FileCloud Server Version 23.232

ServerSync

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Table of Contents

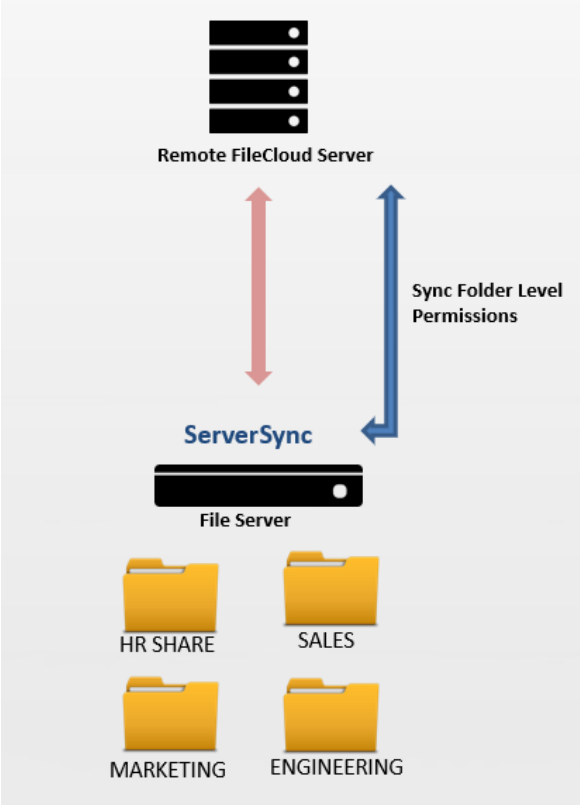
Copyright Notice 2
Introduction to ServerSync 5
1. Log In to ServerSync 5
2. Configure Folders to Sync 6
3. Find Your Account Options 6
4. Import NTFS Permissions 6
5. Troubleshoot ServerSync 6
ServerSync FAQ's 7
How is ServerSync different from the Sync client? 7
Should I run ServerSync as a service? 7
Can I configure ServerSync to run at startup? 8
Why doesn't permission sync work for me? 8
Why can't I log in with an admin account? 8
What is the difference between sync and revert? 9
Log In to ServerSync 10
Synchronizing Folders in ServerSync 12
Increase ServerSync Scanning Speed 16
ServerSync Settings 18
What Do you Want to See? 19
Home Screen Settings 20
Activity Screen Settings 22
Settings Screen Options 25
Help Screen Settings 27
Connect to a FileCloud Server in ServerSync 29
Selecting Folders to Sync 30
Reset ServerSync 35
Control ServerSync Bandwidth Use 35
Limit ServerSync to a Schedule 38
Change ServerSync Frequency 41

Disable ServerSync Notifications 42
Manage ServerSync Remotely 44
Run ServerSync on Windows Startup 46
Run ServerSync as a Service 47
Install ServerSync to Run as a Service 47
Stop ServerSync from Running as a Service 48
Install ServerSync on Linux 49
How to Install FileCloud ServerSync on Linux 49
Format of parameters in fsserviceconfig.xml 50
What If I'm Using Ubuntu 18.10 or Ubuntu 22.04? 52
Import NTFS Permissions to ServerSync 53
Importing NTFS permissions 53
NTFS/FileCloud permission conversions 55
Troubleshoot ServerSync 56
Sync Activity Log 56
File Conflict Management 57
Files That Don't Sync 58
FileCloud ServerSync Stages 59
FileCloud ServerSync Defaults and Tips. 59
FileCloud ServerSync Complete Sync Cycle 60

Introduction to ServerSync

⚠ ServerSync Requirements:
- Support for Windows only
- Synchronized files must be on a physically attached disk to the machine running ServerSync
- You cannot synchronize files located by a UNC or Network path

You can use FileCloud ServerSync to help synchronize a local Windows File Server with a FileCloud Server or FileCloud Online (hosted by CodeLathe).



Changes in the local Windows File Server are seamlessly synchronized to a remote FileCloud Server or FileCloud Online site. These changes include:

- New files added
- Edits to existing files
- Files being removed

ServerSync can also optionally sync FileCloud's folder-level permissions.

- The FileCloud permissions can be synchronized to local folders
- These permissions are applied as NTFS Permissions

⚠ You must log in with the user account that is the original owner of the files for folder-level permission synchronization to work

FAQ's

Find answers to frequently asked questions.

Read the FAQ's

1. Log In to ServerSync

In order to complete the seamless synchronization of changes in a local Windows File Server to a remote FileCloud site, ServerSync must be able to log in to the remote FileCloud site.

How to Log In

2. Configure Folders to Sync

Add folders to the sync list.

Start Synchronizing Folders

3. Find Your Account Options

Find your way around the ServerSync application.

Show Me My Account Settings

4. Import NTFS Permissions

During initial import of file and folder data into FileCloud, it will also be useful to import existing NTFS permissions.

Import NTFS Permissions

5. Troubleshoot ServerSync

Use log files and manage file conflicts.

How to Check Log File Activity

ServerSync FAQ's

How is ServerSync different from the Sync client?

ServerSync	Sync Client

What gets synced?
• Folders on a physically attached disk to the machine
• UNC and Network paths are NOT allowed
• Manual sync of folders with sync permissions
  • My Files
  • Shared folders
Are Network Folders synchronized?
• No
Are backups supported?
• No
Are admin permissions required?
• Yes
Are permissions synchronized also?
• FileCloud folder-level permissions synchronized
• Permissions are applied to local folders as NTFS permissions
Which operating systems are supported?
• Windows
	What gets synced?
	• Local, remote, and network folders allowed
	• Automatic sync of folders with sync permissions
	• All sync folders are contained within the FileCloud Sync Folder
	  • My Files
	  • Shared folders
	Are Network Folders synchronized?
	• Yes
	Are backups supported?
	• Yes
	Are admin permissions required?
	• No
	Are permissions synchronized also?
	• Not supported
	Which operating systems are supported?
	• Windows
	• Mac
	• Linux

Should I run ServerSync as a service?

It is recommended that you run ServerSync as a service.

- Synchronization of a local Windows File Server with a FileCloud Server or FileCloud Online (hosted by CodeLathe) is usually unattended and is configured to run automatically.
- If a file server is unattended, it can restart without an administrator, and unless ServerSync is a service, it will not start when the server restarts.

However, configuring ServerSync to run as a service will not allow the 'Quick Edit' to work.

Run ServerSync as a Service

Can I configure ServerSync to run at startup?

You can configure ServerSync to run at Windows start-up by creating a shortcut to the application and adding a Registry entry.

- This registry entry allows a batch file to be run at system start-up.
- The batch file in turn executes the ServerSync application with Admin privileges.
- On each system startup, ServerSync will now run automatically.

Run ServerSync on Startup

Why doesn't permission sync work for me?

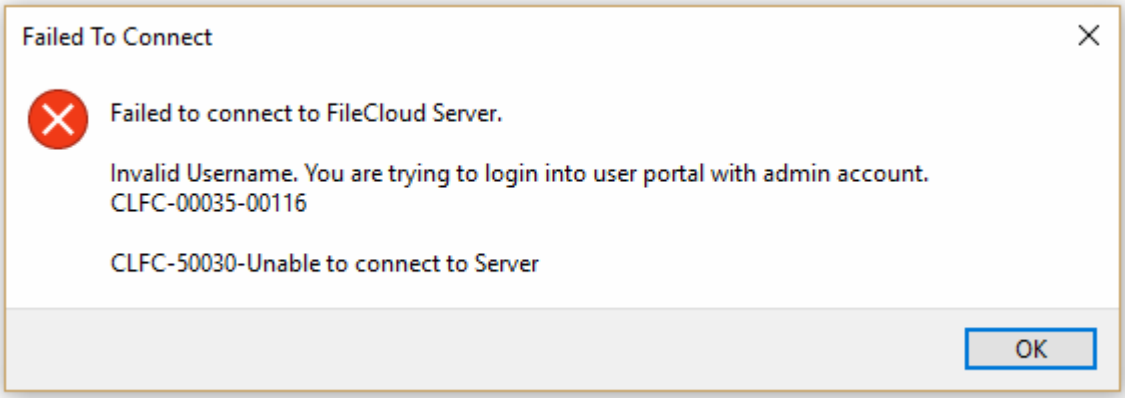
You must log in with the user account that is the original owner of the files.

- User accounts that own the actual folders are allowed to set folder permissions on them.
- If you can set folder permissions, then it becomes easier to sync permissions to the content as well.
- If a user account is syncing files that it doesn't own, then permission sync will not work as these folder permissions cannot be applied.

For example, if you are syncing the files into the team folder account, you should be logged in using the team folder account.

Why can't I log in with an admin account?

If you try to use the administrator account, then you will see an error similar to the following:



Admin accounts are not used for the following reasons:

- Administrator accounts are used to install, configure and manage the system. They are not used to own files or folder that are being shared.
- The Admin account does not have access to the FileCloud User Portal, which is designed exclusively for the sharing of files, and not for configuring the FileCloud site.

What is the difference between sync and revert?

In ServerSync, when the percentage of changes to folders exceeds 10%, a dialog pops up asking the administrator for approval. 10% is a default number and can be changed through the config file.

- If *Yes* is clicked: all changes made locally are pushed to the server.
- If *No* is clicked: all folder sets that were present are completely removed. The user has to then manually add all of them back.
  In FileCloud Server version 19.1 and later, the pop-up dialog lists the folders which have been modified. There are 2 checkboxes for each folder - *Sync* and *Revert*.
    - *Sync* synchronizes all changes to the server
    - *Revert* resets only that specific folder

Revert means:

- If a file is deleted locally, it will be copied to the local destination again from the server.
- If a file is modified, a conflict file appears and administrator must select the server version so that server version can be copied.

Log In to ServerSync

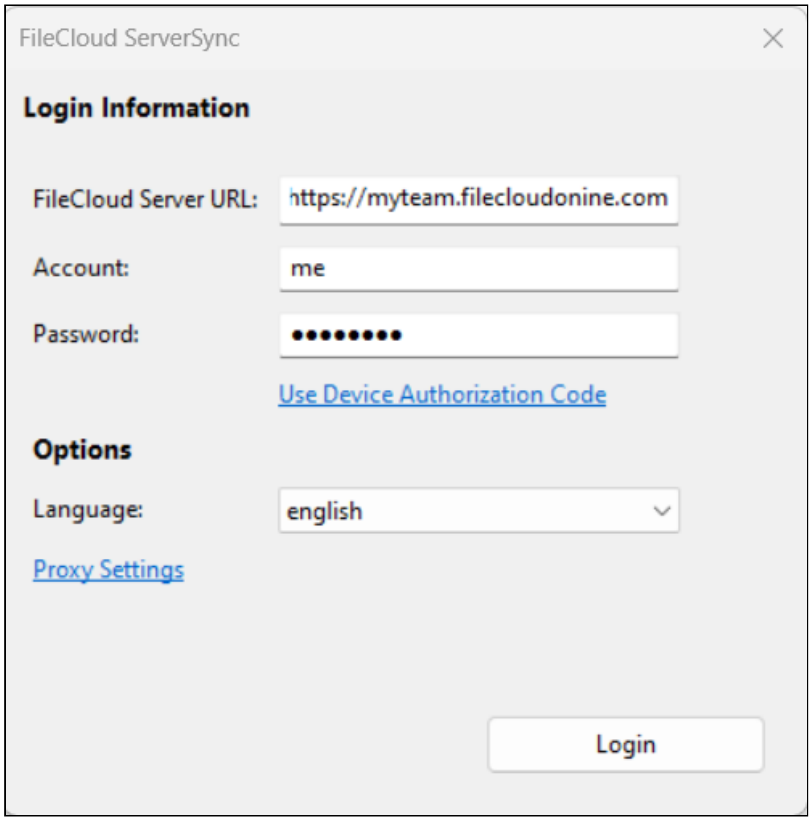
ServerSync captures changes in a local Windows File Server and synchronizes them to a remote FileCloud Server or FileCloud Online site.

In order to complete the seamless synchronization, ServerSync must be able to log in to a remote FileCloud site using the following credentials:

- FileCloud site URL
- Account name
- Account password
- (Optional) Device authentication code

⚠️ You can also sync file permissions. For that, you must log in with the user account that is the original owner of the files. Otherwise, folder-level permission synchronization will not work.

For example, if you are syncing the files in the team folder account, you should be logged in using the team folder account.



The Login settings can be accessed in the following ways:

- The **Home** screen, in the **Logged In As** section by clicking **Change**.
- The **Settings** screen, in the **Account Settings** section, by clicking **Edit**.

💡 It does not matter which screen you use to access the settings. They both function in the same way.

To log in to ServerSync:

1. Click the Windows icon on the taskbar.
2. Find the to **FileCloudServerSync** listing.

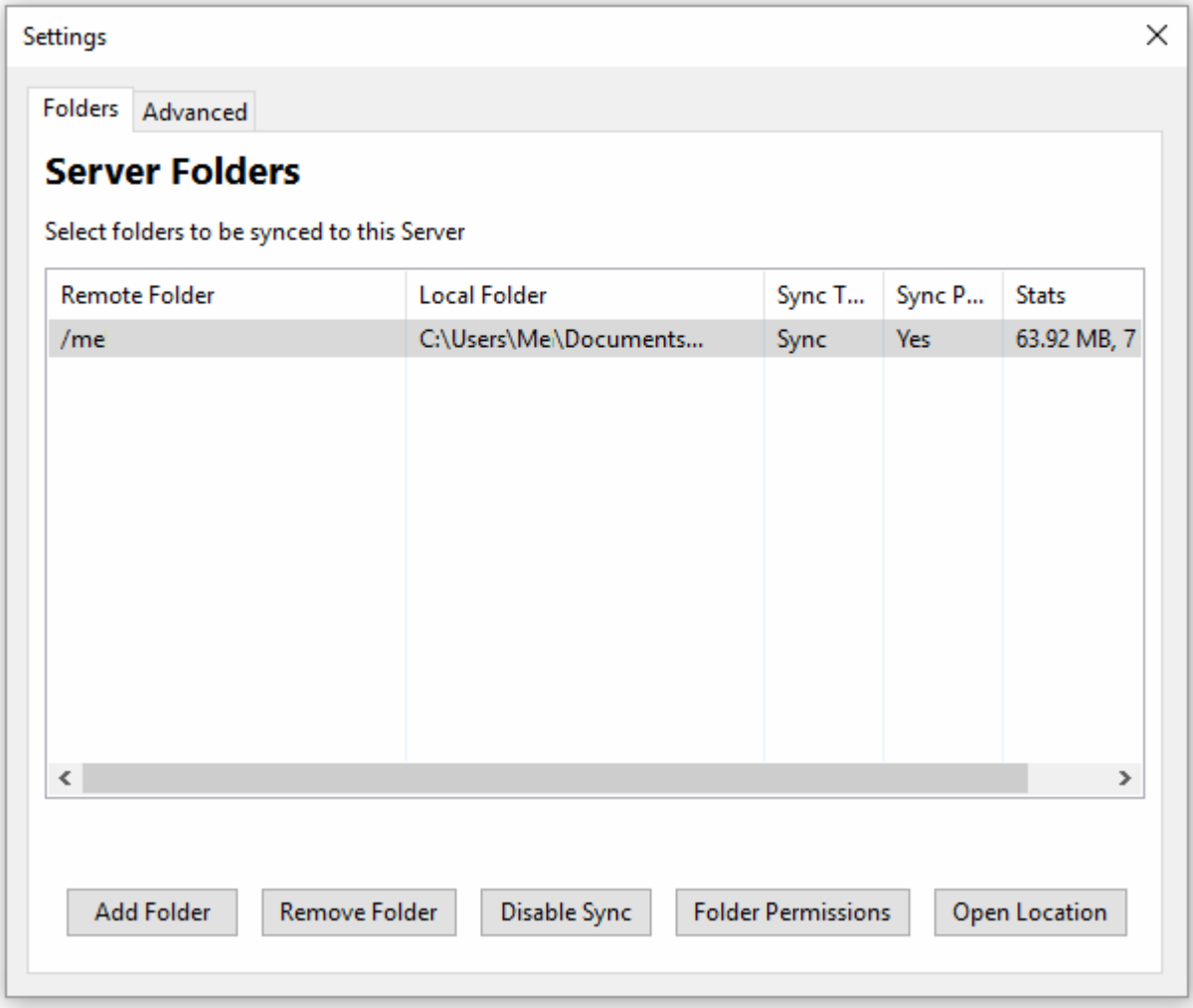
3. Click **FileCloudServerSync**.
4. On the dialog asking if you want this application to make changes to your computer, click **Yes**.
5. In **FileCloud Server URL**, type in the website address to the FileCloud server that you want to sync with.
6. In **Account**, type in the name of the account that has access to the FileCloud server.
7. In **Password**, type in the string of characters used for the associated account.
8. If you are using codes for extra security, click **Use Device Authorization Code**.
9. If you are using a language other than English, select it in **Language**.
10. Click **Login**.

