ACTIVE DIRECTORY SERVER ON SYNOLOGY

Adrián Gil Gómez – GiaKonda IT

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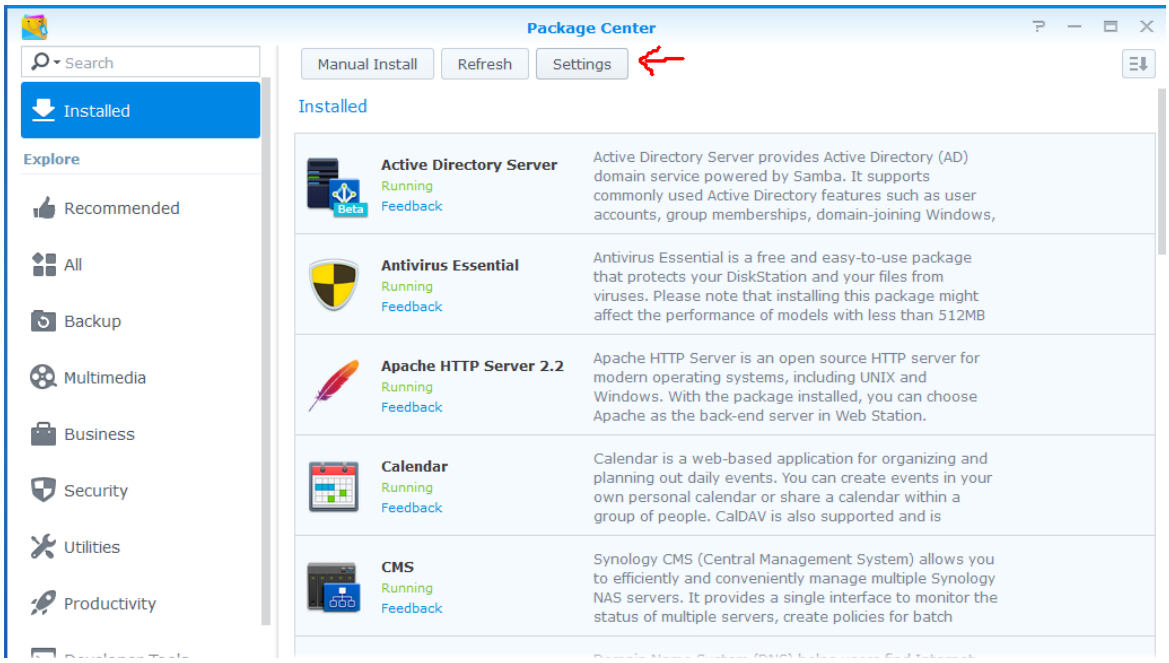
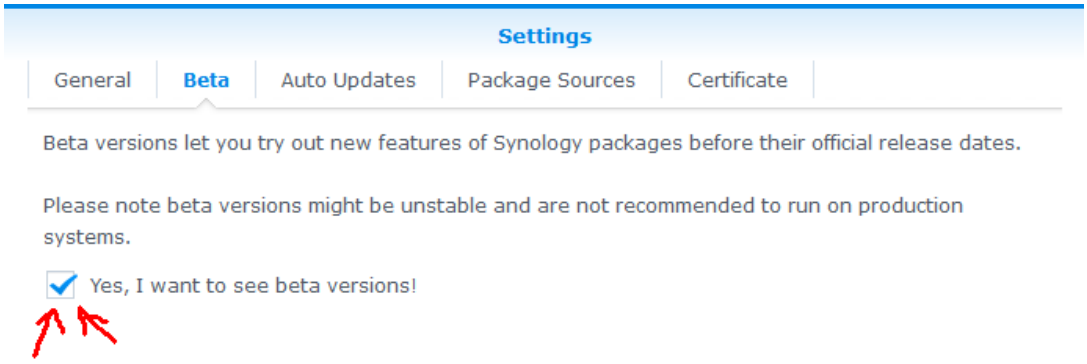
INSTALLING AND SETTING UP AD

Currently this is a Beta version so we need to enable Beta programs in the Package Center.

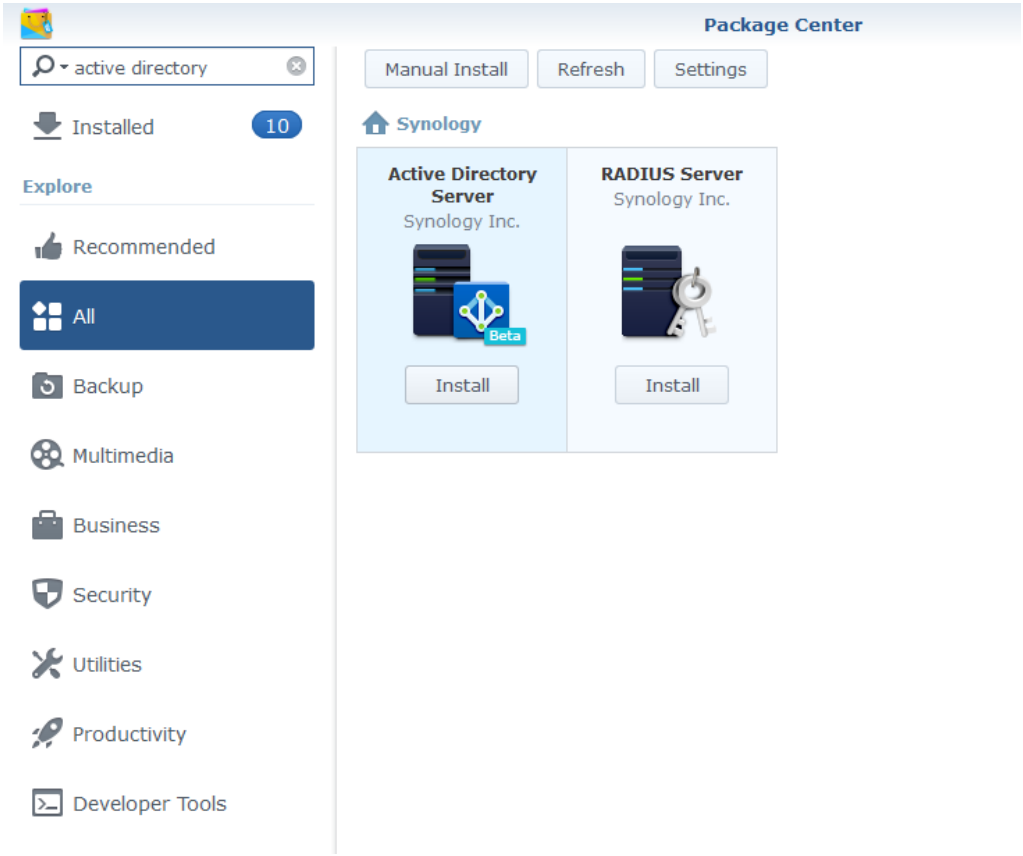
Go to the Package Manager, and click on Settings:



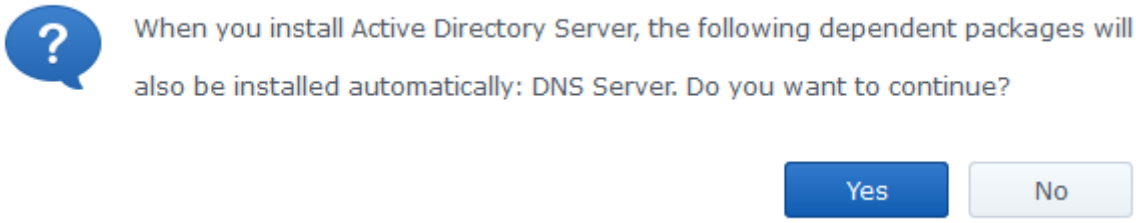
On “Beta”, check “Yes, I want to see beta versions!”



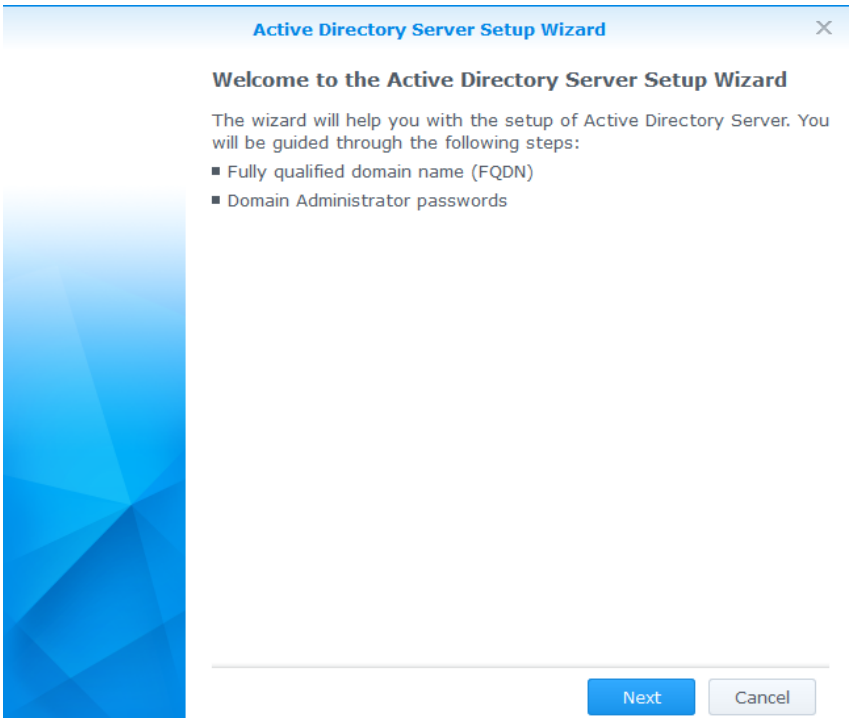
Search for “Active Directory Server” in the Package Manager search and click on Install.



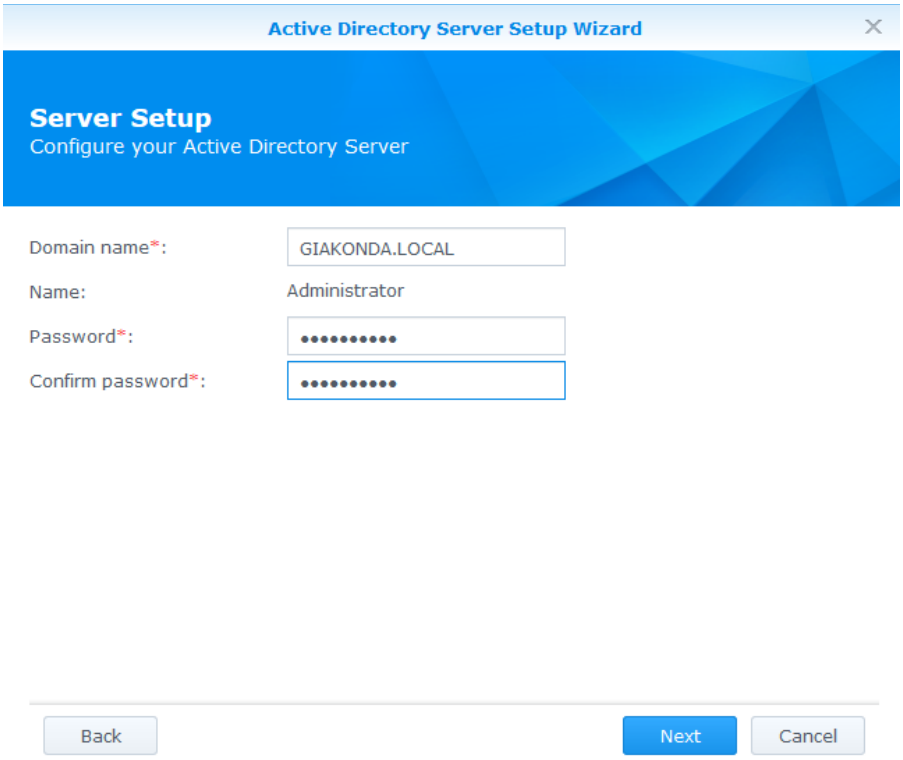
A window will prompt asking to install DNS server. Click on Yes.



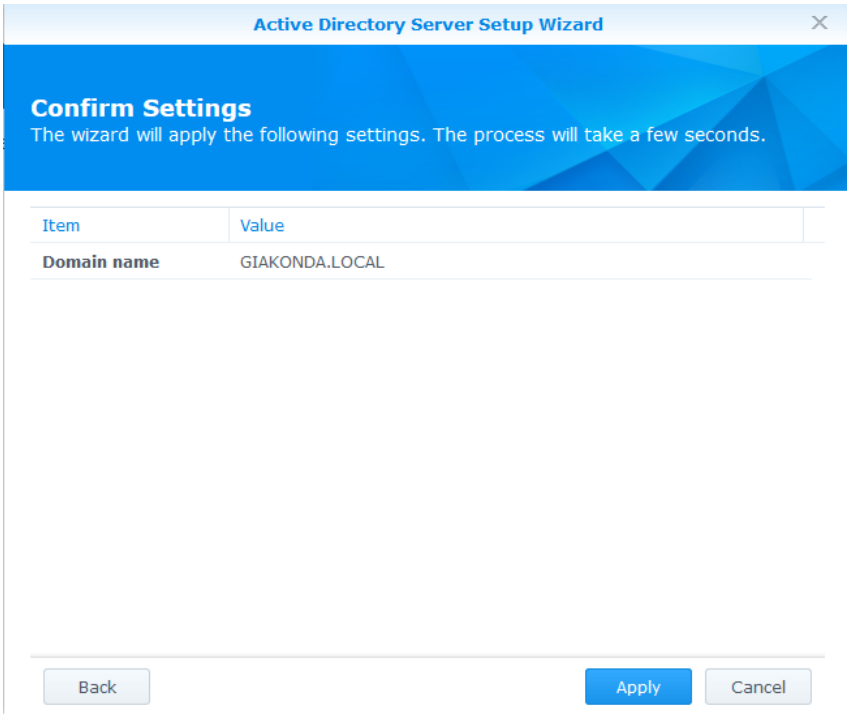
Open Active Directory Server, it will prompt the initial Setup Wizard. Click on Next.



