Metalogix® Archive Manager for Files 8.4

Administration Guide

Metalogix® Archive Manager for Files
Updated July 2021
Version 8.4

Contents

Overview

Metalogix Archive Manager for Files is a robust solution for archiving and retrieving files from cost effective file storage systems. When files are archived, they are replaced with a shortcut that saves a huge amount of space. The shortcuts ensure that archived files are available to users whenever they are needed and this solution preserves the existing structure of the file system that is used on a daily basis. Archived files can be also retrieved even if the original files are deleted including previous versions of the same file. The integrated search engine provides the ability to search through the archives by applying various search criteria.

Metalogix Archive Manager for Files uses advanced file management techniques like retention categories and file access frequency settings to enhance the file access times for end-users. As a result, you can achieve the same file access efficiencies from slower and less expensive file storage systems as you would expect from more expensive and faster file storage systems.

Metalogix Archive Manager for Files can archive files stored on remote servers as well. You can install Metalogix Archive Manager for Files on several machines. These machines can be standalone file servers or part of a cluster that uses the Hierarchical Storage Manager (HSM) server to manage file storage systems. These remote servers can be administered from a single client using the Archive Manager for Files Administration Center (AMAC).

Archive Manager for Files Administration Center (AMAC)

The AMAC is the administrative component of Metalogix Archive Manager for Files. With AMAC, administrators can set many global and useful criteria for automated file archiving from file servers. Along with administrators, even end-users can archive their documents manually, provided they have been given such rights.

Steps to open the AMAC

1. Login to the Archive Manager for Files server that you use as the administration client.

2. Go to **Start** > **Programs** > **Metalogix** and click **Archive Manager for Files**.

   -or-

   Open the AMAC directly from `C:\Program Files (x86)\Metalogix\Archive Manager for Files\FilePamManager.exe`
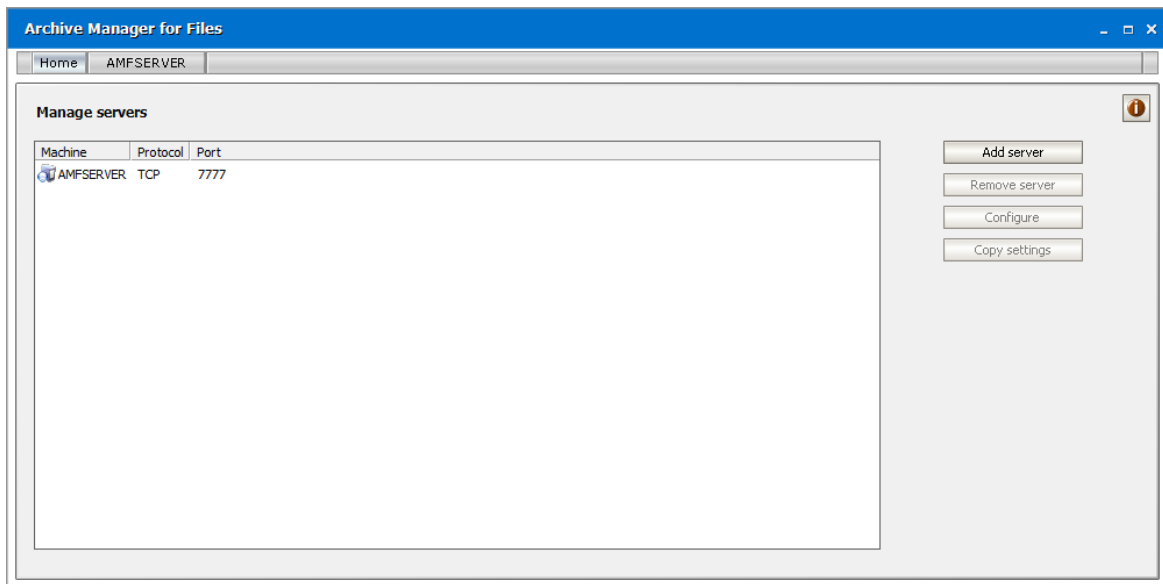
3. The **Home** tab displays the Archive Manager for Files server where the software was installed. A default server tab (AMFSERVER) for the local machine is also created. Every server that you add will be available as a tab.

4. Click the default server tab. The *Workspace* for the server opens.
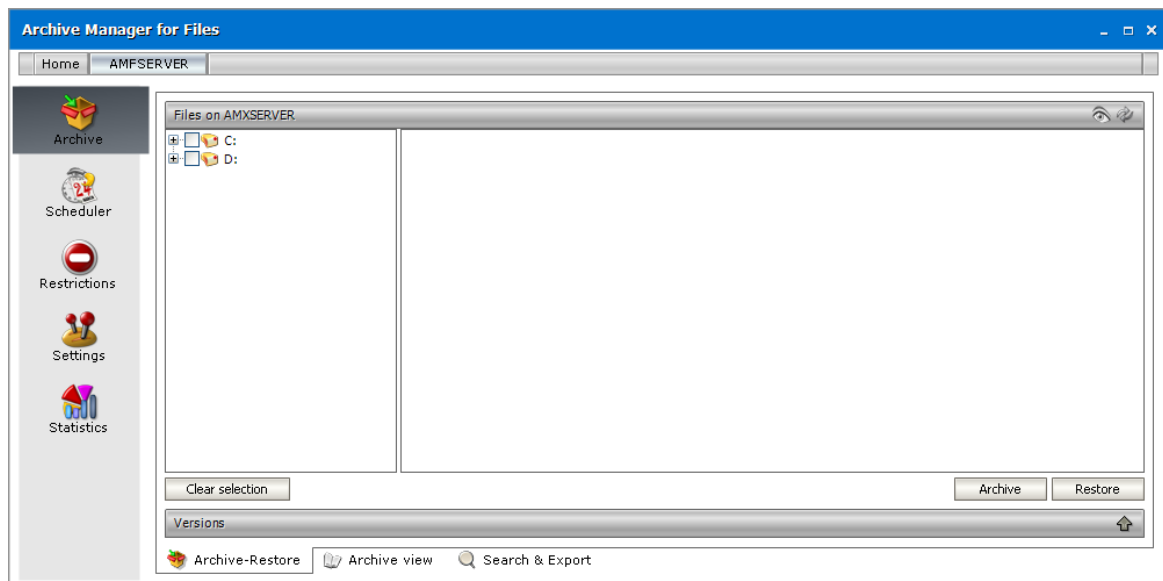
About the AMAC Workspace

Each server workspace has the following parts:

Navigation pane - The left-hand panel that allows you to switch between the following administrative section: **Archive**, **Scheduler**, **Restrictions**, **Settings** and **Statistics**.

View pane - The right-hand panel that allows you to work with each administrative section. Each administrative section has one or more sub-sections that are accessible as tabs at the bottom of the View pane.

License Activation

In this topic

Steps to activate your license Online

1. In the *Activate License* window, enter the license key.

2. If you want to activate the license online, select **Online Activation** , and then click **Next**.

   i   **NOTE:** If your computer is behind a firewall, click the **Set Proxy** link. The *Proxy Setup* dialog appears.

   a. Select **Activate Proxy** and specify the proxy information as described below:

   b. **Server Name** - enter the name of your proxy server.

   c. **Port** - enter the port number of the proxy server.

d. **User name** and **Password** - Specify the credentials of the user who is authorized to access the proxy server.

e. Click **Set** to save the information, or click **Close** to return to the *License Key Information* dialog.

3. If the license key is validated successfully, the confirmation message appears along with the license details. Click **Finish** to close the dialog.

Steps to activate your license Offline

If your computer cannot access the internet, this option lets you access the Quest offline activation web site from an alternate computer that has a working internet connection.

1. In the *Activate License* window, enter the license key.

2. select **Offline Activation**. The *License Key Information* window displays additional steps that are required.

3. **Step 1: Collect the activation data to the clipboard or to a file**

a. Select from the two options described below:
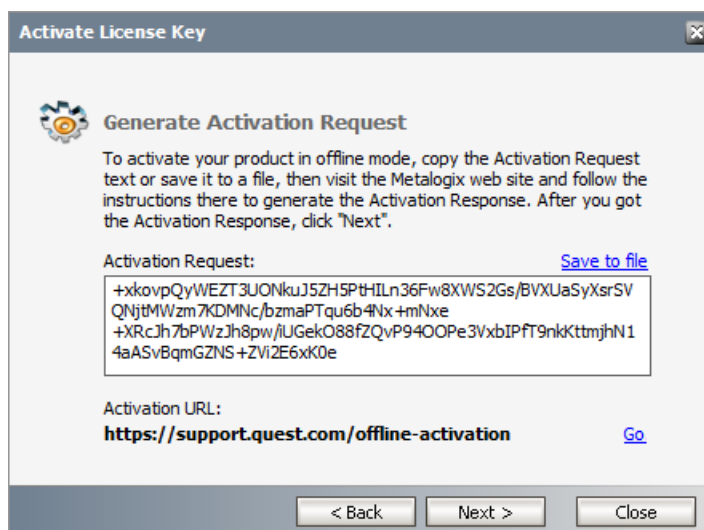
Option 1: Copy Activation Data to Clipboard. The activation data is saved to memory. Use this option if you plan to follow through with the subsequent steps immediately.

Option 2: Click **Save to File**. The Windows File dialog appears. Specify a file name for the activation data file and click **Save** to save the file to a location of your choice. Use this option if you plan to activate the license at a later date.

4. **Step 2: Submit collected data**

a. Click **Go**. The **Metalogix License Activation** web page appears.

b. Follow the instructions to get the **Activation Key file** (with the file extension DAT) is made available for download. Save this file to a location of your choice.

5. **Step 3: Paste Activation Response**
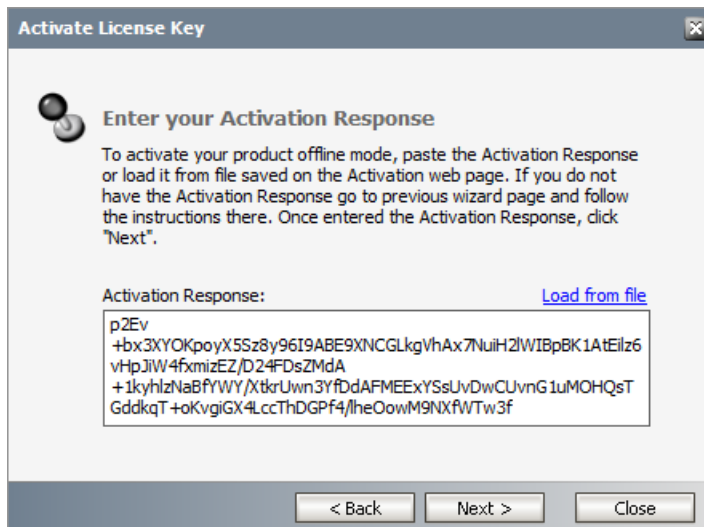
a. Click **Load from File**. The Windows file dialog appears.

b. Locate the activation key file and click **Open**. The text appears in the **Activation Key File** field.

6. **Step 4: Activate offline**

a. Click **Next** to complete the activation process.

7. If the license key is validated successfully, the confirmation message appears along with the license details. Click **Finish** to close the dialog.

Adding servers

More Archive Manager for Files servers in the local network can be managed from one Archive Manager for Files. They just need to be "added" first.

ℹ **NOTE:** In case you want to add file servers to the Manager console as described below, there must be the Archive Manager for Files installed on such servers. However, to archive from file servers, Archive Manager for Files does not need to be installed on them. Just add these servers as "Generic File server" to the Archive Manager (see the Generic File Server section).

1. In the Archive Manager for Files window, click on the **Home** tab.
2. Click on the **Add server...** button.
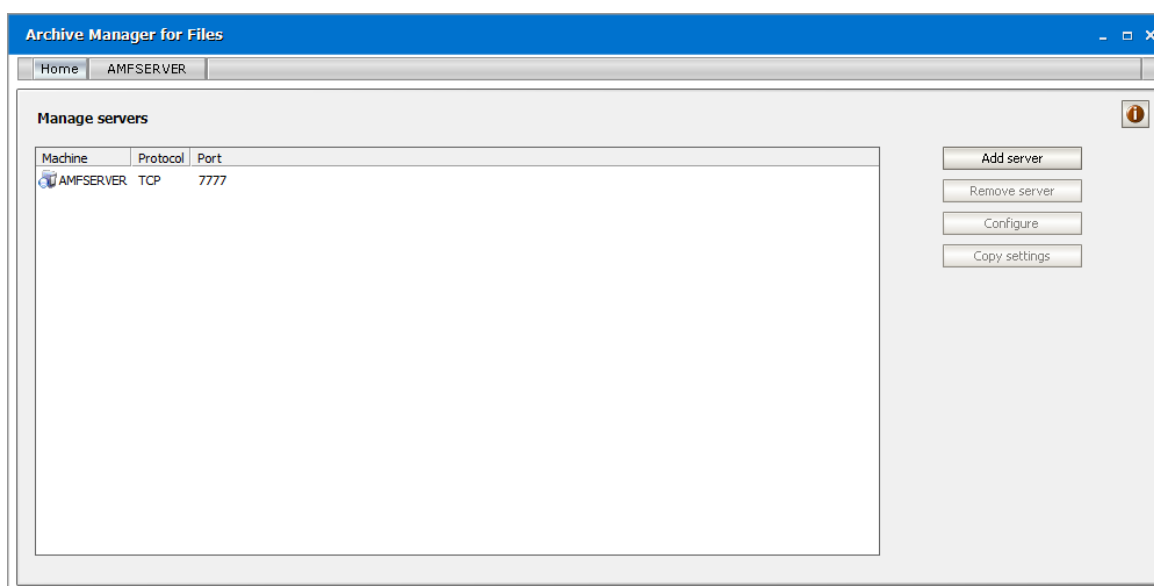
3. Upon clicking the **Add server...** button, the **Select Computers** window appears.
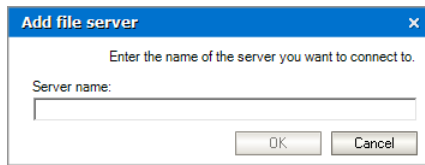
4. Enter the name of the desired computer (Archive Manager server) in the text box. Then confirm by clicking **OK**.

5. The respective **Archive Manager server** appears in the list in the **Archive Manager for Files** window, as shown below. Moreover, a tab with the respective file server name appears on the upper bar.
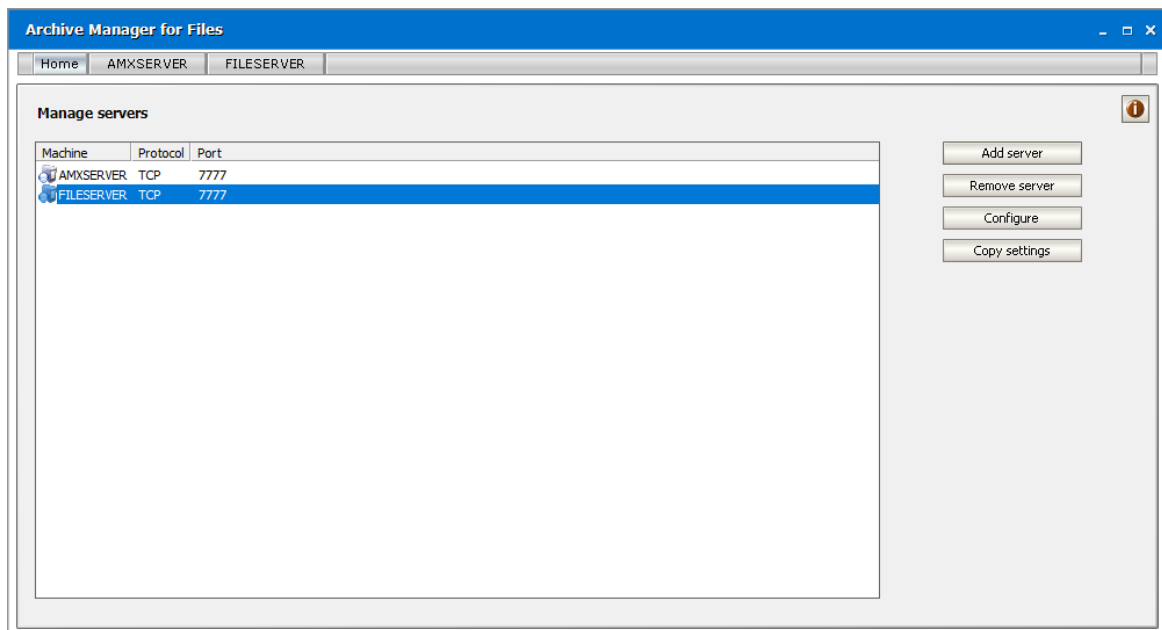
Now you are ready to configure connectivity settings for the respective file server.

i | **NOTE:** The upper bar in the Archive Manager for Files window serves as a switcher between different file servers. To manage a desired file server, simply click on its tab..

How to copy server settings

You can use the **Copy settings** button on the right-hand side to copy settings of one Archive Manager server to another.

Select the server which settings you want to copy. This will be the source. After clicking the **Copy settings** button, the wizard opens offering the following options:
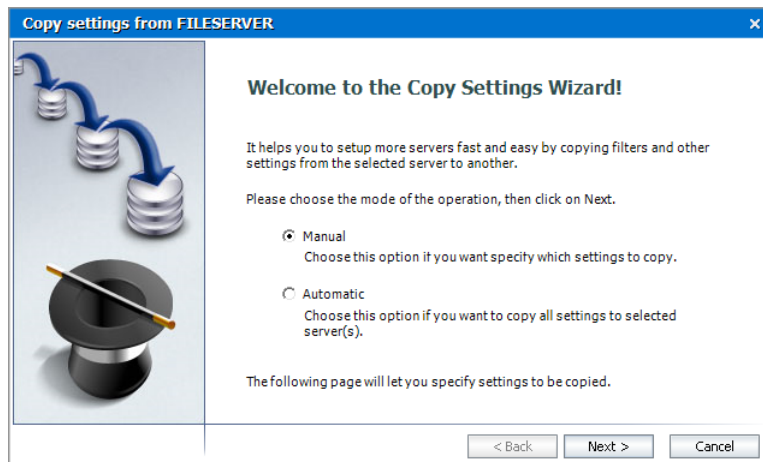
- **Manual** – this mode of the operation allows you to copy specific settings of the source

Click **Next** to select settings which you want to copy, e.g. file compression settings as you can see on the screenshot below.
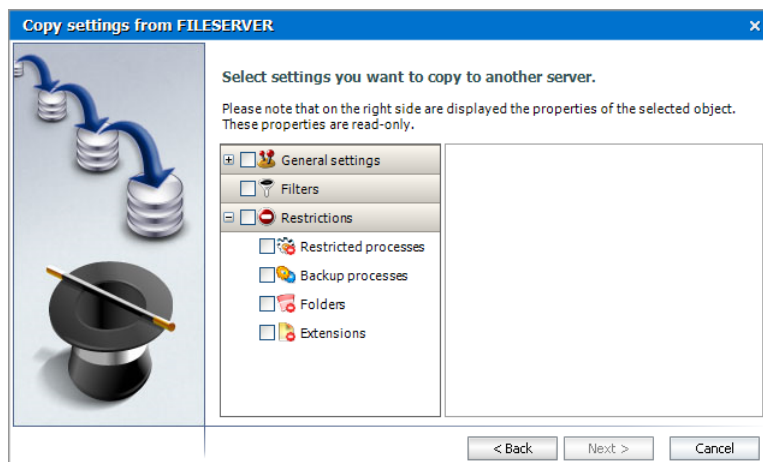
- **Automatic** – this mode of the operation will copy all settings of the source to the servers selected in the next dialog

On the following dialog select the destination servers and click **Next**.

When the process is finished, you can choose to save the log of the operation by clicking the respective button. Finally click **Close**.

How to configure connection settings

To specify connection settings for a specific Archive Manager server:
1. In the **Archive Manager for Files** window click on the **Home** tab. Select the desired file server in the list. Then click on the **Configure** button.
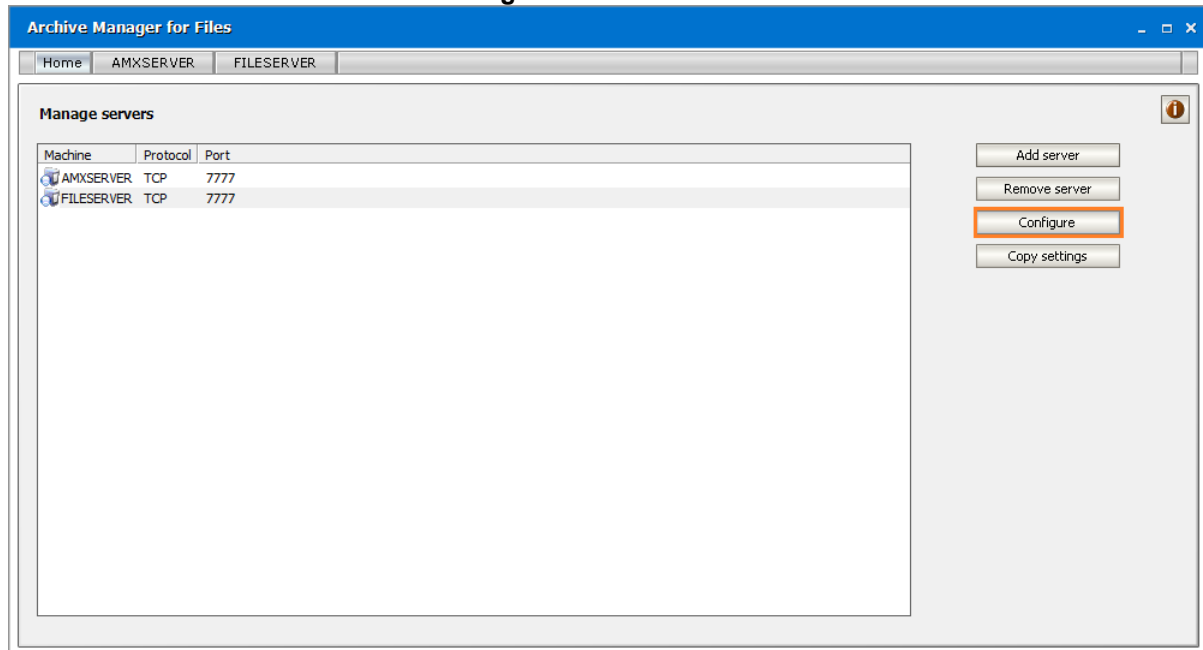
2. In the **Connection settings** window, change the network protocol by clicking on the button located at the right (select either HTTP or TCP).
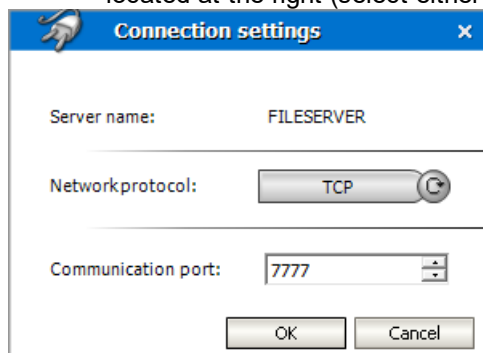
3. To change the communication port, simply click on arrows or enter a digit in the **Communication port** text box.
4. Click **OK** to confirm.

After adding an Archive Manager server (computer) in the list and upon specifying its connection settings, you may start managing it. To start managing it, click on its corresponding tab located on the upper bar. Sometimes, after clicking on the respective tab you might get a warning message (see the screenshot below). This should not happen normally. This means that the MAM FSA Remote Server Service is not running on the desired file server (the MAM FSA Remote Server Service is responsible for remote connection to the respective file server). Then you need to start this service on the remote server manually.
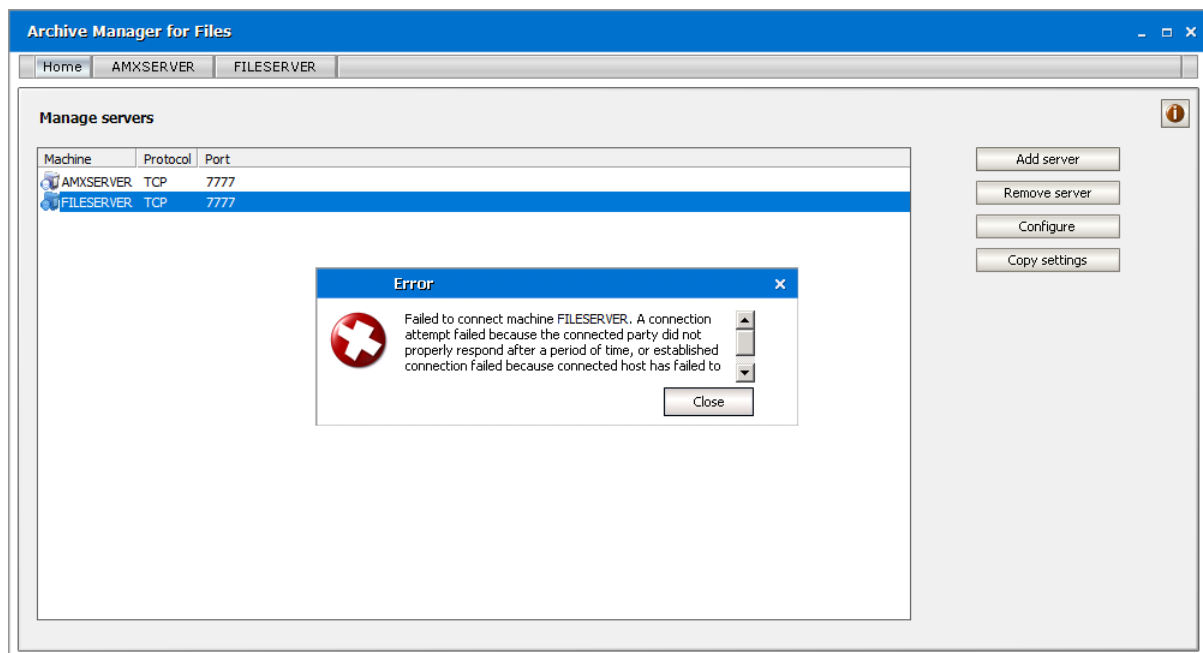
To make sure that MAM FSA Remote Server Service is started on the remote server, check it:

1. Click Start /Settings /Control Panel /Administration Tools /Services

2. Make sure that the Status column for the MAM FSA Remote Server Service is **Started**. If it is not started, then right-click that service and in the context menu select **Start**.
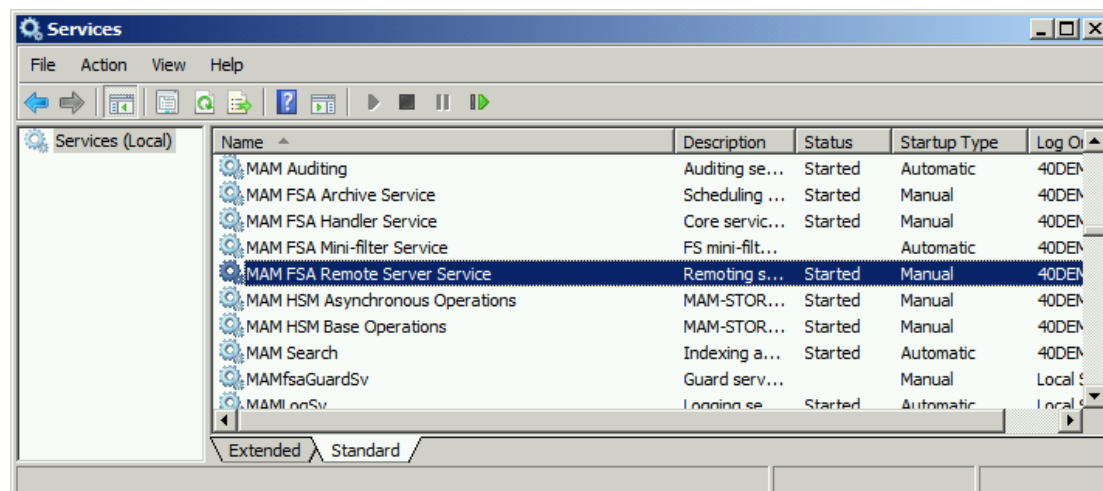
When the connection settings for the desired file server are set and the MAM FSA Remote Server Service is started there, you may click on the desired Archive Manager server's tab located on the upper bar to "open" that computer, i.e. to start managing it.

You will get the following interface displayed (including all disks on that computer listed in the left pane).
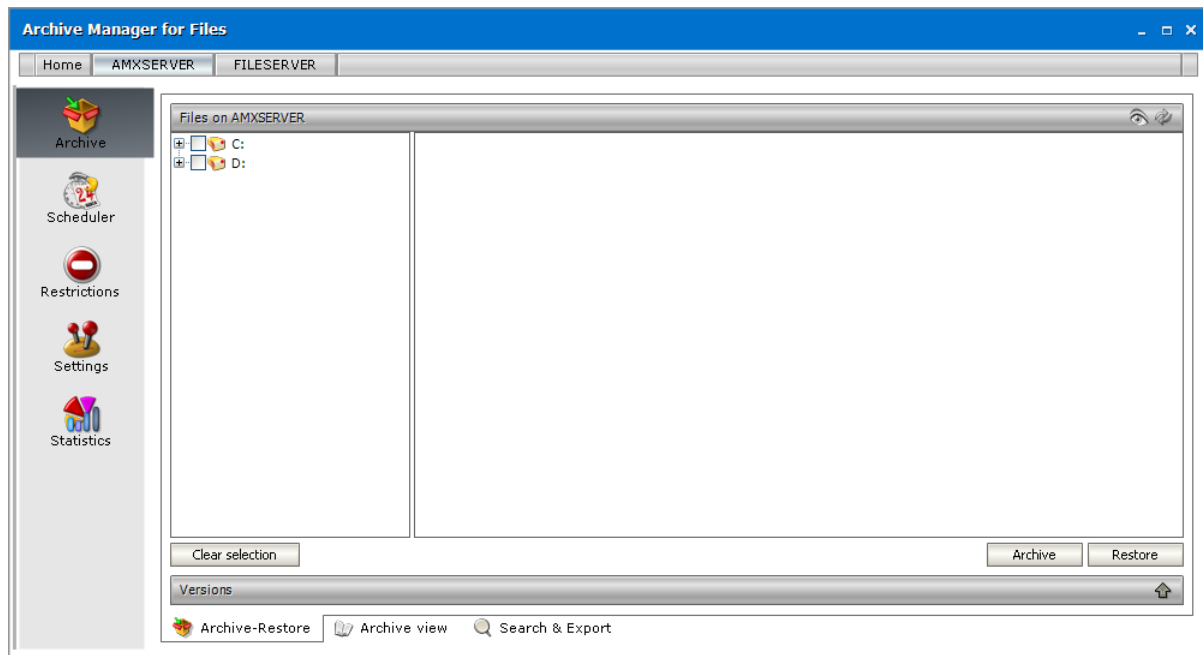
Restrictions

Under the Restrictions tab you may specify restrictions regarding RETRIEVING of archived files:

- Restricted Processes tab - processes which will not be allowed to retrieve archived files

- **Backup Processes** tab – backup processes which will be able to backup archived files (shortcuts) but which will not be able to retrieve them

and restrictions regarding ARCHIVING:

- **Folders** tab – folders which are recursively or non-recursively excluded from archiving

- **Extensions** tab - file types which will not be included in archiving

IMPORTANT: Before any archiving (either manual or automated) please first specify your restriction-related settings. It is important to exclude certain folders from archiving, and – that should be done first! - some files or folders are excluded from archiving by default (e.g. system folders) but you may want to exclude for instance all files residing under Local Settings; otherwise you may archive unintentionally even the "unwanted" ones.

Folders excluded by default can be seen after clicking on the Restrictions tab and then on the Folders tab. All folders excluded from archiving, either recursively or non-recursively, are displayed red. Recursive and non-recursive selection will be explained in detail later in this manual (see the section "Folders tab").
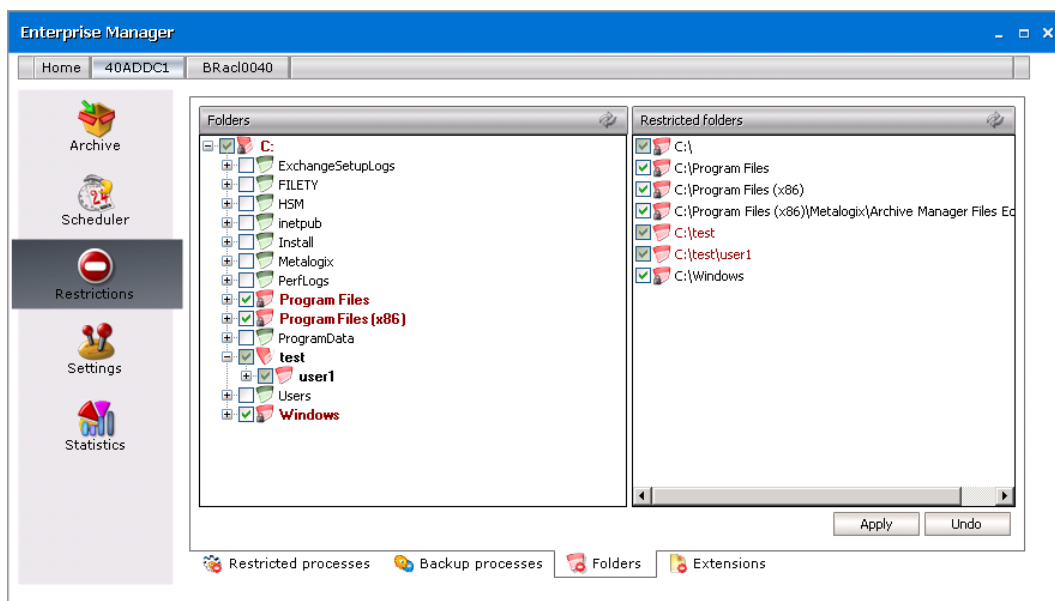
Restricted processes tab

By clicking on the Restricted Processes tab, the following window will be displayed. On the right side (in the Restricted processes pane) you can see all processes which have been restricted to recover files. This list includes a standard list already specified within our software. This means that all files in this list are unable (i.e. they have been restricted) to automatically retrieve archived files. This list can, of course, be modified. It is necessary for instance to add to this list antivirus programs, which are capable of restoring files. The administrator may himself include additional files, simply by double clicking the three dots and then entering the respective file name (including its extension!), or by selecting from among running processes.
If desired, any of the restricted processes can be removed from the restricted list.
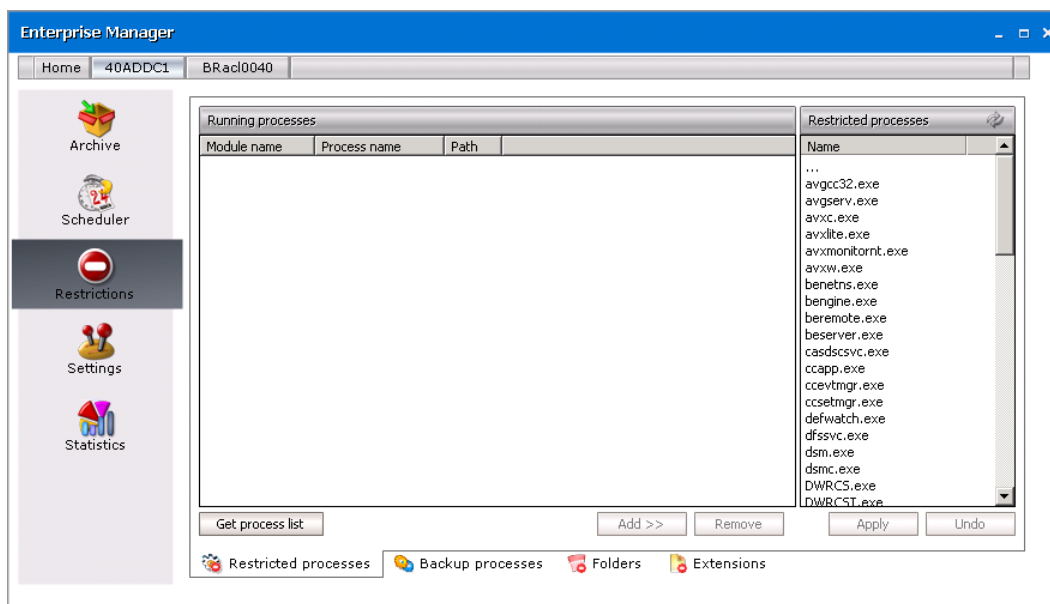
The left side (under Running processes) is empty, unless you click the Get process list button. After clicking on that button, a list of all processes currently running on that computer is displayed.

How to deactivate recovering of files by certain processes
In order to deactivate recovering of files by certain processes they need to be added among restricted ones. To do so, follow these steps:

1. On the Restrictions tab, click the Restricted Processes tab.

2. Click on the **Get process list** (Get process list) button. The list of all processes running on the respective machine will be displayed as shown below.

3. Select the desired ones and then click on the **Add** button.
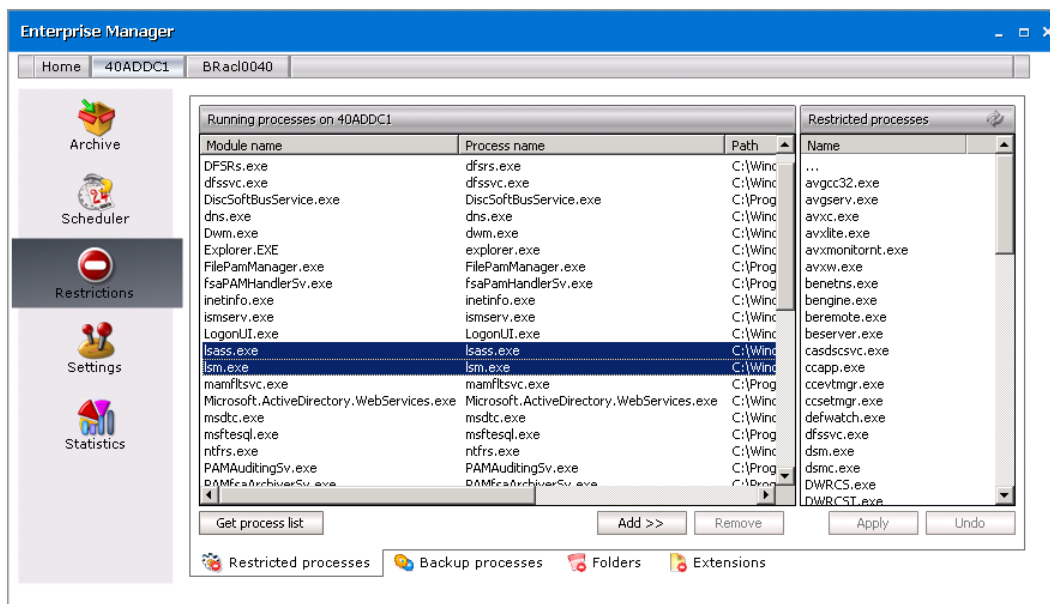
4. The selected files will be moved to the right side under **Restricted processes**. To confirm, click **Apply**.

NOTE: Individual running processes can be moved to the restricted list also by double clicking them. To remove a process from the Restricted processes list, simply select the desired one and then press the Remove button.

Backup processes tab

You may be using backup tools (e.g. NT Backup, Robocopy.exe or TSM) to do a backup of your files and folders. Together with other files, it can be requested to create a backup also from files which are archived and replaced with a shortcut file. In some cases, the backup processes may be retrieving archived documents while doing a backup of shortcuts. If you experience such behavior, mark these processes on the Backup processes tab.

Processes which are added to "Backup processes" will not be allowed to retrieve shortcuts. They will simply do a backup of files as well as shortcuts and these backed-up shortcuts will be fully functional.
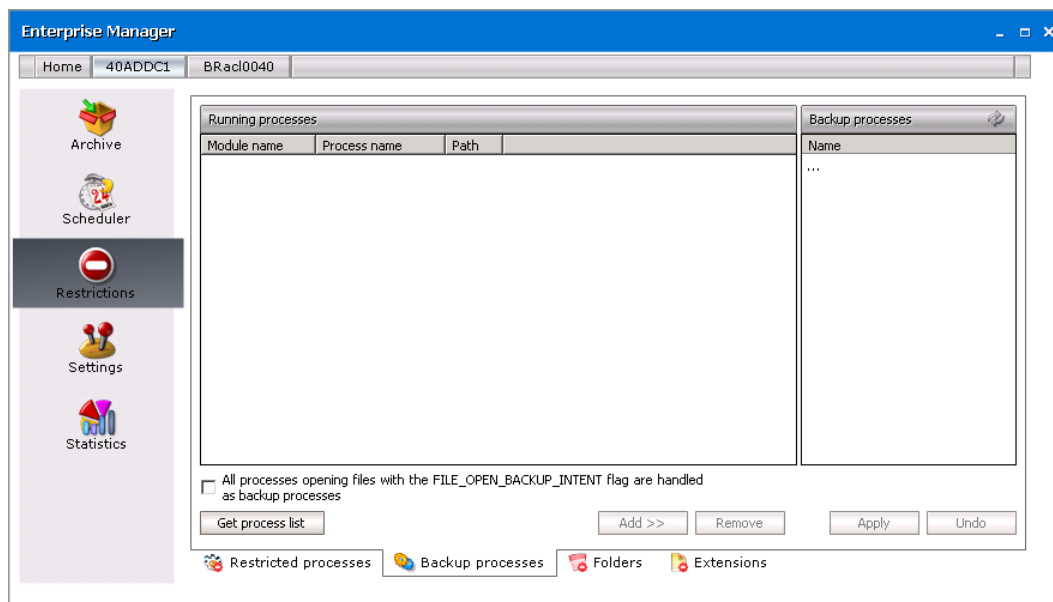
The Backup processes tab is divided to two panes. The left pane (under Running processes) is empty, unless you click the Get process list button. After clicking on that button, a list of all processes currently running on that computer is displayed.

On the right side (under Backup processes) you can see all processes which are handled as backup processes. They have been restricted to recover files but they are able to read the shortcut file. This means that all processes in this list are unable (i.e. they have been restricted) to automatically retrieve archived files. This list can, of course, be modified. The administrator may himself include additional files, simply by double clicking the three dots and then entering the respective process name (including its extension!), or by selecting from among running processes.
If desired, any of the restricted processes can be removed from the restricted list.

IMPORTANT: It is not necessary to select backup processes one by one. If you click All processes… check box, then all processes opening files with the FILE_OPEN_BACKUP_INTENT flag will be handled as backup processes, i.e. they will not be allowed to retrieve documents. Instead, they will be able to create a backup from the shortcut file.

How to deactivate recovering of files by backup processes
In order to deactivate recovering of files by backup processes they need to be added among restricted ones. To do so, follow these steps:
1. On the **Restrictions** tab, click the **Backup Processes** tab.

2. Click on the **Get process list** (Get process list) button. The list of all processes running on the respective machine will be displayed as shown below.

3. Select the desired ones and then click on the **Add** button.

NOTE: Processes which are set as restricted processes on the **Restricted processes** tab cannot be added to backup processes and vice versa.
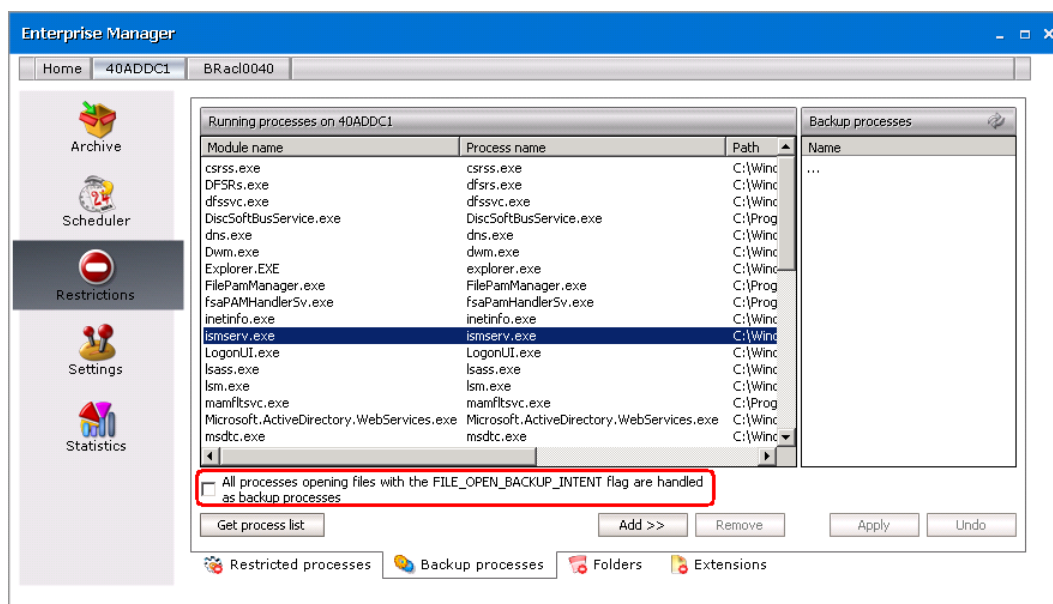
It is not necessary to select backup processes one by one. If you click **All processes**…check box, then all processes opening files with the FILE_OPEN_BACKUP_INTENT flag will be handled as backup processes, i.e. they will not be allowed to retrieve documents.

4. The selected files will be moved to the right side under **Backup processes**. To confirm, click **Apply**.

NOTE: Processes can be moved to the Backup processes list also by double clicking them. To remove a process from the Backup processes list, simply select the desired one and then press the Remove button.

Folders tab

Here you have an option to define folders (or disks) that are to be excluded from archiving. For example, if the computer you are archiving files from has a system disk, then all EXE files used by the system should be deactivated for archiving.

Protection against archiving can be achieved through restrictions. Folders protected against archiving by Archive Manager for Files are displayed red. When a folder (a disk) is not restricted, its icon is displayed green (see the screenshot below).

When you click on the Folders tab, you will get all disks displayed in the left, with a list of restricted folders in the right. If neither folders nor disks had been restricted from archiving then the right side (under Restricted folders) would have been empty.

NOTE: A special case includes folders (disks) restricted by default. By default restricted folders (or disks) are displayed with a red icon with a *padlock* attached to the icon. Restriction cannot be removed from folders restricted by default.

There are four folders restricted by default on system disks:
- C:\ disk is restricted non-recursively;

- Program Files folder is restricted recursively;

- Program Files x86 folder is restricted recursively;

- MAM4Files is restricted recursively (i.e. the relative installation path for \MAM4Files; e.g. in our case MAM4Files folder has been installed under C:\Program Files\ Metalogix \ Archive Manager Files Edition);

- Windows installation directory is restricted recursively (i.e. Windows operating system is restricted from archiving by default);

IMPORTANT NOTE: In case you place your HSM store on a local hard disk, make sure to protect it (i.e. set it to be restricted recursively from archiving). The administrator should know himself where the HSM store is placed.

RECOMMENDATION: The Documents Settings folder should be restricted for every user as well, except for the My Documents folder for each user.

