Setting Up Active Directory Compatible Domain Services On Uplevel

This document outlines the process for configuring domain services on an Uplevel system.

Step 1. Determine the Domain Name and DNS Suffix to use

Determining a domain name and associated DNS suffix to use for the domain is extremely important. In cases where an existing Windows domain is being replaced, this is simple – use the existing Fully Qualified Domain Name (FQDN) for the domain controller. However, if a new domain is being created, the following rules should be observed:

- **Do not use an existing publicly accessible domain** (e.g., *dom.microsoft.com* is a **BAD** idea!)
- The FQDN should comprise at least a two-word DNS suffix (e.g., "mycompany.test") and an AD short domain name (e.g., "mydom"): something like "mydom.mycompany.test", for example.
- Avoid special characters in the FQDN.

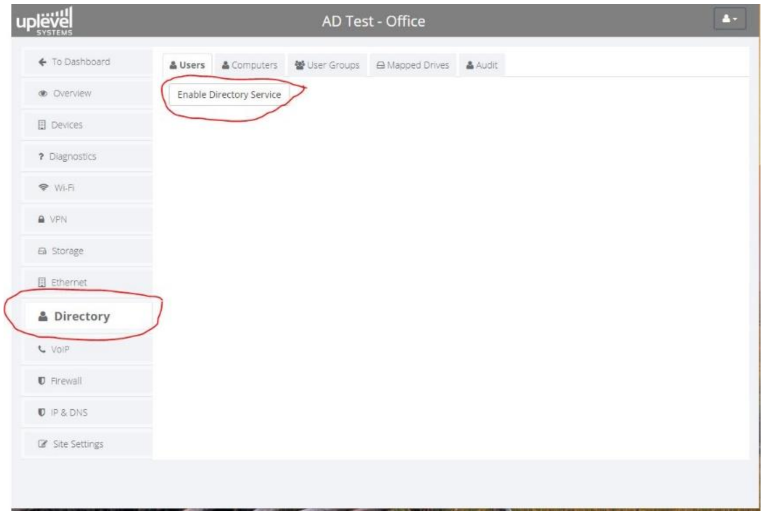
For a complete set of recommendations, see this Microsoft TechNet article: https://social.technet.microsoft.com/wiki/contents/articles/34981.active-directory-best-practices-for-internal-domain-and-network-names.aspx

Step 2. Log into the Uplevel Partner Portal.

NOTE: for AD beta setups, a special beta portal has been set up for partners to use. THE DIRECTORY SERVICES FEATURES WILL NOT APPEAR ON THE STANDARD PORTAL UNTIL PRODUCT RELEASE! Log into the beta portal at the URL: https://portaltest.uplevelsystems.com, using the username and password that has been assigned to you for the beta setup. All other functions remain the same.

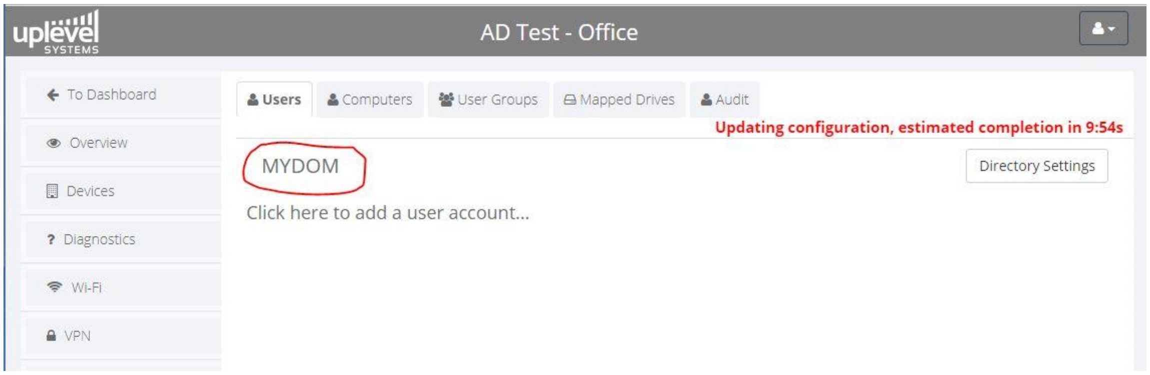
Step 3. Enable the domain controller and assign domain parameters

Go to the configuration view of the dashboard and select "Directory", then click on "Enable Directory Service".



This will bring up a dialog box that will allow you to enter the short domain name (in this case, “MYDOM”) and override the current customer DNS suffix if desired. (The current customer DNS suffix is normally set in the “IP & DNS” configuration section.) Enter the values carefully; once you enter and save them, you will not be able to change them without first destroying the domain.