Synchronizing Folders in ServerSync

When you select a folder on the FileCloud server to be synchronized, a local copy is placed in the location you choose.

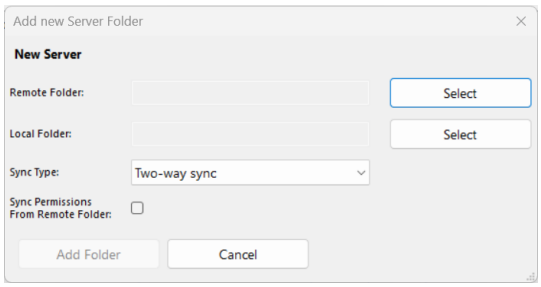
When ServerSync runs:

- Changes in local copies can be uploaded to the server, replacing the version on the server for others to see your changes.
- Changes in server copies can be downloaded to your local file, replacing the local version with the one on the server so that you can see other people's changes.
- You can add any number of folders for synchronization by repeating the Add a Folder process.
- Note that synchronization occurs one by one and not in parallel. So if you have a large number of folders setup, a synchronization cycle might take some time.



To manage folder settings:

1. From the system icon tray, right-click the ServerSync icon, and then select *Settings*.
2. On the *Settings* screen, in the *Server Folders* section, click *Edit.*
3. On the *Settings* screen, on the Folders tab, you can do any of the following actions:

<table>
<tr><th>Option</th><th>Description</th></tr>
<tr><td>Add Folder
 
</td><td>Opens a dialog box called Add new Server Folder.
• Remote Folder - Allows you to choose folders on FileCloud.
• Local Folder - Allows you to choose where you want the local copies saved
• Sync Type - Allows you to choose two-way or one-way sync.

⚠ When server changes are downloaded to a local folder, the local folder modified date is changed to the current date, but the server folder keeps its original modified date. This is due to operating system constraints.

<table>
<tr><th>Sync Type</th><th>Description</th><th>Overwriting Files</th></tr>
<tr><td>Two-way sync</td><td>Allows changes to be synchronized in both directions</td><td>Local changes can be uploaded to the server
Server changes downloaded to the local folder
⚠ When there are conflicts, you will be asked to choose which version you want to keep.</td></tr>
<tr><td>One-way sync (Remote to Local)</td><td>Only changes from the server are synchronized down to the local folder</td><td>Server changes downloaded to the local folder
⚠ Any changes to local copies are lost when they are overwritten by the server copies.</td></tr>
</table>
• Sync Permissions From Remote Folder - Allows you to specify whether you want to sync file permissions as well. This allows the administrator to manage permissions centrally using FileCloud and make them apply even on synchronized local folders.</td></tr>
</table>

Option	Description
	To add a folder: 1. In **Remote Folder**, click **Select**. 2. In the file explorer window, all managed files for the server you are connected to are listed. Choose the one you want to sync, and then click **Select**. 3. In **Local Folder**, click **Select**. 4. In the file explorer window, choose from the directories on this local computer where you have enough space to store the server copies, and then click **Select Folder**. 5. In Remote to Local, to allow changes to be synchronized in both directions, choose Sync.
Remove Folder	After selecting a folder, allows you to permanently stop synchronizing a folder with FileCloud server. ⚠️ The folder and its contents are not removed from the local machine, in case you want to sync this folder again later. To temporarily stop synchronizing a folder, use the Disable option.
Disable Sync	Allows you to disable synchronization of folders temporarily. • One or more folders can be disabled, instead of being completely removed. • Folders can be enabled again for synchronization by selecting the folder and clicking the "Enable Sync" button. • If all folders are disabled, then **WARNING: No Server Folders selected for Sync** is displayed on the Home screen.
Folder Permissions	First, you must select a folder. Clicking **Folder Permissions** opens a new window to view and manage folder permissions. • If you have not imported permissions, then this window will not have any data to display.
Open Location	Opens a Windows File Explorer window showing the location of the folder you have chosen to keep local copies. • This folder is set when you add a folder and choose a local folder.

Increase ServerSync Scanning Speed

ⓘ This functionality was added in FileCloud Version 19.3.

You can reduce the time ServerSync takes to scan your local sync folders by changing the single-threaded logic used by default to run ServerSync to multi-threaded logic.

To configure ServerSync to scan more quickly:

1. Open the following file for editing:

```
%APPDATA%\FileCloudServerSync\syncclientconfig.xml
```

2. Add the following code:

```
<rowentry>
    <name>fsscantype</name>
    <type>string</type>
    <value>multi</value>
</rowentry>

<rowentry>
     <name>fsscanmaxthreads</name>
     <type>string</type>
     <value>15</value>
 </rowentry>
```

⚠ In most cases, optimal speed is achieved by setting the parameter **fsscanmaxthreads** in the code above to **15**.

3. Save your changes and close the file.
4. For the changes to take effect, restart ServerSync.

To revert back to single threaded, logic:

1. Set the **fsscantype** parameter to **single**.
2. Remove or comment out the second variable.
3. Save your changes and close the file.
4. For the changes to take effect, restart ServerSync.

```
<rowentry>
    <name>fsscantype</name>
```

```
    <type>string</type>
    <value>single</value>
</rowentry>

<!-- <rowentry>
     <name>fsscanmaxthreads</name>
     <type>string</type>
     <value>15</value>
 </rowentry> -->
```

ServerSync Settings

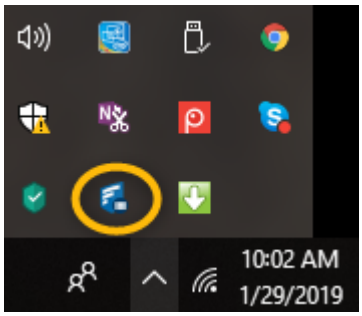
You can view and control all of ServerSync's settings from the Settings dialog.

The Settings dialog can be accessed in the following ways:

From the System Tray:

1. Right-click the ServerSync icon
2. Select Settings.

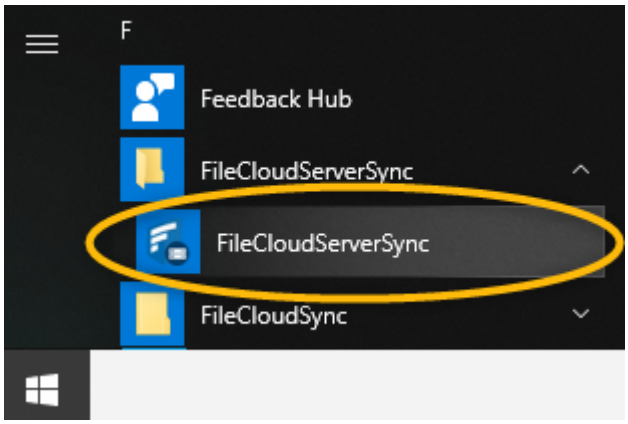
Show Me the System Tray Option



From the Windows Start Menu:

1. Click the Windows icon.
2. Scroll down to FileCloud.
3. Select FileCloud ServerSync

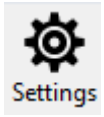
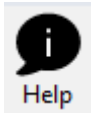
Show me the Start Menu Option



You can also add XML settings to the ServerSync config file, %APPDATA% \FileCloudServerSync\syncclientconfig.xml. These settings are also available for FileCloud Sync. For information about the settings and how to configure them, see XML Options for Sync.

What Do you Want to See?

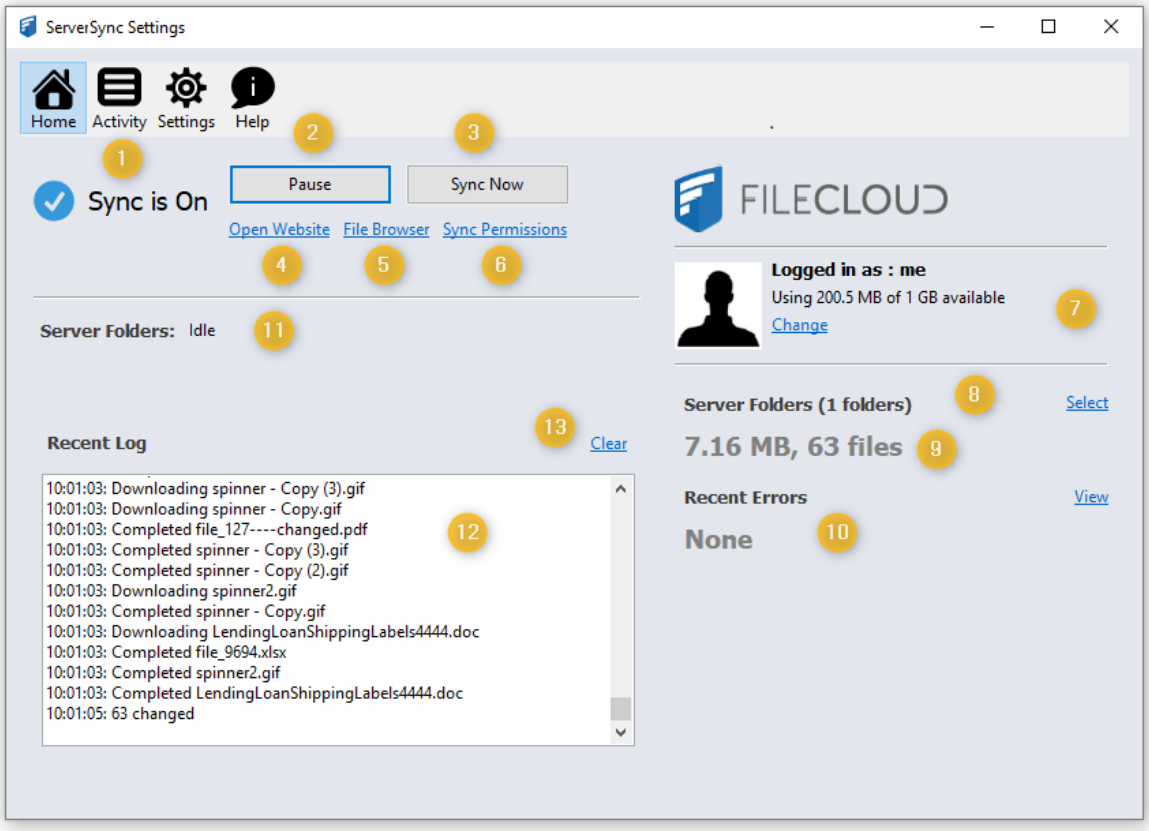
To see where a setting is located, you can choose to find it by screen or by the task you are trying to complete.

Screens		Tasks
	Home Screen	Change the user account and server URL for connection
	Activity Screen	Select which specific folders get synchronized
	Settings Screen	Import existing NTFS Permissions to a remote folder in FileCloud
	Help Screen	Clear the synchronization state and reset the data
		Control ServerSync bandwidth use
		Use a proxy server
		Limit ServerSync to a schedule
		Change the default sync frequency

Disable notifications

Allow admins to centrally manage ServerSync remotely

Home Screen Settings

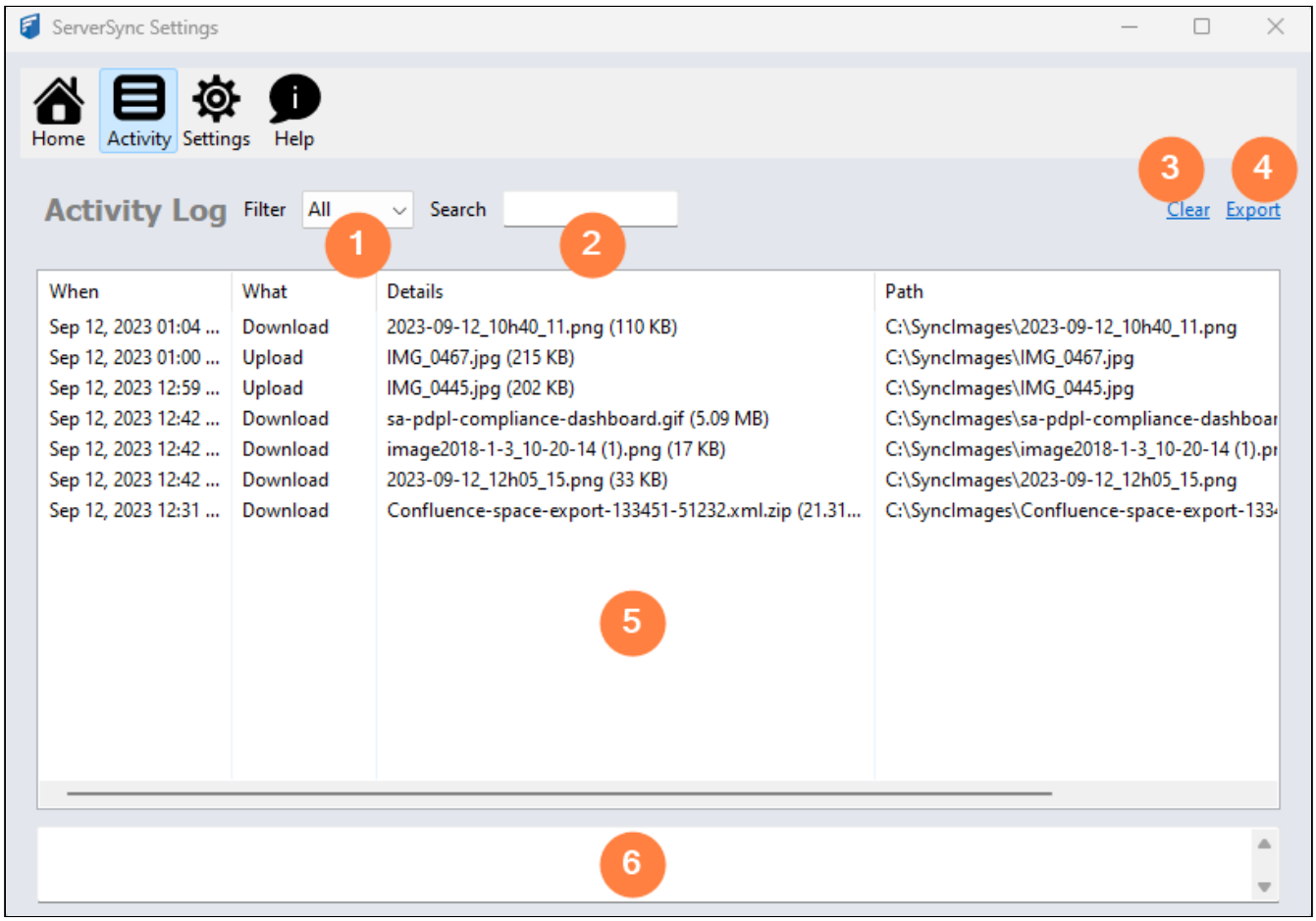


	Option	Notes
1	Sync Status	Indicates the current sync status as one of the following: **ON** - if syncing is enabled **DISABLED** - Syncing is paused or turned off

	Option	Notes
2	Pause	Allows you to completely disable synchronization temporarily. • Disables the **Sync Now** button. • Displays: **WARNING: Sync is disabled, nothing will be synced** • The text on the button changes from **Pause** to **Start**. Sync will be re-enabled when you click **Start** or when the computer is restarted.
3	Sync Now	Allows you to manually start an immediate synchronization • The Recent Log will show **Manual Sync Queued...**
4	Open Website	Opens a web browser to the User Portal for the associated FileCloud Server Read more about Logging In to the User Portal
5	File Browser	Opens the File Browser application to view the files for the associated FileCloud Server Read more about Managing Files in the File Browser
6	Sync Permissions	Allows you to run a manual permission sync on the folders which have Permission sync enabled • Only folders that are currently configured to be synchronized will get a permission sync • When selecting a folder to sync, you can select the Sync Permissions checkbox to enable this feature Read more about Synchronizing Folders
7	Logged in as *Change*	Shows the user account that is currently logged in. • Displays the associated profile picture • Also displays the user's available storage quota and how much is currently being used Clicking *Change* allows you to log in with a different account.
8	Server Folders *Select*	Displays the number of folders you have configured to sync Clicking *Select* allows you to specify which folders get synchronized locally
9	MB, files	Displays the storage space used to sync all specified files locally, followed by the number of files synchronized