Restriction can be set manually only in the left pane of this window. The right pane serves mainly to display a list of all folders restricted from archiving, either recursively or non-recursively.
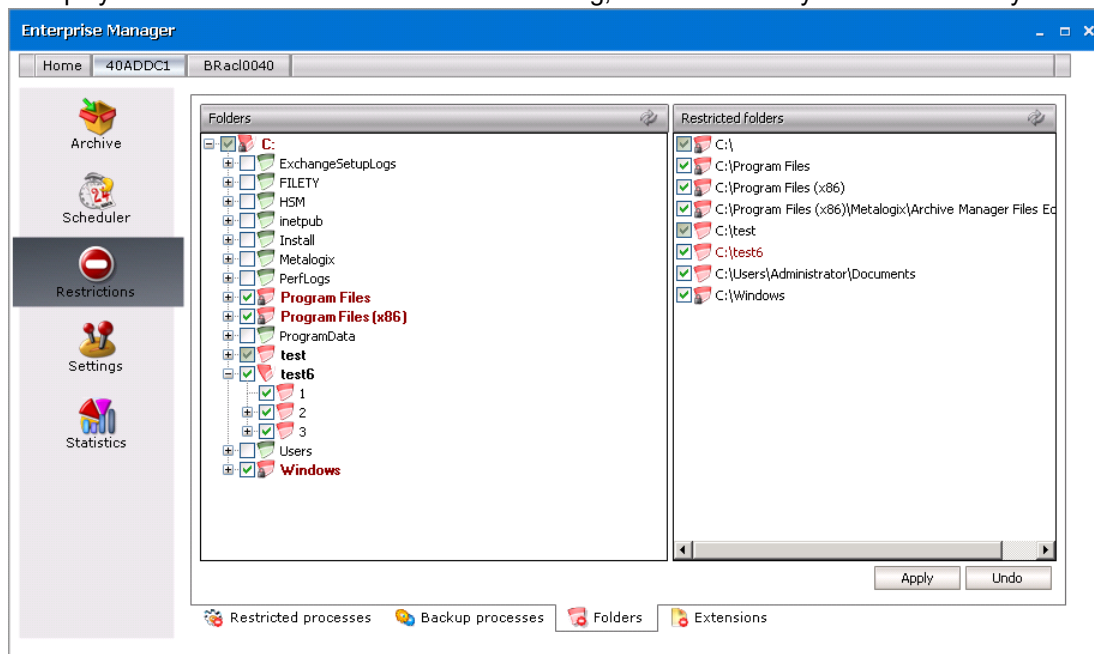
Archive Manager for Files recognizes two types of restrictions, which can be set by the administrator:
- recursive; and
- non-recursive

Recursive restriction
For this type of restriction, no files under the parent folder (including all its subfolders) can be archived. To restrict a folder recursively, click on the check box next to the desired folder TWICE. It will get checked and filled with white color.
Non-recursive restriction
For this type of restriction, at least one of the subfolders down the path is allowed for archiving. To select a folder non-recursively, click ONCE on the check box next to the desired folder. It will get checked and filled with grey color.
The two main questions are:
1. How to recognize recursive selection from a non-recursive at a first glance?

    Next to each folder you will see check boxes. There are three cases:
    - an empty check box (not checked) (e.g. folder Drive);

- a selected check box (checked), filled with grey color (e.g. folder test);
- a selected check box (checked), filled with no color (e.g. folder Program Files)

An empty check box indicates no selection.
A selected check box filled with grey color indicates non-recursive selection A selected check box filled with white color indicates recursive selection
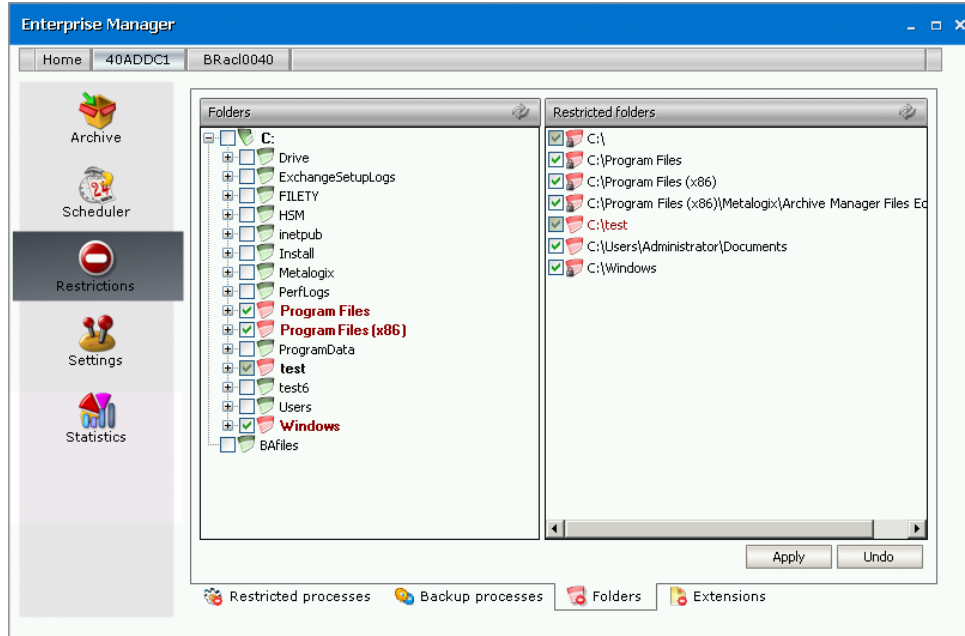
2. And how to select folder either recursively or non-recursively?

   The check box next to a desired folder is used as a switcher:
   - when empty, then there is no selection;

   - when you click on the check box once, it becomes selected and filled with grey color, and the folder becomes selected non-recursively;

   - when you click on the check box for the second time, it becomes selected and filled with white color, and the folder becomes selected recursively

NOTE: To remove selection, simply keep clicking on the check box until it is empty. Please notice that restriction cannot be removed from any of by default restricted folders. NEVER REMOVE IT from your HSM store either, if it is placed on a local disk.

How to set restrictions recursively
This happens in those cases when the administrator needs to restrict a specific folder from archiving, along with all its subfolders down the path.

To restrict recursively a desired parent folder from archiving:
1. On the Restrictions tab, click on the Folders tab.

2. In the left pane (under **Folders**), unfold the respective disk's structure down to the desired parent folder.

3. Click on the check box next to the desired parent folder **TWO TIMES**.

4. After clicking on the check box of the desired parent folder for the second time, all its subfolders down the path become selected and their icons turn red.

5. Save those changes by clicking on the **Apply** button.

NOTE: By clicking on the Undo button you will cancel all the changes that had been made since you last clicked Apply. In other words, by clicking Undo you will restore what was recently changed.

How to set restrictions non-recursively
To restrict non-recursively a desired folder:

1. On the **Restrictions** tab, click on the Folders tab.

2. In the left pane, unfold the tree structure of the desired disk down to the desired parent folder.

3. Click **ONCE** on the check box next to the desired parent folder.

4. Save those changes by clicking on the **Apply** button.

This includes also those cases when the administrator needs to restrict almost all subfolders of a specific parent folder from archiving, yet at least one of the subfolders should be allowed for archiving. Firstly you need to restrict the parent folder recursively, and then unselect the desired subfolder (i.e. the one for which archiving should be allowed).

Extensions tab

In general, on this tab you may specify all file extensions that are to be excluded from archiving. This means that none of the file types specified on this tab will be archived by Archive Manager.

When clicking on the Extensions tab for the first time, both lists – Restricted file types and Registered file types – are empty (see the screenshot below). The left side (under Restricted file types) can be filled in manually, but that would be inefficient and time consuming. A much easier way is to build up a list of all file types located on the computer, and subsequently exclude those that should not be archived.
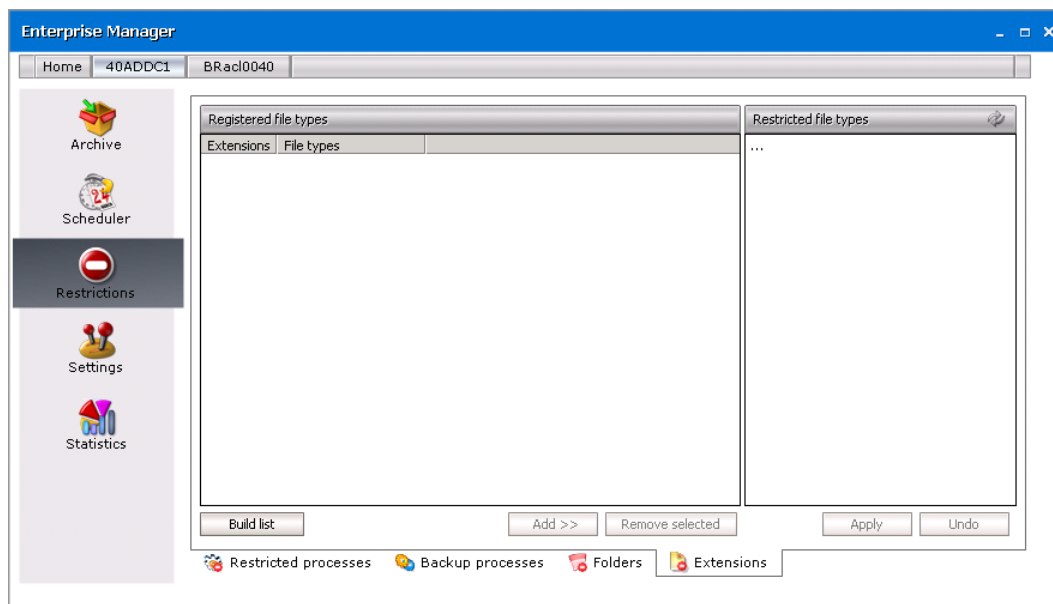
How to exclude certain types from archiving

To exclude certain file types from archiving:

1. Click on the Restrictions tab.

2. Click on the **Extensions** tab.

3. Click on the **Build list** button.
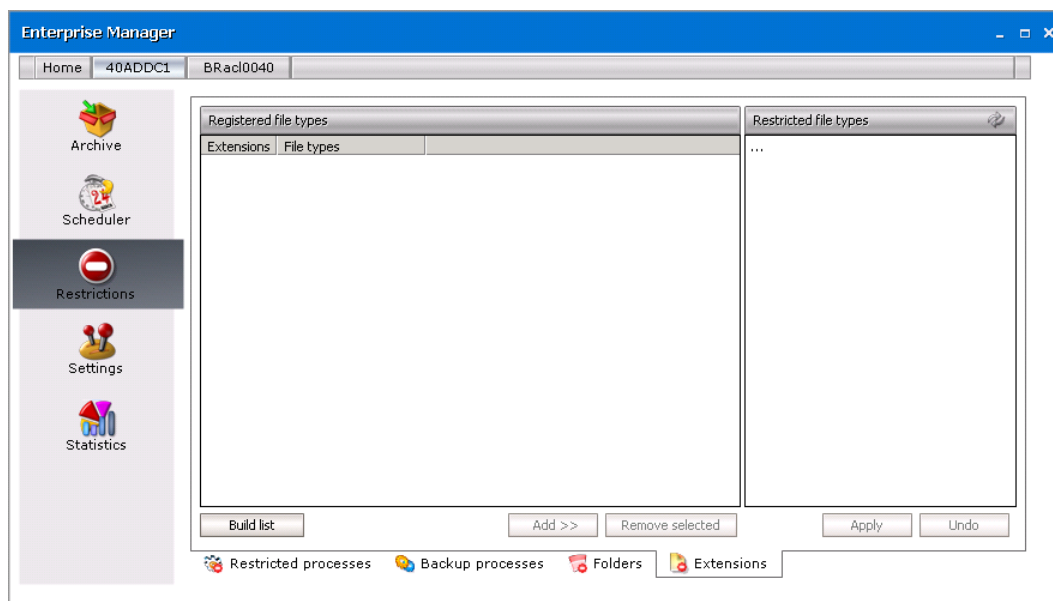
4. After clicking on the **Build list** button, all file types located on that computer will be displayed under **Registered file types**.
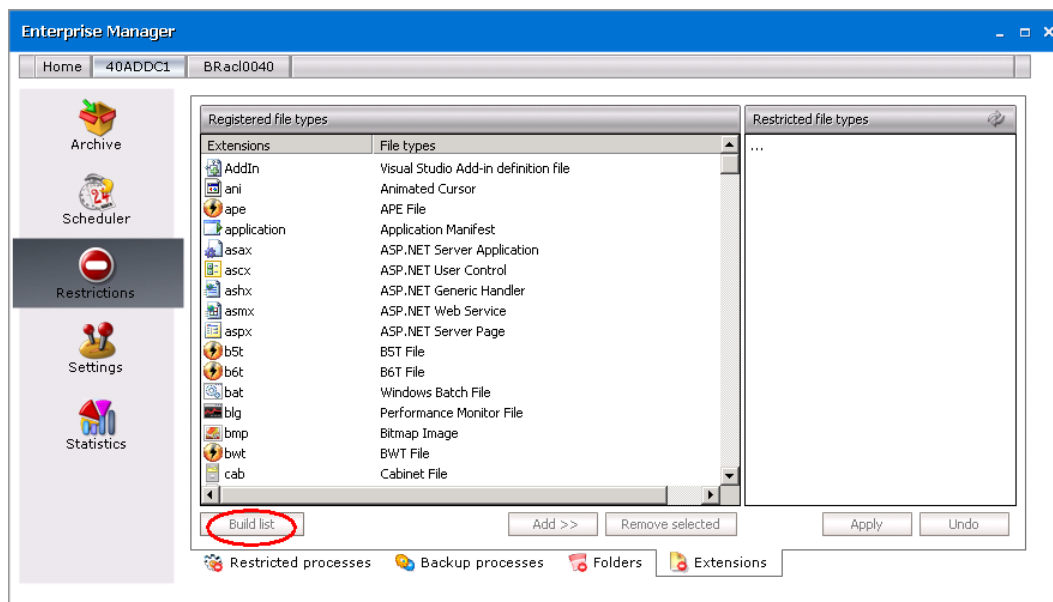
5. To add some of the registered files types among restricted ones, simply select them, and then click the **Select from list** button. Selected files types will be moved under **Restricted file types**.

    NOTE: Add files types to restricted ones also by double clicking the three dots and entering extension name (without the dot!)
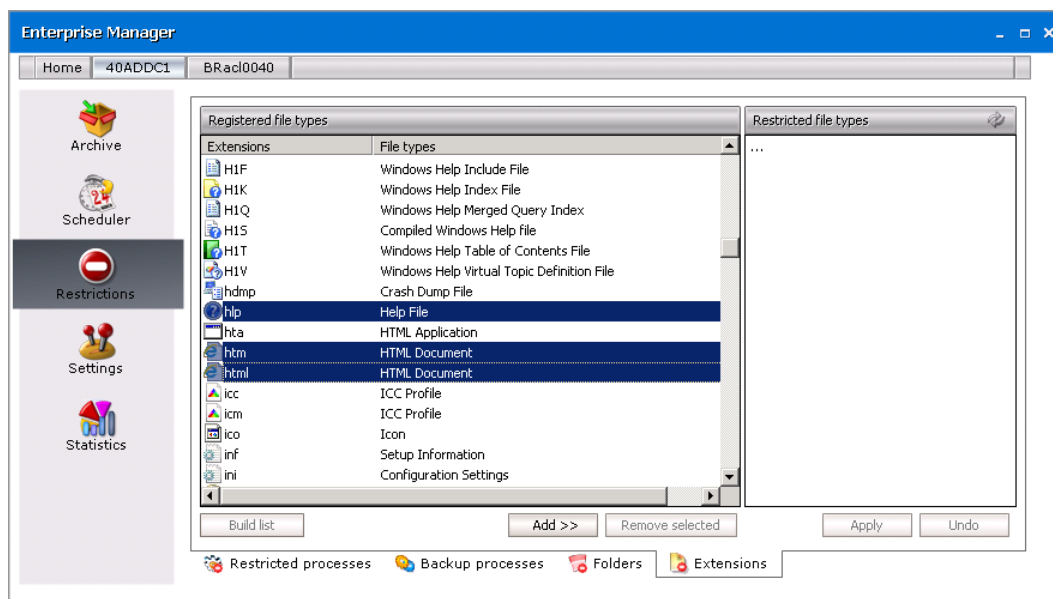
6. To confirm, click **Apply**.

    NOTE: If you have decided to archive certain already restricted file types, simply select them in the Restricted file types list, and then click on the Remove selected button (see the screenshot below).
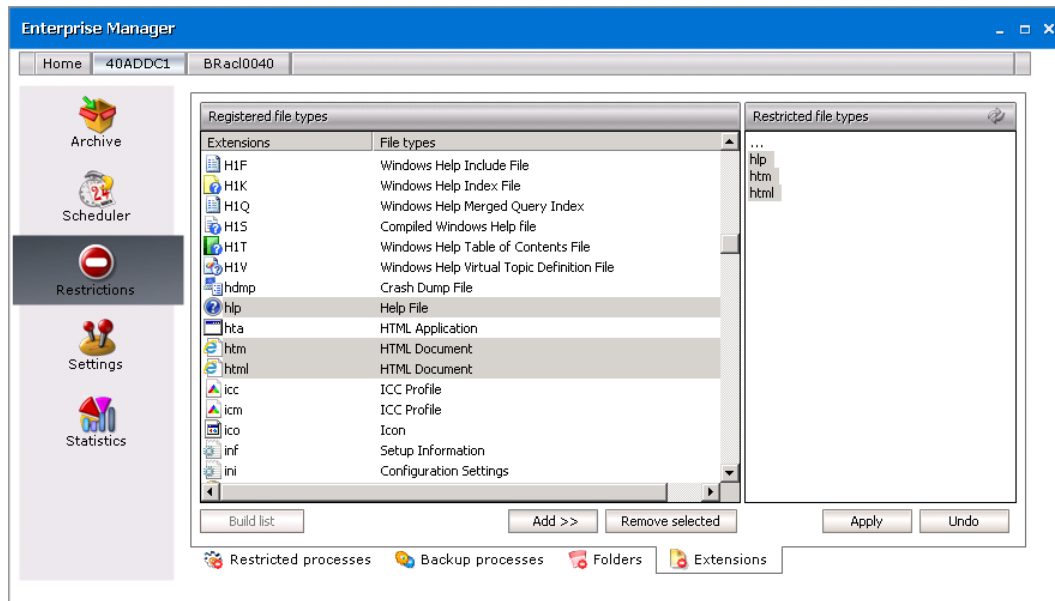
Settings

Before any archiving (either manual or automated) it is suitable to specify your settings regarding:

- retention categories (different time spans for which archived items will be kept in the HSM store even if you mark them for deletion), the backup time (the time interval allocated during the day for making the backup of the database), shortcut creation and audit log on the General tab

- email notification on the Notification tab

- compression of files on the File compression tab

- permissions for users on the User management tab

- storage system on the Storage tab

General

On this tab you may specify the backup time, audit log, shortcut creation, and different retention categories determining document lifecycle, i.e. archiving method, retention time etc. License information is also available here.

Backup time

We strongly recommend setting the **Backup time** first. This time is reserved for the database backup. During the backup period no information can be stored or requested; archiving process is stopped and will continue afterwards. Select the Backup time check box and then enter the desired period in the two text boxes. Please pay attention to this period, so that it is not set during working hours.
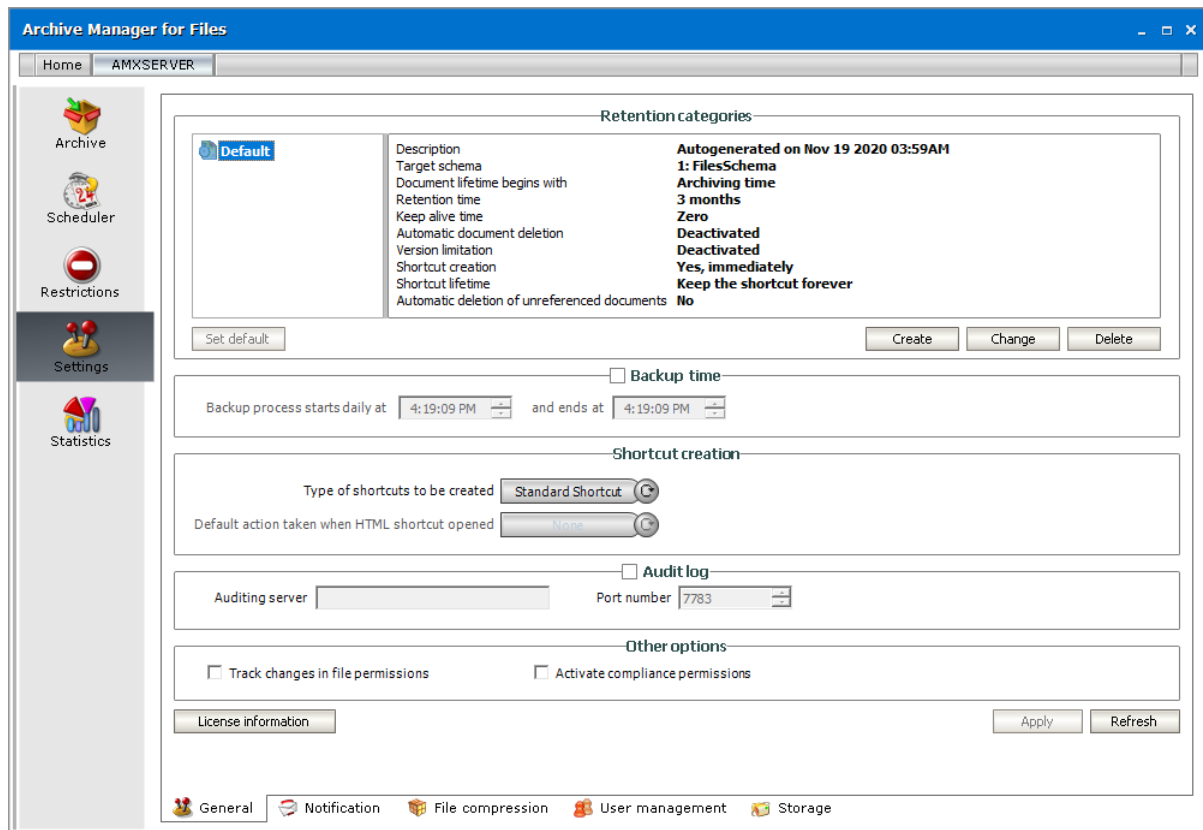
If you want to get information about license validity, click the License information button.

Audit log

If Auditing feature was installed, you need to activate it on this tab. To activate auditing, check Audit log check box. In the Auditing Server enter the name of the machine where the Auditing feature is installed and specify the Server Port (the default port is 7783).

All actions made in the Archive Manager for Files console create a log entry in the auditing database. The audit logs can be viewed in the ArchiveWeb. The Auditing tab is visible just for permitted users.

ℹ | **NOTE:** For more information about Auditing see the *Auditing Guide*.

Other options

Track changes - when selected, any file system permissions changes for the files that have been archived are also updated in the Archive Manager for Files database. Otherwise the application stores only files permissions applicable at the moment of archiving and does not perform any updating.

Activate compliance permissions - when selected, then the compliance tab, the compliance permissions and other compliance functionality are activated through ArchiveWeb. If the check box is cleared, the compliance functionality are deactivated in ArchiveWeb.

NOTE: Supported on Windows Server 2012 R2 or higher. For more information about this feature see the *Compliance* section in the *Metalogix Archive Manager for Files - ArchiveWeb Guide*.

Retention categories

In the Retention categories section different retention categories for file archiving can be set. Various types of documents require different ways of archiving. The time for which they need to be stored and retrievable can differ as well. You can create retention category for short-term documents, retention category for long-term documents etc. In the following lines we discuss the usage of retention categories, their description and management.

The retention categories which are created here can be assigned to jobs on the Scheduler/Jobs tab. They can be also used at manual archiving (see the "Archive tab" section). Retention categories are defined through the following range of settings:

Settings related to documents in the archive:

- Retention time – the archived document is not delete-able from the HSM Store for the defined time period. Retention time is a critical feature of Archive Manager for Files related to law regulations. Documents 'deleted' in file system are still actually residing in the archive until this retention time expires.

- Keep-alive time – it is the time period after document deletion, during which the deleted document can be turned back to the file system.

- Document expiration time – the document, although not marked for deletion, is automatically deleted (by the Delete job) from the archive after the expiration of the defined time period. It is the MAXIMAL time for which the document resides in the HSM Store. This time period cannot be smaller than the retention time.

Settings related to documents/shortcuts in the file system:

- Keep the original document – document is archived but it is not modified in any way (no icon, no shortcut, keeps residing in the file system). This option is used just for backup.

- Delete original document – the document is REMOVED from the file system immediately after archiving; no shortcut is created; it is NOT ACCESSIBLE from the file-system; such unreferenced documents are accessible only in Archive Manager for Files / Archive tab when you click the Show deleted items icon (right upper corner) or in ArchiveWeb.

- Create shortcut – the document is archived and it is replaced with a shortcut. This type of archiving saves the space on the file system and at the same time allows the user to work with the archived document just as with a non-archived one. Document can be replaced with the shortcut immediately or it is kept without changes for the defined time period and only after its expiration shortcut is created ("Delay shortcut creation by" option).

  o Delete shortcut after a time – the document shortcut is automatically removed from the file system after the expiration of the defined time period (user cannot reach it any longer in file system). However the document still resides in HSM Store.

The shortcut has its pros and cons. Shortcuts save space on the file server. However, with often accessed documents the original file is retrieved frequently and the network traffic is high. With often accessed documents we recommend keeping no shortcut on the file-server, but the file itself. It is important to balance high network traffic against fast file accessing. This task is effectively managed via Archive Manager for Files shortcut lifecycle settings:

- Create shortcut immediately – shortcut is created at the time of archiving

- Delay shortcut creation – document is archived but still remains also in the file system; only after time period defined under the "Document lifetime begins with" setting (when it is not eventually accessed so often any more) it is replaced by a shortcut

- Create shortcut if the document was not used at least for – similar as above: document is archived but still remains also in the file system. Shortcut is created only after the document was not accessed for the defined time period.

Further settings define the shortcut lifecycle:

- Keep shortcut forever – shortcut is left in the file-system

- Delete shortcut after – shortcut is deleted after the defined time period; keep in mind that after the shortcut is deleted, the document in NOT accessible from the file-system

The "Delete shortcut after a time" feature can be used to reduce the number of "redundant" shortcuts left in the file system after a specific number of days, months or years.
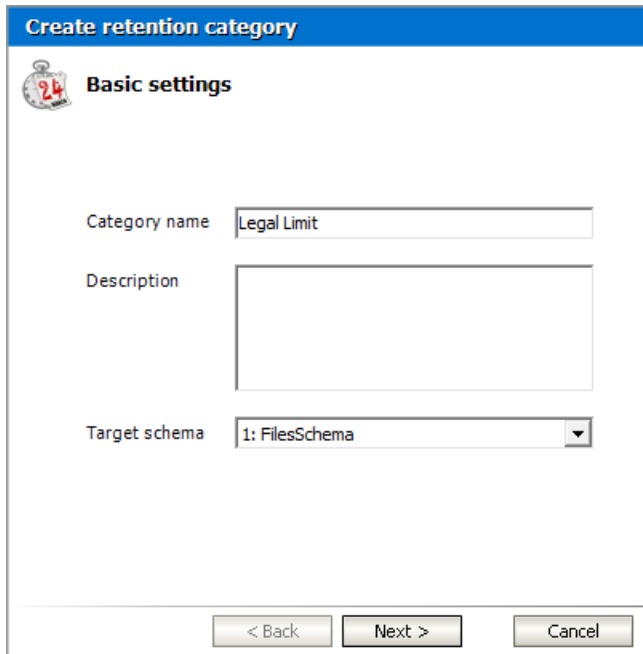
Archived document lifecycle:
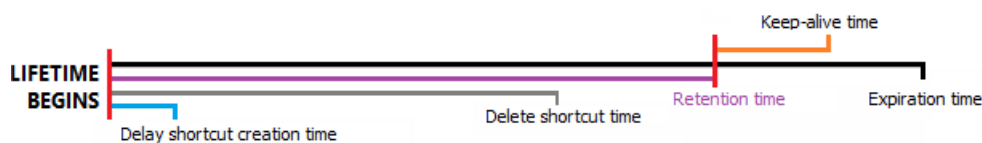
In addition to default retention category created during the installation the administrator is able to create any number of retention categories satisfying specific criteria of the enterprise. Different retention categories are then assigned to different jobs. The retention category consists of a name, a description, the above mentioned retention settings and of the HSM scheme. It is fully manageable from Archive Manager for Files.

Creating a new retention category

1. On the **Settings** > **General** tab click **Create** in the *Retention categories* section. The *Create retention category* wizard starts and the *Basic Settings* window opens.

Enter the information as described below:

a. **Category name** - name of the retention category.

b. **Description** - (optional) enter a description for the retention category.

c. **Target schema** - select an HSM store schema from the drop down list. HSM schemas describe archive behaviors for the store that is linked to each schema. HSM schemas are configured with the configuration tool.

2. Click **Next**. The *Document lifetime* window opens.

Create retention category

Document lifetime

Retention time is

[fixed ▼] [3 ▲▼] month(s)

Document lifetime begins with

[Archiving time ▼]

Keep alive time

[0 ▲▼] [Days ▼]

☐ Activate document expiration after

[1 ▲▼] [Days ▼]

☐ Limit number of archived versions

[1 ▲▼] version(s) of a document

[< Back] [Next >] [Cancel]

Enter the information as described below:

a. **Retention time** - during this period none of the documents in the HSM store can be removed from the archive. Documents can be marked for deletion before this time elapses and these documents will be deleted only after the retention time period ends. Choose from the following options:

- **Fixed period** - set a fixed retention time period in months.

- **Indefinite period** - the retention time is not set immediately but can be defined later.

- **Infinite period** - retention time does not end.

b. **Document lifetime begins with** - select the document lifetime starting point to calculate the Retention time and other time periods such as shortcut creation time, delete job start time to delete expired documents and documents marked for deletion, the file creation time, archiving time or last modification time.

c. **Keep alive time** - this is the time period after the retention period commences, during which the document will be retained in the HSM Store although it was marked for deletion. It is a security feature which allows administrator to reverse the deletion if necessary. It can be set in days, months, years.

d. **Activate document expiration after** - select the check box if you want to permanently delete archived documents whose retention time has elapsed. The expiration time specified here must be longer than the **Retention time**. If the expiration time is not set, documents that are *not* marked for deletion are retained in the archive.

e. **Limit the number of archived versions** - select this check box to set how many versions of a document the system should keep in the archive. For example, if you set this value to 3, then every new version that is created is archived and the oldest version is marked for deletion.

3. Click **Next**. The *Shortcut lifetime* window opens.

Enter the information as described below:

a. **Keep the original document** - documents will be copied to the archive and there is no change in the file system.

b. **Delete the original document** - documents will be moved to archive and will not remain in the file system.

c. **Create shortcut** - the document will be archived and replaced with a shortcut.

d. **Create shortcut immediately** - shortcut is created immediately after archiving of the document.

e. **Delay shortcut creation by** - shortcut is created after specified time calculated from the time defined in the **Document lifetime begins with** property in the previous step.

f. **Create shortcut if the document was not used at least for** - shortcut is created if the document is idle from the time when the document was last time retrieved from the archive or from the start point defined in the **Document lifetime begins with** property if document has not been retrieved.

4. Click **Next**. The *Additional settings* window opens.
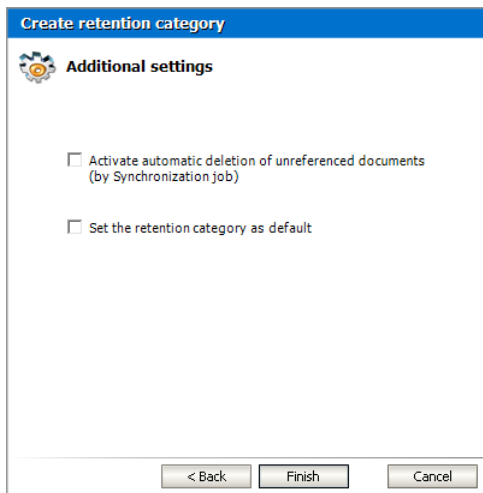
Choose the options as described below:

a. **Activate automatic deletion of unreferenced documents** - select this check box so that archived documents can be marked for deletion whenever the synchronization job cannot find the reference (shortcut) to the document in the file system. If the check box is not selected, the synchronization job will not mark unreferenced documents for deletion. The process for deleting unreferenced documents is as follows:

   i. Documents are archived by a retention category with **Activate automatic deletion of unreferenced documents** checked and shortcuts are left in the file system.

   ii. You delete shortcuts from file system → documents become unreferenced

   iii. The Synchronization Job runs → unreferenced items are marked for deletion

   iv. Items marked for deletion are deleted from archive when their Retention (and Keep alive) time elapses and the Delete job runs

b. **Set the retention category as default** - select this check box to automatically use this category for archiving file. If none of the retention categories is marked as default, the system context menu for manual archiving does not work.

5. Click **Finish**. The retention category appears in the *Retention categories* section of the *General* tab.
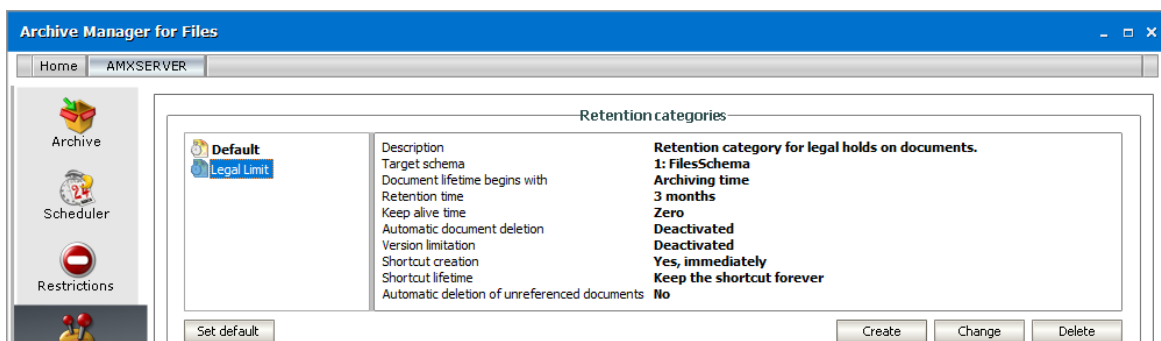
Shortcut creation

Archive Manager for Files as an archiving tool unloads the file server(s) by archiving files to the HSM store and leaving just shortcuts in the original file location. These shortcuts can be of two types: STANDARD (fsa) and HTML.
Set your preferred settings in the Shortcut creation section of the General tab.

NOTE: These settings apply in general. However, Archive and DirectArchive job types can have its own settings regarding shortcut creation defined.

In the Type of shortcut to be created switcher you can choose from the following possibilities:

- Standard Shortcut (fsa) – archived files are replaced with standard shortcuts

NOTE: If the application is unable to create shortcut (compression error), there are two ways to solve the problem:

a)   In Regedit, navigate to the location below:

- HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\FileSystem

In the right pane, right click on NtfsDisableCompression and click on Modify.

Type 0 (number zero) and click on OK. Close Regedit. Restart the computer to apply changes.

b)   In Start menu:

      - Administrative Tools – Group Policy Management – Default Domain Policy (right-click to Edit) – Computer Configuration – Policies – Administrative Templates: Policy Definitions (ADMX Files) retrieved from the local machine – System – File System – NTFS – Do not allow compression on all NTFS volumes (right-click to Edit) – choose option: Disabled

- HTML Shortcuts – archived files are replaced with the HTML shortcuts which are pointing to the exact file in the archive. The shortcut has the same name as the original file, just the HTML extension is added to its original extension.

When the HTML Shortcut option is selected, the Default action taken when HTML shortcut opened switcher is activated. Specify the default action for loading of the archived documents:

- o None – user will have the opportunity to decide whether to open or retrieve the file
- o Open file – file will be opened from the archive
- o Retrieve and open – file will be retrieved and shortcut deleted

NOTE: For more information about file retrieving see "Opening/Downloading the HTML shortcuts".

After you have specified your settings click Apply.

Opening/Downloading the HTML Shortcuts

When archiving files, Archive Manager copies them to another location to make a backup or replaces these files with standard or HTML shortcuts to save the storage space on the file server (see "General tab"). While HTML shortcuts require further settings related to the file downloading these will be described in this chapter.

Creating HTML shortcuts for the whole Archive Manager server is done on the Settings/General tab of the Archive Manager for Files. By selecting the HMTL Shortcut option in the Shortcut creation section the Default action taken when HTML shortcut opened switcher gets activated. Three options are available:

a) None
b) Open file
c) Retrieve and open

Let's explain what each option exactly means:

a) None

In this case you can decide whether you want to open the file or retrieve it from archive, i.e. shortcut will be deleted. When double-clicking on the HTML shortcut the current Web-browser is being opened. In the Get file window you can see two hyperlinks.

Click the first one if you want to open the file. Then click Open.
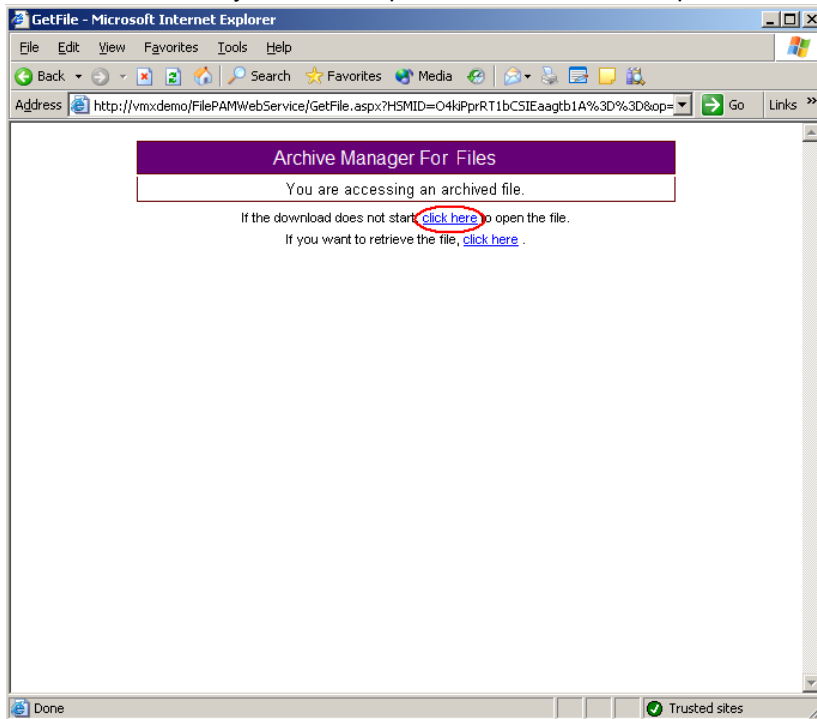
Click the second one if you want to retrieve the file. It will be retrieved to its original location. The next dialog informs you that the file was retrieved successfully. Click the link to open the file (in our example click "C:\Archive folder\Test\Test.txt").
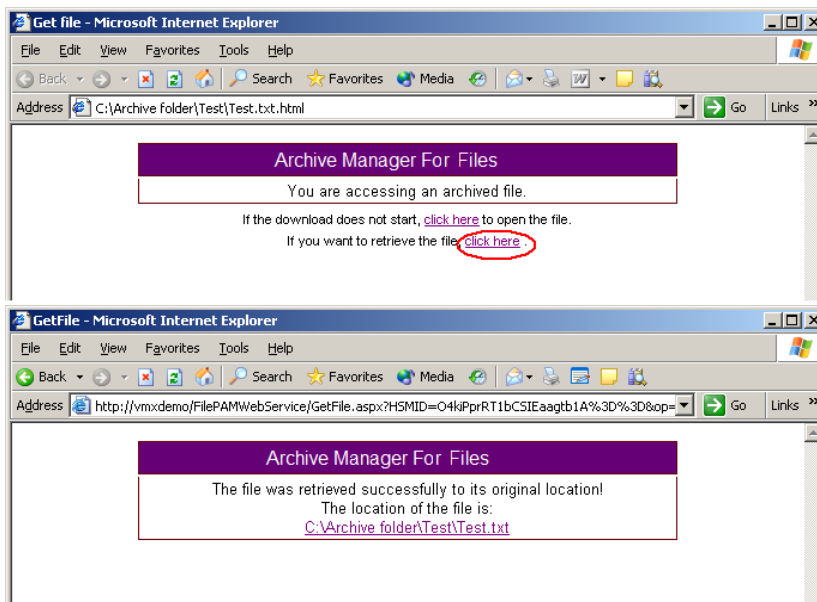
NOTE: The original location of the file can be different from the location of the HTML shortcut.

b) Open file

When double-clicking on the HTML-shortcut the current Web-browser is being opened. In the File download window click Open. The Web-browser recognizes the MIME-type of the file and opens it in its viewer application usually embedded in the Web-browser.
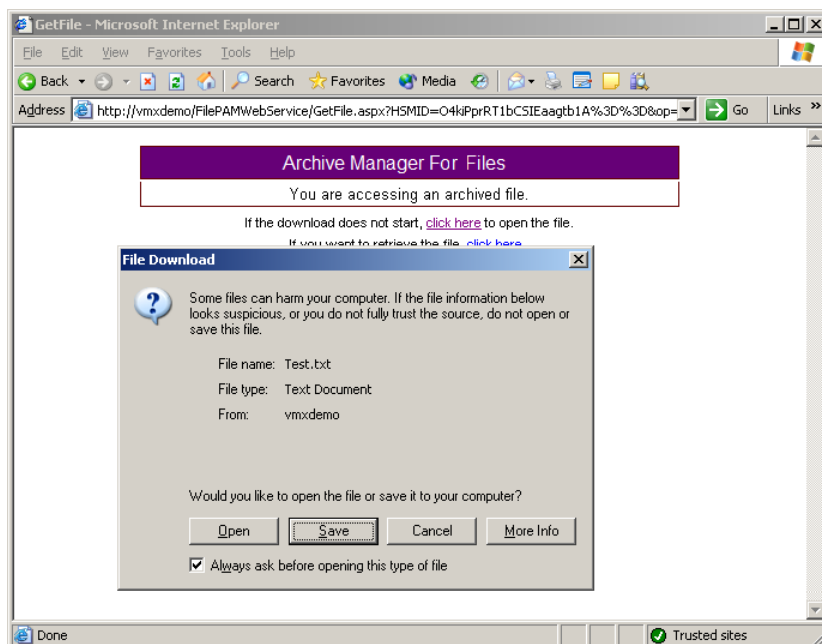
c) Retrieve and open file

After double-clicking the HTML shortcut the GetFile window opens. The dialog informs you that the file was retrieved to its original location and then the desired file will be opened. (Or click the link to open the file. In our example click "C:\Archive folder\Test\Test.txt").
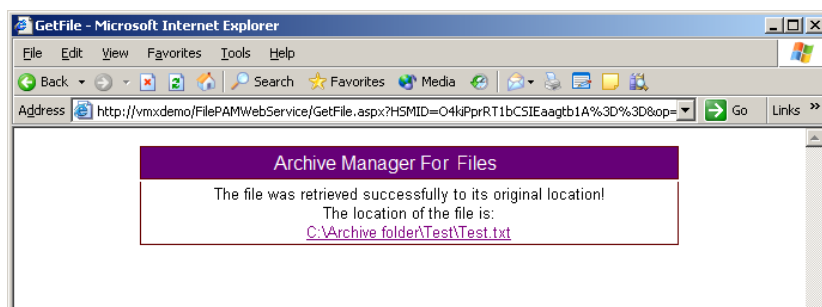
NOTE: The original location of the file can be different from the location of the HTML shortcut.
NOTE: After retrieving the HTML shortcut is deleted.

Notification

The e-mail notification feature helps you to be always informed about your scheduled jobs and receive emails with up-to-date data regarding job running. For this purpose you need to:

1. configure the notification settings on the Notification tab

2. allow notification for jobs about which you wish to be notified. This is done on the Scheduler / Jobs tab in the Job properties section. (See "How to define a job".)

The notification email contains the basic Job(s) properties and a note if any errors occurred during the job running. The report is sent as an attachment.

NOTE: The e-mail notification cannot be activated for the DirectArchive job.
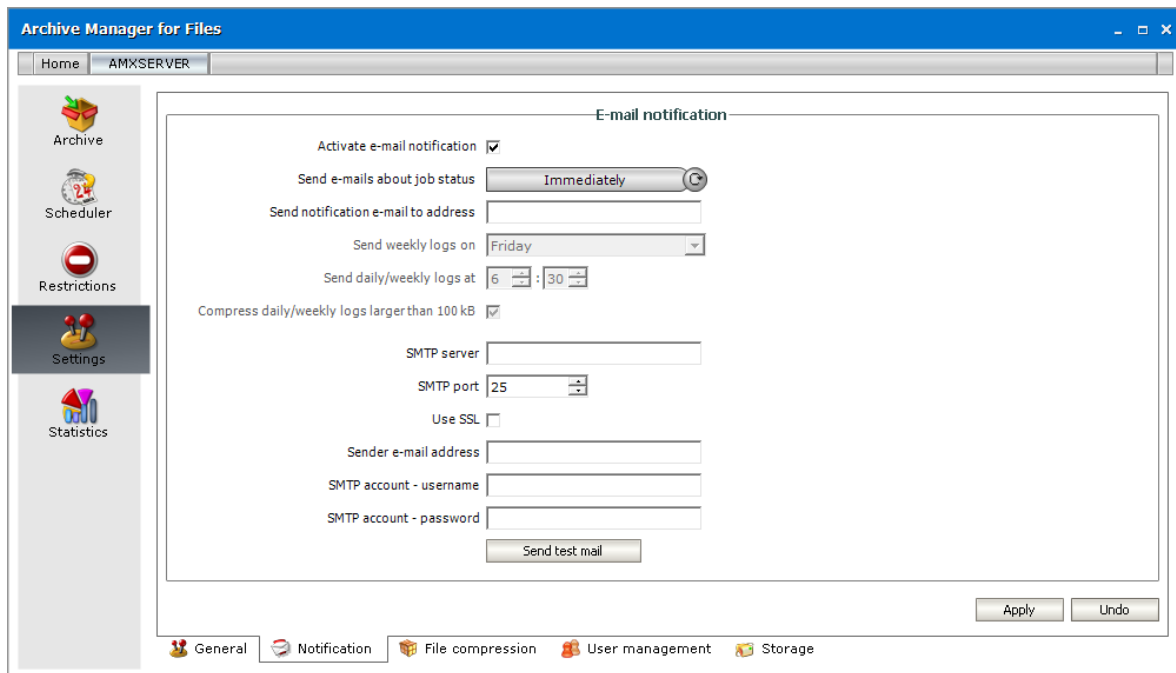
Check **Activate e-mail notification** check box to allow notification.

Use the **Send e-mails about job status** switcher to choose between Daily, Weekly or Immediate notifications. Should you choose the Immediately option, the notifications will be send just after the job stops running.

In the **Send weekly logs on** drop down specify the day of the week for weekly notifications and in the **Send daily/weekly logs at** fields set the time for daily/ weekly notifications. The notification email will be send at the specified time.