Once entered, click “Save”. The system will now begin creating and initially provisioning the domain (in this case, “MYDOM”):



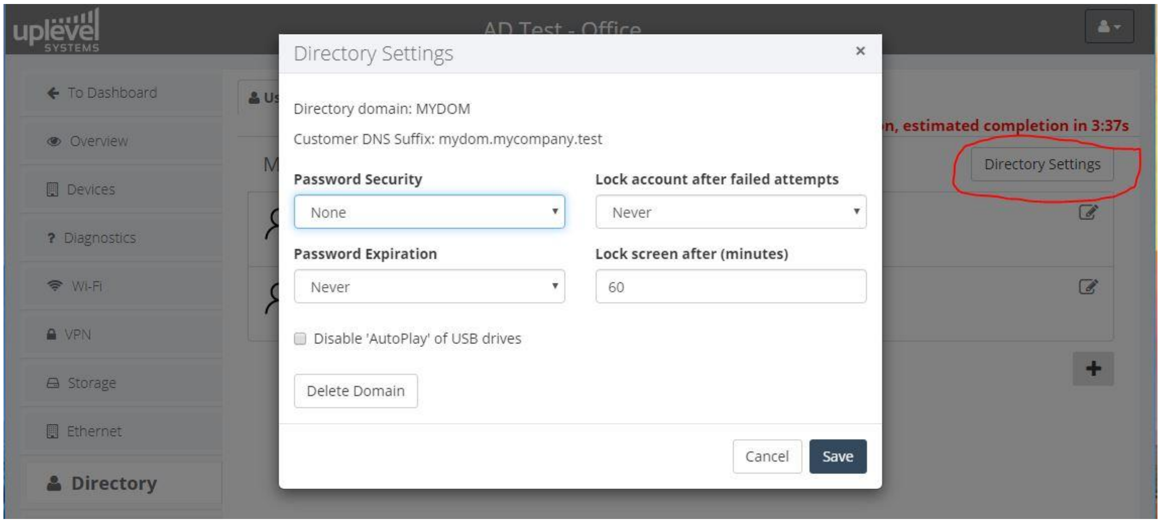
Updating configuration, estimated completion in 9:54s

MYDOM

Click here to add a user account...

NOTE: creating and provisioning a domain can take a long time (up to 10 minutes). During this time, the domain will not be available for use and will not be visible to computers and users. The red status indicator in the top right of the “Directory” configuration view will let you know how much time is remaining before the domain has been provisioned. You may continue to configure other aspects of the domain (e.g., set up users and computers) during this time, however.

You can also modify various domain policies and settings (pushed to domain computers and user accounts as GPOs) by clicking on the “Directory Settings” button on the top right:



n, estimated completion in 3:37s

Directory Settings

Directory domain: MYDOM

Customer DNS Suffix: mydom.mycompany.test

Password Security: None

Lock account after failed attempts: Never

Password Expiration: Never

Lock screen after (minutes): 60

□ Disable 'AutoPlay' of USB drives

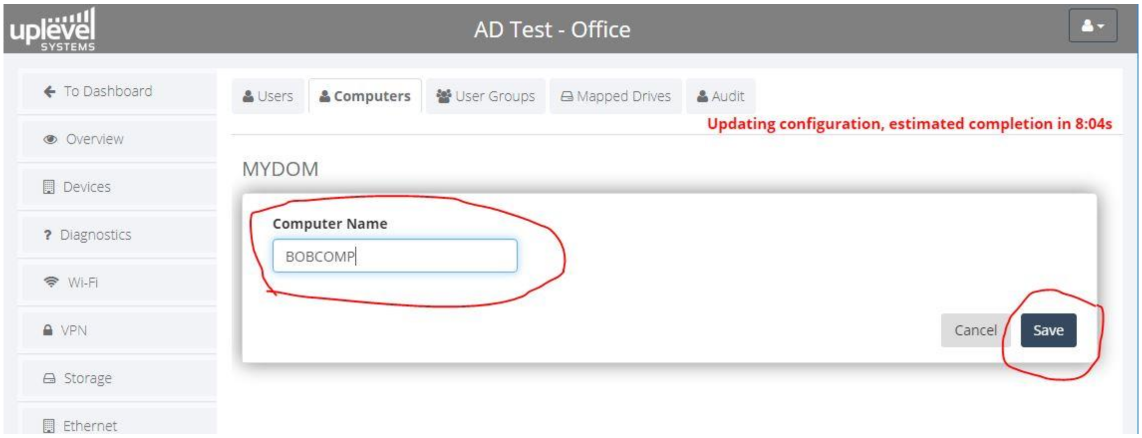
Delete Domain

Cancel Save

Policies currently enforceable are selectable from the password security, password expiration time, screen lock, and account lock dropdowns. After changing a policy, click “Save”. The domain will be reconfigured (if it has completed provisioning) and the red status indicator will show when the new settings are ready for use.

