BPA
Platform

Technical Overview

File Management Tool

codeless PLATFORMS

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Head Office:

Codeless Platforms

Suite 1 & 2 Bourne Gate

25 Bourne Valley Road

Poole

BH12 1DY

United Kingdom

Tel: +44 (0) 330 99 88 700

Email: enquiries@codelessplatforms.com

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Introduction

Use the **File Management** tool to carry out a number of automated actions on single or multiple files — move, copy, rename, and delete — either locally or across the network. Uploads to and downloads from an FTP server are also supported.

Features

▶   Copy or move any file type to another location.

▶   Ability to automatically create the specified destination folder for the file at run-time

▶   Ability to overwrite a file

▶   Ability to set the file **Read Only** attribute

▶   Limit the moving of a file by setting a maximum file size to process

▶   Use the existing filename as part of the new name or specify a completely new name

▶   Add prefix characters to the new filename

▶   Add a time and date stamp prefix to the new filename

▶   Add suffix characters to the new filename

▶   Add a date and time stamp suffix to the new filename

▶   Preview the new filename based on the selections made before saving them

▶   Restrict the deletion of a file by the date and time it was last modified

▶   Limit the copying of a file by setting a maximum file size to process

▶   Include multiple files for processing through the use of wildcards (*) when selecting the source file(s)

Technical Summary

Working with Other Tools

The **File Management** tool can directly interact with the following tools:

Consuming from Other Tools

The **File Management** tool can consume objects directly outputted by the following tools:

Icon	Tool Name	Tool Category
	Import Flat File	Input
	Import XML Document	Input

Objects Consumed

The following objects are outputted by the above tools which can be directly consumed by the **File Management** tool:

▶ **ImportedFileDetails** — This object contains the filename and file path of the file previously consumed by the above tools

Exposing to Other Tools

The **File Management** tool does not expose any objects that can be directly consumed by another tool. However, it does expose the following objects which can be used in a task step sequence:

▶ **FileProcessed** — This object exposes the following sub-objects:

☐ **InputFileName** — The name of the source file — see General tab

☐ **OutputFileName** — The name of the output file if the **Rename** action has been selected in the Main tab

☐ **InputFilePath** — The location of the source file

☐ **OutputFilePath** — The new location of the source file if a **Move**, **Copy**, or **Upload** action has been selected

> **NOTE:** The above objects are updated for each file processed. If multiple files are selected at task run-time (using a wildcard (*), the object's values are overwritten each time the step processed the next file. In such cases, use **Memory** to compare the file previously processed with the file currently being processed.

Error Handling for the Upload and Download Options

Errors that may occur are written to the BPA Platform Event Log for the upload and download options. They include:

▶ Remote server connection errors at runtime (including account permission errors)

▶ Read-only errors or other file permission errors

▶ If the folder that a file is moved to at run-time is zipped

▶ If the combined total of the selected files sizes for upload or download exceed the amount of remaining space available within the destination folder

Connecting to a File Server

If for security reasons you can only access files over an FTP (File Transfer Protocol), FTPS (File Transfer Protocol (SSL)), SFTP (SSH File Transfer Protocol), or HTTP connection, you must add the connection details to the **File Management** tool first. If no such security is in place, you can skip this step.

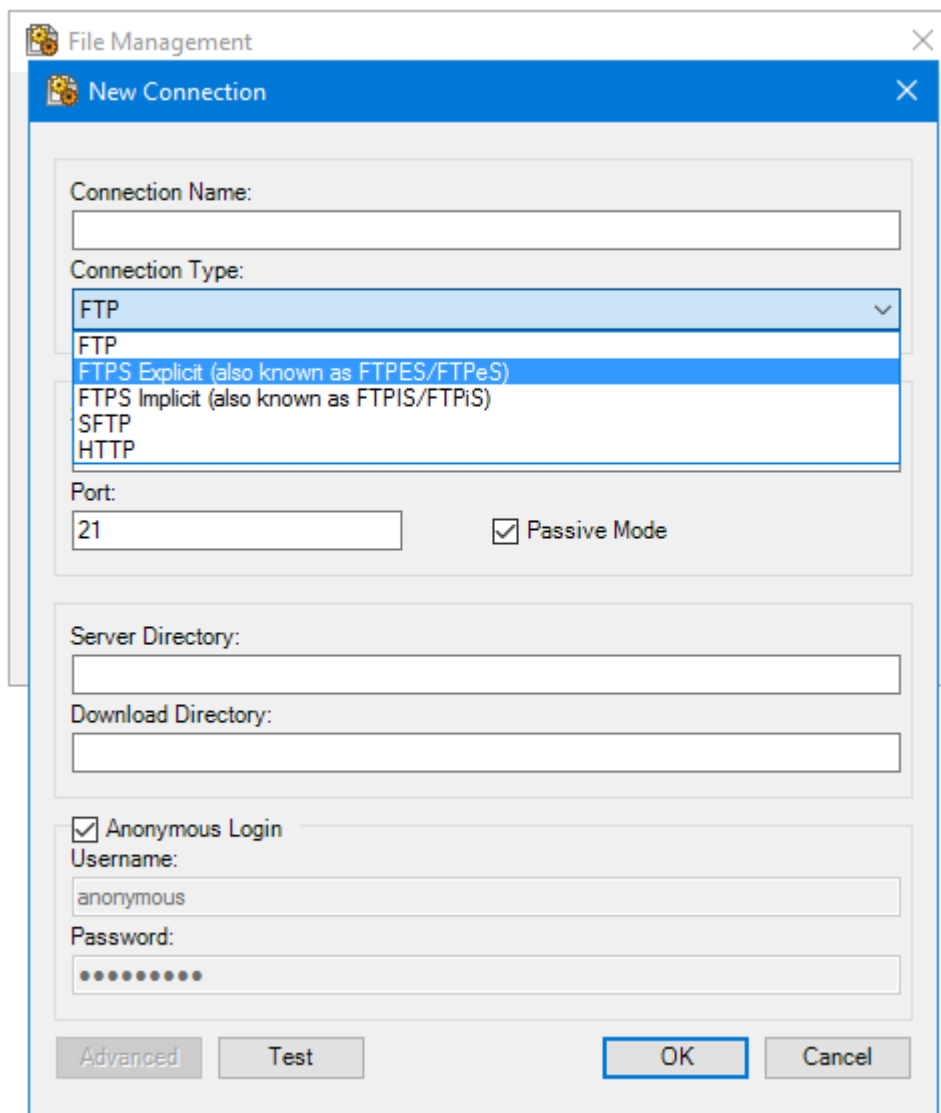You access the **File Management** global configuration by either:

You open this window from the resources tree — expand *System > Tools >* and double-click *File Management* in the items list.
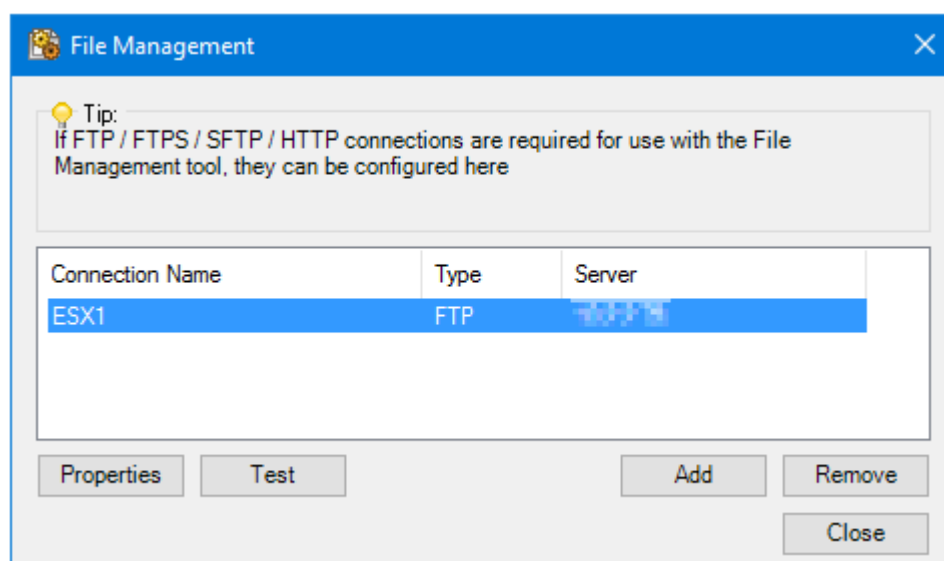
Click **Add** to add a new connection.

Adding Connection Properties

The **New Connection** window of the **File Management** tool is used to create connections to any network directory.

Choosing the Connection Type

Enter a unique name for this connection.

Choose a **Connection Type**:

▶ **FTP** — The standard network protocol used to transfer files from one host to another. This protocol has a low level of security and does not encrypt the files or user credentials during transfer, therefore not suited for use over a public network where confidential information is involved.

▶ **FTPS** — File Transfer Protocol (SSL). This protocol is an extension of FTP which offers security when transferring files. FTP data is protected using SSL encryption (TLS 1.2 protocol)It is suited for the handling of confidential information. Two variants are available:

- ☐ **Explicit** — Once a standard FTP connection is made, a secure SSL connection is then made over the top. The encryption information is then requested. This method has generally overtaken implicit FTPS by the majority of FTP servers.

- ☐ **Implicit** — The SSL connection is made immediately before the encryption information is requested,

▶ **SFTP** — SSH File Transfer Protocol. This protocol is over a connection that has previously been secured using the Secure Shell (SSH) protocol. Secure Shell (SSH) is a software-based approach to network security where an installation of an SSH client and an SSH server are required. SSH creates a secure connection when communication is established between the client and the remote server.

SFTP is an extension of SSH which adds file transfer capability. It uses the connection to transfer files securely between the two locations. Your files and login credentials are encrypted.

▶ **HTTP** — This protocol is used to retrieve files from an FTP Server over HTTP. This would be used when it is not possible to use an FTP protocol, maybe because the file server only permits HTTP connectivity. Alternatively, an FTP client may not be required for a file transfer, in this case a download over HTTP is sufficient.

> **NOTE:** Upload via HTTP is not supported.

Adding the FTP Server Details

Enter the **Server** address to connect to. You can use the hostname, IP address, or a valid URL.

By default, the following TCP ports are used to establish the connection to the FTP server:

▶ **FTP** — port 21

▶ **FTPS Explicit** — port 21

▶ **FTPS Implicit** — port 990

▶ **SFTP** — port 22

▶ **HTTP** — port 80

If the TCP port is use already on your network, adjust this number as required.

Passive mode in FTP is where the FTP connection is initiated from the client side rather than the server. Enable **Passive Mode** if required by your server.

Server Directory is where the files are downloaded from or uploaded to. **Download Directory**, on the other hand, is a location on the BPA Platform machine where files are downloaded *to*.