	Option	Notes
10	Recent Errors *View*	Allows you to view and clear recent syncing errors. Useful for troubleshooting ServerSync problems. Changes the selected tab from the Home screen to the Activity screen. • This is useful for seeing all of the log entries, filter for errors, and get more details.
11	Server Folders	Shows Syncing status for all managed folders, including My Files / Team / Shared Folders
12	Recent Log	Shows recent sync logs That this log will clear and refresh automatically when it runs out of space
13	Clear	Removes all entries from the recent log display, the Activity log display, and the local log file

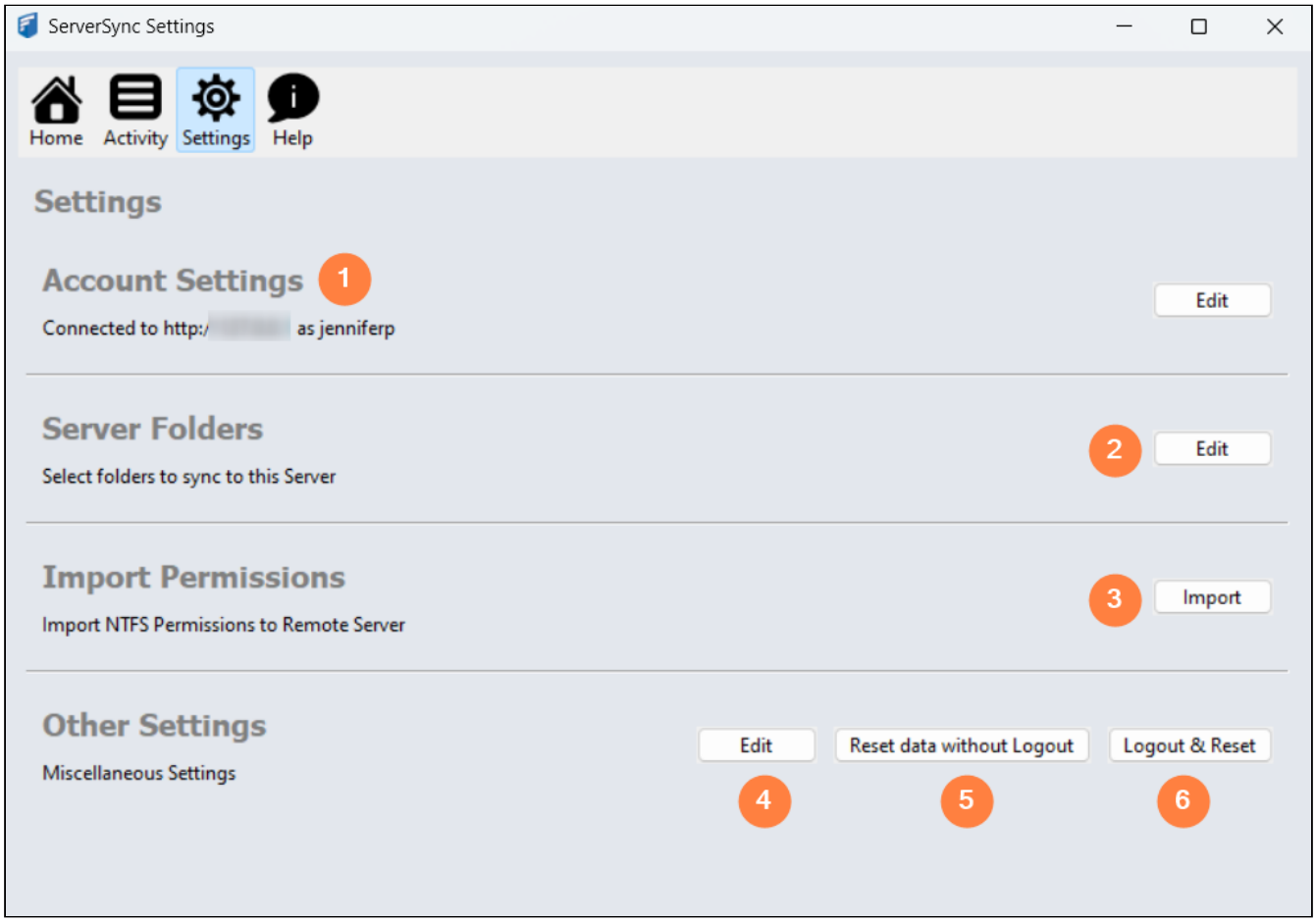
Activity Screen Settings



	Option	Notes
1	Filter	Allows you to change the display by selecting one of the following options: • *Errors* • *Skipped* • *All* After making a selection, the display is updated to show only details of a log entry that have a value in the What column of *Errors* or *Skipped*. To clear the filter, select *All*.

	Option	Notes
2	Search	Allows you to change the display by specifying a string of characters or numbers that may occur in any column of the log entry. To search: 1. Type in a string of characters or numbers. 2. Press Enter. 3. To clear the search results, delete the search parameter(s) and then press Enter. For example, to search for: • A date, type in a string using the format YYYY-MM-DD • A time, type in a string using the 24-hour format of HH:MM:SS • An action, type in a string that would appear in the What column (Download, Error, Skipped) • A string of characters or numbers in the file name • A folder name or location • A user name After making a selection, the display is updated to show only details of a log entry that have a value in the What column of *Errors* or *Skipped*.
3	Clear	Removes all entries from the recent log display, the Activity log display, and the local log file.
4	Export	Opens a Save dialog so that you can choose the location and name of the file that will contain everything displayed in the Log Entries display.
5	Log Entries	Displays information about what actions ServerSync has taken. The information includes: • When • What • Details • Path • Who
6	More Details	Display all the information about the row in the Log Entries display that you have clicked on.

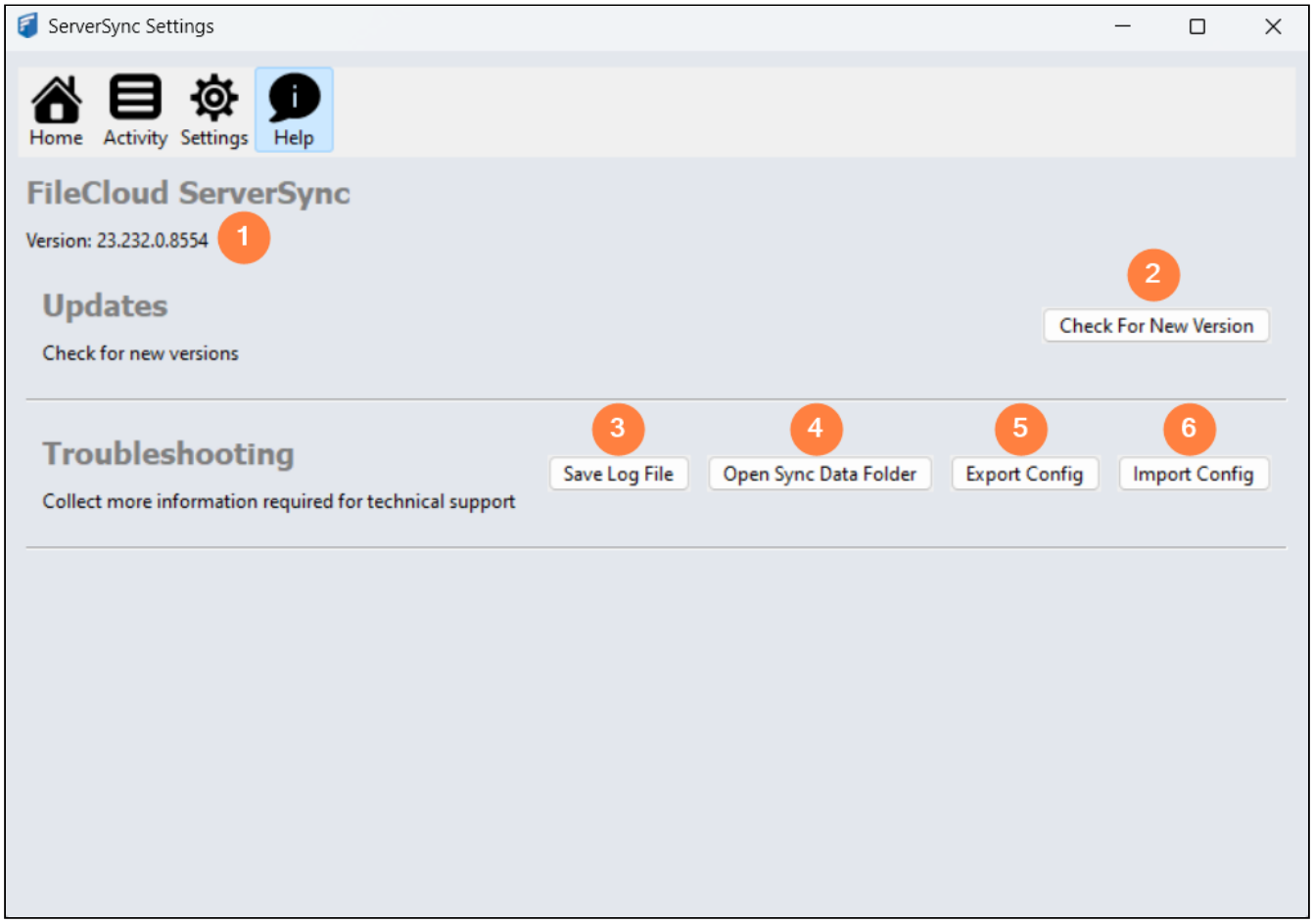
Settings Screen Options



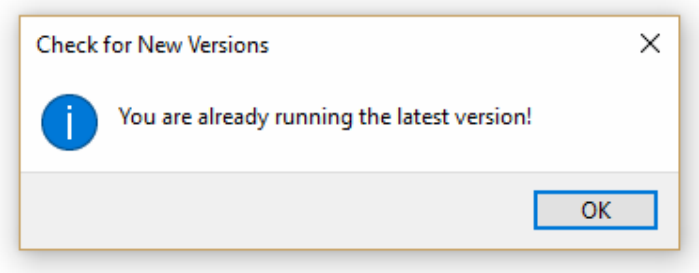
	Option	Notes
1	Account Settings *Edit*	Displays the address of the FileCloud Server you are syncing with, and the user account whose permissions are being applied to the ServerSync operations. Clicking Edit opens the Log In screen so that you can enter new or updated server and account connection information.
2	Server Folders *Edit*	Opens a Settings dialog window so you can choose what folders to sync. This tabbed Settings window also contains a tab for Advanced settings. ➡ Read more about how to Synchronize Folders

	Option	Notes
3	Import Permissions *Import*	Opens an Import Permissions window so that you can import NTFS permissions on the folders which have Permission sync enabled. • Only folders that are currently configured to be synchronized will get a permission sync • When initially selecting a folder to sync, you can select the Sync Permissions checkbox to enable this feature Read more about Synchronizing Folders
4	Other Settings *Edit*	Opens a Settings dialog window so you can set Advanced settings, such as: • Using an HTTP Proxy Server • Enabling Active Sync Hours • Set the Sync Frequency • Disable Notifications • Allow Remote Management • Controlling bandwidth use This tabbed Settings window also contains a tab for Folder settings.
5	Other Settings *Reset data without Logout*	Clears the synchronization state information in ServerSync, resets all the internal configuration data, but does not log you out of ServerSync. • This forces the sync state to be re-created again from the server. • No files in the ServerSync folder are deleted or affected. • If the file already exists locally it will not be re-downloaded.
6	Other Settings *Logout & Reset*	Clears the synchronization state information in ServerSync, resets all the internal configuration data, and logs you out of ServerSync. • This forces the sync state to be re-created again from the server. • No files in the ServerSync folder are deleted or affected. • If the file already exists locally it will not be re-downloaded. After clicking this, you will be shown the Log In window so that you can log in again.

Help Screen Settings



	Option	Notes
1	Version	Displays the version you are running to check for compatibility when troubleshooting.

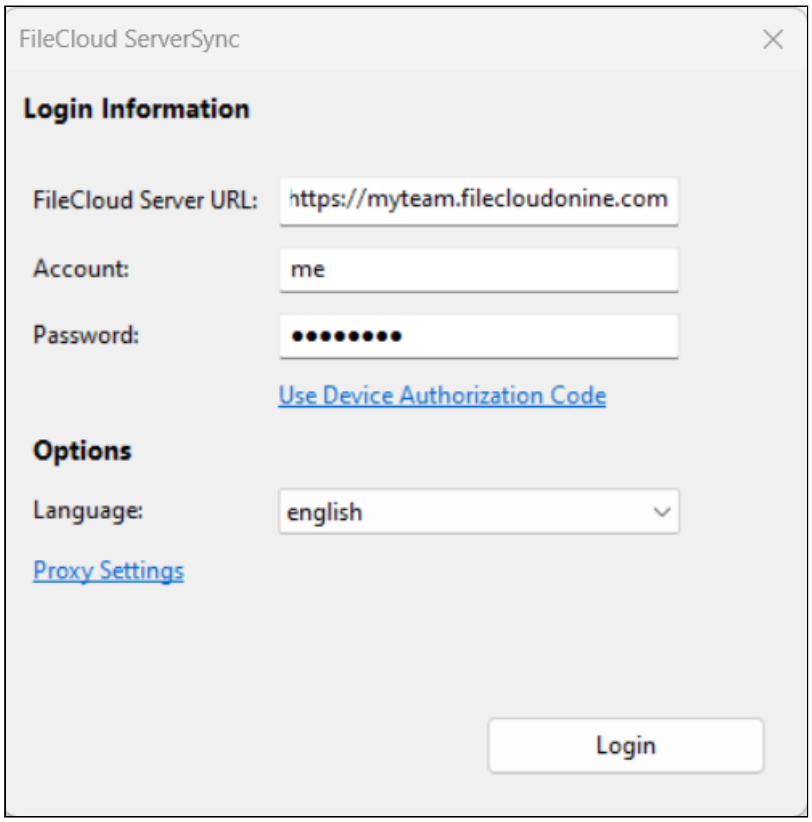
	Option	Notes
2	Updates *Check For New Version*	Displays tasks related to the version you are running and updates available. Runs a process to check your version against that latest available from CodeLathe. 
3	Save Log File	Opens a Windows dialog that allows you to choose the folder where you want to save the log file. • By default, log file names use the following format: Exported_synclient_2019-01-31-09-10-39 • This file may be required by support service when troubleshooting issues • This is useful to do before clearing a display of log entries
4	Open Sync Data Folder	Opens a Windows dialog that allows you to browse and manage files that are being synced
5	Export Config	Opens a Windows dialog that allows you to choose the folder where you want to save the configuration file. • The configuration file contains the XML code with your current ServerSync settings • By default, the file is named using the following format: fssyncconfig.xml. You can change this name to wherever you want, but the extension must remain XML • By default, the file is saved to the local folder you use for synchronization. You can change this location to wherever you want. • Support Services may request that you export your configuration in order to help you troubleshoot issues • Client Device configuration settings can be configured remotely by administrators by specifying the configuration XML that is exported in this file
6	Import Config	Opens a Windows dialog that allows you to choose the new XML configuration file. • Support Services may request that you export your configuration in order to help you troubleshoot issues • Administrators can use one configuration settings file and copy it to many sync applications to create identical configurations across a deployment

Connect to a FileCloud Server in ServerSync

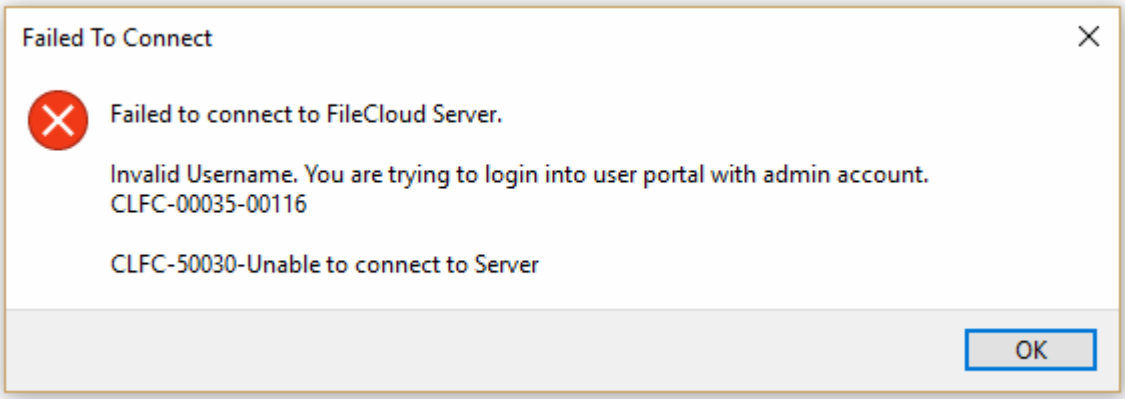
ServerSync captures changes in a local Windows File Server and synchronizes them to a remote FileCloud Server or FileCloud Online site.