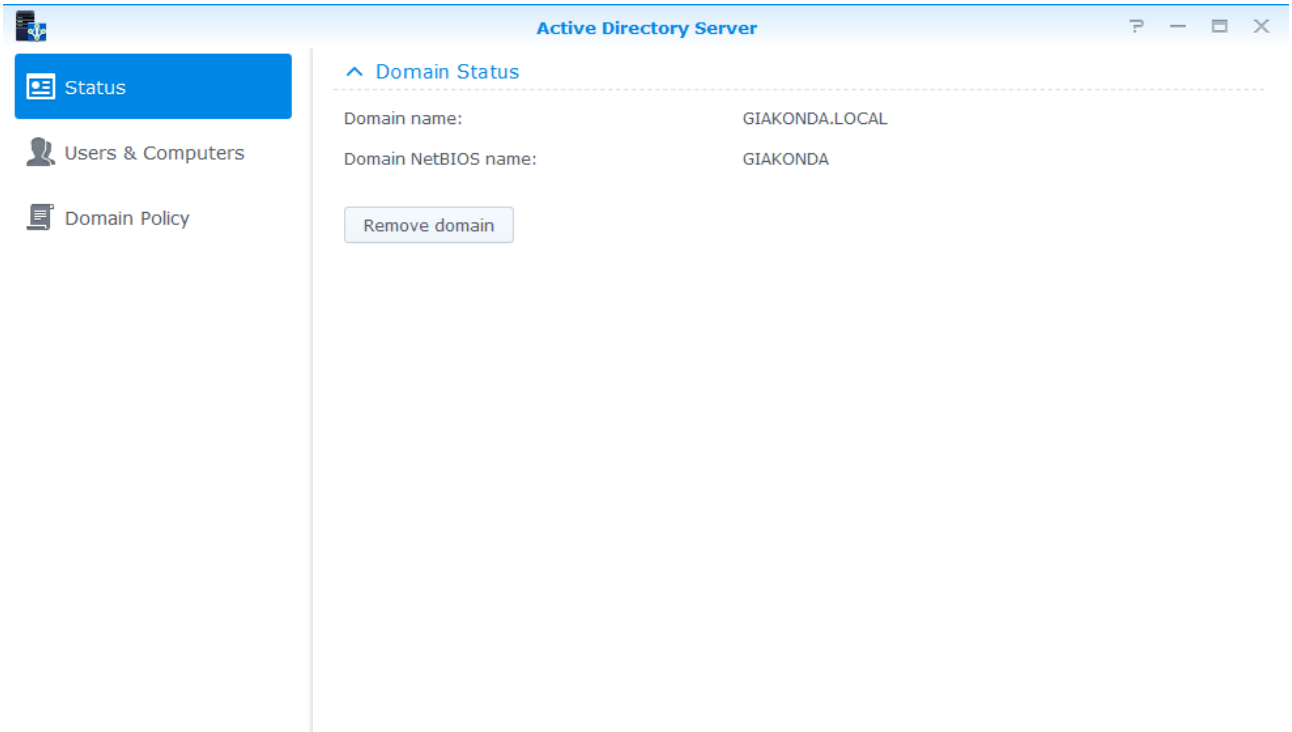
You need to enter your FQDN (Domain name) of choice, and a password for your Administrator user. You want your domain name to be an identifier of your organization (For example, Giakonda.local refers to GiaKonda IT, but if we were to implement this in Siavonga High School, we could set the domain as **SHS.local**). Password must contain uppercase letters, lowercase letters, numbers and special characters (like #, £, $, !, ?, etc).



Click on Apply to confirm your settings.



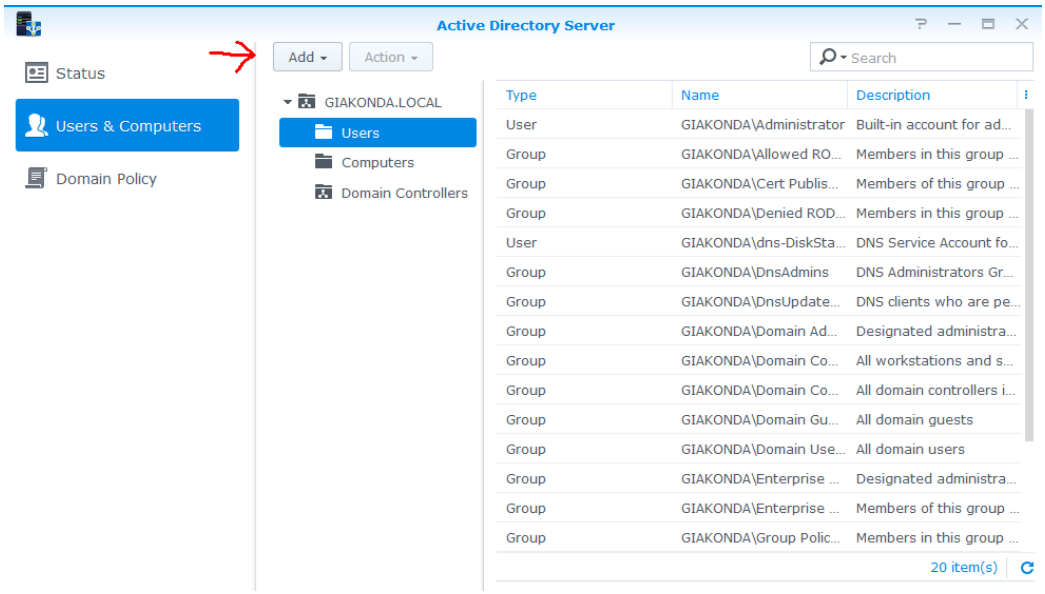
Your AD domain is now set up.

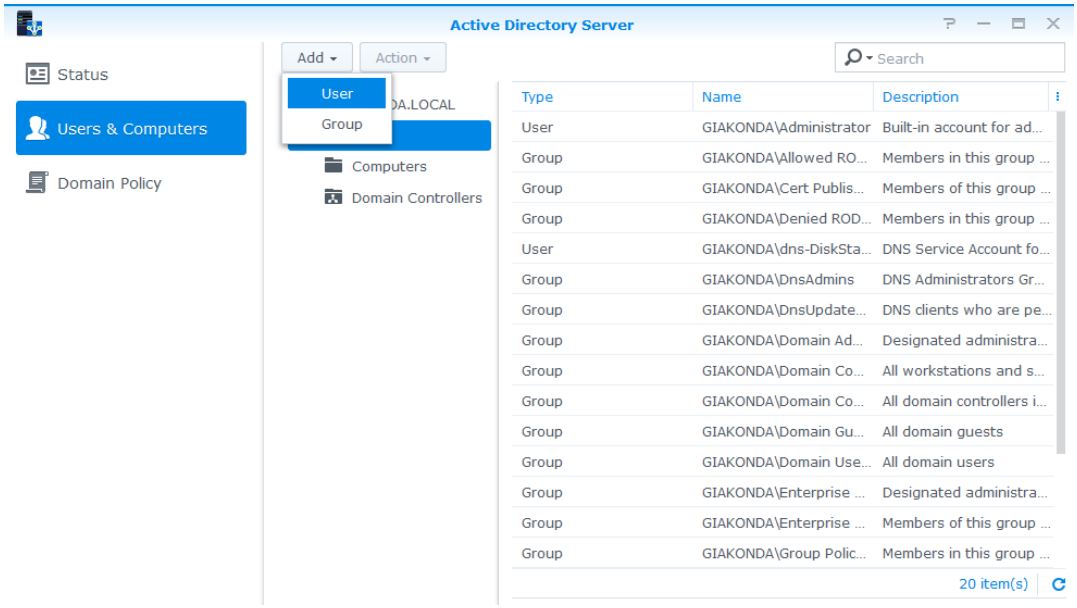


USERS AND COMPUTERS

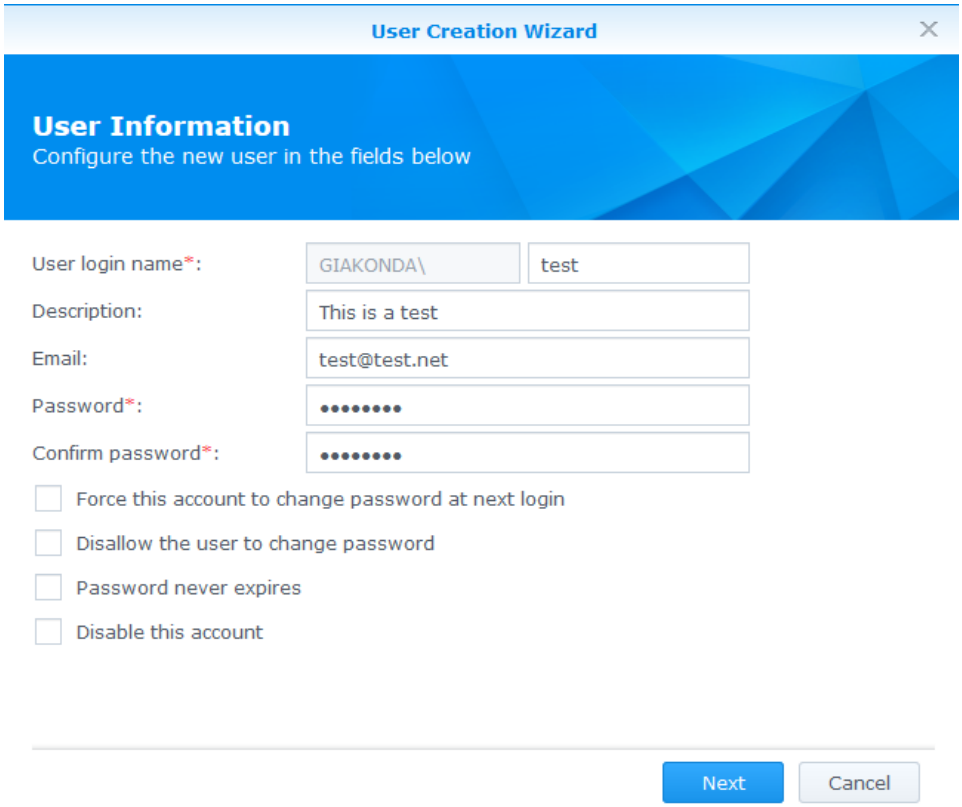
Adding new users

On “Users & Computers” click on Add and then on User

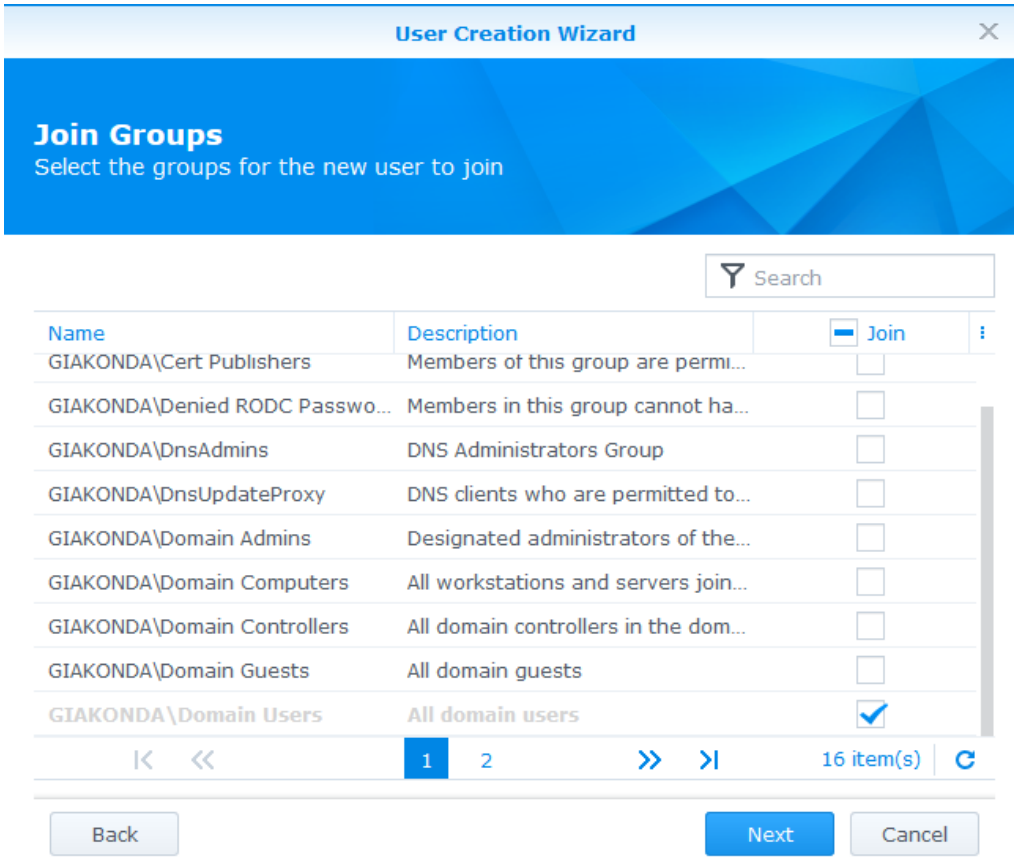




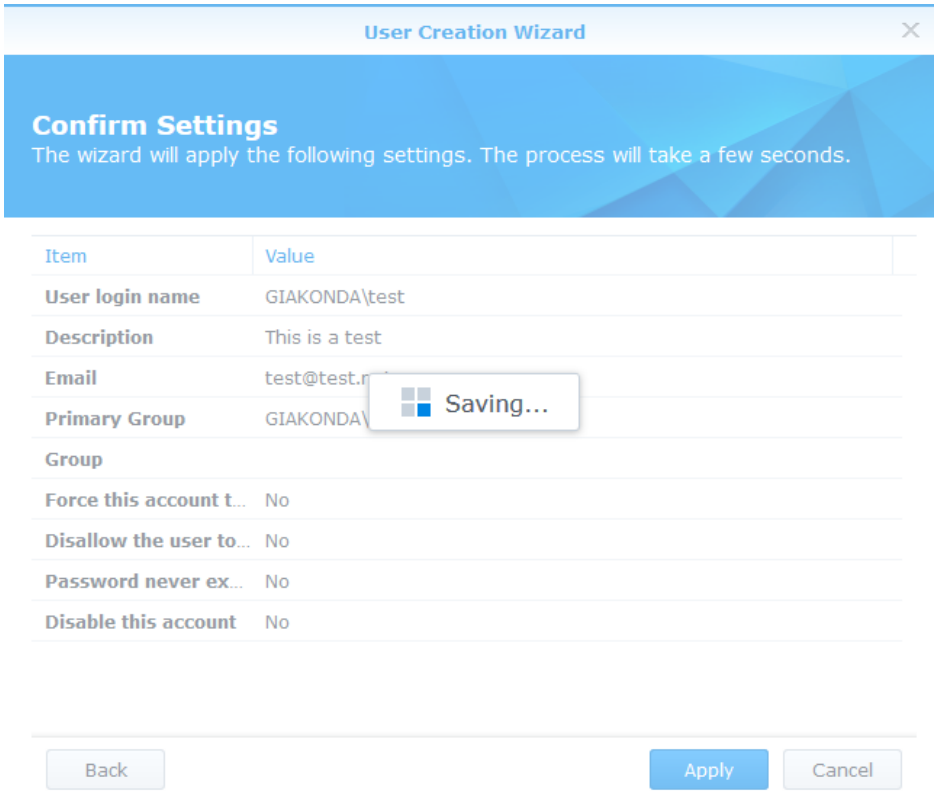
Choose a name and a password for your user (these fields are mandatory). Write a description and an email if you want. Password must be bigger than 7 characters and must contain uppercase, lowercase and numbers. Check the additional options if necessary. Click on Next when you're done.