Check **Compress daily/weekly logs larger than 100kB**, too. Archive Manager for Files will try to pack the huge summaries with ZIP in order to reduce the size of the sent email. To do so, you will need Microsoft Visual J# Version 2.0 Redistributable Package installed on the server. If you experience any problems using this feature, e.g. the mail is not sent, please try installing the above mentioned package or simply uncheck the check box.

In the **SMTP server** and **SMTP port** that is used by you organization for outgoing emails.

Select the check box **Use SSL** if your email server is uses SSL.

Enter the **Sender e-mail address**, **SMTP account - username** and **SMTP account - password** in the respective text boxes.

To confirm, click **Apply**.

Finally click **Send test mail** to test the connection and the data you have entered. The addressee defined should receive a test mail in a few seconds depending on the SMTP server.

File compression

On this tab the administrator may specify files, with regard to their size, which will be compressed during archiving process. It is also possible to exclude certain file types from compression.

How to set compression criteria with regard to file size

1. Click on the Settings tab.

2. Click on the **File compression** tab.

3. Select the **Compress files by default** check box. (This is crucial otherwise no compressing will take place.)

4. Select the **Compress files by size** check box.

5. Enter values in the **Compress files if their size is between** *n* **bytes and** *n* **kilobytes** boxes.
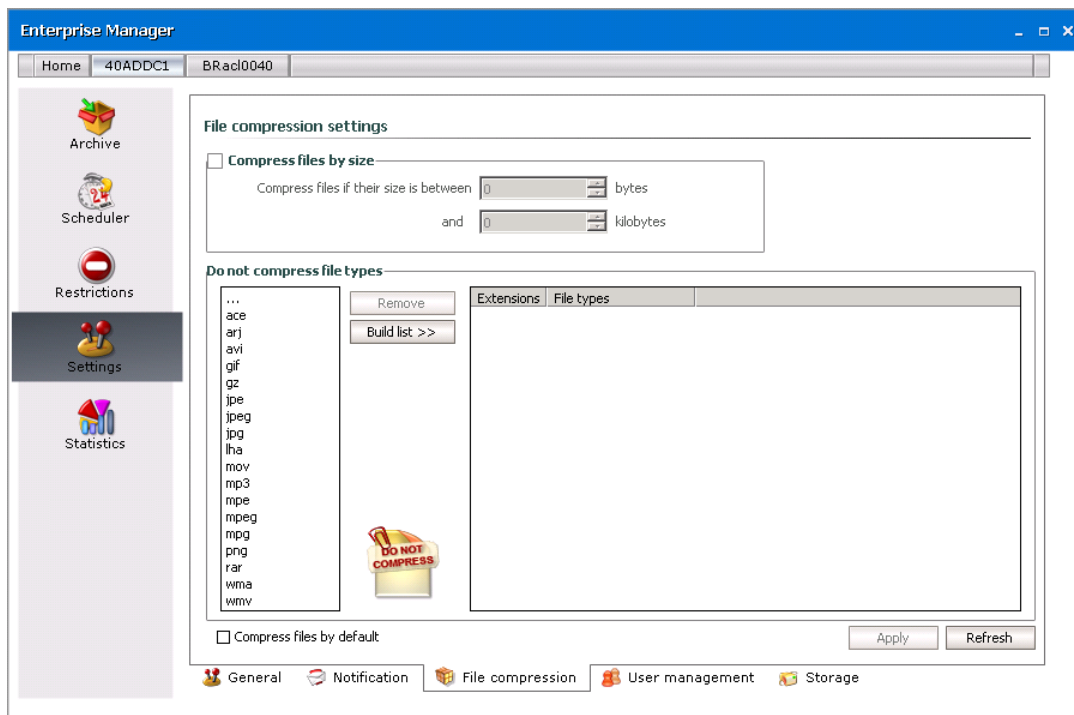
IMPORTANT: Providing that the Compress files by default check box is unselected, no compressing will take place.

How to exclude certain file types from compressing

1. Click on the Settings tab.

2. Click on the **File compression** tab.

3. Click on the **Build list** button.
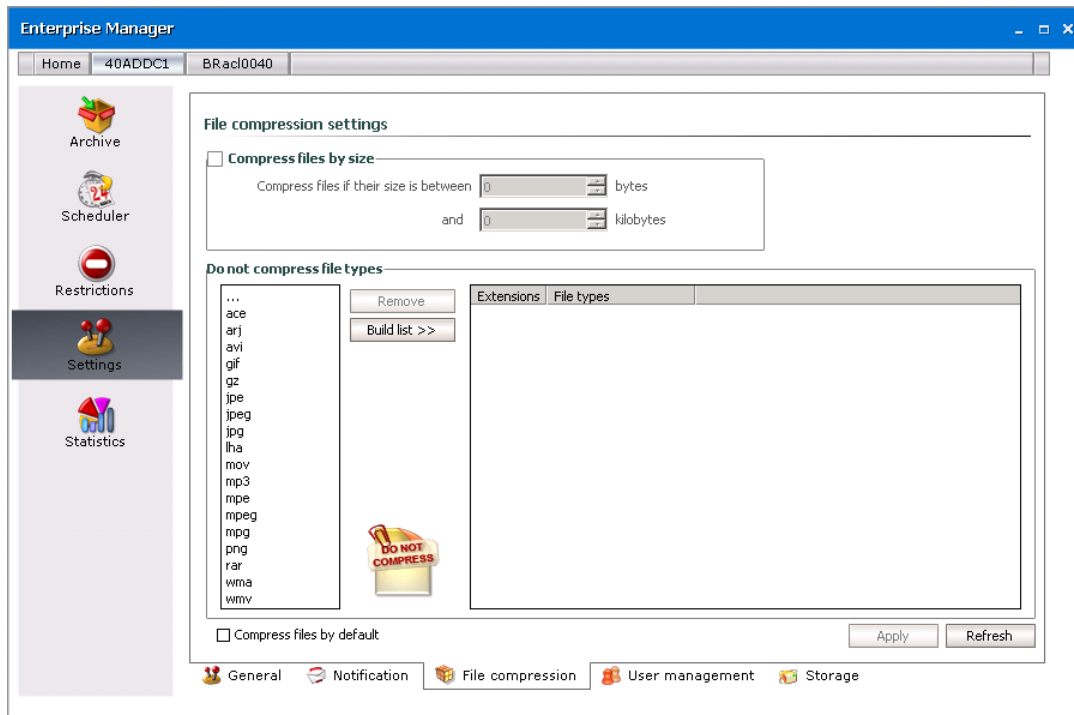
4. After clicking on the **Build list** button, a list of all file extensions gets displayed in the right list box. Select the desired ones and then click on the **Add** button. After clicking on **Add**, the respective file extensions are moved in the **Do not compress file types** list box.

NOTE: The administrator may also double-click the three dots and then enter the desired file extensions (without a dot!).
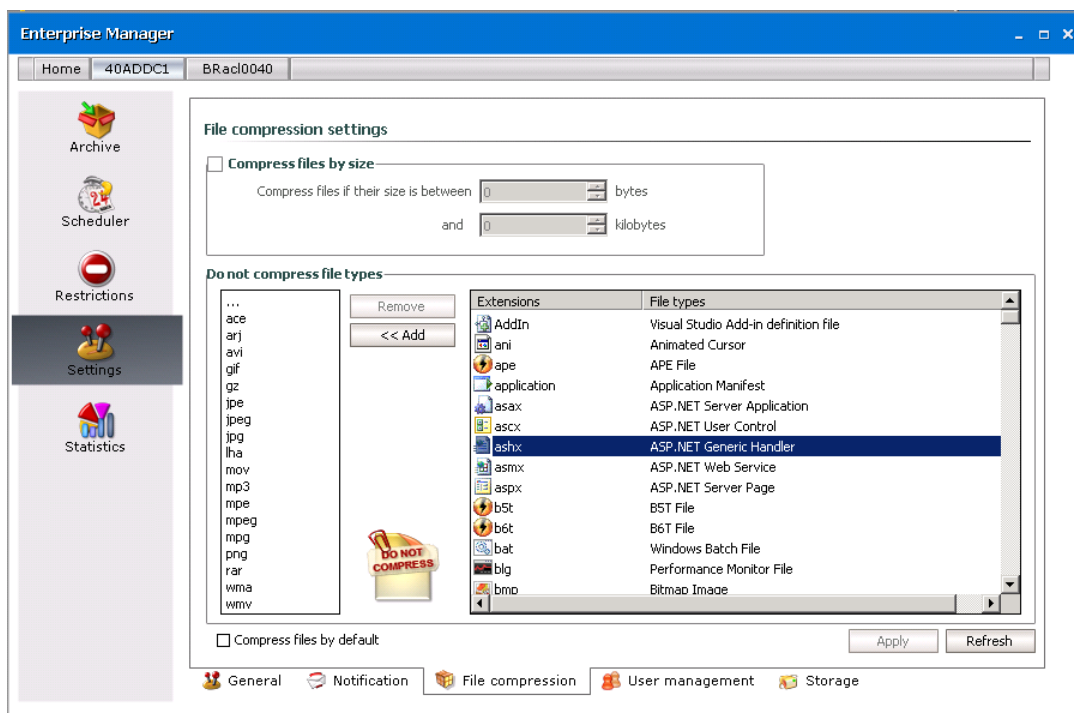
5. Click **Apply** to confirm.

NOTE: Should you wish to include for compressing some already excluded file types, simply select the respective file extensions in the **Do not compress file types** list box and then click on the **Remove** button.

User management

On this tab the administrator may specify users' permissions for Archive Manager for Files features. This means that individual users can be given permissions to archive/retrieve files, to retrieve versions, to mark versions for deletion, to change jobs etc.

All such rights should be specified individually for each user. New user accounts can be added onto this tab (in order to manage users' permissions) simply by using the Add button.

Steps to assign rights

1. Click the **Settings** tab.

2. Click the **User management** tab.

3. Select the desired user account in the left pane.
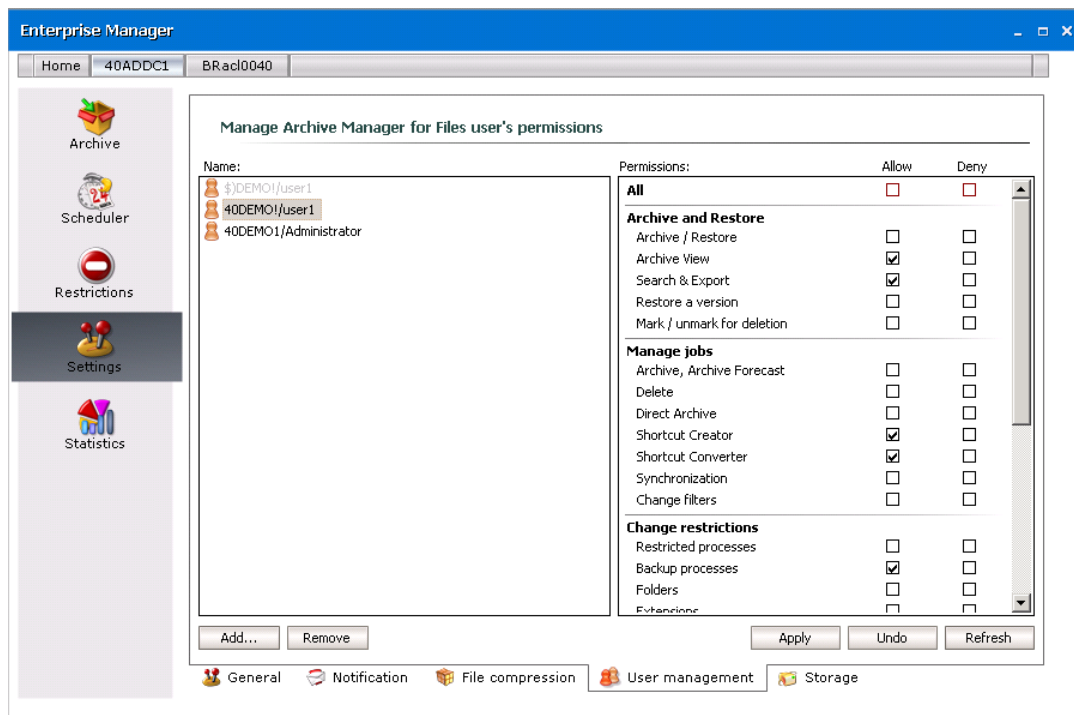
4. In the left pane select the user account whose permissions you want to manage. Then in the right pane set the permissions for the Archive Manager features for the selected user by selecting either the *Allow* or *Deny* check boxes for the corresponding feature. For example, to allow a user to mark archived files in the HSM store for deletion, select the check box under the *Allow* column against the **Mark for deletion/Remove deletion mark from a version** feature.

   i | **NOTE:** To allow or deny all settings at once use the Allow All and Deny All check boxes.

5. To confirm, click **Apply**. If you click **Undo** you will cancel all changes that have been made since you last clicked **Apply**.

Storage

Archive Manager for Files provides a powerful backup solution aimed at saving disk space by saving files on mass storage devices. This device can be a Network Appliance or a VNX file server. To backup your files on them you need to include these devices on the Storage tab. Further, on this tab you can also define Generic File Server (remote computer) from which you can archive files without a need to install Archive Manager for Files on it.

NetApp Cluster

NetApp devices can be used when they are added to the **Storage** tab. After a standard installation, this tab is visible to the administrator. To grant one or more users the ability to use the NetApp device(s) you must grant the user the rights to the Storage tab.

Metalogix Archive Manager supports the NetApp Cluster Mode environment. A NetApp cluster consists of one or more nodes grouped together to form a scalable cluster. Creating a cluster allows the nodes to pool their resources and distribute work across the cluster, while presenting administrators with a single entity to manage. Clustering also allows continuous service to end users if individual nodes go offline. Depending on the controller model, node storage consists of flash disks, capacity drives, or both. Nodes communicate with each other over a private, dedicated cluster interconnect.

To use Metalogix Archive Manager with a NetApp cluster mode environment it is necessary to create, configure and activate **FPolicy**. NetApp® FPolicy® is a file access notification framework that allows an administrator to monitor file access over CIFS protocol. When configured for Metalogix Archive Manager, **FPolicy** monitors events in the NetApp environment and sends notifications to the Metalogix Archive Manager (**MAM FSA FPolicy Server**) every time a user opens a stub file. Metalogix Archive Manager listens to these events and restores a file every time an 'open' request is received.

There are several steps you must perform to create an **FPolicy** configuration:

1. Plan your configuration.

2. Create an **FPolicy** external engine

3. Create an **FPolicy** event

4. Create an **FPolicy** policy.

5. Create an **FPolicy** scope and attach it to the **FPolicy** policy.

6. Activate the **FPolicy** policy.

Prerequisites

1. Configured and running NetApp (Cluster mode) environment with CIFS servers.

2. Installed Metalogix Archive Manager .

NetApp Fpolicy configuration steps

1. Log into **NetApp Admin node console**.

2. Create an **FPolicy** external engine.

   The cluster uses the external engine to hold configuration information that it needs in order to send notification information to the **FPolicy** servers. It specifies the primary servers and secondary servers to which the cluster will send notifications. It also specifies **FPolicy** server related configuration information.

   Metalogix Archive Manager requires FPolicy external engine sending notifications to **MAM FSA FPolicy Server**. This service is part of Metalogix Archive Manager for Files installation. Default port used by **MAM FSA FPolicy Server** is 7790.

   Example:

   ```
   vserver fpolicy policy external-engine create -vserver svm1  -engine-
   name policy_engine -primary-servers 10.16.1.1 -port 7790 -extern-engine-
   type synchronous –ssl-option no-auth
   ```

   ℹ **NOTE:**

   vserver svm1: svm1 - is the name of the Storage Virtual Machine with the CIFS share archived by Metalogix Archive Manager.

   primary-servers: 10.16.1.1 - 10.16.1.1 is the IP address of the server with Metalogix Archive Manager FSA FPolicy Server installed.

   port 7790 - 7790 is the port under which Metalogix Archive Manager FSA FPolicy Server listens.

   To verify the **FPolicy** external engine has been created you can use `vserver fpolicy policy external-engine show` command.

Vserver	Engine	Primary Servers	Secondary Servers	Port	External Engine Type
svm1	policy_engine	10.16.1.1	–	7790	synchronous

3. Create an **FPolicy** event.

   An event describes what to monitor. An event can contain protocol, file operations, filters, and volume operation event types. In the **FPolicy** configuration, an event is attached to an **FPolicy** policy. You can attach the same event to one or more policies.

   Metalogix Archive Manager requires monitoring of **open file** operations over offline files.

Example:

```
vserver fpolicy policy event create -vserver svm1 -event-name cifs_event
-protocol cifs -file-operations open -filters offline-bit  -volume-
operation true
```

i | **NOTE: vserver svm1: svm1** is the name of the **Storage Virtual Machine** (**Data VServer**) with the CIFS share archived by Metalogix Archive Manager

To verify the FPolicy event has been created you can use `vserver fpolicy policy event show` command.

```
           Event                          File                     Is Volume
Vserver    Name               Protocols  Operations  Filters      Operation
---------  ----------------   ---------  ----------  -----------  ------------
svm1       cifs_event         cifs       open        offline-bit  true
```

4. Create an **FPolicy** policy.

   Fpolicy policy associates an external engine from step 2 and one or more events from step 3 to the policy.

   You must create an FPolicy event name before creating an FPolicy policy. If you are using an external FPolicy server, you must also create an FPolicy engine before creating a policy.

   Example:

```
vserver fpolicy policy create -vserver svm1  -policy-name mam_policy -
events cifs_event -engine policy_engine -is-mandatory false -allow-
privileged-access yes -privileged-user-name demodomain\mam -is-
passthrough-read-enabled false
```

   i | **NOTE:**

   vserver svm1: svm1 is the name of the Storage Virtual Machine (Data VServer) with the CIFS share archived by Metalogix Archive Manager.

   events cifs_event: cifs_event is the name of the **Fpolicy** event that was created in the Step 3.

   engine policy_engine: policy_engine is the name of the **Fpolicy** engine that was created in the Step 2.

   privileged-user-name: demoadmin\mam is the name of the superuser under which Metalogix Archive Manager's services run.

To verify the **FPolicy** policy has been created you can use `vserver fpolicy policy show -instance` command.

```
                        Vserver: svm1
                         Policy: mam_policy
               Events to Monitor: cifs_event
                  FPolicy Engine: policy_engine
Is Mandatory Screening Required: false
           Allow Privileged Access: yes
User Name for Privileged Access: demo1\mam
      Is Passthrough Read Enabled: false
```

5. Create an **FPolicy** scope for an **FPolicy** policy.

A scope defines the boundaries on which the FPolicy policy will apply. The Vserver is the basic scope boundary. When you create a scope for an FPolicy policy, you must define the FPolicy policy to which it will apply and you must designate to which Vserver you want to apply the scope. There are a number of parameters that further restrict the scope within the specified Vserver. You can restrict the scope by specifying what to include in the scope. Or you can restrict the scope by specifying what to exclude from the scope.

Example:

```
vserver fpolicy policy scope create -vserver svm1 -policy-name
mam_policy -volumes-to-include * -export-policies-to-include * -file-
extensions-to-include *
```

ℹ️ **NOTE:**

vserver svm1: svm1 is the name of the **Storage Virtual Machine** (**Data VServer**) with the CIFS share archived by Metalogix Archive Manager.

policy-name mam_policy: mam_policy is the name of the FPolicy policy that was created in the Step 4.

To verify the **FPolicy** scope has been created you can use the `vserver fpolicy scope show -instance` command.

```
                    Vserver: svm1
                     Policy: mam_policy
          Shares to Include: -
          Shares to Exclude: -
         Volumes to Include: *
         Volumes to Exclude: -
Export Policies to Include: *
Export Policies to Exclude: -
File Extensions to Include: *
File Extensions to Exclude: -
```

6. Activate **FPolicy** policy for the specified **Vserver** and set its sequence (priority).

The sequence is used when multiple policies have subscribed to the same file access event. To modify the sequence number of a policy, the administrator must deactivate the policy (if it is activated) and then use this command to activate it with the new sequence number. Policies that use the default engine configuration have a higher priority than policies for any other engine, regardless of the sequence number assigned to them.

Example:

```
vserver fpolicy enable -vserver svm1 -policy-name mam_policy -sequence-
number 1
```

ℹ️ **NOTE:**

vserver svm1: svm1 is the name of the Storage Virtual Machine (Data VServer) with the CIFS share archived by Metalogix Archive Manager.

policy-name mam_policy: mam_policy is the name of the FPolicy policy that was created in the Step 4.

To verify the FPolicy has been activated you can use the `vserver fpolicy show-enabled` command.
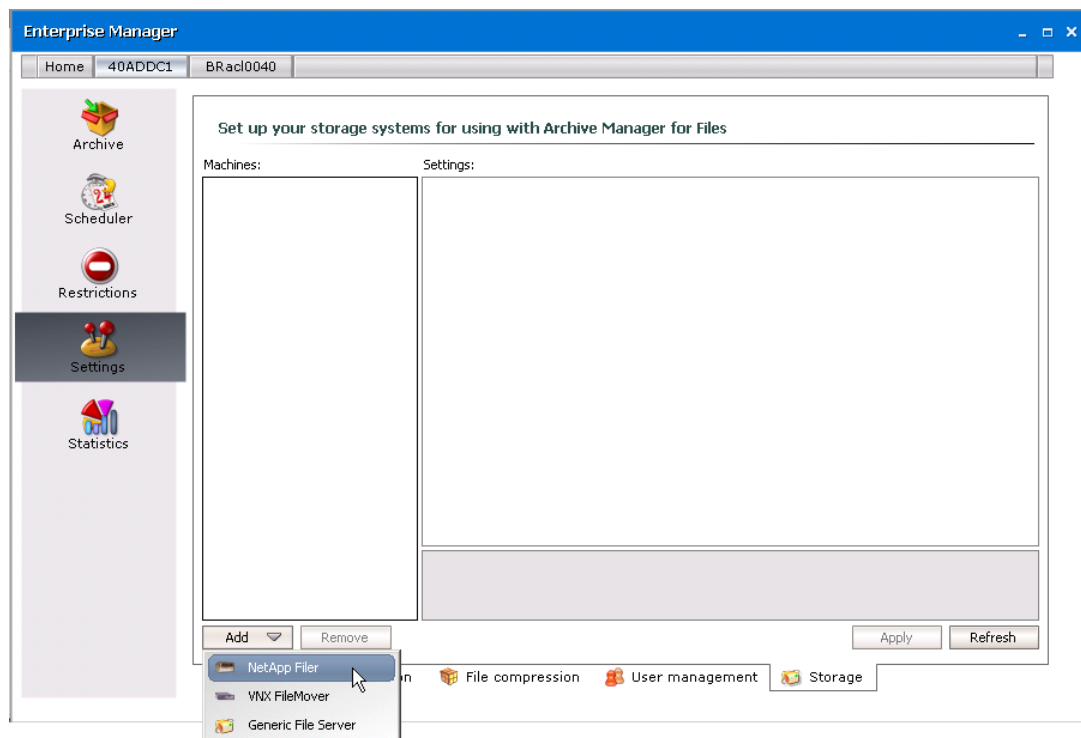
```
Vserver                 Policy Name               Priority
----------------------  ------------------------- ----------
svm1                    mam_policy                1
```
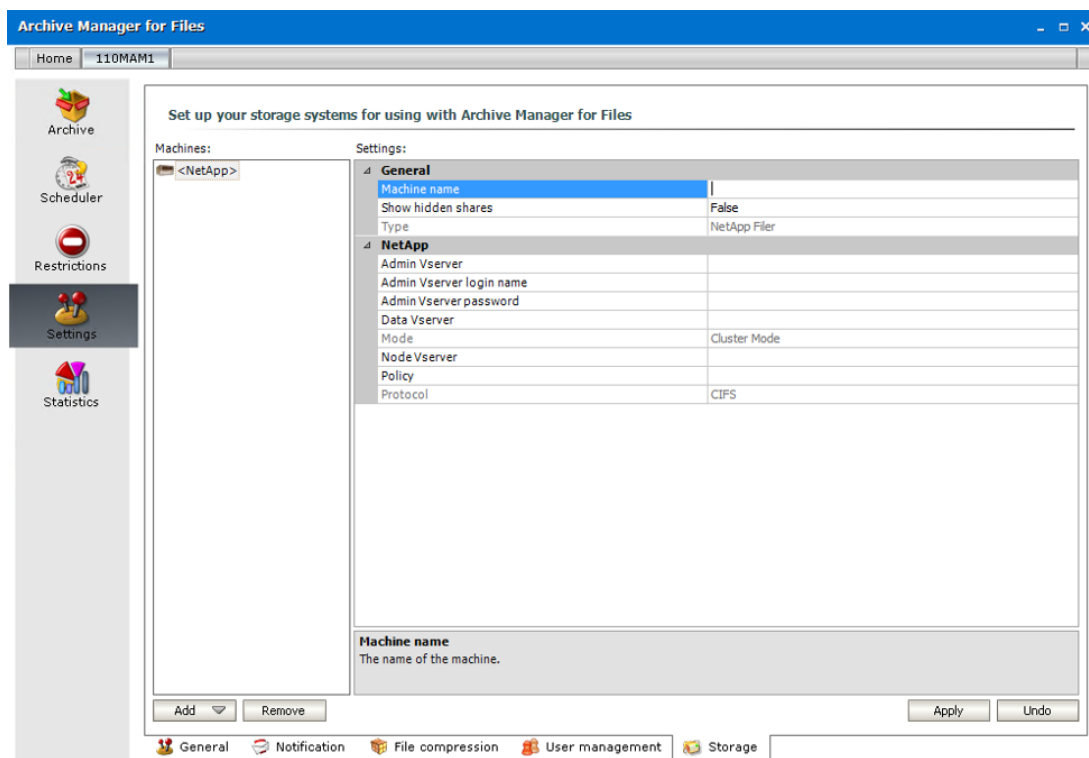
Steps to include a NetApp cluster

1. Click on the **Settings** tab.

2. Click on the **User Management** tab at the bottom of the screen.

3. From the left pane select the user name for which you want to activate the **Storage** tab.

4. Select the **Storage management** check box.
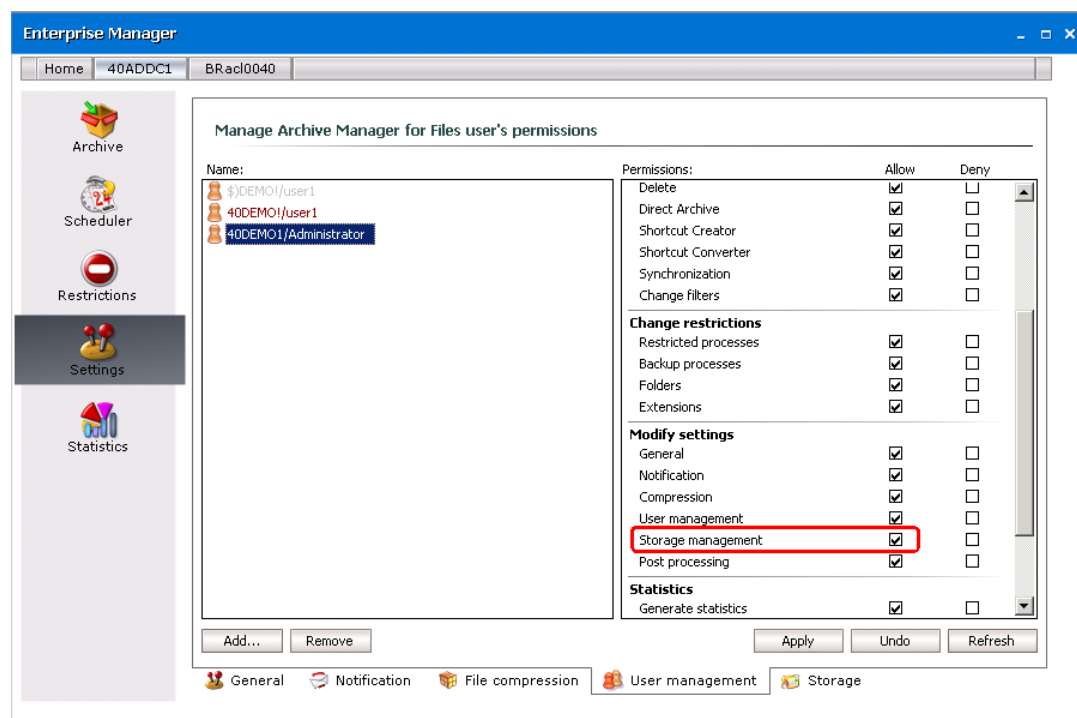
5. Click the **Storage** tab from the bottom of the screen.

6. Click **Add** and then click **NetApp Filer**.

Enter the parameters for the properties as described below:

Field	Description
Machine name	CIFS server name to be archived

Admin Vsever	IP adress of admin vserver
Admin Vserver login name	User name to log into admin server
Admin Vserver password	Password to log into admin server
Data Vserver	Name of **Data Vserver** (Storage Virtual Machine) with CIFS server.
Node Vserver	Name of **Node Vserver** in the NetApp cluster.
Policy	Name of the **Fpolicy** policy that you configured previously. See step 4 in the [NetApp Fpolicy configuration steps](#) 44 for more details.

i | **NOTES:** NetApp cluster consists of three types of **Vservers**, which help in managing the cluster and its resources, and the data access to the clients and applications. A cluster contains the following types of **Vservers**:

- **Admin Vserver** is created automatically by the cluster setup process.

- **Node Vserver** is created when the node joins the cluster. The Admin Vserver represents the cluster, and Node Vservers represents the individual nodes of the cluster.

- **Data Vserver** represents the data serving Vservers. **Data Vservers** are also referred to as **Cluster Vservers** because they are used to read and write data to and from the cluster. Unless otherwise specified the term **Vserver** refers to cluster (data-serving) **Vserver**, which applies to both **Vserver with FlexVol** volumes and **Vserver with Infinite Volume**. After the cluster setup, a cluster administrator must create Data (Cluster) Vservers and add volumes to these Vservers to facilitate data access from the cluster. A cluster must have at least one Data (Cluster) Vserver to serve data to its clients.

The user account that runs the Metalogix Archive Manager services must be part of the **BUILT-IN\Administrators** group on the Storage Virtual Machine with the CIFS share that is to be archived.

A sample NetApp configuration settings is shown below:

Settings:

General	
Machine name	**ONTAP-CIFS**
Show hidden shares	False
Type	NetApp Filer

NetApp	
Admin Vserver	**10.16.91.191**
Admin Vserver login name	**admin**
Admin Vserver password	••••••••••
Data Vserver	**SVM1**
Mode	Cluster Mode
Node Vserver	**ontapsim02-c1-01**
Policy	**mam_policy**
Protocol	CIFS

7. Click **Apply**.

After including a NetApp device, you may proceed with file archiving (see to learn how to archive either manually or by applying scheduled jobs).

Celerra & VNX FileMovers

Configuring Celerra & VNX FileMovers for use with Archive Manager for Files

The archiving of files on the Celerra & VNX FileMovers is achieved by putting them offline using HTTP commands sent to the FileMover API. Be default, only the Control Station can access the Celerra & VNX FileMovers API. Therefore the server_http command must be used to allow other IP addresses to access it. It is necessary to activate HTTP commands sending from the Archive Manager server to the Celerra & VNX FileMovers using the following server_http command:

```
server_http <data mover> -append dhsm -hosts <Archive Manager_server_IP>

Respond should look as follows…
<data mover> :

DHSM FACILITY CONFIGURATION
…
 ACCESS CONTROL
  Allowed IPs      : <Archive Manager_server_IP>
…




[This configures CELERRA & VNX FILEMOVERS API security and then restarts the API service
so that the changes take effect.]
```

Further you need to specify the authentication and a user. There are three types of authentication (none, basic, digest), but supported types for Archive Manager are these:
- none
- digest

In case you choose a "digest" type of authentication, you have to assign a user for DHSM commands. The user must exist or it should be created and assigned to the DHSM feature.

```
Specifying authentication:
server_http <data mover> -modify dhsm -authentication <authentication type>
```

Creating a user:
/nas/sbin/server_user <data mover**> –add –md5 –passwd <**User name**>**

Assigning the user to the DHSM feature:
server_http <data mover**> -modify dhsm –users <**User name**>**

Respond should look as follows...
   Authentication   : digest ,Realm : DHSM_Authorization
   Allowed user   : user1   (or valid)

[<User_name> is the name of the account (A Celerra or VNX account) that Archive Manager for Files needs to use for authentication. This user is a Data Mover user, not a domain user. A prompt for a "User ID" and "Group ID" may also occur. A suitable number is 1000 for both, unless this is in use elsewhere. The number must be unique and does not need to have "root" privileges. If prompted for a "Home Directory" just press Enter to continue and leave the entry blank.]

DHSM command must be allowed on the selected file system. This is done in the following way:

fs_dhsm -modify <file_system**> -state enabled**

Respond should look as follows...
<file_system>:
state   = enabled

[This command activates DHSM for the file system. If the DHSM in not activated, the next command will not establish he connection between Archive Manager and the Celerra & VNX FileMovers and the Celerra & VNX FileMovers will not be accepted in the Archive Manager for Files.]

As mentioned above the archiving of files on Celerra & VNX FileMovers is based on putting them offline. Then an URL pointing to the file in the archive is specified for each file. When VNX or Celerra is used with Archive Manager for Files this URL is the address of a .NET ASPX web page. The page ensures retrieving of the original file from the archive. That's why a non-CGI HTTP connection must be configured to the web page. It could be done in Celerra & VNX FileMovers administration console as follows:

fs_dhsm -connection <file_system> **-create -type http -secondary** http://<Archive Manager_server>/**HsmDownload -read_policy_override full -cgi n**

Respond should look as follows...
<file_system>:
...
```
cid                 = 0
   type                = HTTP
   secondary           = http://<Archive Manager_server>/HsmDownload
   read policy override = full
   options             = cgi=n
...
```
*[This command creates a Celerra & VNX FileMovers connection on the file system. This uses a Web server "**<Archive Manager_server>**" and specifies that files offlined*

> *via this connection could be retrieved from the virtual directory /HsmDownload in the hierarchical name space published by the web server. This command only has to be done once; it remains persistent across Data Mover boots.]*

If the web page is configured to require authentication, the above command line must be enhanced by –user and –password parameters, e.g.:

fs_dhsm -connection <file_system> **-create -type http -secondary** http://<Archive Manager _server>/**HsmDownload -read_policy_override full -cgi n -user** <user_name>

-password <password>

As a last step of the configuration, it is necessary to activate DHSM feature:

server_http <data mover**> -service DHSM –start**

Respond should look as follows…
```
DHSM FACILITY CONFIGURATION
Service Name        : EMC File Mover service
Active              : True
```

After completing the above steps, the Celerra & VNX FileMovers can be added to Archive Manager for Files using the Archive Manager for Files (see the next section "How to include a VNX or Celerra file server"). The meaning of the properties of the FileMover (see the figure below) is the following:

Machine name	The network name of the Celerra or VNX FileMover machine.
Show hidden shares	It makes hidden shares accessible and archivable for Archive Manager. By default is this option off (*False*).
Offline URL format	The format of offline URLs of archived files. The URL format must contain string %ID%, which will be replaced by ID of the archived file. The URL must point to connection set up in above steps.
Protocol	The type of the Celerra or VNX FileMover file system.

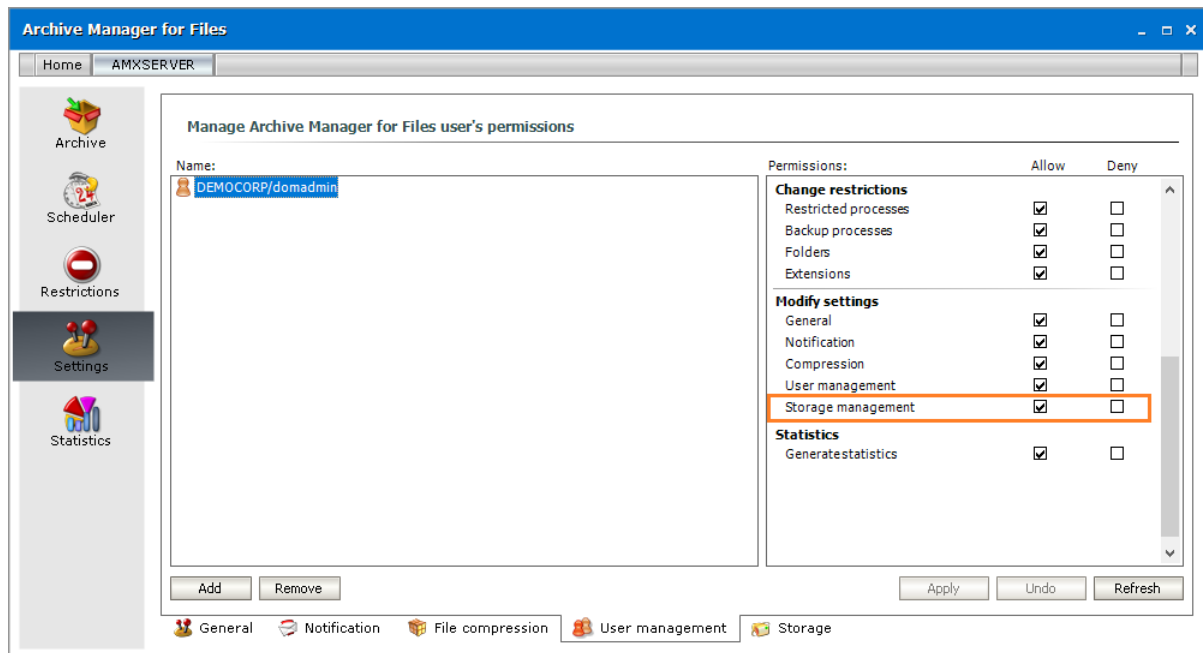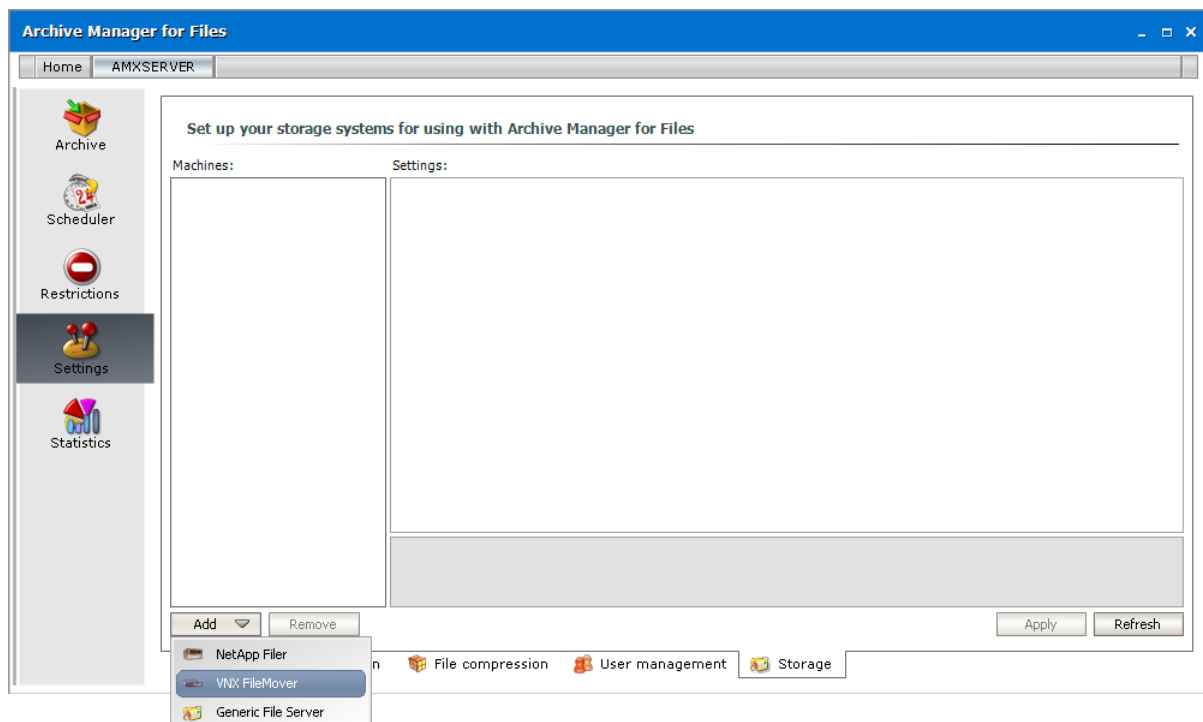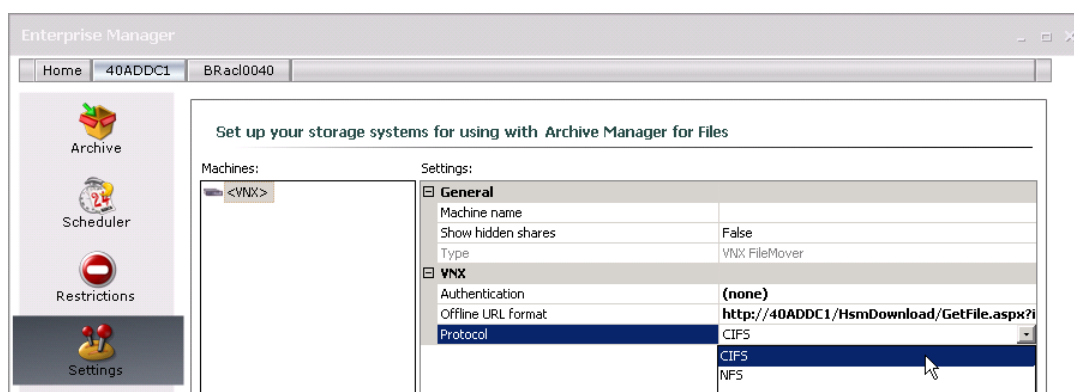| Authentication | If the Celerra or VNX FileMover requires authenticated requests (depends on your Celerra or VNX configuration), specify the name and password of the user. |
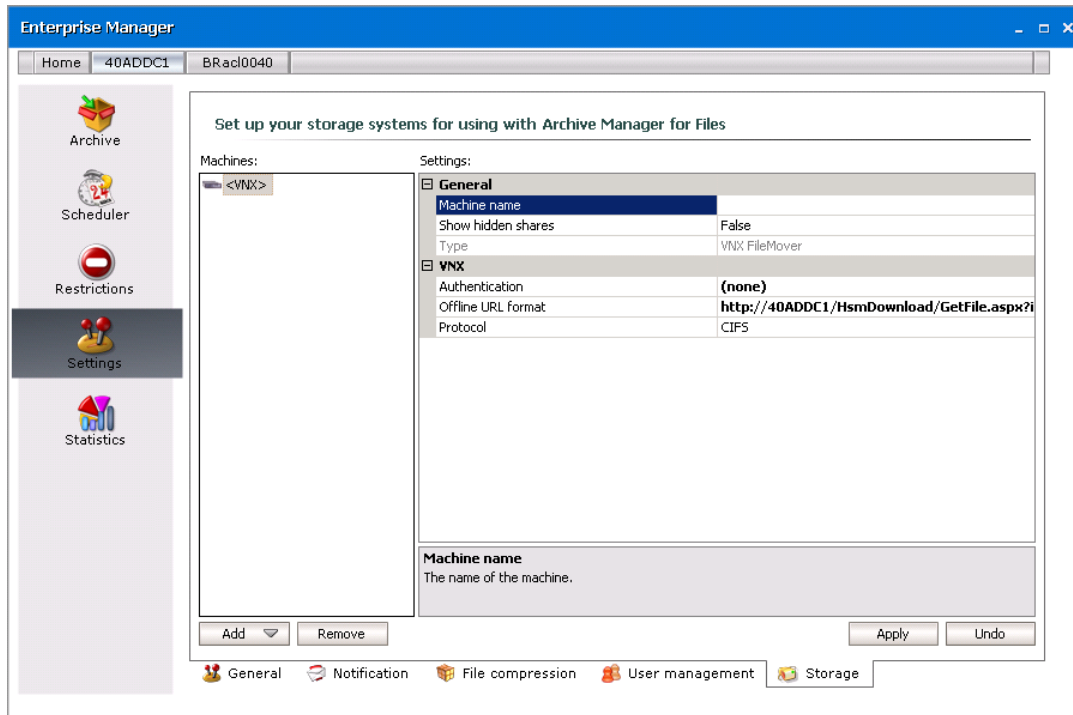
How to include a VNX or Celerra file server

To include a VNX or Celerra file server, you need to include it on the Storage tab. Before including it you have to give rights to the desired user for the Storage tab. However, after a standard installation, this tab is visible for the administrator without a need to specify the rights.

To include VNX or Celerra file server, follow these steps:

1. Click on the Settings tab.

2. Click on the **User management** tab.

3. In the left pane select the user for which you want to activate **Storage** tab. Make sure to select the **Storage management** check box.

4. After *allowing* **Storage management** on the **User management** tab you may include a Celerra file-server on the **Storage** tab. So, click on the **Storage** tab.

5. Click on the **Add** button and then click **VNX FileMover**.

6. If the Celerra or VNX FileMover requires authenticated requests (depends on your VNX or Celerra configuration), specify the name and password of the user. Click on the **Authentication** box. Then click on the down arrow. In the respective text boxes enter the name of the appropriate use (**User name**) and password (**Password** and **Confirm password** text boxes).
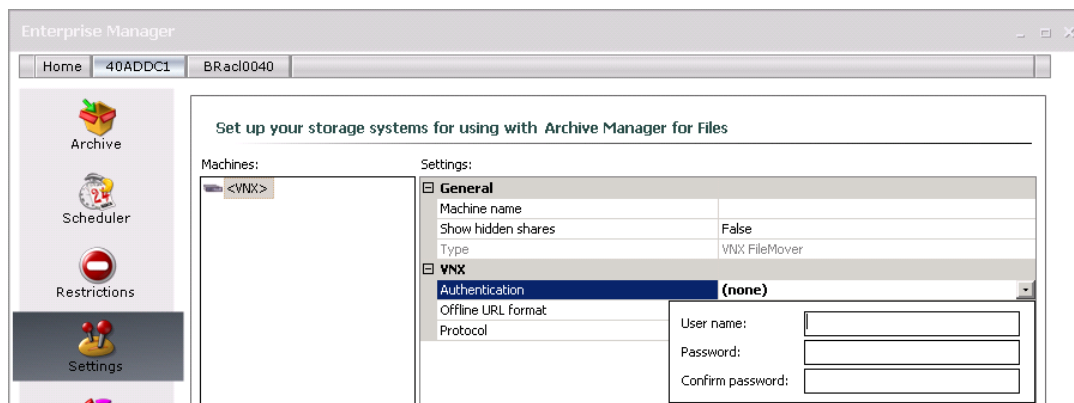
7. Click on the **Offline URL format** to specify the format of offline URLs of archived files. The URL format must contain string %ID% which will be replaced by the ID of the archived file. The URL must point to the connection set up at VNX or Celerra configuration (see "Configuring Celerra & VNX FileMovers for use with Archive Manager for Files").
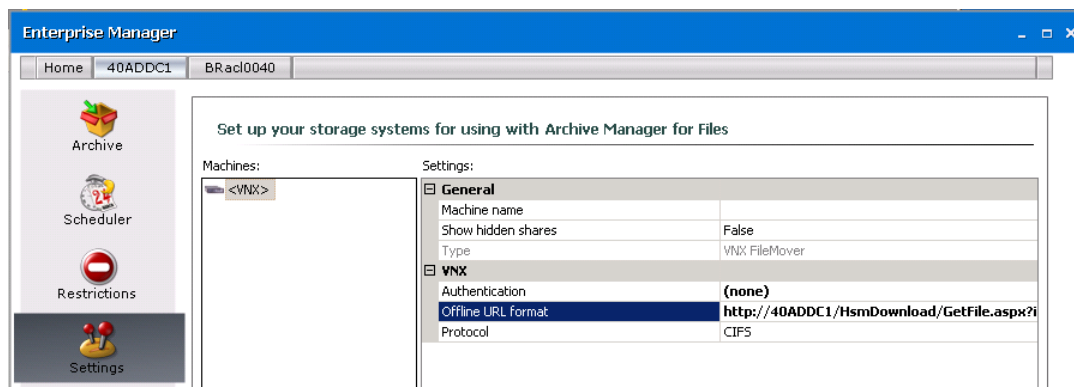
8. Click on the **Protocol** box. Then click on the down arrow to choose the desired protocol, i.e. the type of the Celerra or VNX FileMover file system.

