

# Define a Connection to an External Storage System

Last Modified on 08/03/2021 5:36 am EDT

## V9.7.1 and later

### Overview

For most File Activities, you need to define a connection to an external storage system. Depending on the activity, you will save a file, retrieve a file, delete a file, or create a folder in the external storage system.

#### NOTES

- Connection names and descriptions should be meaningful. You might want to use a connection in other activities, so it's important for you to be able to identify and understand what a connection is from the name and description.
- The path separator requirements for each storage system must also be used for base paths, source paths, file paths, and so on, in activities that require a connection to an external storage system. For example, if the file storage system you select supports forward slash (/) path separators, then all subsequent paths must also use forward slashes:

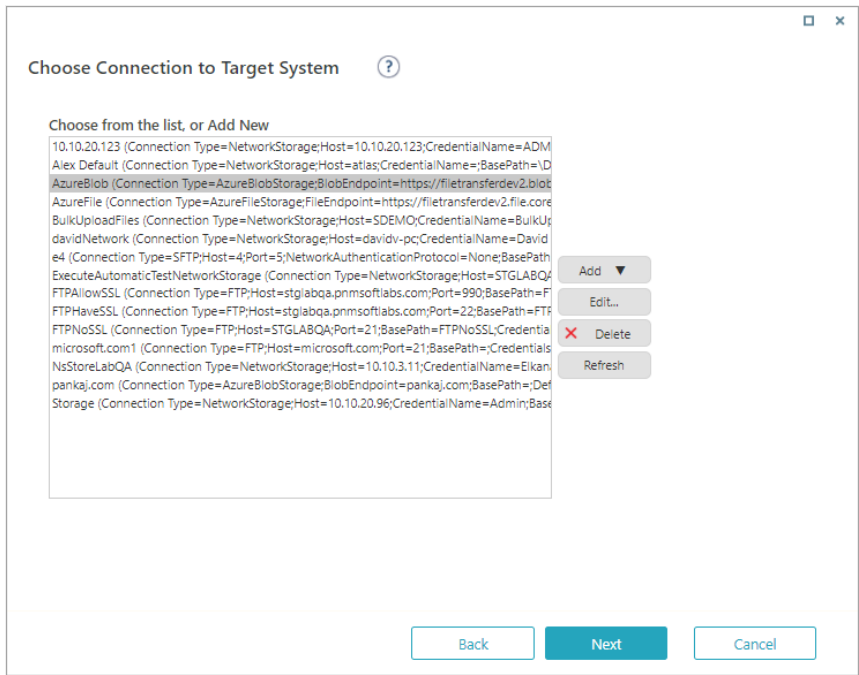
```
https://{externalstoragesystem}/{basepath}/{relativepath}/{file}
```

### File activities that use an external storage system

- Put File Activity
- Get File Activity
- Create Folder Activity
- Delete File Activity

### Supported external storage systems

- Amazon Simple Storage Service (Amazon S3)
- Azure Blob Storage
- Azure File Storage
- FTP
- Network Storage
- SFTP



## Amazon Simple Storage Service (Amazon S3)

### Specifications and limitations

Parameter	Description
Pattern	<a href="#">S3DirectoryInfo.GetFiles (string, SearchOption)</a>
Path and File Name Restrictions	<a href="https://docs.aws.amazon.com/AmazonS3/latest/userguide/bucketnamingrules.html">https://docs.aws.amazon.com/AmazonS3/latest/userguide/bucketnamingrules.html</a>
Path Separator	/
Supports Folder Hierarchy	No

### Parameters

Parameter	Description
Connection Name	The name you select for the connection.
Bucket Name	The S3 bucket name, where files are stored.
Base Path	The sub folder name.
Region Code	The region to which bucket is assigned.
Credentials	<ul style="list-style-type: none"> <li>• <b>Account Key:</b> The username for authentication.</li> <li>• <b>Secret Key:</b> The account password of authentication.</li> </ul>

### Add Record to: File Connections (AWS S3)

Connection Name \*

ABC Ltd AWS S3

Bucket Name \*

bucket1

Base Path

SubFolder1\

Region Code \*

aws-us-gov

Credentials \*

Account Key \*

/Tadik309skDA096w096VWVERG

Secret Key \*

\*\*\*\*\*

Add

Cancel

## Azure Blob Storage

### Specifications and limitations

Parameter	Description
Pattern	<a href="#">CloudBlobContainer.ListBlobs Method</a> : a string containing the blob name prefix.
Path and File Name Restrictions	<a href="#">Naming and Referencing Shares, Directories, Files, and Metadata</a>
Path Separator	/
Supports Folder Hierarchy	No, each container can only contain blobs.