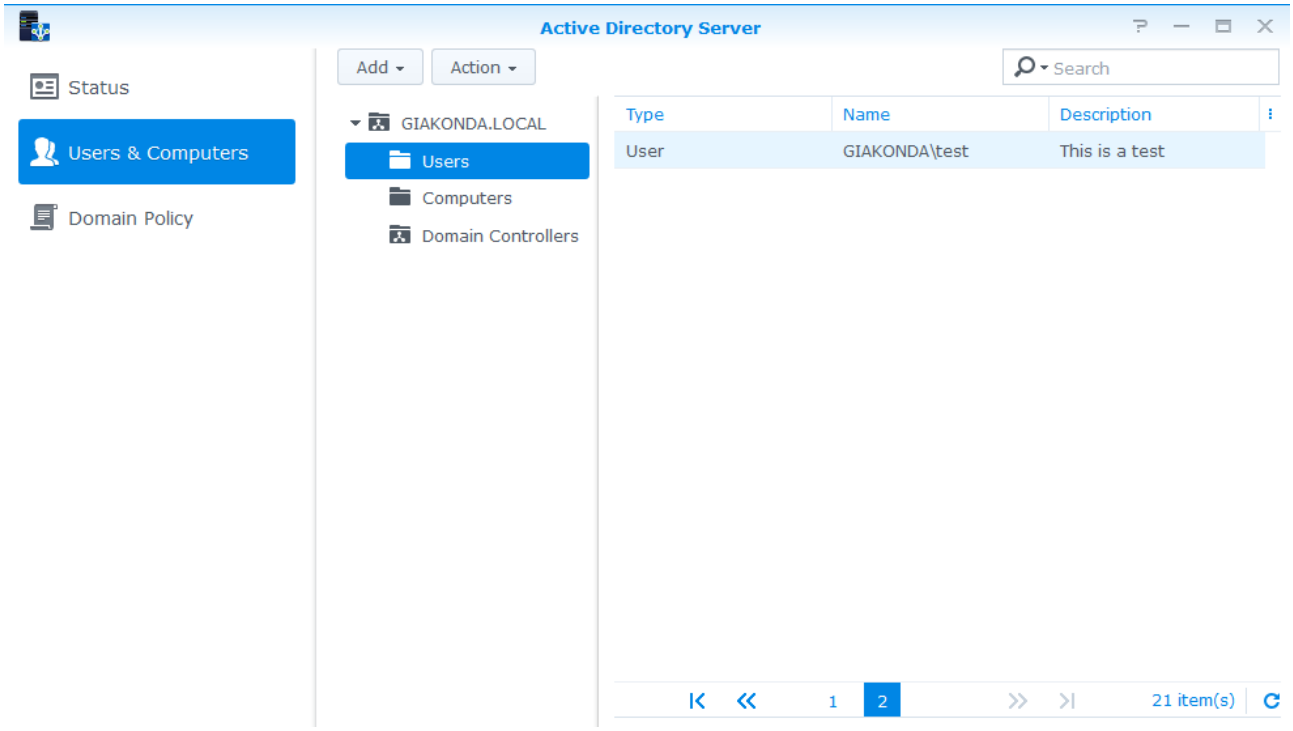
Select whichever groups you want your user to join. Click on Next.



Click on Apply to confirm settings.

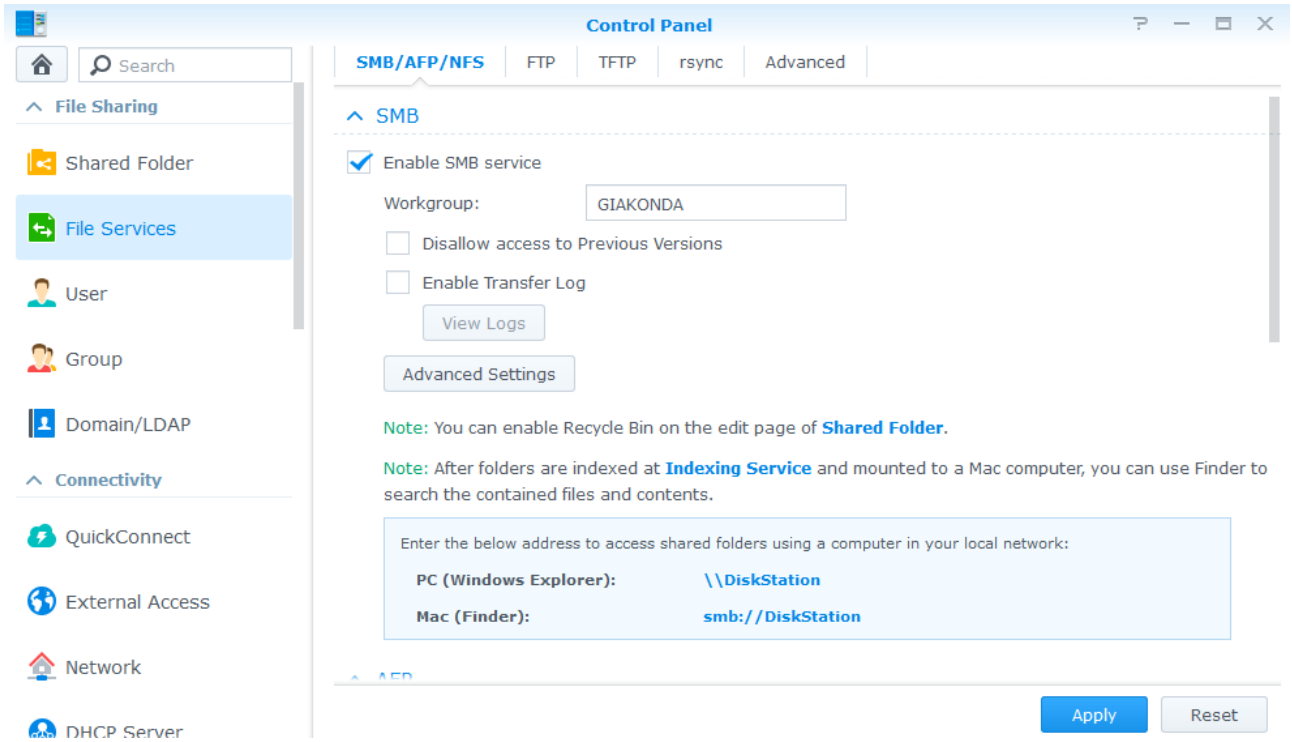


Your user is now in the domain.

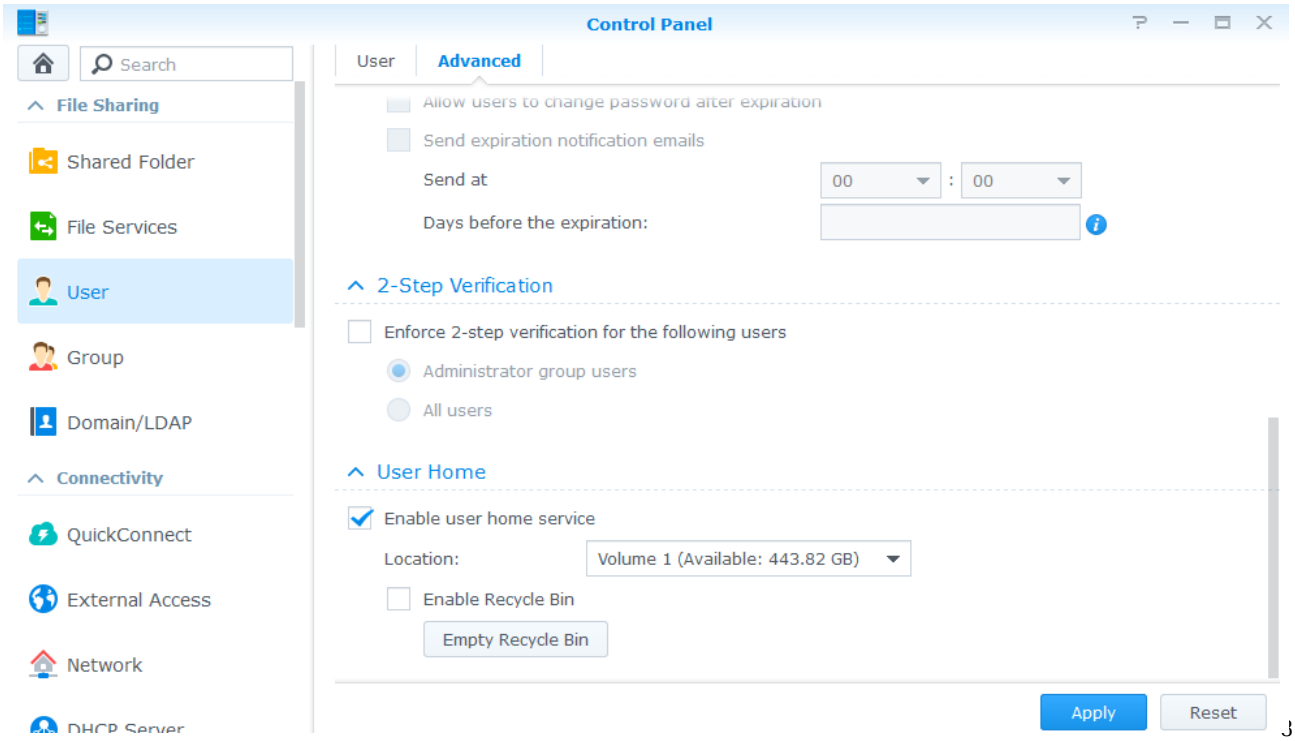


Set a home directory for user in the domain

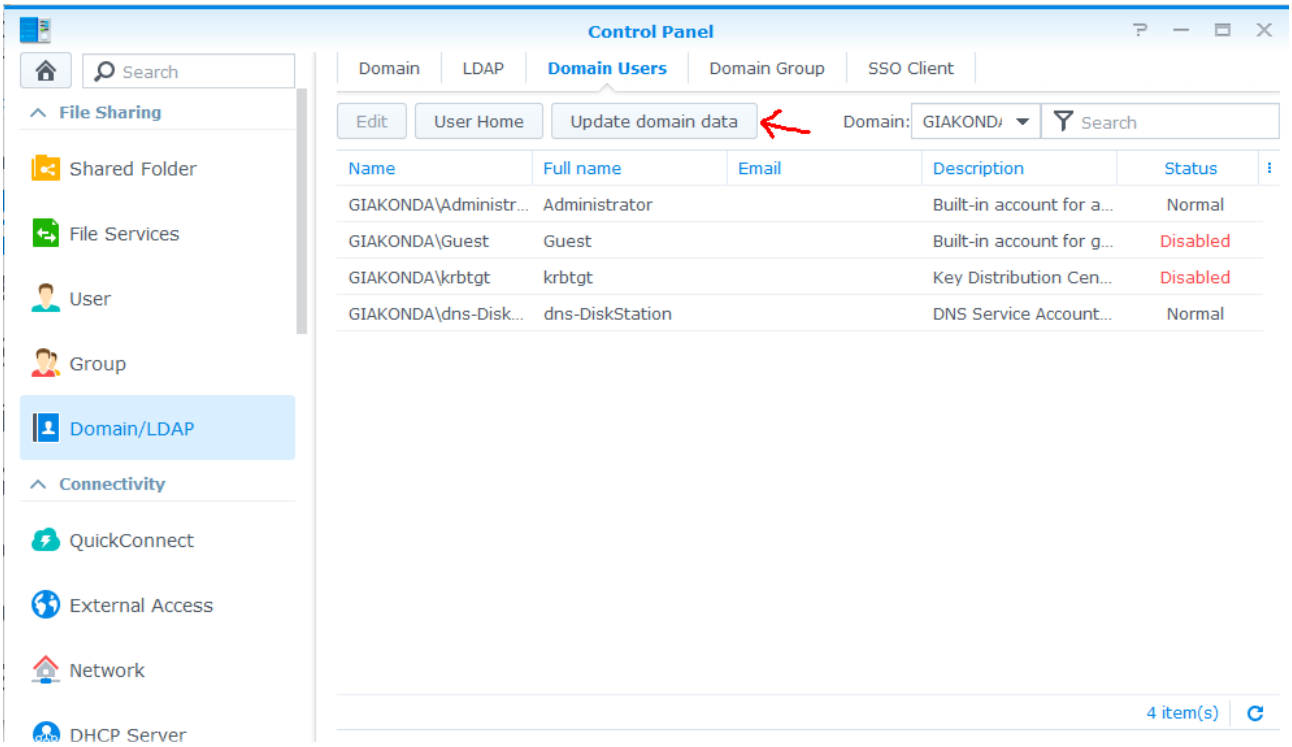
First you will need to enable SMB service if you don’t have it already. Go to Control Panel and in “File Services” check “Enable SMB Service”. Set a workgroup if you need (default workgroup is fine) to and click on Apply.



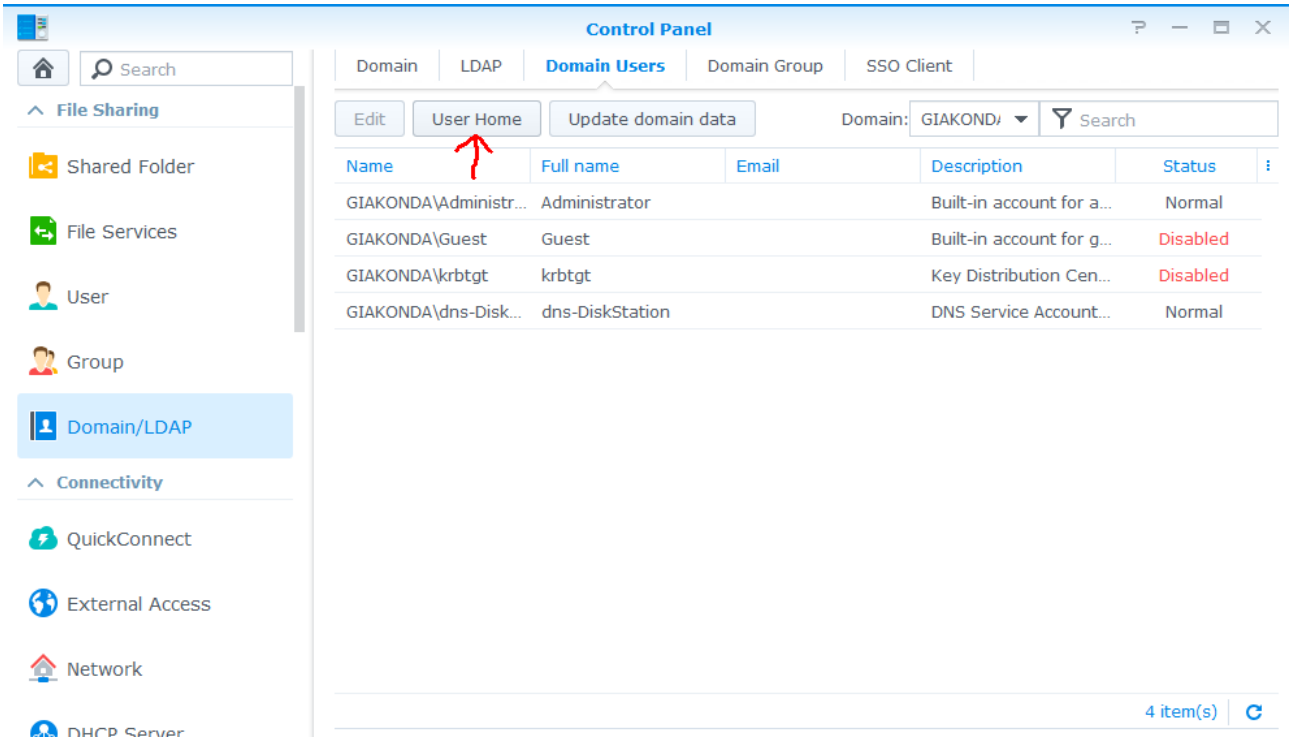
Now click on User. In Advanced, go to User Home and check “Enable user home service”. Click on Apply.

