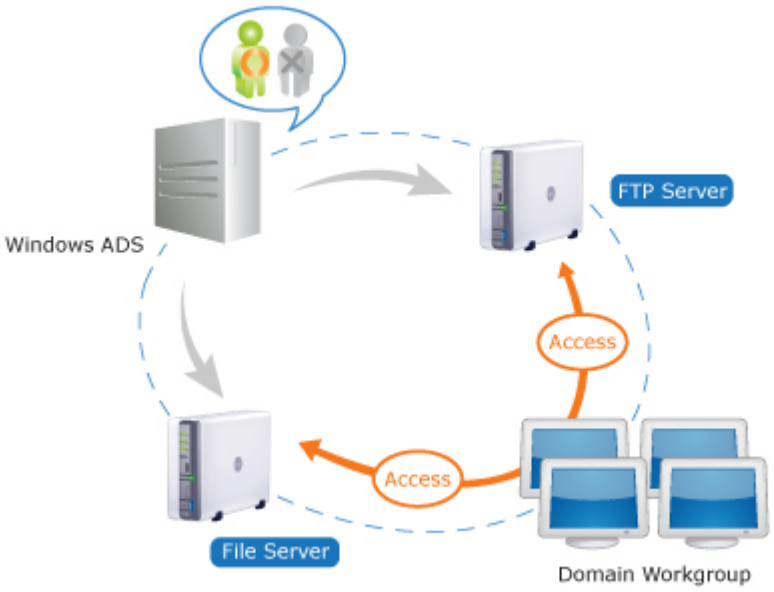
How to join the Synology DiskStation into Windows ADS domain



Overview

This article will guide you through the process of joining your Synology DiskStation to an ADS Domain Controller, setting up domain user/group privileges to access Synology DiskStation resources. You will also learn the benefits of joining Synology DiskStation with an ADS Domain Controller from this article.

This article assumes that as the admin of your DiskStation, you are also an experienced network administrator with a firm grasp of domain, file sharing and networking principles.

Contents

1. What is Active Directory Service (ADS)?
2. Join Synology DiskStation to ADS Domain and Check Its Users
    - 2.1 Before you start
    - 2.2 Join Synology DiskStation to ADS domain
    - 2.3 Check domain user and group account information on Synology DiskStation
3. Manage ADS Domain Users' Access to Synology DiskStation
    - 3.1 Manage shared folder privileges for domain users or groups
    - 3.2 Access shared folders with ADS privileges
    - 3.3 Allow domain users or groups to access applications
    - 3.4 Set domain users' or groups' access privilege to a sub-folder
    - 3.5 Enable user home for domain users
    - 3.6 Access domain user's home folder
    - 3.7 Manage domain user's home folder (admin only)

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1. What is Active Directory Service (ADS)?

Active Directory is a technology created by Microsoft that provides a variety of network services, allowing network administrators to centrally manage the information and resources on the network. On an ADS network, the Active Directory information (including computers, users and groups) is held on one or more Domain Controllers (DCs).

Please see here for more information about ADS.

Return to top

2. Join Synology DiskStation to ADS Domain and Check Its Users

The benefit of using Synology DiskStation with an ADS Domain Controller is that by retrieving the user or group information from the ADS Domain Controller, your DiskStation can allow domain users to access Synology DiskStation with their ADS credentials. Likewise, if there are multiple DiskStations joining the same ADS Domain Controller, the domain users can use one credential to access these DiskStations, without the need of remembering multiple credentials for different DiskStations.

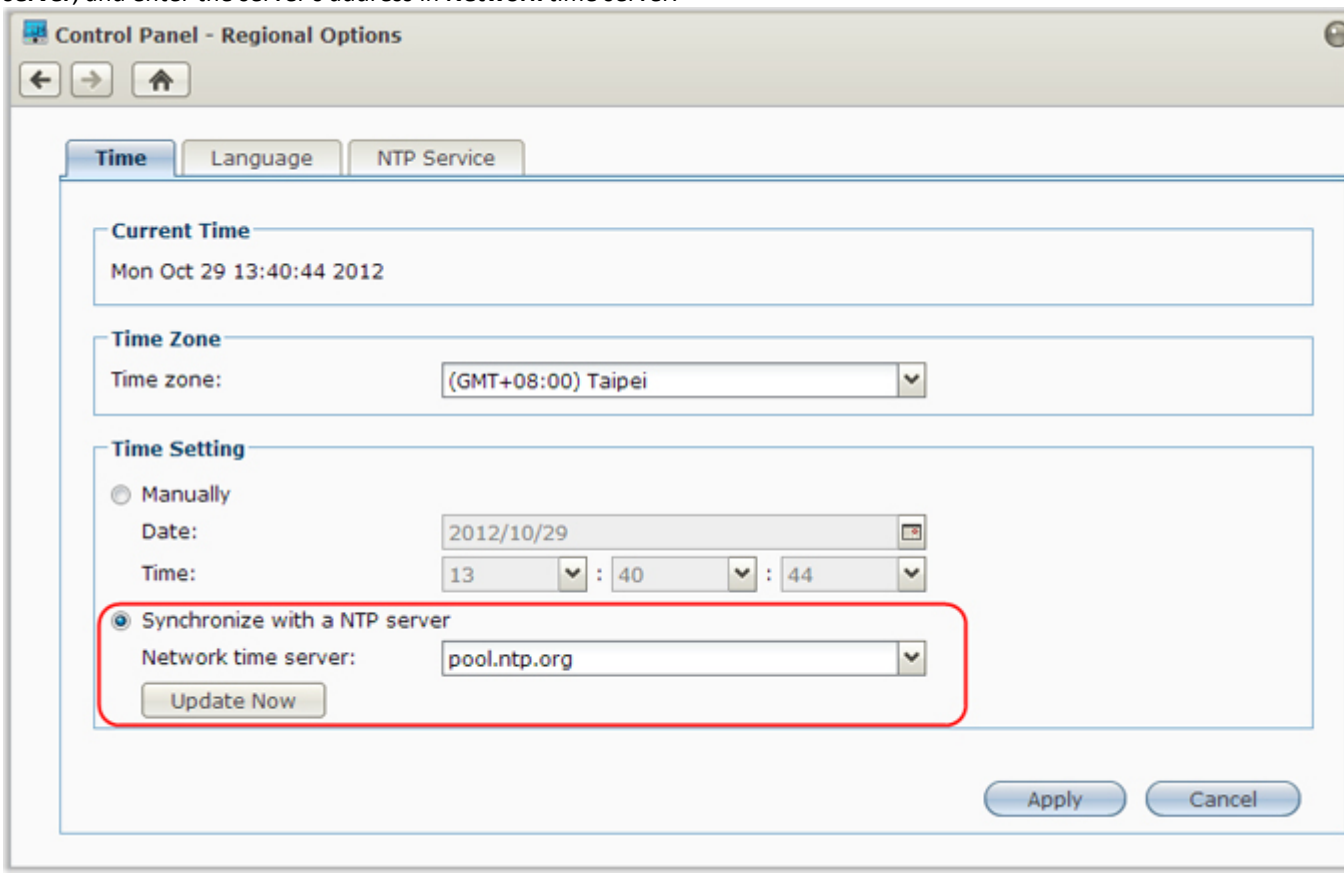
One Synology DiskStation can support up to 100,000 domain user accounts, and 100,000 domain group accounts.

Return to top

2.1 Before you start

Please make sure you have checked the information below before proceeding.

- Make sure you have the username and password of the domain administrator.
- Please use the same time server on the entire ADS Network. The DiskStation, all Domain Clients, and ADS server should all be using the same NTP server to have their time exactly synchronized. Most common Domain errors (i.e., accessing shares via DNS name, access permission errors) can be resolved by having properly synchronized time server. The time server can be a NTP server outside the network, or the NTP service of the ADS Domain Controller. To use a time server on your DiskStation, go to **Main Menu** > **Control Panel** > Time, choose **Synchronize with a NTP server**, and enter the server's address in **Network** time server.

