOTE: When an action that is available via the client UI is disabled on the server, it will be visible in client menus but disabled.

Action	Configuration File Format
Change Global Navigation Settings	Metalogix.SharePoint.Actions.Administration.ChangeGlobalNavigationAction
Change Quick Launch	Metalogix.SharePoint.Actions.Administration.ChangeQuickLaunchAction
Create Folder	Metalogix.SharePoint.Actions.Administration.CreateFolderAction
Create List	Metalogix.SharePoint.Actions.Administration.CreateListAction
Create List From XML	Metalogix.SharePoint.Actions.Administration.CreateListFromXMLAction
Create Site	Metalogix.SharePoint.Actions.Administration.CreateSiteAction

Action	Configuration File Format
Create Site Collection	Metalogix.SharePoint.Actions.Administration.CreateSiteCollection
Create Site Collection in Self-Service Mode	Metalogix.SharePoint.Actions.Administration.CreateSiteCollectionSelfServiceMode
Delete Discussion Item	Metalogix.SharePoint.Actions.Administration.DeleteDiscussionItem
Delete Item	Metalogix.SharePoint.Actions.Administration.DeleteFolder
Delete List	Metalogix.SharePoint.Actions.Administration.DeleteItem
Delete Site	Metalogix.SharePoint.Actions.Administration.DeleteList
Delete Site Collection	Metalogix.SharePoint.Actions.Administration.DeleteSite
Export Doc Items	Metalogix.SharePoint.Actions.Administration.DeleteSiteCollection
Publish Documents and Pages	Metalogix.SharePoint.Actions.Administration.PublishDocumentsandPagesAction
Update Site Collection Settings	Metalogix.SharePoint.Actions.Administration.UpdateSiteCollectionSettingsAction
Add Role Assignments	Metalogix.SharePoint.Actions.Migration.AddRoleAssignmentsAction
Copy Folder Permissions	Metalogix.SharePoint.Actions.Migration.CopyFolderPermissions
Copy Item Alerts	Metalogix.SharePoint.Actions.Migration.CopyItemAlertsAction
Copy List Alerts	Metalogix.SharePoint.Actions.Migration.CopyListAlertsAction
Copy List Permissions	Metalogix.SharePoint.Actions.Migration.CopyListPermissions
Copy List Role Assignments	Metalogix.SharePoint.Actions.Migration.CopyListRoleAssignments
Paste Web Parts	Metalogix.SharePoint.Actions.Migration.CopyWebPartsAction
Paste Master Page Gallery	Metalogix.SharePoint.Actions.Migration.CopyMasterPageGalleryAction
Paste Content Types	Metalogix.SharePoint.Actions.Migration.CopySiteContentTypesAction
Paste All Subsites	Metalogix.SharePoint.Actions.Migration.CopySubSitesAction
Copy Web Alerts	Metalogix.SharePoint.Actions.Migration.CopyWebAlertsAction
Copy Web Permissions	Metalogix.SharePoint.Actions.Migration.CopyWebPermissions
Paste Workflow Associations	Metalogix.SharePoint.Actions.Migration.CopyWorkflowAssociationsAction
Paste All List Items	Metalogix.SharePoint.Actions.Migration.PasteAllListItemsAction

Action	Configuration File Format
Paste All List Items into Items View	Metalogix.SharePoint.Actions.Migration.PasteAllListItemsIntoItemsViewAction
Paste Audiences	Metalogix.SharePoint.Actions.Migration.PasteAudiencesAction
Paste Default Web Part Page	Metalogix.SharePoint.Actions.Migration.PasteDefaultWebPartPageAction
Paste Duplicate List	Metalogix.SharePoint.Actions.Migration.PasteDuplicateListAction
Paste Duplicate Site	Metalogix.SharePoint.Actions.Migration.PasteDuplicateSiteAction
Paste Folder	Metalogix.SharePoint.Actions.Migration.PasteFolderAction
Paste List	Metalogix.SharePoint.Actions.Migration.PasteListAction
Paste List as Folder	Metalogix.SharePoint.Actions.Migration.PasteListAsFolderAction
Paste List Email Notifications	Metalogix.SharePoint.Actions.Migration.PasteListEmailNotificationAction
Paste List Item	Metalogix.SharePoint.Actions.Migration.PasteListItemAction
Paste List Item into Items View	Metalogix.SharePoint.Actions.Migration.PasteListItemIntoItemsViewAction
Paste My Sites	Metalogix.SharePoint.Actions.Migration.PasteMySitesAction
Paste Navigation	Metalogix.SharePoint.Actions.Migration.PasteNavigationAction
Paste Roles	Metalogix.SharePoint.Actions.Migration.PasteRolesAction
Paste Site	Metalogix.SharePoint.Actions.Migration.PasteSiteAction
Paste Site Collection	Metalogix.SharePoint.Actions.Migration.PasteSiteCollectionAction
Paste Site Content	Metalogix.SharePoint.Actions.Migration.PasteSiteContentAction
Paste Site Lists	Metalogix.SharePoint.Actions.Migration.PasteSiteLists
Remove Role Assignments	Metalogix.SharePoint.Actions.Migration.RemoveRoleAssignmentAction
Event Suppression	Metalogix.SharePoint.Actions.Migration.SuppressEvents

Note that many of the above listed actions are used by other actions. When a given action is enabled, but one or more of its sub-action is disabled, the sub-actions will not run. When a user attempts to run an action for which sub-actions are disabled, they will be notified with a dialog similar to the following:
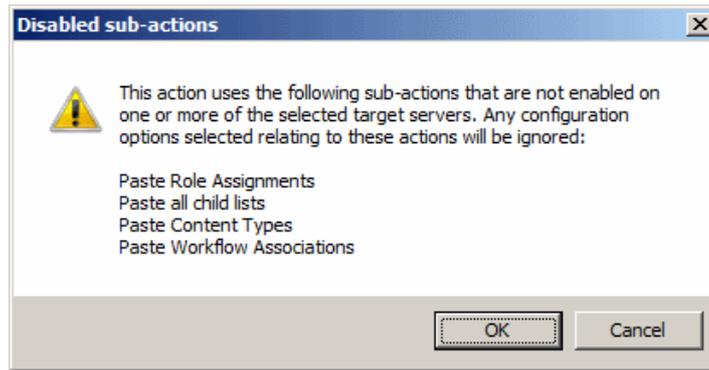
Configuration Variable Files

Content Matrix uses a set of configuration variable files behind the scenes to help set and manage settings for all of the Content Matrix Editions. This section explains what the configuration variable files are, their general behavior, and where to find them.

Configuration variables are contained in the following three files:

- **EnvironmentSettings.xml**

- **UserSettings.xml**

- **ApplicationSettings.xml**

Some settings can be configured for all Product Editions, while other settings are limited to individual Product Editions.

Any settings that are configured in multiple files will be scoped to the lowest level (either in the "UserSettings.xml" file or the "ApplicationSettings.xml" file), including values that are pulled from the old EnvironmentSettings.xml file.

> **IMPORTANT:** Make sure the Content Matrix Console is closed when making updates to configuration variable files.

EnvironmentSettings.xml File

This file allows users to configure general settings for all Product Editions. This means that these settings only need to be set in a single file, either for all users of the machine (if users are required to be local administrators) or for each individual user of the machine (if users are *not* required to be local administrators) and can be found in one of the following locations:

- If you are required to be a local administrator on the machine where Content Matrix is installed: C: \ProgramData\Metalogix

OR

- If you are *not* required to be a local administrator on the machine where Content Matrix is installed: C:\Users\<username>\AppData\Roaming\Metalogix\Common

UserSettings.xml File

This file allows users to configure general settings for all Product Editions for a specific user account (the logged in account). This means that these settings will be configured for all Product Editions, but only for the current user account. If another user would like to configure these same settings to work for them, they must be configured manually under the appropriate user account. It can be found in the following location:

C:\Users\<USER>\AppData\Roaming\Metalogix

ApplicationSettings.xml File

This file allows users to configure settings that are limited to the specific Product Edition of Content Matrix Console, for a specific user account (the logged in account). This means that each Product Edition, for every user account, must be configuredindividually. While the "ApplicationSettings.xml" file for each Product Edition can contain some of the same settings, there are some settings that are Edition specific (for example, some settings may only work for SharePoint Edition, so they will only be available in SharePoint Edition). Any settings that are replicated through various version of the file will only be applied to the specific Edition.

For example, the "AllowCheckResults" setting is available in every "ApplicationSettings.xml" file, but it must be set on an individual Product Edition basis. Setting it for SharePoint Edition will not configure it for Public Folder Edition. It can be found in the following location:

C:\Users\<USER>\AppData\Roaming\Metalogix\Content Matrix Console - <Product> Edition.

Client Side Configuration

For an individual Content Matrix Console instance, you can Change the Managed Metadata Migration Batch Size, and/or Configure Settings for Migrations Using the Import Pipeline.

Changing the Managed Metadata Migration Batch Size

In order to better handle operations that include the migration of Managed Metadata having a very large number of terms or keywords, Content Matrix separates migration operations into batches. This helps prevent timeouts during migration operations.

The default batch size is 50 terms, but this value can be changed through a parameter in the EnvironmentSettings.xml file.

To change the Managed Metadata Migration Batch Size:

In the EnvironmentSettings.xml file, navigate to the `MMDTermsBatchSize` entry and change its value to the desired batch size. The value must be a positive integer.

Configuration Settings for Migrations Using the Import Pipeline

Content Matrix has various XML properties that can be modified to fine-tune or help troubleshoot your Import Pipeline migrations. These properties can be found in the EnvironmentSettings.xml file.

NOTE: You can also contact Quest Support for assistance in identifying and resolving issues with migrations using the Import Pipeline. For a list of supported migration actions, see Objects and Actions Supported for Using the Import Pipeline.

Batch Size Settings

The following XML properties can optionally be modified. However, it is generally recommended to not modify these values unless you are encountering issues when migrating using the Import Pipeline.

UploadManagerBatchSizeItemThreshold

This key controls the maximum batch size in item count, including all folders and documents, to be used if Content Matrix will be submitting batches according to number of items. The default value is 200 and the value must be a positive integer.

```
<XmlableEntry>
<Key>UploadManagerBatchSizeItemThreshold</Key>
<Value>200</Value>
</XmlableEntry>
```

UploadManagerBatchSizeMBSizeThreshold

This key controls the maximum batch size to be used if Content Matrix will be submitting batches according to size. The default value is 1000 megabytes and the value must be a positive integer. The value should be set carefully, taking into consideration factors such as total upload bandwidth, speed of data retrieval from the source system, and so on.

```
<XmlableEntry>
<Key>UploadManagerBatchSizeMBSizeThreshold</Key>
<Value>1000</Value>
</XmlableEntry>
```

Batch Resubmission Settings

MaxAzureBatchRetryCount

This key controls the maximum number of times Content Matrix will resubmit the batch until it is successfully migrated. (The default value is 5.)

```
<XmlableEntry>
    <Key>MaxAzureBatchRetryCount</Key>
    <Value>5</Value>
</XmlableEntry>
```

ErrorMessagesForRetryAzureBatch

This key specifies [error conditions for which you want Content Matrix to resubmit a batch](#), when it normally would not.