In order to complete the seamless synchronization, ServerSync must be able to log in to a remote FileCloud site using the following credentials:

- FileCloud site URL
- FileCloud user account name that has access to the User Portal
- Account password for the user account specified
- (Optional) Device authentication code



If you try to use the administrator account, then you will see an error similar to the following:



Admin accounts are not used for the following reasons:

- Administrator accounts are used to install, configure and manage the system. They are not used to own files or folder that are being shared
- The Admin account does not have access to the FileCloud User Portal, which is designed exclusively for the sharing of files, and not for configuring the FileCloud site

⚠️ You can also sync file permissions. For that, you must log in with the user account that is the original owner of the files. Otherwise, folder-level permission synchronization will not work.

These account settings can be accessed in the following ways:

- The Home screen, in the *Logged In As* section by clicking *Change*
- The *Settings* screen, in the *Account Settings* section, by clicking *Edit*

💡 It does not matter which screen you use to access the settings. They both function in the same way.

To change your account settings:

1. From the system icon tray, right-click the ServerSync icon, and then select *Settings*.
2. On the *Settings* screen, in the *Account Settings* section, click *Edit.*
3. In *FileCloud Server URL*, type in the website address.
4. In *Account*, type in the name of the account that owns the files you want to sync.
5. In *Password*, type in the string of characters used for the associated account.
6. Click *Login*.

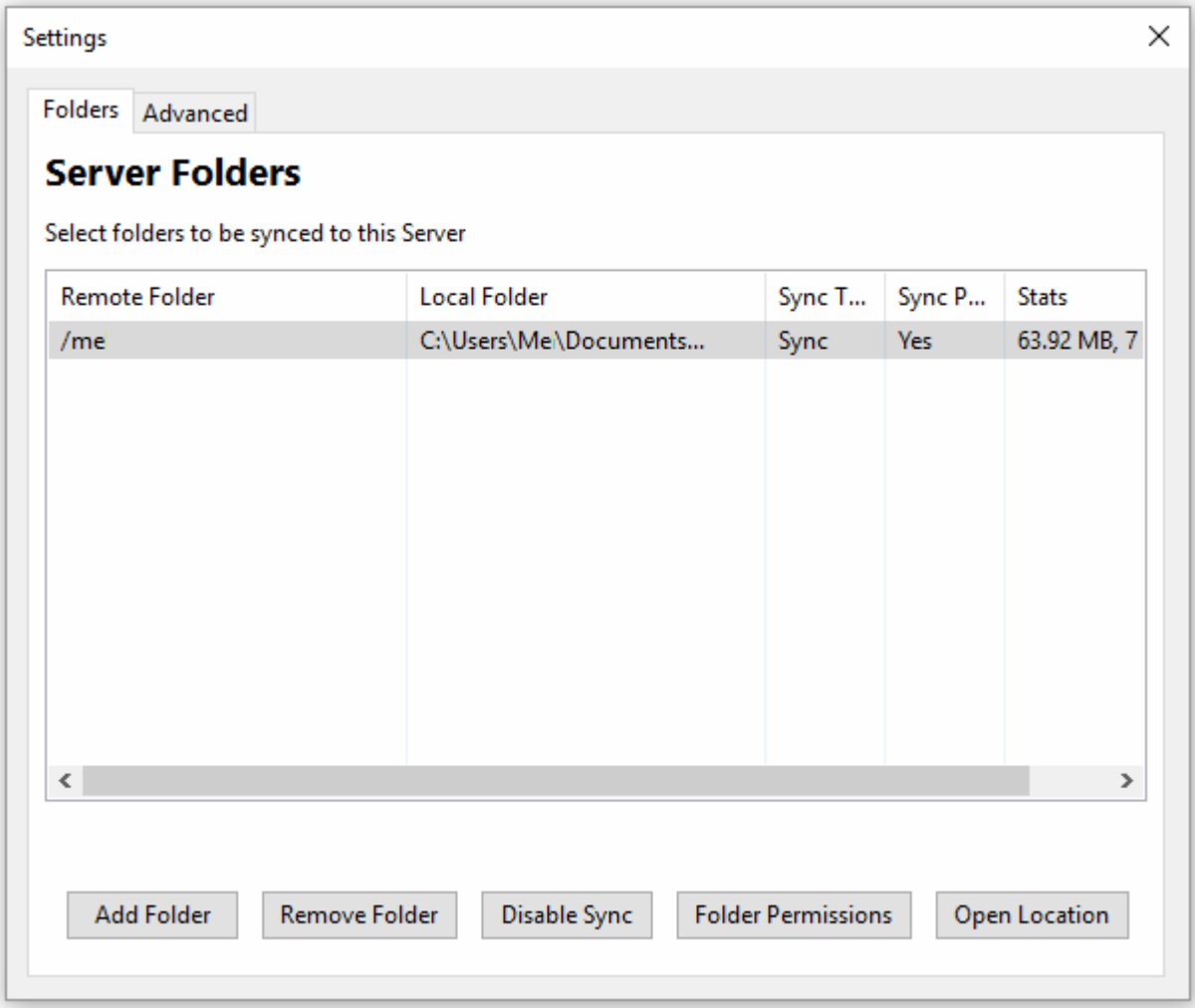
Selecting Folders to Sync

ⓘ The ability to temporary disable syncing a folder without removing it from the list is available in FileCloud Server 19.1 and later.

When you select a folder on the FileCloud server to be synchronized, a local copy is placed in the location you choose.

When ServerSync runs:

- Changes in local copies can be uploaded to the server, replacing the version on the server for others to see your changes.
- Changes in server copies can be downloaded to your local file, replacing the local version with the one on the server so that you can see other people's changes.
- You can add any number of folders for synchronization by repeating the Add a Folder process.
- Note that synchronization occurs one by one and not in parallel. So if you have a large number of folders setup, a synchronization cycle might take some time.



NEW One Way Sync Added in FileCloud Server version 19.1 and later:
When a new folder is being added to the sync list, users can now choose a Remote to Local type of synchronization.

- This means that any changes made in the local folder are not uploaded to the server.

- If the same file is modified on both the server and locally, there will be no conflict file created. Instead, the local file will be overwritten with the server version of the file.
- If the file is deleted locally, it will be copied back from the server.

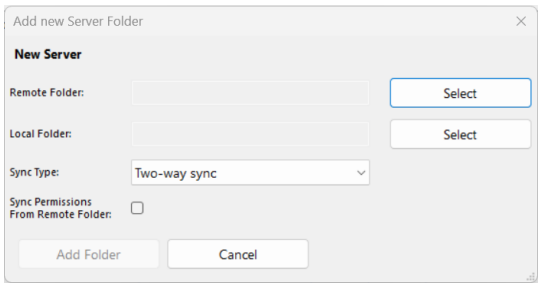
This feature is available only for new folders that are added.

- If you want to change the Sync type for existing folders, users have to delete the folder from the list and then add them back with the sync type required.

Administrators can also configure the sync type using RMC (Centralized Device Configuration).

To manage folder settings:

1. From the system icon tray, right-click the ServerSync icon, and then select *Settings*.
2. On the *Settings* screen, in the *Server Folders* section, click *Edit.*
3. On the *Settings* screen, on the Folders tab, you can do any of the following actions:

<table>
<tr><th>Option</th><th>Description</th></tr>
<tr><td>Add Folder
 
</td><td>Opens a dialog box called Add new Server Folder.
• Remote Folder - Allows you to choose folders on FileCloud.
• Local Folder - Allows you to choose where you want the local copies saved
• Sync Type - Allows you to choose two-way or one-way sync.

⚠ When server changes are downloaded to a local folder, the local folder modified date is changed to the current date, but the server folder keeps its original modified date. This is due to operating system constraints.

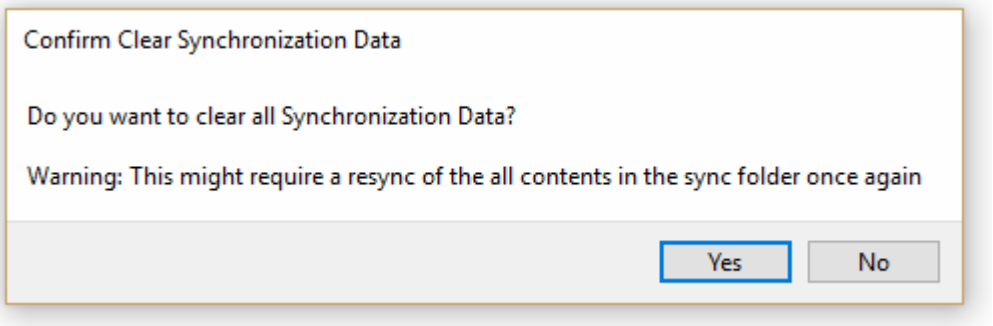
<table>
<tr><th>Sync Type</th><th>Description</th><th>Overwriting Files</th></tr>
<tr><td>Two-way sync</td><td>Allows changes to be synchronized in both directions</td><td>Local changes can be uploaded to the server
Server changes downloaded to the local folder
⚠ When there are conflicts, you will be asked to choose which version you want to keep.</td></tr>
<tr><td>One-way sync (Remote to Local)</td><td>Only changes from the server are synchronized down to the local folder</td><td>Server changes downloaded to the local folder
⚠ Any changes to local copies are lost when they are overwritten by the server copies.</td></tr>
</table>
• Sync Permissions From Remote Folder - Allows you to specify whether you want to sync file permissions as well. This allows the administrator to manage permissions centrally using FileCloud and make them apply even on synchronized local folders.</td></tr>
</table>

Option	Description
	To add a folder: 1. In **Remote Folder**, click **Select**. 2. In the file explorer window, all managed files for the server you are connected to are listed. Choose the one you want to sync, and then click **Select**. 3. In **Local Folder**, click **Select**. 4. In the file explorer window, choose from the directories on this local computer where you have enough space to store the server copies, and then click **Select Folder**. 5. In Remote to Local, to allow changes to be synchronized in both directions, choose Sync.
Remove Folder	After selecting a folder, allows you to permanently stop synchronizing a folder with FileCloud server. ⚠️ The folder and its contents are not removed from the local machine, in case you want to sync this folder again later. To temporarily stop synchronizing a folder, use the Disable option.
Disable Sync	Allows you to disable synchronization of folders temporarily. • One or more folders can be disabled, instead of being completely removed. • Folders can be enabled again for synchronization by selecting the folder and clicking the "Enable Sync" button. • If all folders are disabled, then **WARNING: No Server Folders selected for Sync** is displayed on the Home screen.
Folder Permissions	First, you must select a folder. Clicking **Folder Permissions** opens a new window to view and manage folder permissions. • If you have not imported permissions, then this window will not have any data to display.
Open Location	Opens a Windows File Explorer window showing the location of the folder you have chosen to keep local copies. • This folder is set when you add a folder and choose a local folder.

Reset ServerSync

Sometimes, you might want to clear the synchronization state information in ServerSync.

- This processes resets all the internal configuration data.
- This forces ServerSync to recreate the sync state again from the server.
- Note that no files in the sync folder are deleted or affected. That means that if the file already exists locally it will not be downloaded again on reset.



To reset ServerSync:

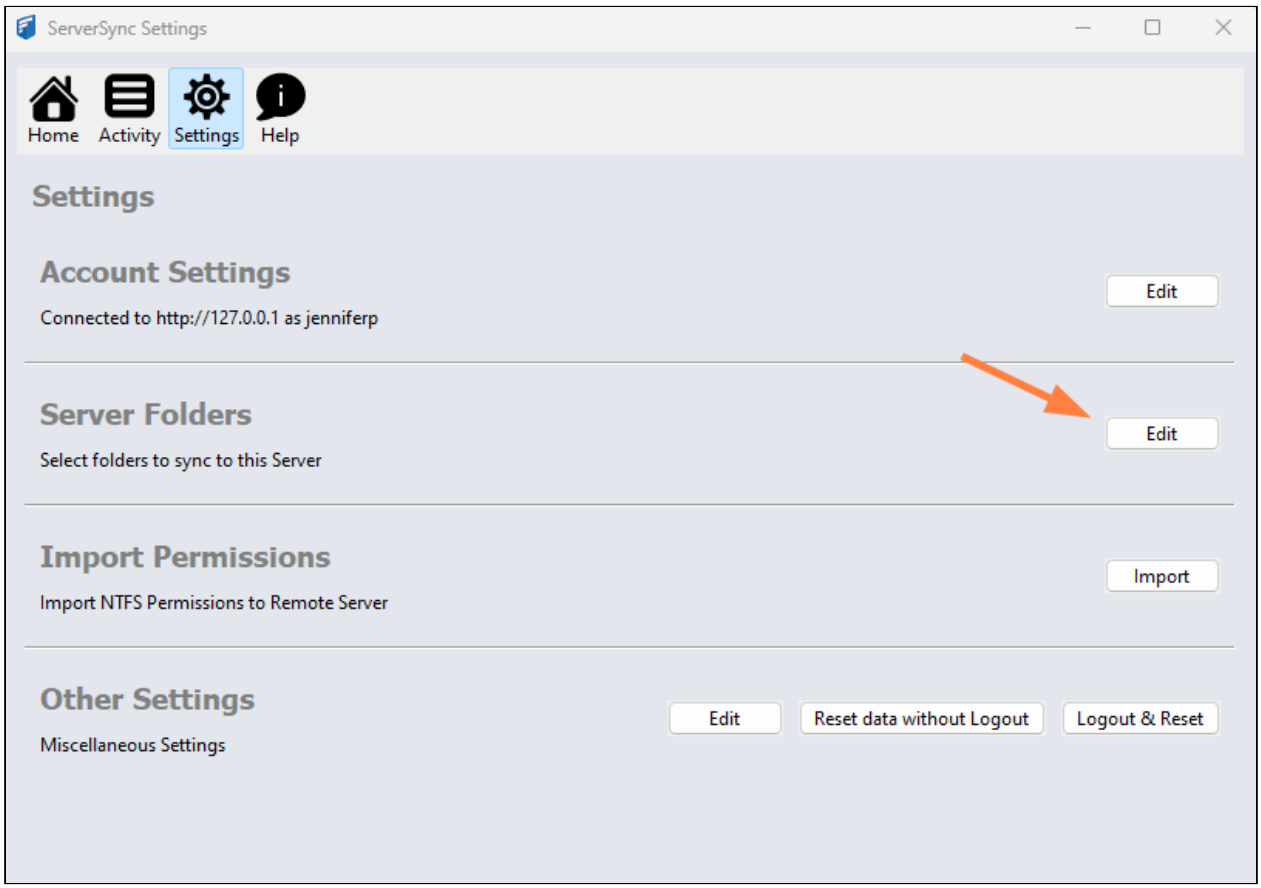
1. From the system icon tray, right-click the ServerSync icon, and then select **Settings**.
2. On the **Settings** screen, in the **Other Settings** section, click **Logout &Reset**.
3. On the **Confirmation** dialog box, click **Yes**.
4. When logout and reset is finished, you will have to log in again.
5. On the **Login** screen, in **FileCloud Server URL**, type in the website address.
6. In **Account**, type in the name of the account that owns the files you want to sync.
7. In **Password**, type in the string of characters used for the associated account.
8. Click **Login**.