> **NOTE:** If you do not specify a full drive or network path here, the **File Management** step defaults to the logged in user's **Documents** folder for saving downloaded files.

Provide the required credentials — Enable **Anonymous Login** if allowed by the FTP server, else clear the selection for this box and enter the required **Username** and **Password**.

At this point, you can click **Test** to ensure the connection is successful.

Configuring Advanced FTP Properties

Click **Advanced** to add advanced configuration, specific to the **Connection Type** <ins>specified previously</ins>:

Step Configuration

To add a new **File Management** step to an existing task, you either:

▶ Click and drag the **File Management** icon from the **Task Browser** to the task **Design** area.

▶ From the task's **Design** tab, right-click on empty space and select *New > General > File Management.*

For a detailed description of how to create new tasks, refer to the product help.
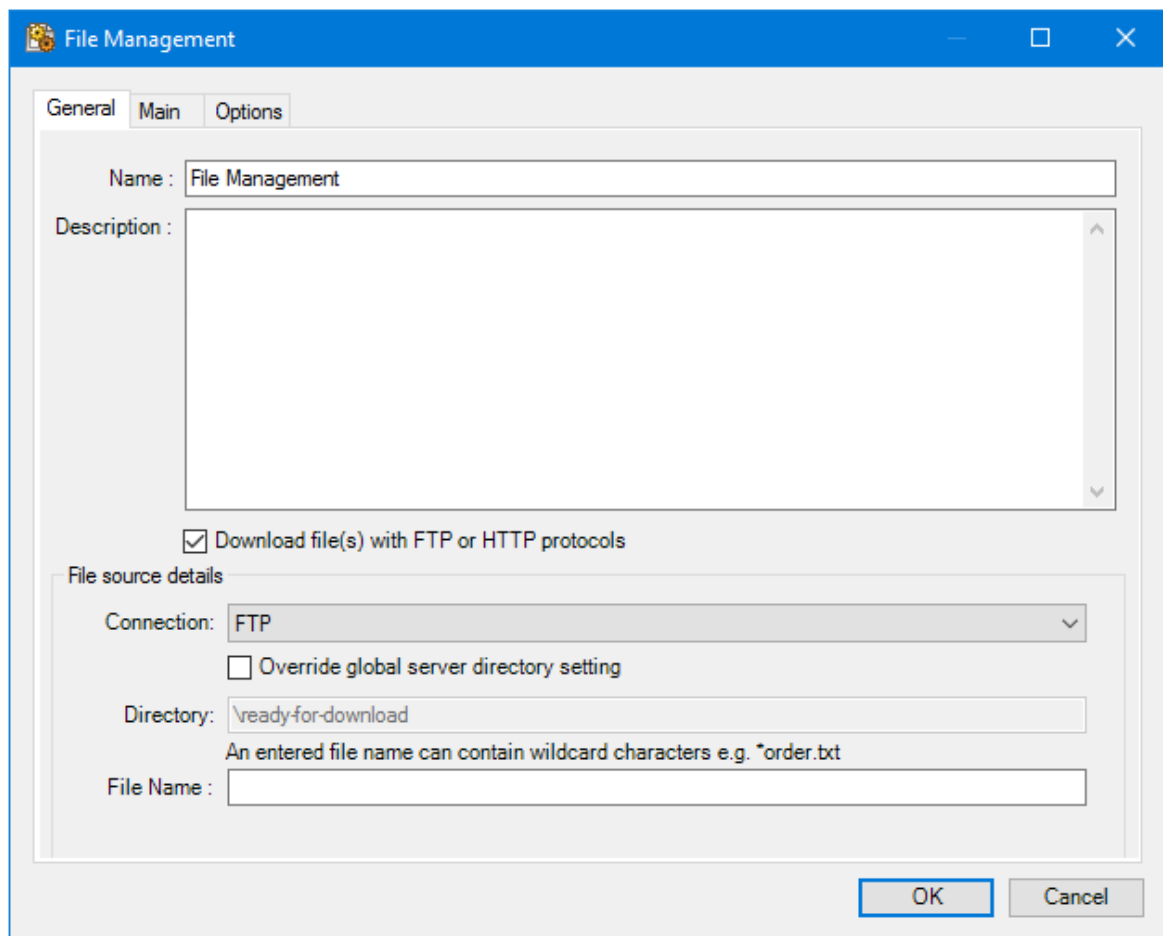
About the General Tab

The **General** tab is used to enter the following details for the step:

▶ **Name** — Enter a meaningful name for the step

> **TIP:** If this task instance makes use of two or more **File Management** steps, ensure the **Name** used is unique for each individual step.

▶ **Description** — If required, enter a description of this step

Downloading Files Over FTP or HTTP

Enable **Download file(s) with FTP or HTTP protocols** if this **File Management** task step is to download files from another server:

▶ **Connection** — Contains the global connections created [previously](#).

▶ **Override global server directory setting** — If required, enable this if this task step downloads files from a directory not specified in the global connection.

☐ **Directory** — Enter the new folder path here.

▶ **File Name** — Enter the name of the file to manage. Wildcards, (*), are supported allowing you to manage multiple files from the FTP location.