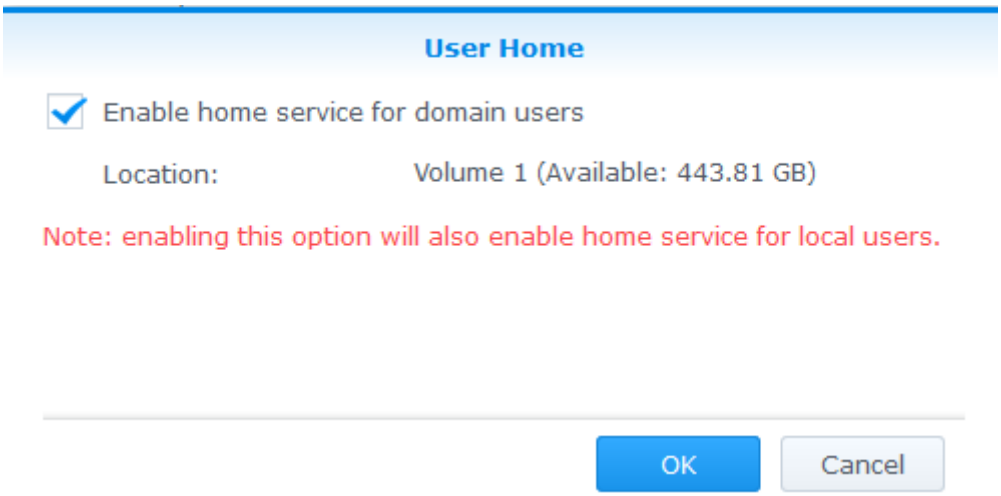


Click on “Domain/LDAP” and, in “Domain Users”, click on “Update domain data”.

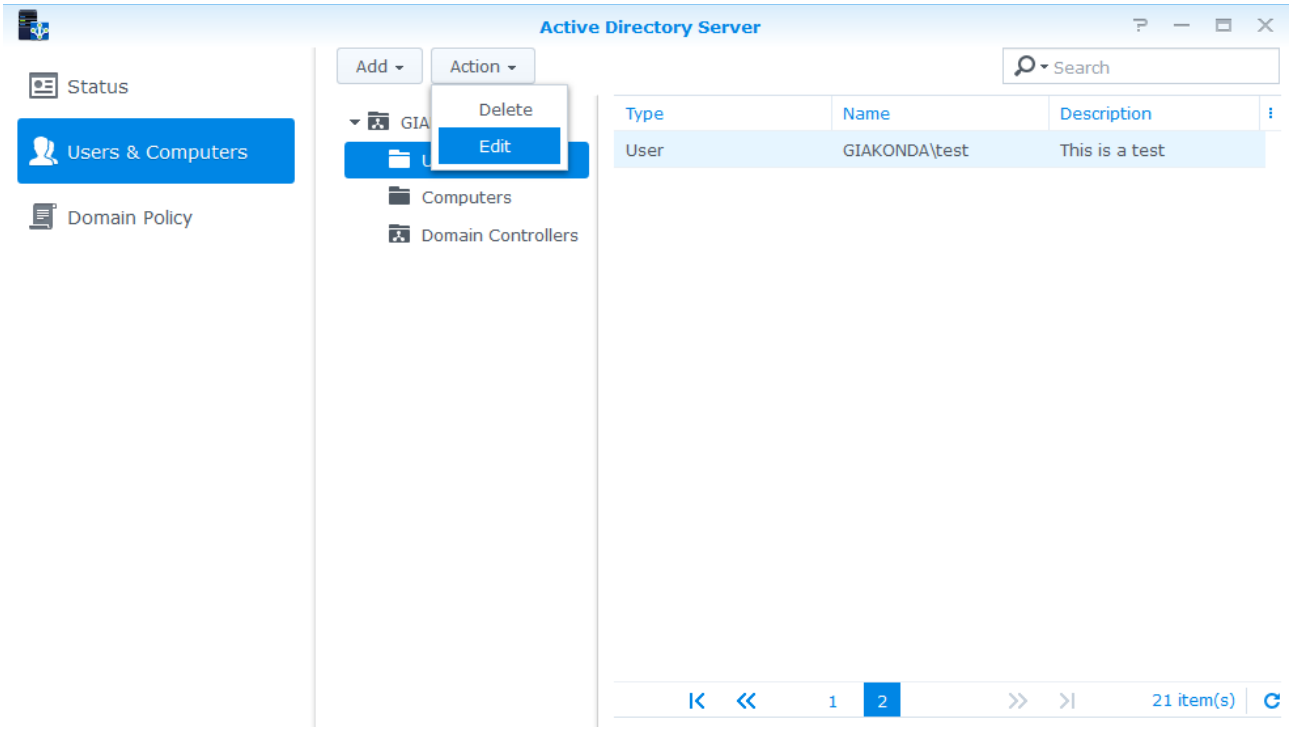


After that click on User Home and check “Enable home service for domain users”.

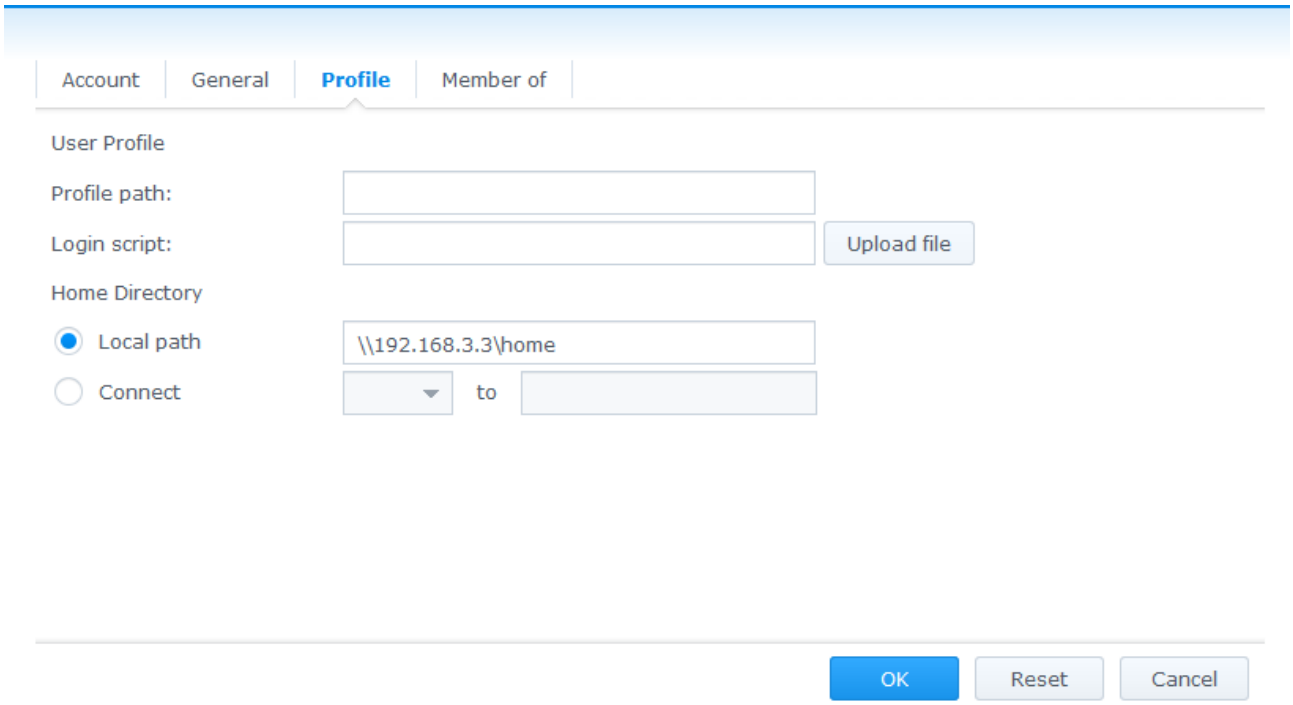




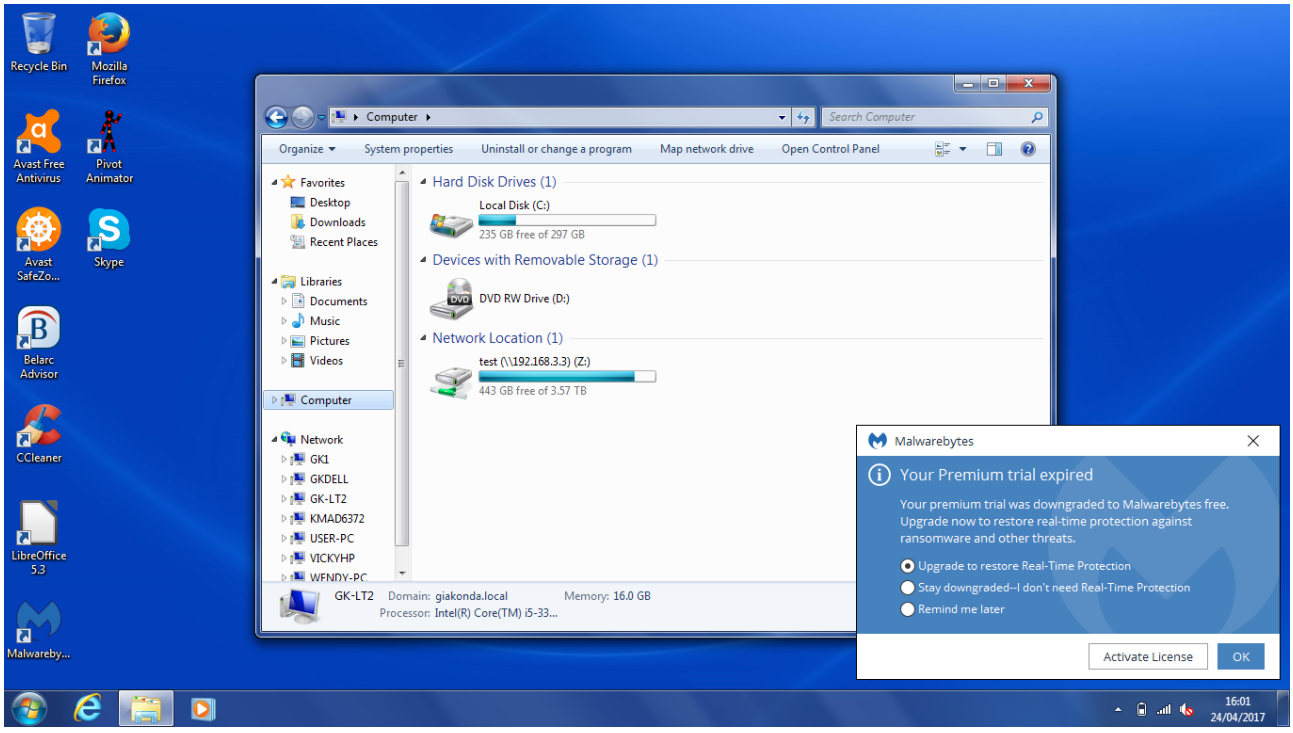
Now go back to Active Directory Server and on Users & Computers click on your new user and click on Action → Edit



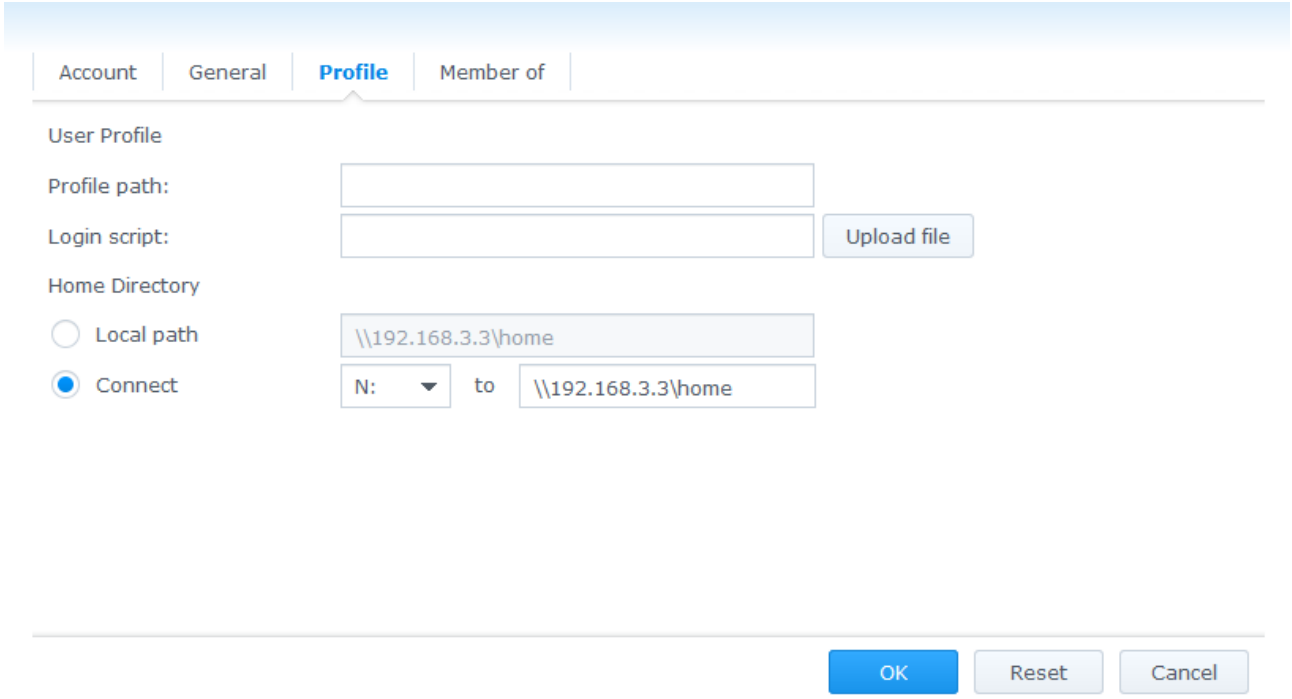
Go to Profile and on “Local path” write the path of the home directory on your Synology NAS. Click on OK.