### Parameters

Parameter	Description
Connection Name	The name you select for the connection.
End Point	URL to the Azure Blob storage.
Credentials	The protocol, account name, and account key for your Azure Blob Storage account. If you select this, SAS is not relevant.

Parameter	Description
<b>Shared Access Signature (SAS)</b>	Signature that grants limited access to objects in the storage account (system) to other clients, without exposing your account key. If you select this, Credentials is not relevant.

**Azure Blob Storage**

Connection Name \*

End Point \*

Credentials

HTTP Protocol

Account Name \*

Account Key \*

Shared Access Signature (SAS) \*

**NOTE**  
 To make sure that you defined connection settings correctly, test the connection after you enter the required parameters.

## Azure File Storage

### Specifications and limitations

Parameter	Description
<b>Pattern</b>	<a href="#">CloudFileDirectory.ListFilesAndDirectories Method</a> : a string containing the file or directory name prefix.
<b>Path and File Name Restrictions</b>	<a href="#">Naming and Referencing Shares, Directories, Files, and Metadata</a>
<b>Path Separator</b>	/
<b>Supports Folder Hierarchy</b>	Yes

### Parameters

Parameter	Description
Connection Name	The name you select for the connection.
End Point	URL to the Azure Blob storage.
Base Path	Sub-folder in the end point. Should be a shared folder on the server.
Credentials	The protocol, account name, and account key for your Azure File Storage account. If you select this, SAS is not relevant.
Shared Access Signature (SAS)	Signature that grants limited access to objects in the storage account (system) to other clients, without exposing your account key. If you select this, Credentials is not relevant.

**Azure File Storage**

Connection Name \*

End Point \*

Base Path

Credentials

HTTP Protocol

Account Name \*

Account Key \*

Shared Access Signature (SAS) \*

## FTP

### Specifications and limitations

Parameter	Description
Pattern	<ul style="list-style-type: none"> <li><b>Wildcards:</b> used to specify multiple files or directories whose names match a pattern.</li> <li><b>FileSet:</b> used to combine multiple matching criteria (such as all ".txt" and ".csv" files) and also specify <i>exclude</i> criteria.</li> </ul>
Path and File Name Restrictions	FTP does not specify a standard pathname convention. You need to follow the file-naming conventions of the file systems involved in the file transfer.
Path Separator	/

Parameter	Description
Supports Folder Hierarchy	Yes

### Parameters

Parameter	Description
Connection Name	The name you select for the connection.
Host	URL to the FTP server.
Port	Port for the FTP server.
Base Path	Sub-folder in the FTP server. Should be a shared folder on the server. Make sure the user defined in the credentials has permission on the shared folder.
SSL Mode	<ul style="list-style-type: none"> <li>• <b>Implicit:</b> Assumes that the server is expecting everything encrypted using SSL. This means that when the client first connects to the server it will immediately negotiate the SSL connection on the command connection. Normally, implicit connections are also on a different port, such as port 990.</li> <li>• <b>Explicit:</b> A normal FTP connection is established, usually on the standard port 21. However, after connecting, the client will send a command to switch to SSL mode. This command is "AUTH SSL". When this command is sent, the server will respond normally, and then establish an SSL connection.</li> </ul>
Credentials	Name, user name, and password for the FTP server. See screenshot below for details.

**FTP**

Connection Name \*

Host \* Port \*

Base Path

SSL Mode

Credentials \*

## Network Storage

### Specifications and limitations

Parameter	Description
Pattern	<a href="#">Directory.GetFiles Method</a>
Path and File Name Restrictions	<ul style="list-style-type: none"> <li>• <a href="#">Invalid Path Chars</a></li> <li>• <a href="#">Invalid File Name Chars</a></li> </ul>
Path Separator	\
Supports Folder Hierarchy	Yes

### Parameters

Parameter	Description
Connection Name	The name you select for the connection.
Host	Name or URL of the network.
Base Path	Sub-folder in the network storage. Should be a shared folder on the server. Make sure the user defined in the credentials has permission on the shared folder. You cannot store files in the base path (folder). You need to a folder below this one to store files.
Credential Type	<ul style="list-style-type: none"> <li>• Application</li> <li>• Impersonated</li> <li>• Stored</li> </ul>

Parameter	Description
<b>Credentials</b>	Name, user name, and password for the FTP server. See screenshot below for details.