Sourcing Files from Previous Steps or Other Locations

If not downloading from an FTP or HTTP server, choose your **File source details**:

▶ **File Name and Path from previous step** — Enable this parameter if a document previously imported into the task is required

   ☐ **Source** — Contains the **ImportedFileDetails** from those steps capable of importing a document

▶ Enter a file **Path** and **File Name** to select an existing document

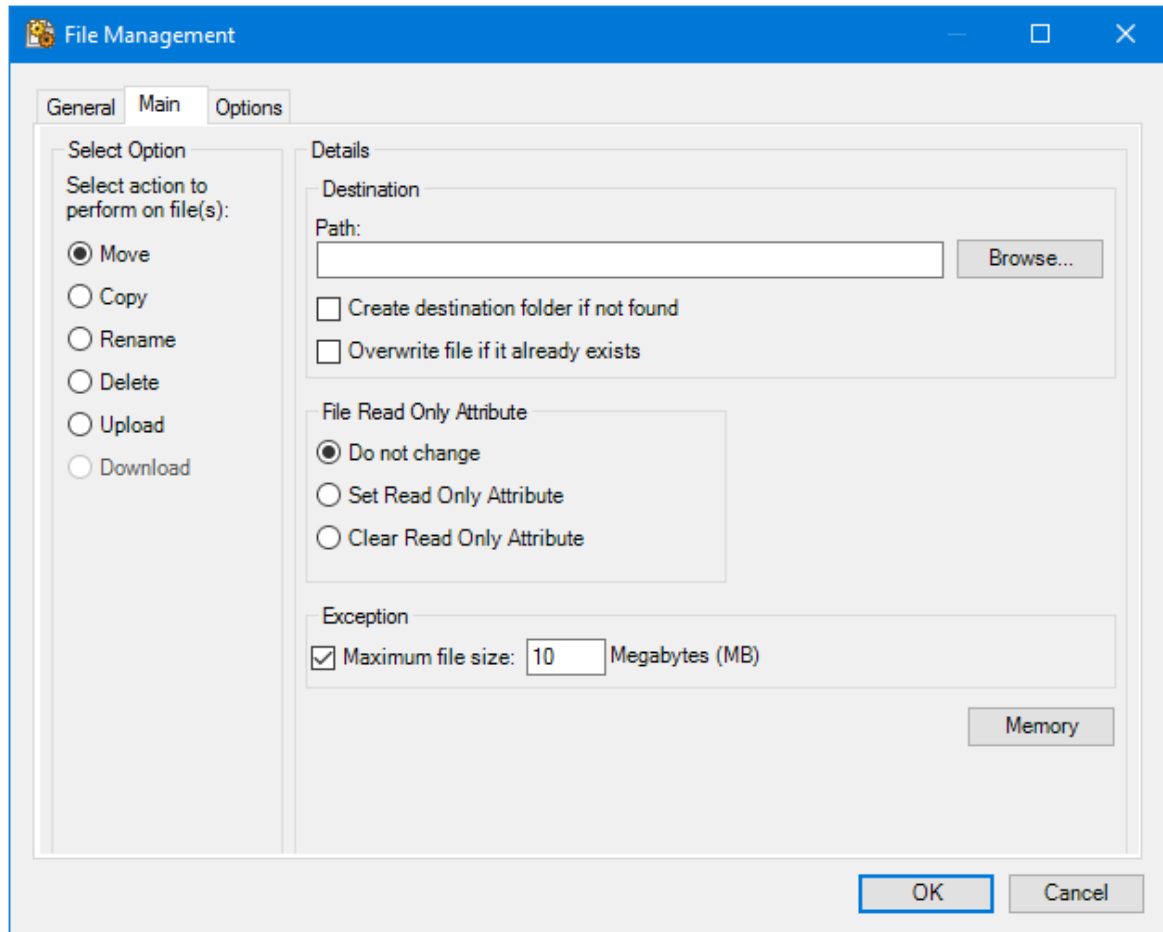   Note that **File Name** is case-insensitive here, for both the filename and file extension.

   Wildcards, (* and ?), are supported for **File Name** only, allowing you to manage multiple files in the specified location.