9. Click on the **Machine name** box and enter the network name of the Celerra or VNX FileMover machine.

    Finally click **Apply**.
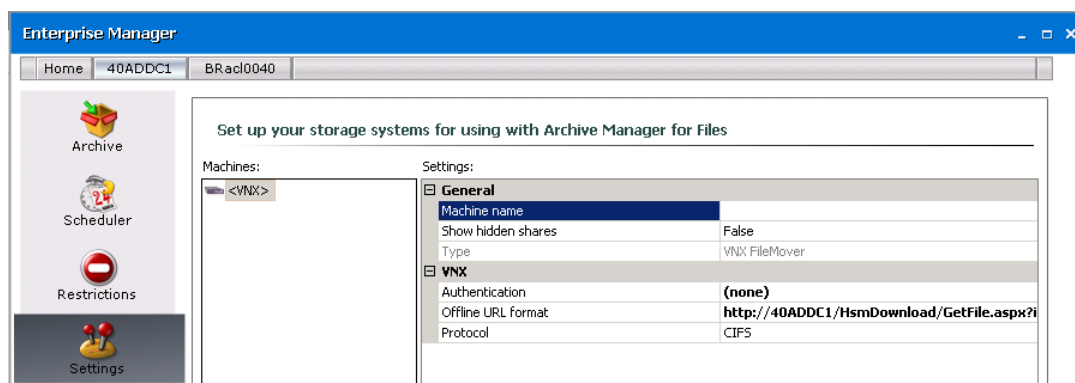
Generic File Server

Archive Manager for Files is able to archive or backup files also from the computer where it is not installed. All you need to do is to include that computer as a Generic File Server on the Storage tab. Firstly you need to give rights to the desired user for the Storage tab. However, after a standard installation, this tab is visible for the administrator without a need to specify the rights.

To include Generic File Server, follow these steps:
1. Click on the Settings tab.

2. Click on the **User management** tab.

3. In the left pane select the user for which you want to activate **Storage** tab. Make sure to select the **Storage management** check box
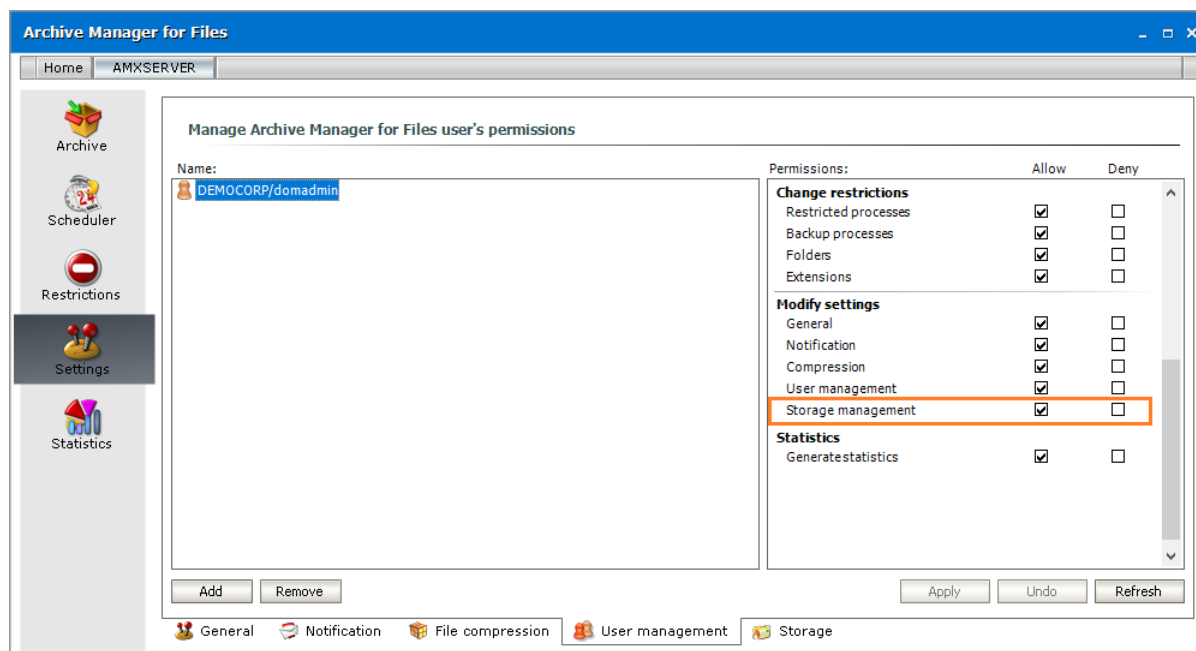
4. After *allowing* **Storage management** on the **User management** tab you may include a Generic File Server on the **Storage** tab. So, click on the **Storage** tab.
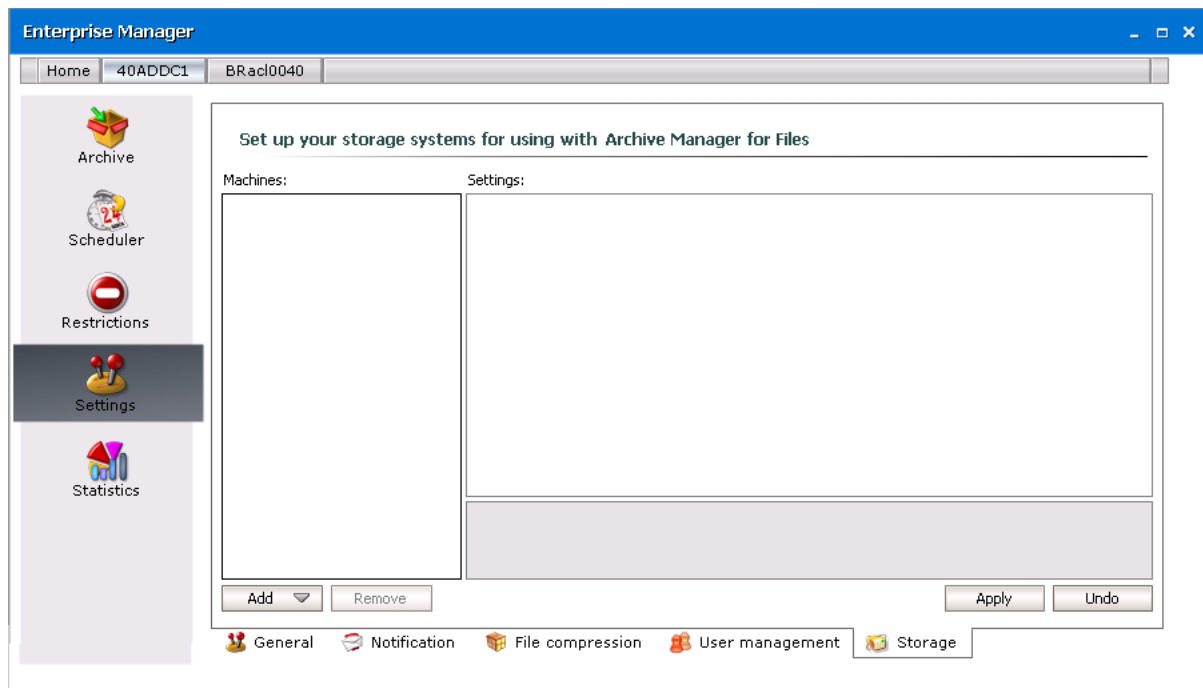

5. Click on the **Add** button and select the **Generic File Server** from the down-drop menu.
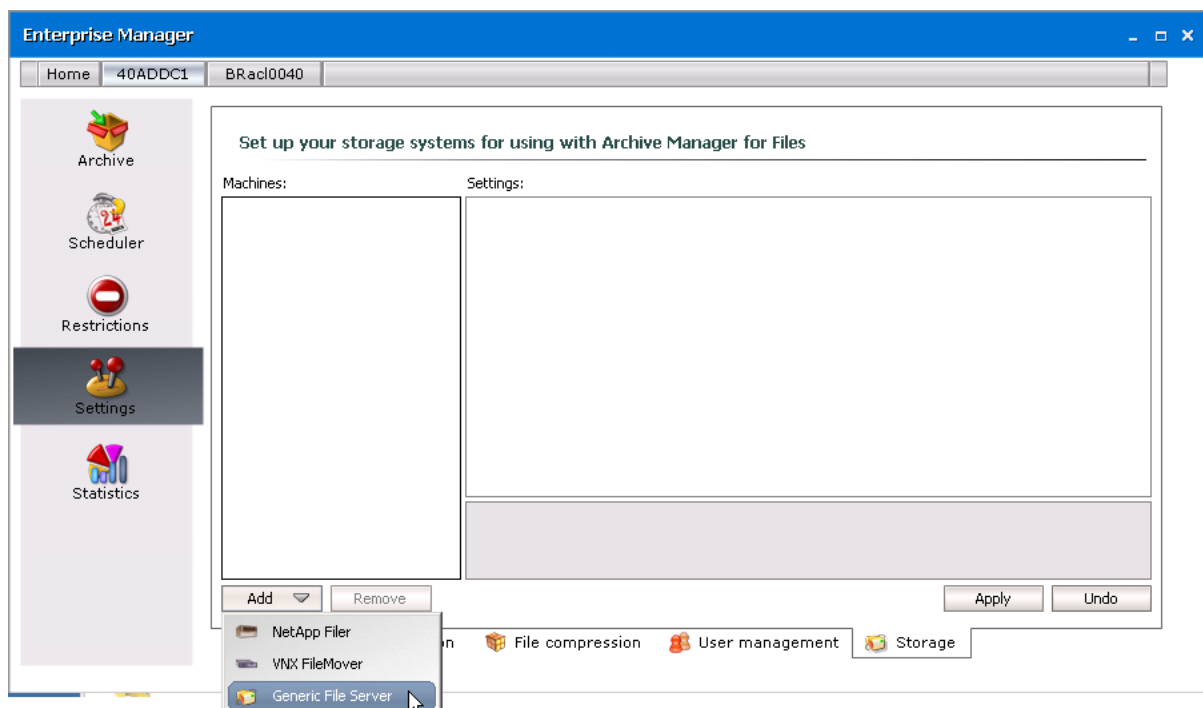
6. Click on the **Machine name** box and type the computer name in the text box. Click **Apply**.
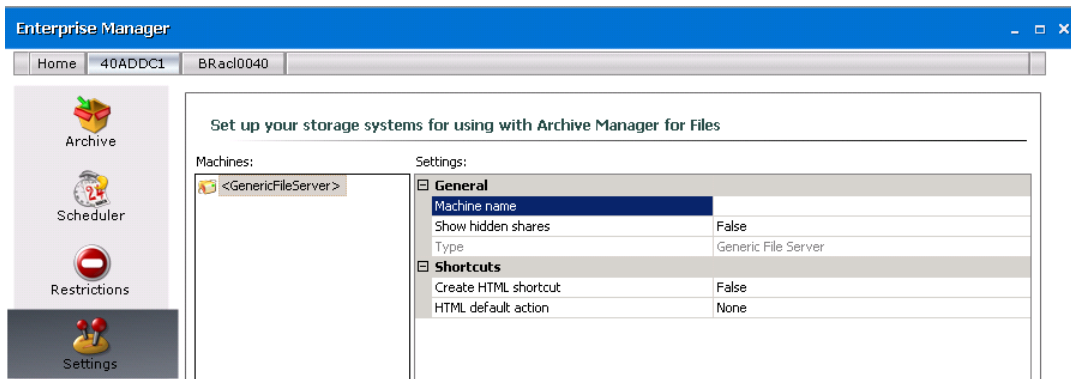
7. The **Show hidden shares** option can be set to *True* or *False*. It makes hidden shares accessible and archivable for Archive Manager. By default is this option off (*False*).

8. Click on the **Create HTML shortcut** box. Then click on the down arrow. Here you can activate the HTML shortcut creation (select **True**). It that case HTML shortcut will be created on that remote computer whenever its file is archived. If **False** is selected, the archived file will be just copied to the HSM Store. Click **Apply**.
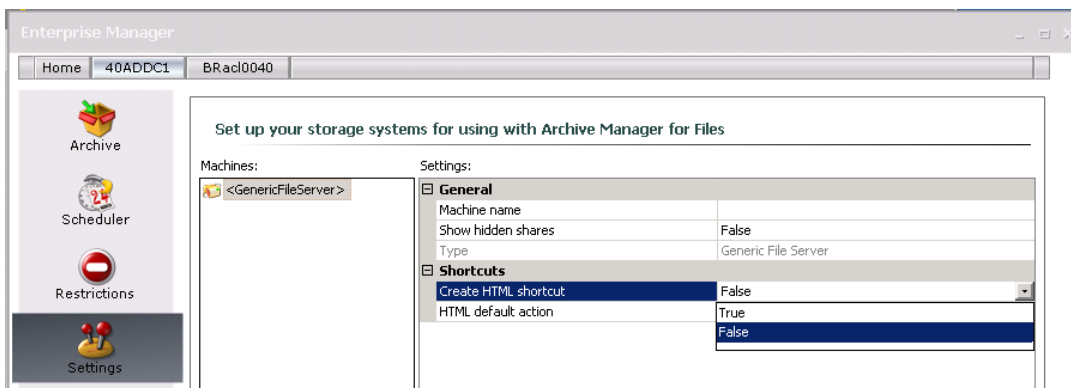
9. To set the default action when opening the HTML shortcut, click the **HTML default action** box. Click the down arrow to choose from **None**, **Open file** or **Retrieve and open** (see "Opening/Downloading the HTML shortcuts"). Click **Apply**.

6
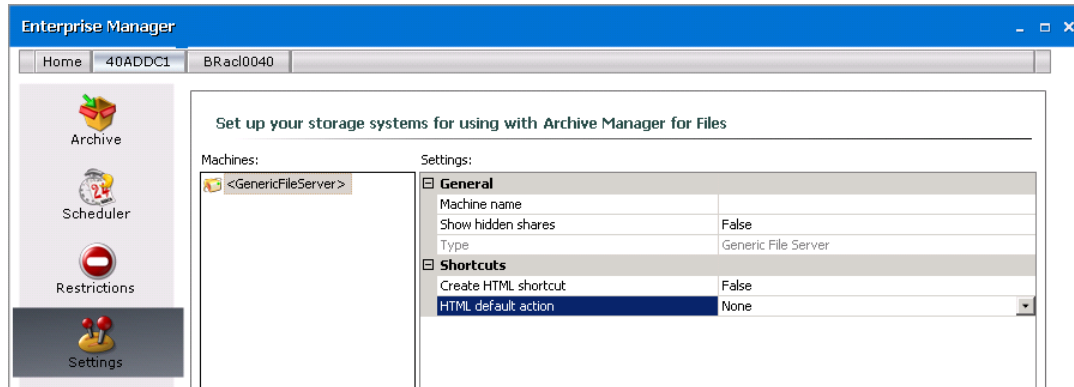
Scheduler

This tab is used for configuring purposes, in other words the administrator may schedule jobs that would automatically archive different folders/disks with predefined settings and retention. Jobs, of course, need to be created up-front, and only then they can be assigned to folders/disks. Should you wish to archive files for instance with regard to their extension, create filters and apply them to folders/disks. All those specifications can be defined on the Jobs and Filters tabs as described further.

Jobs tab

As mentioned above, jobs need to be created up-front.
After clicking on the Jobs tab you will see it split in five parts (sections): Scheduler jobs, Job properties, Folders, Filters and Filter properties.
When running Archive Manager for Files for the first time, there are no jobs specified, that's why this tab is empty (as shown below). Later, when jobs have been defined, they would be displayed under Scheduler jobs.
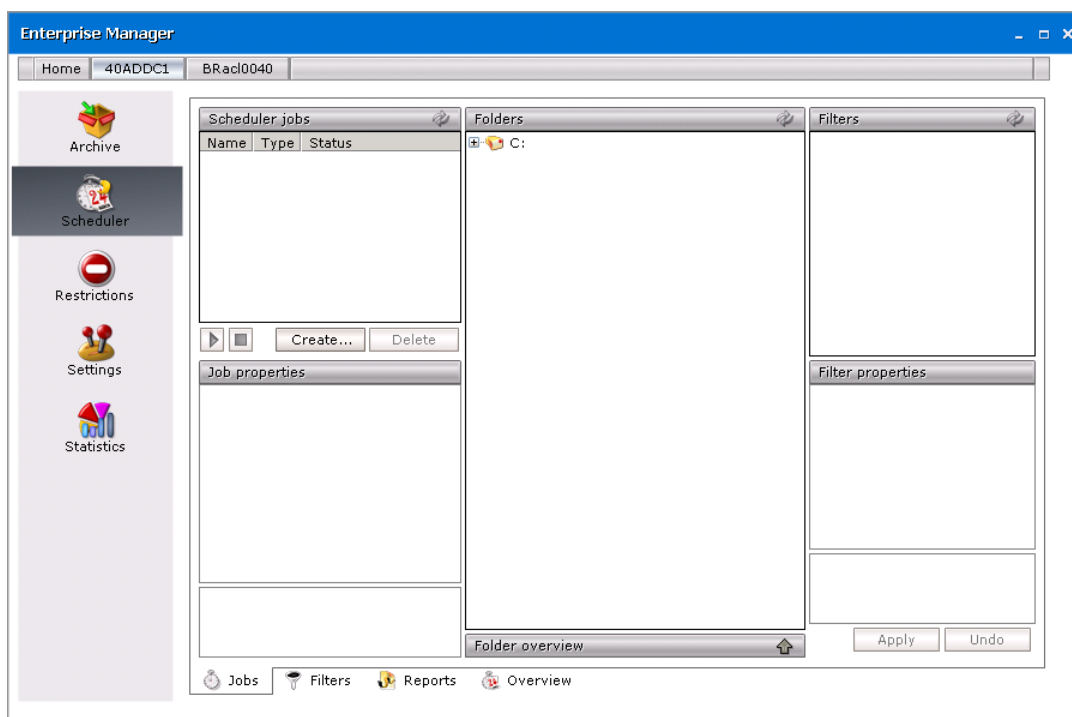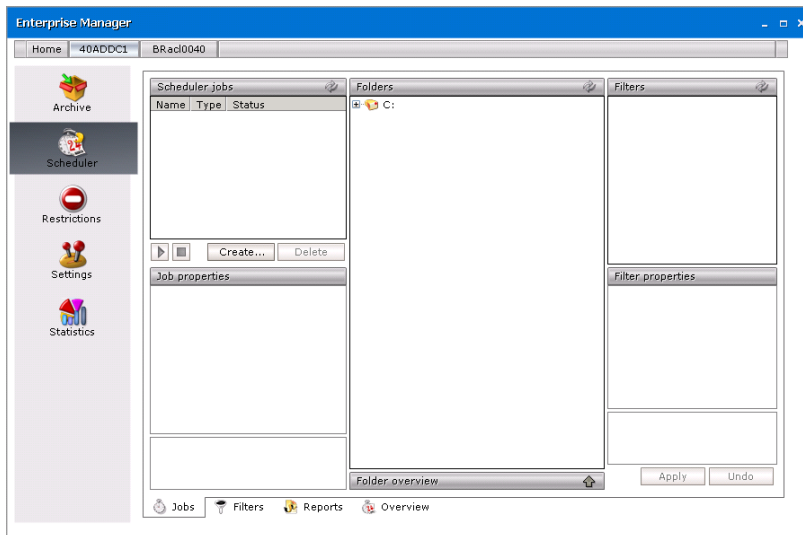

Following sections deals with job creation. The process is as follows:
1. Job is defined and its properties are set.

2. Job is assigned to folders which should be processed.

3. Then a filter can be created and assigned to a folder.

How to define a job

1. Click on the Scheduler tab.

2. Click on the **Jobs** tab.

3. Click on the **Create** button.

4. In the **Create new job** window enter a name for your job in the **Job name** text box. Then select the type of the job in the **Job type** drop-down box. Afterwards click **OK**.

   NOTE: There can be defined five types of jobs: *Archive*, *Delete*, *DirectArchive*, *ArchiveForecast*, *ShortcutCreator* and *Synchronization*.
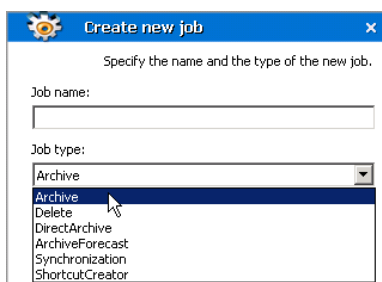
As mentioned above, several types of jobs can be created:
- Archive - does archiving with specified settings

- Delete – main features:

  ✓ deletes documents marked for deletion in the HSM store (archive), if their retention period and keep alive time has expired (time is calculated from the document lifetime starting point)

  ✓ deletes documents from the archive if their expiration time elapsed (time is calculated from the document lifetime starting point)

✓ for both above mentioned cases, the job deletes also shortcuts from the file system when the corresponding document is deleted from the archive (optional feature; default it's ON)

✓ deletes shortcuts after a defined time where Delete shortcut after feature was activated (see the section "Retention categories") (time is calculated from the document lifetime starting point)

Delete job can run on folder basis, i.e. process just specified folders. It can run in different modes, too:

o Reporting – no action is taken, just a report is generated. The report contains the list of files which are going to be deleted. The report can be checked and modified if necessary. It can be found under <installdir>\fsaPamLogs \delete \ delete.report

o Process report mode – files from the previously generated (and modified) report are processed

o Process immediately mode – processing files without any report (not recommended)

- DirectArchive - immediate archiving whenever a document is modified

- ArchiveForecast – does not perform any archiving; it is designed to estimate space that will be saved by Archive Manager for Files. Although no archiving is performed, you have to select a retention category when creating this job. Different retention categories result in different space saving.

Simply schedule this job and apply it to the desired folders. After the job has finished running, data regarding the potential space saving can be found in the report summary of this job (**Scheduler / Reports** tab).

- ShortcutCreator – creates delayed shortcuts; some documents may have been archived with retention category where the *Delay shortcut creation by* or *Create shortcut if the document was not used…* option was selected; such items were copied to archive but the shortcuts are created after a defined time period

- Synchronization – This job works for NTFS and FSA shortcuts and it has basically 3 main tasks:

✓ Update the database with correct file paths if a file shortcut was moved

✓ Mark for deletion the documents which have no reference in the file system – optional, this function must be activated in the document retention category (see the section "Creating a new retention category")

✓ Delete unreferenced shortcuts

This job can run in different modes:

o Reporting mode - no action is being taken just a report is generated. This is useful as administrators first have a report on what is going to be done. The report can be checked and modified if necessary. It can be found under <installdir> \fsaPamLogs \sync \ sync.report

o Process report mode – files from the previously generated (and modified) report are processed

o Process immediately mode – processing files without any report (not recommended)

NOTE: KEEP IN MIND THAT THE JOB PROCESSES ALL FILES TWICE, ONCE IT CRAWLS THE DATABASE, SECOND IT GOES THROUGH THE FILE SYSTEM. THE PERFORMANCE RATE IS AROUND 50-200 DOCS/SEC, DEPENDING ON SERVER CAPABILITY AND LOAD. IT CAN TAKE DAYS TO RUN IT ON MILLIONS OF ARCHIVED/NON-ARCHIVED FILES, SO, PLAN THE SCHEDULE CAREFULLY. YOU MAY EXPERIENCE HIGH DISK AND DATABASE LOAD.

Further we describe how to specify job properties and explain individual features. Please note that not all settings apply to every type of job.

5. In the **Job properties** section you need to specify details about particular job (e.g. retention category; you may "turn a job on" / "turn a job off", etc.). To "turn a job on", click on the **Activated** field. Click on the down arrow to unfold the down-drop box and select **True**. Job will be turned on.

Number of threads field specify the number of threads in which the given job run. This feature can fasten up archiving and is recommended to be used. It is accessible for Archive, CreateVersion, and ArchiveForecast job. The default value for a new job is 4, the maximum value for one job is 16.

In the Shortcut type field select the type of shortcuts which will be created when the job archives files. Three shortcut types are available – FSA, HTML or DEFAULT shortcuts. If Default is selected, settings of Settings tab / Shortcut creation section are applied. This setting is accessible only for Archive and DirectArchive job types. For more information please see the "Shortcut creation" section.

NOTE: Jobs created in older product versions in which this setting was not available will have this property set to 1 after upgrade.
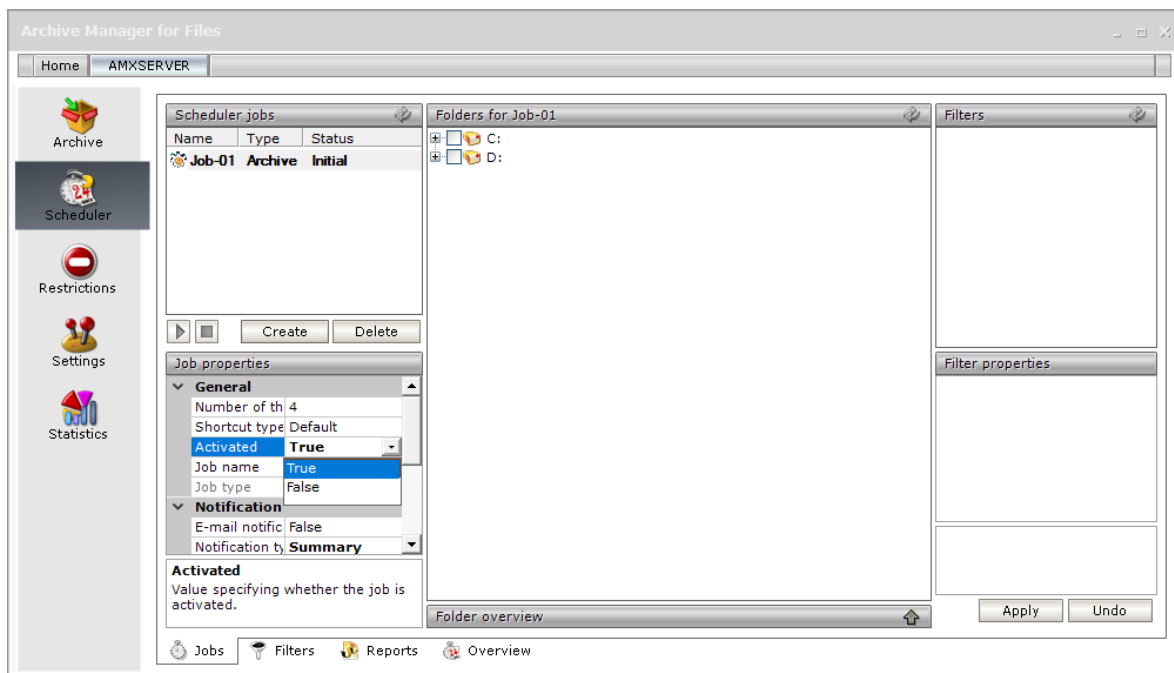
6. In the **Retention category** field assign a retention category to the job. Retention categories define the document lifecycle. This setting is available for Archive, DirectArchive and ArchiveForecast jobs.

NOTE: Retention categories are created on Settings / General tab.

7. In the **Notification** section you can activate email notification for the given job. Click on the **E-mail notification** field and in the down-drop box select **True**. Archive Manager will be sending notifications about this job as configured on the **Settings/ Notification** tab. In the **Notification type** field choose **Detailed** type of notification or **Summary** for summarized notification.

8. The **Operation** section is available just for the *Synchronization* and *Delete* job to specify its settings.

Click on the **Operation** mode field. Then click on the down arrow and select the operation mode:

o Reporting mode - no action is being taken just a report is generated. This is useful as administrators first have a report on what is going to be done. The report can be checked and modified if necessary.

o Process report mode – files from the previously generated report are processed. Administrator is able first to check and modify the list of files going to be processed (i.e. deleted or synchronized)

o Process immediately mode – processing files without any report (not recommended)

The **Report file** field displays the path to the generated report (e.g.**<installdir> \fsaPamLogs \sync \ sync.report**).

Settings for **Delete** job:

If the **Delete shortcuts** field is set to "true", files which are going to be deleted from the archive will also have its shortcuts deleted from the file system.
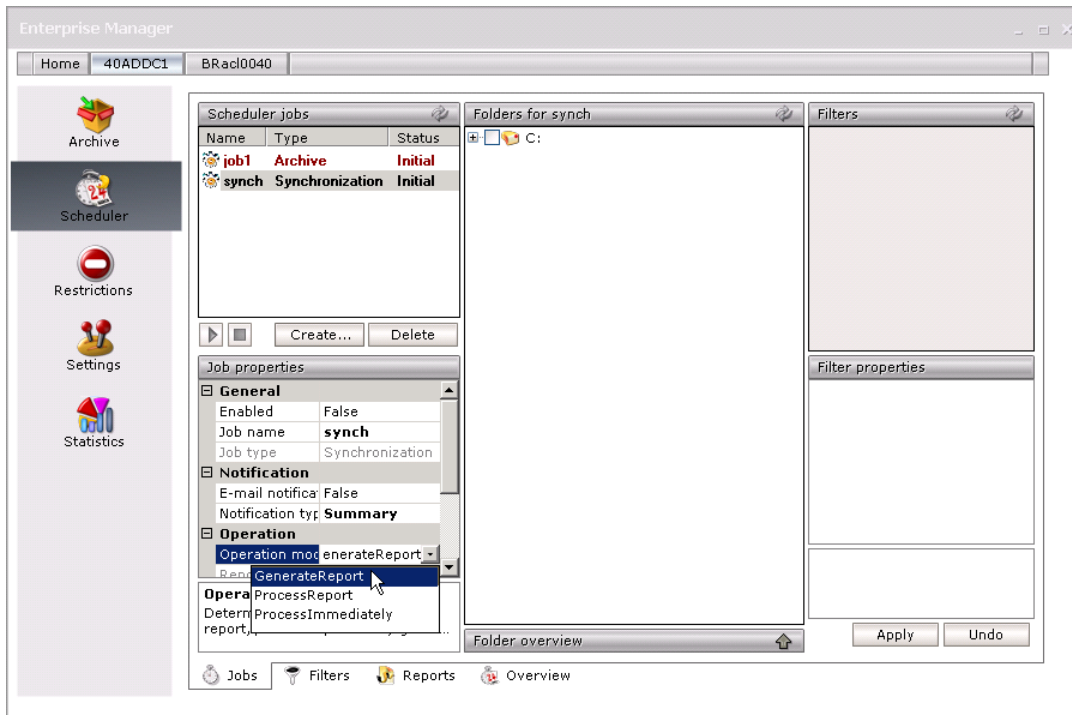
9. To schedule archiving, click on the **Start at** field. Then click on the down arrow and select a day on the calendar; select the desired month by clicking on the side arrows; and specify the desired time in the text box. Then press **Enter**.
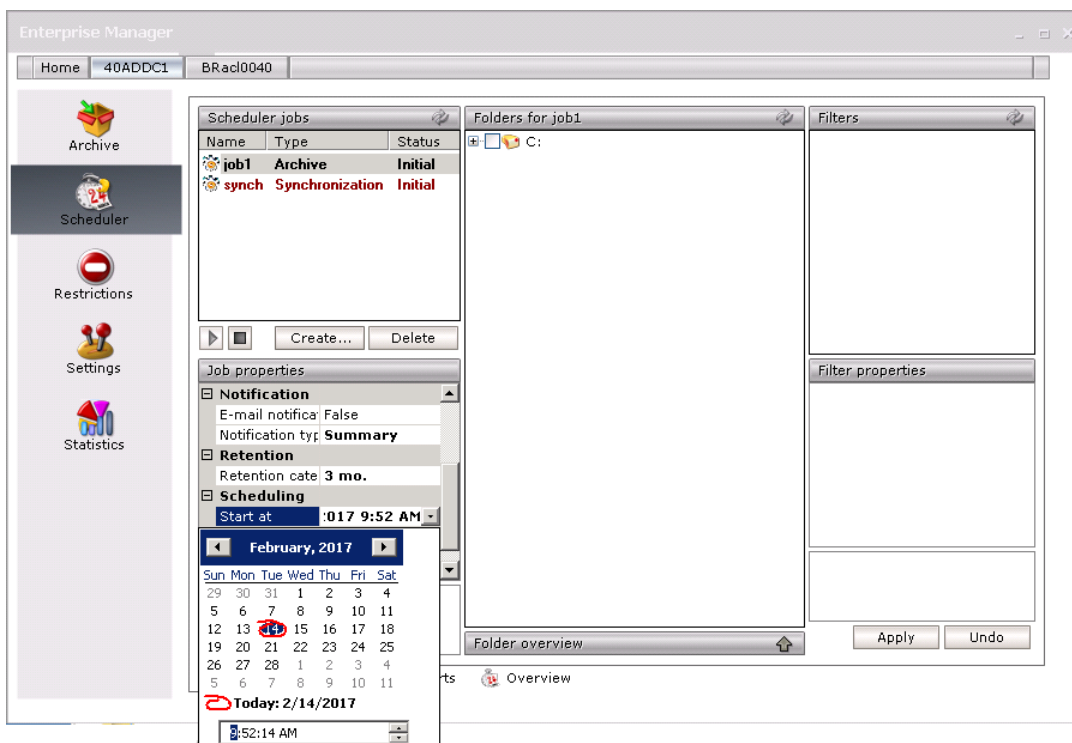
10. To specify the maximum time span during which the job will be running, click on the **Maximum run time** field and specify your requirements. (E.g. enter 3 and the job will be allowed to run for a maximum of 3 hours.). If you leave *Unspecified*, then there is no limitation as to time span.
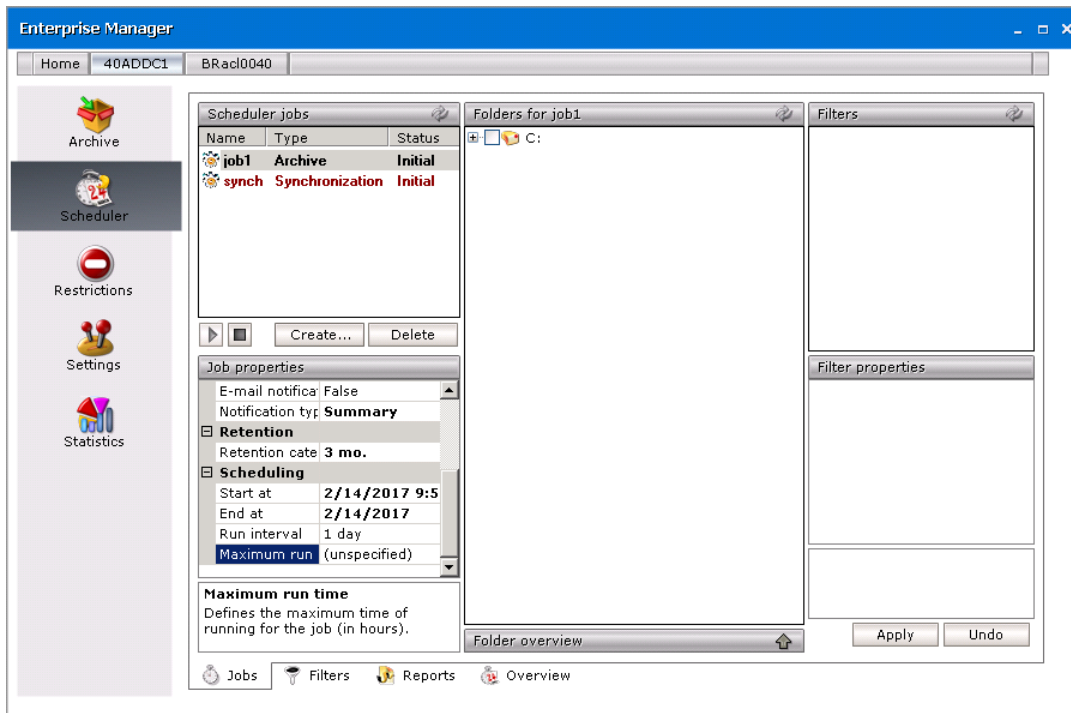
11. To specify how often the job should run, click on the **Run interval** field. Click on the down arrow to open the drop-down box and then specify the period in minutes, hours or days.
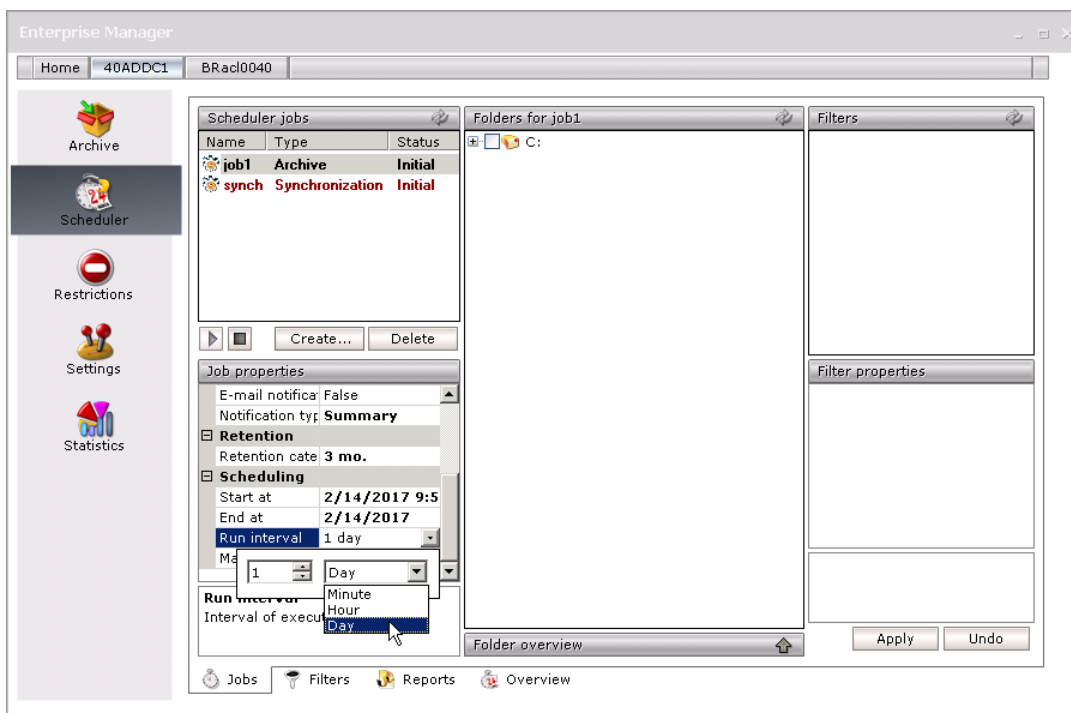
12. To enter the last day when the job should run, click on the **End at** field. Afterwards click on the down arrow to open the calendar and select the desired month and day.

    NOTE: Should you select the **Infinite** check box, job would be running infinitely. Then press **Enter**.
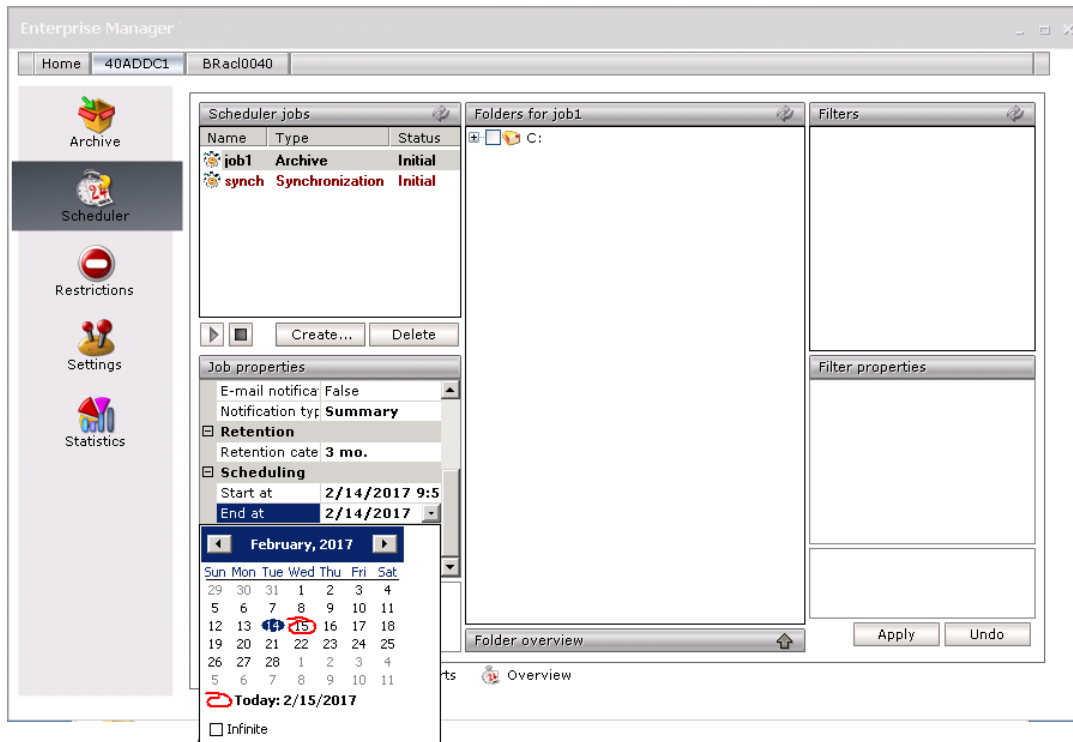
Created jobs can now be assigned to folders to automate folder archiving.
NOTE: To change the properties of the job, it has to be stopped first.

How to assign a job to a folder

To automate folder archiving, assign jobs to them.

1. Click on the Scheduler tab.

2. Click on the **Jobs** tab.

3. Select a desired job in the list in the **Scheduler jobs** section.
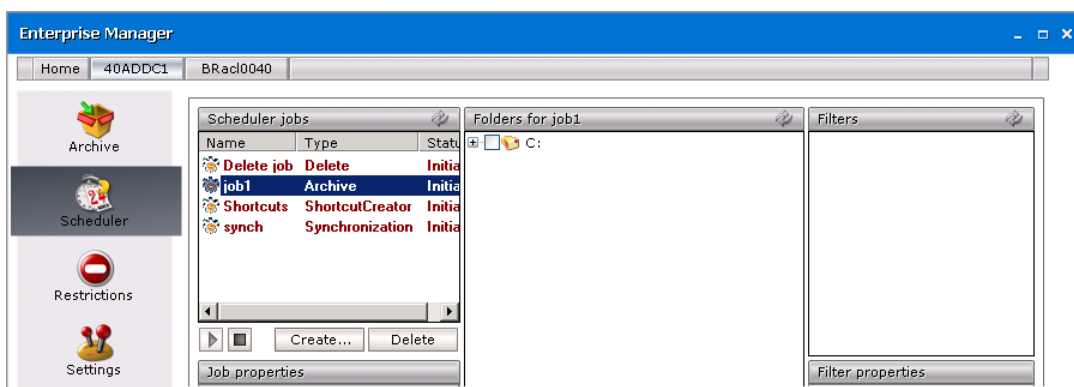
4. Select a desired folder (disk), either recursively or non-recursively, in the **Folders** section. Click **Apply**.

NOTE: By unfolding the **Folder overview** tab you may see what folders the currently selected job is assigned to.
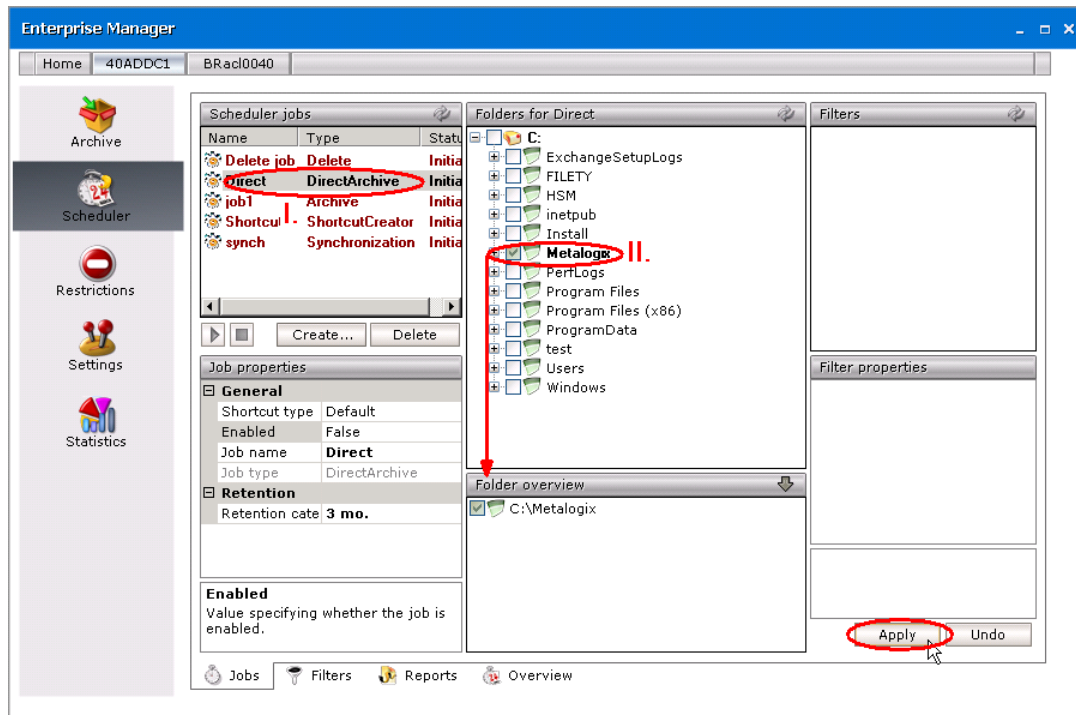
How to start the job immediately

Job starts running automatically as it is set in Job properties (see the previous section). However, you can start the job manually any time:

1. On the Scheduler / Jobs tab select the relevant job in the Scheduler jobs section.

2. Click the **Start** button below the list view. The job starts running immediately.

**NOTE:** You can also stop the job by using the **Stop** button.

IMPORTANT NOTE: If the job was stopped, it remembers which file was the last processed file. When it is started again, the job starts processing files from this last processed file.
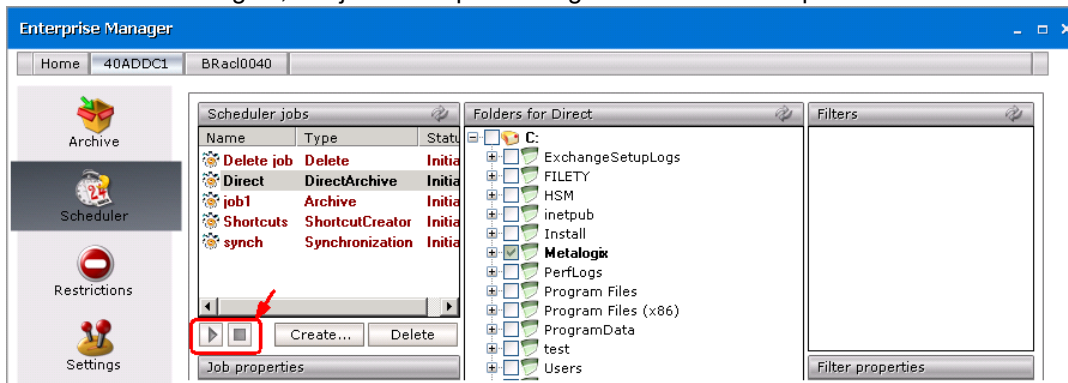
Filters tab

By using filters you may specify which of the files will be archived and in what way. Before using any filters they need to be created on the Filters tab.