Step 4. Add one or more computers to the domain

In order for computers to join the domain, they must first be added to the domain controller's database. Obtain the computer name (usually from the Control Panel > System and Security > System view in Windows 10), click on the "Computers" tab, and enter the computer name and click "Save":

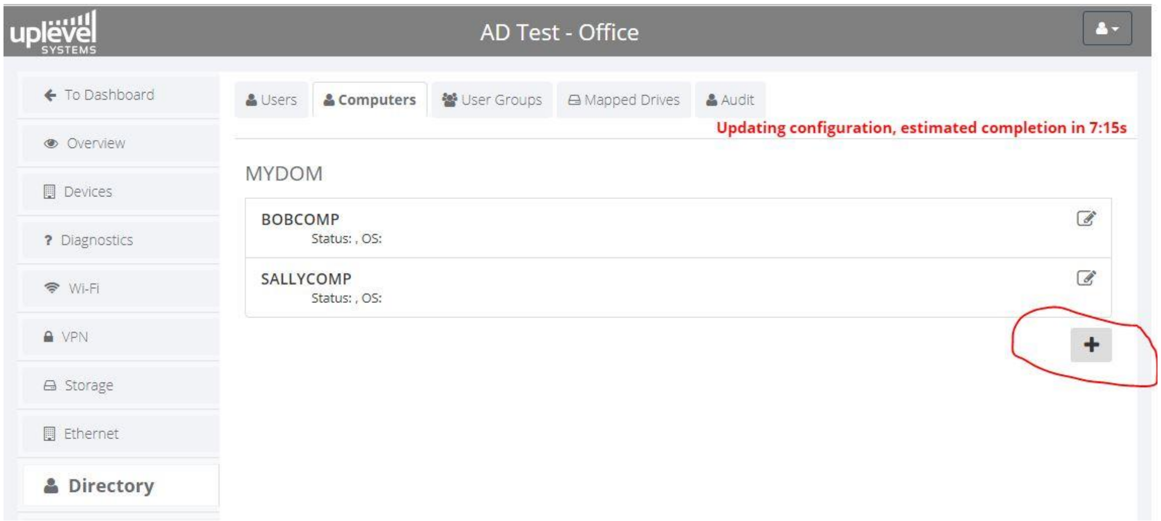


Updating configuration, estimated completion in 8:04s

MYDOM

Computer Name: BOBCOMP

You can add as many computers as desired; click on the '+' button each time:



Updating configuration, estimated completion in 7:15s

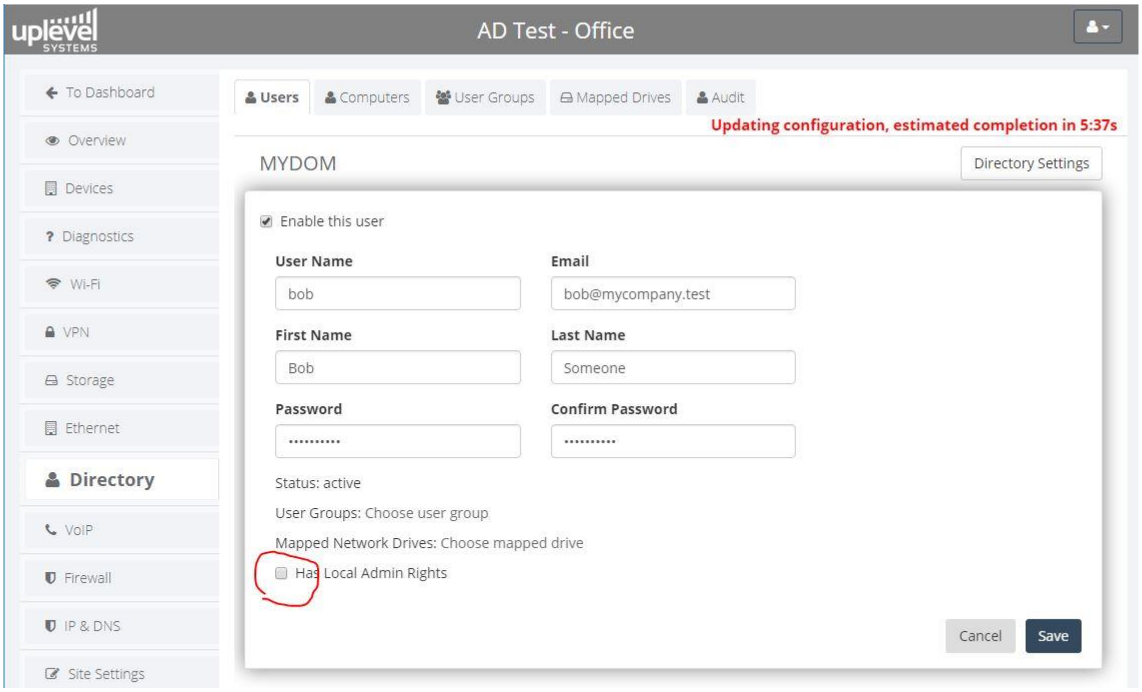
MYDOM

BOBCOMP
Status: , OS:

SALLYCOMP
Status: , OS:

Step 5. Add one or more users to the domain

Once at least one computer has been added to the domain, it is possible for a user to join the computer to the domain and subsequently log into the domain using that computer, in the normal manner. To add users to the domain, click on the "Users" tab, enter the user information, and click "Save":



Updating configuration, estimated completion in 5:37s

MYDOM

☑ Enable this user

User Name: bob
Email: bob@mycompany.test
First Name: Bob
Last Name: Someone
Password: ••••••••••
Confirm Password: ••••••••••