Control ServerSync Bandwidth Use

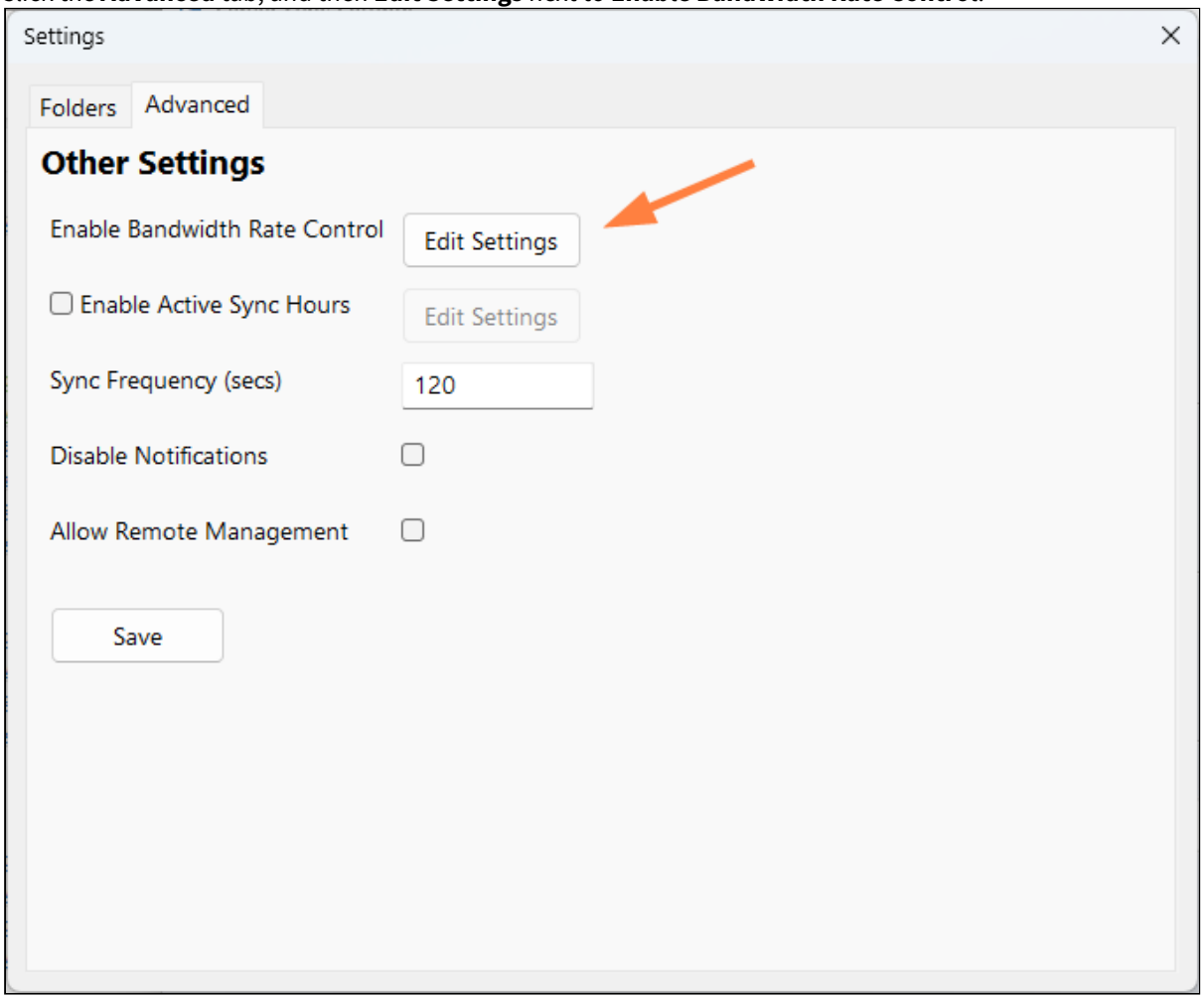
If you're looking to improve network performance or closely manage the amount of data flowing into and out of your server, you can use control the amount of bandwidth that ServerSync is permitted to use.

1. Open ServerSync and click the **Settings** button.

2. Click the **Edit** button for **Server Folders**.

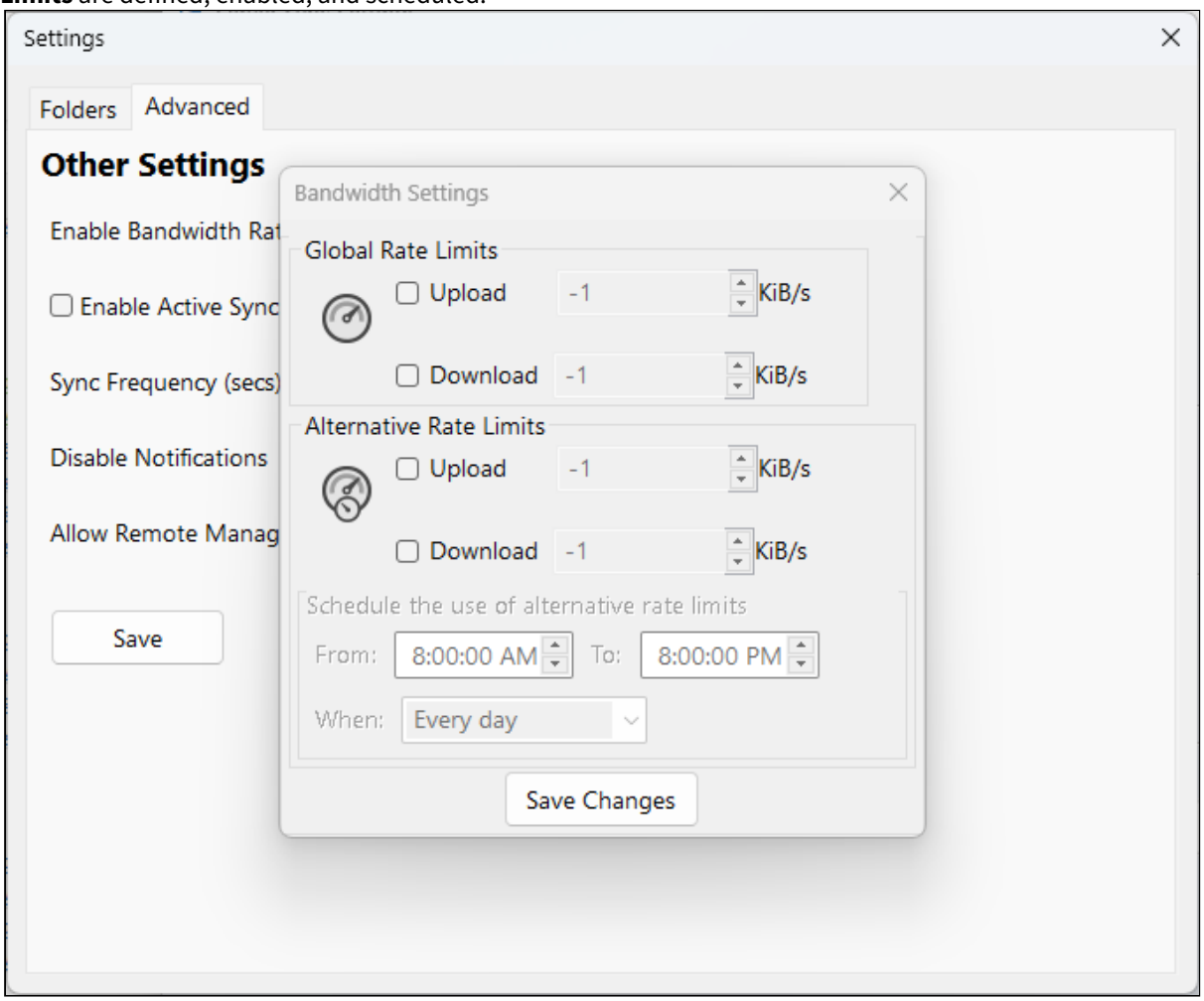


3. Click the **Advanced** tab, and then **Edit Settings** next to **Enable Bandwidth Rate Control**.

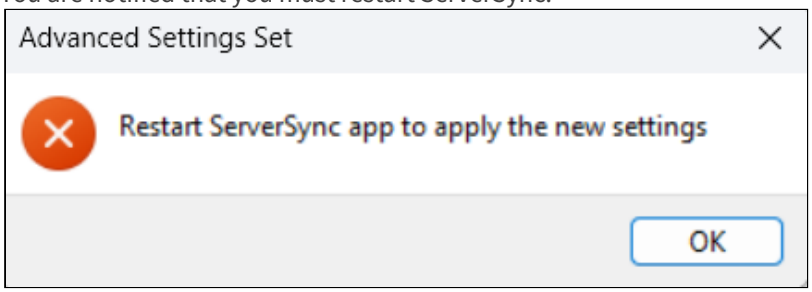


4. Enable the limits you would like to enforce for upload or download, input your settings.
Global Rate Limits are the default controls for bandwidth use and will be enforced unless **Alternative Rate**

Limits are defined, enabled, and scheduled.



5. Click **Save Changes**.
6. Click **Save**.
   You are notified that you must restart ServerSync:



7. Click **OK** and restart ServerSync.

Limit ServerSync to a Schedule

ⓘ The ability to limit the time when ServerSync is active is available in FileCloud version 19.1 and later.

You can set a schedule for the times when you want ServerSync to run.

Why Would I Want to Set a Schedule?

- If you are running the FileCloud Sync app on a busy network, you may want ServerSync to run at the least busiest times
- If you just want to save your changes to the FileCloud Server at the end of each day

You can only set one time when ServerSync will run for every day you select. The default time is from 8:00:00 AM To 8:00:00 PM.

For example:

- If you choose Sunday and Tuesday for days of the week
- If you schedule the hours from 8:00:00 AM To 10:00:00 AM
- Then ServerSync will be active only on Sundays and Tuesdays and only during the hours between 8 AM and 10 AM. It will remain disabled on other days and times.

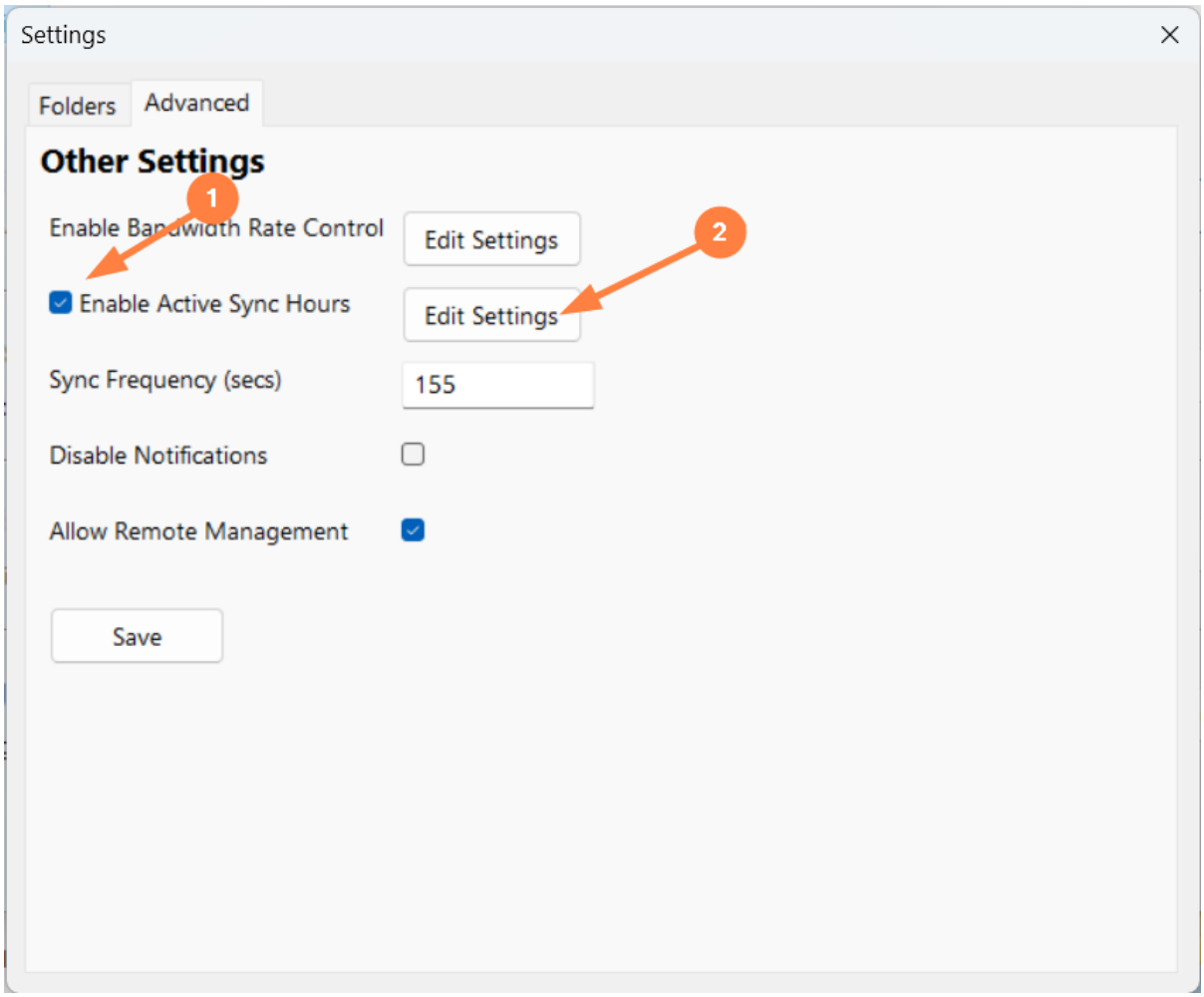
The settings you use impact the Sync application in the following ways:

Setting	Value	Impact	Notes
Time Active Controls	enabled	ServerSync will be active ONLY during the schedule times • At all other times ServerSync remains disabled, which means real-time syncing and offline folders syncing will be disabled. • The Pause button on the Home screen is disabled	To use the Start or Pause buttons again: • Disable Time Active Controls
Time Active Controls	disabled	ServerSync will always be active • The Sync Now button on the Home screen can be used • The Pause button on the Home screen can be used	If Time Active Controls are automatically disabled, you can enable them again by: • Unselecting the Doc editing only mode checkbox • Starts Sync by clicking the "Start" button on Home screen

After you make these changes, you must restart ServerSync for the changes to take effect.

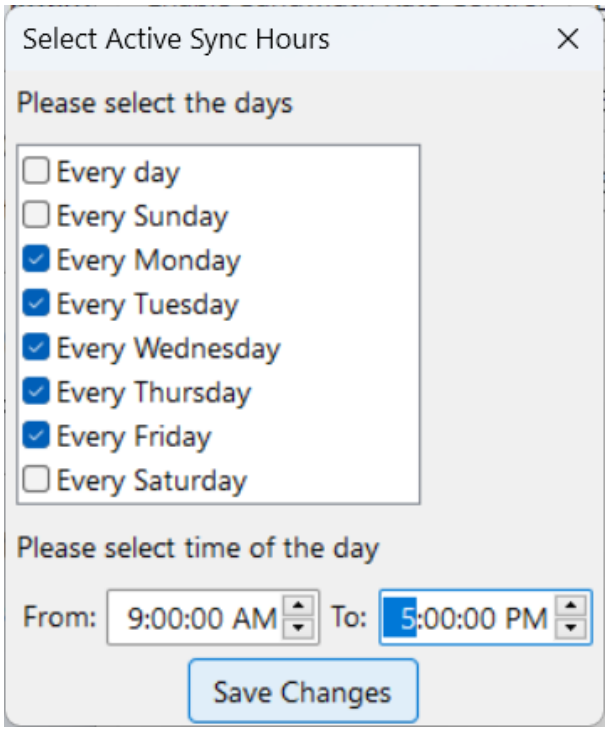
To set a schedule for ServerSync times:

1. In the *System Tray*, right-click on the *ServerSync icon*, and then select *Settings*.
2. On the *Settings* window, in the *Other Settings* section, click *Edit*.
3. Select the *Advanced* tab, in *Other Settings*, select the *Enable Active Sync Hours* checkbox, and then click *Edit Settings*.

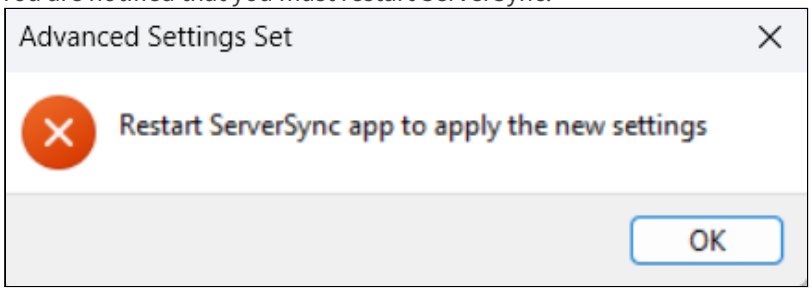


A dialog box for setting active sync hours opens.

4. To set which days you want to run ServerSync, select the appropriate checkboxes.
5. You can only set one time when ServerSync will run for every day you select. Use the *From*, and *To* fields to specify a time.



6. Click *Save Changes*.
7. On the *Settings* window, click **Save**.
   You are notified that you must restart ServerSync:



8. Click **OK**, and restart ServerSync.

Change ServerSync Frequency

You can change the built-in sync frequency from 120 seconds to something faster or slower, depending on your network traffic.