When you switch to this tab, you will see the window split in two parts. On the left, there is a list of all filters displayed (when Archive Manager for Files is running for the first time, the list is empty!). On the right you will see their properties.
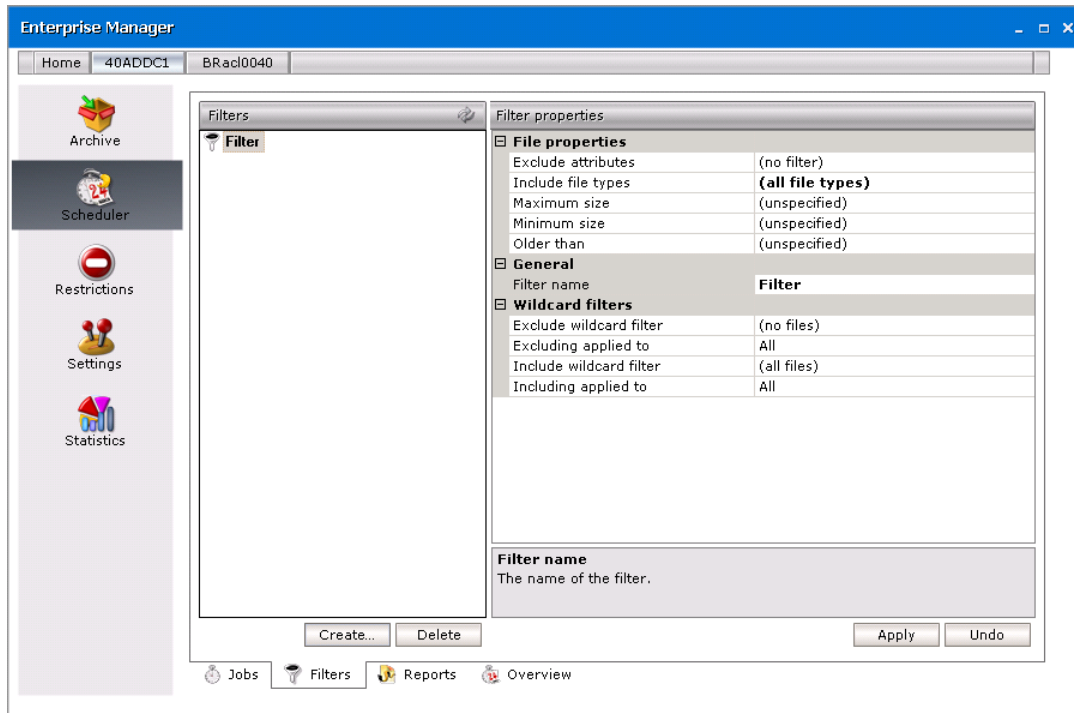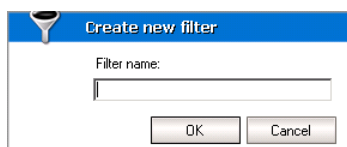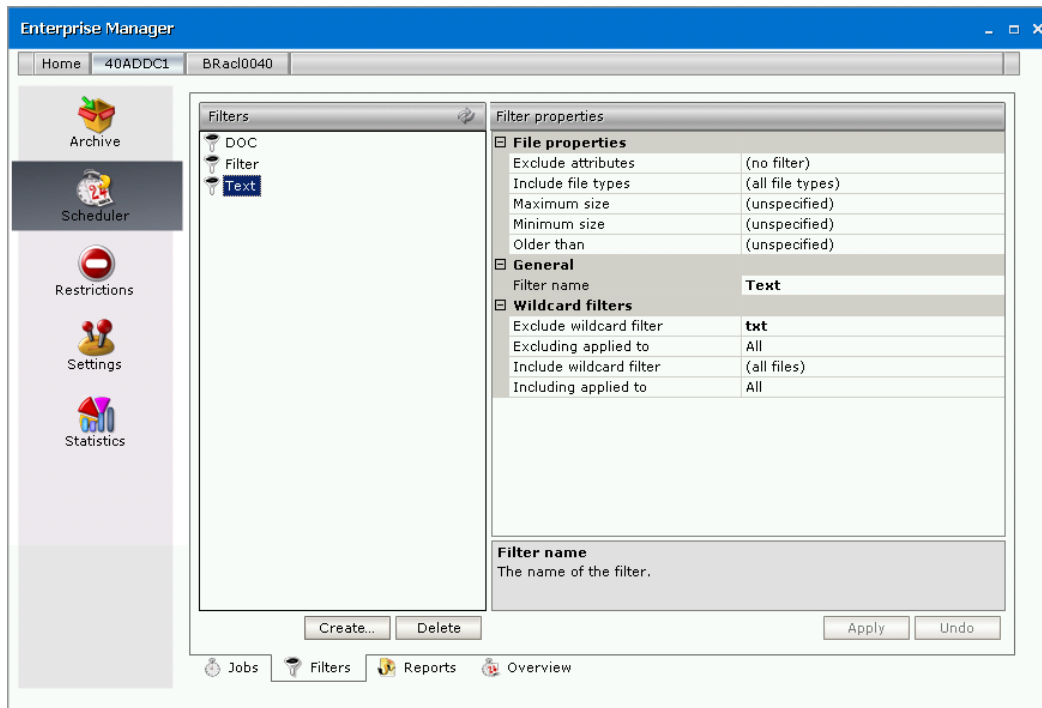
How to create a filter

1. Click on the Scheduler tab.
2. Click on the **Filters** tab.
3. Click on the **Create** button to open the **Create new filter** window.
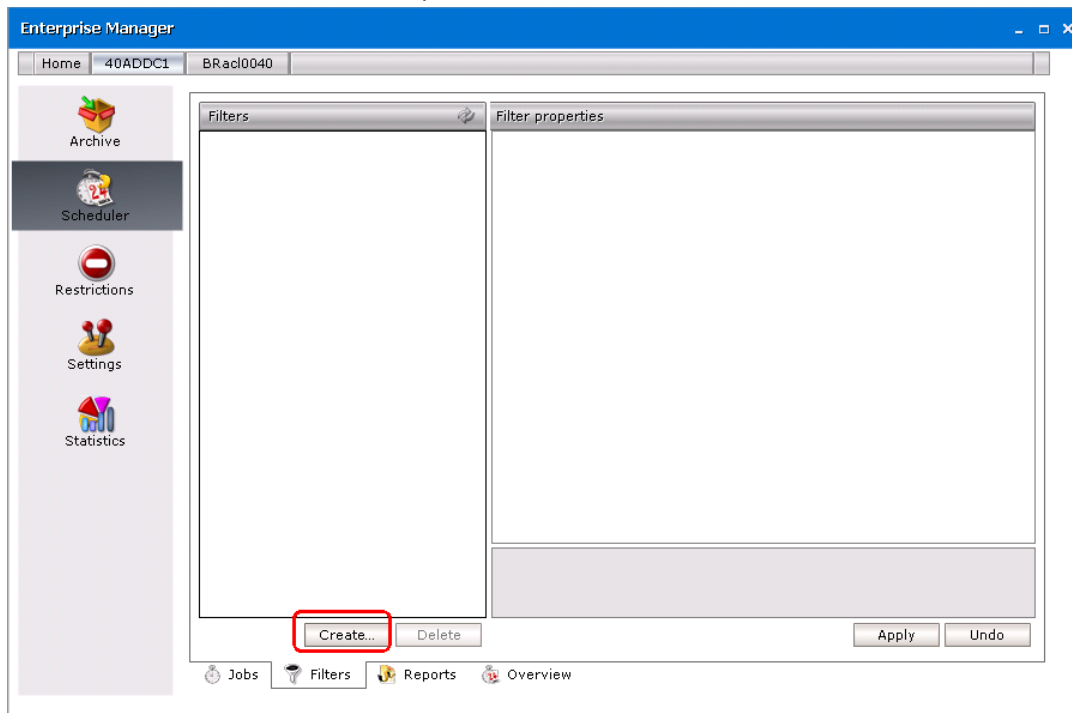
4. In the **Create new filter** window enter the name in the **Filter name** text box. Then click **OK**.

5. After clicking **OK** the following window is displayed.

6. Click on the **Exclude attributes** field. Then click on the down arrow to unfold the dropdown box. Files with selected attributes will be excluded from archiving (*Archive* files, *Read only* files, *Hidden* files). If none of those options are selected, then all files will be archived.
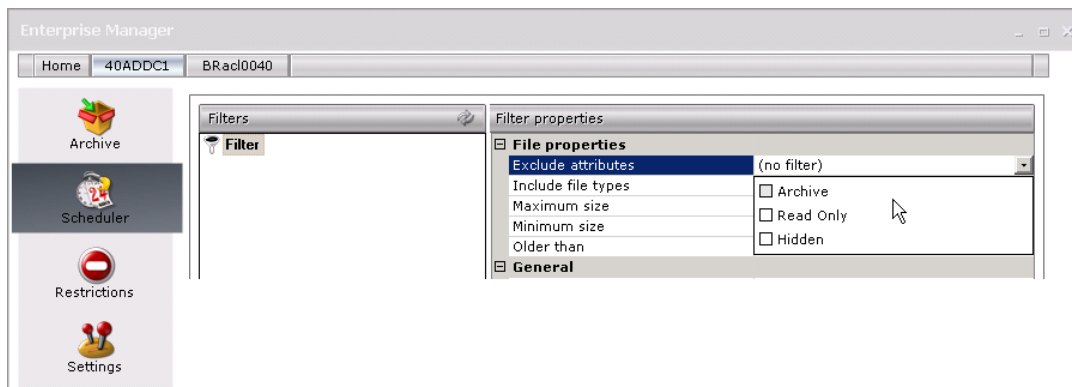
7. Click on the **Include file types** field. Then click on the down arrow to unfold the dropdown box. Here you may specify the type of files to archive. Simply double-click the three dots and enter the desired extension (without a dot!). Then press **Enter**.

**NOTE:** If you leave this field empty, all file types will be archived.
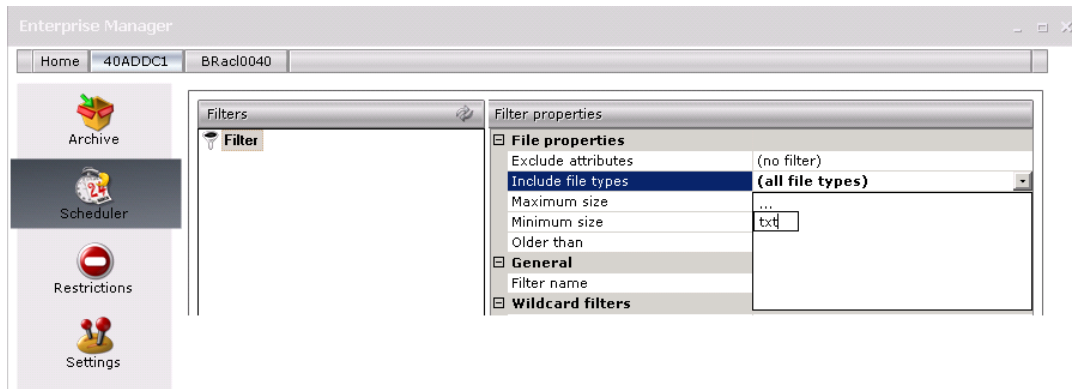
8. Click on the **Maximum size** field. In the adjacent field enter the maximum size of files (in kilobytes) to be processed.

NOTE: Should you enter Unspecified, then there are no limitations regarding the size of files to be processed.

9. Similarly, click on the **Minimum size** field, and in the adjacent field enter the minimum size of files (in kilobytes) to be processed.

10. Click on the **Older than** field. Then click on the down arrow to unfold the dropdown box. You may filter files according to time of their creation, modification, and last access.

Should you enter Unspecified, then there are no limitations regarding time.
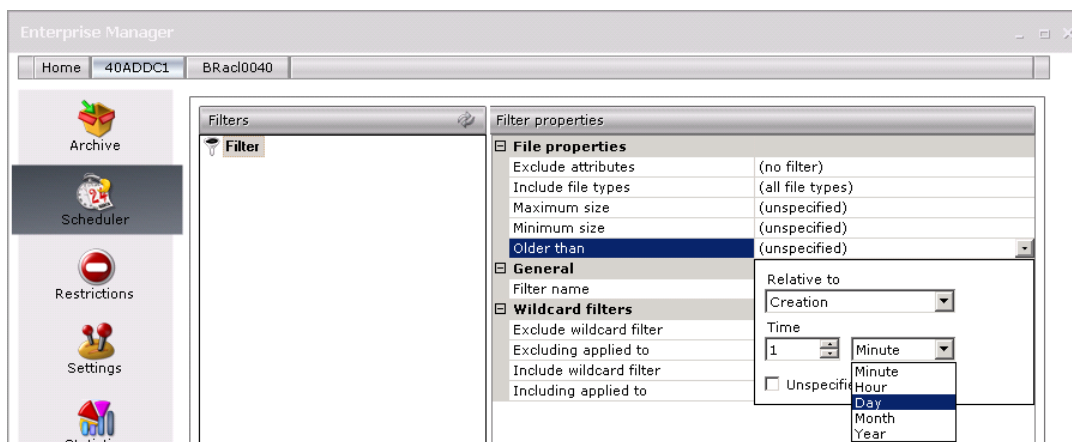

11. In the **Filter name** field you may change the name of the filter anytime.

12. In the **Wildcard filters** section you can define files or folders filtering based on the regular expression, i.e. you can define files/folders archiving based on their names.

Basically, you define expressions using wildcards and specify whether they will be applied to folder name or file name or both. It is possible to include or exclude folders/files matching the defined criteria. All steps are explained in detail further.

NOTE: It can happen that a file/folder matches criteria both for include wildcard filtering as well as exclude wildcard filtering. In that case it will NOT be archived. "Exclude" is stronger than "include".
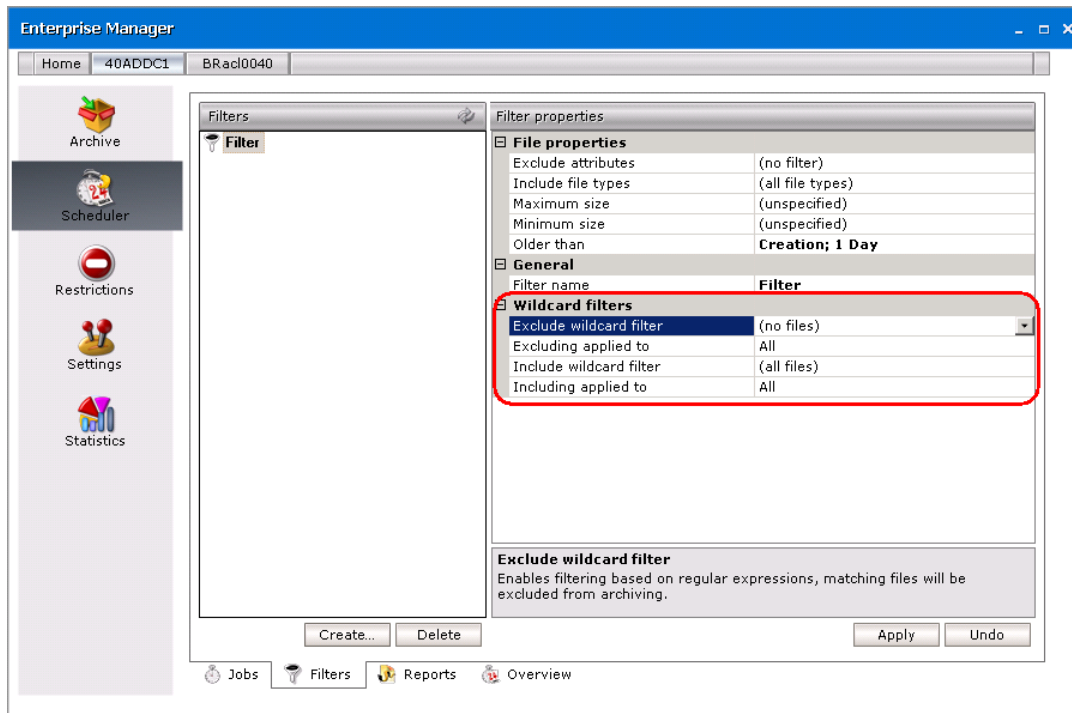
It is possible to define Exclude as well as Include wildcard filters. In the following lines we describe how to specify the Exclude wildcard filter. This filter defines which files/folders should be excluded from archiving (based on their names). The Include wildcard filters are defined similarly.

To define the criteria for Exclude wildcard filtering:

Click on the Exclude wildcard filter field. Then click on the downward arrow. In the pop-up dialog you will define and test the wildcards.

Write the desired expression in the Wildcard text box. Then click Add to add it to the Wildcards list. In case there are more expressions defined in the Wildcards list, the filter will be applied to the file/folder if its name matches at least one expression.
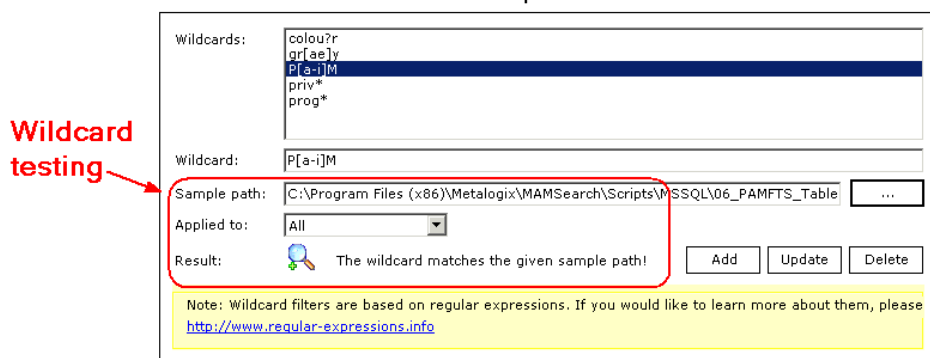
NOTE: The rest of the dialog is only for the testing purposes. You can test how the defined expression will be applied and if it will match the files/folders which you wish. Simply:

- select the expression in the list
- In the Sample path text box enter the path for which you want to apply the filter
- In the Applied to combo box choose if you want to apply the expression to file name, folder name or both
- The Result shows you if the selected expression matches the specified path, i.e. if the filter with the given wildcard applies to that path

After you have defined the expression(s) in the Exclude wildcard filter, click the Excluding applied to text box. Click the down arrow and in the drop-down box select whether you want to apply the filter to filename, folder or both.

13. To save, click **Apply**.

NOTE: In the case you want to delete a filter, simply select the desired filter in the list in the left pane and then click on the Delete button. But be careful when removing any filter, because if such a filter was already assigned to a job, no filter will be considered!

After having created filters on this tab, you may assign them to folders.

How to assign a filter to a folder

1. Create a filter on the Filters tab, if it is not created yet. (See the section "How to create a filter")

2. Click on the **Jobs** tab.

NOTE: To display recently created filters, click on the **Refresh** button located in the upper right corner in the Filters section. Use this button especially if several **Archive Manager for Files** applications are running simultaneously.

3. In the **Scheduler jobs** section select the job which is already archiving the desired folder(s) or which you want to use for archiving the desired folder(s).

NOTE: You can only assign a filter to a folder if the folder is processed by a job. (See the section "How to assign a job to a folder".)
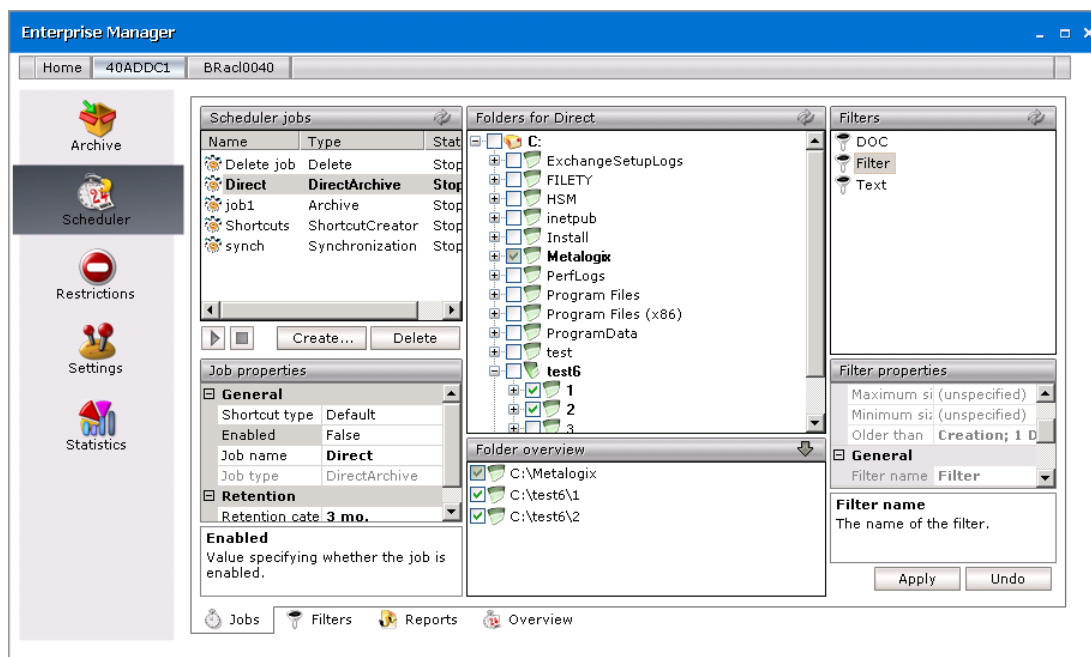

4. Click on the upward arrow on the **Folder overview** tab to unfold it. By unfolding the **Folder overview** tab you will see all folders/disks the respective job is assigned to.
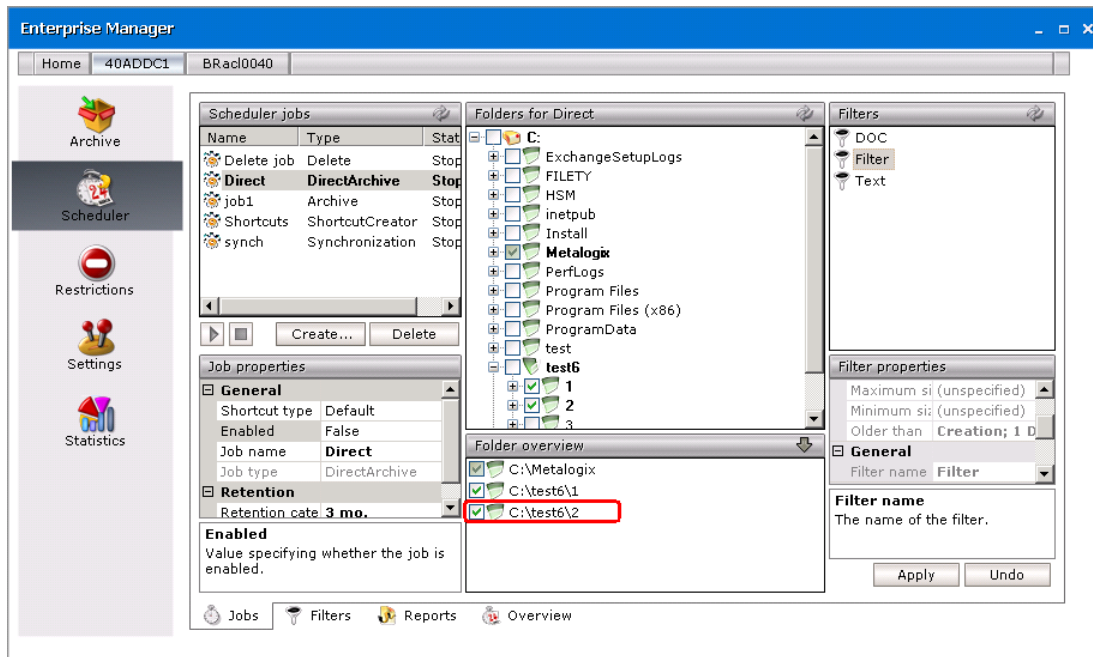
5. In the **Folder overview** section select the folder for which you wish to apply filter(s).
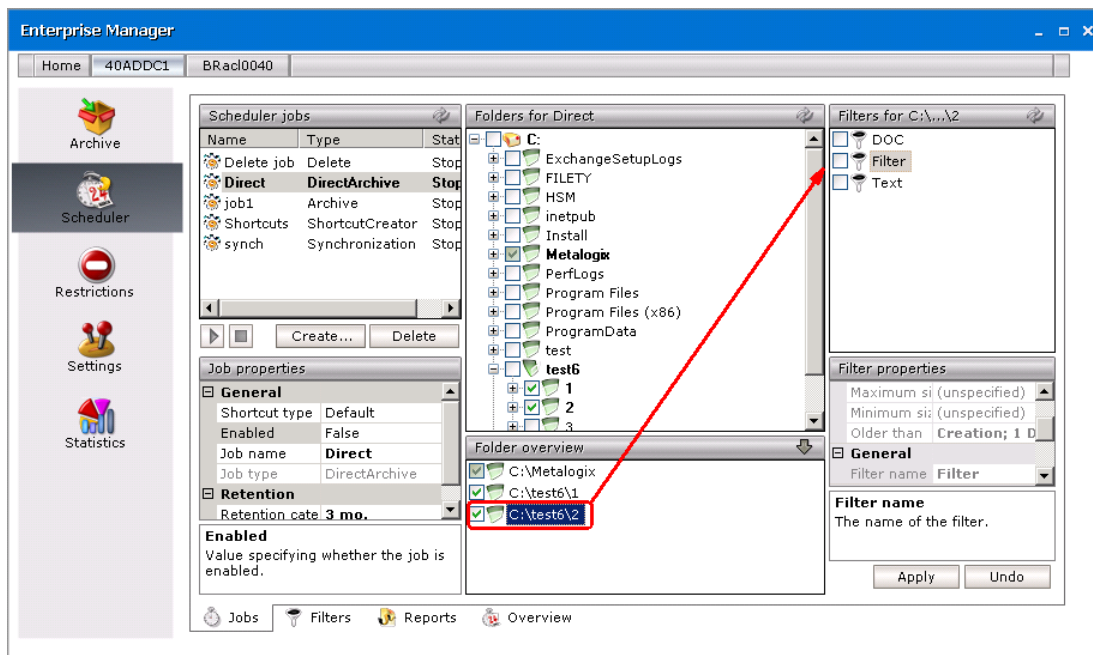
6. For the folder selected in the **Folder overview** section select the desired filter/filters in the **Filters** section.
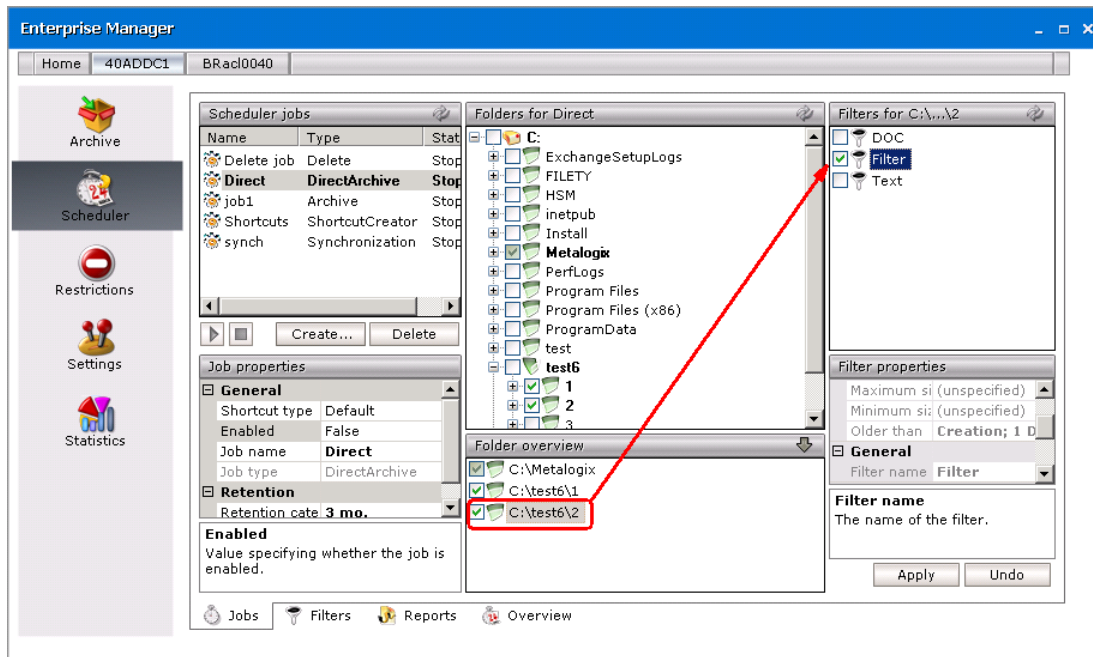
NOTE: If multiple filters are attached to a folder, the files in it have to fulfill all the criteria in all filters. If the file does not match one of the defined criteria, it will not be processed.

EXAMPLE:

I. One filter is defined to process .doc and .txt files. In this case if the file has the extension .doc or .txt, it will be archived.
II. Two filters are set for a folder, one to process only .doc files, the second one to process only .txt files. In this case processed file should have both .doc and .txt extension, which is impossible. Two such filters will cause that no file will be processed by the job in that folder. This is a wrong configuration.
7. Click **Apply**.

Reports tab

In the Jobs section of this tab you will see a list of all jobs. Select the desired job and its reports will be displayed in the Reports section. Reports on documents processed by jobs are created automatically whenever archiving by the relevant job is finished.
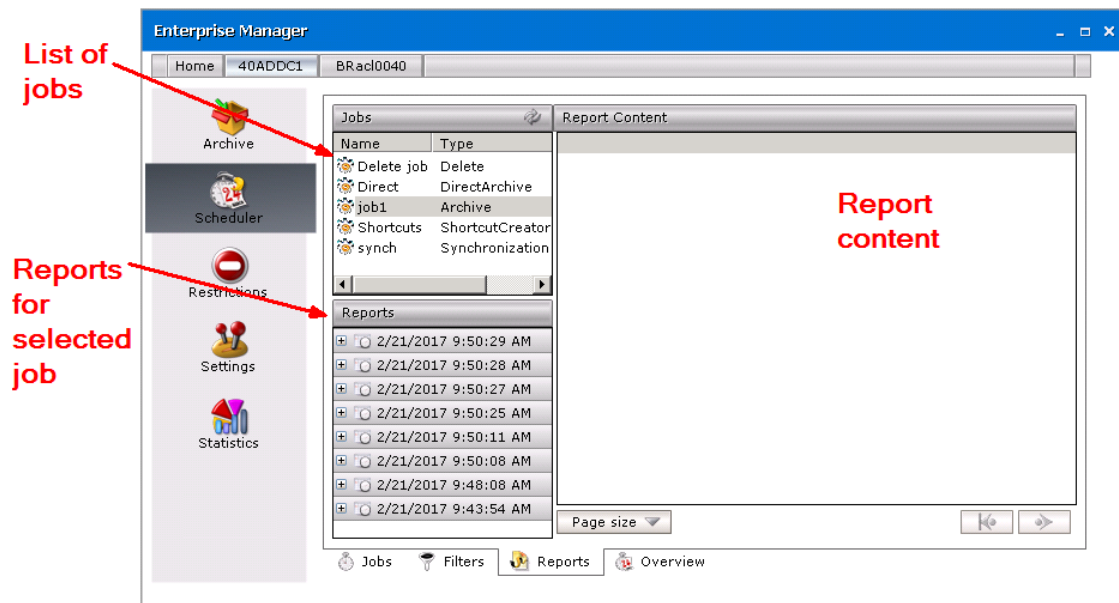
To display the desired report:

1. Click on the Scheduler tab then switch to the Reports tab.

2. Select the desired job on the **Jobs** section to list its reports.

3. In the **Reports** section double-click the report with the relevant date and time.

4. Now select which report data you wish to display in the **Report content** section. Every report includes:

   ⓘ Job overview – general information on job and its settings

   ⊜ Summary – count of successfully processed, failed, skipped and archived files; number of created shortcuts etc.

NOTE: Successfully processed files include files which were just archived or archived and replaced with a shortcut, or, if there was no new version, just replaced with a shortcut – depending on the settings.

   ⊗ Failed – documents which failed to be processed and their details

   ⊙ Skipped – documents which were skipped and their details

   ⊙ Succeeded – successfully processed documents

   ⊚ Skipped folders – folders not processed, e.g. because of the permission issues; the reason for skipping is listed under the Reason column
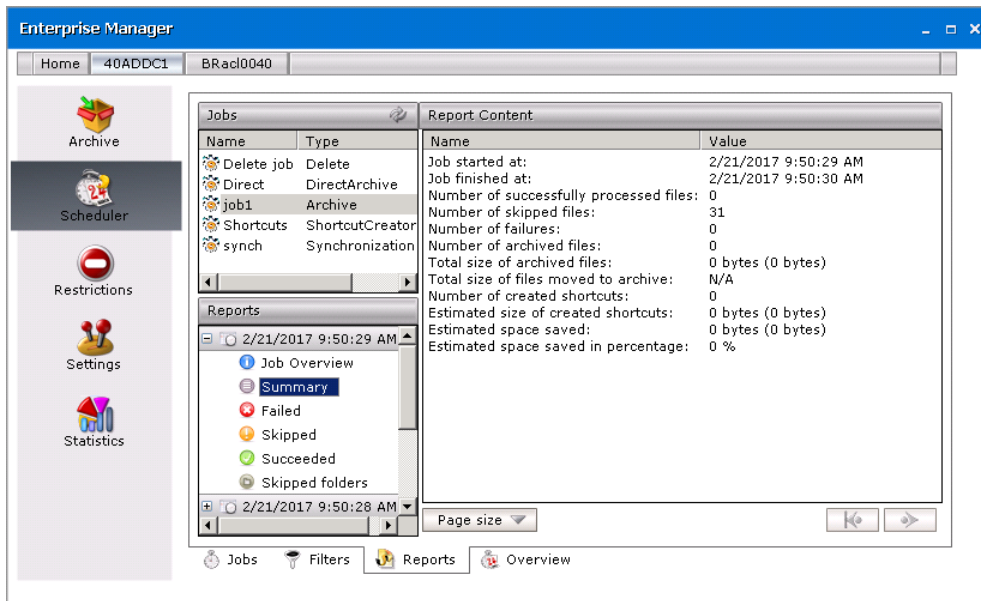
5. There can be a lot of documents listed e.g. in the *Succeeded* section. To make the list more transparent, you can set the number of rows to be displayed per page in the **Report content**. To do so, unfold the **Page size** down-drop menu and select 20, 50 or 100. Use the arrows to switch between pages.
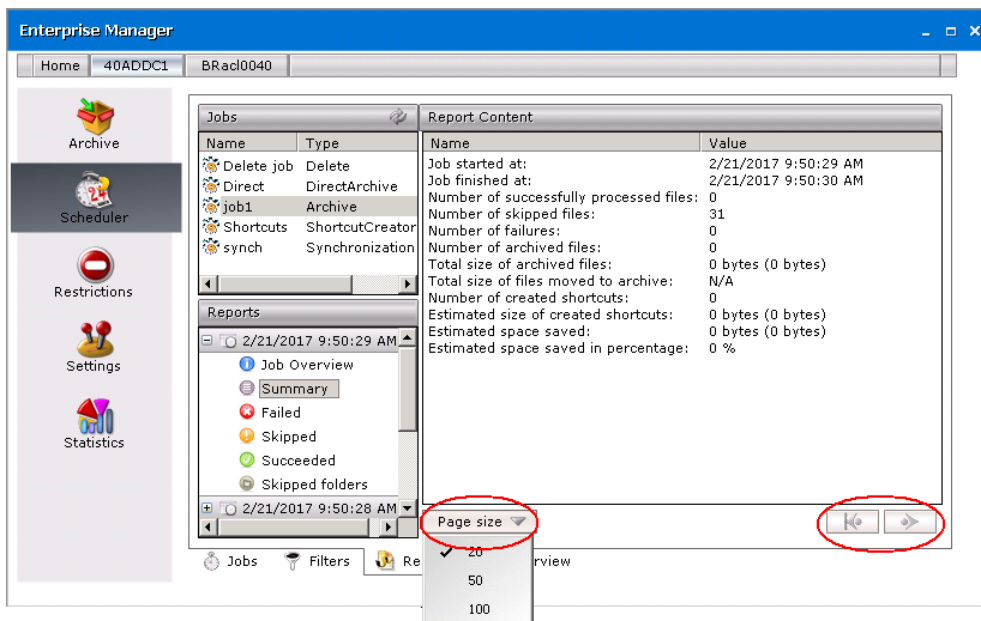

Overview tab

On this tab you may see daily overview of jobs' activity. You may select any day using the calendar in the Scheduling overview section (i.e. the upper part of the window). The chart next to calendar shows the past or scheduled behavior of jobs during the selected day. The red color indicates the period for which the jobs are scheduled. The vertical brown lines mark the exact time when the job starts running.

The period for database backups is marked in light blue. Jobs are stopped during this backup time and are resumed afterwards.

All activities taken by jobs are listed in the lower pane, in the Events section. You may see there the date and time of each job's action, along with action's description.
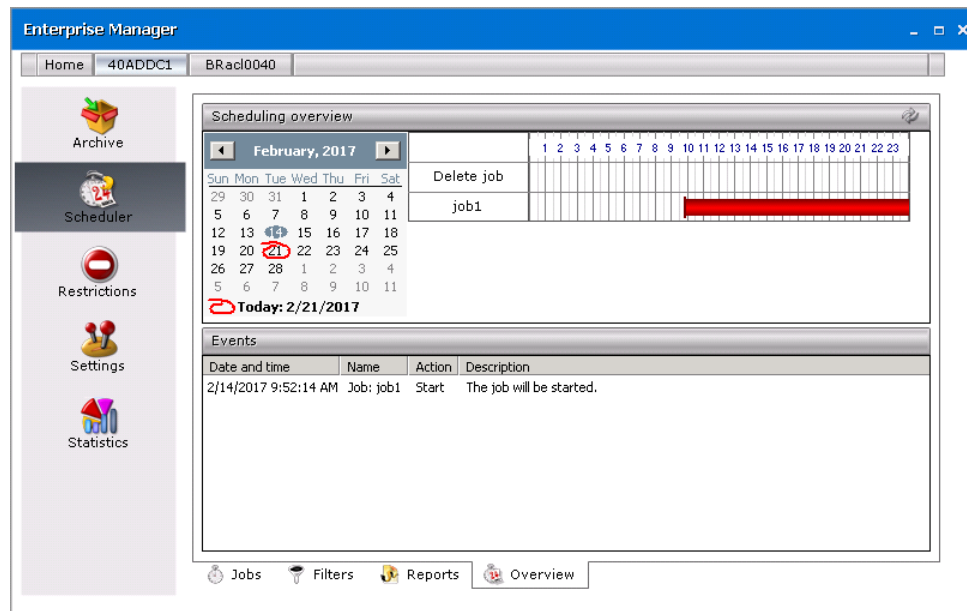
Archive

Archive tab is basically designed for manual archiving/restoring of files (Archive-Restore tab), browsing the archive (Archive view) as well as searching and exporting of files (Search & Export tab).

You may find the Refresh icon ( ) and Show deleted items icon ( ) at various places in Archive Manager for Files. This icon is always located in the upper right corner (see the screenshot below).

The Refresh icon is used to update the screen with recently saved information, i.e. whenever the Apply button is clicked. It is useful to click on it whenever you need to "refresh" the status on your screen.

When you click the Show deleted items icon, items of the selected folder which have been deleted from the file system will be displayed in the list view. Such items will have an icon with small red cross attached to it: .

i | **NOTE:** Different icon with a red sign attached to it ( ) denotes files that are not archivable in general or at the present moment; they are e.g. used by another program.

The Undo button may be found as well at various places throughout Archive Manager for Files. It is always located in the lower part of the window (Undo). By clicking on this button you will discard all changes having been made since the Apply button (Apply) was last clicked.
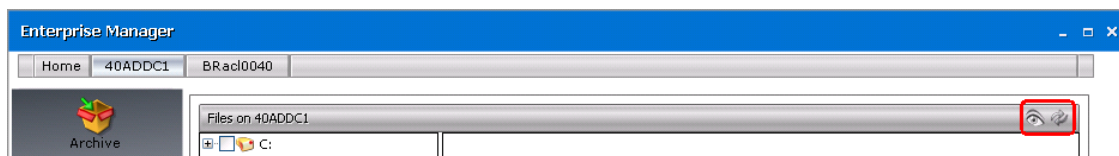
Archive-Restore

This view of the Archive tab is reserved for manual archiving/restoring of files/folders and Archive Manager context menu for folders is also accessible here. In the left pane you will see a list of all disks displayed. Simply click on the plus (+) sign to unfold the folder structure of the desired disk.

NOTE: Different icon with a red sign attached to it ( ) denotes files that are not archivable in general or at the present moment; they are e.g. used by another program.
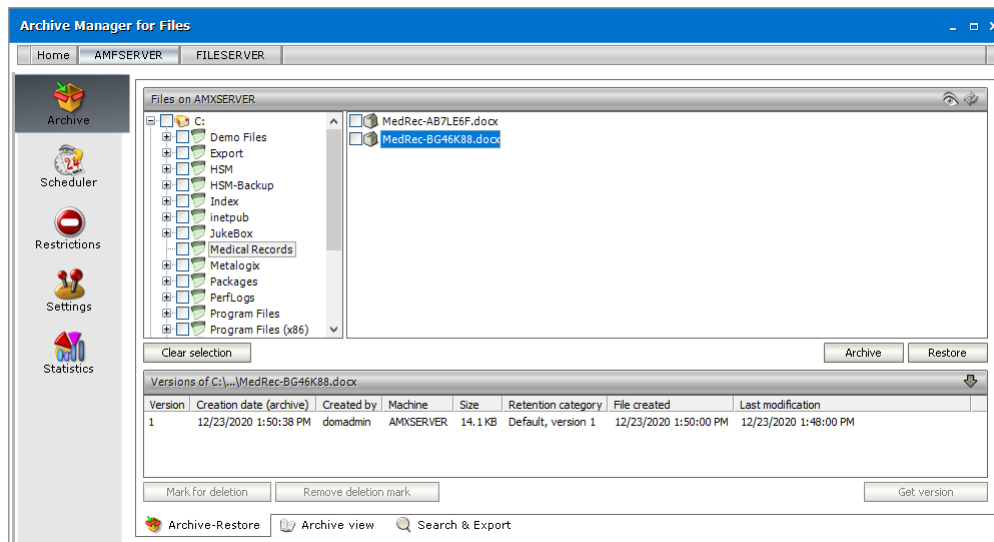
To archive with Archive Manager for Files you just need to select the desired file or select the desired folder either recursively or non-recursively. Then click the Archive button. The file is archived and replaced with a shortcut.

What to consider before archiving

1. Archive Manager does not archive files with SYSTEM, ENCRYPTED, TEMPORARY or REPARSE-POINT attributes.

2. Before anything is archived (either manual or automated) please specify first your restrictions related settings. You may do that on the Restrictions tab. IT IS VERY IMPORTANT TO EXCLUDE SOME FOLDERS FROM ARCHIVING (see the section "Restrictions tab").

3. Other important things to consider before archiving are the general settings. You should specify them at the beginning, before any arching is done. Simply click on the Settings tab and set your criteria (see the section "Settings tab").

4. Next proceed to Scheduler tab. There you can schedule jobs and filters for automated archiving (see the section "Scheduler tab").