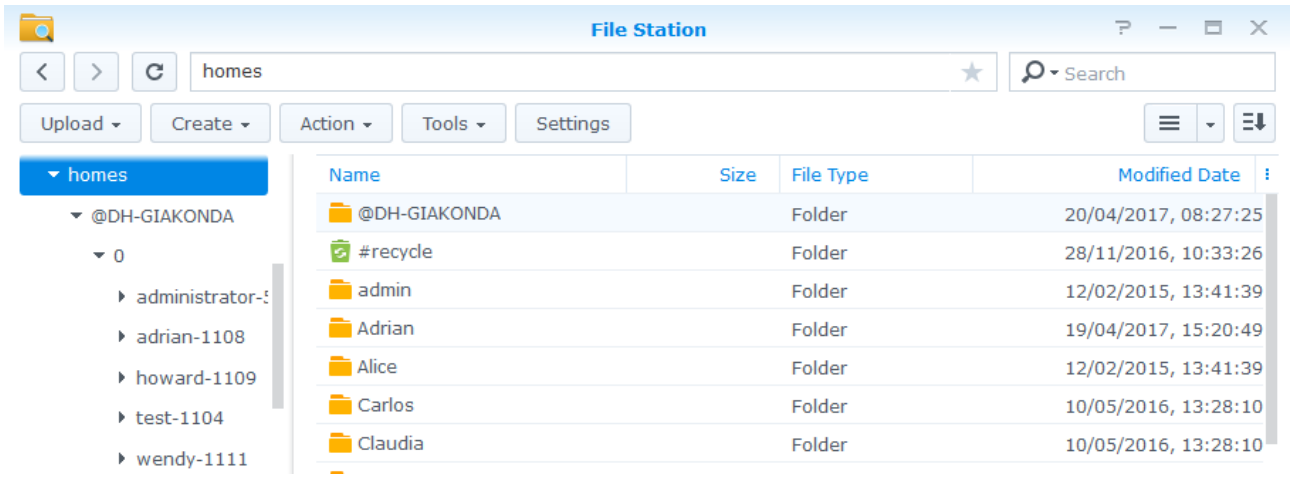
When you log in on your computer your home folder will appear as a mapped network drive:

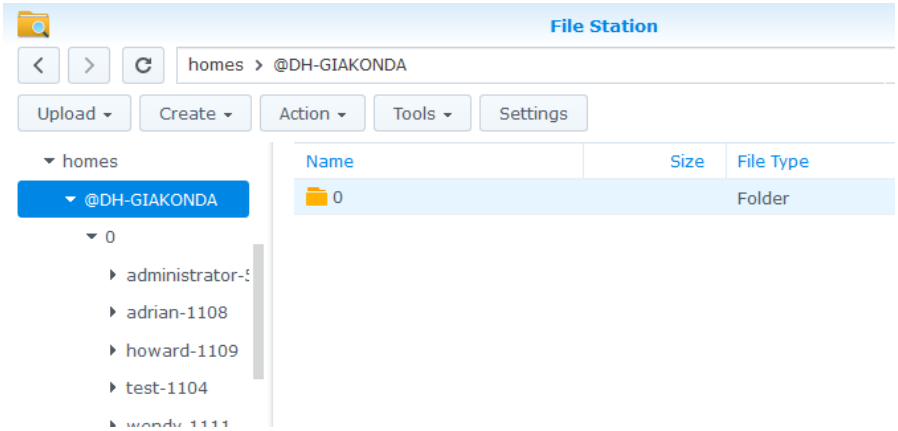


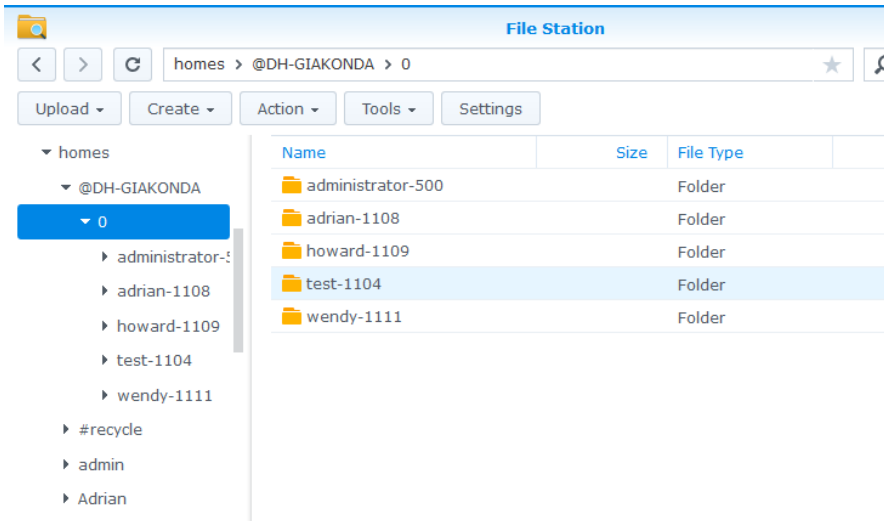
Alternatively you can set up your home directory (Or any other shared folder on the network) to a default network drive by using the Connect option.



The files written on the home network location will actually appear on the **homes** (not home) directory in the server, inside a folder called @DH-YOURDOMAIN. All the folders of the users in the domain will appear in this folder.



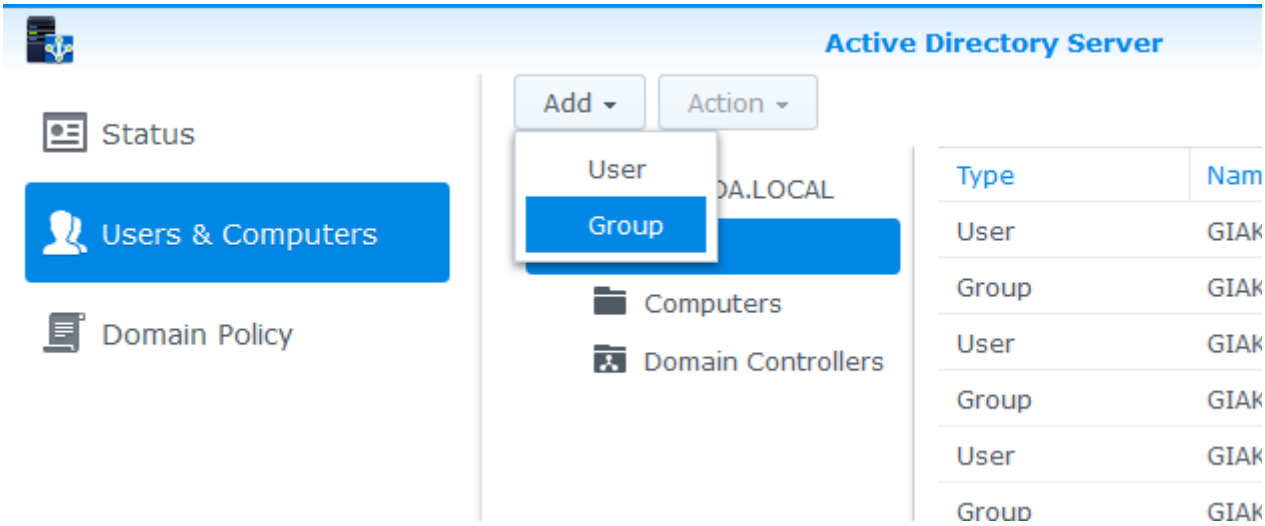

File Station
homes > @DH-GIAKONDA
Upload
Create
Action
Tools
Settings
homes
@DH-GIAKONDA
0
administrator-
adrian-1108
howard-1109
test-1104
Name
Size
File Type
0
Folder


File Station
homes > @DH-GIAKONDA > 0
Upload
Create
Action
Tools
Settings
homes
@DH-GIAKONDA
0
administrator-
adrian-1108
howard-1109
test-1104
wendy-1111
#recycle
admin
Adrian
Name
Size
File Type
administrator-500
Folder
adrian-1108
Folder
howard-1109
Folder
test-1104
Folder
wendy-1111
Folder

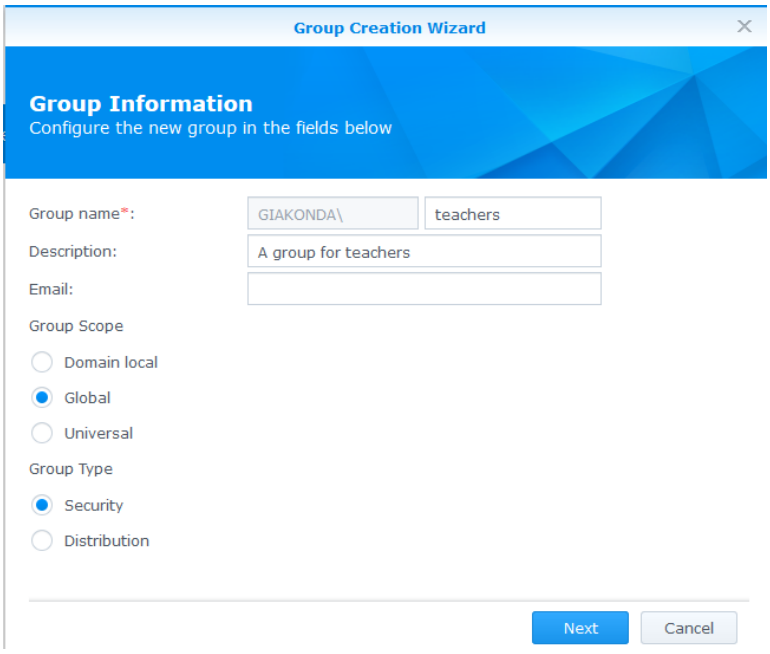
Adding groups

Say you are implementing an AD domain in a school. You'll want the teachers and the students to be separate from each other and not share the same resources, so we will need to set up **groups**, both for students and teachers.

On Active Directory Server, click on Users & Computers, then click on Add → Group:



It will prompt the Group Information window. Before we proceed any further I encourage you to read and understand what **group scopes** and **group types** are and what they are capable of in the next page. Otherwise skip to page 16.



A brief explanation of group types and group scopes as written in here:

Group Scopes decide who can be member of the group and where the group can be used. The three group scopes are as follow:

1. **Domain local:** These groups are only visible in their own domain, and as such they can be used to grant rights and permissions only on resources that reside in the domain.

   Use domain local groups for assigning permissions to resources in their home domain.

   Can contain: Domain Local Groups from the own domain, Global Groups from trusted domains and any domain in the forest, Universal groups from trusted domains and any domain in the forest

2. **Global**: These groups are visible throughout the forest but can only contain accounts and global groups from the same domain.

   Global groups should be used organize users who share the same job tasks or department etc. You should not use global groups to set up permissions as domain local groups are more appropriate.

   Can contain: Global groups from the own domain

3. **Universal**: These groups are visible throughout the forest and can contain accounts, global groups and other universal groups from any domain in the forest (they cannot contain domain local groups).

   Universal groups be used to nest global groups so that they can assign permissions to resources in multiple domains

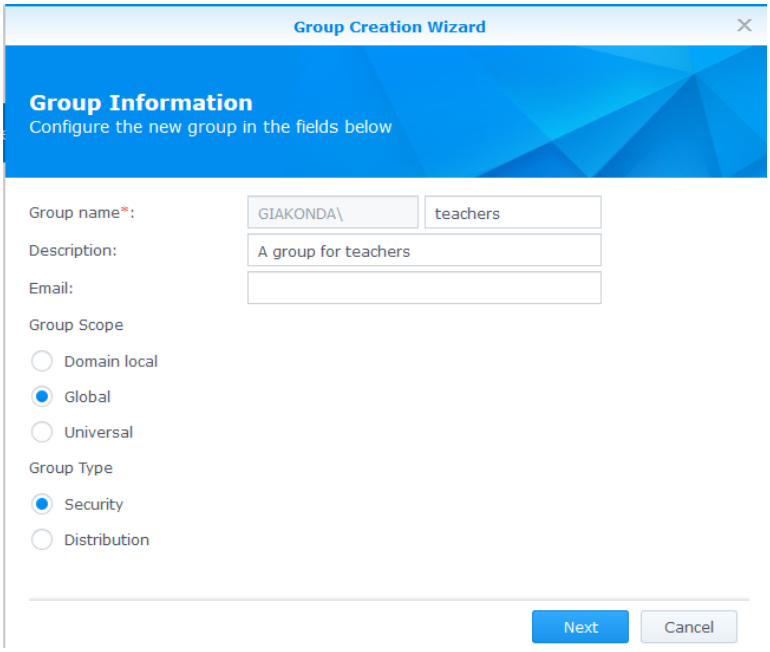
   Can contain: Global groups from any domain in the forest, Universal Groups from any domain in the forest.

Group Types decide what kind of things a group will be able to do on the domain. They are a lot more simple than group scopes:

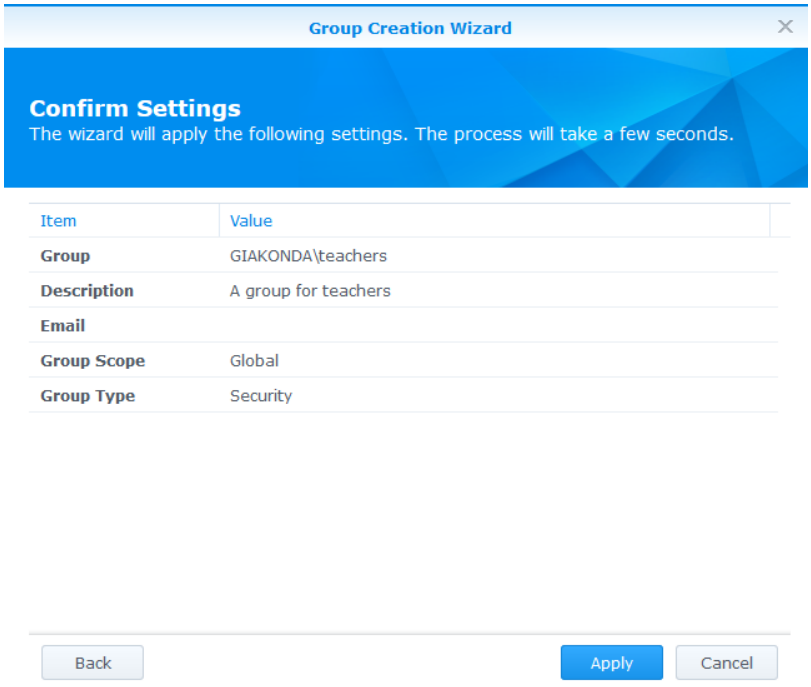
1. **Security**: Security groups are a collection of users who have the same permissions to resources and the same rights to perform certain system tasks. They can be used to set up permissions or simply to have access to resources in the domain.
2. **Distribution**: Distribution groups are created to share information with a group of users through email messages, using applications such as Microsoft Exchange.

For both teachers and students we are going to set up groups with **Global** scope and **Security** types as they are going to be used for sharing resources between each other and nothing else. We can set up other groups as Domain Local groups if we need to set permissions for those resources.