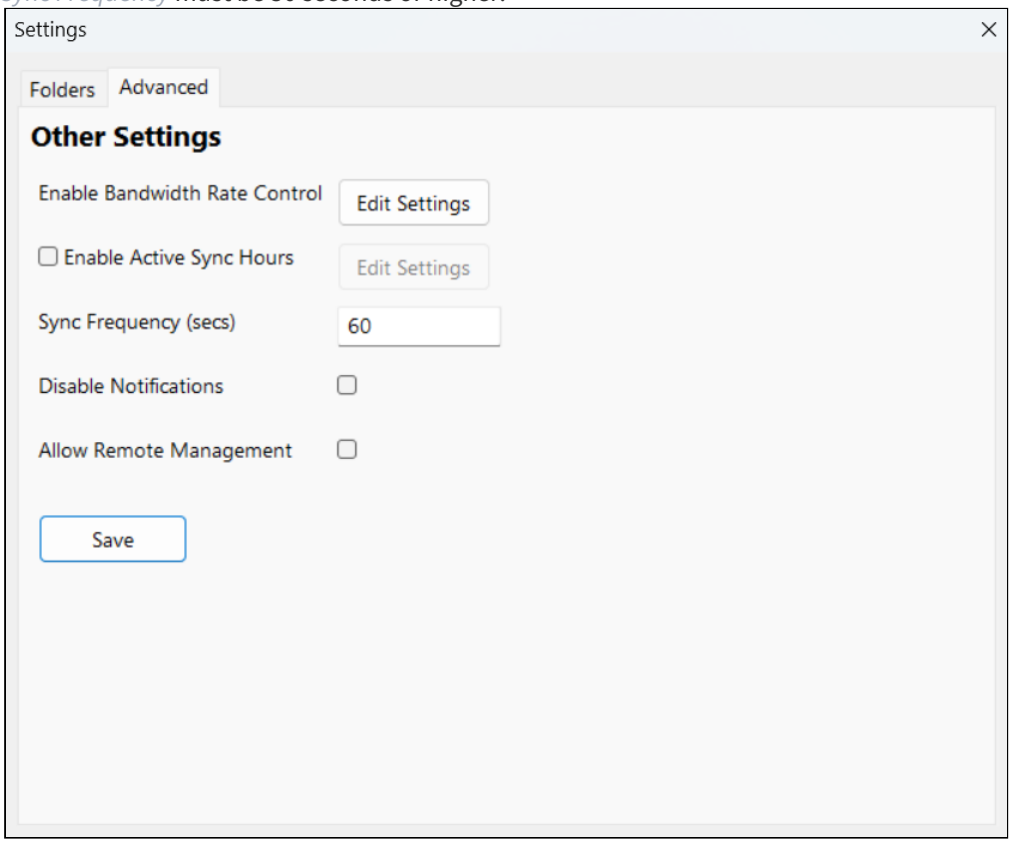
- You cannot set the frequency to anything lower than 30 seconds

⚠ After you make this change, you must restart ServerSync for the changes to take effect.

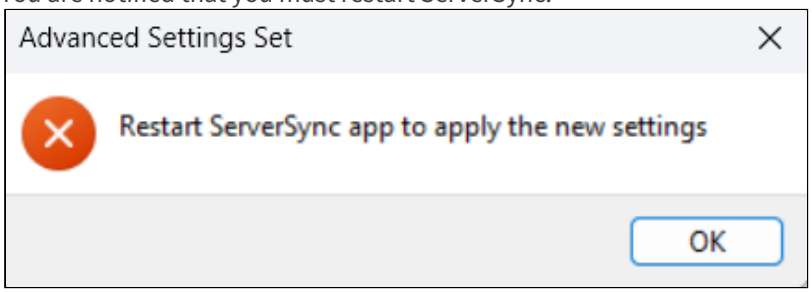
To set a schedule for ServerSync times:

1. In the *System Tray*, right-click on the *ServerSync icon*, and then select *Settings*.

2. On the *Settings* window, in the *Other Settings* section, click *Edit*.
3. Select the *Advanced* tab, and change the number of seconds in *Sync Frequency (secs)*. *Sync Frequency* must be 30 seconds or higher.



4. On the *Settings* window, click **Save**.
You are notified that you must restart ServerSync:



5. Click **OK**, and restart ServerSync.

Disable ServerSync Notifications

If you are receiving too many email messages, you can disable the notifications raised by ServerSync.

Notifications are normally sent for:

- Errors

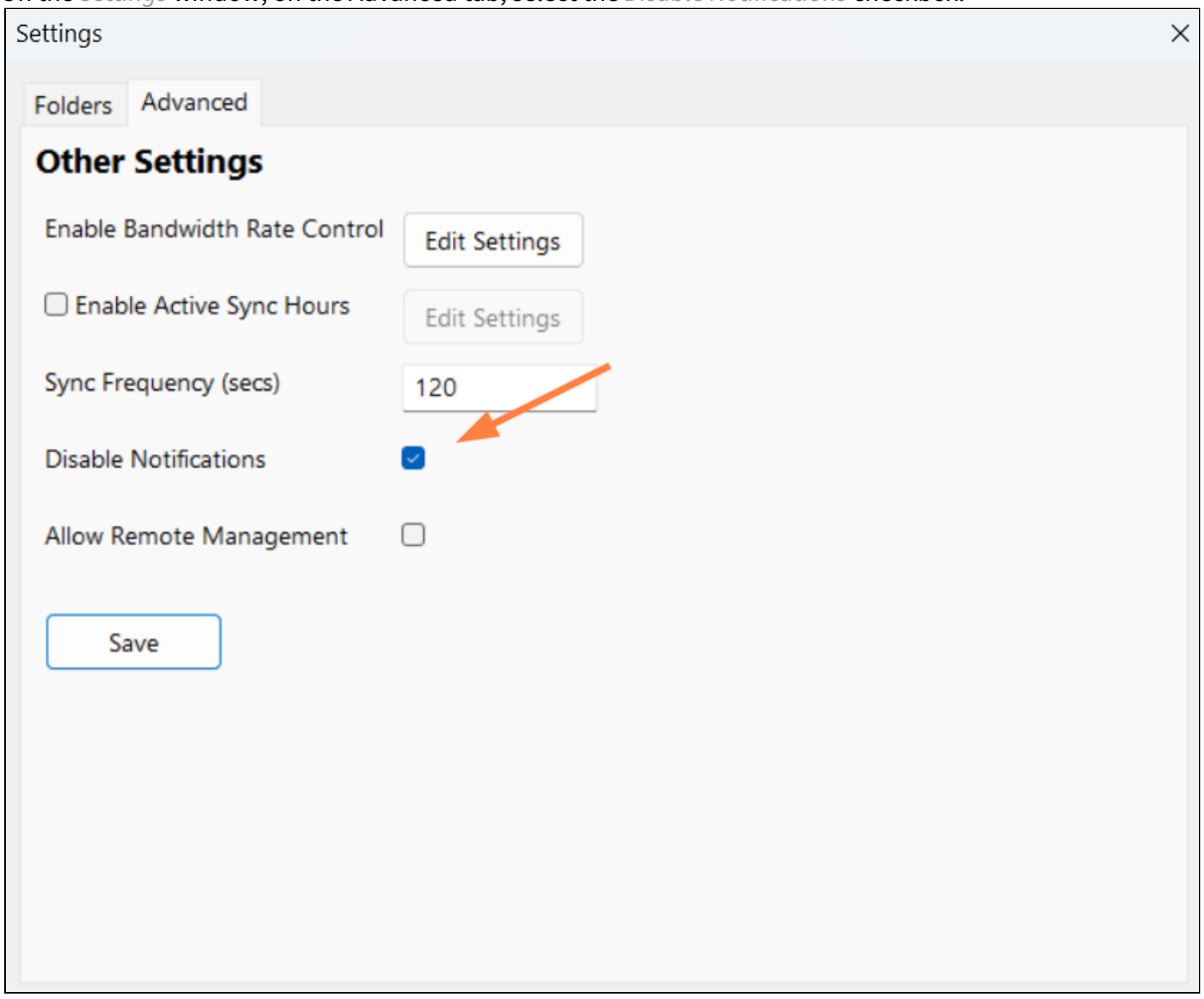
- New files uploaded
- New files downloaded

⚠ After you disable or enable notifications, you must restart ServerSync for the changes to take effect.

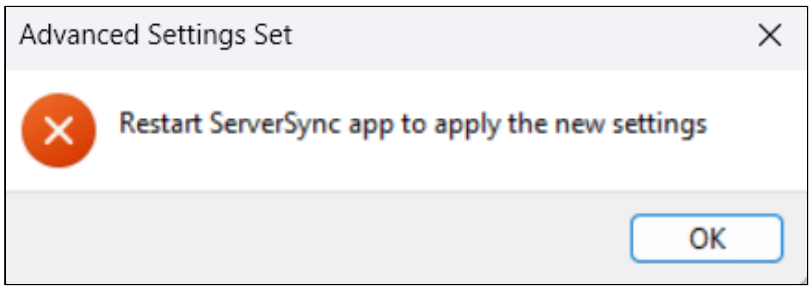
To disable all ServerSync notifications:

⚠ *Clicking the **Disable Notifications** checkbox disables all notifications including sync client errors and version updates. In FileCloud Version 19.3, the ability to disable all notifications except error and version update notifications became available.*

1. In the *System Tray*, right-click on the *ServerSync icon*, and then select *Settings*.
2. On the *Settings* window, in the *Other Settings* section, click *Edit*.
3. On the *Settings* window, on the Advanced tab, select the *Disable Notifications* checkbox.



4. Click *Save*.
   You are prompted to restart ServerSync.



5. Restart ServerSync.

To disable general notifications but allow error and update notifications:

This option became available in FileCloud Version 19.3.

1. Open %APPDATA%/FileCloudServerSync/syncclientconfig.xml
2. Add the following code:

```
<rowentry>
    <name>disablenotifications</name>
    <type>bool</type>
    <value>1</value>
</rowentry>
```

3. Restart ServerSync.

Manage ServerSync Remotely

To allow an administrator to manage the ServerSync configuration remotely, you first need to enable this option.

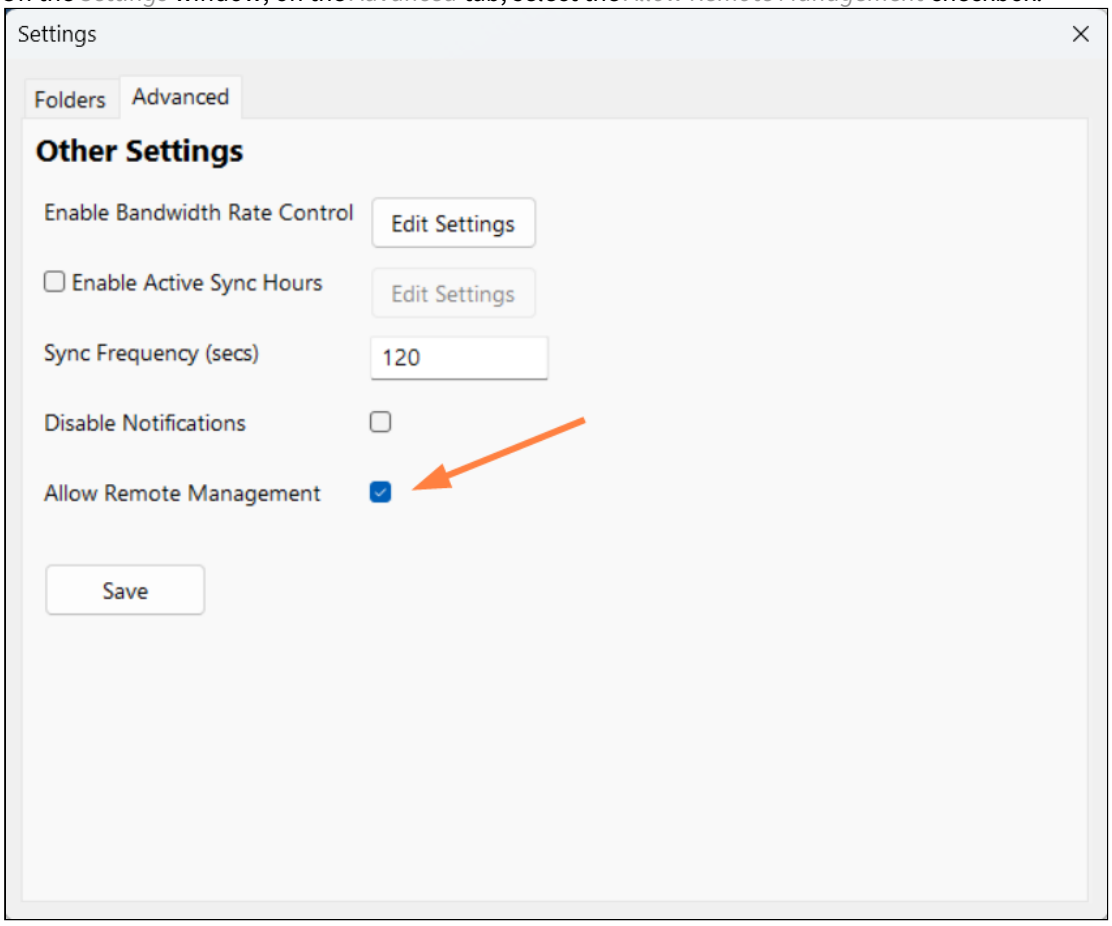
- Enabling this option gives your server administrator potential access to your local data

⚠ After you make this change, you must restart ServerSync for the changes to take effect.

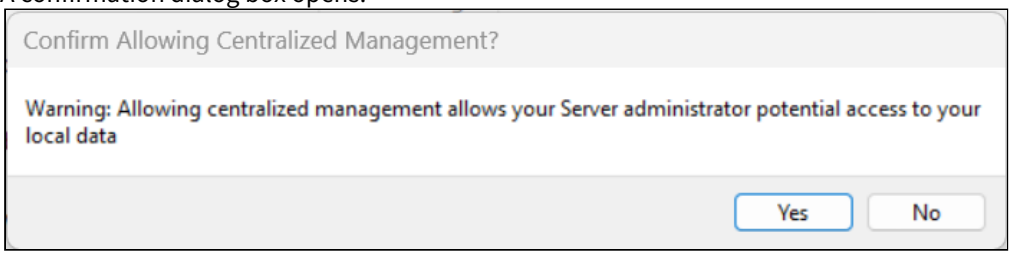
To allow ServerSync to be managed remotely:

1. In the *System Tray*, right-click on the *ServerSync icon*, and then select *Settings*.
2. On the *Settings* window, in the *Other Settings* section, click *Edit*.

3. On the *Settings* window, on the *Advanced* tab, select the *Allow Remote Management* checkbox.

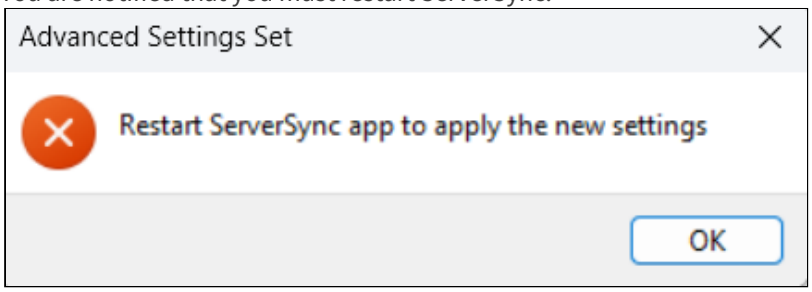


A confirmation dialog box opens:



4. On the confirmation dialog, click *Yes*.
5. Click *Save*.

You are notified that you must restart ServerSync:



6. Click **OK** and restart ServerSync.

Run ServerSync on Windows Startup

You can configure ServerSync to run at Windows start-up by creating a shortcut to the application and making a few Registry changes.

⚠️ These steps are required since ServerSync requires Admin privileges to be run.

To configure ServerSync to start automatically:

1. On the server where ServerSync is installed, create a shortcut to the application, with the following option selected: *Run this program as an administrator*.
2. To make the necessary Registry changes, unzip the following file to any location: StartServerSyncAtStartup.zip.
3. Copy the *StartServerSync.bat* file to the following folder: *C:\Program Files\FileCloudServerSync*
4. Copy the *FSSync* file to the following folder:*C:\Program Files\FileCloudServerSync*
5. To make an entry in Windows Registry, double-click the following file: *StartServerSyncBat.reg*

This registry entry allows the *StartServerSync.bat* file to be run at system start-up.

The batch file in turn executes the ServerSync application with Admin privileges.

On each system startup, ServerSync will now run automatically.

Run ServerSync as a Service

It is recommended that you run ServerSync as a service.

- Synchronization of a local Windows File Server with a FileCloud Server or FileCloud Online (hosted by CodeLathe) is usually unattended and is configured to run automatically
- If a file server is unattended, it can restart without an administrator, and unless ServerSync is a service, it will not start when the server restarts.

ⓘ Configuring ServerSync to run as a service will not allow the 'Quick Edit' to work.