Non-recursive folder selection

1. Click on the Archive tab.

2. In the left pane, click on the plus (+) sign next to the desired disk to unfold its structure.
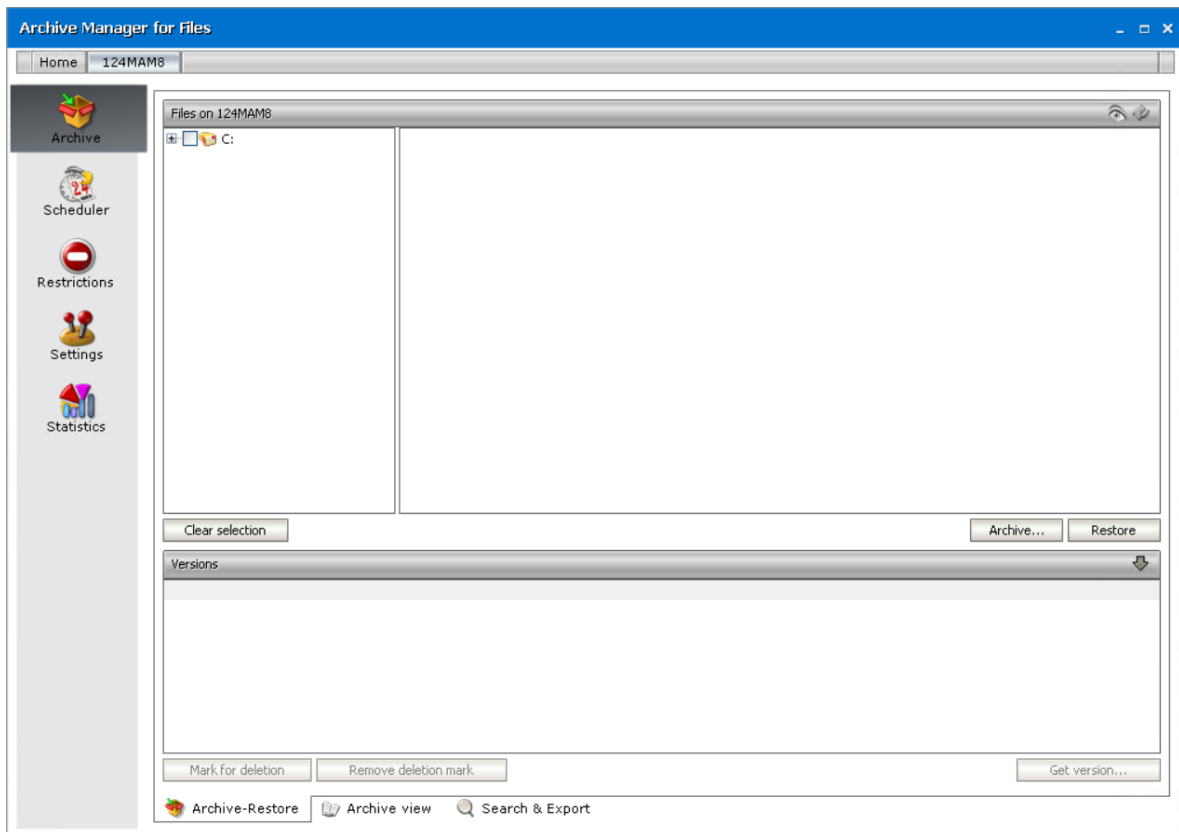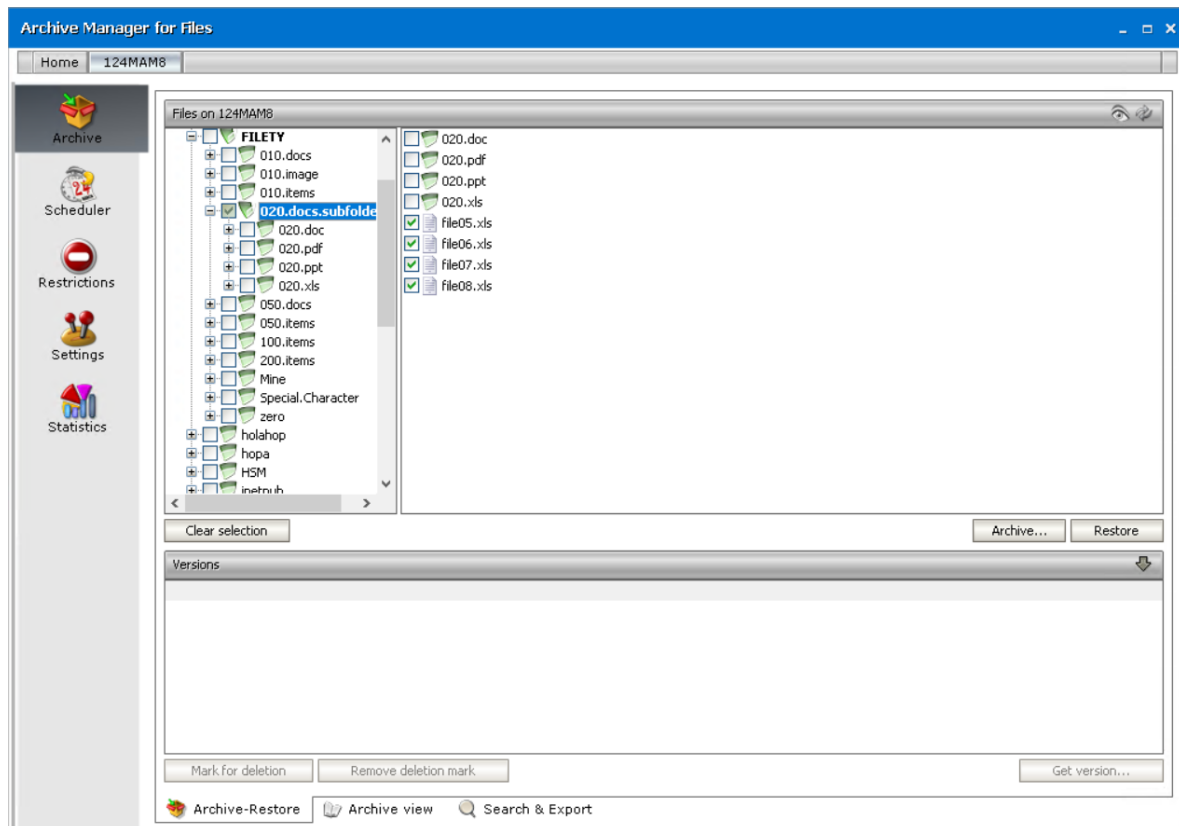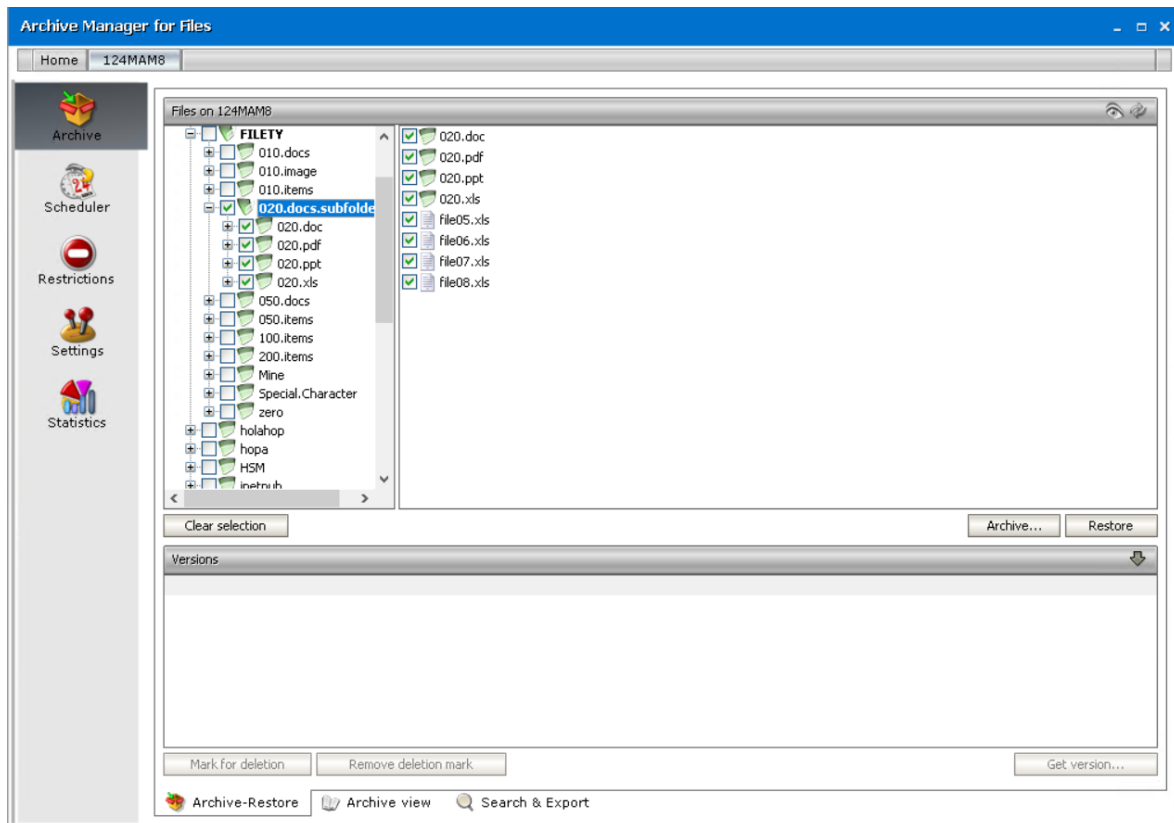

3. Locate the desired folder in the left pane and then click on it to display its content in the right pane. On the screenshot below you may see that none of the files are selected.
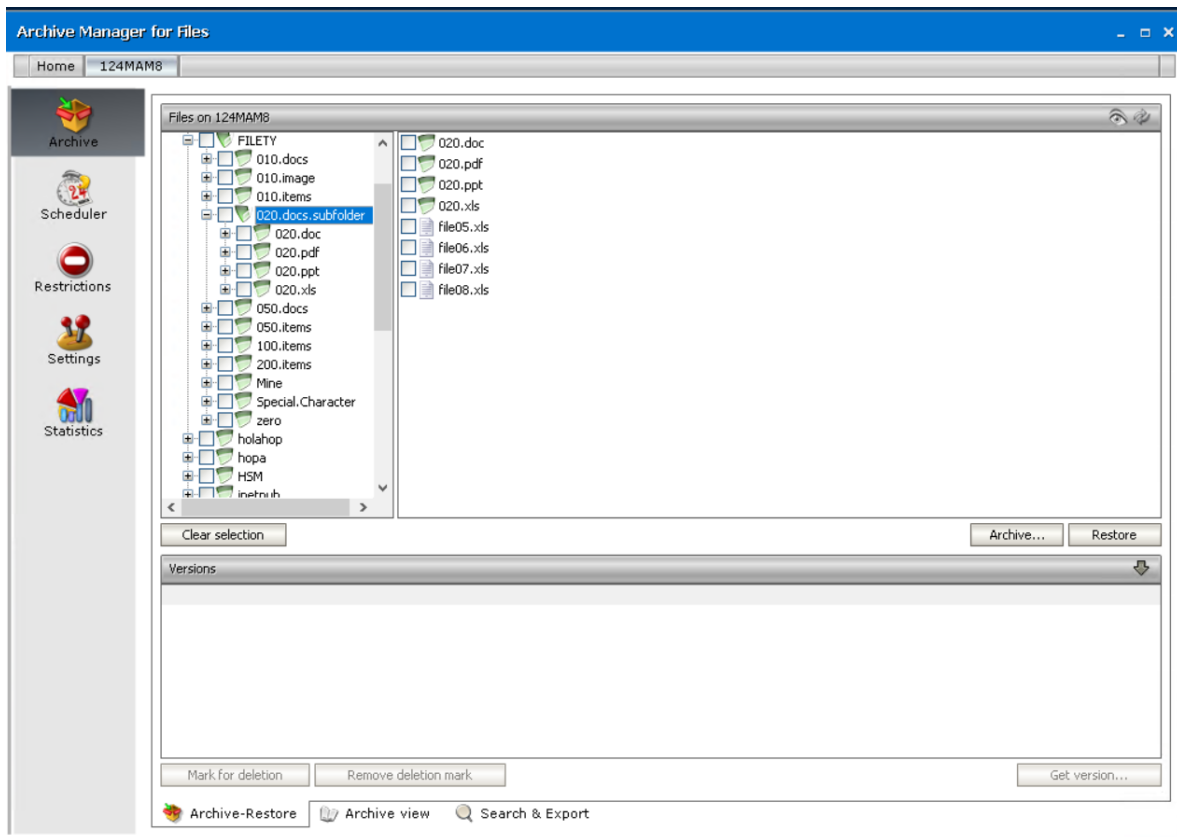
4. To select that folder *non-recursively*: in the left pane click **ONCE** on the check box next to it. After clicking on the check box of the desired folder, all files residing there become selected.

NOTE: You may notice that the check box of the parent folder is filled with grey color. A selected check box filled with grey color is typical for non-recursive selection.

Recursive folder selection

1. Click on the Archive tab.

2. In the left pane, click on the plus (+) sign next to the desired disk to unfold its structure.

3. Locate the desired folder in the left pane and then click on it to display its content in the right pane.

4. To select that folder *recursively*: in the left pane click **TWO TIMES** on the check box next to it to.

After clicking on the check box of the desired folder for the second time, everything down the path becomes selected (i.e. all its subfolders as well as files).

NOTE: You may notice that the check box of the parent folder is filled with white color. A selected check box filled with white color is typical for recursive selection.

NOTE: To select a specific file you just need to unfold the folder structure and locate the relevant folder in the left pane of the Archive tab. Its content gets displayed in the right pane. Then select the desired file/files in the right pane, simply by clicking on their respective check boxes.

How to archive a folder/file manually

1. Click on the Archive tab.

2. Locate the desired folder/file in the left pane.

3. Select the check box of the desired folder, either non-recursively or recursively (see the sections "Non-recursive folder selection" or "Recursive folder selection"); or select the check boxes of a desired files in the right pane.

4. Then simply click on the **Archive** button located in the lower right corner.
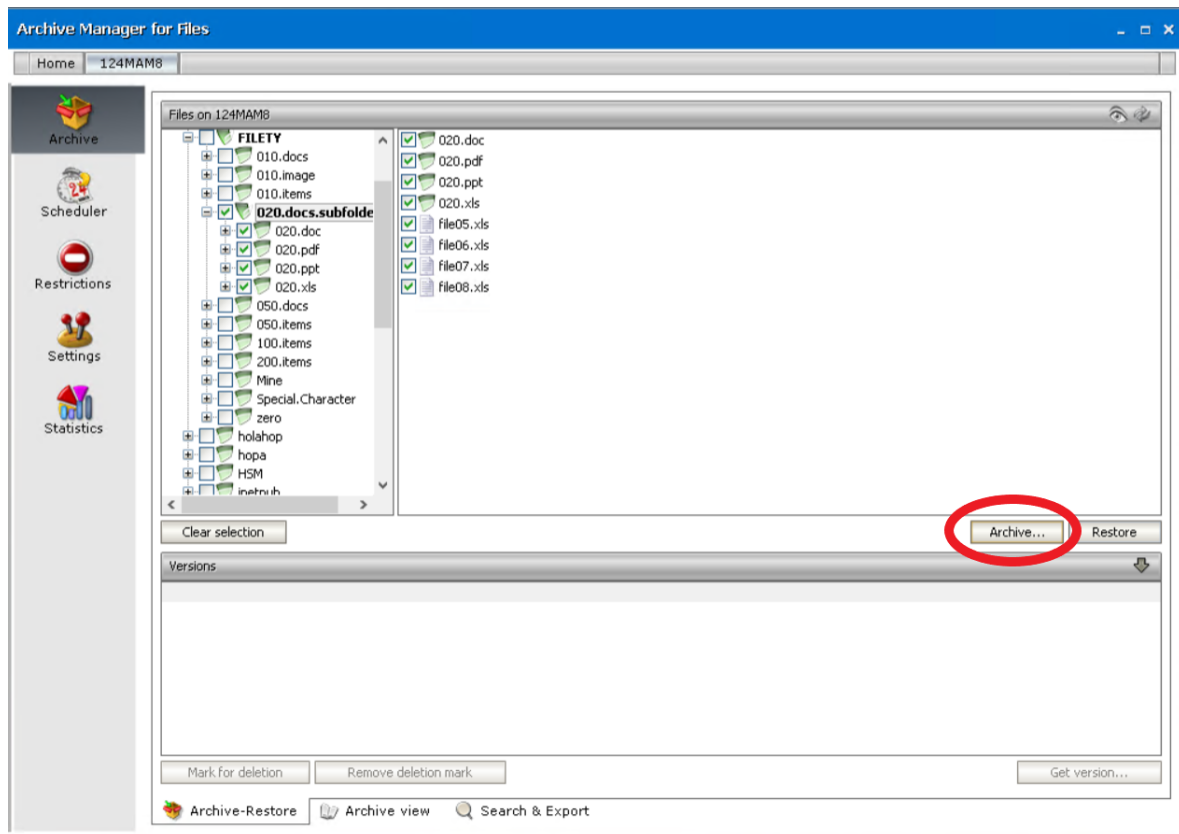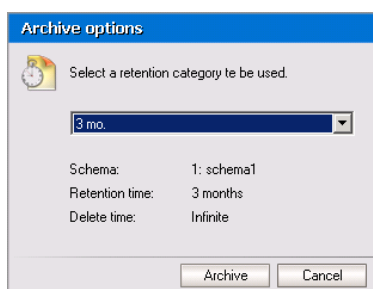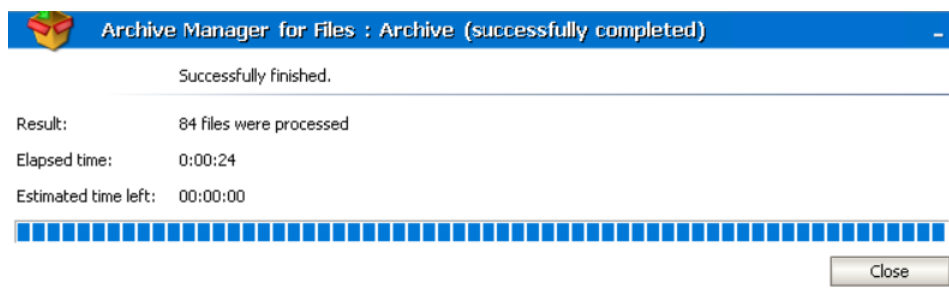
5. During archiving a popup window may be displayed informing you that archiving is in progress. When archiving is over simply click **Close** to close the window.

6. You may notice that archived files are displayed with an icon, indicating that they were replaced with a shortcut.

NOTE: In some cases archived files are not displayed with an icon. This is no error. It only means that the original file was too small; it was archived but there was no use to replace it with a shortcut. You may check it by selecting the desired file and unfolding the **Versions** tab. (See below)
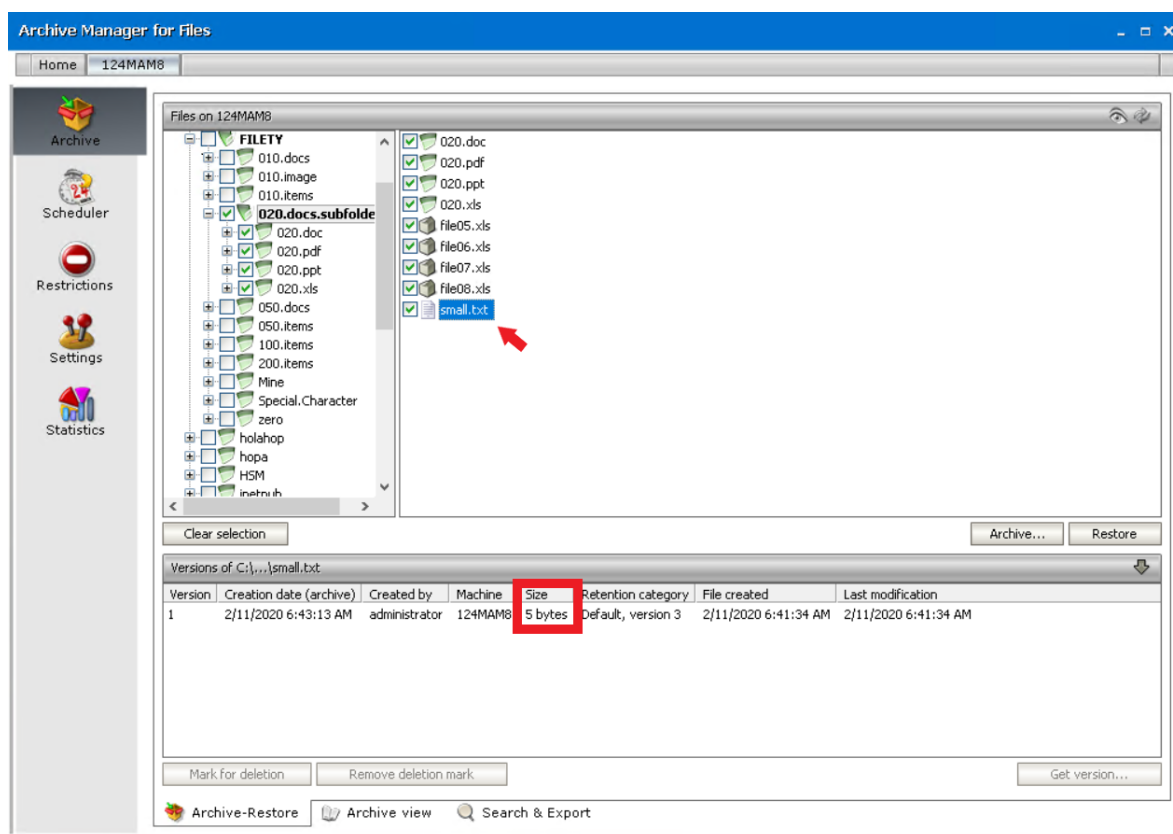
NOTE: To clear selection when archiving is over, simply click the Clear selection button.

How to retrieve a folder/file

NOTE: Folders could be retrieved also via Archive Manager context menu which offers advanced settings (see "How to retrieve a specific version/shortcut").

1. Click on the Archive tab.

2. Select the desired folder either recursively or non-recursively; or select the desired archived file.

NOTE: Should recursive selection be chosen, then all files along with all subfolders of the respective parent folder will be retrieved. Should non-recursive selection be chosen, then all files of the respective parent folder would be retrieved; its sub-folders would not.

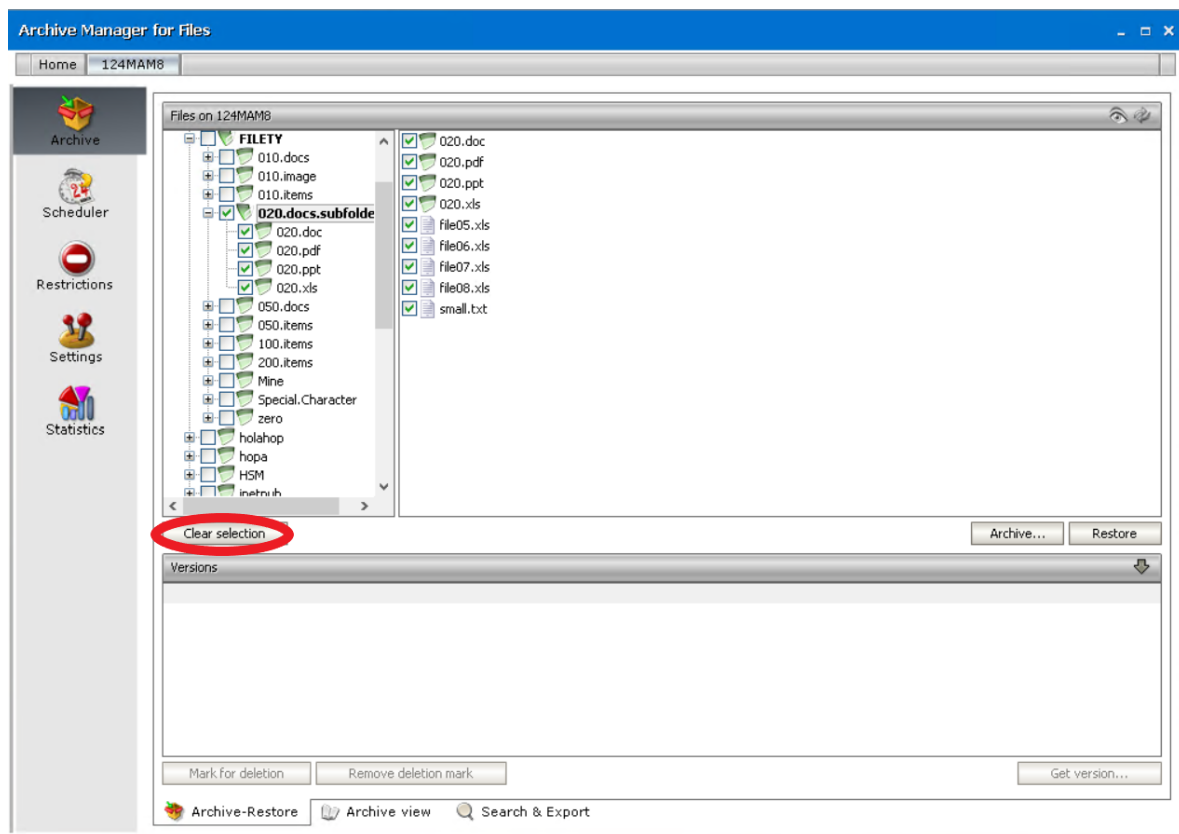3. Click on the **Restore** button.
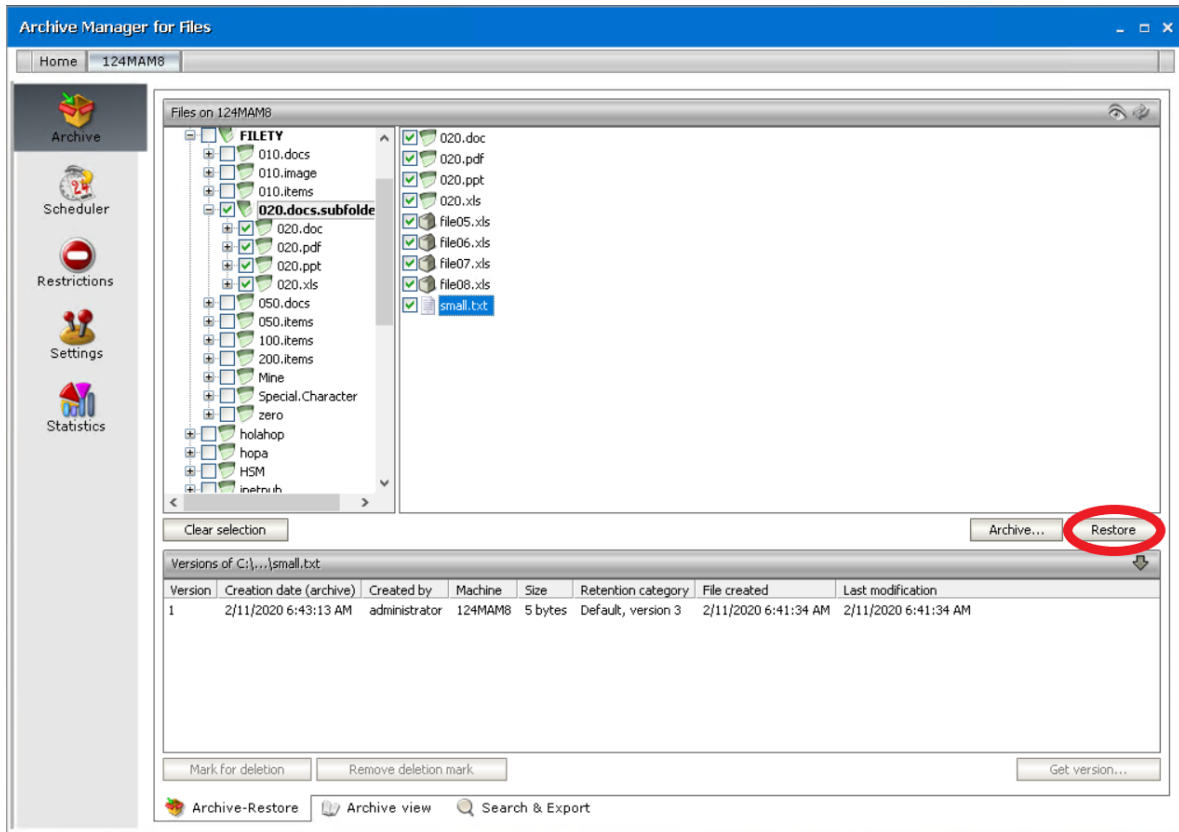
4. During retrieving a pop-up window may be displayed informing that retrieving is in progress. When retrieving is over simply click **Close** to close the window.
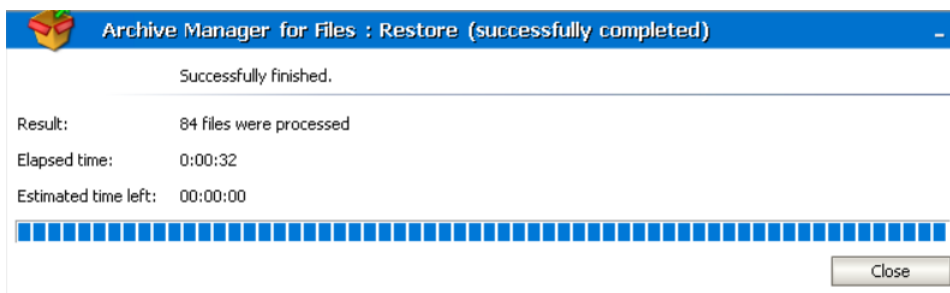
5. Retrieved files will be displayed without an icon, yet selected.

To clear selection, simply click on the **Clear selection** button.

How to retrieve a desired version of a file

Our software offers versioning capability. This means that the HSM store keeps versions of modified files. Due to this capability, it is easy to retrieve any of the versions that are in the HSM store and work with them.

NOTE: Version retrieving with advanced settings can be done on a folder level via Archive Manager context menu (see "How to retrieve a specific version/shortcut").

To retrieve a desired version of a file:
1. Click on the Archive tab.

2. Locate the desired file.

3. Click on the upward arrow on the **Versions** tab.
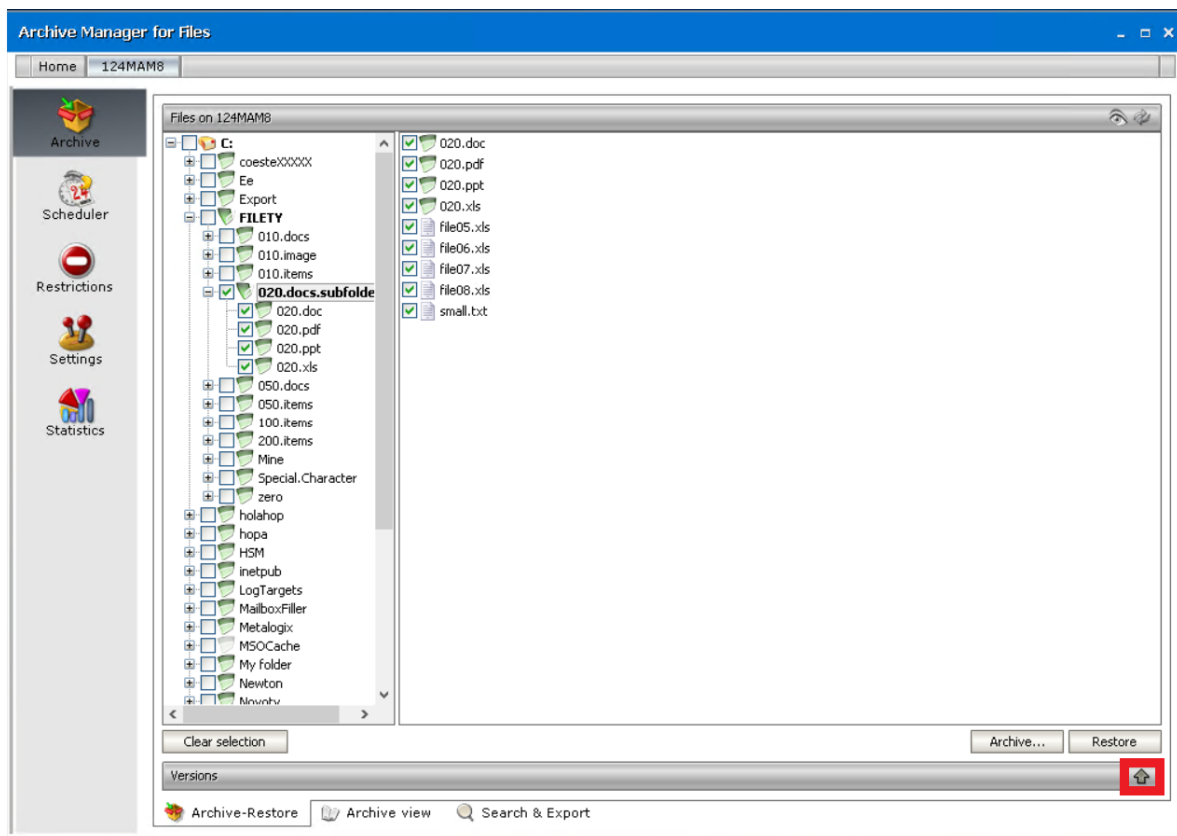
4. After clicking on the upward arrow on the **Versions** tab, it expands as shown on the following screenshot. Select the desired version and then click on the **Get version** button.
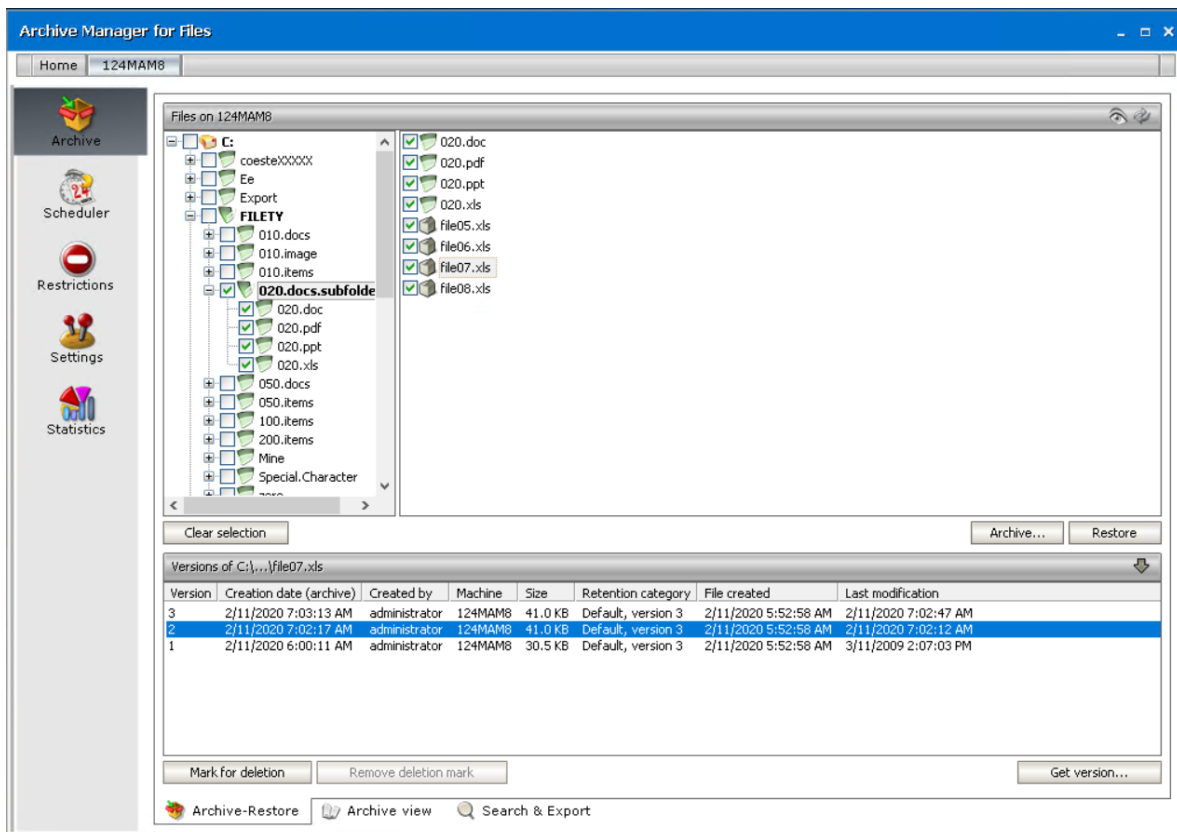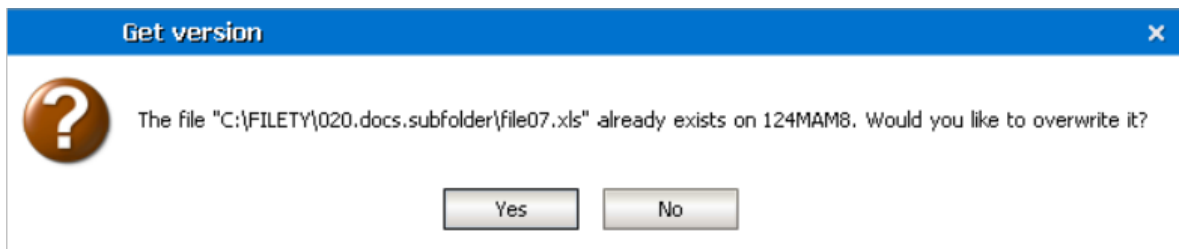

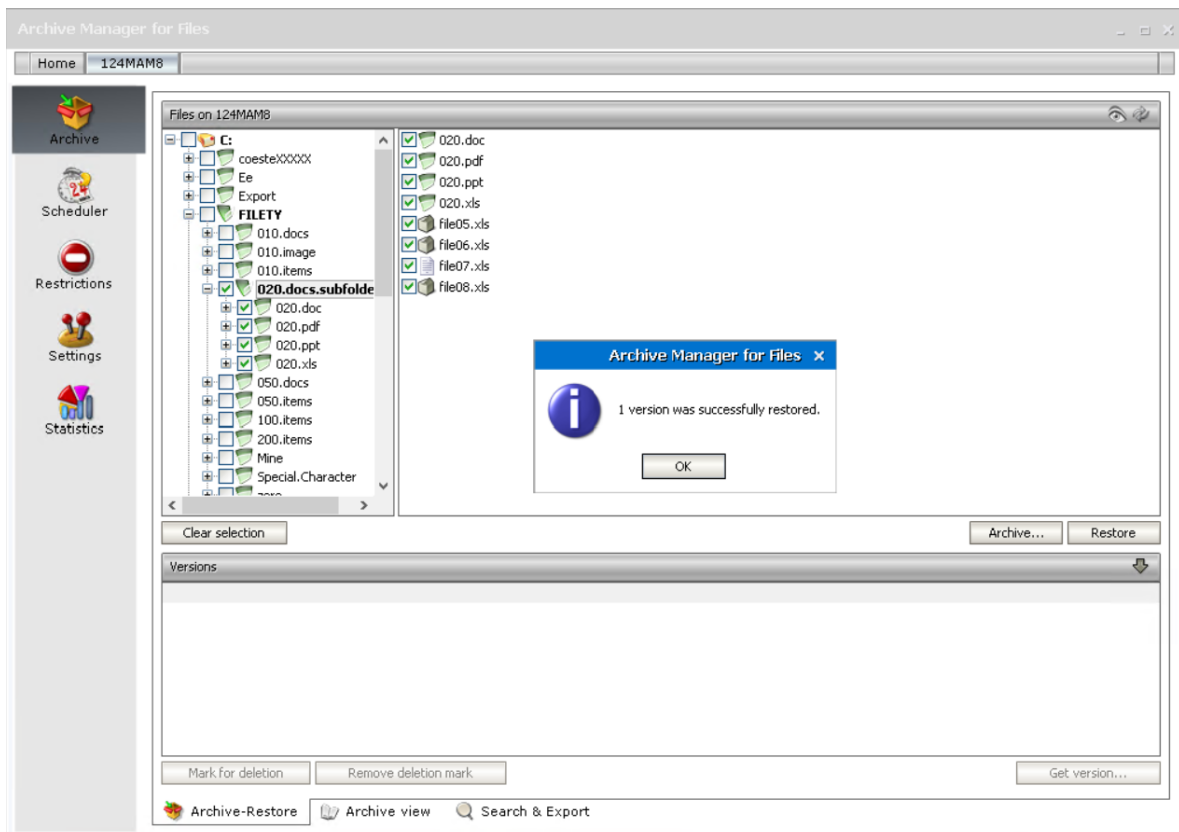5. In the **Get version** window confirm by clicking **OK**.

NOTE: Should you wish to get only the shortcut to the desired version, select the **Get shortcut only** check box.
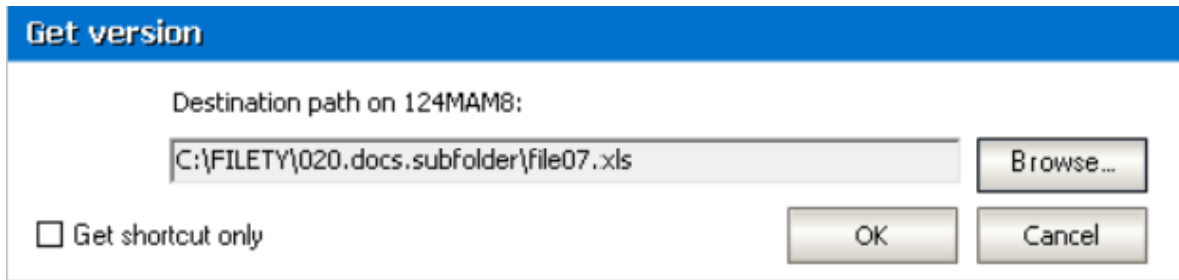
6. Click **Yes** to confirm.

7. Click **OK**.

As you may have noticed, it is possible to get shortcuts to desired versions as well.

How to mark a version for deletion

Marking files for deletion is applicable only in the HSM store. It does not mean that files marked for deletion would be irretrievable. Files marked for deletion are kept in the HSM store and they are retrievable during their retention period (see the section "Retention categories").
However, upon the expiration of retention time and eventually keep alive time files marked for deletion are considered useless and are therefore deleted by Delete job from the HSM store to free up space.

NOTE: Marking for deletion could be done on the folder level also via Archive Manager context menu (see the section "Context menu in Archive Manager for Files").

To mark a specific version of a file for deletion:
1. Click on the Archive tab. Locate the desired folder in the left pane.

2. Locate the desired file in the right pane and then click on the upward arrow on the **Versions** tab to unfold it.
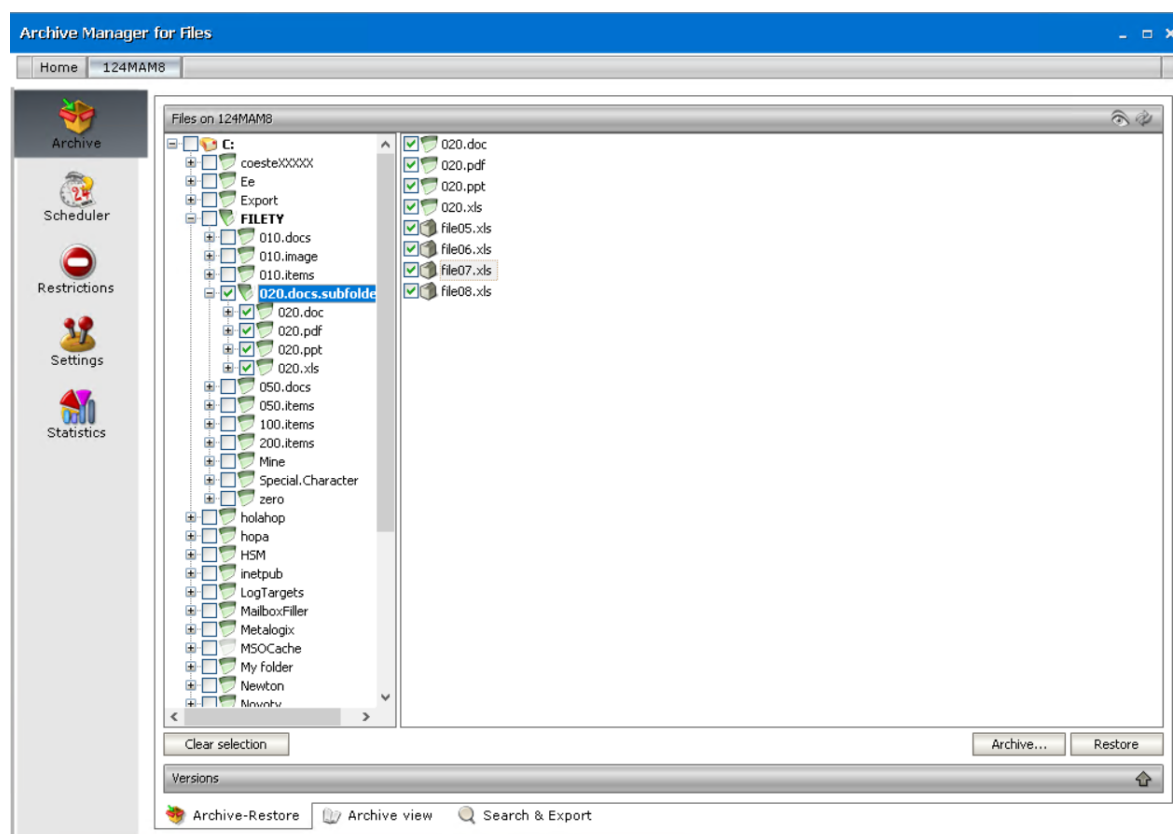
3. Upon clicking on the upward arrow on the **Versions** tab, the tab unfolds. Select the desired version in the lower pane and then click on the **Mark for deletion** button.

4. Click **OK**. The file will be displayed red, indicating that it is marked for deletion in the HSM store.

NOTE: The file is not deleted yet, and will be kept physically in the HSM store until the retention time and eventually keep alive time expires.

How to remove deletion mark from a version

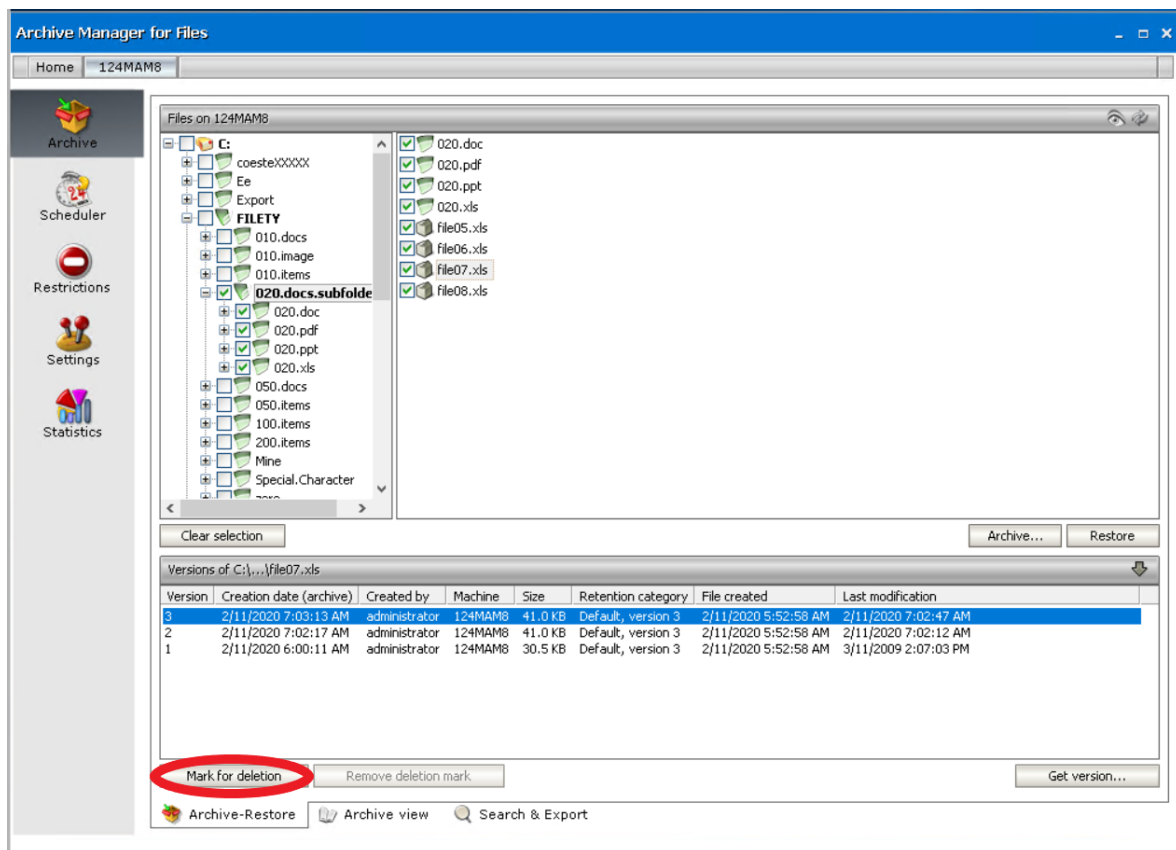***NOTE:*** Removing deletion mark could be done on the folder level also via Archive Manager context menu (see "Context menu in Archive Manager for Files").

