USER MANUAL

ShareCenter Quattro DNS-345

VERSION 1.0

D-Link®

STORAGE

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Introduction

The D-Link ShareCenter Quattro DNS-345 is a 4-Bay Network Attached Storage device, when used with internal SATA drives[1], enables you to share documents, files, and digital media such as music, photos, and video with everyone on the home or office network. Remotely accessing files through the Internet is also possible using the built-in FTP server, Web File server and WebDAV protocol. Whether you are allowing access locally or over the Internet, keep data safe by only giving rights to specific users or groups. When configuring the DNS-345, you can create and assign users and groups to folders with either read or read/write permissions. This is ideal for an office environment with employee-specific sensitive data or for the home where you can limit your children to age appropriate material. The DNS-345 will be available to any computer (PC, MAC, or Linux-based) on your network, without the need to install additional software.

Back up your music, photos, and video collections to the DNS-345 for safekeeping. Then, enjoy the benefits of the built-in UPnP AV media server as you stream digital content to compatible media players[2] (such as those found in D-Link's MediaLounge product line). This feature is very convenient as it allows you to turn off a computer that would normally be needed for the same function.

The DNS-345 has seven RAID modes (Standard, JBOD, RAID 0, RAID 1, RAID 5, RAID 5+SPARE, & RAID 10).

- Standard - creates a single volume from one drive.
- JBOD - combines all drives in a linear fashion for maximum space efficiency
- RAID 0 - uses all drives as a single massive array of storage with the combined capacity of all the drives
- RAID 1 - also known as disk mirroring, the system will save data to all the drives in the same array simultaneously
- RAID 5 - requires at least 3 drives. Data is split into blocks and stored over all of the drives. Parity data is distributed amongst all of the drives and is used to regenerate lost data during a drive failure.
- RAID 5+SPARE - data is a mirrored striped set with distributed parity. If a drive in the array fails, the hot spare is used to rebuild the array and restore the redundancy as soon as possible.
- RAID 10 - is a combination of RAID 0 (data striping) and RAID 1 (mirroring). It offers the highest performance and data protection.

1 Hard Drive(s) not included.

2 D-Link cannot guarantee full compatibility or proper playback with all codecs. Playback capability depends on the codec support of the UPnP™ AV media player.

To further enhance your ShareCenter's capabilities you can expand the applications available with the ShareCenter by using the Add-On feature which allows you to add supported software applications. These applications can add over the web audio streaming, file and media sharing, and even blogging capability to your ShareCenter.

Before you Begin

- Check box contents
- Check system requirements
- Ensure that you have the hardware you need for your ShareCenter Quattro device

System Requirements

For best results, the following minimum requirements are recommended on any system used to configure and use the ShareCenter™:

- Computer with: 1Ghz processor / 512 MB RAM / 200 MB available space / CD-ROM drive
- Internet Explorer version 7, Mozilla Firefox 3, Google Chrome 3 or Apple Safari 4 and above
- Windows® XP (with Service Pack 2), Windows Vista™ , Windows 7™ ‘
- Windows 2003 Server
- Windows 2008 Server
- Mac OS X 10.5.6 or greater
- 3.5” SATA Hard Drive(s)

Product Overview

Package Contents

- D-Link ShareCenter™ Quattro DNS-345
- CD-ROM with Manual and Software
- Quick Installation Guide
- Power Cord and 19VDC 4.74A Output Power Adapter
- Cat5E Ethernet Cable

CDROM

Manual

Software

Quick Installation Guide

Power Cord

Ethernet Cable

Features

The ShareCenter™ Quattro DNS-345 is an easy to install data storage platform used for remote access through a local network or from the Internet. This ShareCenter™ supports up to 4 SATA hard drives and includes the product features listed below:

- Four Hard Drive Bays for 3.5” SATA Hard Drives, up to 3TB HDD (or higher)
- High Performance Gigabit Ethernet Connectivity
- Simplified Hard Drive Installation Process
- OLED Screen - System Information/Temperature, LAN/Volume status, USB Backups
- Supports Remote File Access via Built-in Web File Server, FTP, or WebDAV
- Network Protocols
  - Supports DDNS
  - Supports UPnP, Bonjour
  - Supports PnP-X /LLTD
  - Supports VLAN (tags)
  - Link Aggregation / Fail-over and Fail-back for 2 Gigabit Ethernet ports
  - Supports UPnP Port Forwarding
- Network File Services
  - Supports NFS/AFP Server
  - Supports uni-code for both Samba and FTP server
  - Supports DFS (Microsoft DFS)
- Disk Management
  - Seven Hard Drive Configurations: Standard; JBOD; RAID 0; RAID 1; RAID 5; RAID 5+spare; and RAID 10
  - Supports Volume Encryption
  - Supports RAID migration: Standard to RAID 1, Standard to RAID 5, RAID 1 to RAID 5
  - Supports Advanced Format HDD
  - HDD S.M.A.R.T Test
  - Supports FAT16/32, NTFS for USB external Storage
- Account Management
  - Users and Groups can be assigned to Folders with Read or Read/Write Permissions
  - Quotas for Users and Groups
  - Supports ISO mount Shares
  - Supports Active Directory fpr Windows 2003/2008 Server
- FTP Server
  - Built-in FTP server for File Access over the Internet
  - Supports FTP over SSL/TLS abd FXP
- Download Management
  - Scheduled downloads from Web or FTP sites
  - Supports P2P and aMule downloads
- Backup Management
  - Supports Local Backup
  - Full or Incremental Backup
  - Real-time Backups with included Backup Software
  - Supports Apple Time Machine
  - Supports USB Backups
  - Supports Remote Network Backup
  - Supports Cloud Storage Backup (Amazon S3)
- Power Management for Conserving Energy and Extending Hard Drive life
  - Supports Auto Power Recovery
  - Supports Schedule Power ON/OFF

- Media Streaming
  UPnP AV Server for streaming music, photos, and videos to compatible media
  • iTunes software will be able to automatically find and play music directly from the ShareCenter Quattro
- Supports Add-On Software and Multi-Language Packages
  • Blogging with WordPress
  • Logitech Squeeze Center
  • Audio Streaming
  • AjaXplorer
  • Photo Station
- System Management
  • Web Browser configuration
  • Supports HTTPs management
  • Network Recycle Bin
  • Supports Yahoo Widgets
  • Supports System Logging/FTP logging
  • Automatic e-mail and SMS notifications
  • Supports network UPS
  • Supports SNMPv2
  • Supports Resource Monitor

Checking the Hardware Requirements

To use your ShareCenter Quattro, you will need at least one hard drive. If you plan to use RAID, which protects your data against one hard drive failure, you will need at least two hard drives.

Note: For the ShareCenter Quattro, we recommend that you use at least four 1TB high performance drives. This provides more data drives, better striping performance, and helps distribute loads more effectively.

This section will help you:

- Select the hard drives you will use
- Choose the amount of space to have available on those drives
- Ensure your data is protected
- Understand the basic requirements for a router or switch

Selecting Hard Drives:

You can use hard drives from any manufacturer and with any capacity with your ShareCenter Quattro. All D-Link devices support standard 3.5” internal SATA drives. If you are unsure, ask your administrator or hard drive retailer/ manufacturer to verify that your hard drives meet this standard

Warning - Any pre-existing data on the drives will be erased during installation.

Determining How Much Hard Drive Space you Need:

In order to protect your data from hard drive failure, your ShareCenter Quattro requires more space than what you will use for your data, sometimes as much as double or more the amount of space required.

For the best results in calculating how much space is available for your data, always make sure you have more disk space than what is necessary.

The ShareCenter Quattro DNS-345 makes it easy to increase storage capacity in the future by simply inserting additional drives or replacing smaller drives with larger ones. This means you can buy the hard drives one day and then easily expand another day. The DNS-345 accepts standard 3.5-inch internal SATA hard drives, regardless of manufacturer, capacity, or speed.

For dual disk redundancy, it is recommended that you using two drives for storing data and two for redundancy. The drives used for redundancy must have a total capacity of at least the sum of the two drives used for storing data.

Using a Router or Switch:

If you are connecting your ShareCenter Quattro to a router or switch, your router or switch needs to support Gigabit Ethernet (1000Mbit/s) for peek performance. The ShareCenter Quattro will auto-negotiate the highest connection speed available to your router or switch. If you are using Port Bonding, use a Managed switch.

Using an Uninterrupted Power Supply (UPS):

We highly recommend that you use your ShareCenter Quattro in conjunction with an uninterrupted power supply (UPS), which will protect against sudden loss in power and power surges.