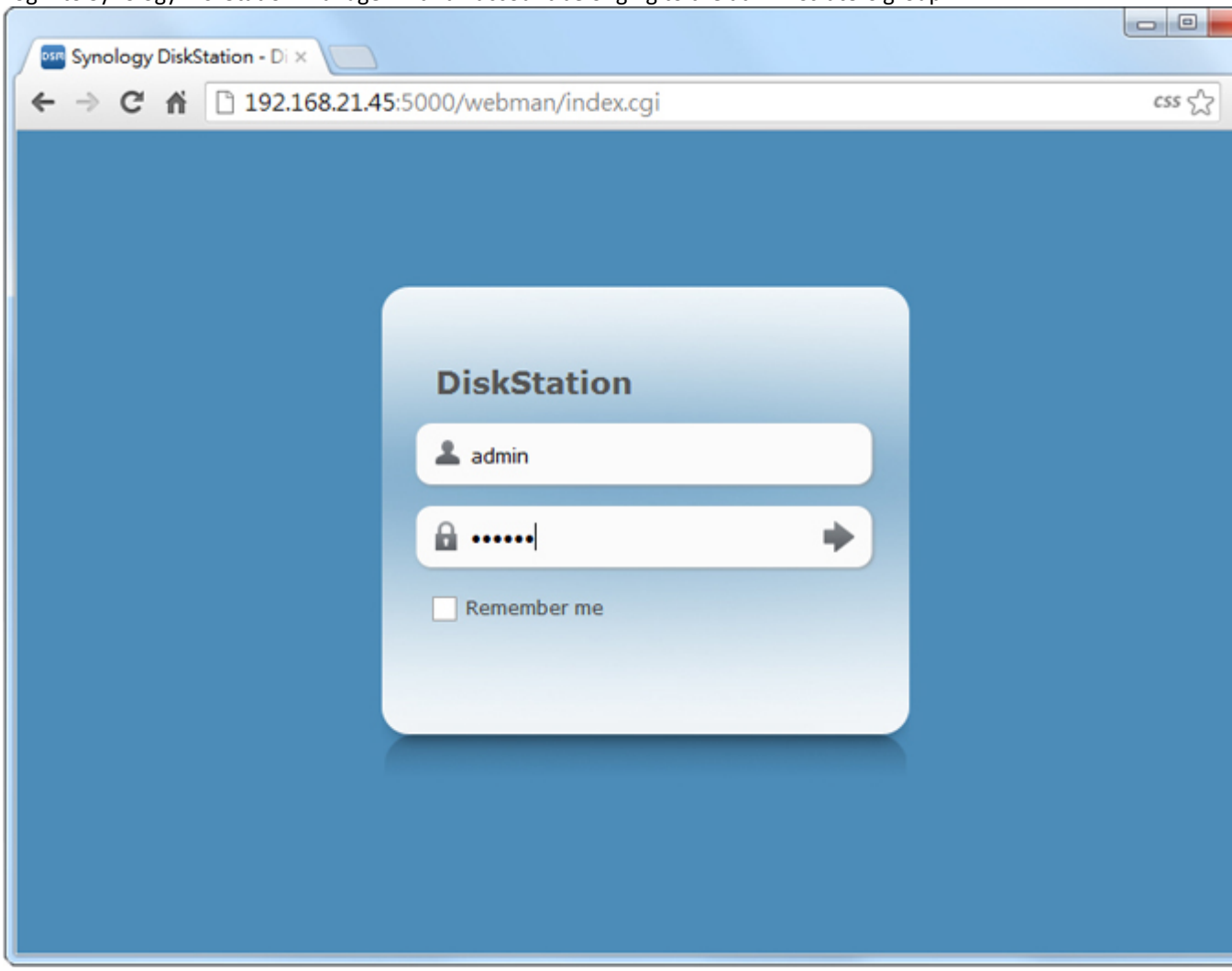


Return to top

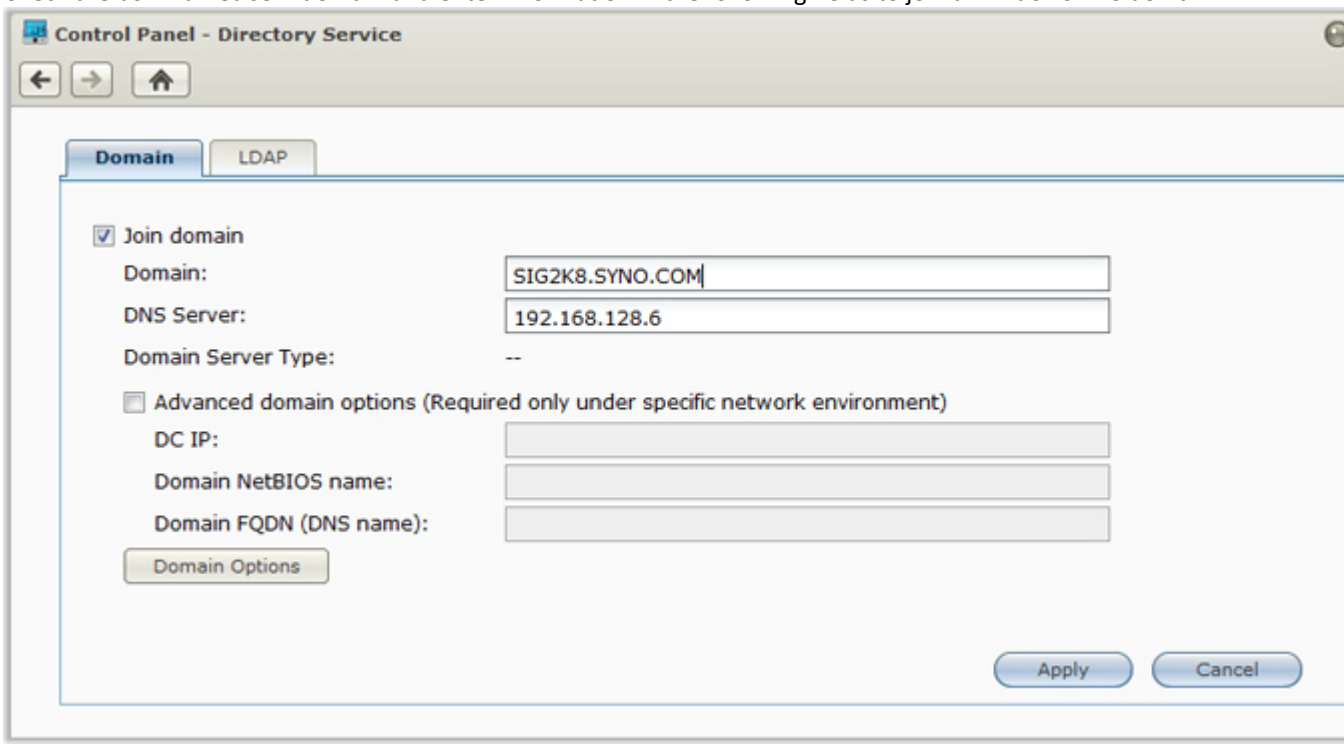
2.2 Join Synology DiskStation to ADS domain

Please follow the steps below to join your Synology DiskStation to an ADS domain.