About the Main Tab

Use the **Main** tab to manage the files.
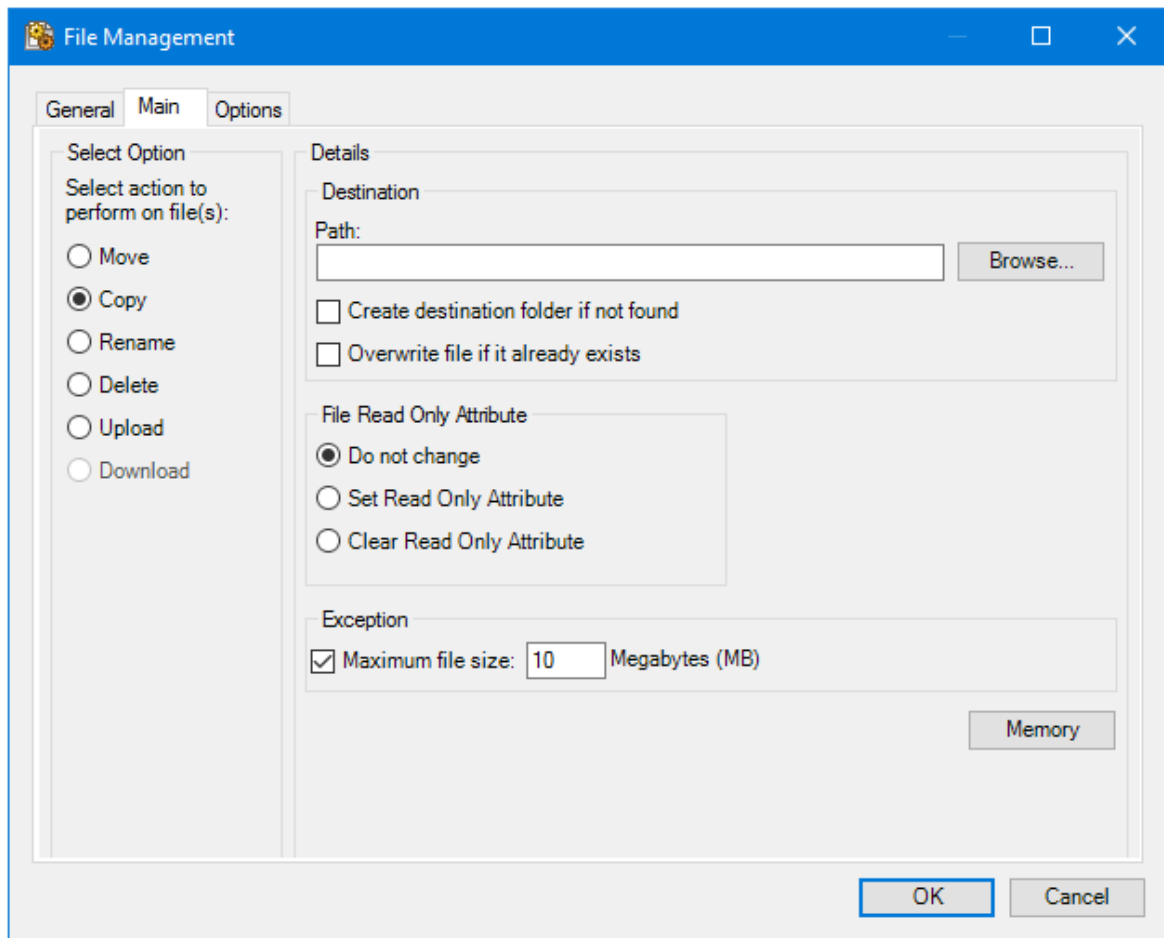
The following file actions are supported:

Moving Files

Specify the new **Destination** to move the files to. **Create destination folder if not found** and **Overwrite file if it already exists** come into affect at task run-time.

If required, use the settings in the **File Read Only Attribute** pane to adjust the file's properties.

You must specify the **Maximum file size** (in MB) that the **File Management** tool can move. Any matching files larger than the specified size are not moved and remain in their source location. This field is mandatory and defaults to **10** MB.

Use **Memory** to memorise some or all of the step output for use in other task steps. This is particularly useful when the **File Management** step is called multiple times — use **Memory** to compare the document previously processed to the new document currently being processed to avoid duplicates.

Copying Files

Specify the new **Destination** to copy the files to. **Create destination folder if not found** and **Overwrite file if it already exists** come into affect at task run-time.

If required, use the settings in the **File Read Only Attribute** pane to adjust the file's properties.

You must specify the **Maximum file size** (in MB) that the **File Management** tool can copy. Any matching files larger than the specified size are not copied. This field is mandatory and defaults to **10** MB.

Use **Memory** to memorise some or all of the step output for use in other task steps. This is particularly useful when the **File Management** step is called multiple times — use **Memory** to compare the document previously processed to the new document currently being processed to avoid duplicates.

Renaming Files

When renaming files, you can choose to:

▶   **Use input file names as part of the output file name**

▶   Provide a new **File Name**

The file name, whether new or reused, forms part of the new file name. You can then add a string or a **Date and Time Stamp** to the beginning of the filename (**Prefix file name with**) or to the end (**Suffix file name with**), or do both. At the time of writing, the date and time stamp is formatted as **YYYYMMDDhhmmss** and cannot be changed.

File name created displays the new file name created at task run-time.

If required, use the settings in the **File Read Only Attribute** pane to adjust the renamed file's properties.

Use **Memory** to memorise some or all of the step output for use in other task steps. This is particularly useful when the **File Management** step is called multiple times — use **Memory** to compare the document previously processed to the new document currently being processed to avoid duplicates.