Install ServerSync to Run as a Service

To register ServerSync as a service:

1. Download and install ServerSync as usual.
2. Start it up and enter the URL and credentials as usual.
3. Configure ServerSync to run as needed.
4. Uncheck the Option for *Automatic Startup on Login*.
5. After settings are done, exit out of ServerSync.
6. Open the following file for editing:

```
%APPDATA%\FileCloudServerSync\syncclientconfig.xml
```

7. Make the following changes:

Option	Changes	Notes
syncclientlocation	Change DEFAULT to **absolute** paths.	Make sure it matches the sync client folder that sync has already setup or things won't work.

8. Your code should look similar to the following example:

```
<?xml version="1.0" encoding="UTF-8" ?>
<variantrow>
     <rowentry>
         <name>syncclientlocation</name>
         <type>string</type>
         <value>C:
\Users\Administrator\AppData\Roaming\FileCloudServerSyncData\client</value>
     </rowentry>
</variantrow>
```

9. Save your changes and close the file.

10. Copy the syncclientconfig.xml file you just edited to the following location

```
C:\Program Files\FileCloudServerSync
```

11. To register the ServerSync client as a service, run the following command prompt in Administrator Mode. Note the space after each "=" in each parameter.

```
sc create serversync binpath= "C:\Program
Files\FileCloudServerSync\fssyncservice.exe" displayName= "FileCloud ServerSync
Service"
```

12. Start the sync app normally using the Services Control Panel applet.
13. If the app doesn't startup properly, please check the c:\windows\temp\fsservicestartup.log file.

Stop ServerSync from Running as a Service

If you are troubleshooting or need Quick Edit to work, you can stop ServerSync from running as a service.

To unregister ServerSync as a service:

1. Run the following command prompt in Administrator Mode. Note the space after each "=" in each parameter.

```
sc delete serversync
```

Install ServerSync on Linux

Beginning with FileCloud Version 21.1, ServerSync supports SUSE Linux versions 12 and 15. To use SUSE Linux version 12 with storage application programs such as Dell Unity VSA, enable LAN file sharing.

How to Install FileCloud ServerSync on Linux

1. Download FileCloud ServerSync App from https://www.filecloud.com/additional-downloads/#serversync
2. After successfully downloading the App, extract the zip file fcserversync_linux_amd64.zip.
   To extract files using the terminal, use the following command:-

   ```
   unzip fcserversync_linux_amd64.zip
   ```

   Now, you will have a bunch of files in the extracted location.
3. Give execute permission to fssyncstart.sh and fssync file

   ```
   chmod +x fssyncstart.sh
   chmod +x fssync
   ```

4. For a headless (non-gui) setup, edit the config file under fsserviceconfig.xml, and put the necessary parameters for your configuration. For an installation with gui you can use the ServerSync gui interface to configure the synchronization parameters. A table showing how to format the parameters follows.

   ```
   <?xml version="1.0" encoding="UTF-8" ?>


   <variantrow>
       <rowentry>
           <name>url</name>
           <type>string</type>
           <value>HERE TYPE SERVER URL ADDRESS</value>
       </rowentry>
       <rowentry>
           <name>account</name>
           <type>string</type>
           <value>USER NAME</value>
       </rowentry>
       <rowentry>
           <name>password</name>
           <type>string</type>
           <value>PASSWORD</value>
       </rowentry>
       <rowentry>
           <name>limit_folder_count</name>
           <type>string</type>
           <value>2</value>
   ```

```
    </rowentry>
    <rowentry>
        <name>limit_folder_1</name>
        <type>string</type>
        <value>REMOTE_FOLDER_PATH|HERE_TYPE_LOCAL_FOLDER_PATH|0|0|0</value>
    </rowentry>
        <rowentry>
                <name>limit_folder_2</name>
                <type>string</type>
                <value>REMOTE_FOLDER_PATH|HERE_TYPE_LOCAL_FOLDER_PATH|0|0|0</value>
        </rowentry>


</variantrow>
```

5. Open the terminal, go to the location where the FileCloud ServerSync files were extracted, and then run fssyncstart.sh

```
./fssyncstart.sh
```

Format of parameters in fsserviceconfig.xml

Table 1. The following XML tags are supported for the ServerSync device configuration.

XML Tag	Value	Example
limit_folder_count	Number of folders to sync. If key is not specified, then there are no folders to sync.	<limit_folder_count>0</ limit_folder_count>

XML Tag	Value	Example
limit_folder_1 limit_folder_2 limit_folder_3 ...	Depending upon the number of folders specified in the limit_folder_count, you will need to have the appropriate number of entries. The folder value is specified using 5 parameters using the following format ***<REMOTE FOLDER>|<LOCAL FOLDER>|<PERMISSIONS>|<SYNC TYPE>|<SYNC DISABLED>*** ***<REMOTE FOLDER>*** = E.g.: /john/folder1 ***<LOCAL FOLDER>*** = E.g: C:\data\localfolder ***<PERMISSION>*** = 1 - Allow NTFS permissions to be applied to local folder as per permissions of the folder on the remote Server, 0 - Deny NTFS permissions to be applied ***<SYNC TYPE>*** = 0 (2-way sync) or 1 *(*remote to local sync*).* ***<SYNC DISABLED>*** = 0 (enabled) or 1 (disabled).	<limit_folder_1>/john/folder1|C:\data\local|0|1|0</limit_folder_1>
disablenotifications	0/1 - Enable or Disable sync notifications	<disablenotifications>1</disablenotifications>
syncfrequency	number - Number in seconds to sync to the server (default is 120 seconds)	<syncfrequency>100</syncfrequency>
checkmodtime	0/1 - Advanced: check modification time in addition to size when checking for changes. Default is disabled.	<checkmodtime>1</checkmodtime>
checkcrc	0/1 - Advanced: check CRC in addition to size when checking for changes. Default is disabled.	<checkcrc>1</checkcrc>
deleteapprovalpct	Number from 0 to 100, which indicates what % of files being deleted requires approval. Default is 10. This applies only to file deletions in the local sync folder.	<deleteapprovalpct>20</deleteapprovalpct>

XML Tag	Value	Example
skipdeleteapproval	0/1 - Whether approvals are needed for bulk sync deletions. Default is disabled. When set to 1, approval is required if > 50 files are deleted AND percent of files being deleted is > **deleteapprovalpct**. This applies only to file deletions in the local sync folder.	<skipdeleteapproval>1</skipdeleteapproval>
currentlanguage	Allows changing the current language of the Server sync app	<currentlanguage>dutch</currentlanguage>

What If I'm Using Ubuntu 18.10 or Ubuntu 22.04?

For Ubuntu 18.10, please follow the steps below:

1. Unzip the Linux Sync app package (fcserversync_linux_amd64.zip) to any folder
2. cd to the above folder
3. Give execute permission to fssyncinstall-linux.sh

```
chmod 777 ./fssyninstall-linux.sh
```

4. Open the terminal, go to the location where the FileCloud ServerSync files were extracted and then run

```
apt-get update
./fssyncinstall-linux.sh install
```

5. After these steps, ServerSync app will be shown along with the other desktop apps. Double-click the app to open it.

   If ServerSync shows the message "There appears to be no system tray support in your current environment", then system tray support needs to be enabled by downloading the extensions.

6. To download the necessary extensions, head to the TopIcons Plus extensions page on the official GNOME site. From here, click on "Click here to install browser extension.", then click "Allow" and then "Add".
7. Return to the GNOME extensions page and refresh it. You may see the following message:
   "Although GNOME Shell integration extension is running, native host connector is not detected. Refer documentation for instructions about installing connector."
   If so, click on the "documentation" link in the message. Here, choose your Linux version, and execute the corresponding command in the terminal.
8. Again, return to the GNOME Extensions page and refresh. Click the "Off/On" button to set it to On state. Then, click download and install option.
9. Once all the steps above have completed successfully, the ServerSync app can be started by double-clicking the ServerSync icon in the desktop apps.

Import NTFS Permissions to ServerSync

When you initially import files into a FileCloud site, it is recommended that you also import existing NTFS permissions on files and folders. This allows the administrator to manage permissions centrally in FileCloud and ensures that the permissions are applied on synchronized local folders.

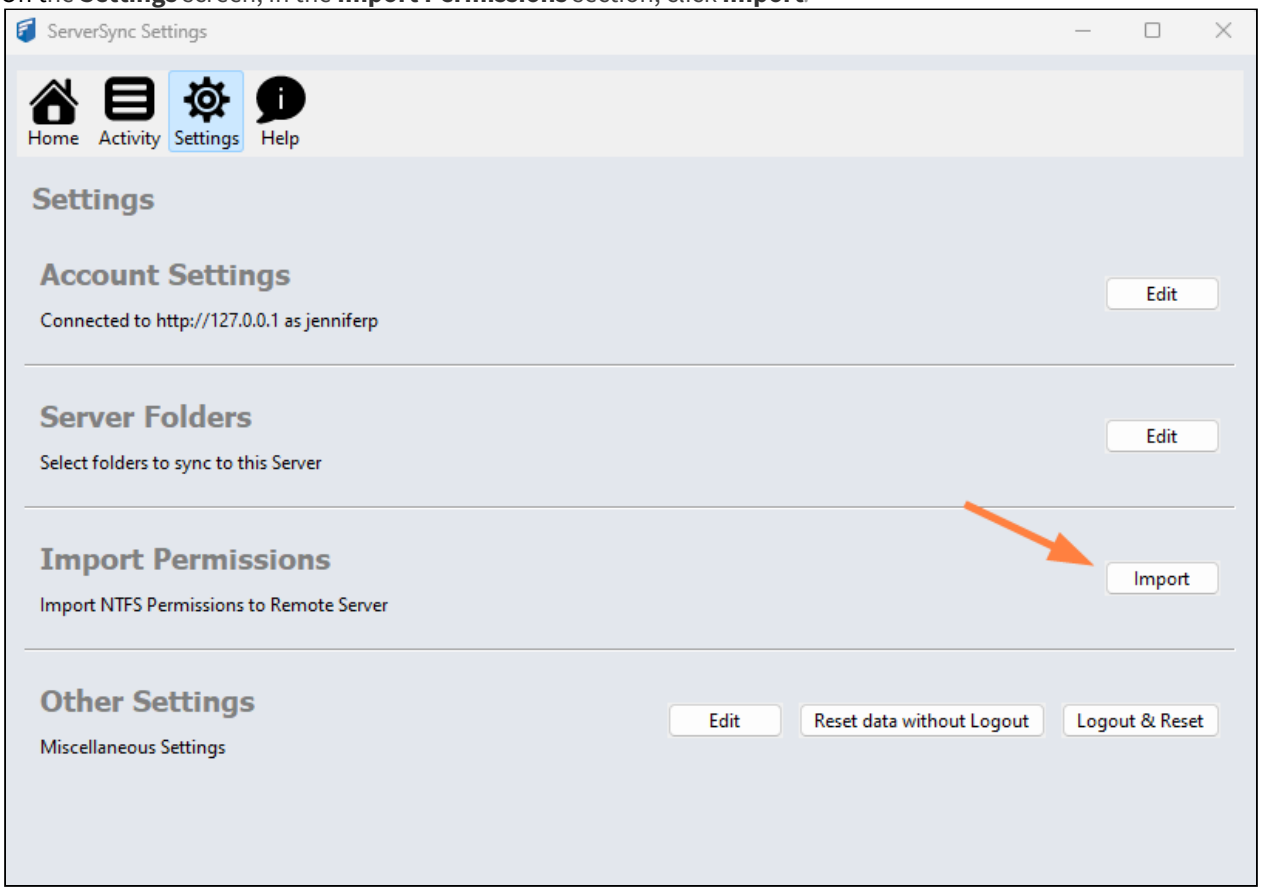
- During permissions sync, the user and group names specified in the NTFS permissions must exactly match the names in the FileCloud site.

Any existing FileCloud folder permissions defined on the server side will be overwritten by the NTFS permissions after import.

Importing NTFS permissions

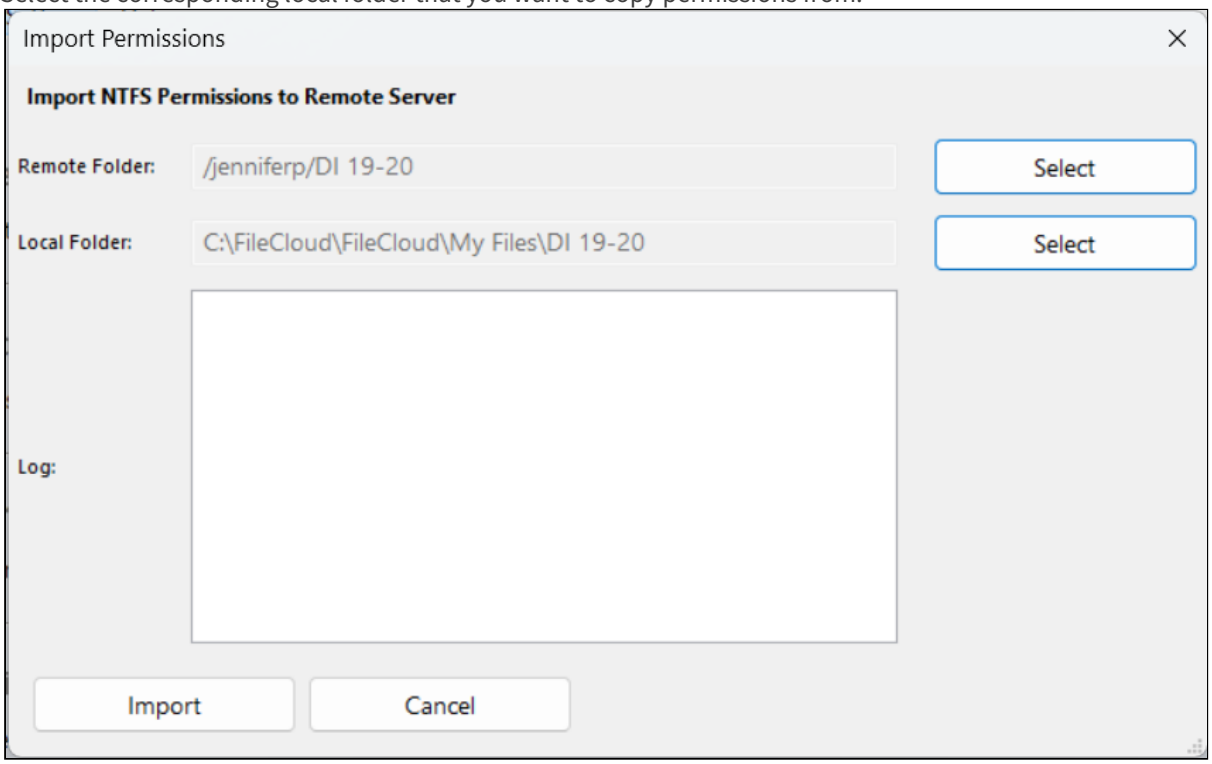
To import permissions:

1. From the system icon tray, right-click the ServerSync icon, and then select **Settings**.
2. On the **Settings** screen, in the **Import Permissions** section, click **Import**.

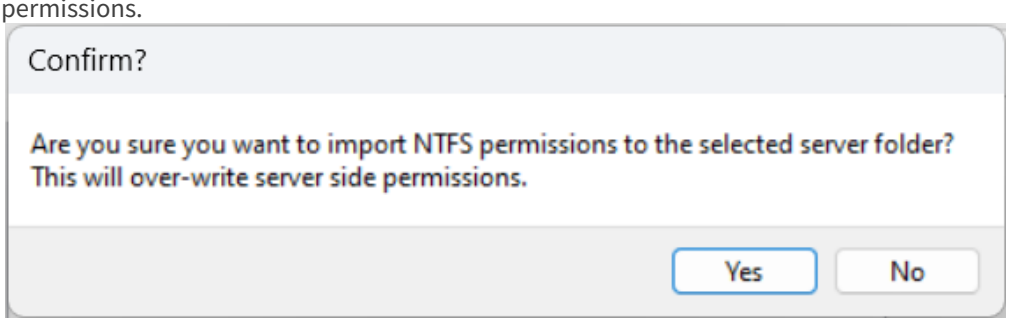


Note: You cannot import permissions from shared folders.