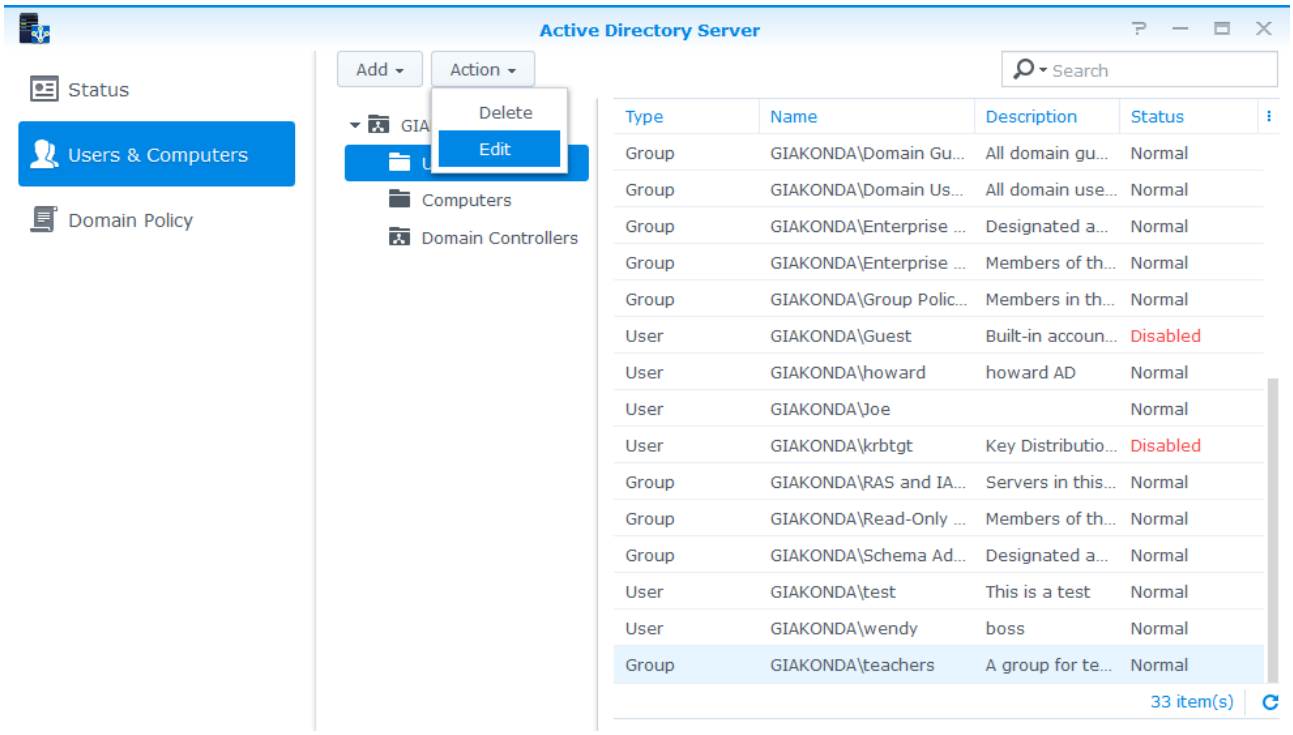
So now that we have figured out which and how groups are created, in Group Information, we will set up the group name in the domain, a description and email (Both optional), and choose the scope and the type of the group in the domain, which in this case is Global scope and Security type.



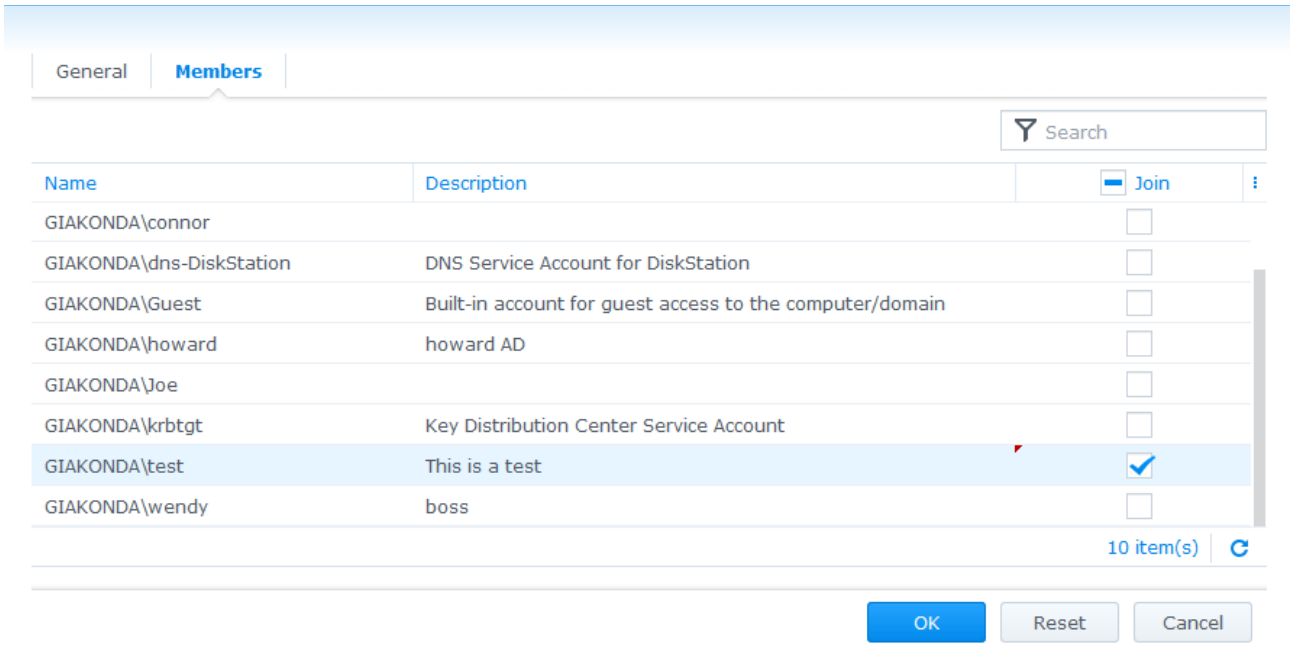
Click on Next. A summary with all the information we have set up will appear. Click on Next to confirm.



To add members into the group click on the group in the list in Users & Computers, then click on Action → Edit

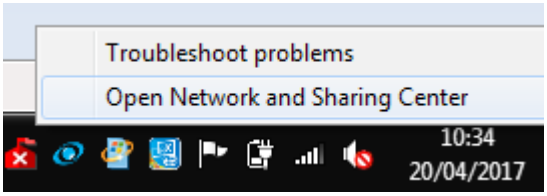


Click on the Members tab. A list of users will appear. Check the Join box for each user you want to join into the group, and then click on OK.

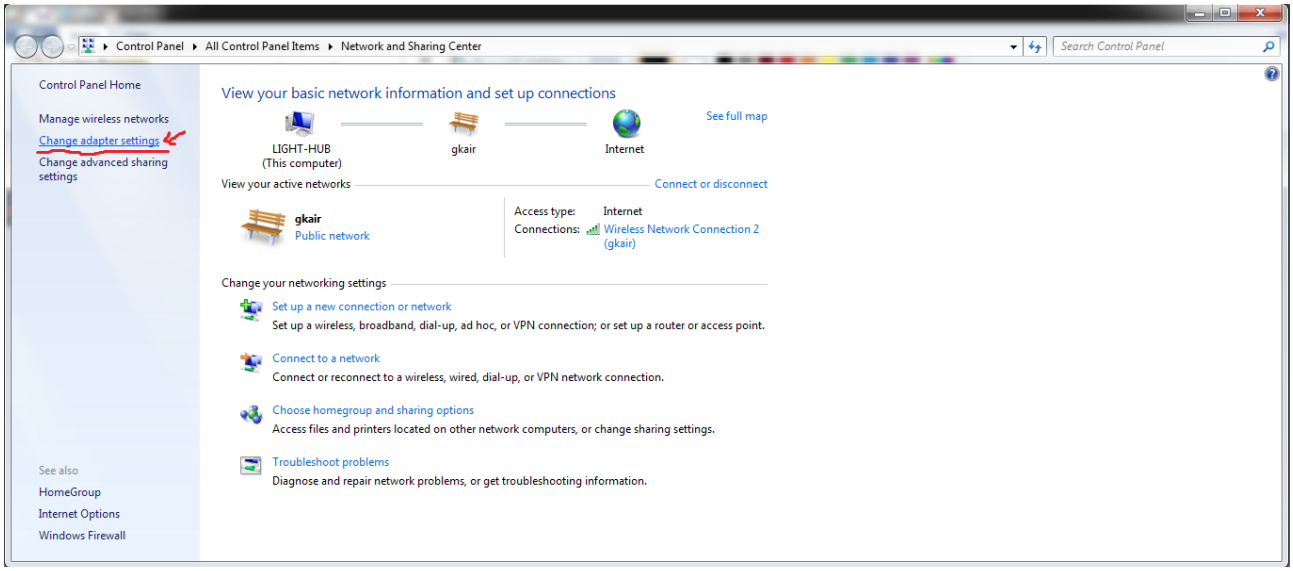


JOINING AN AD DOMAIN

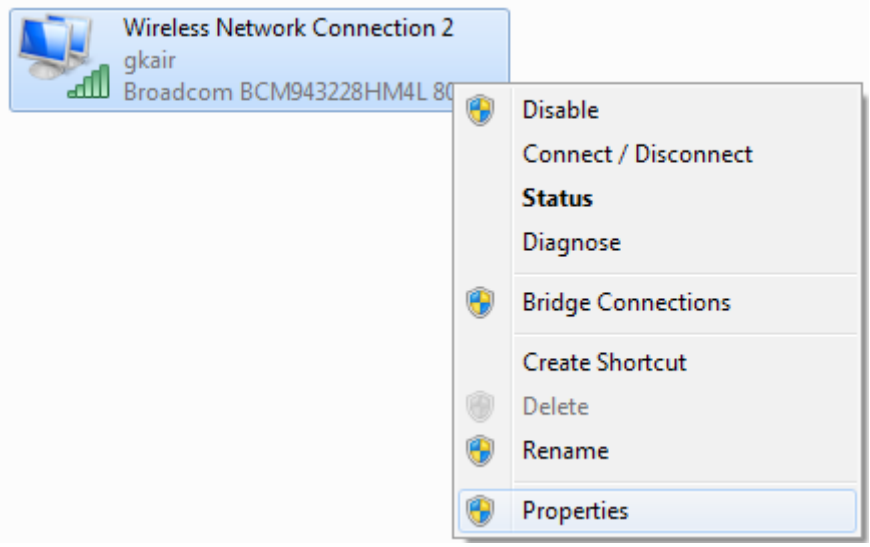
First we'll need to set up the server as our primary DNS server. To do that, under the toolbar, right click on the network icon, and click on "Open Network and Sharing Center", or go to Control Panel → Network and Sharing Center.



Once we're in Network and Sharing Center, click on "Change Adapter Settings" on the upper left.

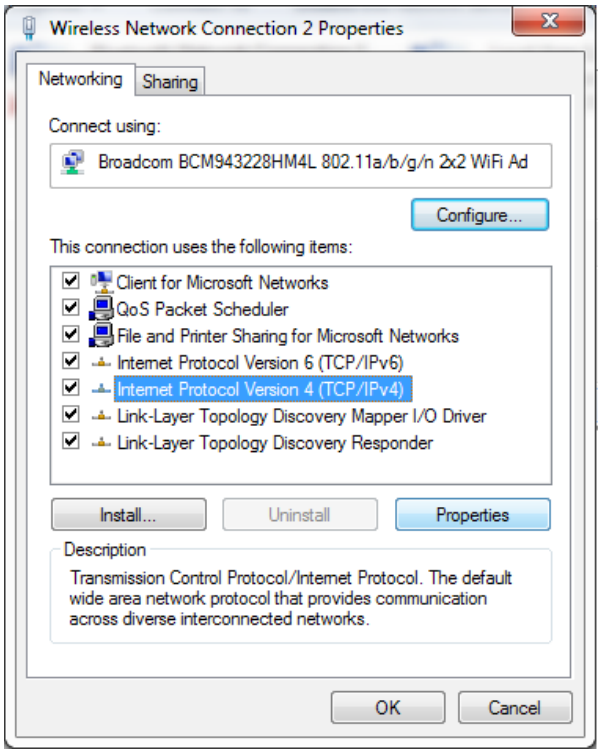


Right click on the network adapter we're connected with and then click on Properties.

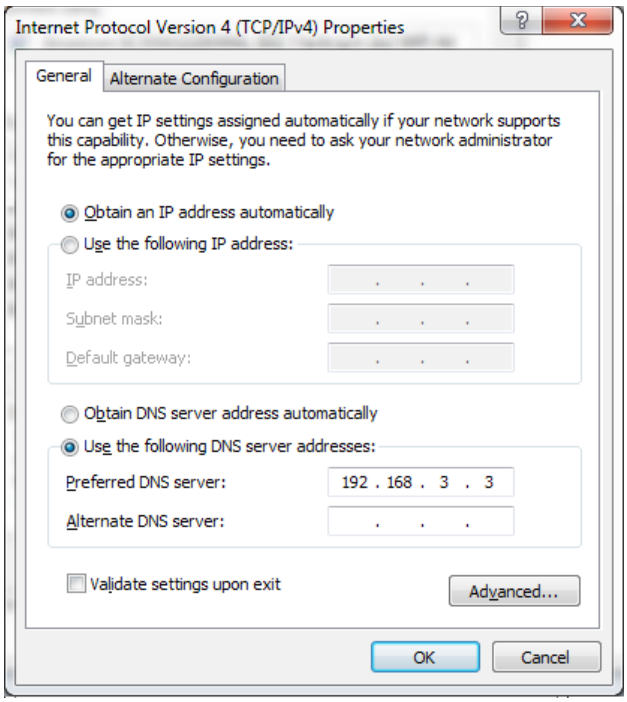


If you have a DHCP server (Be it in your router or your Synology server) you can set the IP address of the Synology server as your primary DNS Server to set the AD server as your DNS server automatically so you can skip this step if you have set it up in your DHCP server. Else follow these instructions:

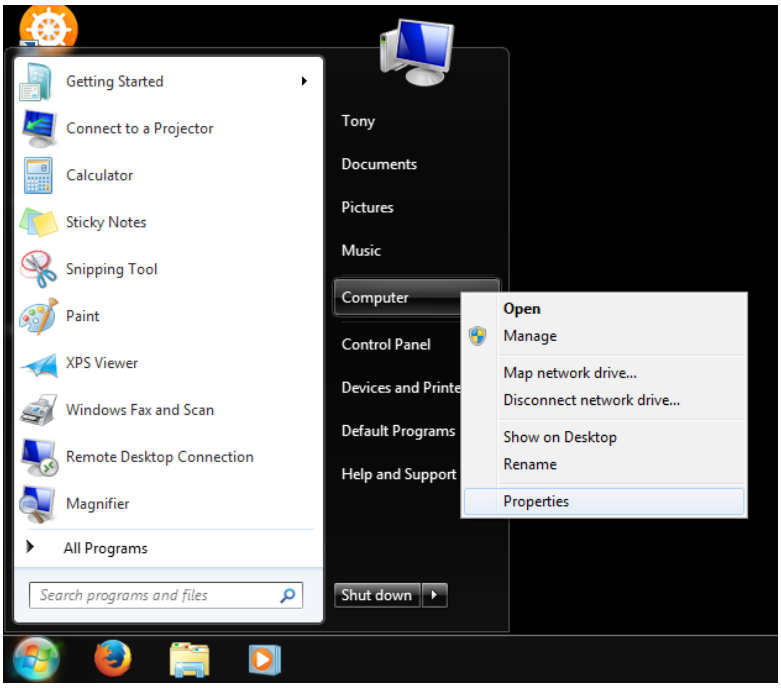
Click on “Internet Protocol Version 4 (TCP/IPv4)” and then click on Properties.