1. Click on the Archive tab. Locate the desired folder in the left pane.

2. Locate the desired file in the right pane.
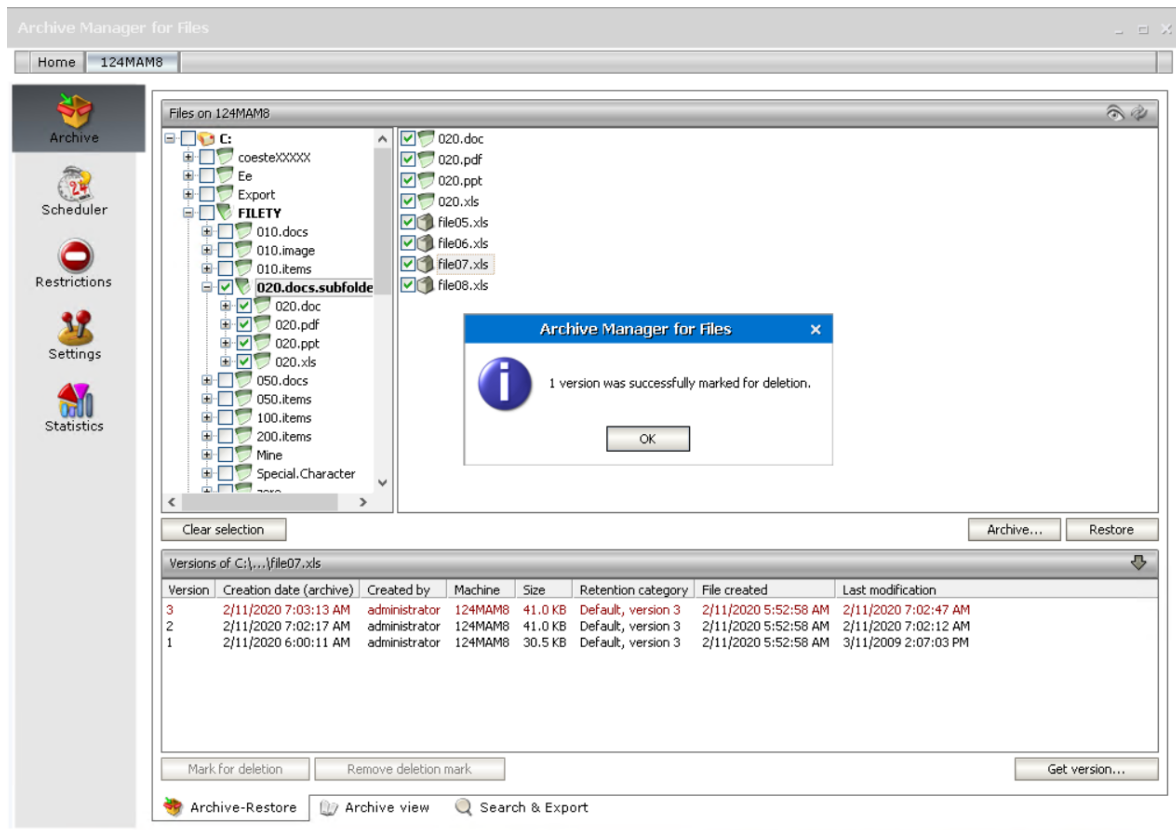
3. Click on the upward arrow on the **Versions** tab.

4. After clicking on the upward arrow on the **Versions** tab, the tab unfolds. Select the desired version which is marked for deletion (highlighted in red) and then click on the **Remove deletion mark** button.
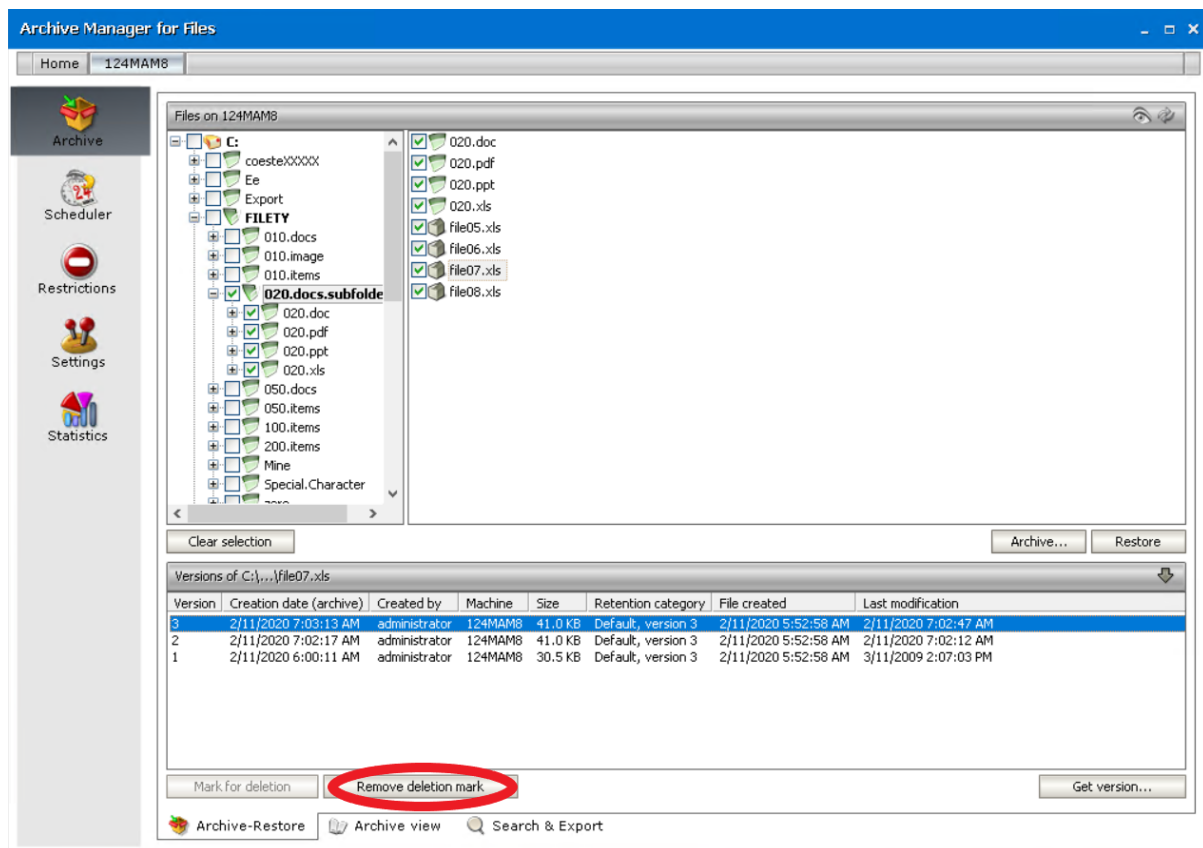
5. Click **OK**.
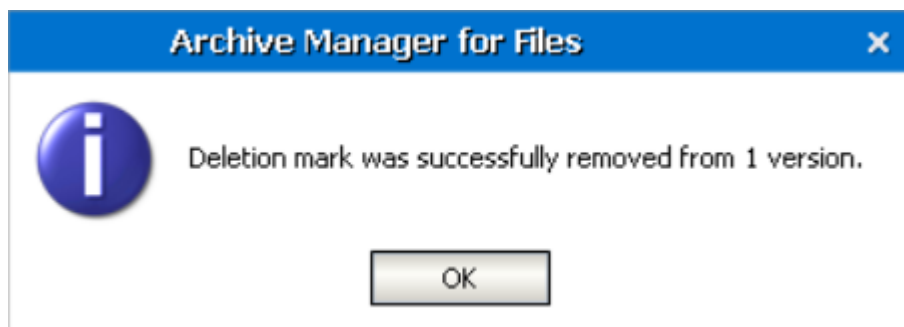
How to display files having been physically removed from the file server

With Archive Manager for Files it is possible to display files physically deleted from the file server. Files deleted from the file server are displayed with a red cross.

To display files deleted from the file server:
1. Click on the Archive tab.

2. Locate the desired folder in the left pane.

3. Click on the **Show deleted items** icon located in the upper right corner (see below).
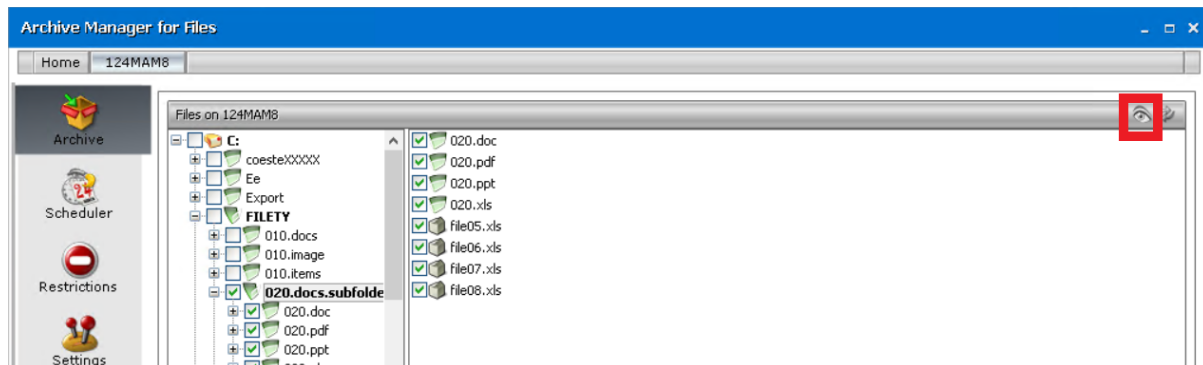
4. Files deleted from the respective folder are displayed with a red cross. By selecting any of them you may display its versions.

> NOTE: Retrieving of deleted items is described in the next section.
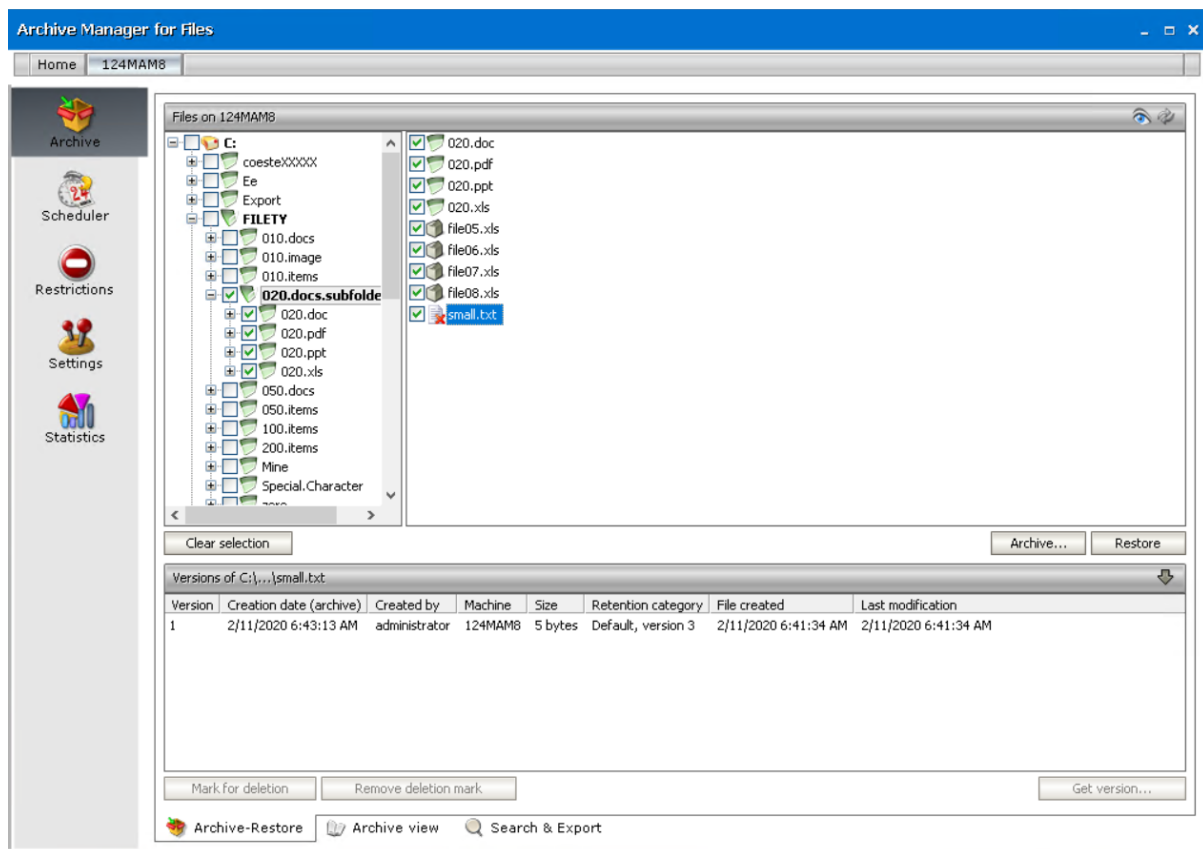
How to retrieve a version of a file deleted from the file server

1. Click on the Archive tab.

2. Click on the **Show deleted items** icon located in the upper right corner.

3. Locate the desired folder in the left pane.

4. Select the desired file in the right pane.

5. Click on the upward arrow on the **Versions** tab to unfold the tab.

6. Select the desired version in the lower pane and then click on the **Get version** button.
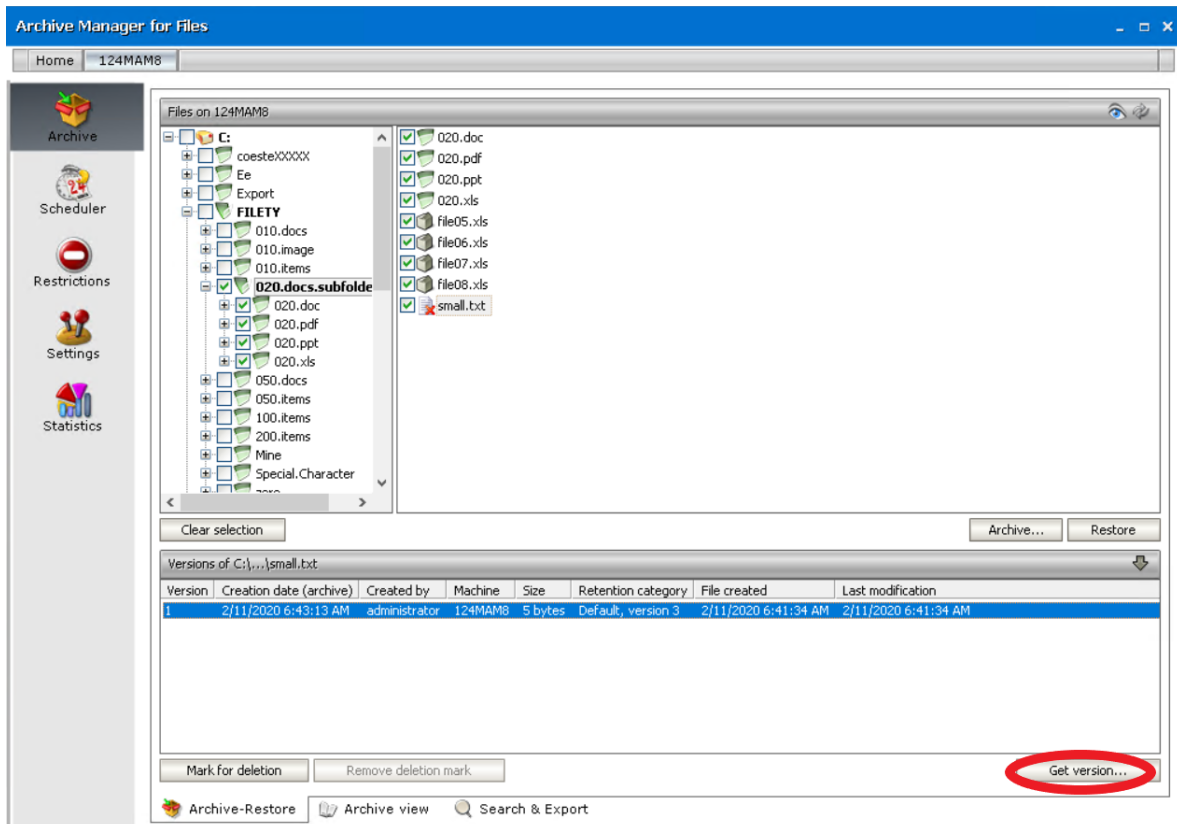
7. In the Get version window you may choose to restore only a shortcut by selecting the Get shortcut only check box. Click OK.
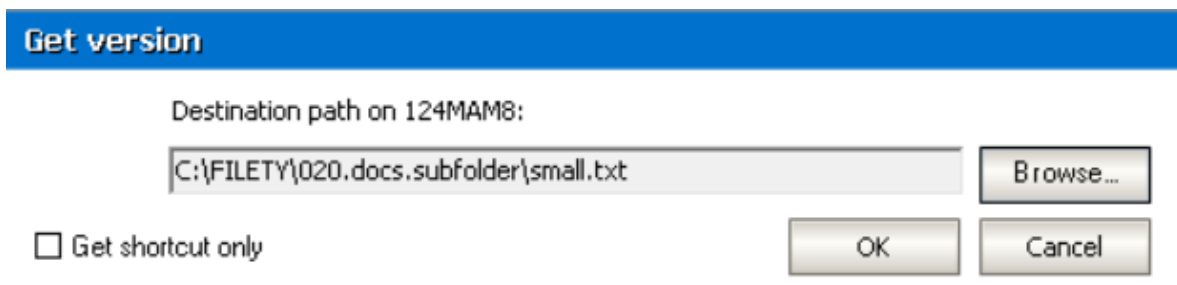
8. Click **OK**.
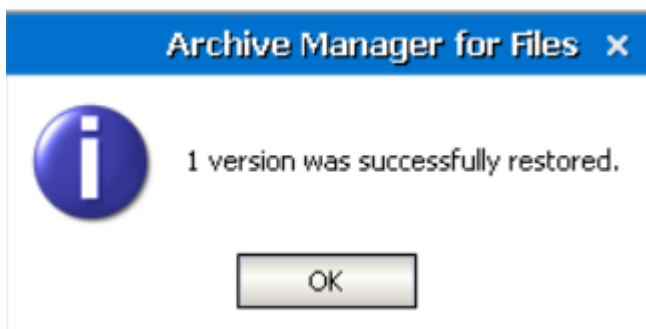
NOTE: The same can be done also via Archive Manager context menu (see further).

Context menu in Archive Manager for Files

Since a new version is created automatically whenever a modified document is archived, a large number of versions from a single document may be created. At some points you may want to mark for deletion some of the versions so that they could be physically deleted from the HSM store upon expiration of the retention period.

The context menu is used preferably for:

- marking versions for deletion,

- removing deletion marks,

- retrieving a specific version or shortcut of a file even to a folder different from the original one (useful e.g. for notebook users).

Context menu is used on the folder level and all tasks can be performed even recursively.

i | **NOTE:** Archived files (i.e. their versions) having been marked for deletion are retrievable with Archive Manager for Files.

MARKING FOR DELETION and REMOVING DELETION MARKS from versions of all files residing in a folder

The context menu on the Archive tab offers you six basic possibilities:

- Mark for deletion – mark for deletion all, oldest, latest versions of all files residing in a folder or versions created during a specific period

- Mark for deletion recursively – mark all, oldest, latest, or specific versions of files for deletion recursively, i.e. the deletion mark is applied to the versions of files residing also in the subfolders of a given folder

- Remove deletion mark – remove deletion mark from all, oldest, latest or specific versions of the files

- Remove deletion mark recursively – remove deletion mark from all, oldest, latest or specific versions of files recursively, i.e. the deletion mark is removed from the versions of files residing also in the subfolders of a given folder

- Get version – retrieve specific versions of files (see "How to retrieve a specific version/shortcut")

- Get version to **folder** – retrieve specific versions of files to folder different from the original location

Only the first option Mark for deletion will be described in detail. The procedures for the next three options are similar. The Get version option is described in "How to retrieve a specific version/shortcut" and the Get version to folder option is described in "How to retrieve a file/shortcut to a specific folder".

To mark versions of all files residing in a folder for deletion:

1. Click on the Archive tab.

2. Locate the desired folder in the left pane and right-click it.

3. In the context menu, select **Mark for deletion** and then

    ➢ All versions to mark for deletion all versions of the folder's files

    ➢ Oldest version to mark for deletion the oldest version of all files

    ➢ Latest version to mark for deletion the most recent version of all files

NOTE: Advanced option is described further in "How to mark for deletion versions created during a specific time period".

NOTE: You can also mark for deletion a specific version of a single file (see the section "How to mark a version for deletion").
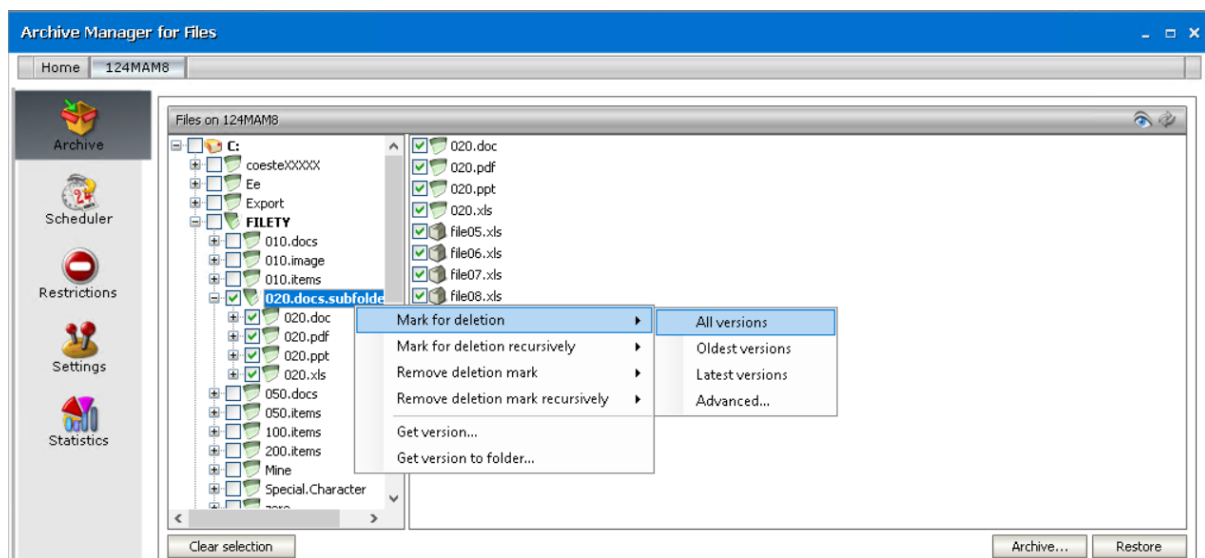
4. In the respective dialog-box click Yes to confirm.

NOTE: Now you may check what you have done: Simply select any of the files in the right pane (under the respective folder), and then click on the arrow on the Versions tab to unfold it. Versions which you have marked for deletion will be displayed red, indicating that they are marked for deletion in the HSM store. (In our example three versions are marked. See the next screenshot.)

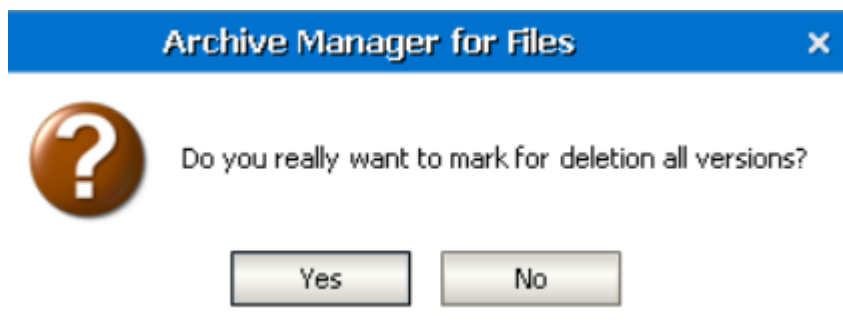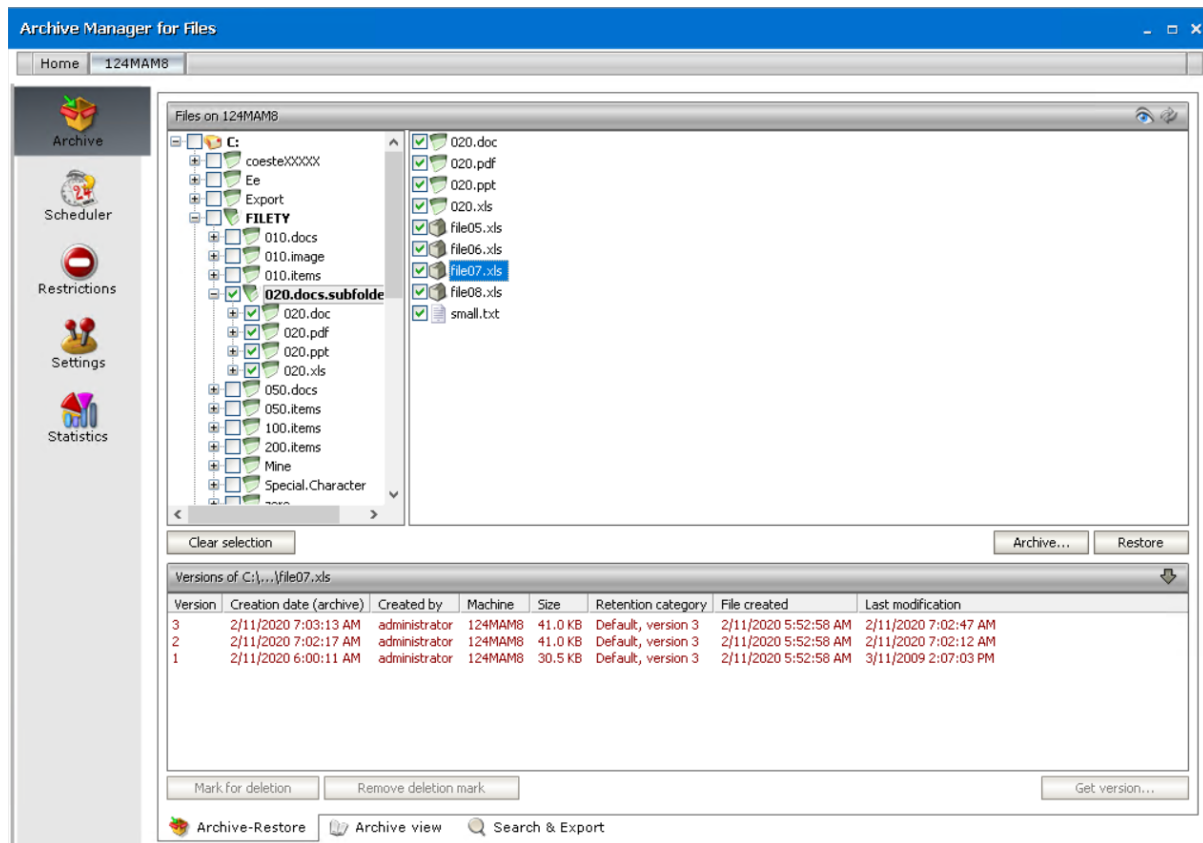# How to mark for deletion versions created during a specific time period

1. Click on the Archive tab.

2. Locate the desired folder in the left pane and right-click it.

3. In the context menu, select **Mark for deletion** and then **Advanced**.
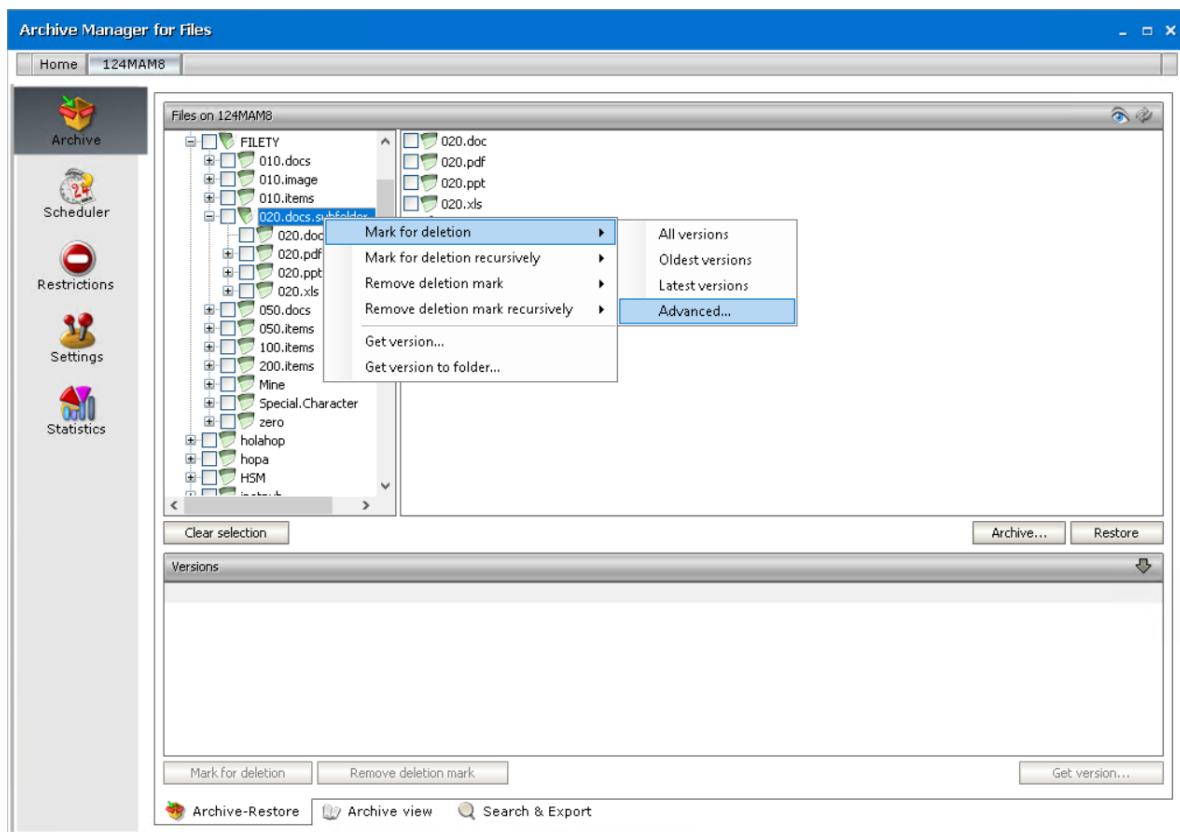
4. In the **Mark for deletion** window, select the **Mark for deletion versions created between** switcher and then specify the desired time period. Click **OK**.
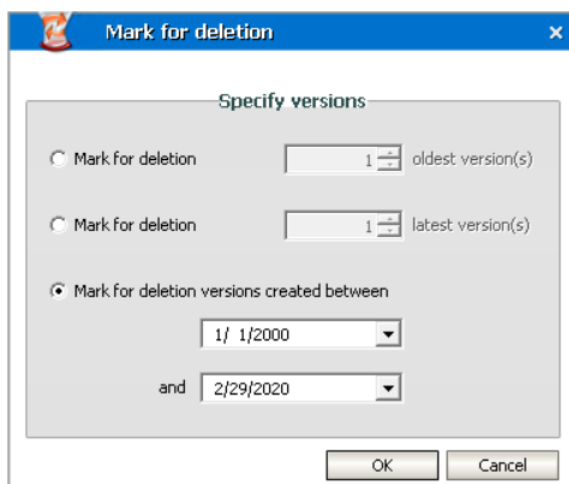
NOTE: In this window you may also choose to mark for deletion several oldest versions or several most recent versions.

How to retrieve a specific version/shortcut

In some cases you may want to replace shortcut(s)/file(s) residing in a folder with a specific shortcut/version. Since Archive Manager for Files keeps the existing structure of disks and folders, this can be done even recursively. To replace shortcut(s)/file(s) residing in a folder with a specific version/shortcut:

1. Click on the Archive tab.

2. Locate the desired folder and right-click it.

   NOTE: Specific version retrieving can be done also for a single file (see the section "How to retrieve a desired version of a file").

3. In the context menu, select **Get version**.
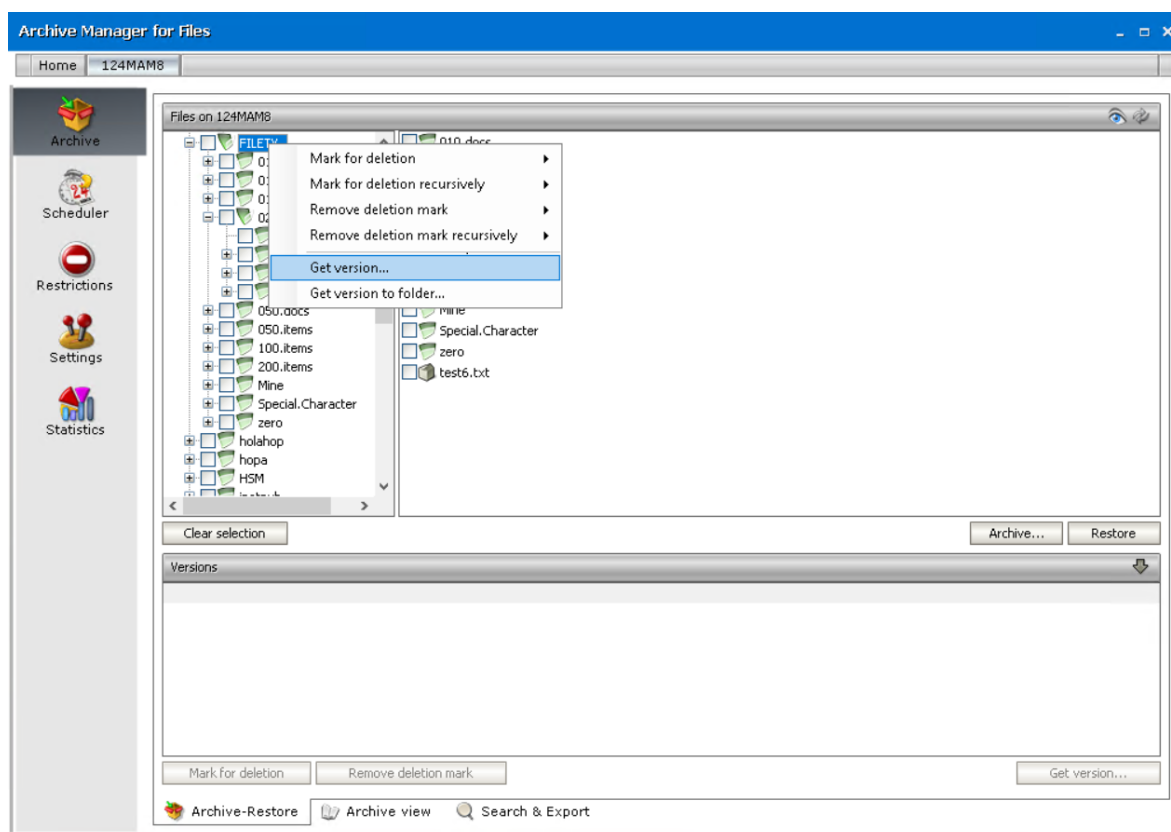
4. In the Get version window you may specify your requirements as follows:

You can retrieve the Latest version, Previous version or select the Version number switcher and enter the desired version in the adjacent text box (the digit 1 stands for the 1st, i.e. the oldest version).

There is also a possibility to apply Date Filter to decrease the number of versions being retrieved. Select the check box **Apply Date Filter**, choose **Date Type** which can be **Archive**, **Created** or **Modified** and finally set the desired time period.
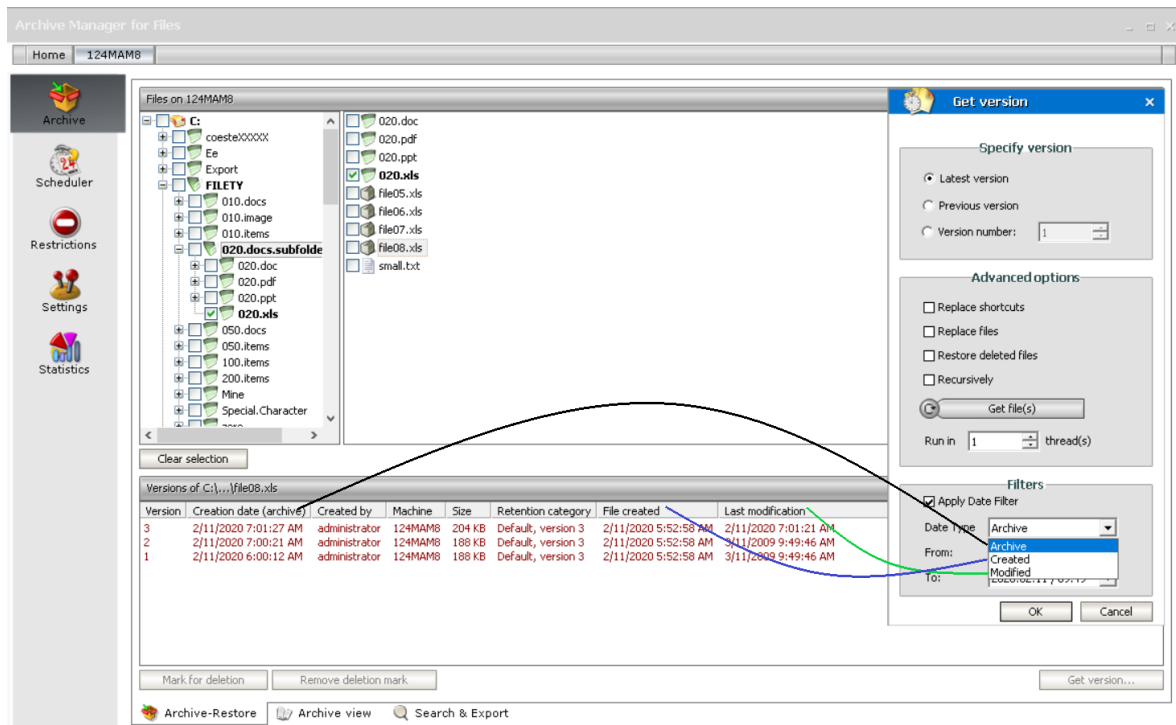
The meaning of each **Date Type** is as follows:

Archive - the date when specific file version had been archived.

Created - the date when specific file version was created.

Modified - the date when specific file version was last time modified.

Same as in **Get version** it is possible to apply date filter to decrease the number of versions being retrieved.

IMPORTANT NOTE: In the case that the desired version does not exist, no replacement will be made.

- Select the Replace shortcuts check box, should you wish to replace Archive Manager shortcut(s) of the folder with the version having been specified.

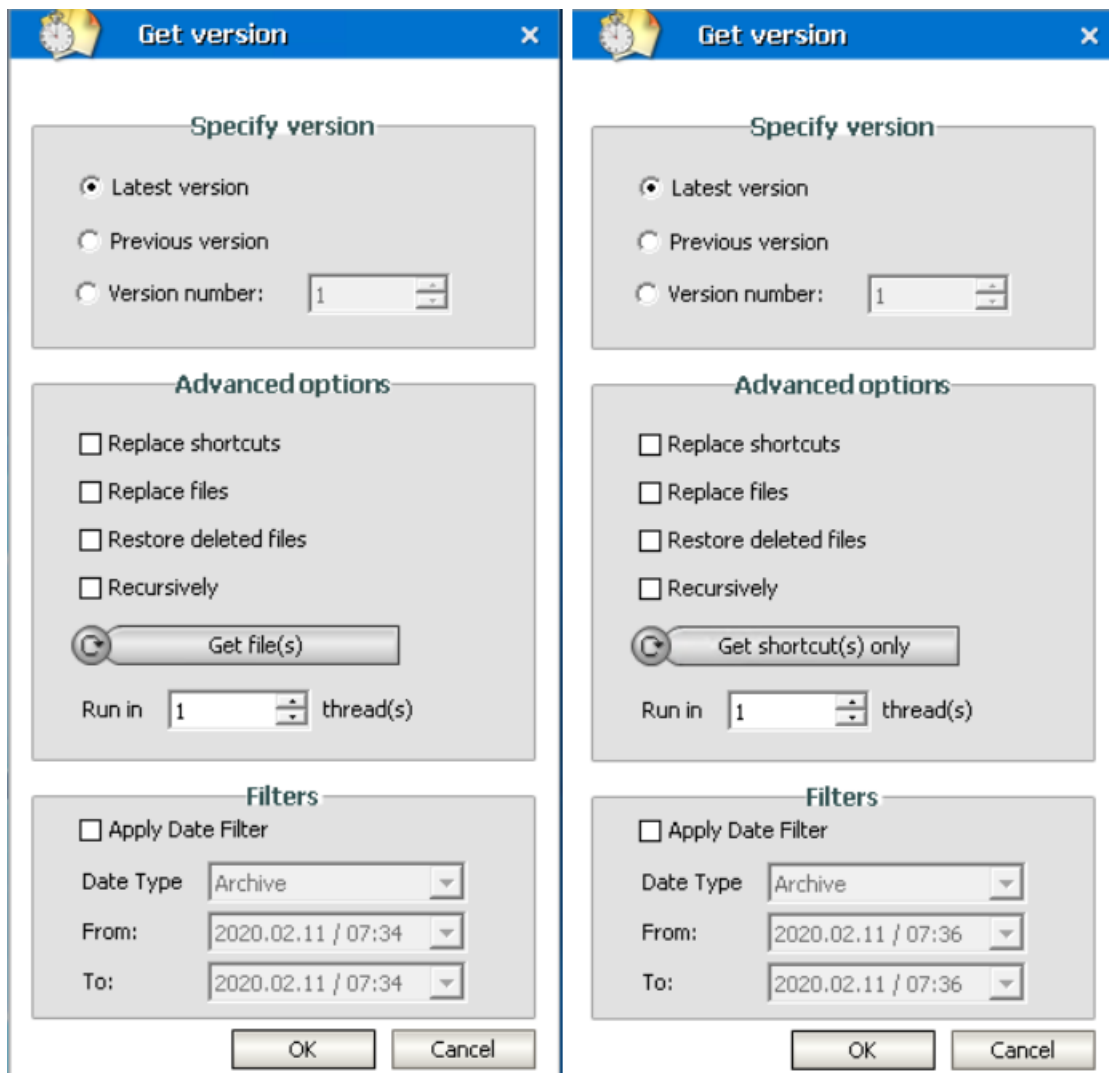- Select the Replace files check box, should you wish to replace file(s) of the folder with the version having been specified in the text box.

- Select the Restore deleted files check box, should you wish to retrieve specified version even for files deleted from the folder.

For all the above mentioned options: If you wish to get shortcut(s) only, select **Get shortcut(s) only** by clicking on the switcher button; in the case that you wish to get file(s), switch to **Get file(s)** by clicking the button.

Select the **Recursively** check box to apply the defined operation to subfolders, too.

In the **Run in *x* threads** box you may specify the number of threads you wish to run – the more threads, the faster retrieving.

5. Click **OK** to confirm. Then click Close.

How to retrieve a file/shortcut to specific folder

With Archive Manager for Files you can retrieve files or their shortcuts from one folder to another. Especially notebook users will appreciate this feature since it allows them to get all archived documents and files of any folder copied to their machine without retrieving the original files.

1. On the Archive tab locate the folder and right-click it.
2. From the context menu click **Get version to folder**.
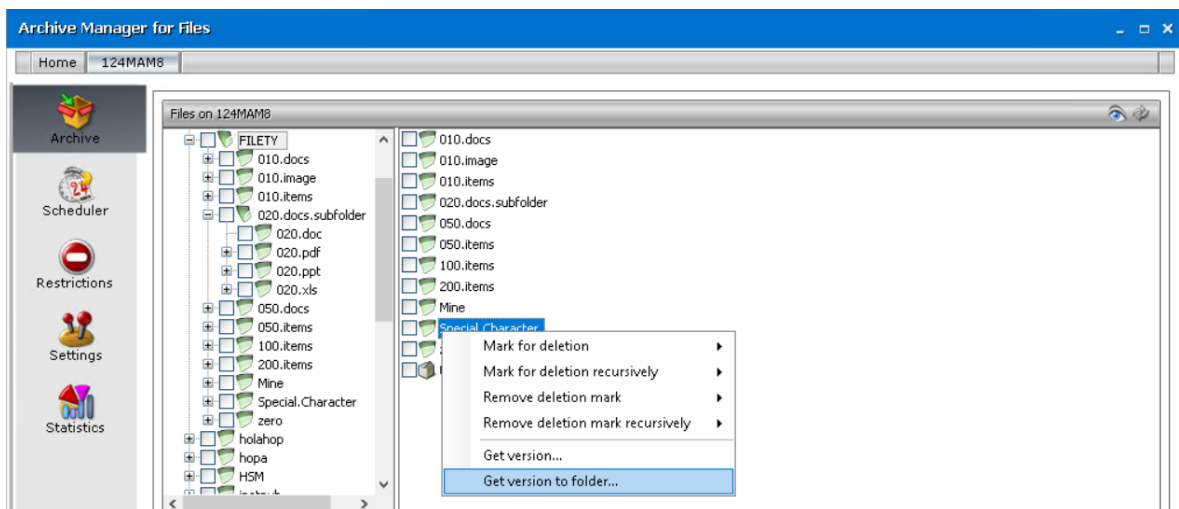
3. In the pop-up window define your settings:
You can retrieve the **Latest version** or select the **Version number** switcher and enter the desired version number in the adjacent text box (the digit 1 stands for the 1st, i.e. the oldest version).
NOTE: In the case that the desired version does not exist, no retrieving will take place.
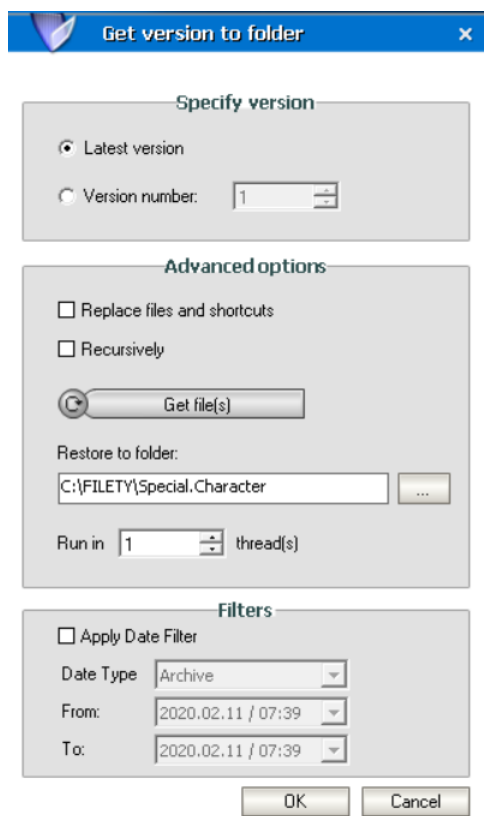
If you check Replace files and shortcuts check box, the versions of files or shortcuts already existing in the destination folder will be rewritten by the new ones being synchronized now. If you leave this check box empty, files/shortcuts already existing in the destination folder (which were e.g. copied here earlier) will be left untouched. Only new files/shortcuts will be added to the destination folder. Check Recursively check box to apply the defined operation to subfolders, too.

Should you wish to get shortcuts only, select Get shortcut(s) only by clicking on the switcher button, should you wish to get files, switch to Get file(s).