> NOTE: Separate multiple error messages with a pipe character (|), as shown in the example below.

```
<XmlableEntry>
    <Key>ErrorMessagesForRetryAzureBatch</Key>
    <Value>Item does not exist|Object Reference Not Set</Value>
</XmlableEntry>
```

RetryBatchForCustomListWithVersions

By default, if you are migrating a batch that includes a list with a base type of CustomList (such as Announcements) and versioning is enabled, these lists are excluded from the resubmission, because duplicate items may be migrated to the target if the batch is resubmitted. You can choose to include these types of lists in resubmissions, however, by changing the value of the key RetryBatchForCustomListWithVersions from False to True.

> NOTE: If custom lists are being excluded from batch resubmissions and all items are not successfully migrated, you can migrate any outstanding items using [incremental migration](#).

```
<XmlableEntry>
    <Key>RetryBatchForCustomListWithVersions</Key>
    <Value>False</Value>
</XmlableEntry>
```

Performance Settings

BufferSizeForPipelineMigrationInMb

This key controls the buffer size while uploading files to Azure Storage Account Containers using the Import Pipeline. The default value is 64, which means, for example a 128 MB file will be uploaded in two parts, 64 MBs at a time. The lower buffer size, the more quickly the computer processor handles the information. Keep in mind that the higher the value, the more system resources will be consumed.

```
<XmlableEntry>
    <Key>BufferSizeForPipelineMigrationInMb</Key>
    <Value>64</Value>
</XmlableEntry>
```

MaxParallelUploadFilesInPipeline

This key controls the number of files uploaded in parallel to Azure Storage Account Containers when using the Import Pipeline. The default value is 2, which means a maximum of two files can be uploaded in parallel. Keep in mind that the higher the value, the more system resources will be consumed.

```
<XmlableEntry>
    <Key>MaxParallelUploadFilesInPipeline</Key>
    <Value>2</Value>
</XmlableEntry>
```

UploadManagerMaxRetryCountThresholdForJobResubmission

> **WARNING**: This value should not be changed unless absolutely necessary.

This key controls the amount of time to wait for a response from the reporting queue before re-requesting a migration job. This value is specified in multiples of 15 seconds, meaning that the default

value of 960 corresponds to 4 hours and the minimum value of 120 corresponds to 30 minutes. This value must be a positive integer greater than or equal to 120.

```
<XmlableEntry>
    <Key>UploadManagerMaxRetryCountThresholdForJobResubmission</Key>
    <Value>960</Value>
</XmlableEntry>
```

Temporary Storage Location

UploadManagerLocalTemporaryStorageLocation

This key indicates the directory in which the temporary binary files and manifest XML files for each batch are saved. If no filepath is specified, the default file path is used.

```
<XmlableEntry>
    <Key>UploadManagerLocalTemporaryStorageLocation</Key>
    <Value>C:\ProgramData\Metalogix\Temp folder sample</Value>
</XmlableEntry>
```

Changing Resource Utilization Settings

How many threads can be used simultaneously per job in Content Matrix is controlled by the **Edit Resource Utilization Settings** option, which is accessible from the Settings ribbon at the top of the Console UI.

If the option is clicked, a dialog containing a slider will appear that will allow control of the number of threads available within a single action. If the slider is moved all the way to the left, this will turn off multithreading and only allow a single thread to be used during the action. (For more information on threading, refer to the Microsoft article About Processes and Threads.)

NOTE: Turning off multithreading in this way can be a valuable way of troubleshooting whether multithreading is causing issues.

If the slider is left in the middle, it will allow twice the number of processors in threads to be created per action. For example, if the machine running Content Matrix has a two core CPU, four threads will be able to be used if the slider is in the below state:
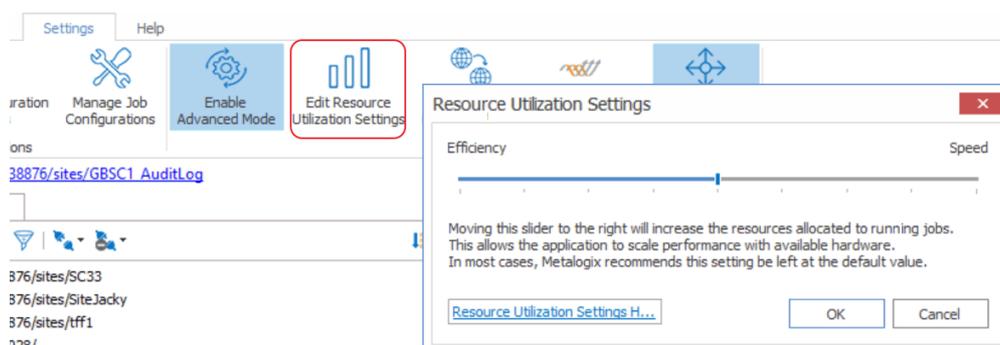
Moving the slider farther to the right will allow more threads to be used, but can potentially overwhelm system resources. This could lead to potential errors if the system resources cannot handle the data being migrated. There is a chance that if the speed is too high, you would see a slowdown in the overall migration, because the migration is trying to run actions faster than the resources properly

allow.

While this value can be set through the Content Matrix Console, you can also set it through the back end, if the UI setting does not seem to be working for you. Please contact [Quest Support](#) for more information on this back end setting.

Configuring Content Matrix for Distributed Migration

You can use **Distributed Migration** to significantly improve the time it takes to complete large migration jobs by distributing the workload efficiently across the resource pool. The distributed model enables parallel processing of migration jobs that reduces migration time, and enables higher utilization, better workload throughput and higher productivity from deployed resources.

The feature consist of a central Distributed Database and one or more Distributed Migration agents.

Distributed Migration Agents

Distributed Database
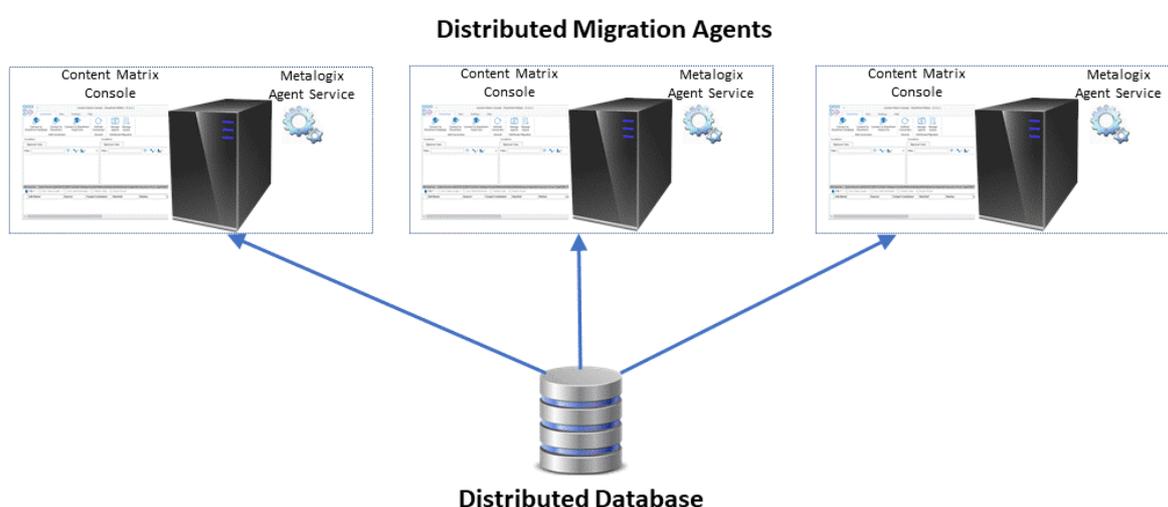
Distributed Migration Components

Distributed Migration relys on the following components:

Distributed Database

This is a SQL Server database that contains the repository or queue of migration job definitions which the agents can run. Distributed Migration agents share the same Distributed Database.

> NOTE: The Distributed Database cannot be a SQL CE database.

Agents

Agents are physical or virtual machines on which you can run migrations remotely. Installed on each agent are the Content Matrix Console and the Metalogix Agent Service, which handles job queuing and processing. Any available agent can pull a migration job that has been set to **Run Remotely** directly from the Distributed Database.

Any logging information is then be sent to the Distributed Database.

When an agent is running a migration job, any interaction with the agent, such as changing a configuration setting, is not recommended.

If Distributed Migration was configured prior to version 9.2:

To provide more efficient resource utilization, the Distributed Migration model was re-architected in version 9.2 to eliminate the use of a Controller to push jobs to agents. Instead, Distributed Migration uses a Windows Service that allows any available agent to pull a migration job that has been set to **Run Remotely** directly from the Distributed Database.

If you configured Distributed Migration prior to version 9.2, you will need to reconfigure each agent in order to continue using Distributed Migration and to run any migration jobs remotely.

Refer to the *Reconfiguring Distributed Migration After an Upgrade* guide for more information.

NOTE: You will notice after an upgrade that the **Configure Distributed Migration** and **Configure Self-Service** options no longer display in the Content Matrix Console ribbon (Self-Service Migration has been removed as of version 9.2) and the **Manage Agents** dialog is empty.

Important Note About Global Mappings and Environmental Settings

The first time that a connection is made to the Distributed Database, Global (Domain, Url, Guid, and User) Mappings and environmental settings are copied from the connecting user's local machine and used by all agents. With subsequent connections to the Distributed Database, a pop-up displays with the option to overwrite Mappings and local settings with those used by the currently-connecting user's machine.
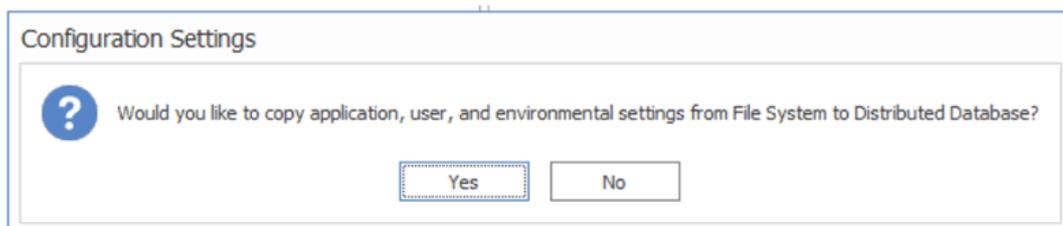
Global Mappings and settings can be copied from any machine that connects to the Distributed Database, even if it is not configured as an agent.

Distributed Migration System Requirements

Requirements for the Distributed Database

- The Distributed Database must use a Microsoft-supported SQL server.