Deleting Files
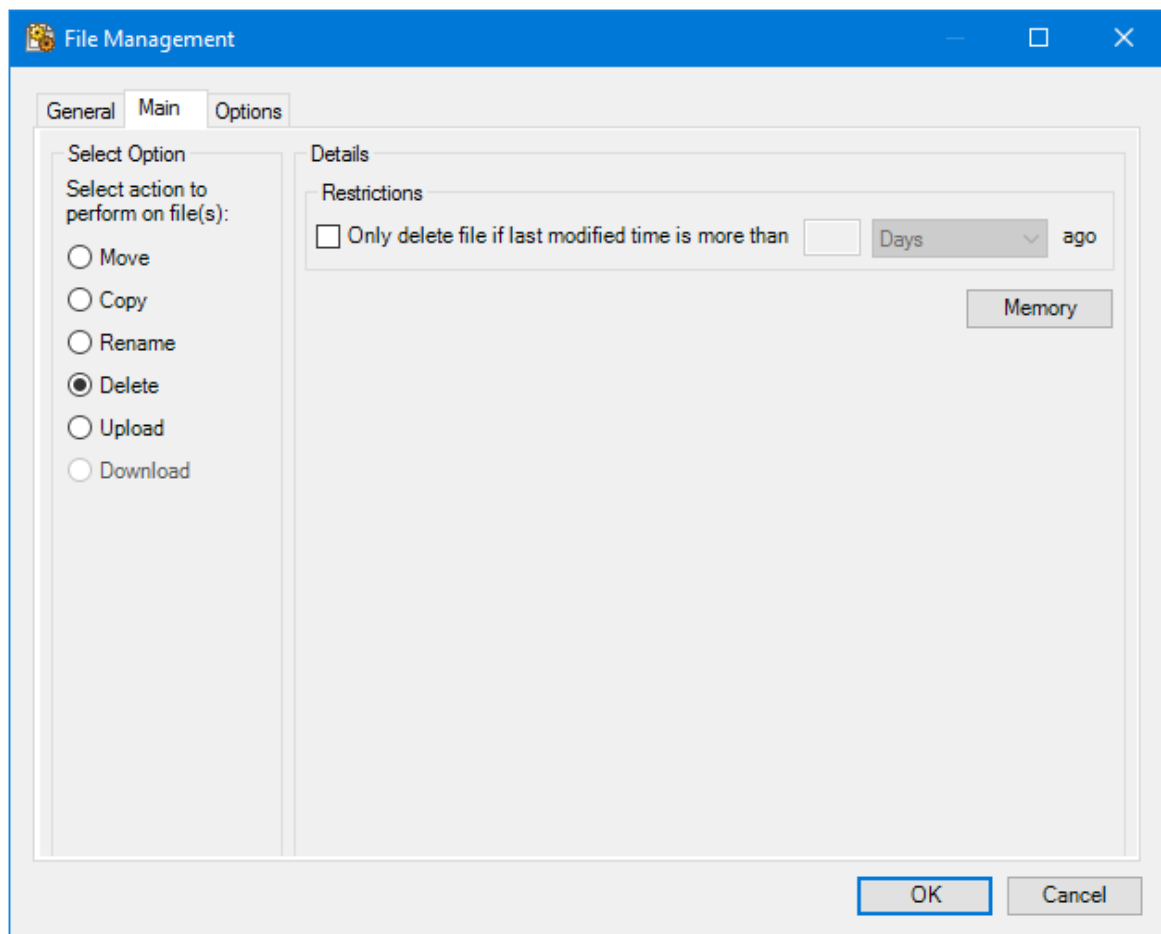
You can choose to delete source files based on a specified modification time period of:

- **Years**

- **Months**

- **Weeks**

- **Days** (default)

- **Hours**

- **Minutes**

If required, drag-and-drop a recordset column or variable from the Task Browser to create a dynamic value.

Use **Memory** to memorise some or all of the step output for use in other task steps. This is particularly useful when the **File Management** step is called multiple times — use **Memory** to compare the document previously processed to the new document currently being processed to avoid duplicates.