In the Retrieve to folder text box enter the path to the folder where you want to retrieve the files and/or shortcuts or use the browse button to locate the desired folder.

In the Run in x threads box you may specify the number of threads you wish to run – the more threads, the faster the retrieval.

Archive view

This tab gives the administrator the ability to view the archive created by Archive Manager for Files. Any file with all its versions archived by Archive Manager can be located in the archive, even if it is marked for deletion. The archive preserves the structure of disks, folders and files as it was at the moment of archiving.
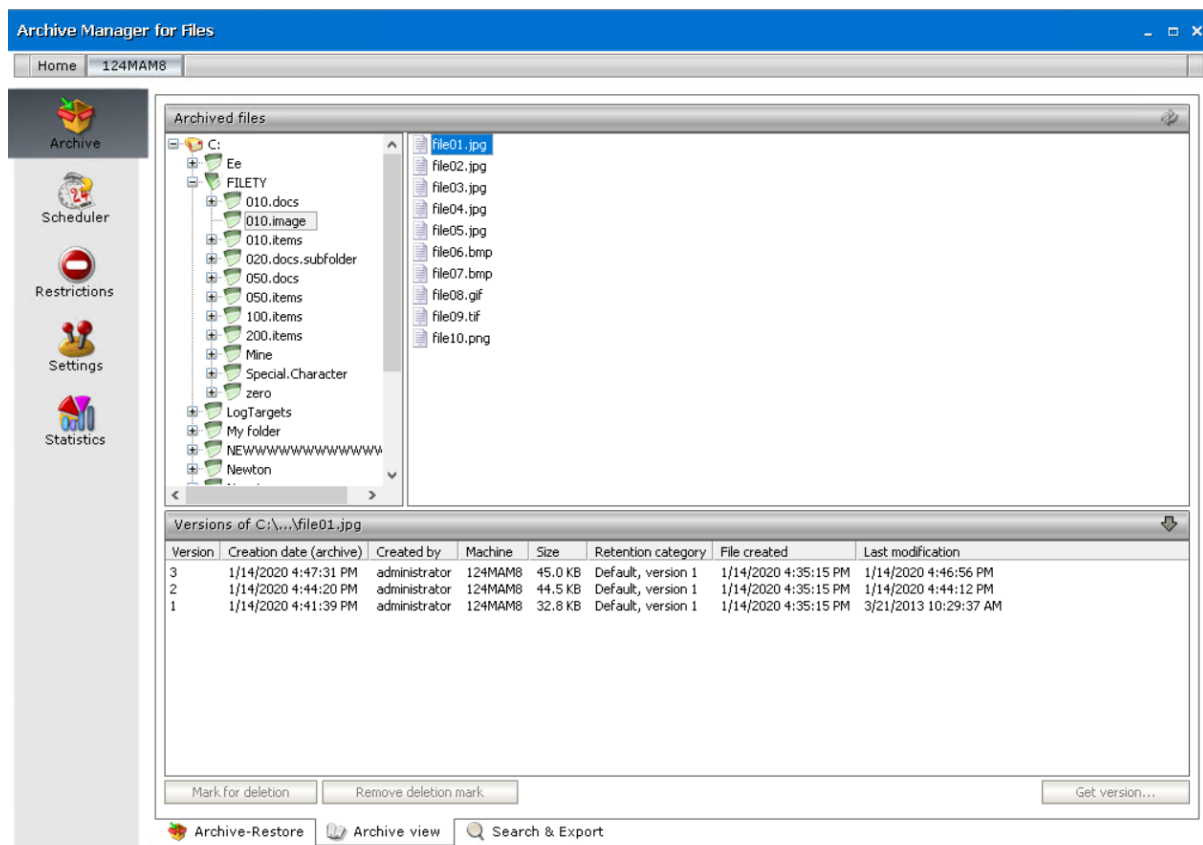
The **Archive view** tab is divided into three panes in the same way as Archive-Retrieve tab. The left pane displays folders in the tree view and the right pane displays the archived content of the folder selected on the left.

The bottom pane is unfolded after clicking on the upward arrow on the Versions bar. This pane contains version information of the selected file. Here the administrator can manage versions in the same way as in the Archive-Restore tab: Mark for deletion, Remove deletion mark and Get version buttons are accessible (see the "Archive-Restore" section).

The context menu is also implemented for the folders in the tree view. The context menu offers the same functionality as on the Archive-Restore tab:

- Mark for deletion

- Mark for deletion recursively

- Remove deletion mark

- Remove deletion mark recursively

- Get version

- Get version to folder

(For more information see the "Context menu in the Archive Manager for Files" section as described for Archive-Restore tab.)
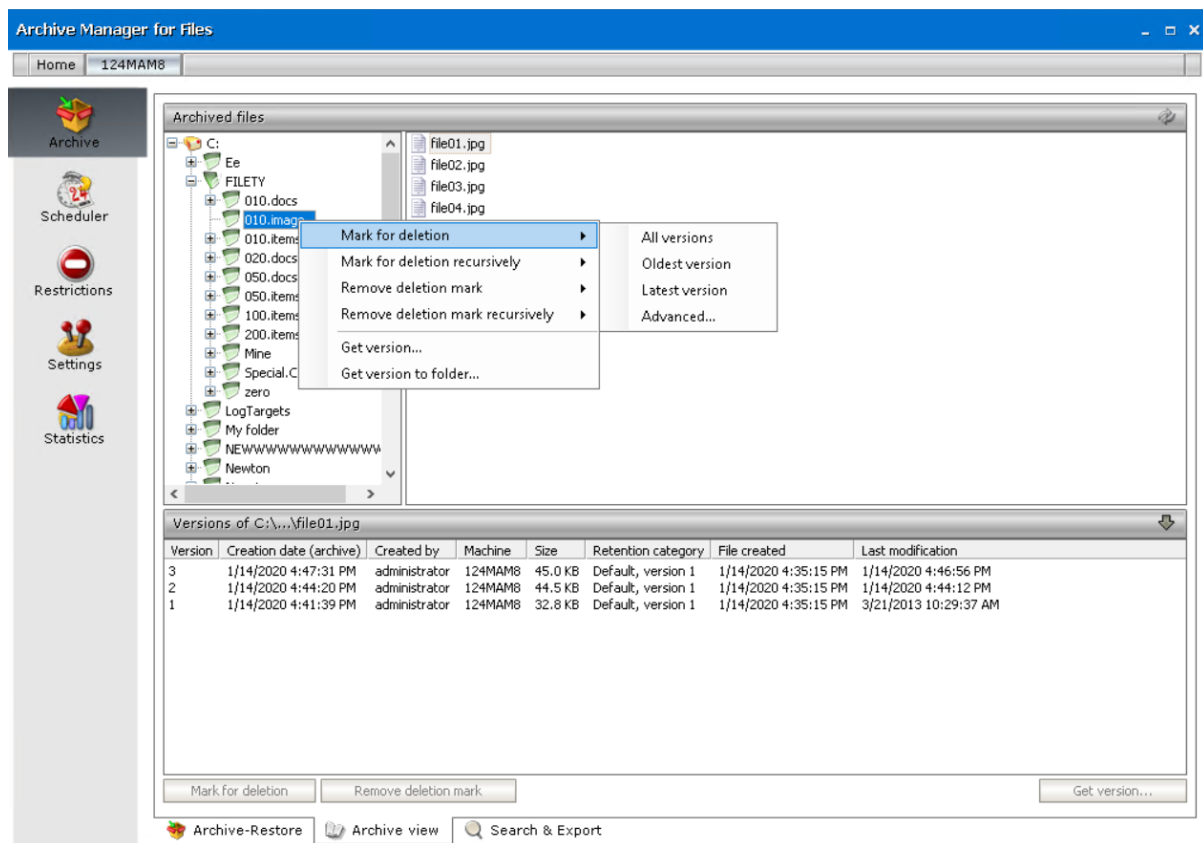
Search & Export

You can also search images or documents with scanned content, unless the characters are too small to be detected. To activate this feature, select **Activate OCR Engine** in the **Configuration tool** > **Post Processing** > **OCR Engine** tab. The search criteria can be can be defined to search for files with a specific file size, archived at particular time interval or by a specific user among others.

The defined search criteria can be saved as a template to be used later in the future. Search results can be exported to a local folder. Exporting of the search results list and saving it in different formats is also possible.

Steps to search for archived files

1. Open the Archive tab and select the **Search & Export** tab at the bottom of the window.

2. Click the **Files** tab.

3. Click **Add new clause** and enter the search criteria using the fields as described below

    a. **Field** - click the drop down to select the property of the file to be searched. For example, select **Subject** as the field to search.

    b. **Operator** - click the drop down and select a search operator.

c. **Value** - Specify the search text. If the selected **Field** requires a date value, a date picker icon appears to help you choose a date. This field supports wildcard characters as described in the table below:

Wildcard	Description	Example
*	A substitute for zero or more characters	*.pdf
?	A substitute for a single character to match	Sales201?.pdf

4. To add more criteria, click **Add new clause** again. The default operator is **And** but you can select another logical operator.

5. Right-click in the results list pane. Select the **Show** option and then select the columns that you wan in the search result list.
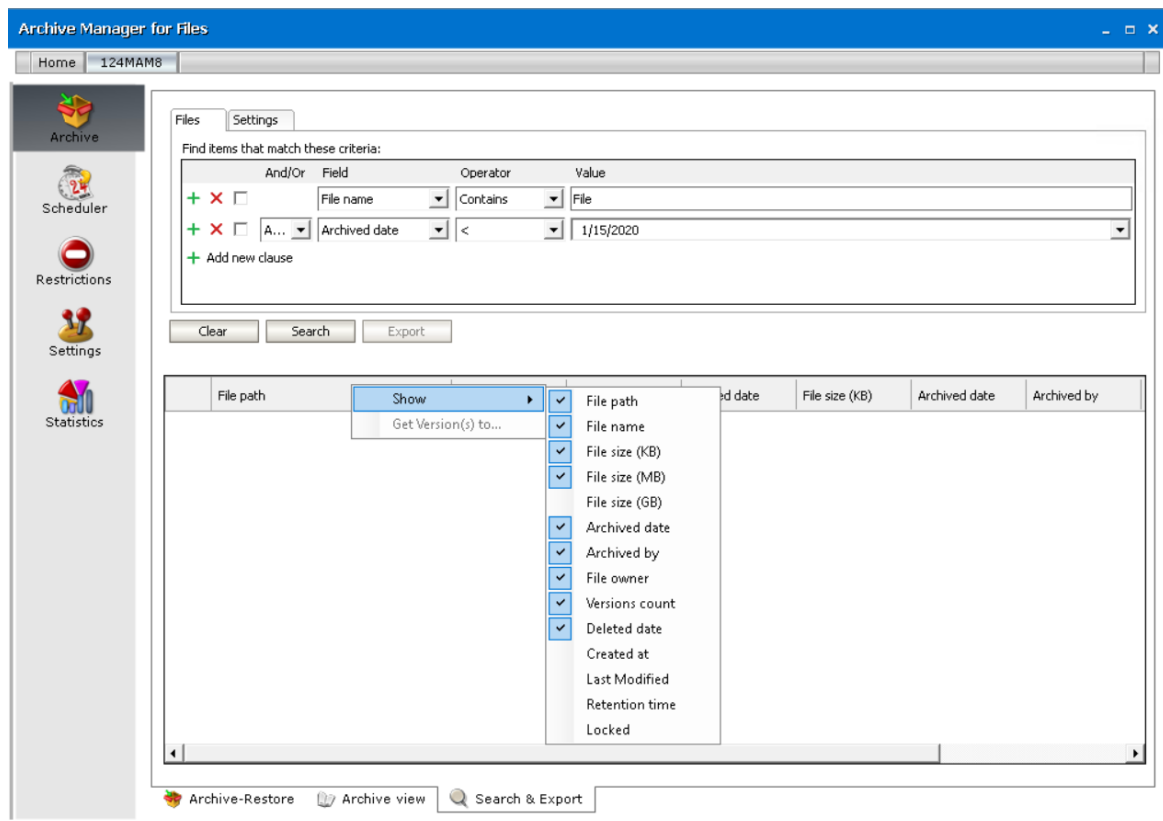
6. Click the **Settings** tab.
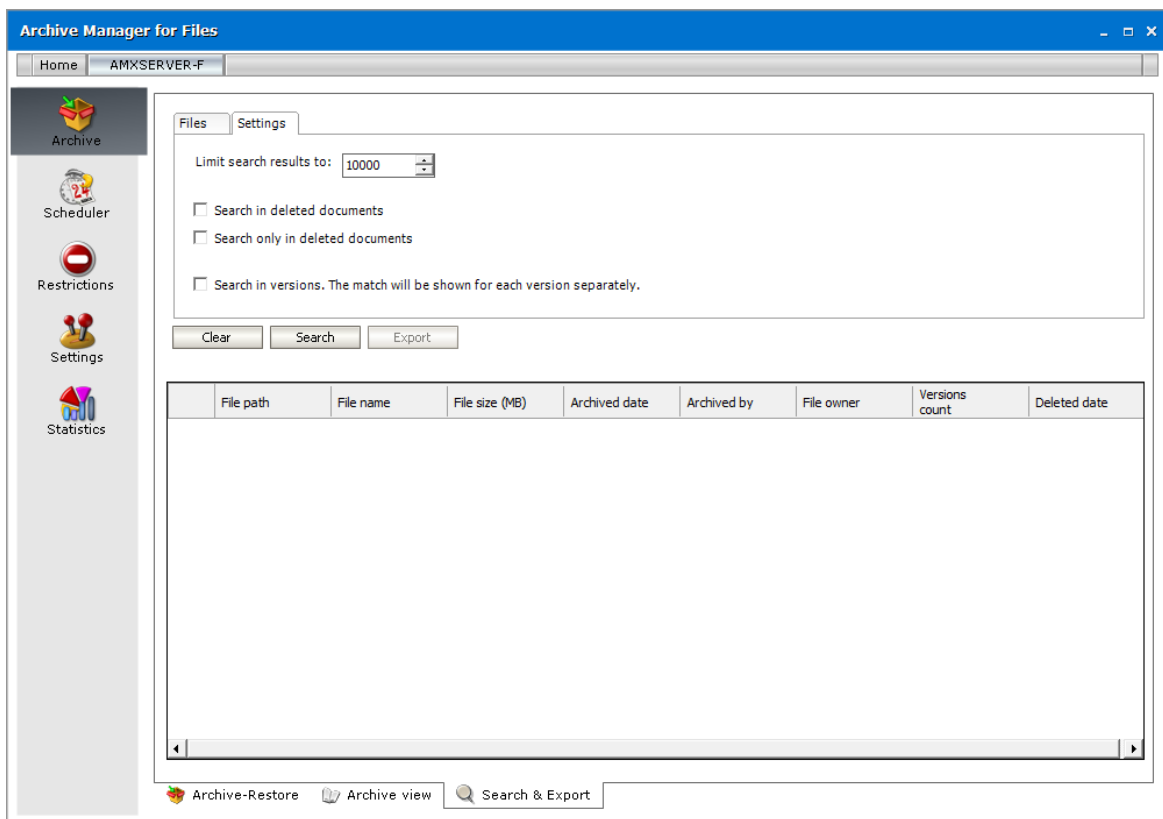
7. Configure the settings as described below:

   a. **Limit search results to** - the number of files that are returned in the search result list.

   b. **Search in deleted documents** - select this check box to search through files that are marked for deletion.

   c. **Search only in deleted documents** - select this check box to exclusively search through files that are marked for deletion. All other archived files will be ignored.

   d. **Search in versions** - select this check box to search through all versions of the archived files and each match will be returned in the result list.

8. Click **Search**. You can click **Clear** to reset the search criteria and start again.
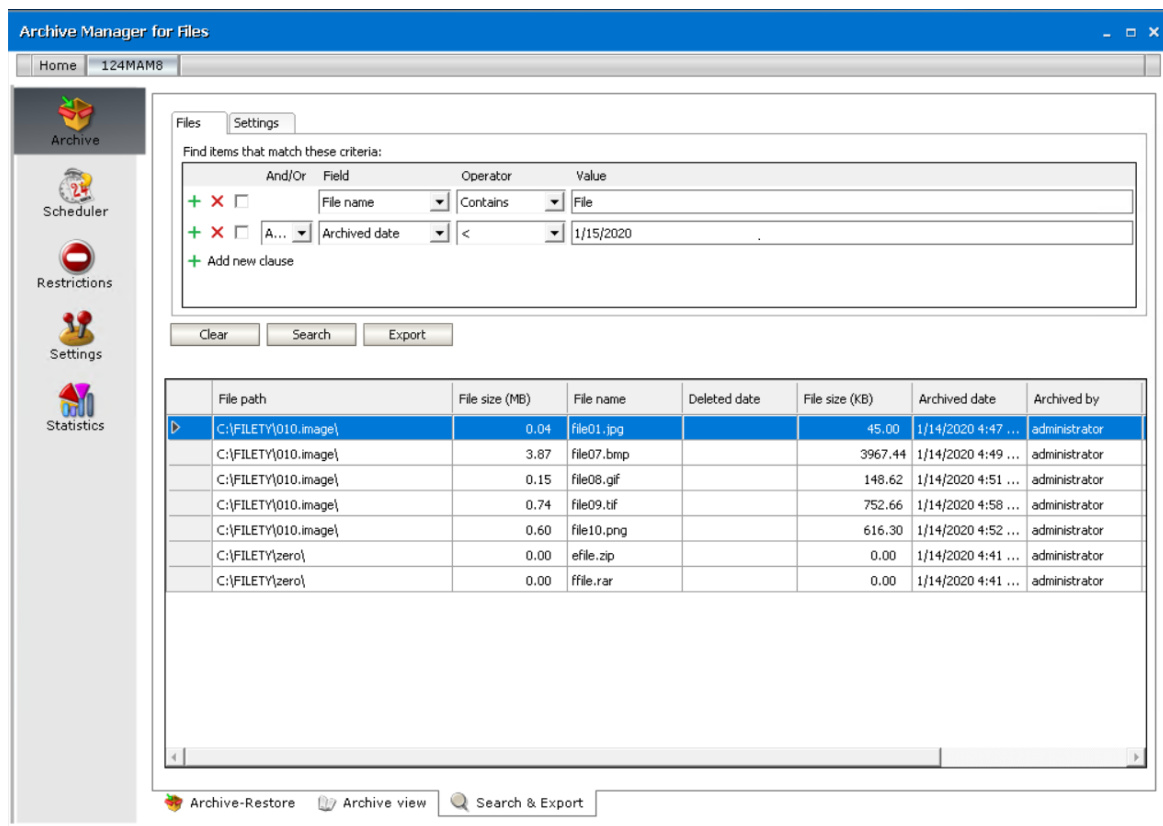
Steps to export files to a destination folder

Each file found in the search can be restored to a local folder with its actual version.

1. Right-click the desired file in the list.

2. From the context menu select **Get Version(s) to.** The *Search & Export - Export to* window opens.

3. Specify the folder where you want to restore the file(s).
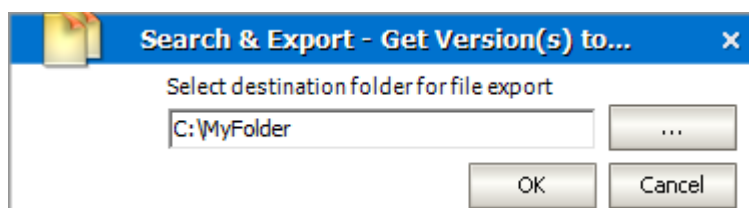
4. Click **OK** to restore the file and its actual version to the destination folder.

Steps to export the search result

1. Select the **Files** tab.

2. Click **Export** under the search criteria section.

3. From the **Export** pop-up window select the fields that you want to export.

4. Click **Next**. The *Save As* window opens.

5. Specify the file name and the format. You can save the report in several formats (XLS, PDF, XML, RPT, HTML). The default file name is *Export.xls*

6. Click **Save**.

Post Processing

Post Processing allows running customer specific tasks over archived files. Clients using other software programs who wish to process archived files within those software programs may do so via the Post Processing.

> **i** **NOTE:** If you have installed Archive Manager Search as a fulltext engine, you must activate the appropriate post-processing plugin. With this plugin configured, you will be able to fulltext search in the file archive. The plugin is called PFPostProcessLuceneIndexPlugin and the files are in the C:\Program Files (x86)\Common Files\PAM\PostProcessingPlugins folder.
>
> Do not start post processing service on multiple servers for the same database. Starting the post processing service on multiple servers is not recommended, since that can cause conflicts in bookmarking. The same database should not be indexed by more than one post processing service.

Steps to install the post processing plugin

1. Open Archive Manager Configuration Tool from `<installdir>\ Program Files (x86) \Common Files \ PAM \ PAMConfig \ PamConfig.exe`.

2. Click **Post Processing** in the features panel and then go to the **Post Processing Scopes** tab.

3. Right-click on the desired scope and from the context menu select **Configure**.

4. Click **Add**.

5. Installed plugins will be loaded in the *Add Plugin* pop-up window. Select the **PFPostProcessLuceneIndex** plugin in the drop-down box and click **Add**.
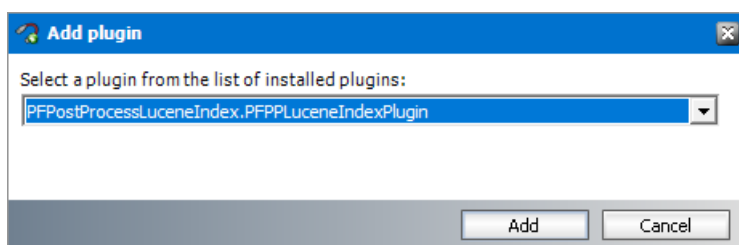
6. The plugin is listed in the *Plugins* list in *Configuration* tab. By default it is active.

Steps to Configure a Plugin

The plugin is loaded by default with the date and time (initial bookmark date). This means that the plugin processes files having been archived after this initial bookmark date. If post processing should begin from some other bookmark date, then make sure to reset the initial bookmark date

1. From the *Plugins* list, select the **PFPostProcessLuceneIndex** plugin. Either click the **Properties** button or right-click on the selected plugin and click **Properties** from the context menu .
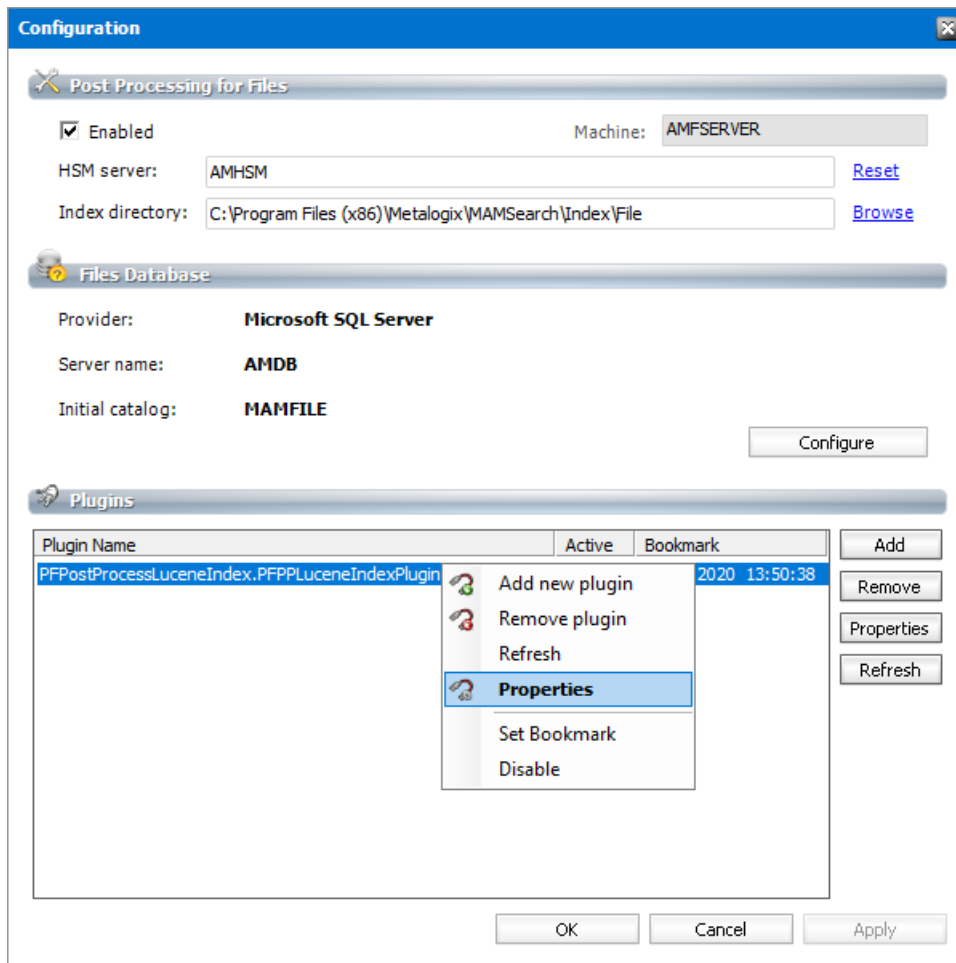
2. In the *Post processing plugin properties* window displays information about the plugin. You can activate or deactivate the plugin, or set the bookmark as described below.

> **ℹ NOTE:** Advanced Post Processing settings can be configured in the *Post Processing > General Settings* tab.

Steps to specify a bookmark date

1. Right-click the desired plugin and click **Set Bookmark** from the context menu. You can also click **Set Bookmark** from the *Post processing plugin properties* window.

2. In the *Enter bookmark* window specify the desired time either manually or by choosing a date from the calendar when you click the drop-down in the date field. Click **OK**.
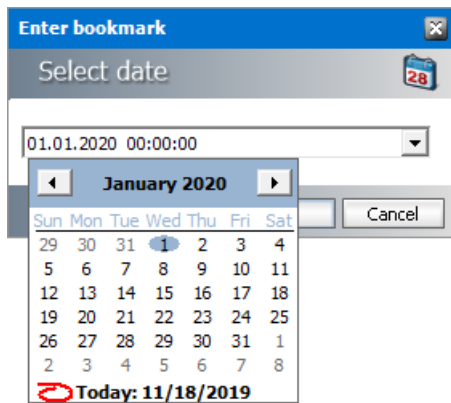
3. The *Restart service* window appears.
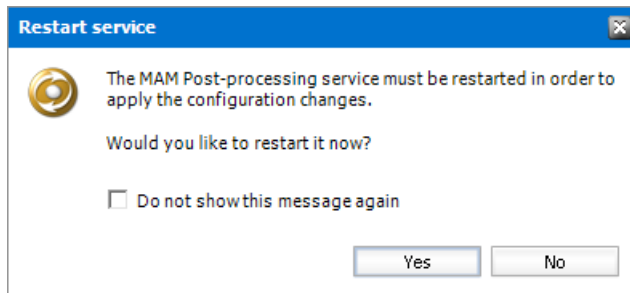
4. Click **Yes** to restart the service.

ℹ **NOTE:**

The bookmark date is displayed in the *Plugins* list in *Configuration* tab.

If you reset the bookmark date, the change takes effect immediately, and there is no need to deactivate and activate the plugin again.

If you remove a plugin by using the **Remove** button, it will stop completely without remembering where it stopped. If you then load that plugin again, you must configure it again.

Statistics

This tab was designed to give the administrator fast, reliable and comprehensive information about archived and retrieved files. The number of files, their size as well as space saved on th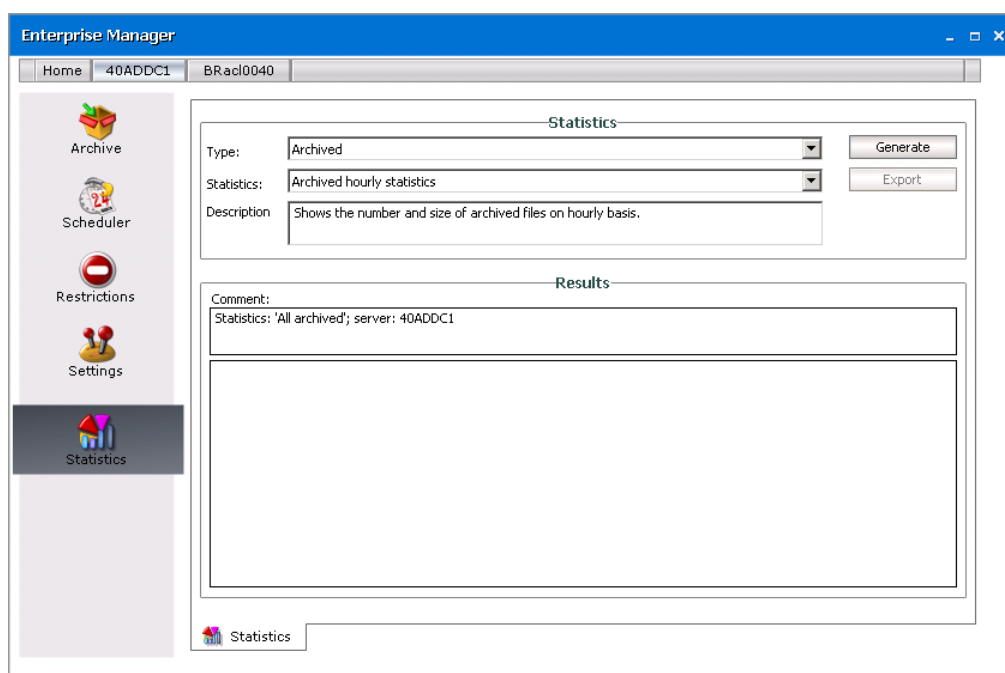e disc at archiving – all these essential data can be sorted by folder, user and time period. Exporting the statistics to chosen folder is also possible.

As a first step, in the Type down-drop box choose whether you want to generate statistics for Archived or Retrieved files.

Then select the statistics specification in the Statistics down-drop box:

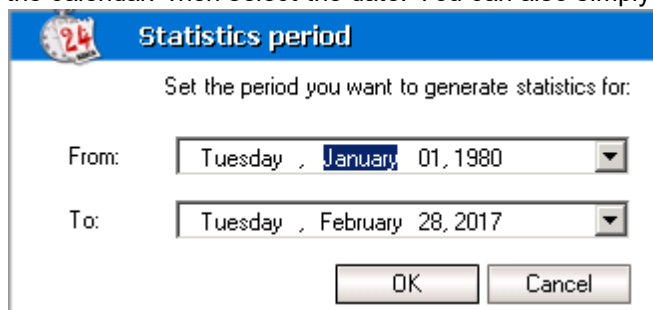|		
All	-	returns data on saved space and number and size of all archived files
Yearly statistics	-	returns data on saved space and number and size of archived files for the chosen sequence of years
Monthly statistics	-	returns data on saved space and number and size of archived files for the chosen sequence of months
Daily statistics	-	returns data on saved space and number and size of archived files for the chosen sequence of days
Hourly statistics	-	returns data on saved space and number and size of archived files for the chosen sequence of hours

Additional statistics are available for Archived files ("Archived" is selected in the Type down-drop box):

User based statistics	-	returns data on saved space and number and size of files archive by the selected user or all users (including jobs)
Folder based statistics	-	returns data on saved space and number and size of files archived in the selected folder

NOTE: All the above mentioned statistics types DO NOT take into consideration versions of archived files. Only data for the current versions of the archived files are collected. In case of archived files it is possible to get statistics also for their versions. To generate the statistics for versions (not including the actual version) select Archived yearly statistics – versions, Archived Monthly statistics – versions etc.

After specifying your desired statistics click the Generate button (Generate!). Depending on the chosen type of statistics you will be asked to specify the time span for the statistics, user or folder.

Example: To set the period for which you want to generate the statistics use the down arrows to open the calendar. Then select the date. You can also simply rewrite the values. Then click OK.
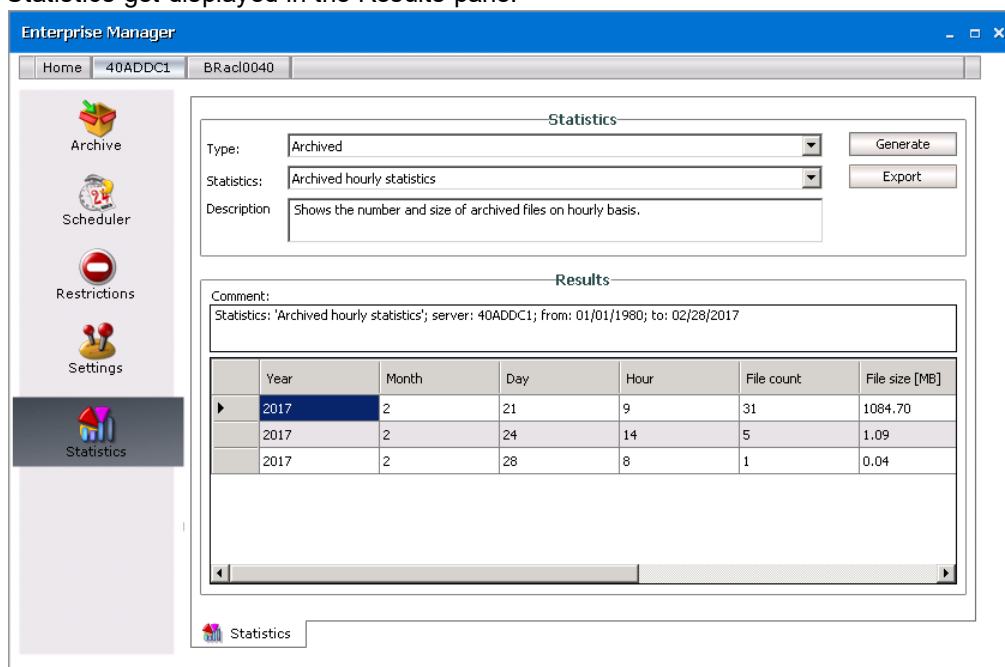
Statistics get displayed in the Results pane.

Click Export (Export) should you wish to export the statistics as an .rpt, .html, PDF or .xls file to your desired location.

System context menu

With Archive Manager for Files you may archive/retrieve through system context menus. There are several system context menus, depending on where you click with your right mouse button.

If you select several folders and then click with your right-mouse button, the context menu allows you may choose to archive all, archive all recursively (i.e. subfolders included), retrieve all, or retrieve all recursively.

At archiving, the default retention category is used. If none of the retention categories (under Settings / General tab) is marked as default, system context menu for archiving/retrieving is not accessible.
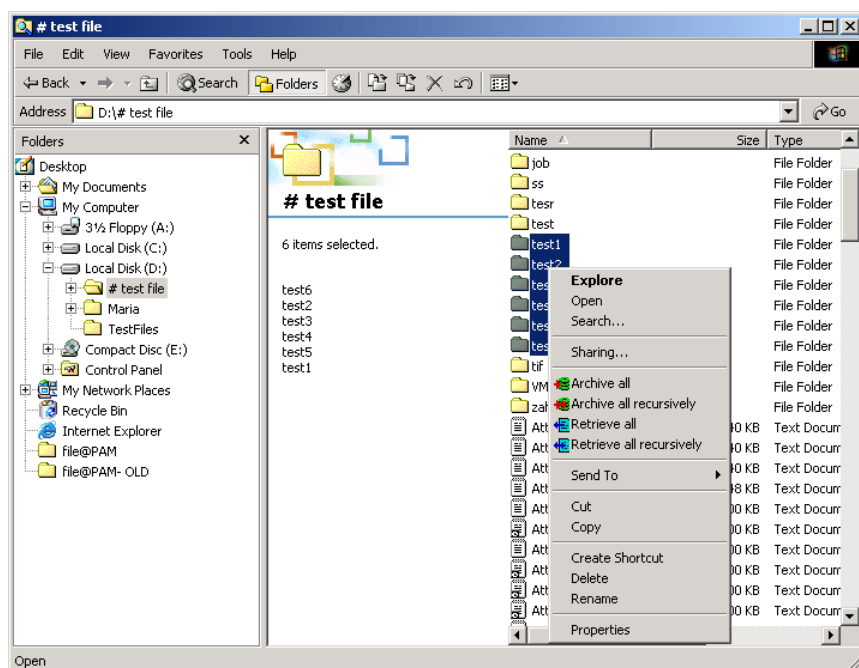
If you select several files and then click with your right-mouse button, the following menu opens. You may choose to archive all, or retrieve all.
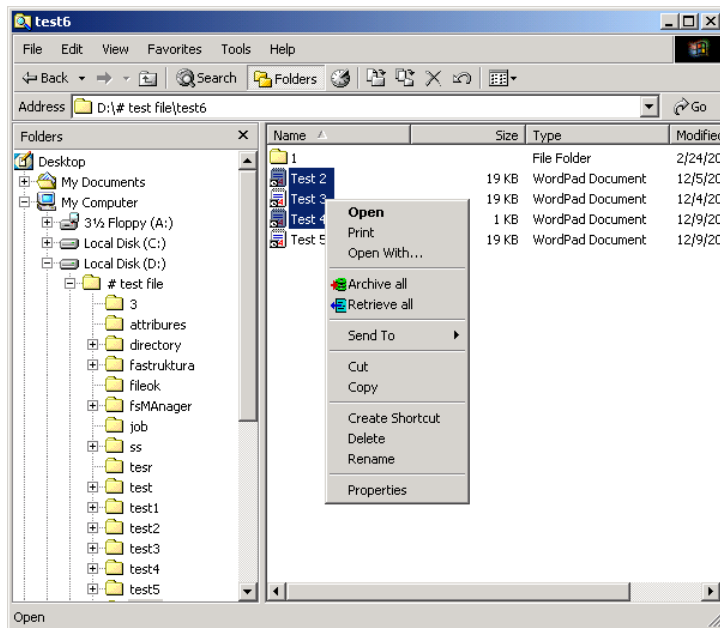
Select one file and then click with your right-mouse button. You may choose to archive the file if it has not been archived yet (see the screenshot below). If you select an archived file, you can retrieve it via the context menu.

11
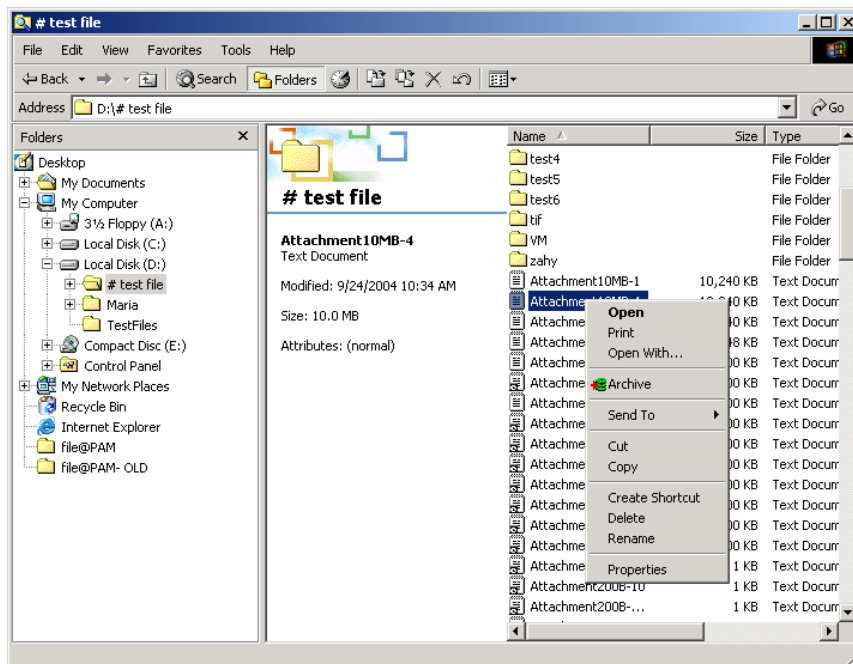
Addendum

Free Space Checking

In order to prevent free space to get too low on a file server, it is possible to allow retrieving of archived files only under certain conditions. The administrator can define the minimal amount of the free space for which retrieving will be allowed. If the amount of the free space left is smaller than the minimal amount, retrieving will fail.

The minimal free space can be defined in figures or percentage for individual disks and UNC paths or it can be set globally as well.

To activate the free space checking functionality, the new key CheckFreeSpace has to be added to registry:

HKEY_LOCAL_MACHINE \ Software \ Metalogix \ fsaPAM \ CheckFreeSpace

Then add a new string value for every disk or UNC path for which you want to check the free space. To check all disks and UNC paths globally, set an asterisk "*" as a Value name.

Syntax:

Value name	Data
Disk name with ":" or UNC path starting with "\\" or every path will be checked if asterisk "*" is set	Value in - percentage "%" - bytes "B" - kilobytes "KB" - megabytes "MB" - gigabytes "GB" - terabytes "TB"

Examples:

Value name	Data
*	20%
C:	30%

Value name	Data
D:	300 GB
\\fileserver1	5%
\\fileserver2\data	100 MB
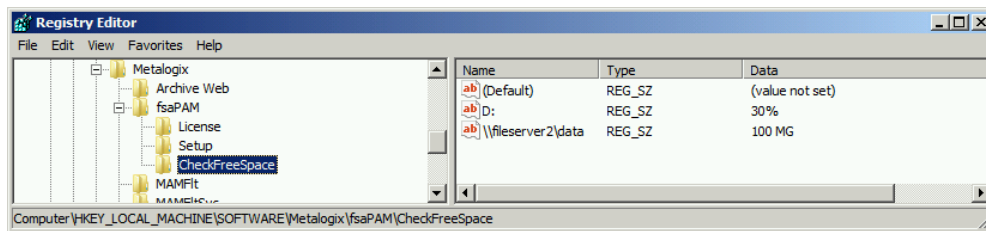
To apply the changes, all MAMfsa services have to be restarted in Start / Programs / Administrative tools / Services.

Size Faking Feature

At archiving, Archive Manager for Files transfers an archived file to HSM system, i.e. to the archive. Only a shortcut of few kilobytes remains at the original location of the file and thus Archive Manager saves storage space. However, when using quota management software sometimes it is required that the archived file (i.e. shortcut) be displayed with the size of the original file. This feature has to be set in registry under:

HKEY_LOCAL_MACHINE\SOFTWARE\Metalogix\fsaPAM\SparseGlobal

When the SparceGlobal key value is set to:

1 – the shortcut will be displayed with the size of the original file

0 – the shortcut will be displayed with its actual size

NOTE: The shortcut will be also displayed with its actual size, if the key is not present in the registry.

To set this feature also for HTML shortcuts, the SparceGlobal key has to be set to value "1" and SparseHTML key has to be set to value "1" as well. As a result also HTML shortcuts will be displayed with the size of the original file.

To apply the changes, all MAMfsa services have to be restarted in Start / Programs / Administrative tools / Services.

NOTE: As compression is not supported on PSFS, the size faking feature is not supported on PSFS.

FIltering for Log Files

It is possible to considerably shorten log files accessible in the Archive Manager for Files on the Scheduler / Reports tab by not including less important information into them, i.e. log entries for "Already archived" messages will be filtered out.

To activate filtering, a new key LogIsArchived has to be added to the registry under

HKEY_LOCAL_MACHINE\SOFTWARE\Metalogix\fsaPAM

Right-click inside the right pane, choose New > DWORD value and set this new created LogIsArchived key to "0".

To apply the changes, all MAMfsa services have to be restarted in Start / Programs / Administrative tools / Services.

Description of the Archive Manager for Files registry values

These values are defining the basic behavior of our product and can be found in the Windows registry under the path:

HKEY_LOCAL_MACHINE\SOFTWARE\Metalogix\fsaPAM

AllowRemoteDrives	whether the "Storage" tab is activated in the manager
DBCommandTimeout	overrides the default timeout for DB command used in handler service (in seconds); values less than 30 will configure the system to use 30s
dbconnectionstring	database connection string
dbconnectionstringADO	database connection string used by the Handler service
dbpassword	encoded database password, machine dependent
dbschema	Archive Manager database schema
dbtype	database type
dbuser	database user, account used when creating database connections
dbversion	Archive Manager database version
DebugOutputFlags	set by the FilePamDbg.exe application, used for gathering debug information
fsaLogDir	base path of the job log files
fsaPamGuardTimer	defines, when the Guard service should restart the other services. Value entered is in minutes after midnight. If set to 0xffffffff, the services won't be restarted in the night. Recommended to set the value to 0xffffffff
HSMServer	indicates the HSM server

LogFilePathName	the path of the log file used by the Archive Manager core service to store information about current archive and retrieve processes
LogIsArchived	flag, by default set to 1. This registry entry is not created automatically. If set to 0, the job logs will not contain information about files, which were not being archived because they were already shortcuts
MinSizeToShortcutB	defines the minimum size of a file, which can be replaced with a shortcut after archiving
NetAppBackupUsers	defines one domain user for which the screen requests from NetApp will not retrieve the file back to the original location on filer; supported format: <Domain>\<User>
RunServices	tells the Guard service, which other Archive Manager services to start. The value is a bitmask: 1 - Handler service, 2 - Remote server service, 4 - Archiver service. If set to 7, all other services will be started
RemoveExtendedAttribs	If set to 0, files with extended attributes are archived but the shortcut is not created.

If set to1, extended attributes are removed and the original file is archived and replaced by shortcut. |
ScriptPath	the path to the database scripts
ShortcutXMLTag	used in the case of kernel type shortcuts (not HTML, NetApp or Celerra), if set to 1, the information stored in the reparse point is written into the content of the shortcut. Recommended to set the value to 1
SparseGlobal	indicates whether the file size faking feature is turned on (1) or off (0) globally for all shortcut types. Some customers using quota management software might have problems with size faking (see "Size faking feature")
SparseHTML	The same functionality focused just on HTML shortcuts. If set to 1, the HTML shortcuts will have the same logical size of the shortcut as the original file had (see "Size faking feature")
StartServicesAfter	tells the Guard service, how long to wait before starting the other Archive Manager services. Value defined in milliseconds
StartServicesByGuard	indicates whether the other Archive Manager services should be started by the Guard service

TempDir	directory, where the Handler service stores temporary files which are created during the retrieve process. This registry entry is not created automatically, by default the service user's temporary directory is used
WebServicePrefix	used when generating HTML shortcuts. Defines the basic URL of the FilePamWebService, which is responsible for auto-retrieving HTML shortcuts

About Us

Quest creates software solutions that make the benefits of new technology real in an increasingly complex IT landscape. From database and systems management, to Active Directory and Office 365 management, and cyber security resilience, Quest helps customers solve their next IT challenge now. Around the globe, more than 130,000 companies and 95% of the Fortune 500 count on Quest to deliver proactive management and monitoring for the next enterprise initiative, find the next solution for complex Microsoft challenges and stay ahead of the next threat. Quest Software. Where next meets now. For more information, visit www.quest.com.

Contacting Quest

For sales or other inquiries, visit www.quest.com/contact.

Technical Support Resources

Technical support is available to Quest customers with a valid maintenance contract and customers who have trial versions. You can access the Quest Support Portal at https://support.quest.com

The Support Portal provides self-help tools you can use to solve problems quickly and independently, 24 hours a day, 365 days a year. The Support Portal allows you to:

- Submit and manage a Service Request
- View Knowledge Base articles
- Sign up for product notifications
- Download software and technical documentation
- View how-to-videos
- Engage in community discussions
- Chat with support engineers online
- View services to assist you with your product