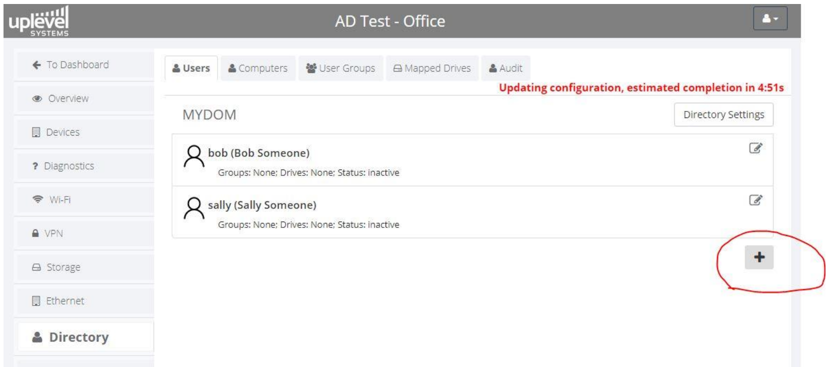
Status: active
User Groups: Choose user group
Mapped Network Drives: Choose mapped drive
□ Has Local Admin Rights

Note that **all** of the information in the boxes must be filled in:

- User Name: a unique username for the user in the domain, without spaces or special characters.
- Email: a valid email for the user.
- First Name, Last Name: this MUST be populated, as Windows requires both fields.
- Password: enter a password of at least 8 characters for the user. The password strength requirements are set in the "Directory Settings" dialog box previously described.

IMPORTANT: Uncheck the "Has Local Admin Rights" checkbox if the user is going to have shares (drives) mapped automatically upon login.

When complete, click "Save". As with computers, multiple users can be created:



Updating configuration, estimated completion in 4:51s

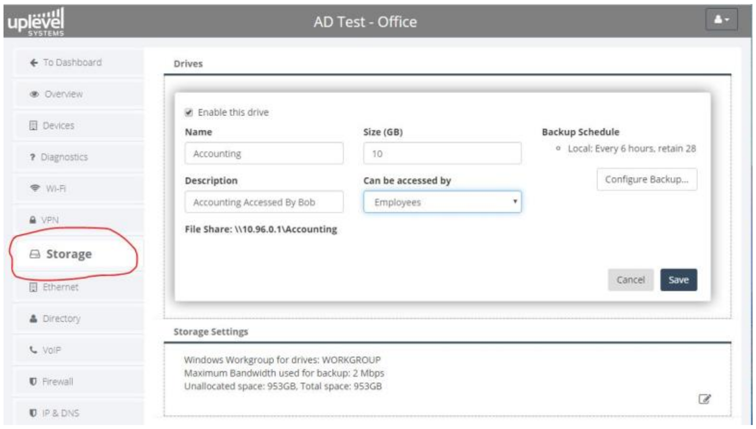
MYDOM

bob (Bob Someone)
Groups: None: Drives: None: Status: inactive

sally (Sally Someone)
Groups: None: Drives: None: Status: inactive

Step 6. Create mapped shares for users

If desired, storage drives can be created and users can be selectively allowed to access these drives. First go to the usual “Storage” view and create the drive(s) in the normal manner:



Drives

☑ Enable this drive

Name: Accounting

Size (GB): 10

Backup Schedule
- Local: Every 6 hours, retain 28

Description: Accounting Accessed By Bob

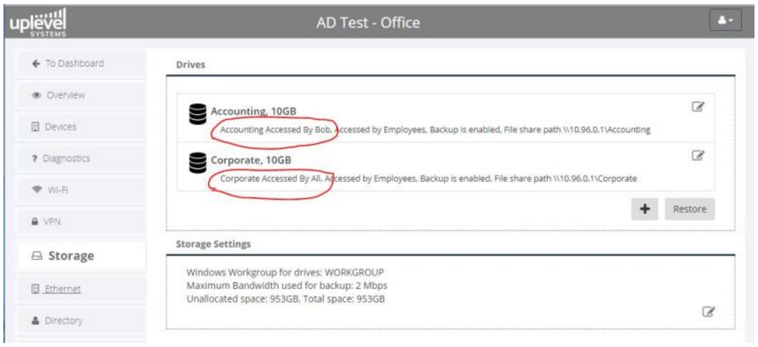
Can be accessed by: Employees

File Share: \\10.96.0.1\Accounting

Storage Settings

Windows Workgroup for drives: WORKGROUP
Maximum Bandwidth used for backup: 2 Mbps
Unallocated space: 953GB, Total space: 953GB

As many drives as are desired to be accessed/mapped by users can be created:



Drives

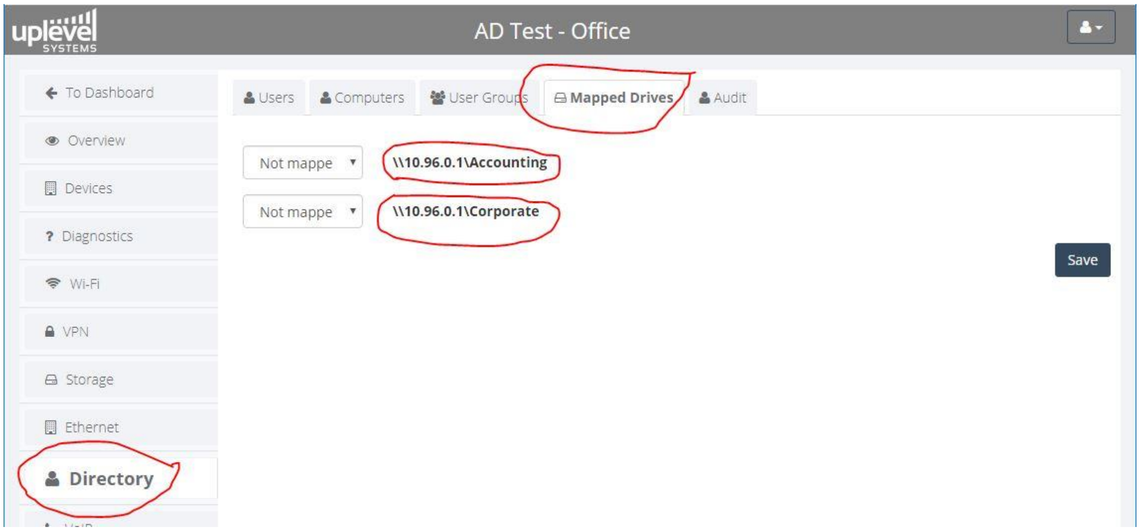
Accounting, 10GB
Accounting Accessed By Bob, Accessed by Employees, Backup is enabled, File share path \\10.96.0.1\Accounting

Corporate, 10GB
Corporate Accessed By All, Accessed by Employees, Backup is enabled, File share path \\10.96.0.1\Corporate

Storage Settings

Windows Workgroup for drives: WORKGROUP
Maximum Bandwidth used for backup: 2 Mbps
Unallocated space: 953GB, Total space: 953GB

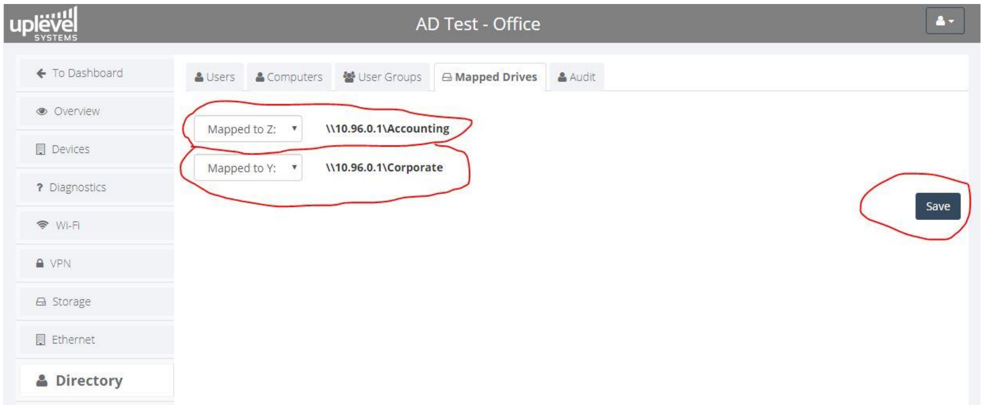
Now return to the “Directory” view and select the “Mapped Drives” tab. The drives that were created should be seen on this tab:



Not mappe ▾ \\10.96.0.1\Accounting

Not mappe ▾ \\10.96.0.1\Corporate

The pull-down on the left of each drive (share) indicates its mapping status. If set to “Not mapped” (the default), then it is not controlled by the domain controller, and can be accessed as a normal (anonymous) guest share in the usual manner. If a mapping is defined, however, it will be controlled by the domain controller, and only users that are enabled to access a given drive will be permitted to read and write files on that drive. Click on the pull-downs next to each drive and assign drive letter mappings:

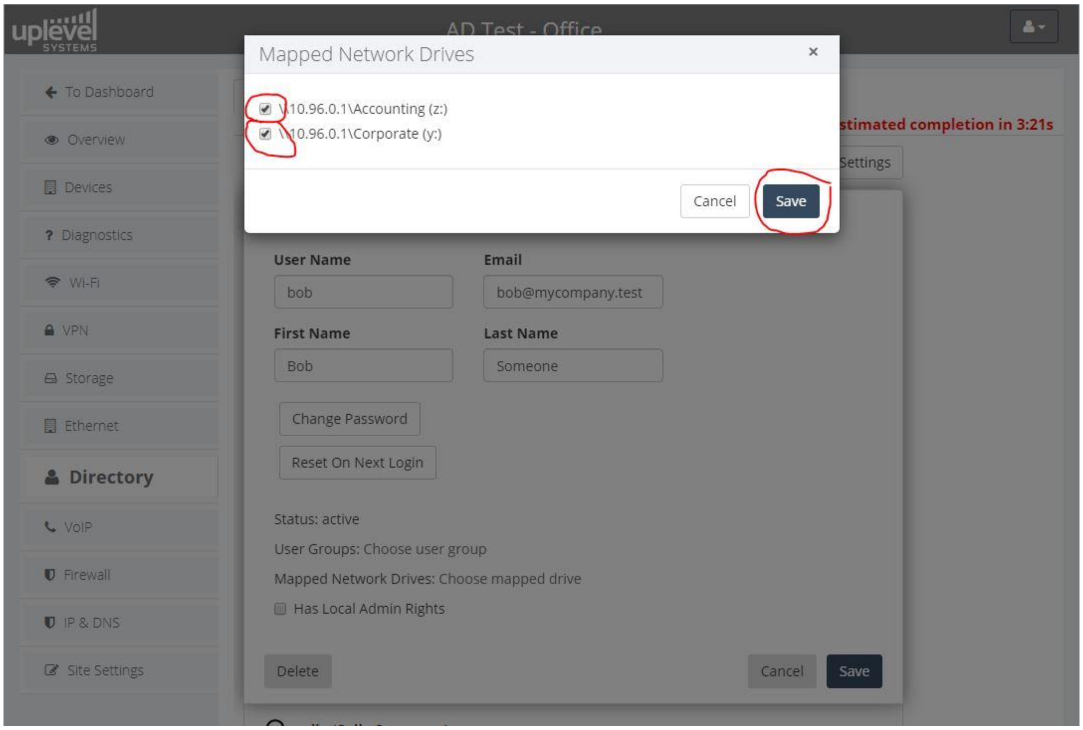


Mapped to Z: \\10.96.0.1\Accounting

Mapped to Y: \\10.96.0.1\Corporate

Each drive should be mapped to a different drive letter to avoid potential conflicts. Click “Save” when done.

Once the drives required to be controlled by the domain controller have been selected and mapped to drive letters, return to the “Users” tab and assign user access to one or more drives by individual users. Click on the editing icon on the right side of each user entry in the “Users” tab, and then click on the “Choose mapped drive” text next to “Mapped Network Drives”:



☑ \\10.96.0.1\Accounting (z:)

☑ \\10.96.0.1\Corporate (y:)

stimated completion in 3:21s

User Name: bob

Email: bob@mycompany.test

First Name: Bob

Last Name: Someone

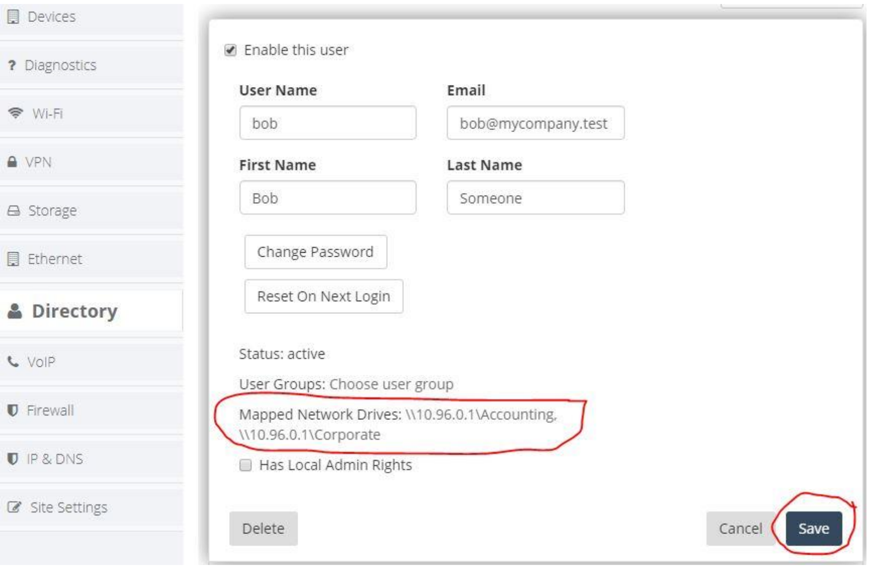
Status: active

User Groups: Choose user group

Mapped Network Drives: Choose mapped drive

□ Has Local Admin Rights

Clicking on “Choose mapped drive” will bring up a dialog box that allows you to select one or more drives to be mapped to that user’s account (with the drive letters as defined). Check on the checkboxes to assign drives to users, then click “Save”. Verify that the drive mappings are correct and click “Save” again:

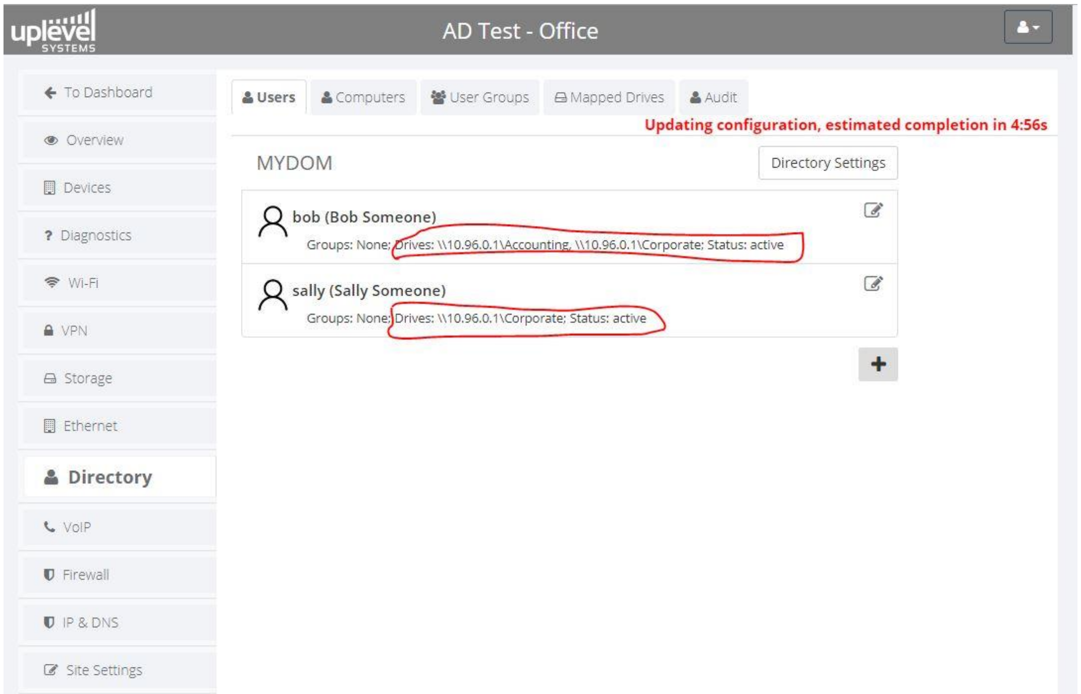


☑ Enable this user

User Name: bob
Email: bob@mycompany.test
First Name: Bob
Last Name: Someone

Status: active
User Groups: Choose user group
Mapped Network Drives: \\10.96.0.1\Accounting, \\10.96.0.1\Corporate
☐ Has Local Admin Rights

You can assign drive (share) access rights to any or all of the users in any combination. After assigning drives, the “Users” view will show the drive access rights:



Updating configuration, estimated completion in 4:56s

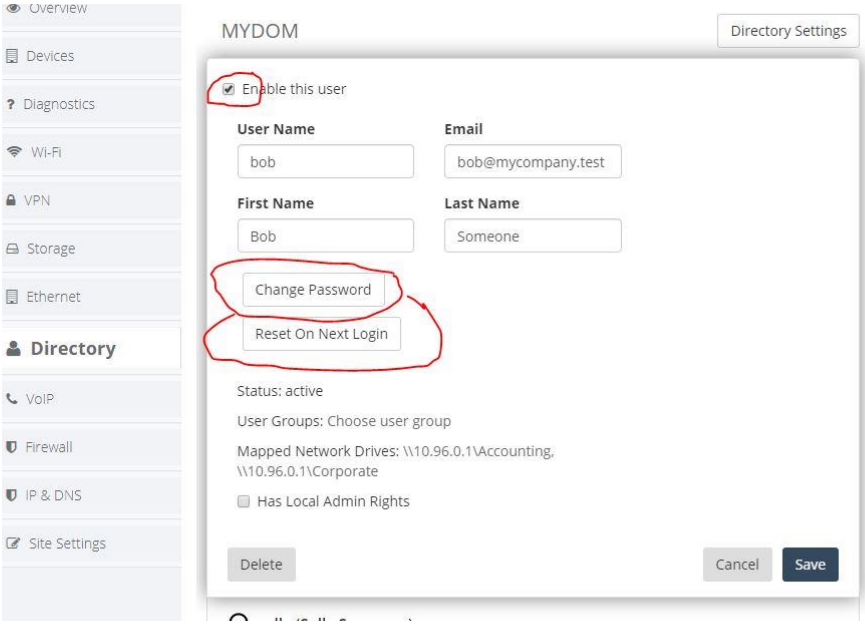
MYDOM

bob (Bob Someone)
Groups: None; Drives: \\10.96.0.1\Accounting, \\10.96.0.1\Corporate; Status: active

sally (Sally Someone)
Groups: None; Drives: \\10.96.0.1\Corporate; Status: active

Step 7. User management

Domain user management can be performed after the user accounts have been created. Click on the editing icon on the right side of the user entry in the "Users" window to bring up the user management dialog box:



☑ Enable this user

User Name bob	Email bob@mycompany.test
First Name Bob	Last Name Someone

Status: active

User Groups: Choose user group

Mapped Network Drives: \\10.96.0.1\Accounting, \\10.96.0.1\Corporate

☐ Has Local Admin Rights

Users can be disabled, preventing them from logging into the domain. In addition, you can change (reset) their passwords, and also force their current password to be reset when they next log in, requiring them to go through the standard Windows password change dialog.