1. Log into Synology DiskStation Manager with an account belonging to the **administrators** group.



2. Go to **Main Menu** > **Control Panel** > **Directory Service**.
3. Click the **Domain** tab.
4. Check the box marked **Join domain** and enter information in the following fields to join a Windows ADS domain:

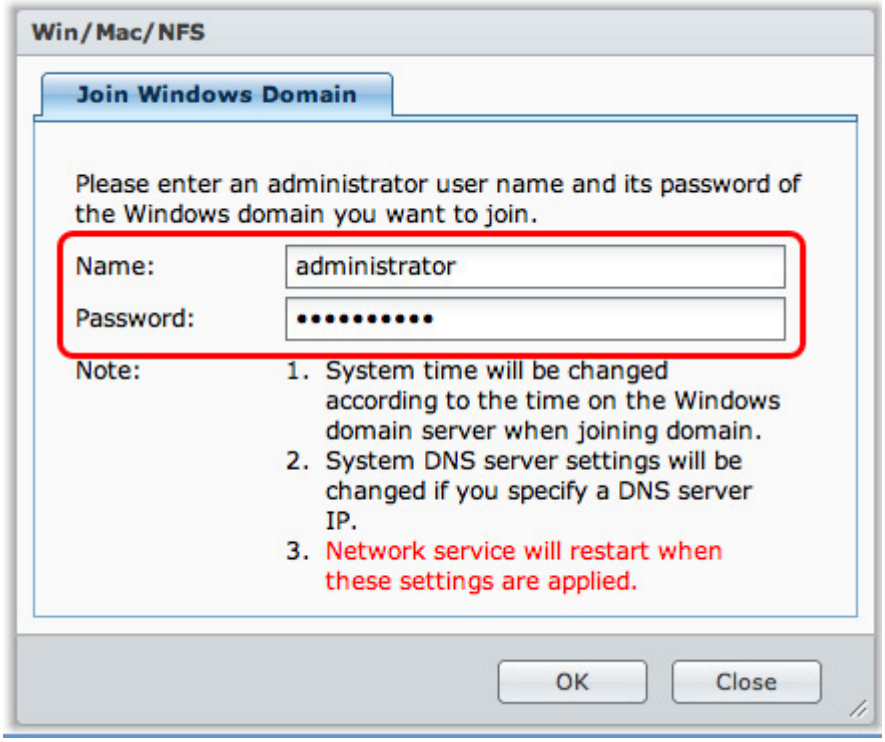


   - **Domain**: The name of the ADS Domain.
   - **DNS Server** (Optional): The IP address of the DNS server. It's recommended to use the DNS of the Domain Controller; therefore, the IP address of the Domain Controller should be entered in this field.

Advanced domain options: In most cases, you do not need to fill in any of the advanced domain option. Advanced domain options are needed only for specific domain environment.

- **DC IP**: The IP address of the Domain Controller (DC). Synology DiskStation will try to communicate with the Domain Controller. If there is more than one IP, insert a comma in between each of them. Add an asterisk (*) after the last DC IP if you wish, and DiskStation will try to communicate with other DC when all specified ones failed. You will need to add a comma between the asterisk and the last IP.
  Example: 192.168.0.100,192.168.0.101,*
- **Domain NetBIOS name**: The NetBIOS name of the domain.
  Example: SYNOLOGY-WIN2K8
- **Domain FQDN (DNS name)**: The FQDN (DNS name) of the domain.
  Example: SYNOLOGY-WIN2K8.COM

5. Click **OK**.
6. In the window that appears, enter the username and password for the domain administrator, and click **OK**.



Your DiskStation will register itself with the Domain Controller, and start caching the domain user and group account information from the Domain Controller. This caching of data may take several minutes to complete, depending on the size of the domain.

After domain user and group account information is synchronized to Synology DiskStation, domain users can log into DiskStation.

Note: By default, domain users and groups have no access to the shared folders on your DiskStation. See Manage shared folder privileges for domain users or groups below for more information about how to give domain users or groups access privileges to the shared folders.

Return to top

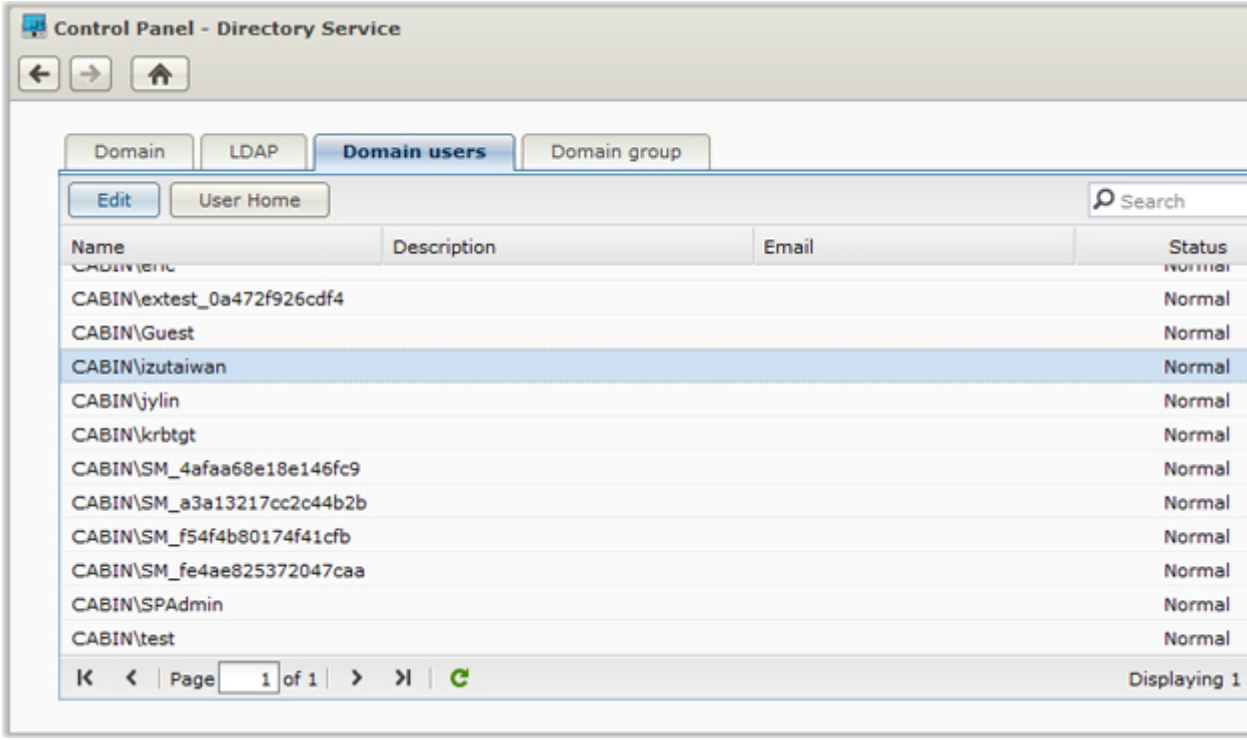
2.3 Check domain user and group account information on Synology DiskStation

Please follow the steps below to make sure domain users have been cached into the DiskStation.