- The Distributed Database can reside on any machine in network, provided that all agents have access to that machine.

- The Distributed Database should be created from the Content Matrix Console.

  NOTE: It is recommended that SQL Server Authentication be used to connect to the Distributed Database, as it will allow for cross-domain connections.

Requirements for an Agent Machine

- An agent machine or workstation should have 16 GB of free RAM.

  NOTE: An agent machine can be a physical or virtual machine.

- Microsoft .NET Framework 4.7.2 must be installed on the machine.

- The agent machine must meet all the prerequisites as specified in the *Content Matrix Console Advanced Installation Guide*.

- **If a migration job is using SP 2013 or later DB as a source connection, then users can only run jobs remotely on an agent that meets the connection requirements for the same DB version as the machine from which the migration is configured.** This means that the agent machines must either:

  - Have the same version of SharePoint installed on or be a SharePoint WFE for a comptible version.

  OR

  - Be a 64-bit machine that has no version of SharePoint installed on it.

- **Local Object Model (OM) connections to SharePoint are not supported when using Remote Agents.** - A Local OM connection to SharePoint can only be made when Content Matrix is installed on a machine that is running SharePoint (a SharePoint server or WFE). Since this type of connection can be made on the Host machine, but cannot be guaranteed to also be available on an agent machine, it is not a supported connection adapter for running migrations using remote Agents. For making **remote Object Model connections**, make sure the **Metalogix Extension Web Service (MEWS)** is installed on each agent machine.

Configuring Agents for Distributed Migration

Configuring an Agent for Distributed Migration consists of the following high-level tasks:

I. Install the latest version of Content Matrix then create and/or connect to the Distributed Database.

II. Copy the Agent Service installation files to the agent machine and install from a Command Prompt.

III. For the first agent, generate a unique security certificate for the Content Matrix Agent Service.

   NOTE: Once created on the first agent, the name of the certificate is stored in the Distributed Database and then it can be copied to other agents. (The same certificate needs to be used across all agents.)

IV. Install the Metalogix Agent Service, which

- installs the certificate to "My User Account" storage

- saves the certificate name to the Distributed Database

V. Start the Metalogix Agent Service.

Permission Requirements

The account used to configure agents for Distributed Migration must:

- be an **Administrator**

AND

- have permissions to **Log on as a Service** (via **Administrative Tools > Local Security Policy > User Rights Assignment**).

To install the latest version of Content Matrix then connect to the Distributed Database:

1. Log into the machine using an account that meets Permissions Requirements.

2. Download or copy the latest version of the Content Matrix installation kit to the machine.

3. Install the Content Matrix Console and the Metalogix Extension Web Service (MEWs). (See the *Content Matrix Advanced Installation Guide* for details.)

4. Open the Console and create/connect to the Distributed Database as follows:

   a) From the Job List, choose **File > Connect to Distributed Database**.
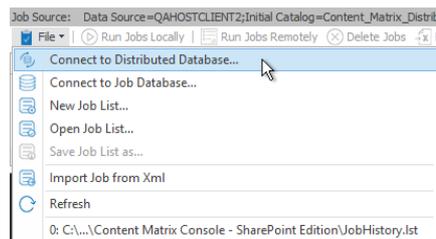
   b) Select the SQL Server and SQL Database you want to connect to.

   | NOTE: Remember to use the same Distributed Database for all agents in the "cluster."

   Whenever a machine connects to the Distributed Database, a pop-up will display with the option of copying User Mappings and other local machine settings to the database.

   CAUTION: If you are configuring multiple agents, remember that if you click **[Yes]**, any User Mappings and settings that already exist in the Distributed Database will be overwritten.

Configuration Settings

Would you like to copy application, user, and environmental settings from File System to Distributed Database?

Yes   No
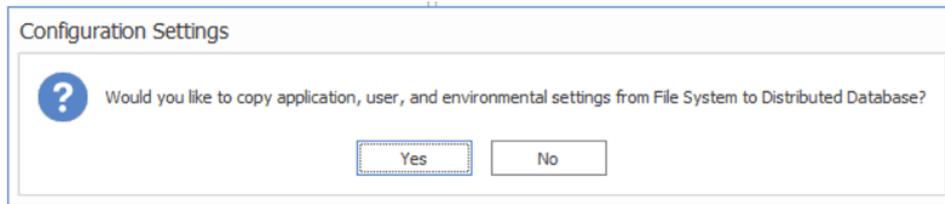
5. Close the Content Matrix Console.

To run the Agent Service application on the agent machine:

1. Copy the **ContentMatrixAgentService_[*version*].zip** file from the Content Matrix download folder and extract the files (a recommended location is C:\Program Files (x86)\Metalogix\Agent Service).

2. Either:

    *   navigate to the Agent Services folder and double-click Metalogix.Agent.exe

    OR

    *   open a Command Prompt and change the directory to point to Metalogix.Agent.exe.
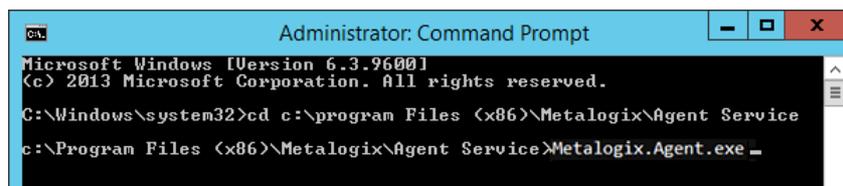
You will be provided with the following options:

*   Generate a Security Certificate for the Metalogix Agent Service

*   Install the Metalogix Agent Service

*   Uninstall the Metalogix Agent Service

For each option, you will be prompted to provide the required information. If a default value is provided, you can either press <Enter> to accept the default or manually override it.

NOTE: Alternatively, [you can configure agents by entering arguments manually](#).

To generate a self-signed certificate for agents:

NOTE: Create the certificate for the first agent *only,* then copy that certificate to additional agent machines. Make sure that the folder into which you are generating the certificate already exists.

Select the option `Generate a Security Certificate for the Metalogix Agent Service.`

You will be prompted to provide:

*   the certificate name

*   the certificate password

*   the path to the location to which the certificate will be generated

NOTES:

- When generating a certificate, there is no need to enter the file extension as it will be ignored.

- It is necessary to use double quotation marks (" ") to enclose:

    - a password that contains special characters

    - a file path that contains spaces

To install the Agent Service:

NOTE: If you have already created a self-signed certificate on the first agent, make sure it is copied to the other agent(s) *before* performing this procedure .

Select the option `Install the Metalogix Agent Service`.

You will be prompted for:

- the Administrator account (in the format domain\username).

- the Administrator account password

- the path to the location of the certificate

- the certificate password

NOTE: It is necessary to use double quotation marks (" ") to enclose:

- a password that contains special characters

- a file path that contains spaces.

To Start the Metalogix Agent Service:

1. Navigate to **Administrative Tools > Services > Metalogix Agent Service**.

2. Right-click and choose **Start**.

Configuring Agents by Entering Arguments Manually

As an alternative to using the Command Prompt interface to configure the Agent Service, you can enter arguments manually from a Command Prompt.

To copy the Agent Service installation files to the agent machine:

1. Copy the **ContentMatrixAgentService_[*version*].zip** file from the Content Matrix download folder and extract the files (the recommended location is C:\Program Files (x86)\Metalogix\Agent Service).

2. Open a Command Prompt using the **Run as Administrator** option.

3. Change the directory to point to the location containing the Agent Service files.
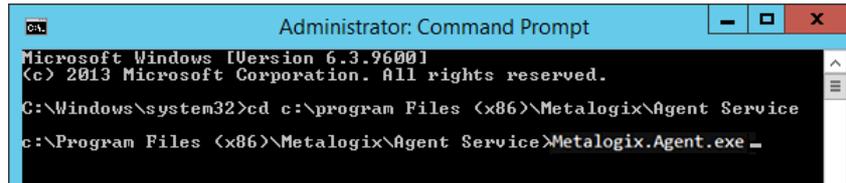
To generate a self-signed certificate for agents manually:

NOTE: Create the certificate for the first agent *only,* then copy that certificate to additional agent machines. Make sure that the folder into which you are generating the certificate already exists.

At the command prompt, use following command to generate a certificate:

```
Metalogix.Agent.exe --generateCertificate <certificateName> --
certificatePassword <certificatePassword> --path <certificatePath>
```

EXAMPLE:

```
Metalogix.Agent.exe --generateCertificate ContentMatrixAgentCertificate --
certificatePassword certPass --path "C:\Content Matrix Certificates"
```

NOTES:

- When generating a certificate, there is no need to enter the file extension as it will be ignored.

- It is necessary to use double quotation marks (" ") to enclose:

  - a password that contains special characters

  - a file path that contains spaces (as shown in the example above).

To install the Agent Service manually:

NOTE: If you have already created a self-signed certificate on the first agent, make sure it is copied to the other agent(s) *before* performing this procedure .

At the command prompt, use following command:

```
Metalogix.Agent.exe -i --user <domain\username> --password <password> --
certificatePath <certificatePath>\<certificateName.FileExtension> --
certificatePassword <certificatePassword>
```

EXAMPLE:

```
Metalogix.Agent.exe -i --user metalogix\Administrator --password
userPass# --CertificatePath "C:\Content Matrix
Certificates\ContentMatrixAgentCertificate.pfx" --certificatePassword
certPass
```

NOTE: It is necessary to use double quotation marks (" ") to enclose:

- a password that contains special characters

- a file path that contains spaces (as shown in the example above).

To Start the Metalogix Agent Service:

1. Navigate to **Administrative Tools > Services > Metalogix Agent Service**.

2. Right-click and choose **Start**.

Managing Agents

From any agent machine, you view, refresh and disable/enable agents.

NOTE: All agents connecting to the same Distributed Database must have the same version of Content Matrix installed.

To open the Manage Agents dialog:

From the Content Matrix Console ribbon, choose **Connection > Manage Agents**.

NOTE: If the machine is not connected to a configured Distributed Database, Manage options will be disabled.
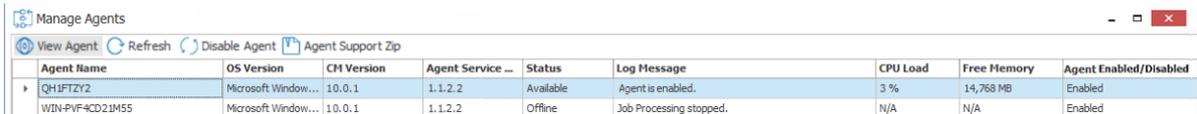
The Manage Agents dialog presents a toolbar with the following options:

- **View Agent** - Displays more information about a selected agent such as log history, and other pertinent information.
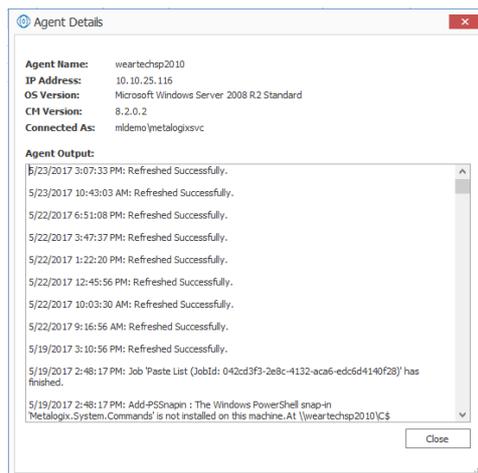
- **Refresh** - Displays the most recent status of a selected agent.