Uploading Files
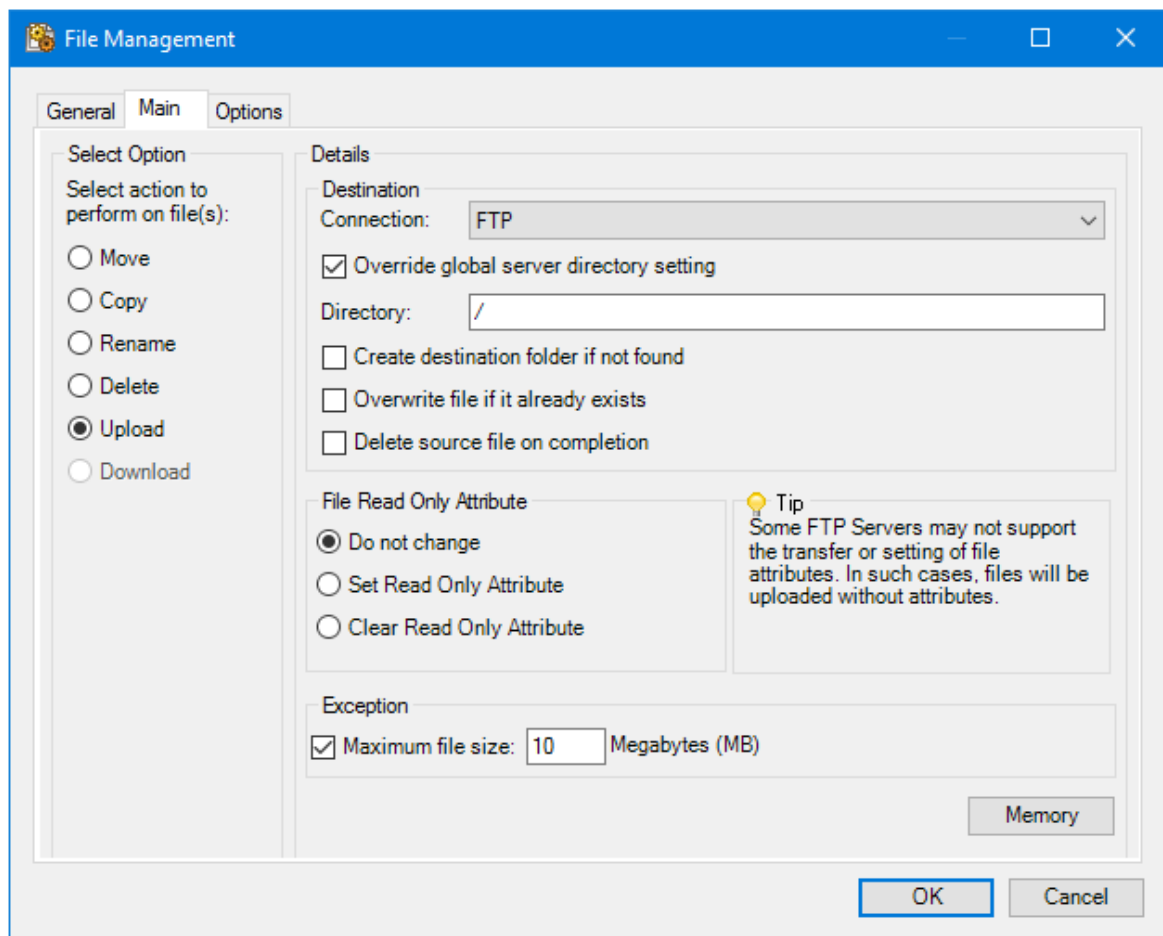
When uploading files to an FTP or HTTP server, you must choose the **Destination** for your source files:
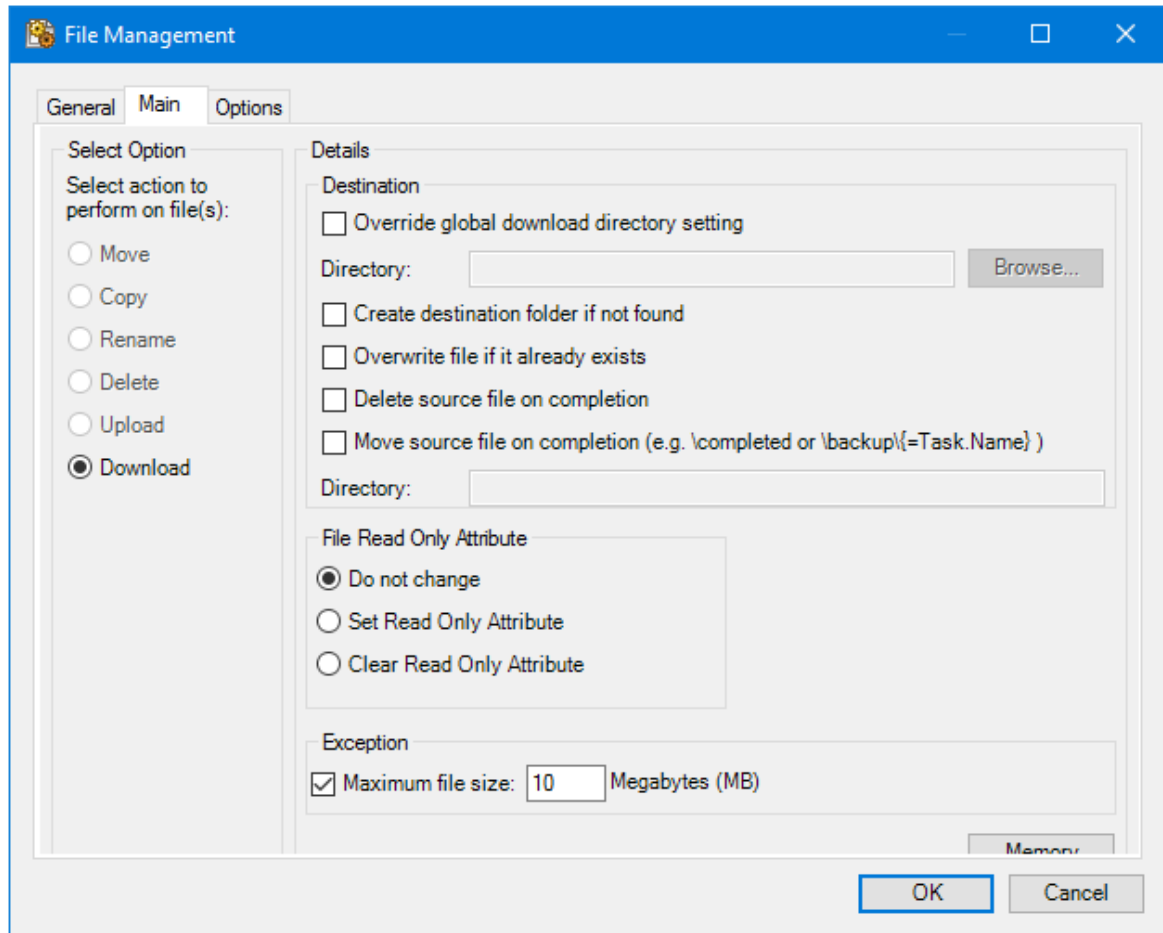
▶ **Connection** — Select the global connection for this task step to use.

▶ **Overwrite global server directory setting** — In all global connections, you must specify a directory on the FTP server for the connection to use. Enable this parameter to force this task step to use a different folder to upload files to.

☐ **Directory** — Specify the new folder path

▶ **Create destination folder if not found** — This option only comes into affect at task run-time. Note that if the destination folder is not found and not created, the step will error.

▶ **Overwrite file if it already exists** — This option only comes into affect at task run-time. Note that if a matching file is found during the upload and this parameter is not enabled, the step will error.

▶ **Delete source file on completion** — Enable this parameter to delete the original source file after a successful upload.

If required, use the settings in the **File Read Only Attribute** pane to adjust the uploaded file's properties.

You must specify the **Maximum file size** (in MB) that the **File Management** tool can upload. Any matching files larger than the specified size are not uploaded. This field is mandatory and defaults to **10** MB.

Use **Memory** to memorise some or all of the step output for use in other task steps. This is particularly useful when the **File Management** step is called multiple times — use **Memory** to compare the document previously processed to the new document currently being processed to avoid duplicates.

Downloading Files

When downloading files to an FTP or HTTP server, you must choose the **Destination** for your source files:

▶ **Overwrite global download directory setting** — In all global connections, you must specify a directory on the FTP server for the connection to use. Enable this parameter to force this task step to use a different folder to upload files to.