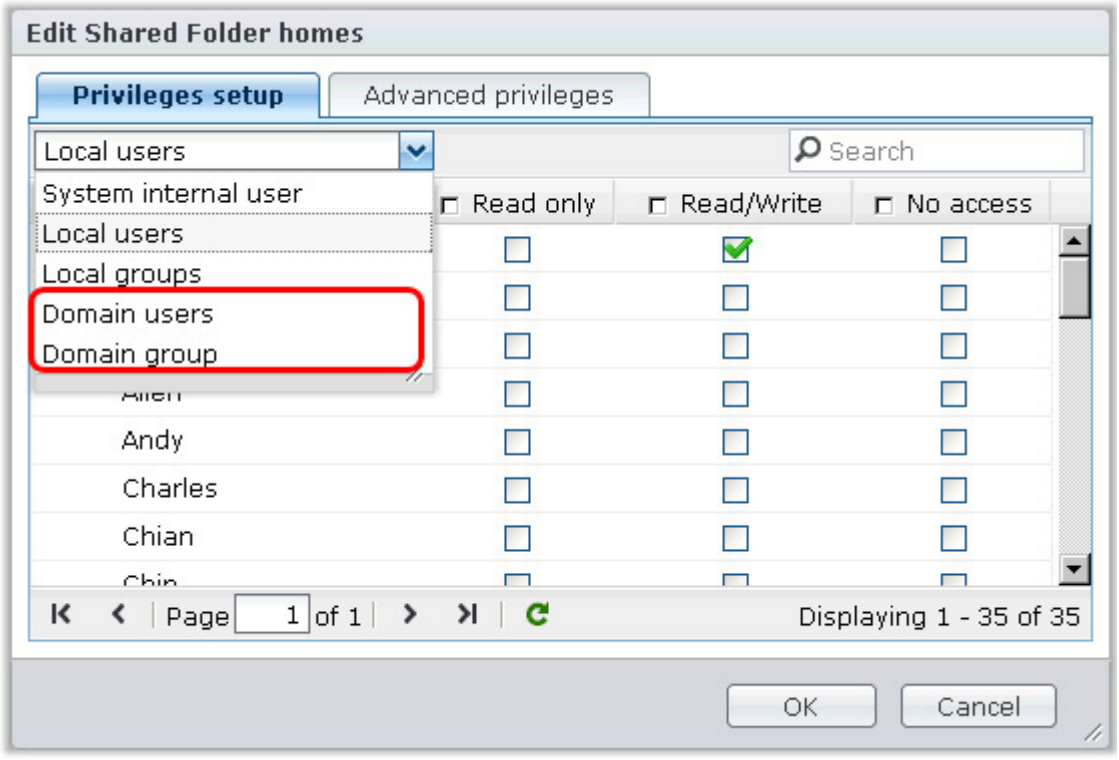
To check domain user or group account information, please do either of the following:

- Go to Directory Service:

1. Log into Synology DiskStation Manager with an account belonging to the **administrators** group.
2. Go to **Main Menu** > **Control Panel** > **Directory Service**, and click the **Domain users** or **Domain group** tabs.



- Go to Shared Folder:
  1. Log into Synology DiskStation Manager with an account belonging to the **administrators** group.
  2. Go to **Main Menu** > **Control Panel** > **Shared Folder**. Click **Privileges Setup**, and then choose **Domain users** or **Domain group** from the drop-down menu.



If you have successfully joined the ADS Domain Controller, you can see the domain users or groups listed here.

Return to top

3. Manage ADS Domain Users' Access to Synology DiskStation

Before you proceed, please refer to Chapter 7 and 8 of Synology DiskStation User's Guide available on Synology's Download Center, which will give you useful tips on how to set up file and service sharing for your DiskStation, and allow local users to access your DiskStation.

Just like DiskStation's local users, domain users can access the file sharing services of Synology DiskStation. The steps needed for enabling those services for domain users are mostly the same. We will focus on those differences in the following section, assuming that you have been familiar with those steps for local users or groups.

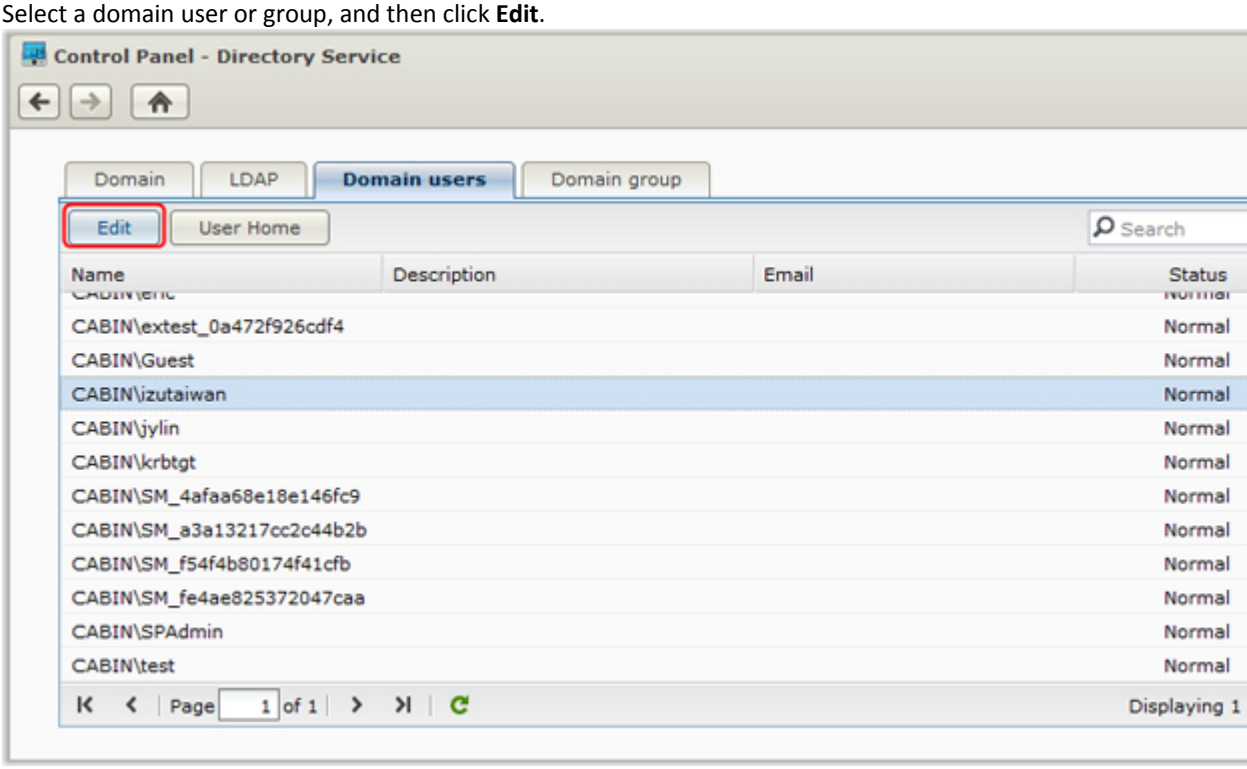
Return to top

3.1 Manage shared folder privileges for domain users or groups

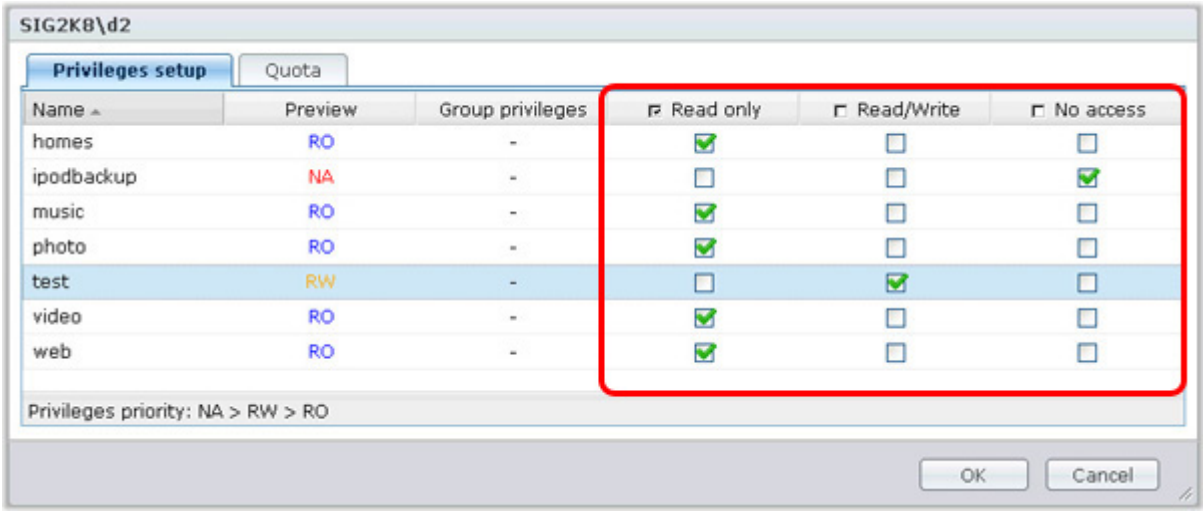
This section covers how to manage the shared folders on your DiskStation with ADS domain user or group permissions.