- **Enable/Disable Agent** - Allows/prevents the agent from pulling migration jobs from the Distributed Database.

    NOTE: If you want to uninstall the agent completely, use the procedure for Uninstalling a Distributed Migration Agent.

- **Agent Support Zip** - Generates a zip file containing logs that can be [sent to Quest Support for troubleshooting](#).

Generating an Agent Support Zip File

From the [Manage Agents](#) dialog, you can generate a zip file to send to Quest Support for troubleshooting purposes.

The contents of the zip file will vary, depending on which agent is selected in the grid.

If the agent selected in the grid is ...	Then ...
the local machine	the zip file will contain two files: • Distributed Database logs for the agent (AgentServiceDBLogs.txt) AND • event log entries for the local agent (AgentServiceEventLogs.txt).
a remote machine	the zip file will contain the Distributed Database logs file for the agent (AgentServiceDBLogs.txt) only. If you want to provide event logs for a remote agent, you will need to log onto that machine and generate a Support zip file from there.

To generate an Agent Support zip file:

1. Make sure the appropriate agent is selected in the grid.

2. From the Manage Agents toolbar, select **Agent Support Zip** and save the zip file to the desired location.

Send any zip files you generate to Quest Support.

Uninstalling an Agent

To uninstall an agent:

1. Log into the machine using an Administrator account.

2. Either:

   • navigate to the Agent Services folder and double-click Metalogix.Agent.exe

   OR

   • open a Command Prompt and change the directory to point to Metalogix.Agent.exe.
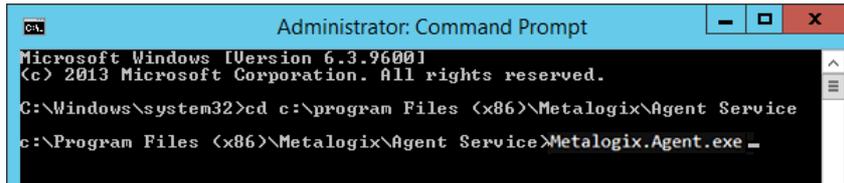
```
Administrator: Command Prompt                        _ □ x

Microsoft Windows [Version 6.3.9600]
(c) 2013 Microsoft Corporation. All rights reserved.

C:\Windows\system32>cd c:\program Files (x86)\Metalogix\Agent Service

c:\Program Files (x86)\Metalogix\Agent Service>Metalogix.Agent.exe _
```

3. Select **Uninstall the Metalogix Agent Service**.

4. After uninstalling the Agent Service, uninstall the Content Matrix Console.

Frequently Asked Questions

This section answers some of the most frequently asked questions about using Content Matrix.

DB_Owner Permission

Question

Are read and write permissions to the SharePoint content database sufficient for the **Metalogix Extensions Web Service** to perform migration?

Answer

As you may know, the **Metalogix Extensions Web Service** requires read and write permissions to the Content Database, according to a Microsoft KB article (http://support.microsoft.com/kb/935751). However, this is only a solution if you have encountered the message "**Unhandled Exception: system.IO.FileNotFoundException**" when using the SharePoint object model. We have found that few users have reported this issue, since the Web Service account is usually granted the sysadmin server role, which has complete control over all database functions.

After some internal testing we have determined that the Web Service installing account requires more than read and write permissions to function without database errors.

1. "**db_owner**" rights to the SharePoint Content Database is required.

   If the Web Service account does not have the db_owner right to the SharePoint Content Database, Content Matrix will not be able to migrate list items using the Web Service, and may receive one of the following errors:

   4/19/2010 7:13:53 PM Error copying list item: 1/1 (id: 1, title: Get Started with Windows SharePoint Services!): Service Error: [MLSPService could not add items: MLSPServiceMethods.AddListItems() Failed: Cannot open database "WSS_Content" requested by the login. The login failed.

   4/20/2010 10:21:01 AM Error copying list item: 1/2 (id: 1, title: Get Started with Windows SharePoint Services!): Service Error: [MLSPService could not add items: MLSPServiceMethods.AddListItems() Failed: Operation aborted (Exception from HRESULT: 0x80004004 (E_ABORT))

2. "**db_owner**" or "**WSS_Content_Application_Pools**" rights to the SharePoint Admin Content Database is required.

If the Web Service installing account does not have **db_owner** or **WSS_Content_Application_Pools** rights to the SharePoint_AdminContent, Content Matrix will not be able to create/paste site collections, and will receive an error.

With these cases in mind we have determined that the **Metalogix Extensions Web Service** account should be granter the **db_owner** permission rights, at a minimum, to allow Content Matrix to correctly migrate content to the target SharePoint instance.

Keyboard Shortcuts

Question

Are there any keyboard shortcuts in the Content Matrix Console? If so, what are they?

Answer

Yes, there are a few basic keyboard shortcuts within the Content Matrix Console. They are:

- **Ctrl + A** - This will **Select All** items within the **Items** view or in any of the logging sections (such as the **Job List** section or the **Log Viewer**).

- **Ctrl + C** - This will **Copy** any selected item(s) within Explorer view or Item view, including sites and lists. It will also copy any selected item(s) or information within the logging sections (such as the **Job List** section or the **Log Viewer**).

- **Ctrl + V** - This will **Paste** any selected item(s) within **Explorer** view or **Item** view, including sites and lists. It will also paste any selected item(s) or information within the logging sections (such as the **Job List** section or the **Log Viewer**).

- **Delete** - This will **Delete** any selected item(s). This applies to all views and items within Content Matrix.

- **Ctrl + P** - This will open the **Properties** dialog for any selected item in Content Matrix, in both the **Explorer** view and the **Items** view.

- **Ctrl + S** - This will open the **Save** dialog for the current Job list.

- **F2 key** - This will **Rename** any selected job list in the **Job List** in the main UI. Simply select the desired job list, in the **Job List** section, press **F2**, and type in the new name for the job list.

- **F5 key** - This will **Refresh** any selected node in the **Explorer** View. This is the same as using the **Refresh** node option in the context (right-click) menu.

Activating the License Key Silently

Question

I would like to activate my license outside of the Content Matrix Console. Is that possible?

Answer

You can activate your Content Matrix license using PowerShell. Follow the steps below.

> NOTE: This method can only be used for *online* activations.

1. Open the Content Matrix PowerShell Console.

2. Run the following cmdlet, which includes specifying the Content Matrix Console Edition for which you want to activate the license.

    ```
    if (Get-Command Set-MetalogixJobPrerequisites -ErrorAction
    SilentlyContinue){ Set-MetalogixJobPrerequisites -Value "Content Matrix
    Console - <Edition_name>" }
    ```

    > NOTE: Valid values for *<Edition Name>* are SharePoint Edition and Public Folder Edition. If you license covers more than one Edition, it is only necessary to activate one. The license activation will automatically be applied to any other Edition for which you are licensed.

3. Run the **Set-MetalogixLicense** cmdlet. Note that additional parameters are required if a proxy server is used.

    Without proxy server:

    ```
    Set-MetalogixLicense -Key "<license_key>"
    ```

    With proxy server:

    ```
    Set-MetalogixLicense -Key "<license_key>" -ServerUrl
    "<proxy_server_IP_addres>" -Port "<proxy_port_number>" -UserName
    "<user_account>" -Password "<password>"
    ```

    > NOTE: When entering the license key, include hyphens.

License Key Troubleshooting

Question

I have been unable to get Content Matrix to recognize my license key. When I copy and paste it into the box, I get a "the specified license key is invalid" error.

Answer

Here are some things to check:

- Make sure that the license covers the product edition. (For example, if you are licensed for SharePoint Edition and try to activate the license for Public Folder Edition, the invalid error will display.)

- Confirm that the license you are installing is for the correct application versions of Content Matrix. Contact Quest to verify that it is.

- When performing an offline key activation, make sure to enter the long key in its entirety, including the "=" symbol at the end of it.

- Verify that you have write privileges to the registry. The installer will fail if the registry is locked. In some cases there may be a group policy that is preventing the user from adding the key in the registry, despite the user having the correct permissions.

- Some versions of Windows will automatically block write access to the registry under the user account, even if that account has write access to the registry. In this case you can go to the application installation folder, right click on the application .exe file, and choose 'Run as Administrator'. Then re-enter the license key.

Errors Connecting to SharePoint 2019 or SharePoint Server Subscription Edition in a FIPS-Enabled Environment

Question

Why am I getting an error when I try to connect to SharePoint 2019 or SharePoint Server Subscription Edition in a FIPS-enabled environment?

Answer

Content Matrix uses some assemblies for FIPS compliance that are not supported for certain SharePoint 2019 and SharePoint Server Subscription Edition connections.

For a remote object model (MEWS) connection (displays for the top node) for SharePoint 2019:

Client found response content type of 'text/html; charset=utf-8', but expected 'text/xml'. The request failed with the error message: -- <!DOCTYPE html> <html>

For a local object model (OM) connection (displays at the item level for SharePoint 2019 and SharePoint Server Subscription Edition):

The type initializer for 'Microsoft.SharePoint.ApplicationRuntime.SPRequestModule' threw an exception

In addition, errors will display in Browser View and Items View.

The workaround for SharePoint 2019 is to connect using a SharePoint Database connection. You will not, however, also be able to make an [external server connection](#).

For SharePoint Server Subscription Edition, you can connect using a database or remote object model (MEWS) connection.

Determining the Status of a Migration Running in the Background

Question

Is there a way to determine what the status is for a migration that is running in the background?

Answer

Yes, this can be done. This is more of a workaround method that should achieve the same results.

For this method to work users must create a new batch file for the job list, and store it in a commonly accessible area on the file system. Give this job list the same name as the one that is, or will be, running in the background. After the main job is running in the background, the new job file can be opened in any users instance of Content Matrix. When the new job is opened, users will be given a snapshot view of the job in progress (this is not a real-time update).

For example, let's say that a job file called "Big Job" is running in the background, and another user wants to determine the progress for this job. They would create a new Job file, and call it "Big Job" to match the existing (running) job and then place that file in a commonly accessible area on the file system. Next, they would open this new job file (the copy) in their instance of Content Matrix. This should give the user a snapshot view of the original "Big Job" migration, in process, as it continues to run in the background.