## SFTP

### Specifications and limitations

Parameter	Description
<b>Pattern</b>	<ul style="list-style-type: none"> <li>• <b>Wildcards:</b> used to specify multiple files or directories whose names match a pattern.</li> <li>• <b>FileSet:</b> used to combine multiple matching criteria (such as all ".txt" and ".csv" files) and also specify <i>exclude</i> criteria.</li> </ul>
<b>Path and File Name Restrictions</b>	FTP does not specify a standard pathname convention. You need to follow the file-naming conventions of the file systems involved in the file transfer.
<b>Path Separator</b>	/
<b>Supports Folder Hierarchy</b>	Yes

### Parameters

Parameter	Description
<b>Connection Name</b>	The name you select for the connection.
<b>Host</b>	URL to the SFTP server.



Parameter	Description
Port	Port for the SFTP server.
Base Path	Sub-folder in the SFTP server. Should be a shared folder on the server. Make sure the user defined in the credentials has permission on the shared folder.
SSL Mode	<ul style="list-style-type: none"> <li>• <b>Implicit:</b> Assumes that the server is expecting everything encrypted using SSL. This means that when the client first connects to the server it will immediately negotiate the SSL connection on the command connection. Normally, implicit connections are also on a different port, such as port 990.</li> <li>• <b>Explicit:</b> A normal FTP connection is established, usually on the standard port 21. However, after connecting, the client will send a command to switch to SSL mode. This command is "AUTH SSL". When this command is sent, the server will respond normally, and then establish an SSL connection.</li> </ul>
Credentials	Name, user name, and password for the FTP server. See screenshot below for details.
Authentication Mode	<ul style="list-style-type: none"> <li>• <b>NTLM:</b> alksjdf</li> <li>• <b>Kerberos v5:</b> a;lkjsdf</li> <li>• <b>Certificate:</b></li> </ul>
Certificate File Location	Path for the certificate.
Certificate Store Location	Path for the certificate store.
Store Name	Name of the certificate store.
Find by	Parameter to search by.
Value to Find	Value you want to find.

**SFTP**

Connection Name \*  
ABC Ltd. SFTP

Host \*  
abcitd.sftpstorage.com

Port \*  
22

Base Path  
customerservicerequestscloud

Credentials  
Admin

Authentication Mode  
KerberosV5

Certificate File Location \*  
[Empty field]

Certificate Store Location \*  
Current User

Store Name \*  
[Empty field]

Find by  
Subject Name

Value to Find \*  
[Empty field]

Test Connection OK Cancel

### Credentials

Some external storage systems require credentials. The procedure to add a new credential is the same for every external storage system.

**Run As ...**

Name

[Empty list box]

Add...  
Edit...  
Remove

OK Cancel

**Run As ...**

Name \*  
[Empty field]

User Name \*  
[Empty field]

Password  
[Empty field]

Confirm Password  
[Empty field]

OK Cancel

## V8.7 and earlier

For most File Activities, you need to define a connection to an external storage system. Depending on the activity, you will save a file, retrieve a file, delete a file, or create a folder in the external storage system.

### NOTES:

- Connection names and descriptions should be meaningful. You might want to use a connection in other activities, so it's important for you to be able to identify and understand what a connection is from the name and description.
- The path separator requirements for each storage system must also be used for base paths, source paths, file paths, and so on, in activities that require a connection to an external storage system. For example, if the file storage system you select supports forward slash (/) path separators, then all subsequent paths must also use forward slashes:

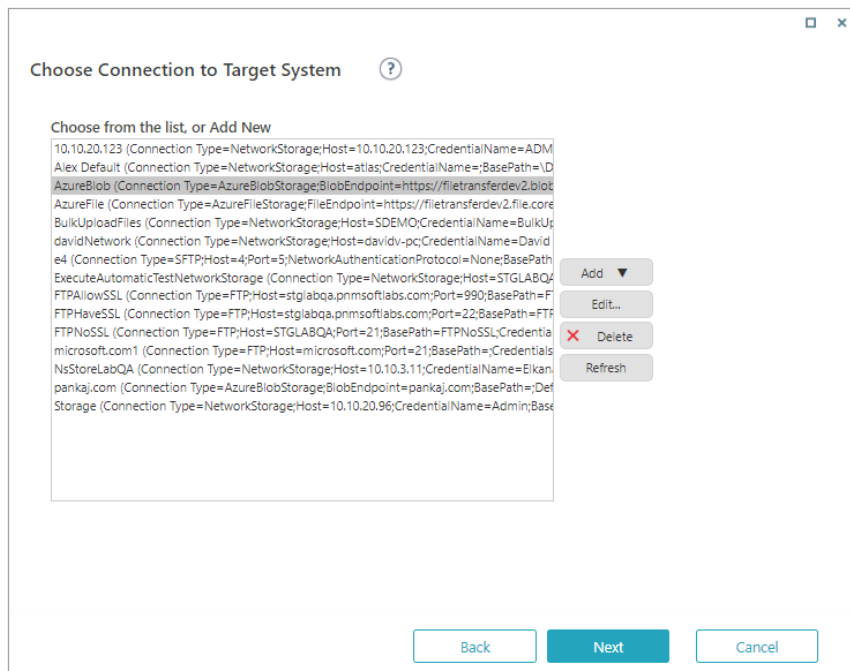
```
https://{externalstoragesystem}/{basepath}/{relativepath}/{file}
```

## File activities that use an external storage system

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- Delete File Activity

## Supported external storage systems

- Azure Blob Storage
- Azure File Storage
- FTP
- Network Storage
- SFTP



## Azure Blob Storage

### Specifications and limitations

Parameter	Description
Pattern	<a href="#">CloudBlobContainer.ListBlobs Method</a> : a string containing the blob name prefix.
Path and File Name Restrictions	<a href="#">Naming and Referencing Shares, Directories, Files, and Metadata</a>
Path Separator	/
Supports Folder Hierarchy	No, each container can only contain blobs.

### Parameters

Parameter	Description
Connection Name	The name you select for the connection.
End Point	URL to the Azure Blob storage.
Credentials	The protocol, account name, and account key for your Azure Blob Storage account. If you select this, SAS is not relevant.
Shared Access Signature (SAS)	Signature that grants limited access to objects in the storage account (system) to other clients, without exposing your account key. If you select this, Credentials is not relevant.

□
×

#### Azure Blob Storage

**Connection Name \***

**End Point \***

**Credentials**

HTTP Protocol

**Account Name \***

**Account Key \***

**Shared Access Signature (SAS) \***

### Note:

To make sure that you defined connection settings correctly, test the connection after you enter the

required parameters.

## Azure File Storage

### Specifications and limitations

Parameter	Description
Pattern	<a href="#">CloudFileDirectory.ListFilesAndDirectories Method</a> : a string containing the file or directory name prefix.
Path and File Name Restrictions	<a href="#">Naming and Referencing Shares, Directories, Files, and Metadata</a>
Path Separator	/
Supports Folder Hierarchy	Yes

### Parameters

Parameter	Description
Connection Name	The name you select for the connection.
End Point	URL to the Azure Blob storage.
Base Path	Sub-folder in the end point. Should be a shared folder on the server.
Credentials	The protocol, account name, and account key for your Azure File Storage account. If you select this, SAS is not relevant.
Shared Access Signature (SAS)	Signature that grants limited access to objects in the storage account (system) to other clients, without exposing your account key. If you select this, Credentials is not relevant.

**Azure File Storage**

Connection Name \*

End Point \*

Base Path

Credentials

HTTP Protocol

Account Name \*

Account Key \*

Shared Access Signature (SAS) \*

## FTP

### Specifications and limitations

Parameter	Description
Pattern	<ul style="list-style-type: none"> <li><b>Wildcards:</b> used to specify multiple files or directories whose names match a pattern.</li> <li><b>FileSet:</b> used to combine multiple matching criteria (such as all ".txt" and ".csv" files) and also specify <i>exclude</i> criteria.</li> </ul>
Path and File Name Restrictions	FTP does not specify a standard pathname convention. You need to follow the file-naming conventions of the file systems involved in the file transfer.
Path Separator	/
Supports Folder Hierarchy	Yes

### Parameters

Parameter	Description
Connection Name	The name you select for the connection.
Host	URL to the FTP server.
Port	Port for the FTP server.