To manage shared folder privileges for domain users or groups, please do either of the following methods:

- Go to Director Server:
  1. Log into Synology DiskStation Manager with an account belonging to the **administrators** group.
  2. Go to **Main Menu** > **Control Panel** > **Directory Service** and click the **Domain users** or **Domain group** tabs.
  3. Select a domain user or group, and then click **Edit**.

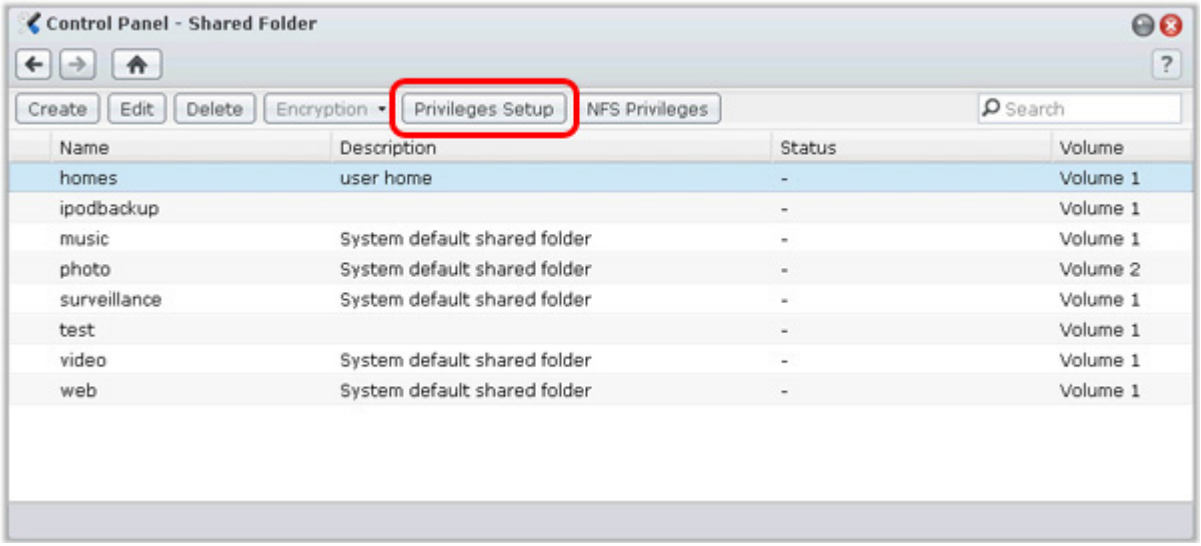


  4. In the window that appears, set the access privileges for the domain user or group.

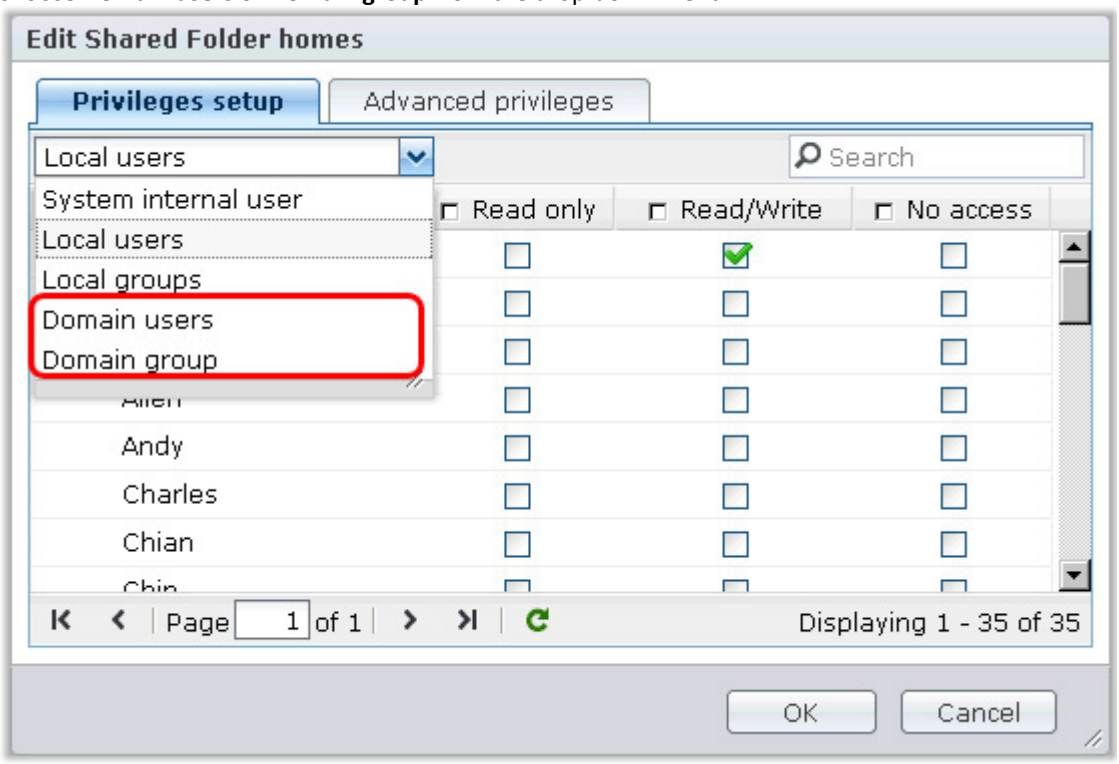


  5. Click **OK**.
- Go to Shared Folder:
  1. Log into Synology DiskStation Manager with an account belonging to the **administrators** group.
  2. Go to **Main Menu** > **Control Panel** > **Shared Folder**.