Users can use this method to quickly determine how far along the migration is, and it's status.

MySite and User Profile Migration Issues

Question

I am having issues migrating **MySites**, more specifically the **User Profiles** that are associated with **MySites**. What could be causing this issue, and is there a solution for it?

Answer

In most cases Content Matrix can migrate **MySites** along with the **User Profile** data, however, there are cases in which this data may have trouble migrating across.

MySites can use one of four possible naming conventions in the **MySite** host, and these naming conventions can affect how **MySite** and **User Profile** data can be returned. These naming conventions are:

- **Domain_Username** - This naming convention requires that the **MySite** name needs to be specified as the same name for the user who it belongs to. The **Domain_Username** format is used to name the **MySite**. For example if user User_1 had a MySite, the **MySite** would be named User_1.

- **Unknown** - The naming convention for this type is an unknown format. As a result all Content Matrix can return is the information we get from the SharePoint Object Model (OM). This format is returned if end users have modified the naming convention to a custom format. This is usually the naming convention that causes the most issues.

- **Username_CollisionsDomain** - This naming convention uses a User name format (and not a **Domain_Username** format). When migrating **MySites**, Content Matrix will use the **Domain_Username** format if a **MySite** with the User name (under the User name format) already exists.

- **Username_CollisionError** - This naming convention will be used if the **Username_CollisionsDomain** format is being used and an exception is thrown because a site with the same user name already exists.

In the case of the Unknown naming format, Content Matrix may not be able to preserve the naming convention, in which case the migration of the **MySite** should fail.

In this type of situation there is a workaround method that users can use. Instead of migrating the **MySite** as a **MySite**, you can migrate it as a regular SharePoint site collection (to any target location). Once this is done you can then manually link the **User Profile** to the appropriate site collection or site.

Optimal Setup for Best Performance Migrating SharePoint On Premises

Question

What is the optimal setup for best performance for Content Matrix?

Answer

The optimal setup for performance with Content Matrix is to have the application itself installed on the target server, and the **Metalogix Extensions Web Service (MEWS)** installed on the source server. Then use a **SharePoint Database (DB)** connection to connect to the source. The **Metalogix Extensions Web Service** would not need to be installed on the target since the application itself would be installed, allowing for a direct connection to the **SharePoint Object Model (OM)**.

There are a few trade-offs for using the DB connection for the source. In these cases you will be limited with: no write access, no server level connections or actions, and the potential to run into issues when dealing with custom site templates. If these are trade-offs that you are not willing to deal with then it is recommended to connect to the source using a **Metalogix Extensions Web Service** connection.

The main issue that can cause slowdown with the Content Matrix Console is copying file structure. If the content that is being migrated contains a large file structure the migration will go slower because Content Matrix will try to recreate this structure.

For example, if we have two sites that contain the same amount of data, Site A and Site B, and Site A uses a more complex file structure than Site B, the migration of Site A will run slower then the migration of Site B. Even though these sites contain the same amount of data Content Matrix will require more time to recreate the complicated structure of Site A, resulting in Site B finishing it's migration first.

Using Proxies, Load Balancing or Alternate Access Mappings

Question

How does Content Matrix deal with environments that use proxies, load balancing and/or alternate access mappings (AAM)?

Answer

Content Matrix Console should not run into any issues with these three things. Content Matrix uses the **Metalogix Extensions Web Service (MEWS)**, which deploys over a whole farm and functions identically to a regular SharePoint web service. SharePoint web service's get the benefits of IIS redirection, proxy pushing, and anything else that SharePoint can utilize, such as **Alternate Access Mappings (AAM)**. Since the **Metalogix Extensions Web Service** acts the same as a SharePoint web service it also gets all of these benefits.

In the case for load balanced environments the **Metalogix Extensions Web Service** would need to be deployed through the target side SharePoint farm. When the Web Service is installed it automatically

gets deployed to all the SharePoint instances within that farm, as a SharePoint solution. Once the Web Service is installed on the target server, then load balancing should no longer be an issue.

There are, however, some cases where proxy settings may not work correctly by default. In these cases it is possible to set some specific proxy settings for the specified connection. Please see the Configuring Proxy Settings page for more details.

Extensions Web Service Installation Files

Question

Before I can install the **Metalogix SharePoint Extensions Web Service** I need to know specifically what files are installed, and where. Can this information be provided?

Answer

Yes, we can provide some information on what files are installed.

The **Metalogix Extensions Web Service** installs as a SharePoint solution (.WSP file) that is automatically deployed by the Web Service installer, and pushed out to all Web Front Ends (WFE's) in the farm. Inside the solution file are the necessary files for the Web Service. These files are:

- An **ASMX** file and two **ASPX** files, which are put in the SharePoint hive. These three files will be listed under a folder that is added for that specific version of the Web Service. For example, three files will be listed under: C:\Program Files\Common Files\Microsoft shared\Web Server Extensions\[hive_number]\ISAPI\ML\[version_number]

- A **DLL** file, which gets deployed to the **Global Assembly Cache (GAC)**.

After installation the **Metalogix Extensions Web Service** sits idle on the server until requests are made to it, by the Content Matrix client. For more information about the **Metalogix Extensions Web Service**, please see the **Installing the Metalogix Extensions Web Service** in the *Content Matrix Advanced Installation Guide*.

Migrating JavaScript

Question

Can I use Content Matrix to migrate JavaScript content from my source to my target SharePoint server?

Answer

It is possible to migrate some JavaScript using Content Matrix, depending on the type of JavaScript being migrated. If the JavaScript from the source is embedded in a **Content Editor Web Part**, or embedded in a **publishing page** (in a pages library), it should be migrated the same as other SharePoint content. If the JavaScript is not embedded in either of these, then it will not be migrated with Content Matrix. JavaScript can only be migrated into SharePoint, in locations that SharePoint itself will allow JavaScript to be manually added (in web parts and publishing pages).

There are two things to keep in mind if migrating JavaScript that is embedded in web parts or publishing pages. The first is that any links in the JavaScript will not be corrected. This is because the links are also embedded in the content, so they would not be picked up as part of the link correction process. These links must be manually corrected. In order for Content Matrix to correct these links it would have to edit the actual contents of the web part or publishing page, and this is something we try to avoid.

The second thing to keep in mind is that if the **Reattach Publishing Page** Layouts check-box is selected any customizations for the page (including JavaScript and any other customizations) will be lost.

Migrating Site Variations

Question

Can Content Matrix migrate site variations?

Answer

Yes, Content Matrix does have the ability to migrate SharePoint site variations. In order for site variations to correctly migrate the **Site Variation** feature must be enabled on the target SharePoint environment before the migration. When the site content is migrated using Content Matrix, the content is copied into the target location, and it is actually the SharePoint API that creates the site variations.

If there are any special variation configurations on the source content, these configurations would need to be recreated on the target environment prior to migration.

Migrating with SharePoint Document IDs

Question

What is the difference between SharePoint 2007 document IDs, and the SharePoint 2010 and later Document ID feature? And what is the difference between the various ID preservation options that are available in the **List Content Options** tab in the **Configure Copy Options** dialog?

Answer

There are three types of ID's that can be preserved when migrating content in Content. Each of these ID types has its own check-box option on the **List Content Options** tab in the **Configure Copy Options** dialog. A breakdown of each of these ID types and their available migration options is below:

- **SharePoint List Item IDs** - These are IDs on SharePoint List items and folders. SharePoint lists can contain items and folders, and these items and folders are a collection of data that is strictly in SharePoint (meaning that there are no actual documents, such as DOC files, CSV files, etc.). The IDs for SharePoint List content are contained in an ID field in the list metadata, and these ID values are used by SharePoint to differentiate (as a unique identifier) all of the items and folders in the list. The values are incremented whenever a new item is added to the list.

    These types of IDs can be preserved when migrating content, as long as there is an Object Model (OM) connection to the target (either through a Local connection, or the use of the **Metalogix Extensions Web Service**), and the Preserve IDs on items/folders in Lists option is selected.

- **SharePoint Document Library Item IDs** - These are IDs on SharePoint Document Library documents and folders. Document Libraries and folders use the document's filename (and path) as the unique identifier, however, there is still an ID value for each document. This ID value is instead used to help with document ordering in most cases, although it can be set up as a unique identifier as well. The values for this data are contained in an ID column, and the values will increment when a new document is added to the document library.

    These types of IDs can be preserved using the Preserve IDs on items/folders in Document Libraries option, however, this action is not normally available, and requires some special configuration before it can be used. This option is mainly for use if performing incremental copies of document libraries. If this option is not used then SharePoint itself will automatically assign this value. For more information on how to enable this option, please contact Quest Support.

- **Document ID Service** - The use of these types of IDs started with SharePoint 2010, and are only available if the Document ID Service feature is enables at the Site Collection level. These ID values are a little different because these IDs can be directly linked to documents and document sets in SharePoint. The benefit of this is that it creates a URL for that specific document or document set, and that URL can always be used to directly access that document no matter where it is moved to within the Site Collection (because it uses the document ID in the URL instead of giving a file path). The values for this type of ID are contained in the Document ID column. For more information on the SharePoint Document ID feature please see the following MSDN article: http://msdn.microsoft.com/en-us/library/ee559302.aspx.

    These types of IDs can be preserved by using the **Preserve SharePoint Document IDs (Requires SharePoint Crawl)** option. This option is only available when migrating from SharePoint 2010 or later sources into SharePoint or later target environments (any SharePoint connection adapters can be used). In order for the Preserve SharePoint Document IDs option to work the Document ID Service feature must be activated on the target Site Collection before migration.

    When this option is used the migrated documents or document sets will use the same ID value on the target as they had on the source. However, because the ID value might not conform to the target Site Collection's Document ID standard, the URL for the document or document set will not immediately work on the target (the URL would still work on the source). In order for this URL

value to work in the target environment users must run a **SharePoint Crawl** action on the target web application. After performing the crawl the Site Collection will be able to find the document or document set based on the URL using the ID value. Any old links that incorporate the ID value for the migrated document or document set will work, provided link correction has also been used.

NOTE: If content is migrated to the target, and this Document ID is preserved, but there are also documents that already exist within the Site Collection, and two or more of these documents or document sets use the same ID value, then when the the link is used SharePoint will open a Search results page, and display all of the documents or document sets that use this same ID. Users can then select the specific document or document sets they are trying to access.

If the **Preserve SharePoint Document IDs (Requires SharePoint Crawl)** option is not used, the migrated documents or document sets will automatically be assigned a new Document ID value by the target Site Collection, the same as if the document or document set has been manually uploaded. This means that the document or document set will get a new URL containing its new Document ID value, and the links for these Document IDs can be used immediately.