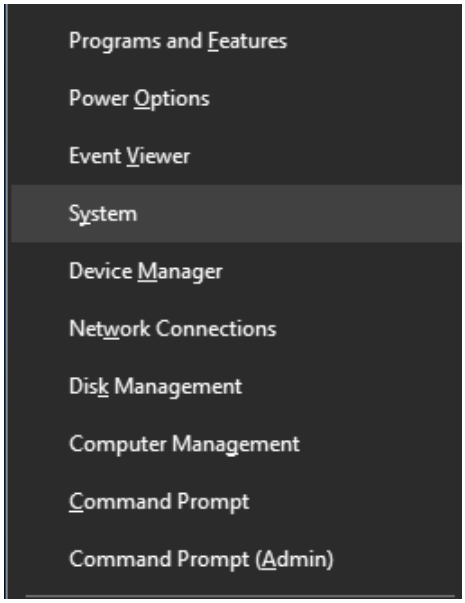


Click on “Use the following DNS server addresses:”, type in the address of the server and click on OK.

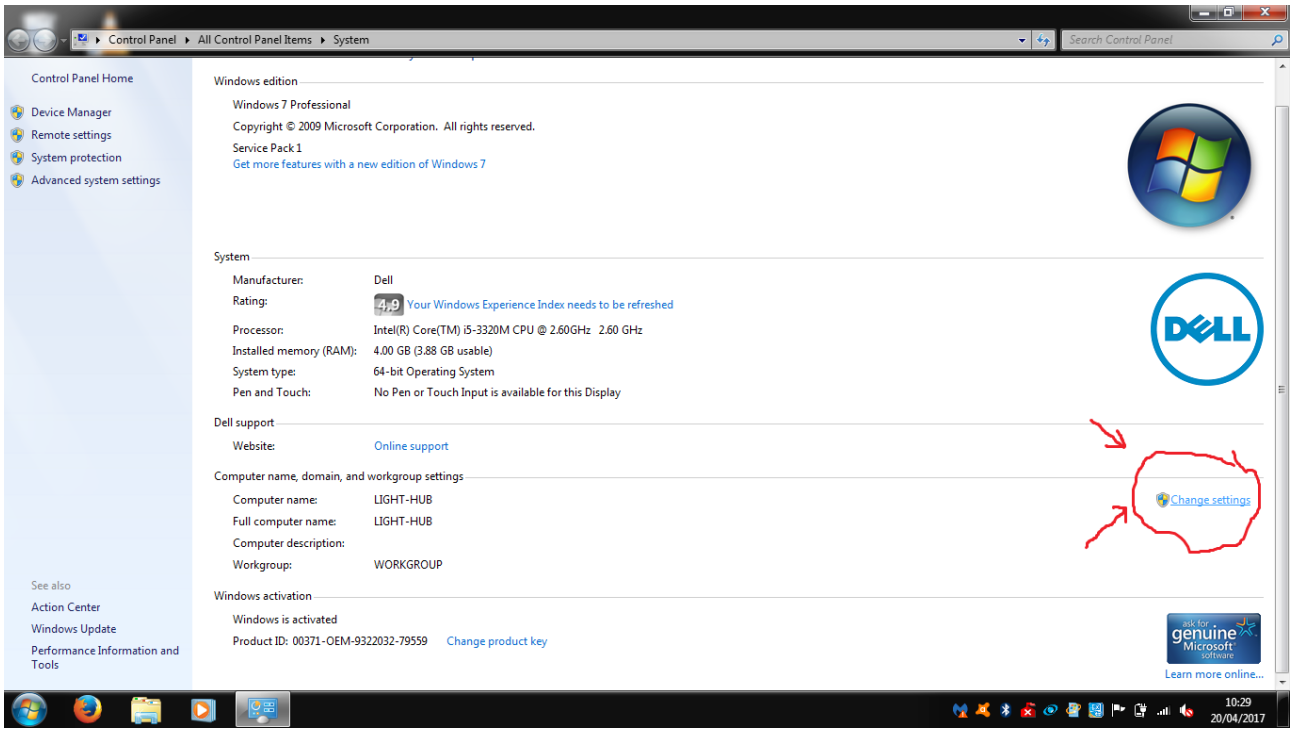


Now we go back to the desktop, and click on the Windows button to open Start Menu. We will need to go to System settings. On Windows XP, Windows Vista & Windows 7: right-click on Computer, and then click on Properties. On Windows 8, 8.1 & 10: Press Windows key + X (or right-click on the Windows logo) and click on System.

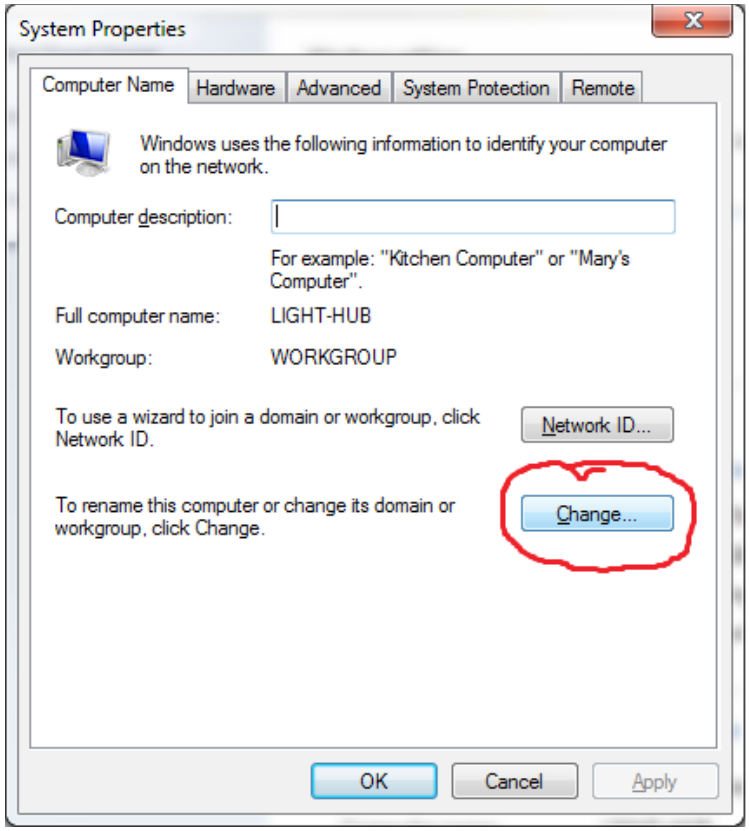




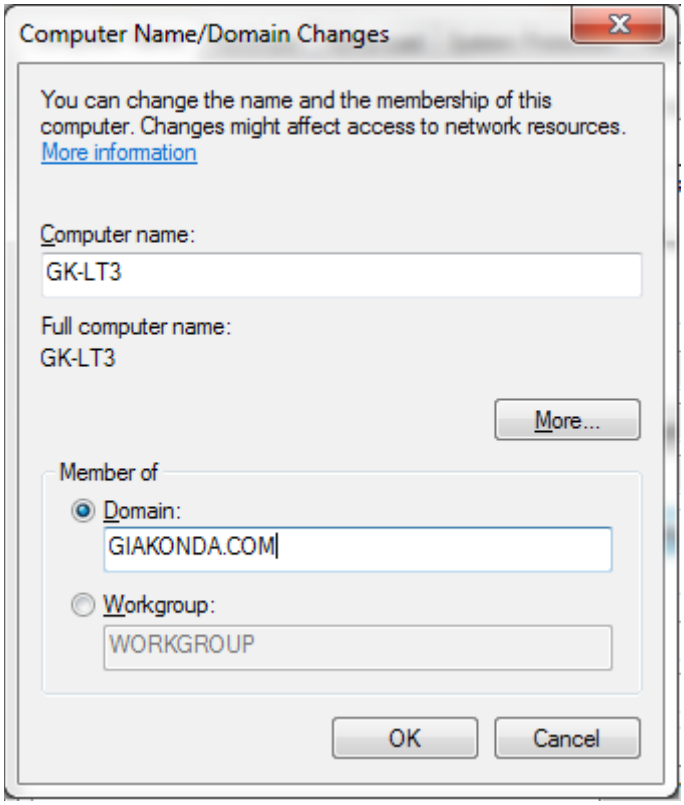
Under “Computer name, domain and workgroup settings” click on Change settings.



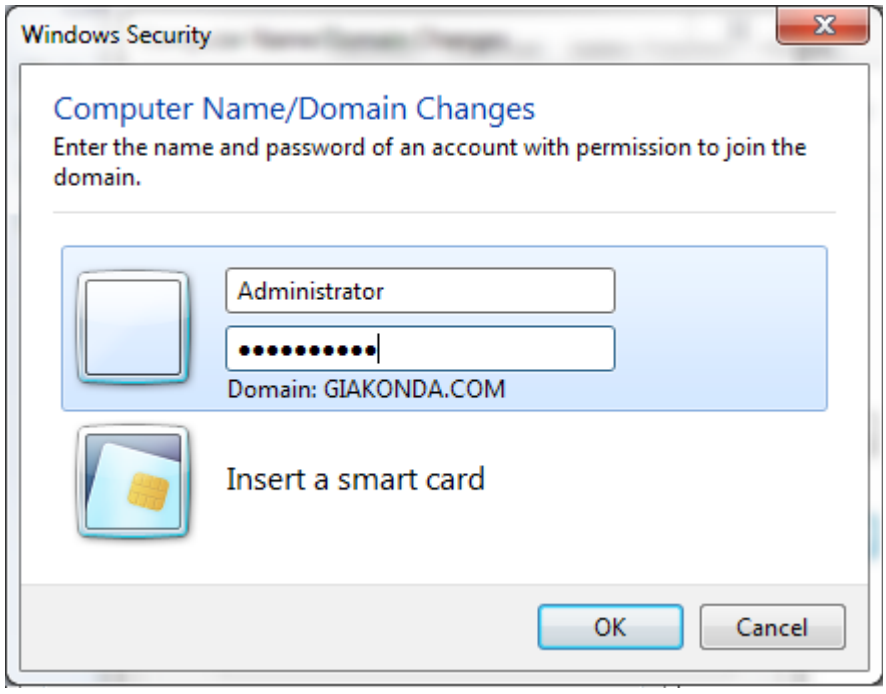
Click on “Change”.



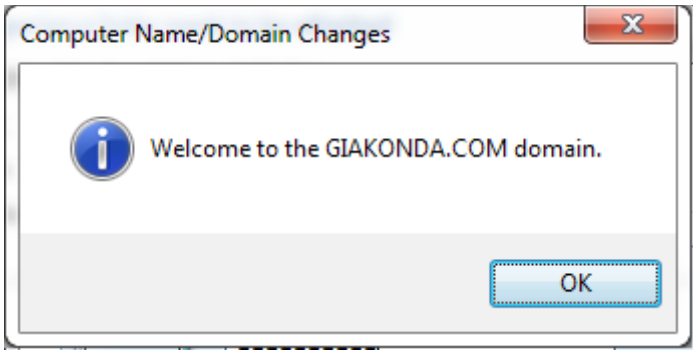
Now type in “Domain” the name of our domain, and change the Computer name if necessary.



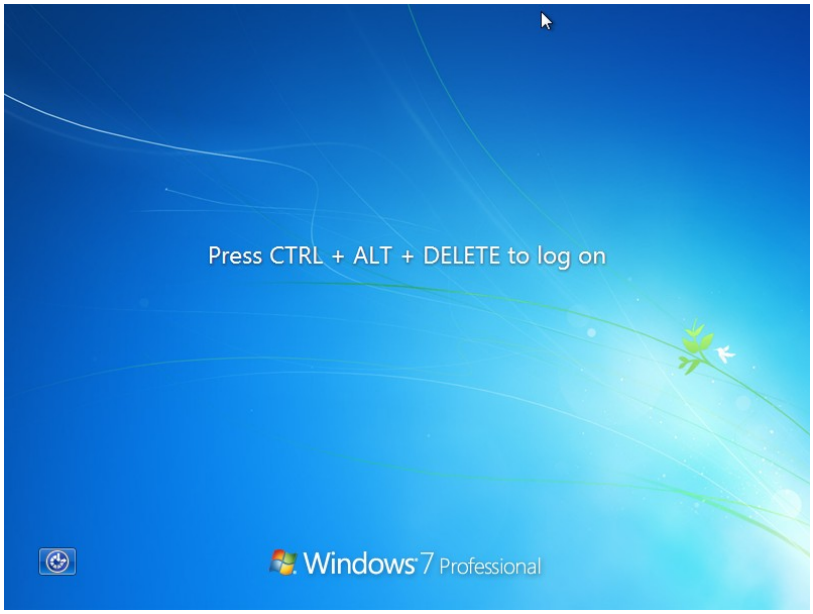
A window will prompt asking for authentication. Enter a user that belongs to the domain and its password.

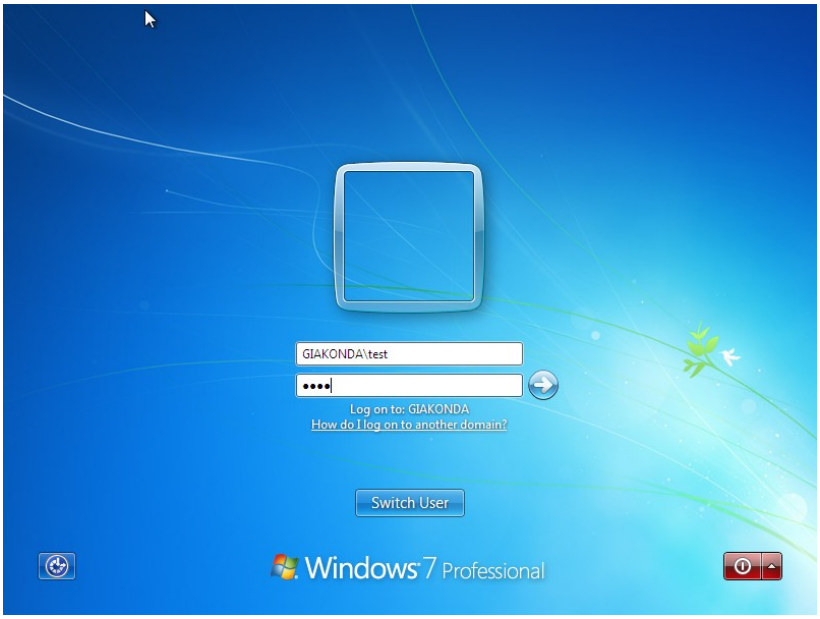


If everything is fine a window like this will prompt afterwards.



After clicking on OK we need to restart the computer. Restart and login with a user in the domain.