3. Select a shared folder and click **Privileges Setup**.



4. Choose **Domain users** or **Domain group** from the drop-down menu.



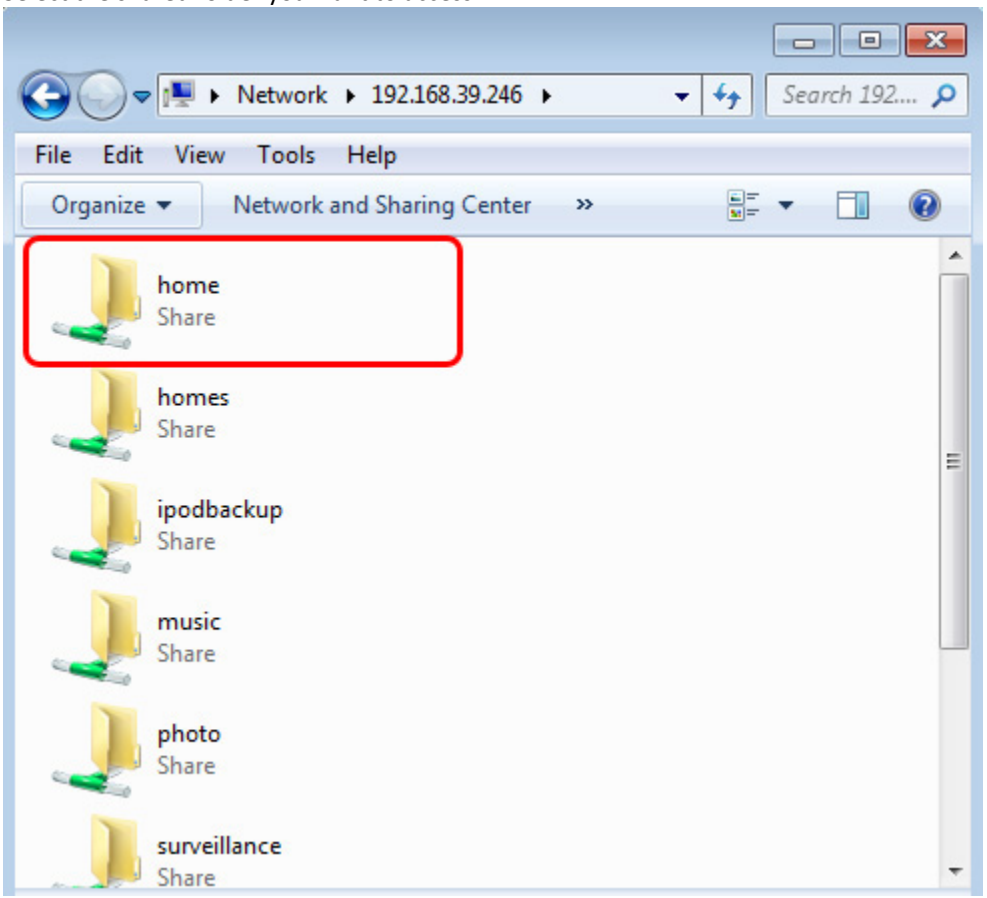
5. Set domain users' or groups' access privileges to the shared folder.
6. Click **OK**.

Return to top

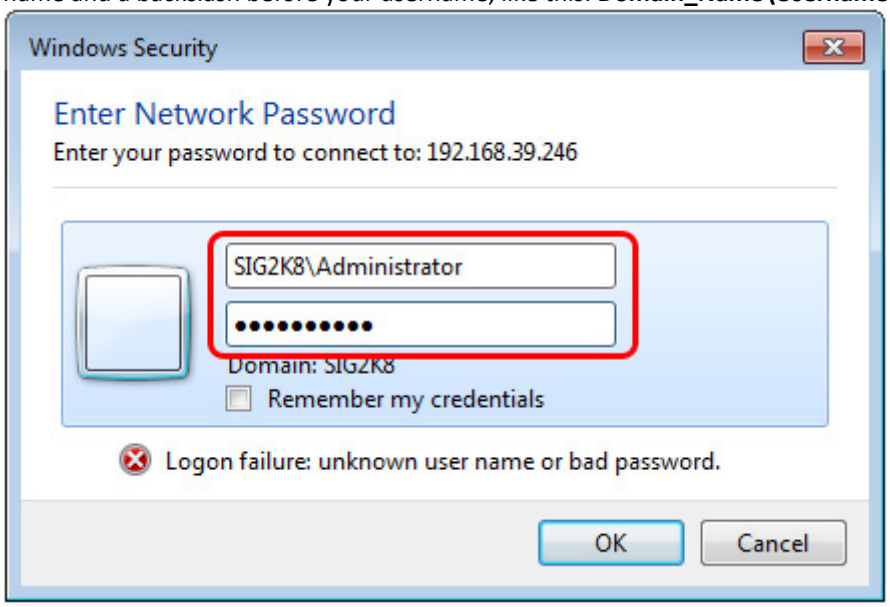
3.2 Access shared folders with ADS privileges

1. Use your computer to connect to your Synology DiskStation via File Station, FTP, CIFS, or AFP protocols depending on your OS platform.

2. Select the shared folder you want to access.



3. When you are prompted to enter the Windows domain username and password, make sure you add the domain name and a backslash before your username, like this: **Domain_Name\Username**



Return to top

3.3 Allow domain users or groups to access applications

Domain users can access some applications/services on DiskStation, such as File Station, WebDAV, and FTP. They can do so by logging in to any of the applications/services with their domain username and password.

For example, if you are a domain user, you can do the following to log into Synology DiskStation Manager:

1. Connect to Synology DiskStation Manager's login page with a web browser.
2. Enter your domain username and password. Make sure you add the domain name and a backslash before your username, like this:
   Domain_Name\Username

Note: Not all DSM applications can be accessed by domain users. For a complete list of supported applications, please refer to Domain Integration by clicking the green **Software spec & applied models** button.

Return to top

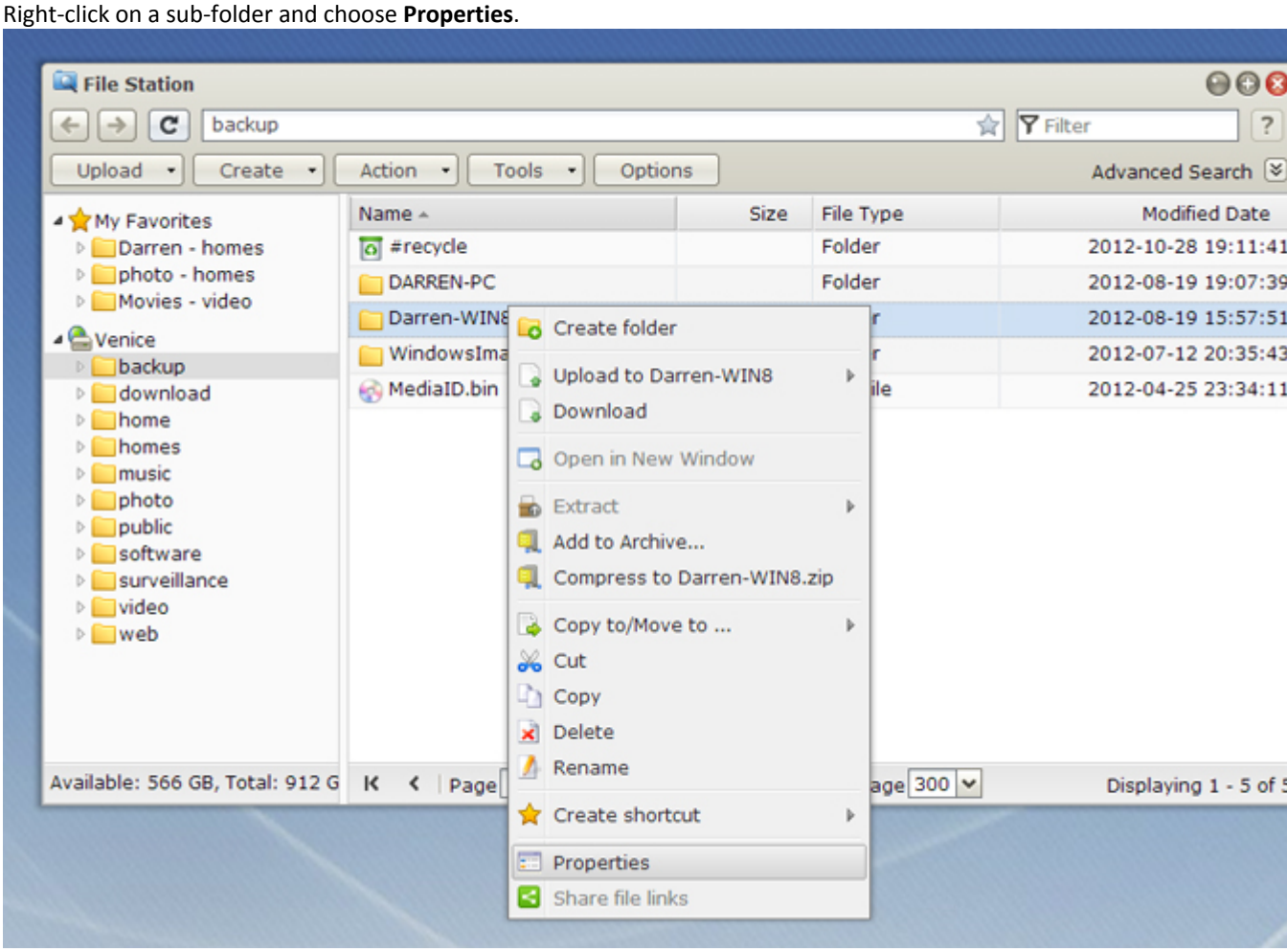
3.4 Set domain users' or groups' access privilege to a sub-folder

Sub-folder permissions allow admin to have finer permission control at a sub-folder level. Setting sub-folder permission is especially useful for setting advanced privilege settings for any organization consisting of multiple departments.