SPECIAL CASE: When documents or document sets are migrated into a SharePoint 2010 or later site collection with the **Document ID Service** feature disabled, some of the documents or document sets will still have their source **Document ID** value and **Document ID URL**. This happens when the documents or document sets that are being migrated contain some specific metadata that SharePoint will automatically push into these columns. This most often happens with certain file types, like DOCX files and other Microsoft file types. If connected to the target SharePoint 2010 or later environment using the Object Model (OM), via a **Local** connection or the **Metalogix Extensions Web Service**, then users can use the **Disable SharePoint Document Parsing** option (located in the **List Content Options** tab in the **Configuration Copying** Options dialog), and this should cause Content Matrix to no longer read these fields when migrating the documents or document sets.

Changing a Job Configuration for Multiple Files

Question

Is it possible to change the configuration for multiple job files at one time in the **Job List** section of Content Matrix?

Answer

Yes, this is possible. Most users will only need to change the configuration of a single job in the **Job List** section, but it is possible to change the configuration for multiple jobs at one time.

In order to modify the configuration for multiple job files at one, select all of the jobs in the **Job List** section. Once all of the desired jobs are selected there are two methods that can be used to access the configuration dialog. The first is to click the **Change Configuration** button at the top of the **Job List**, and the second method is to open the context (right-click) menu, and select the **Change configuration for selected jobs** option.

The behavior for changing the configuration of multiple files at once changes slightly depending on the version of Content Matrix Console that is being used.

Behavior in Versions 6.1.00 and Later

When changing the configuration for multiple files that use the same type of action at once, only settings that are changed during the re-configuration will be pushed into all of the selected jobs. This means that even if all of the jobs contain different settings, they will all still contain these different settings after the configurations have been modified. Only the settings that were re-configured will be changed (to whatever setting they were changed to).

Let's look at the example of three "Paste Site" jobs that are previously configured, and each has a different **Rename** action applied to it as well as a few various other differences in selected options. When the **Change Configuration** is applied to all three at once, only the settings that were reconfigured will be affected. So if the web part options were changed, then those options will be applied to all three jobs, but each will still retain their original **Rename** setting, and any other settings that were configured even if there are differences.

Behavior in Versions 6.0.0201 and Earlier

When changing the configuration for multiple files that use the same type of action at once, all of the selected files will have the options for the first job in the **Job List** section pushed into them, regardless of any other setting the previously used. Basically, all of the jobs after the first select job in the **Job List** will be modified to use all of the settings from the **Change Configuration** dialog.

Let's look at the example of three "Paste Site" jobs that are previously configured, and each has a different **Rename** action applied to it as well as a few various other differences in selected options. When the **Change Configuration** is applied to all three at once, all of the configuration options that are set for the first of the selected jobs in the **Job List** will be pushed to the two remaining jobs. These two remaining jobs would then use all of the exact same configuration options as the first job, including the values for the rename options. Any of the previous settings for the two remaining jobs would be lost (because they are replaced with the first jobs configuration options).

SharePoint 2013 and Later Site Collection Creation Issue

Question

I have been trying to create a new Site Collection in SharePoint 2013 or later through Content Matrix but I have been encountering issues. Why is this happening? and what can I do about it?

Answer

Starting with SharePoint 2013, most web applications use **claims** authentication, but the Central Administration web application that manages the server **level settings** uses Classic authentication. When

Content Matrix Console connects to a SharePoint server it has to authenticate through a web application. When connected to a SharePoint 2013 or later web application that uses Claims authentication, SharePoint itself can have trouble recognizing that the accessing User account has permissions in the web application areas that are managed by **Classic** authentication. This is also true if connected to a web application that uses **Classic** authentication, if trying to access an area managed by **Claims** authentication.

In SharePoint 2013 and later, the permissions to create Site Collections is managed by **Classic** authentication, so if connected through a **Claims** authentication web application users will receive a "401 Unauthorized" error message when trying to create a new Site Collection. This happens even if the user account has all of the appropriate permissions. If connecting through a **Classic** authentication web application, users will receive permission errors when trying to set any settings on a Site Collection that uses a Claims authentication web application, after the Site Collection is created.

> From internal testing, we have determined that SharePoint 2013 or later connections that use the Local Object Model connection will not run into this issue. This is because the Local OM connection type does not run authentication through IIS, which appears to be a trigger point for the authentication issues.
>
> From testing we have also determined that you are still able to create SharePoint 2013 or later Site Collections when using the Remote OM connection type, but in order to do this Content Matrix Console must elevate your permissions for the creation step. Before elevating any credentials, Content Matrix Console will run a preliminary check to ensure the migrating user has enough permissions initially to be able to use the elevated Site Collection creation. In order for these elevated permissions to be used, the migrating user account must explicitly (by name) have "Full Control" permissions on the **Web Application** that the Site Collection is being created on.
>
> In the Remote OM connection case users can also create a Site Collection within any **web application** if they are a member of the **Farm Administrator** group in SharePoint **and** they are connected to **Central Administration** as a farm connection.

Possible Errors when Creating Site Collection in SharePoint 2013 or later

Below is a list of errors (and their explanations) that you might encounter when trying to create Site Collections in SharePoint through Content Matrix Console.

- **Error Message 1** - Unable to obtain Web Application '<web application name>'.
  Explanation/Resolution - Content Matrix is unable to find the web application. This should not occur unless a serious issue within SharePoint has occurred from the time the Site Collection configuration dialog was displayed, and the call to the **Metalogix Extensions Web Service** (for remote OM connections) was made to perform the Site Collection creation. Check your SharePoint environment, and resolve any issues. Then try again.

- **Error Message2** - Migrating user '<migrating user>' requires explicit Full Control on the web application where the site collection is intented to be created. If the migrating user is a member of the Farm Administrators group then connect to the Central Administration site and try again.

  Explanation/Resolution - The migrating user has read permissions on the web application (using a farm or web connection type) that they're connected to, but does not have full control on the web application that they are trying to create the Site Collection in. To resolve this, the migrating user account must be added explicitly (by name) with **Full Control** to the respective Web Application that they are trying to create the site collection in. They can also create a Site Collection within any web application if they are a member of the **Farm Administrator** group in SharePoint, and they are connected to Central Administration as a farm connection.

Customized Wiki Page Web Part Zones Not Being Migrated

Question

Why is it that when I migrate a wiki page that has been modified using SharePoint Designer (SPD), web part zones and web parts are not preserved on the target?

Answer

To be able to migrate web part zones and web parts that were added using SPD:

- the SharePoint source version and the source connection type must support customized wiki page migration

AND

- the Configuration Key `AllowCustomizedWikiPageMigration` in the [ApplicationSettings.xml file](#) must be set to **True**.

Supported Source SharePoint Versions and Connection Types

You can migrate custom web part zones and web parts added using SPD for the following SharePoint versions and connection types on the source.

Supported Source Version	Supported Source Connection Types
SharePoint 2007	- Remote Object Model (MEWS)
SharePoint 2010	- Database (Db)
SharePoint 2013	- Local Object Model (OM) - Remote Object Model (MEWS)

	• Database (Db)

NOTE: Currently, customized wiki page migration is not supported for a SharePoint 2016 or SharePoint 2019 source.

Adding a Configuration Key to Allow Customized WikiPage Migration

If you want to migrate Customized wiki pages instead of treating them as normal wiki pages for which source content will not be preserved at the target after migration, you can add the Configuration Key `AllowCustomizedWikiPageMigration` to the [ApplicationSettings.xml file](#) manually (ideally after the Configuration Key `EnableSslForEmail`) and set the value to **True**.

Preserving SharePoint List Item IDs When Migrating to SharePoint Online

Question

Is it possible to Preserve SharePoint list item IDs when migrating to SharePoint Online?

Answer

Yes, it is possible to preserve SharePoint list item IDs when migrating content to a SharePoint Online target.

Item IDs and Document IDs are a little different in SharePoint (not the SharePoint 2010 or 2013 Document ID feature), and this means that how they can be accessed through a CSOM connection is a little different. There are some limitations that can be encountered when trying to preserve Item IDs that are dependent on the connection type. There are three basic connection types that we need to keep in mind when looking at these limitations. They are:

- **Local or Remote OM (Object Model) Connection** - This connection type is made either when the Content Matrix Console client application is installed directly on the target SharePoint server, or a remote connection is made using the **Metalogix Extensions Web Service**. When this type of connection is made, Content Matrix will be able to directly set the list item ID value in SharePoint through the Object Model. This value can be set as long as that specific value is not already being used by another list item.

- **SharePoint CSOM (Client Side Object Model) or Microsoft 365 Tenant Connection** - This connection type is made when remotely connecting to a SharePoint Online environment. When connected to SharePoint Online using a CSOM connection, Content Matrix cannot directly set the list item ID value so another method must be used instead. The CSOM method for preserving the list item ID value is for Content Matrix to create a temporary item and then deleting it. This creation and deletion process is done in batches and each item that is added will increment the ID value by 1. This will continue until the Content Matrix reaches the necessary item ID value. If the target ID value is already in use, or if another item with a higher ID value exists in the list, then the item(s) will be added to the end of the target list (and not at its ID value). There are a few limitations to this method:

  o **Older items that are placed into newer folders** - The general case for this is if an older item, that has a lower ID number value is moved and placed into a folder that was more recently created (and has a higher ID number value). In this case, the items with the lower ID number values will be added after the folder is created, so their ID number values will not be preserved. For example, if a list item with an ID value of "12" is moved into a folder, and the folder has an ID value of "25". In this case the ID value for the item will not be preserved because the folder it is located in will not be created until ID 25 is created. So Content Matrix will hold onto the item until the folder is created and then add it, but because the item ID has already been passed, its value cannot be preserved, and it will be given a new value by SharePoint after all other items have been added.

  o **Lists containing default data** - The general case for this scenario is when a SharePoint list (and not a Document Library) is created and SharePoint automatically adds a number of items (one or multiple) by default into that list. The default items that are created by SharePoint will also automatically be assigned an item ID value by SharePoint. When migrating this type of list their data will be deleted before the source content is migrated. The default added items will have ID values associated with them, and when the items are deleted those ID values will no longer be available, and Content Matrix won't be able to track what the values were associated to. This can interfere with the ID value calculations that are made, and throw off the ID values that are being

set during migration.

The most common place where users can see default list items created is when an "Announcements" list is created. Announcement list that are created by SharePoint will automatically create one item by default that is the "Welcome" message. However, when migrating with Content Matrix and using the override option, users should not see this issue with Announcement lists because Content Matrix will delete the list that is created by the site template, and create a new one. When the new list is created Content Matrix is able to add the list items directly, and allows for the list item ID value to be set in the process. This is more likely to be an issue with SharePoint lists that have had their template modified to automatically generate a set of default items.

NOTE: When migrating SharePoint Task lists to SharePoint Online, it is recommended that the Preserve IDs on items/folders in Lists option is selected. This is to help preserve the Related Items property for items in the Task list. If unchecked there is a small chance that the Related Items property may list incorrect files, because some of these files may be referred to through the Item ID value.