Setting Up in Just a Few Easy Steps

Once you have unpacked your ShareCenter Quattro from its box and ensured you meet all system and hardware requirements, it is now time to set up your DNS-345 for use. This can be done in just a few easy steps:

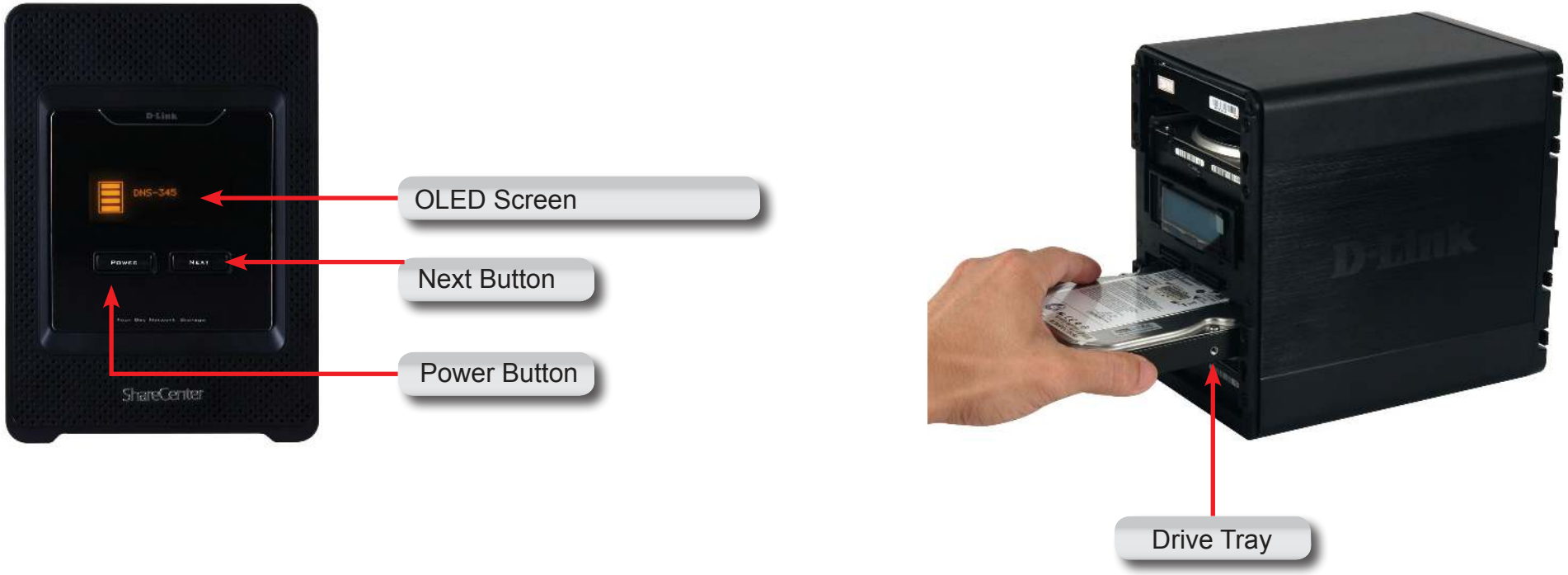
1. Insert the hard drives
2. Connect the power and LAN cables to your ShareCenter Quattro
3. Power on the device
4. Run the D-Link ShareCenter Setup Wizard to configure the NAS
5. Configure the hard drives

Part I

Hardware Overview
Front Panel

Front Bezel

The front bezel comes off to reveal the hard disk drive rack



COMPONENT	DESCRIPTION
OLED Screen	The OLED screen displays the welcome screen, hard disk information, IP address information for both LAN ports, firmware version, temperature, and hard drive modes.
Power Button	Press once to power on the ShareCenter Quattro or confirm USB Backup functions. Press and hold the button until the OLED screen displays “Shutdown System” to power it down.
Next Button	Press once to scroll between various modes or cancel USB Backup functions.
Drive Tray	With the front cover off, SATA hard drives can be slid in and out of the of ShareCenter Quattro. Use the tabs on the rear of the ShareCenter Quattro to initially push a HDD out of its connector and tray.

Hard Drive(s) Status:
Amber light(s) - the hard drive(s) are present.

No amber lights - the hard drive(s) are absent.

The IP address on LAN 1
The IP address on LAN 2

Disconnected means there is no connection.

This displays the firmware version and the temperature in Celsius and Fahrenheit.

This displays the drive name and usable storage capacity.