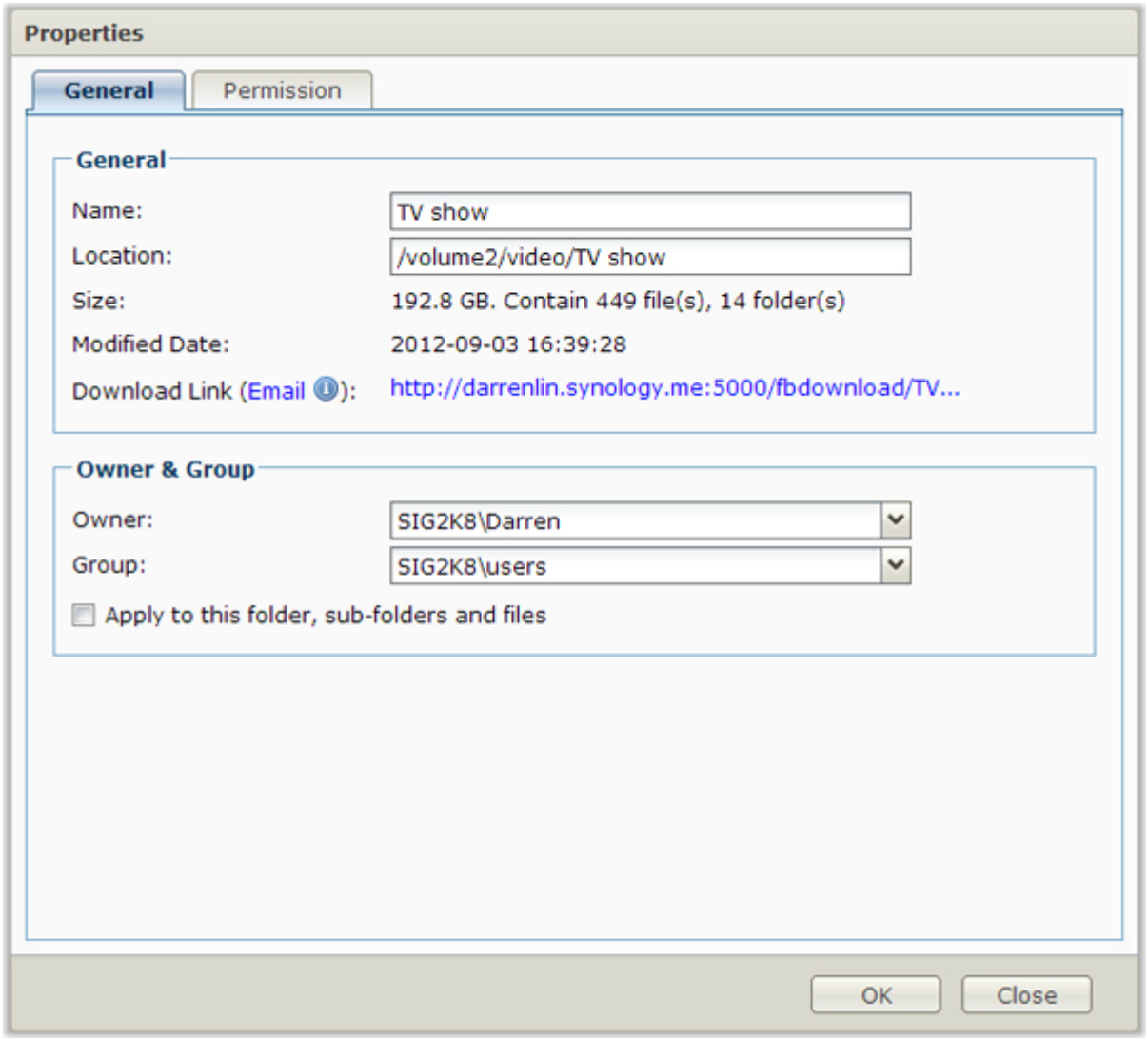
Here is an example to help you get the idea:
A hospital's Radiology division might consist of three departments: MRI, Ultrasound, and Cardiology. DiskStation admin create the MRI, Ultrasound, and Cardiology subfolders under the Radiology shared folder. If DiskStation admin has set proper access privileges for the three sub-folders, the MRI team members can have read/write privilege to the MRI sub-folder. As to the other sub-folders, the member might only have read-only privilege or even have no access at all, depending on the access privileges set by DiskStation admin for the folders.

To set domain users' or groups' access privilege to a sub-folder:

1. Log into DiskStation Manager with an account belonging to the **administrators** group.
2. Go to **Main Menu** > **File Station**.
3. Select a shared folder on the left to see its files and sub-folders in the main area.
4. Right-click on a sub-folder and choose **Properties**.