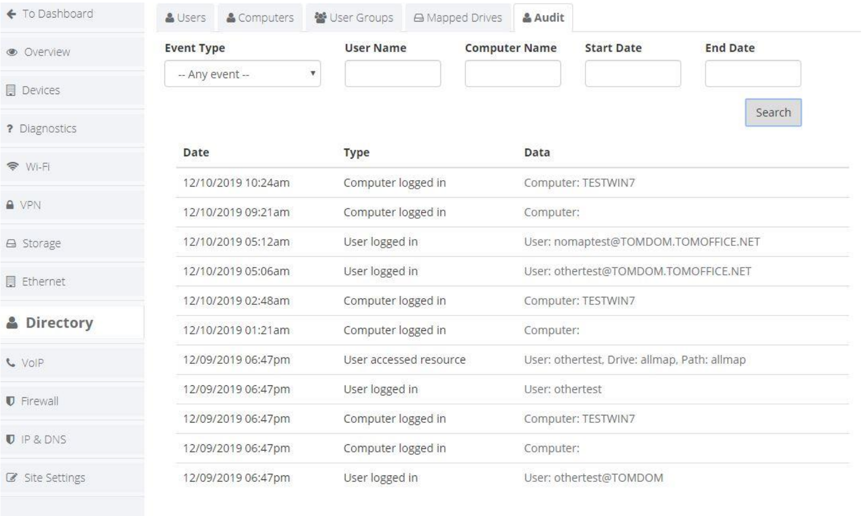
Step 8. Domain usage

Once the domain has been provisioned, and computer and user accounts created, it can be used identically to a normal Active Directory™ domain. To enable a user to log into the domain:

- Connect a computer to the LAN and use its system properties dialog to join the domain using the domain name you have assigned. You will need the account name and password of one of the domain users to be able to do this.
- After the computer has joined the domain (which requires a reboot of the computer), log in as one of the users.
- Once a user has logged into the domain, the computer will prepare the user's desktop and attach the authorized mapped drives in the usual manner.
- Most of the standard Windows user/computer domain operations are available, including local admin rights to allow users to install their own software on the computer. (See the "Has Local Admin Rights" checkbox in the user management dialog box in the screenshot above.)

Step 9. View audit logs

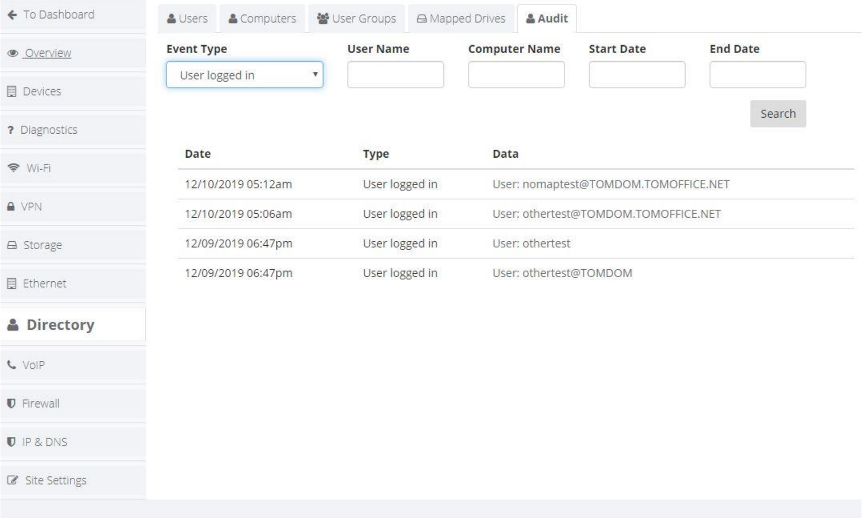
To view audit logs of domain operations (computers joining the domain, leaving the domain, users logging on, accessing shares, etc.), click on the “Audit” tab:



Event Type: -- Any event --
User Name:
Computer Name:
Start Date:
End Date:

Date	Type	Data
12/10/2019 10:24am	Computer logged in	Computer: TESTWIN7
12/10/2019 09:21am	Computer logged in	Computer:
12/10/2019 05:12am	User logged in	User: nomaptest@TOMDOM.TOMOFFICE.NET
12/10/2019 05:06am	User logged in	User: othertest@TOMDOM.TOMOFFICE.NET
12/10/2019 02:48am	Computer logged in	Computer: TESTWIN7
12/10/2019 01:21am	Computer logged in	Computer:
12/09/2019 06:47pm	User accessed resource	User: othertest, Drive: allmap, Path: allmap
12/09/2019 06:47pm	User logged in	User: othertest
12/09/2019 06:47pm	Computer logged in	Computer: TESTWIN7
12/09/2019 06:47pm	Computer logged in	Computer:
12/09/2019 06:47pm	User logged in	User: othertest@TOMDOM

Since audit logs can be quite extensive, a search function is provided. Click on “Search” on the right to bring up the logs. To see all audit log entries, simply click “Search” with the Event Type set to “Any Event”. To filter the audit logs displayed, select different event types and add filter keywords:



Event Type: User logged in
User Name:
Computer Name:
Start Date:
End Date:

Date	Type	Data
12/10/2019 05:12am	User logged in	User: nomaptest@TOMDOM.TOMOFFICE.NET
12/10/2019 05:06am	User logged in	User: othertest@TOMDOM.TOMOFFICE.NET
12/09/2019 06:47pm	User logged in	User: othertest
12/09/2019 06:47pm	User logged in	User: othertest@TOMDOM

Note that audit logs are continuously gathered by the domain controller, but **are only pushed up at intervals**. *Therefore, the log of an event may be displayed up to 10-20 minutes after the actual event occurs.*