☐ **Directory** — Specify the new folder path

▶ **Create destination folder if not found** — This option only comes into affect at task run-time. Note that if the destination folder is not found and not created, the step will error.

▶ **Overwrite file if it already exists** — This option only comes into affect at task run-time. Note that if a matching file is found during the download and this parameter is not enabled, the step will error.

▶ **Delete source file on completion** — Enable this parameter to delete the original source file after a successful download.

▶ **Move source file on completion** — If required, you can move the source file to another directory on the FTP or HTTP server.

☐ **Directory** — Specify the new folder path. Drag-and-drop recordset columns, variables, and step properties from the Task Browser to create a dynamic folder path. You must ensure the user used to connect to the FTP or HTTP server has the correct access permissions for the new folder.
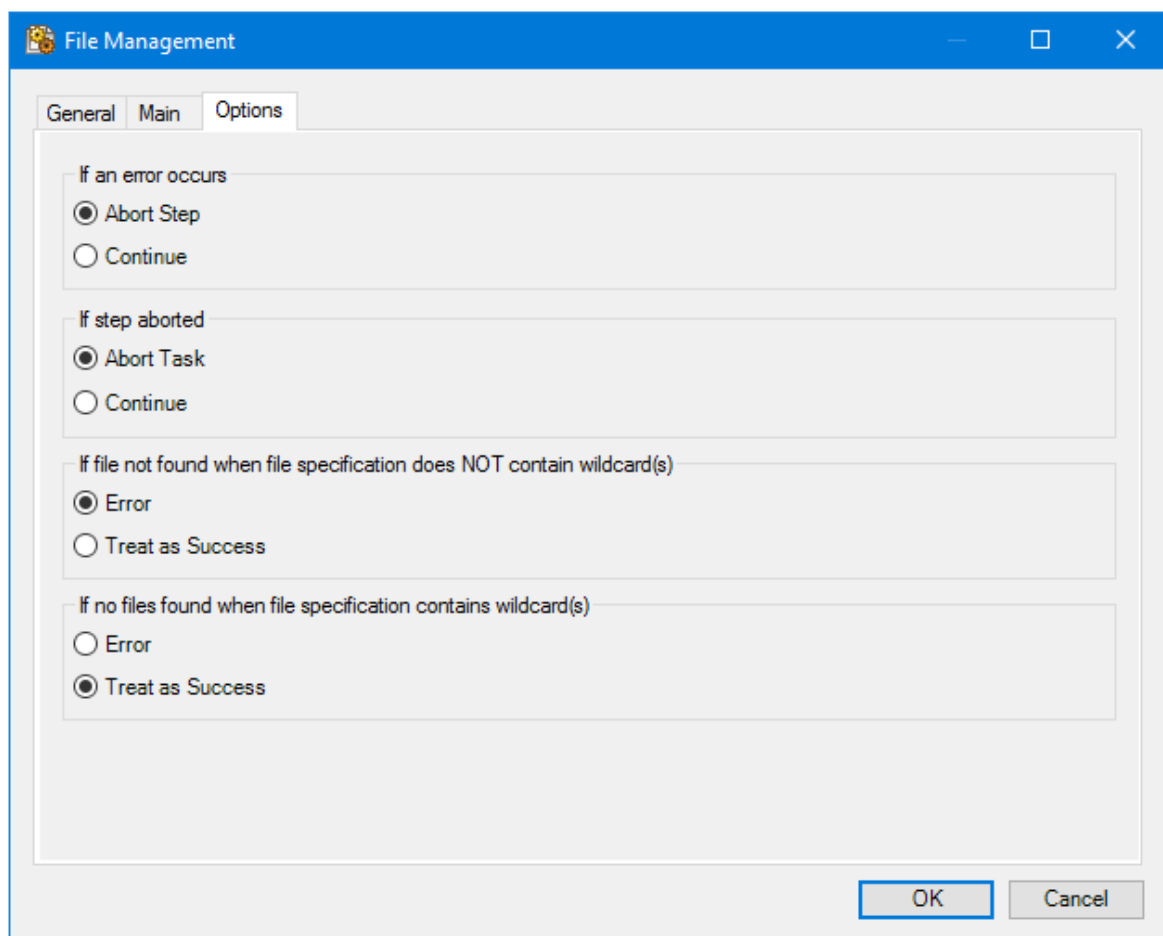
If required, use the settings in the **File Read Only Attribute** pane to adjust the downloaded file's properties.

You must specify the **Maximum file size** (in MB) that the **File Management** tool can download. Any matching files larger than the specified size are not downloaded. This field is mandatory and defaults to **10** MB.

Use **Memory** to memorise some or all of the step output for use in other task steps. This is particularly useful when the **File Management** step is called multiple times — use **Memory** to compare the document previously processed to the new document currently being processed to avoid duplicates.

About the Options Tab

The **Options** tab allows you to define how errors in this step are handled at task runtime.

If an error occurs, you can decide whether the step should **Continue** processing, or terminate the step immediately (**Abort Step**).

If the step is aborted, you can choose to **Continue** processing onto the next step in the task, or terminate the whole task immediately (**Abort Task**).

If file not found when file specification does NOT contain wildcard(s) (see General tab), you can choose to continue processing onto the next task step (**Treat as Success**) or fail the **File Management** step (**Error**).

If no files found when file specification contains wildcard(s) (see General tab), you can choose to continue processing onto the next task step (**Treat as Success**) or fail the **File Management** step (**Error**).

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📱 +44 (0) 330 99 88 700

✉️ enquiries@codelessplatforms.com

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