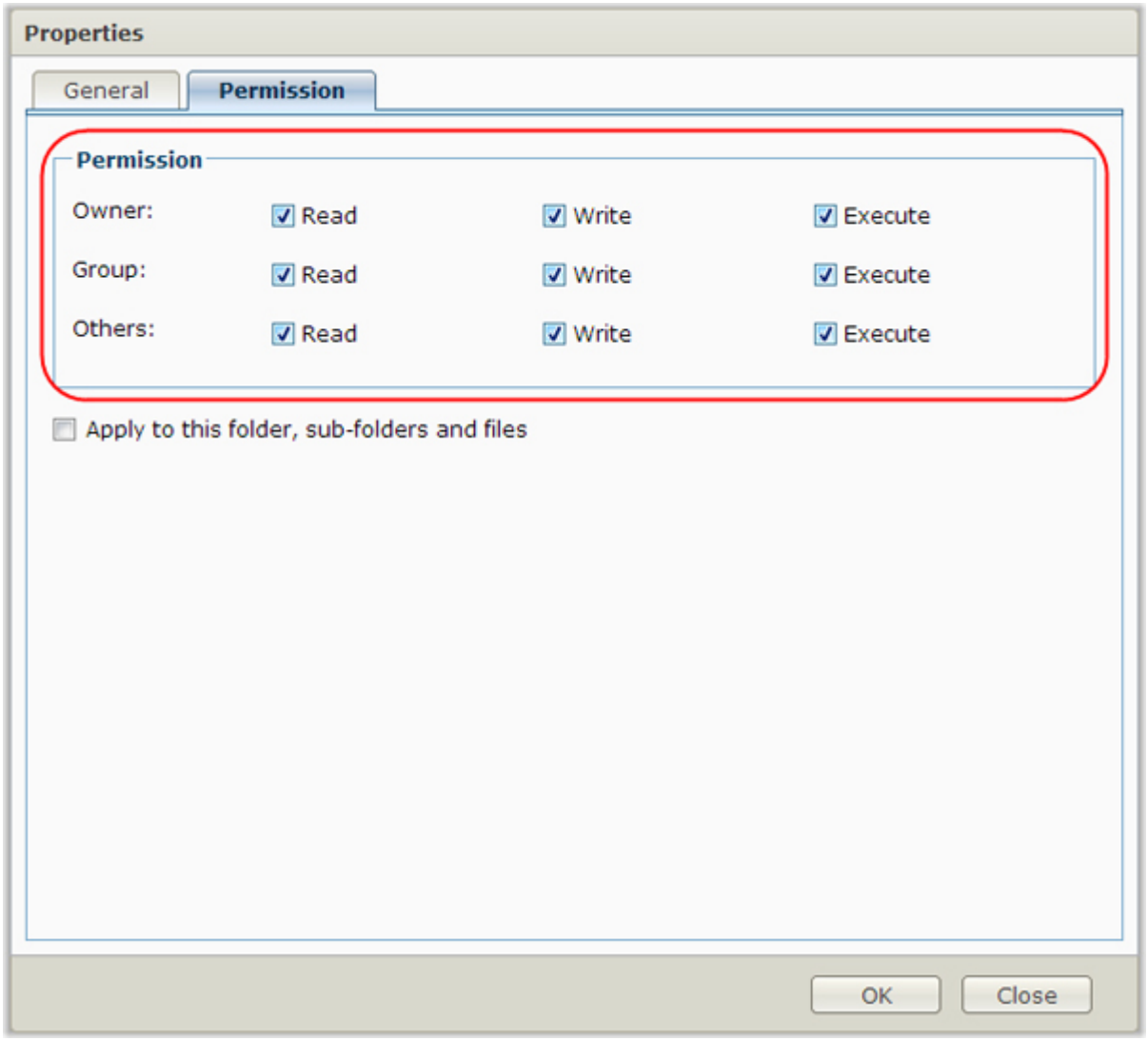


5. Choose a domain user from the **Owner** drop-down menu, and choose a domain group from the **User group** drop-down menu.



6. In the **Privilege** section, allow or disallow the **Owner** (the domain user you specified), the **User group** (the domain group), and the **Others** to access the selected files and folders by ticking any of the **Read**, **Write** and **Execute**

checkboxes.



7. Click **OK** to finish.

Return to top

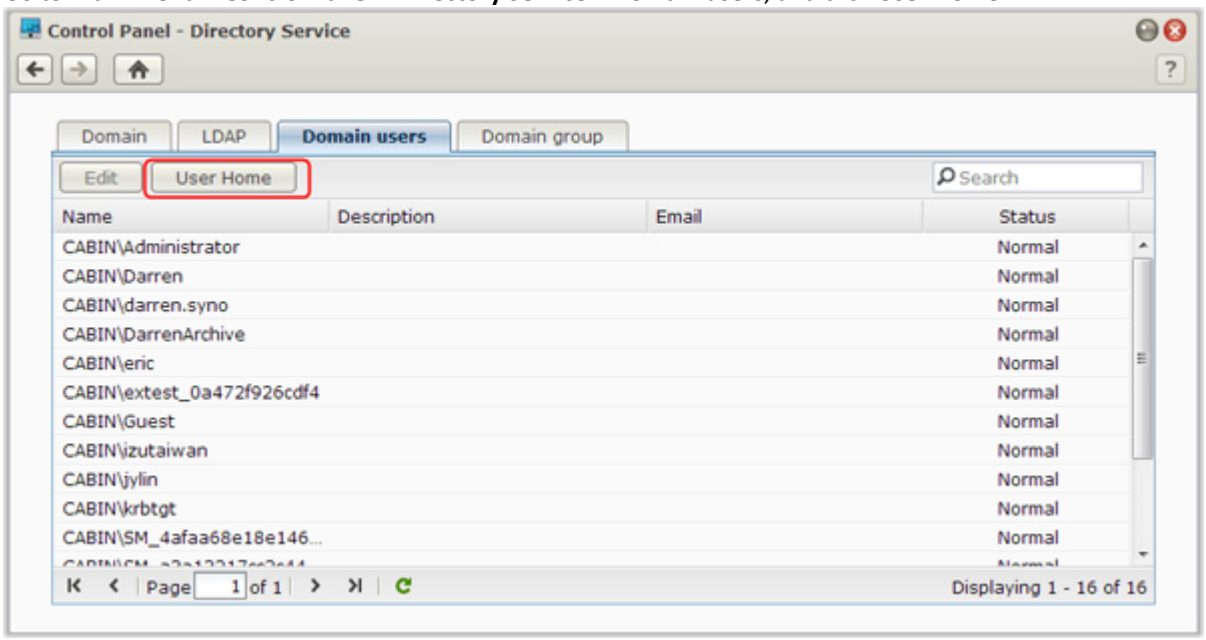
3.5 Enable user home for domain users

DiskStation admin can enable the **Domain User Home** function to have the private home folders for each domain user created automatically, accessible via File Station, CIFS, FTP, or AFP protocols. Only the user and the admin can access the private folder. This eliminates the chore of manually creating private folders for each user and setting access privileges for each folder.

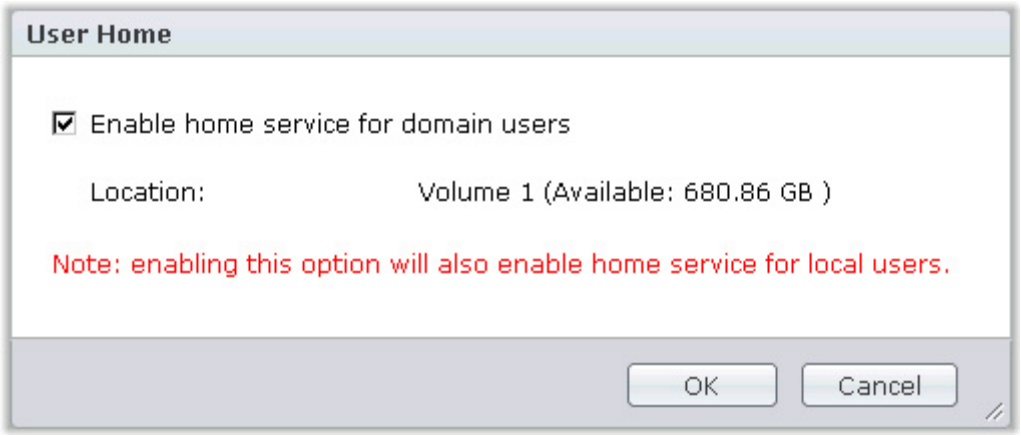
To enable user home for domain users:

1. Log into Synology DiskStation Manager with an account belonging to the **administrators** group.

2. Go to **Main Menu** > **Control Panel** > **Directory Service** > **Domain users**, and click **User Home**.



3. In the window that appears, tick **Enable user home service for domain users**.



4. Click **OK**.

Return to top

3.6 Access domain user's home folder

If you are a domain user, follow the steps below to access your home folder.

1. See **Access shared folders with ADS privileges** above for more information about how to access DiskStation's shared folders with ADS privileges.
2. Select **home** to access your home folder.

Return to top

3.7 Manage domain user's home folder (admin only)

After domain user's home service is enabled, you as the admin of your DiskStation can manage ADS domains users' home folders by following the basic steps below.

To manage domain user's home folder:

1. Use your computer to connect to Synology DiskStation via File Station, FTP, CIFS, or AFP protocols, depending on your OS platform.
2. Browse to the following location to find the domain user's home folder:

   \SynologyDiskStation\homes\@DomainName\FolderX\ADSUser-YYYY

- **The "X" within "FolderX"**: an arbitrary number generated by the Synology DiskStation
- **The "YYYY" within the user's home folder name "ADSUser-YYYY"**: arbitrary characters assigned by the Domain Controller, to prevent accidental viewing of old data. In the scenario if "janedoe" was deleted, and re-created, the second "janedoe" will receive a different ID number, to prevent access to the old "janedoe" folder.

Note: After domain users' home service is enabled, a domain user must access the DiskStation via File Station, FTP, CIFS, or AFP protocols to have his home folder created.

Return to top

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