Parameter	Description
<b>Base Path</b>	Sub-folder in the FTP server. Should be a shared folder on the server. Make sure the user defined in the credentials has permission on the shared folder.
<b>SSL Mode</b>	<ul style="list-style-type: none"> <li>• <b>Implicit:</b> Assumes that the server is expecting everything encrypted using SSL. This means that when the client first connects to the server it will immediately negotiate the SSL connection on the command connection. Normally, implicit connections are also on a different port, such as port 990.</li> <li>• <b>Explicit:</b> A normal FTP connection is established, usually on the standard port 21. However, after connecting, the client will send a command to switch to SSL mode. This command is "AUTH SSL". When this command is sent, the server will respond normally, and then establish an SSL connection.</li> </ul>
<b>Credentials</b>	Name, user name, and password for the FTP server. See screenshot below for details.

## Network Storage

### Specifications and limitations

Parameter	Description
<b>Pattern</b>	<a href="#">Directory.GetFiles Method</a>

Parameter	Description
Path and File Name Restrictions	<ul style="list-style-type: none"> <li>Invalid Path Chars</li> <li>Invalid File Name Chars</li> </ul>
Path Separator	\
Supports Folder Hierarchy	Yes

### Parameters

Parameter	Description
Connection Name	The name you select for the connection.
Host	Name or URL of the network.
Base Path	Sub-folder in the network storage. Should be a shared folder on the server. Make sure the user defined in the credentials has permission on the shared folder. You cannot store files in the base path (folder). You need to a folder below this one to store files.
Credential Type	<ul style="list-style-type: none"> <li>Application</li> <li>Impersonated</li> <li>Stored</li> </ul>
Credentials	Name, user name, and password for the FTP server. See screenshot below for details.

**Network Storage**

Connection Name \*

Host \*

Base Path

Credential Type

Credentials \*

Test Connection OK Cancel



## Specifications and limitations

Parameter	Description
Pattern	<ul style="list-style-type: none"><li>• <b>Wildcards:</b> used to specify multiple files or directories whose names match a pattern.</li><li>• <b>FileSet:</b> used to combine multiple matching criteria (such as all ".txt" and ".csv" files) and also specify <i>exclude</i> criteria.</li></ul>
Path and File Name Restrictions	FTP does not specify a standard pathname convention. You need to follow the file-naming conventions of the file systems involved in the file transfer.
Path Separator	/
Supports Folder Hierarchy	Yes

## Parameters

Parameter	Description
Connection Name	The name you select for the connection.
Host	URL to the SFTP server.
Port	Port for the SFTP server.
Base Path	Sub-folder in the SFTP server. Should be a shared folder on the server. Make sure the user defined in the credentials has permission on the shared folder.
SSL Mode	<ul style="list-style-type: none"><li>• <b>Implicit:</b> Assumes that the server is expecting everything encrypted using SSL. This means that when the client first connects to the server it will immediately negotiate the SSL connection on the command connection. Normally, implicit connections are also on a different port, such as port 990.</li><li>• <b>Explicit:</b> A normal FTP connection is established, usually on the standard port 21. However, after connecting, the client will send a command to switch to SSL mode. This command is "AUTH SSL". When this command is sent, the server will respond normally, and then establish an SSL connection.</li></ul>
Credentials	Name, user name, and password for the FTP server. See screenshot below for details.
Authentication Mode	<ul style="list-style-type: none"><li>• <b>NTLM:</b> alksjdf</li><li>• <b>Kerberos v5:</b> a;lkjsdf</li><li>• <b>Certificate:</b></li></ul>
Certificate File Location	Path for the certificate.

Parameter	Description
Certificate Store Location	Path for the certificate store.
Store Name	Name of the certificate store.
Find by	Parameter to search by.
Value to Find	Value you want to find.

**SFTP**

Connection Name \*

Host \*  Port \*

Base Path

Credentials  
 ...

Authentication Mode

Certificate File Location \*

Certificate Store Location \*

Store Name \*  Find by  Value to Find \*

## Credentials

Some external storage systems require credentials. The procedure to add a new credential is the same for every external storage system.

**Run As ...**

Name

Run As ...

Name \*

User Name \*

Password

Confirm Password