Retrying Failed Document Copies to SharePoint Online CSOM Connections

Question

When I try to migrate some of my content into Microsoft 365 using a SharePoint CSOM or Microsoft 365 Tenant connection type, and this content contains a large Document Library, I see that some of my documents fail to migrate. The logs for the failure indicate that a "HTTP 500 - Internal Server Error" was thrown. What is the cause of this? And how can I fix it?

Answer

There is a potential issue when migrating specifically to SharePoint Online where users can encounter an "HTTP 500" error. This is caused by a combination of the CSOM/Tenant connection adapter and SharePoint's document upload methods. To help resolve this issue there is a document retry feature that can be configured. This retry feature will attempt to upload the document(s) into the SharePoint Online target, and depending on the configured setting, will attempt to retry the upload process if it fails or times-out on the initial try.

The below steps will explain how to enable and configure this retry setting.

NOTE: This retry method is only meant for migrating to SharePoint Online targets. If you are migrating to an on premises target, then this retry feature will not benefit you since it makes use of Microsoft 365 specific methods.

1. Make sure that the Content Matrix client application is closed.

2. In the file system that the Content Matrix Console client application is installed on, navigate to the the appropriate file location:

- If you *are* required to be a local administrator on the machine where Content Matrix is installed: C:\ProgramData\Metalogix

OR

- If you are *not* required to be a local administrator on the machine where Content Matrix is installed: C:\Users\<username>\AppData\Roaming\Metalogix\Common

3. In this location there should be an **EnvironmentSettings.xml** file. Open this file in an editor program. For example, Notepad, etc.

4. There are two variables that will need to be modified in order for the retry method to work. They are:

- **CSOMDocumentRetriesNumber** - This value determines the number of times that Content Matrix will make another attempt to upload/migrate any document(s) that has failed the initial document upload try, when migrating to a SharePoint Online CSOM target.

- **CSOMDocumentRetriesDelay** - This value determines the amount of time, in seconds (s), that Content Matrix will wait before starting a document upload retry, and is based on the above ("CSOMDocumentRetriesNumber") variable.

  NOTE: The default values for these two variables will be set as "0". Users can set these values as desired, based on what works best for their environment.

5. After the desired values have been entered in the two variables, save and close the file.

6. Restart the Content Matrix client application. The changes should now be in Content Matrix Console, and used when running any migration to a SharePoint Online target environment.

After these values have been set and the client application has been restarted, any documents that fail on the initial migration attempt we be retried.

IMPORTANT: If these steps do not resolve the issue and you are using the Import Pipeline for the migration, the error may be pipeline-related. See "Error, the batch will be resubmitted" Message Displays When Using the Import Pipeline for details.

Import Pipeline Batches Getting Stuck

Question

I am migrating some content using the **Import Pipeline**. After some time the batches seem to simply stop. Why am I facing this issue?

Answer

Migration duration and overall performance using the the **Import Pipeline** may vary due to factors outside the control of Content Matrix. Migration processing resides within Microsoft's domain and is subject to Microsoft's internal processes, such as maintenance and upgrades.

You may experience a delay of several hours before batch completion if the machines that Microsoft uses undergo maintenance/upgrades or if there are Microsoft 365 service issues/outages (as can be seen in the Microsoft 365 Admin Center under **Service Health**).

Migrating Content When the Source Custom List Template is Missing

Question

I have a list on my source that uses a custom list template (ex. a "Fab 40" list) and I want to migrate that list to my new target SharePoint environment. However, I am unable to install that template on my target before migration. How will Content Matrix deal with this?

Answer

If at all possible, it is recommended that users install any custom list templates on the target environment before migration. That would allow Content Matrix to use those templates when migrating, and trying to reproduce the same results on the target. But there are some customizations within templates that Content Matrix is unable to migrate content or metadata into, such as the "Fab 40" templates.

In some cases users are unable to install the custom templates in the target environment, such as when migrating to Microsoft 365. In these cases Content Matrix will attempt to find the base template of the source customized list. Then it will create a list on the target using that same base template, and migrate the content into that list.

To help with this two variables have been added to the list XML attributes. They are:

- **BaseTemplate** - This is the value for the custom list template.

- **BaseType** - This is the value for the default template that any custom template is based on. If the custom template does not exist on the target, this template will be used for the list creation instead. Please see http://msdn.microsoft.com/en-us/library/microsoft.sharepoint.client.basetype(v=office.14).aspx for more information on the SharePoint BaseType value.

These variables will help Content Matrix determine which base template to use so that an "Issue Tracking" list won't be created in a case where it should be a "Custom List" template.

Let's look at an example where you have a custom list on the source, and that list has a BaseTemplate value of "1011", a BaseType of "0", and has not been installed on the target. In this case, Content Matrix will look at the source list and find the BaseTemplate value of 1011. It will then look on the target to see if there is a template that has the same value. If it finds one, then Content Matrix will create a list with that template and migrate the data over. But, if the BaseTemplate value is not found on the target, then Content Matrix will look at the BaseType value instead, since this value should exist by default in the target SharePoint environment. In this example we also happen to know that a BaseType value of "0" is a "Custom List" or "Generic List" type. So Content Matrix will create a list on the target, using the "Custom List" template, and will then migrate the source data into that custom list.

When Migrating to SharePoint Online HTTP Status Code 429 ("Too many requests") or 503 ("Server Too Busy") Message Returned

Question

When migrating to SharePoint Online, why do I receive one or both of the following messages?

- 429 ("Too many requests")

- 503 ("Server Too Busy")

Answer

SharePoint Online uses throttling to maintain optimal performance and reliability of the SharePoint Online service.

As of version 9.8, Content Matrix has incorporated the use of RateLimit headers developed by Microsoft to reduce throttling.

Refer to the Microsoft article [Avoid getting throttled or blocked in SharePoint Online](#) for a description of RateLimit headers and additional tips on how to avoid throttling.

How Do I Identify and Remove Containers and Queues from My Azure Private Storage Account?

Question

I am running out of storage space in my Azure private storage account. How do I remove containers and queues created by Content Matrix to free up space for more migration actions?

Answer

While you can use the Microsoft Azure Storage Explorer UI to delete items individually, you can use Azure PowerShell commands to simultaneously remove all containers or queues that were created on the same date. A prerequisite to removing multiple containers and queues is that Azure PowerShell must be installed and configured. Refer to the [Microsoft Azure PowerShell documentation](#) for installation instructions and general information about Azure PowerShell Cmdlets.

Naming Conventions

Beginning in version 9.3, Content Matrix uses naming conventions that allow you to easily identify containers and queues created by Content Matrix during migration using the Import Pipeline.

File Type	Naming Convention
Blob Container (per SharePoint list)	YYYYMMDD-<List Internal Name>-<GUID>-<blob>. EXAMPLE: 20200929-shreddocumentt-f0da9f001d3b450cb36ad9e9ecae219f-blob
Metadata Container (per Import Pipeline job)	YYYYMMDD-<List Internal Name>-<GUID>-<Batch number in XXX format> EXAMPLE: 20200929-shreddocumentt-f0da9f001d3b450cb36ad9e9ecae219f-001
Reporting Queue (per Import Pipeline job)	YYYYMMDD-<List Internal Name>-<GUID>-<Batch number in XXX format> EXAMPLE: 20200929-shreddocumentt-f0da9f001d3b450cb36ad9e9ecae219f-001

To remove items from your Azure blob storage account using Azure PowerShell:

1. Ensure there are no active migration actions running that use the Azure storage where the items are stored.

2. Open **Azure PowerShell**.

3. Connect to Azure using the **New-AzStorageContext** cmdlet. Your account name and account key are required parameters. Note that these are different from your Client ID and Application Secret.
   ```
   $context = New-AzStorageContext -StorageAccountName $accountName -StorageAccountKey $accountKey
   ```

4. Use the information in the following table to determine the appropriate command to use.

If you want to remove ...	Then use the command ...
all blob and metadata	`Get-AzStorageContainer -Prefix "<MMDDYY>" -Context`

If you want to remove ...	Then use the command ...
containers created on a specific date	`<context> | Remove-AzStorageContainer -Force` EXAMPLE: **`Get-AzStorageContainer -Prefix "20200929" -Context $context02 | Remove-AzStorageContainer -Force`**
all reporting queues created on a specific date	`Get-AzStorageQueue -Prefix "<MMDDYY>" -Context <context> | Remove-AzStorageQueue -Force` EXAMPLE: **`Get-AzStorageQueue -Prefix "20200929" -Context $context02 | Remove-AzStorageQueue -Force`**

Error: 'The object is associated with property AssociatedMemberGroup.'

Question

When attempting to copy an object to a SharePoint Online site or OneDrive, why do I receive the following error?

Object reference not set to an instance of an object on server. The object is associated with property AssociatedMemberGroup.
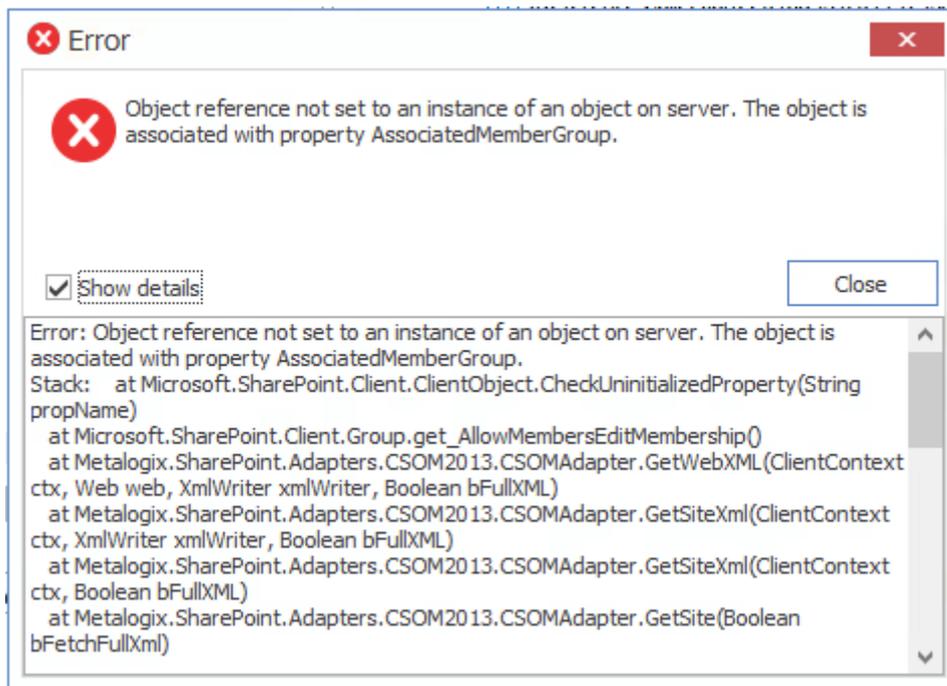
Answer

This error may occur when one or more of the default SharePoint groups (Owners, Members, and/or Visitors) are not present on the target.