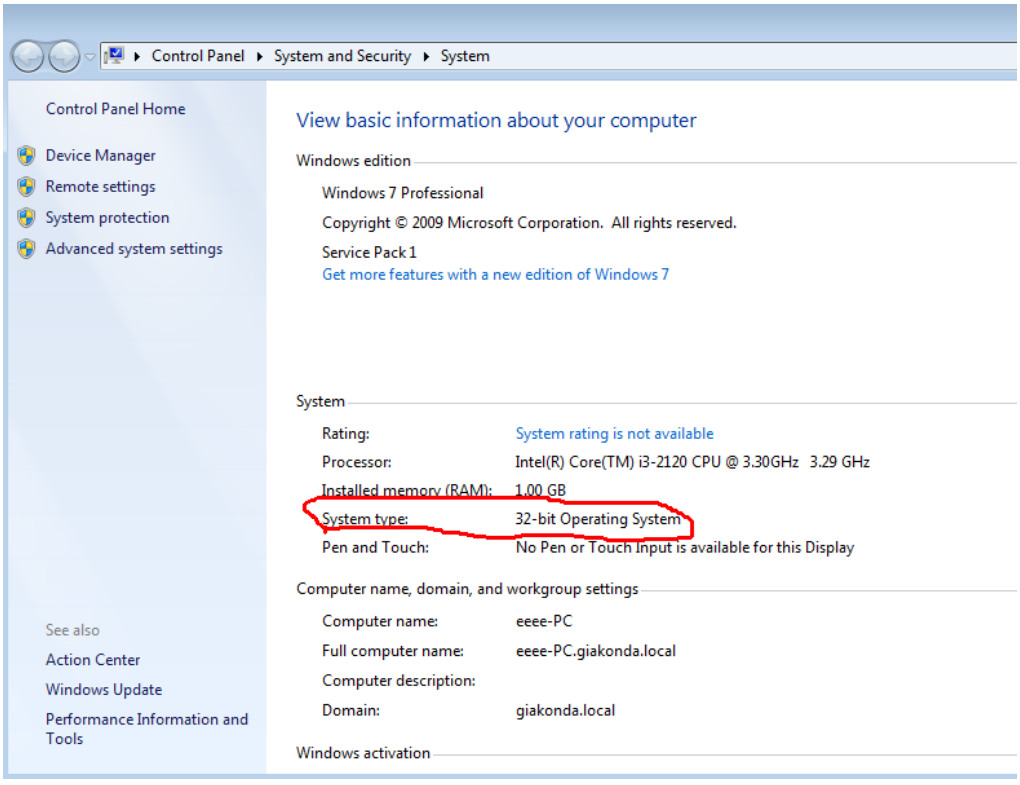


USING REMOTE SERVER ADMINISTRATION TOOLS ON SYNOLOGY AD

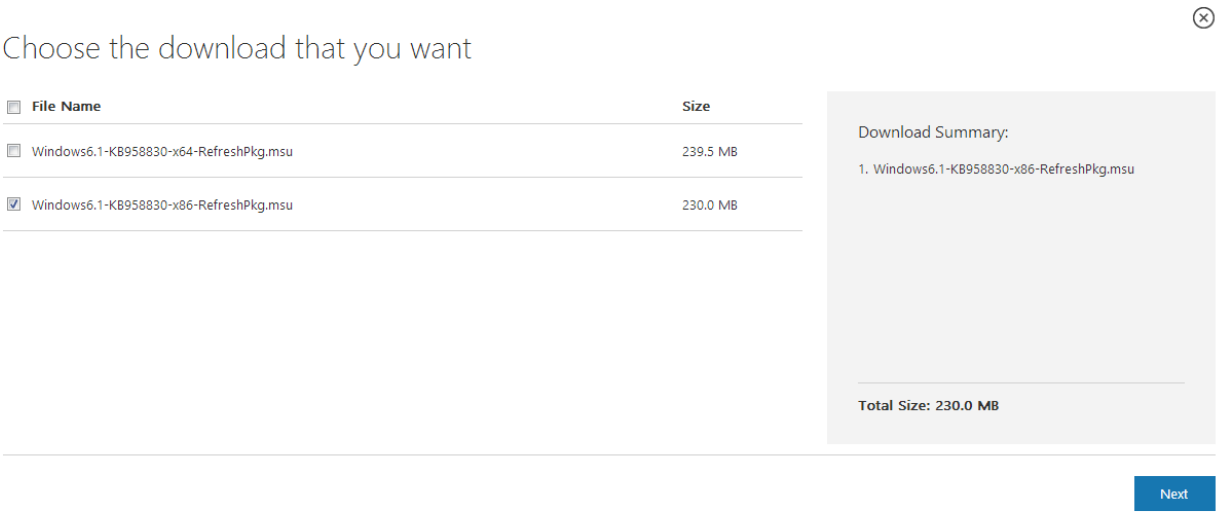
You can use the official Remote Server Administration Tools for Windows on a Synology server with an AD domain. Some tools are limited to computers that are joined into the domain while some of them work remotely with no need to actually join the domain.

To install RSAT first you are going to need to install the update that contains RSAT. On Windows 7 you must download and install this update (https://www.microsoft.com/en-gb/download/details.aspx?id=7887). For Windows 10 download and install this update (https://www.microsoft.com/en-us/download/details.aspx?id=45520). For other versions of Windows please check on the Microsoft webpage for Remote Server Administration Tools.

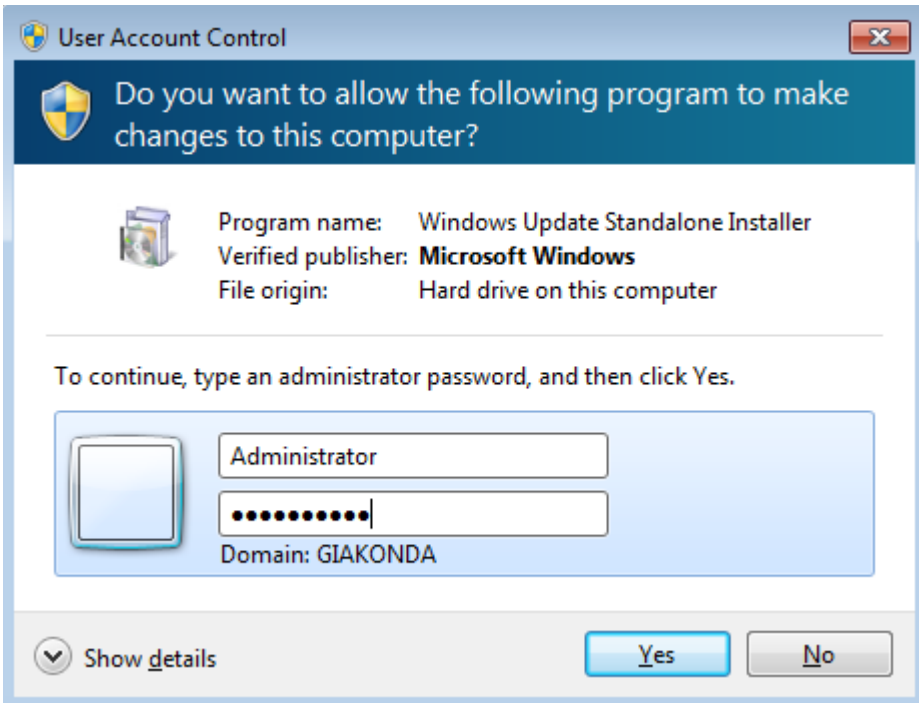
Check if your version of Windows is either 32-bit (x86) or 64-bit (x64). If you're not sure go to Control Panel → System and check on System type.



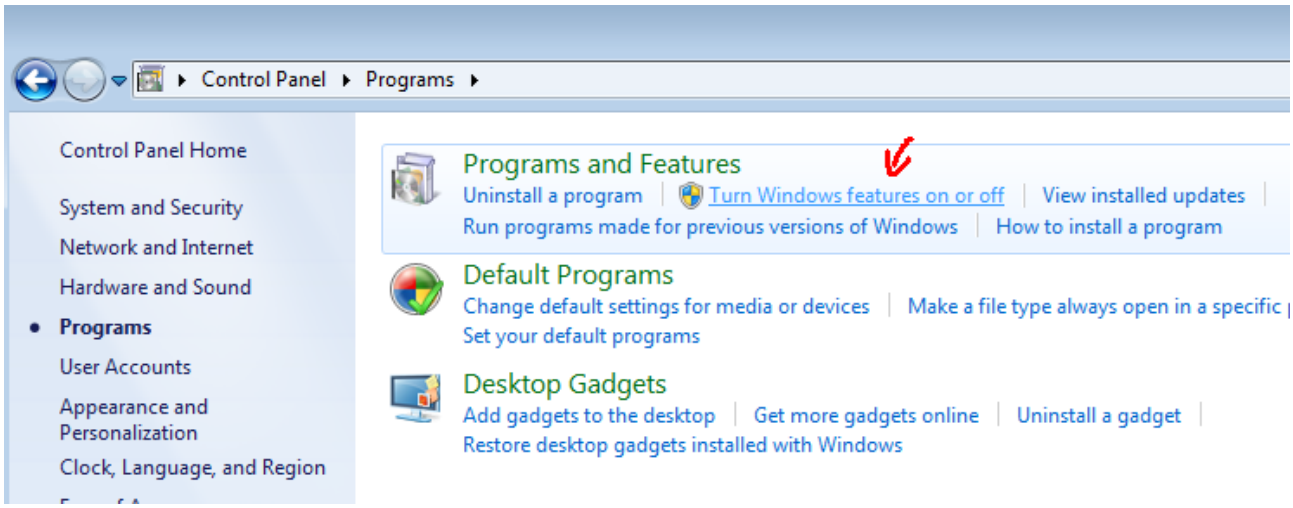
Now download the update that corresponds to your Windows version (In my case it's 32-bit which is x86)



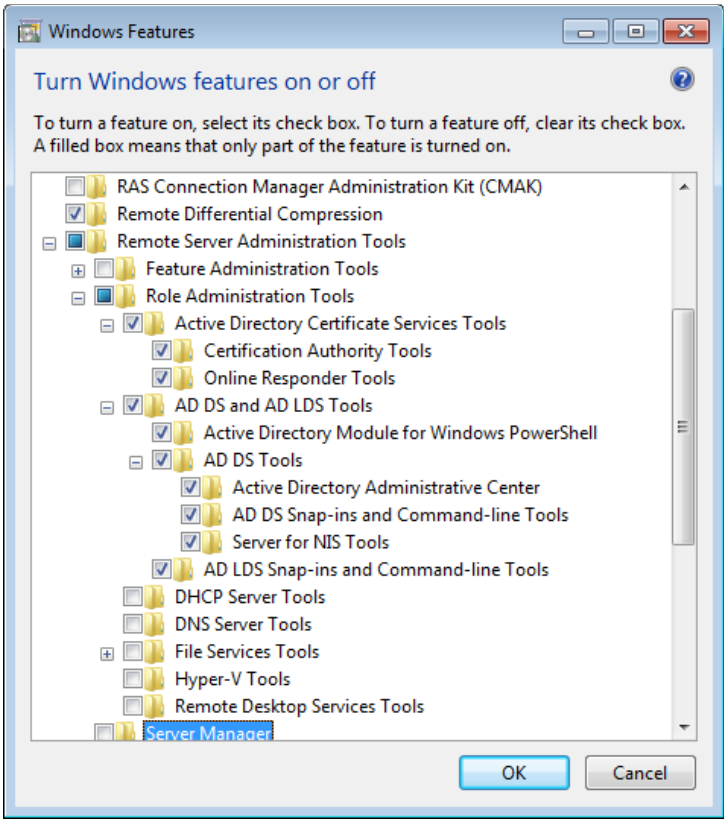
Open the update. If you're joined into the domain you need to have access to the Administrator account on the domain.



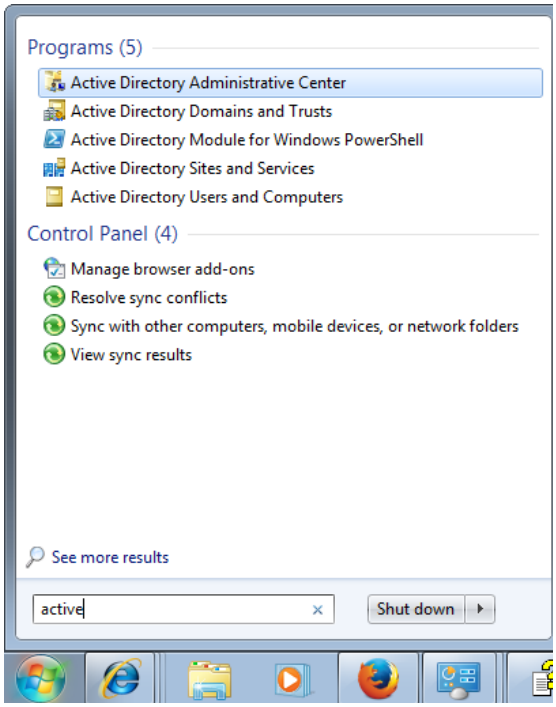
Once it's done installing the update go to Control Panel → Programs and Features → Turn Windows features on or off



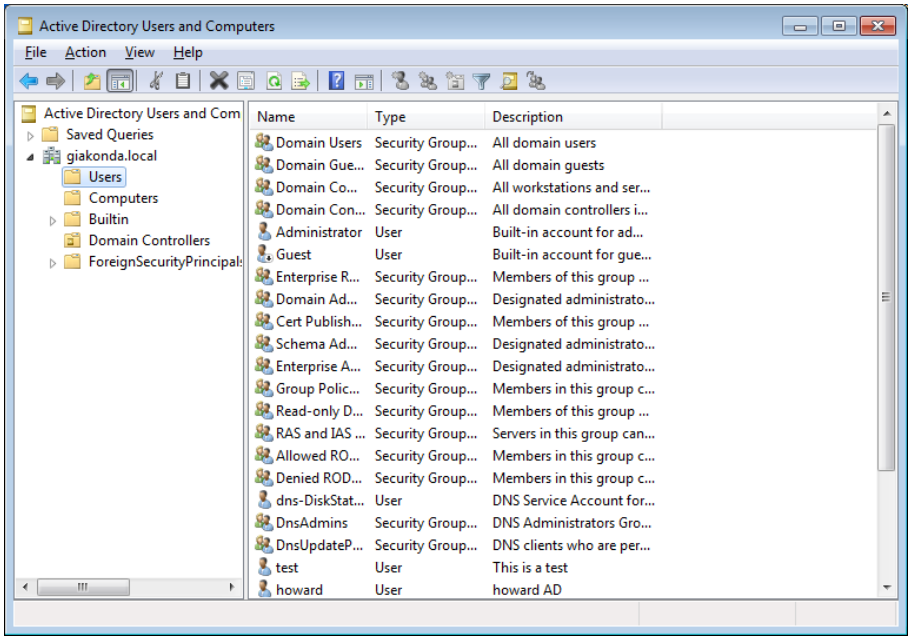
Browse the list until you find the Remote Server Administration Tools folder. There is a lot of tools ready to be used to manage Windows Server but for this we will only install all of the AD tools. Check every AD tool on the list and click on OK.



Once it's done open the Start Menu (the Windows logo on the taskbar) and write "active directory" in the Search bar. All the AD tools will be listed here. Let's click on Active Directory Users and Computers.



You can list which users and groups are set in the AD domain and create new users and groups, which computers are or have connected to the domain, setting Domain Controllers, etc.



Note that not all of the tools available work with AD Server on Synology.