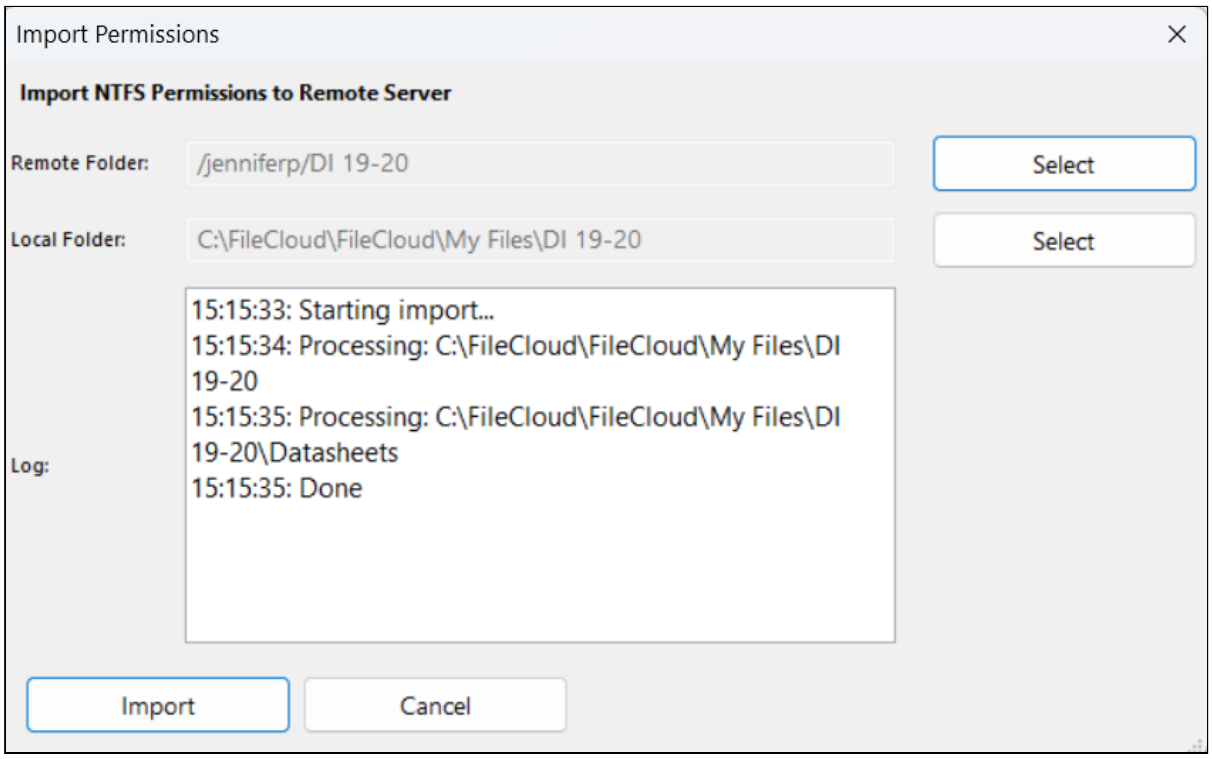
3. In the **Import Permissions** window, click **Select** for **Remote Folder**.
4. Select the remote folder that you want to copy permissions to.
5. Then click **Select** for **Local Folder**.
6. Select the corresponding local folder that you want to copy permissions from.



7. On the **Import Permissions** window, click **Import**.
   A prompt asks you to confirm import and warns you that NTFS permissions will overwrite existing server side permissions.



8. Click **Yes** if it is okay to overwrite the permissions on the server.
   The permissions are imported.



NTFS/FileCloud permission conversions

When a file or folder with NTFS permissions is imported into FileCloud, the NTFS permissions are converted into comparable FileCloud permissions, as shown in the following chart:

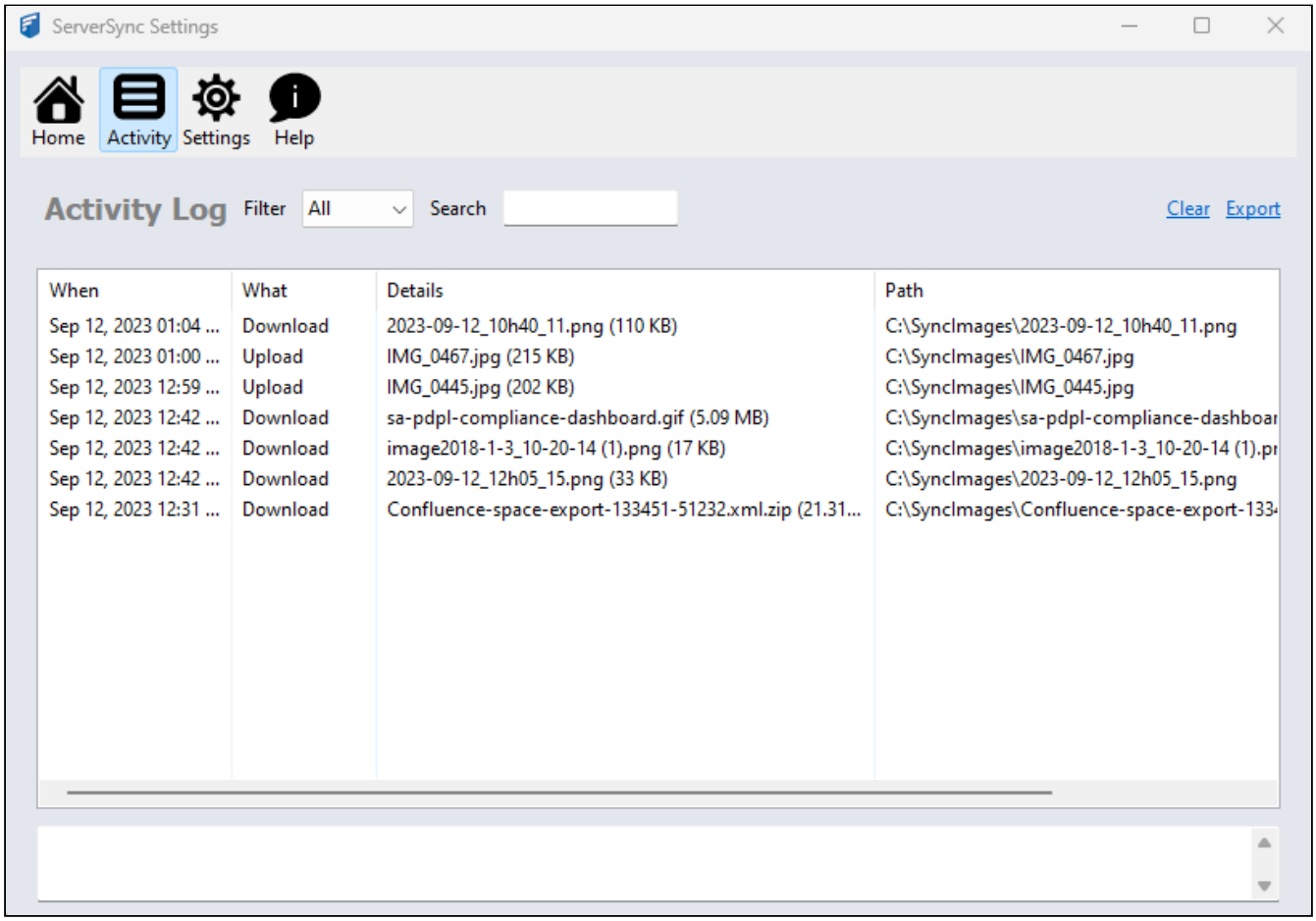
NTFS permission	FileCloud permission
Read/List folder contents/Read & execute	Read
Write	Read + Write
Modify	Read + Write + Delete
Full Control	Read + Write + Delte + Share + Manage

Troubleshoot ServerSync

If you encounter issues while using ServerSync, you can troubleshoot issues using the Sync Activity Log.

- This log shows you all of the actions that ServerSync is trying to complete, and if there were problems.
- You can also resolve file conflicts using the Activity log.

Sync Activity Log



To open the Activity log:

1. From the system tray icons, right-click ServerSync, and then select Settings.
2. On the Home screen, click Activity.

By default, all activities are shown.

You can filter activities.

1. On the Activity screen, in Filter, use the drop-down to select either "Errors" or "Skipped" files.

You can also search activities.

1. On the Activity screen, in Search, type in fragments of the filename or path for which you are searching.

Activity logs can be cleared or exported.

1. On the Activity screen, to the right of the Search field, use the Clear or Export links.

File Conflict Management

If two people change the same file at the same time, FileCloud Sync app won't try to merge the changes.

- Instead, ServerSync will save the original file as well as a second version.
- The second version has the same name but is appended with "Conflict_," the name of the person or computer responsible, and the date and time the conflict occurred.
- By creating a conflicted file, ServerSync ensures that all changes are preserved and no one will overwrite another person's work.

When Does a Conflict Occur?

Conflict can arise under the following conditions:

- When two users save the same file at approximately the same time.

In this case the first person's changes are saved to the server and when the second person's sync app tries to save the file, it realizes there is a new version and will prevent the second person's changes from uploading and overwriting the first person's changes. In this case the first person's file is downloaded instead and saved locally adjacent to the original file with the "Conflict_" appended to it.

- When one user edits a file offline, and during the same time, the file was modified by another user.

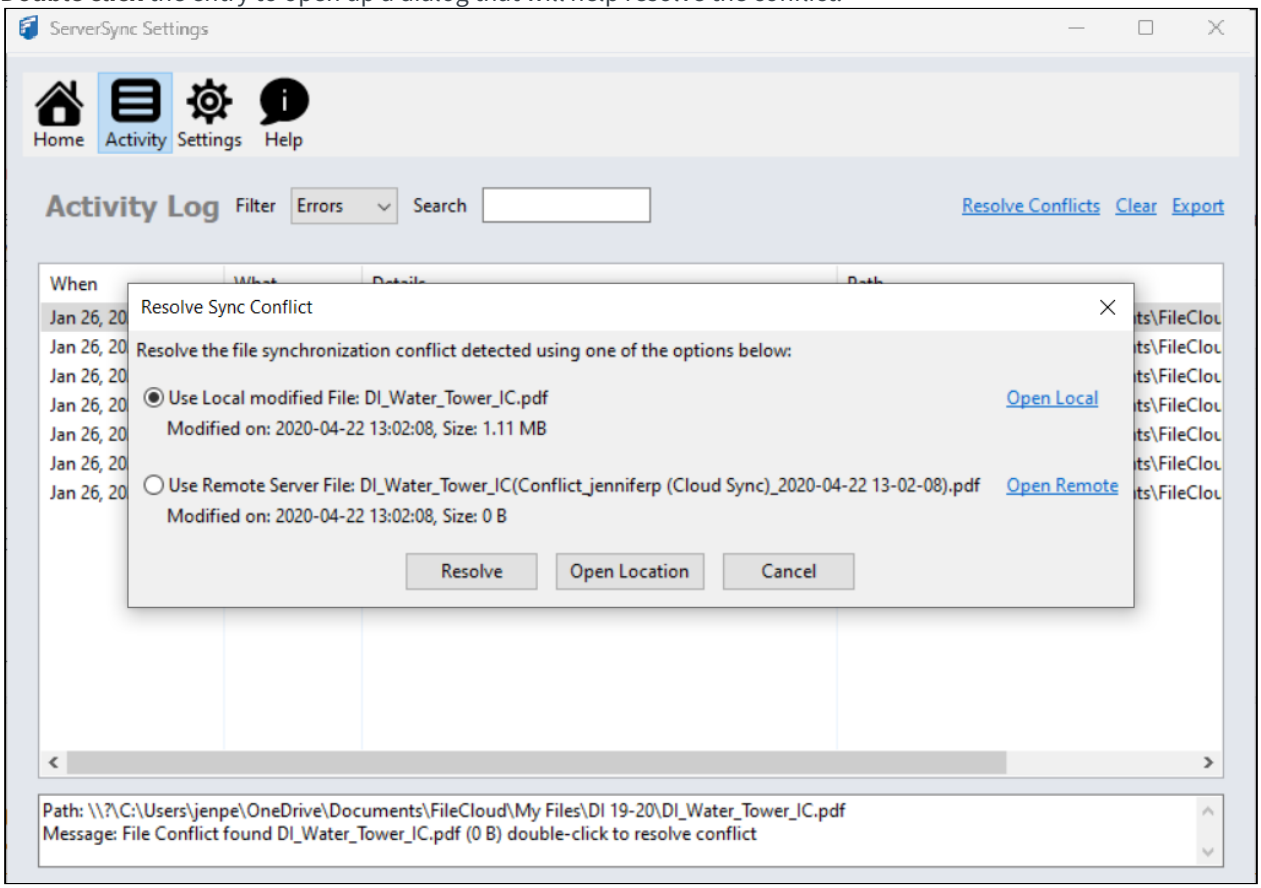
When the person who was offline comes back online and the sync app tries to upload the edited version to the server, it will detect that there is a new version available and instead of overwriting the changes on the server, it will download the server file locally and mark it as a "Conflict" file.

How Do I Resolve a Conflict?

You can resolve the conflict by deleting the file that you don't want any more.

To view all the conflicting files:

1. On the Activity screen, in Filter, use the drop-down to select **Errors**.
2. **Double click** the entry to open up a dialog that will help resolve the conflict.



For example, if you want to use the file in the server and discard local changes, select "Resolve Conflict using Remote Server Copy" and click on "Resolve" button.

Files That Don't Sync

As in FileCloud Sync, ServerSync may not sync some files because of their file types or names. in the FileCloud Sync section of this documentation, see Files that don't sync for information about which files do not get synced.

See the **allowedfilelist** entry in XML Options for Sync for instructions on allowing some of these files to sync.

FileCloud ServerSync Stages

The below documentation provides a detailed description of the sync stages that FileCloud ServerSync does on each sync cycle.

FileCloud ServerSync Defaults and Tips.

- FileCloud ServerSync will sync/process files in a maximum of 50,000 files per sync cycle, this is by design and hardcoded.
- FileCloud ServerSync full sync cycle consists of 3 stages.
- The amount of CPU and Bandwidth used by ServerSync highly depends on the amount of file/folder to scan, upload, and download.
- FileCloud ServerSync upload speed highly depends on your internet bandwidth and the number of files to be uploaded.
- You can control the bandwidth allocation you wish to grant ServerSync to use as well for the days and time you would like for ServerSync to sync.
- FileCloud ServerSync will be unable to Sync files if the file path exceeds 260 characters as well if the file contains some special characters.
- FileCloud ServerSync is only available for Windows.

- You can reduce the time ServerSync takes to scan your local sync folders by changing the single-threaded logic used by default to run ServerSync to multi-threaded logic.
- FileCloud ServerSync can be configured to automatically resolve conflicts either using the local version of a file or the server version of a file.
- FileCloud ServerSync can be run as a service.

To add or modify any FileCloud ServerSync default configuration you will need to access the **syncclientconfig.xml** file located under **%AppData%\Roaming\FileCloudServerSync** Upon adding or modifying any configuration you will need to restart FileCloud ServerSync for the new settings/configurations to apply.
IMPORTANT: When adding or modifying any configuration within the syncclientconfig.xml file it is highly important that you do it exactly as stated within our documentation. If a configuration is not added or modified correctly FileCloud ServerSync will not start.

FileCloud ServerSync Complete Sync Cycle

FileCloud ServerSync - Stage 1

- ServerSync will sync from the server, at this step is sees delta changes.
- ServerSync will do a review if it has a record for the files on its local sync database, based on the files that are on the server. In case it doesn't have a record for such files it will create the record and check if the file already exists on the local file server. If it exists it won't download it again and proceeds on checking the next file. At this point, it will only create The sync DB data record. If the file is not there then it will create a record and download the file.
- As a final step on ServerSync stage 1, it will move the downloaded files from its cache location to the local folder specified once done it will add these records to the local ServerSync DB file. During this stage, ServerSync will display the message ***Moving to Sync folder*** if any to be moved in case a file needed to be downloaded and ***Processing changes*** when it's Adding records to the local sync DB file.

FileCloud ServerSync - Stage 2

- ServerSync will only check if there are any changes made to the local sync folder or folders and if any change has occurred it will upload the files that have been modified (Added, updated, or deleted) to the FileCloud server.
- At this step, there is no record added to the FileCloud ServerSync DB file.

FileCloud ServerSync - Stage 3

- FileCloud ServerSync will do a final sync from the FileCloud server to validate that the information on the local sync folder and the FileCloud server are the same.
- It will create a record on the local sync DB for any file/folder that has been uploaded on Stage 2.
- FileCloud ServerSync will check for conflicts. FileCloud ServerSync default configuration is to request manual user input to resolve conflict however this can be automated to always resolve conflicts using the local version of a file or the server version of a file.
- Finally, FileCloud ServerSync will download any new files from the server to the local sync folder and add the new records to the FileCloud ServerSync DB file. During this stage,
  ServerSync will display the message ***Moving to Sync folder*** if any to be moved in case a file needed to be downloaded and ***Processing changes*** when it's Adding records to the local sync DB file.
- Once stage 3 completed FileCloud ServerSync will start a new cycle until all files are synced, the maximum number of files to be processed per cycle is 50,000 this is hardcoded and by design.