> NOTE: For OneDrives, none of these groups are present by default.

Create the missing default group(s) on the target. Refer to the applicable Content Matrix Knowledge Base article for more information.

Migration Error: 'ERROR, the batch will be resubmitted to the import pipeline'

Question

What does it mean when the message *ERROR, the batch will be resubmitted to the import pipeline* displays in the Information section of the Log Item Details dialog when a migration is performed using the Import Pipeline?
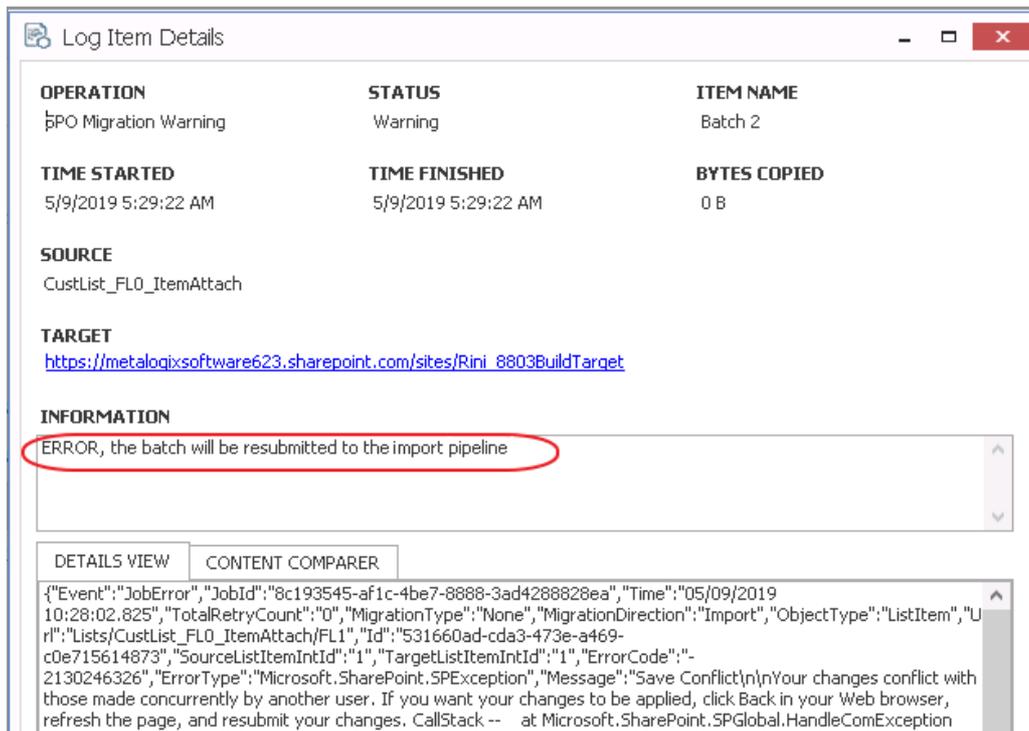
Answer

You may see this message (which will begin with either *ERROR* or *FATAL ERROR*) during a migration when a batch fails to migrate in its entirety. To address this issue, increase the value of the environmentsettings.xml key [MaxAzureBatchRetryCount](#). This key controls the maximum number of times Content Matrix will resubmit the batch until it is successfully migrated. (The default value is 5.)

The batch retry mechanism will also be triggered for the following errors:

- *Please try again. CallStack -- at Microsoft.SharePoint messages*

- *Access denied*

- *Save Conflict The system cannot find the path specified. (Exception from HRESULT: 0x80070003)*

- *Updates to system roles is not allowed.*

- *List does not exist*

For any error not listed above (such as *Item Does Not Exist*, which is different than *List does not Exist*), a batch will be resubmitted only if the error message is added to the environmentalsettings.xml key [ErrorMessagesForRetryAzureBatch](#).

IMPORTANT: If adjusting this setting does not resolve the issue, the error may be with the CSOM connection. See [Retrying Failed Document Copies to SharePoint Online CSOM Connections](#) for details.

Item Count at Target is Increased When Migrating Using the Import Pipeline

Question

Why is it that, after migrating a list with versioning enabled using the Import Pipeline, there are more items on the target than on the source?
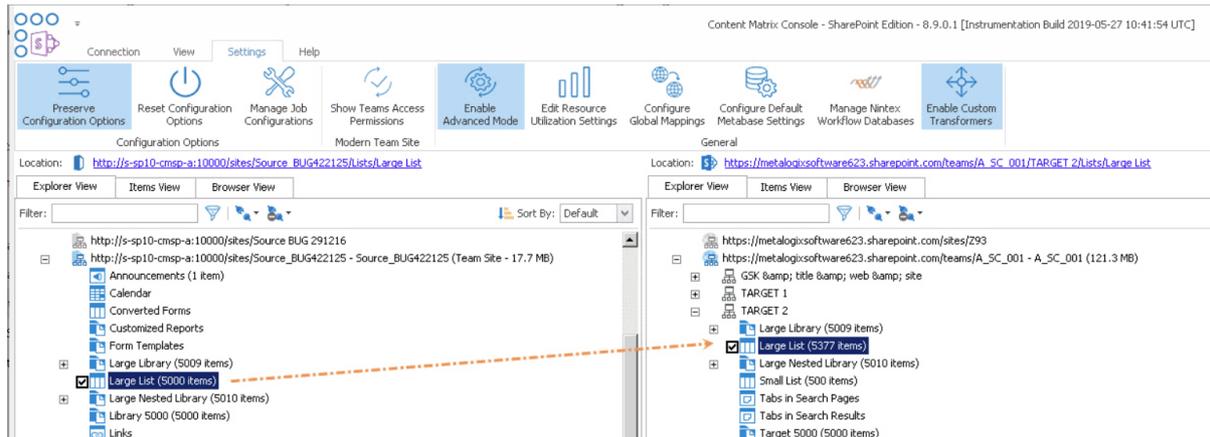
Answer

If you are migrating a batch that includes a list with a base type of CustomList (such as Announcements), versioning is enabled, and Content Matrix has had to resubmit the batch that includes the list, duplicate items may be migrated to the target. By default, these types of lists are *excluded* from resubmissions, but can be included via the environmentsettings.xml key RetryBatchForCustomListWithVersions.

> NOTE: If custom lists are excluded from batch resubmissions and all items are not successfully migrated, you can migrate any outstanding items using incremental migration.

Custom Lists with Versioning Enabled Not Being Migrated When Using the Import Pipeline

Question

Why is it that, after a migration using the Import Pipeline, some lists with versioning enabled do not appear on the target?

Answer

By default, lists with a base type of CustomList (such as Announcements) are *excluded* when Content Matrix must resubmit a batch that initially failed to migrate in its entirety (because if they are included,

duplicate items may be migrated to the target).   These types of lists can be included via the environmentsettings.xml key RetryBatchForCustomListWithVersions)

NOTE: If custom lists are excluded from batch resubmissions and all items are not successfully migrated, you can migrate any outstanding items using incremental migration.

Supported Nintex Actions for SPO Migration

Question

What are the supported Nintex actions that are available when migrating from SharePoint On-Premises to SharePoint Online?

Answer

The following table lists the supported Nintex actions that are available when migrating from SharePoint On-Premises to SharePoint Online.

NOTE: The following actions are supported, but not all their parameters will necessarily have a SharePoint Online equivalent. Make sure to review migrated Nintex workflows to ensure that they migrated as expected. Also ensure that actions requiring user interaction (such as Assign Flexi Task, Send Notification, etc.) have user mappings properly configured during migration.

On-Premises Actions	Online Actions
Assign Flexi Task	Start a task process
Build String	Build String
Calculate Date	Add Time to Date
Change State	Set Next State
Check Out Item	Check Out Item
Convert Value	Convert Value
Create Item	Create List Item
Delete Item	Delete Item
Discard Check Out	Discard Check Out Item
End Workflow	Terminate Current Workflow
Filter	Filter
Log in History List	Log to History List
Loop	Loop with Condition
Math Operation	Do Calculation

On-Premises Actions	Online Actions
Pause for...	Pause for Duration
Pause Until	Pause until Date
Query list	Query list
Regular Expression	Regular Expression
Run If	Run If
Run Parallel Actions	Parallel Block
Send Notification	Send an Email
Set a Condition	Conditional Branch
Set Field Value	Set Field in Current Item
Set Variable	Set Workflow Variable
Set Workflow Status	Set Workflow Status
State Machine	State Machine
Switch	Switch
Update Item	Update List Item
Wait for item update	Wait for Field Change in Current Item

Refer to Quest® Essentials for Office 365 documentation for an idea of the requirements and caveats involved in the migration to SPO.

NOTE: If the workflow contains an action that is not supported, this unsupported action will be created as a comment in the migrated workflow. The comment will contain the name of this unsupported action.

Support for GCC High Tenants

Question

Does Content Matrix support SharePoint Online GCC High connections and migrations?

Answer

Refer to the following tables for specific target connections and migration scenarios that Content Matrix supports for GCC High tenants.

IMPORTANT: In order to use ADFS authentication with a GCC High tenant you must first run a utility provided by Quest Support and enable the setting **EnableUserProvidedAuthentication**. Refer to the Quest Support Knowledge Base article Enabling User Provided Authentication in Content Matrix for

details.

Connections

Target Type	OAuth	OAuth with MFA	ADFS	ADFS (Microsoft 365 User Provided Authentication)	Web Browser Authentication	Microsoft 365 Web Browser Authentication
Tenant	--	✔	--	--	✔	✔
Site	--	✔	--	✔	✔	✔

Migration Scenarios

Component	OAuth with MFA	ADFS (Microsoft 365 User Provided Authentication)
Child sites	✔	✔
Content types	✔	✔
Site features	✔	✔
Classic web parts	✔ * * Only using the Import Pipeline	✔
Theme and Master pages	✔	✔ * * Only with Paste as Site Collection action
Root folders and files	✔	✔
Navigation and Headings	✔	✔
Lists, folders, files list items, attachments	✔	✔
List settings: • Survey options	--	✔

Component	OAuth with MFA	ADFS (Microsoft 365 User Provided Authentication)
• Browser-enabled InfoPath form templates		
Version data and Authorship data	✔	✔
SharePoint ID preservation	✔	✔
Metadata	✔	✔
Permissions	✔	✔
Mappings	✔	✔
Content Matrix filters	✔	✔
Out-of-the-box workflows	✔	✔
SharePoint Designer 2010-style workflows	--	✔ (Deprecated)
SharePoint Designer 2013-style workflows	✔	✔
Nintex workflows	--	✔
Nintex forms	--	✔
Content type InfoPath forms	--	✔
Information management policies	--	✔

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- Submit and manage a Service Request

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