System Shutdown

Welcome to D-Link ShareCenter

Enter Backup mode

Backup from NAS to USB

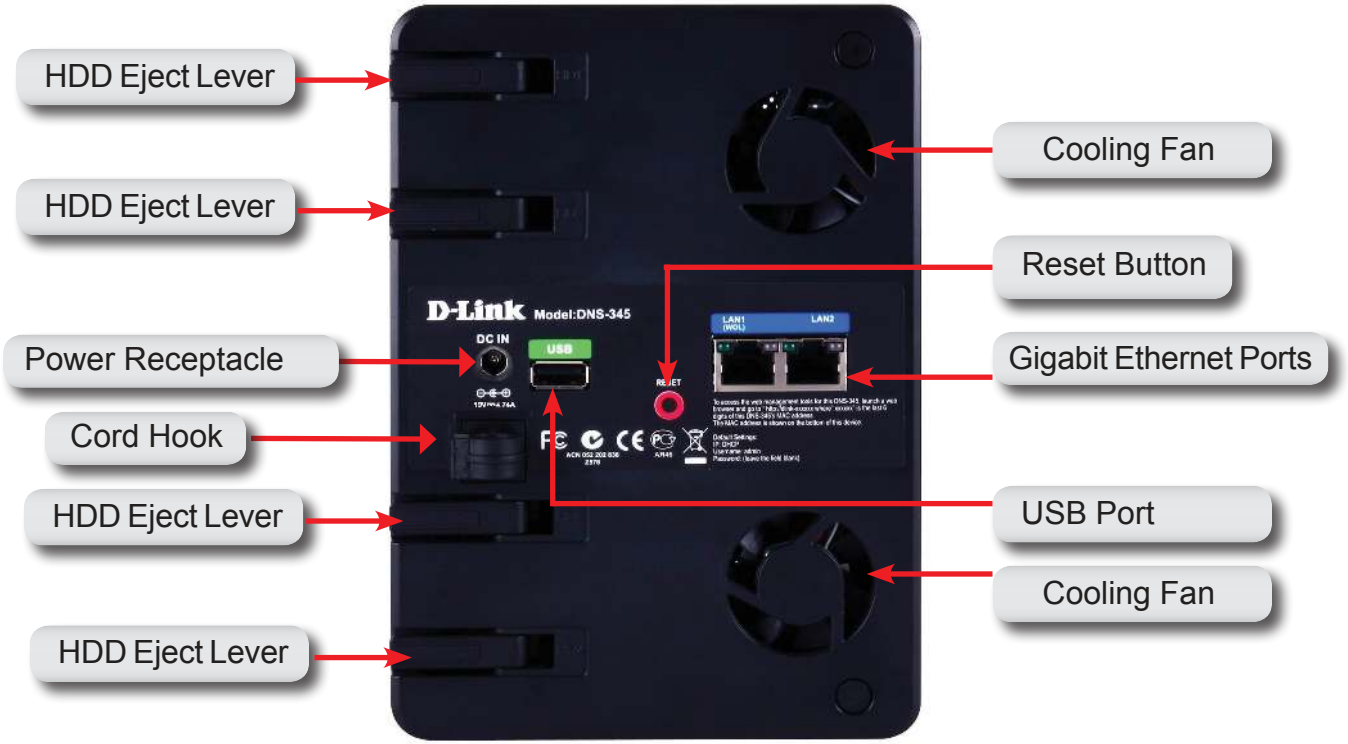
Backups are complete

Rear Panel (Latches)

Rear Hard Drive Latches

Click the rear latches to disconnect the hard drives from the SATA sockets. Note - Remove the front cover before releasing the latches.

Rear Panel (Connections)



COMPONENT	DESCRIPTION
Cooling Fan	The cooling fan is used to cool the hard drives and features speed control. When the unit is first powered on the fans rotate at a low speed and rotate at a high speed when the temperature rises above 49 °C.
Gigabit Ethernet Ports	Use the Gigabit Ethernet Ports to connect the ShareCenter Quattro to the local network. The port is equipped with both a LAN Link/Traffic (R) and Speed LED (L) to indicate connectivity and traffic respectively to the local LAN. Dual LAN's support Port Bonding.
Power Receptacle	Connect the supplied power cord to the receptacle.
USB Port	A single USB 2.0 (Type A) connector. The USB Host port is for Print Servers, USB memory disks, or USB UPS monitoring.
Reset Button	Press and hold this button for more than 5 seconds to reset the unit to factory defaults.
HDD Eject Lever	Use each slot's lever to eject the HDD drive .

Getting Started
Hardware Setup

This User Guide will help you get your ShareCenter Quattro set up in just a few steps. To install the ShareCenter Quattro on your local network, refer to the steps below:

1

Remove the front panel: Firmly grip the panel and slide it up until the 4 panel hooks clear the slot openings.

2

Insert one 3.5” SATA hard drive into an available drive bay.

Note: Make sure to align the drive connector to the SATA connector at the back edge inside the drive bay of the ShareCenter Quattro. Gently push the drive in until it connects. When a drive is inserted properly, you will feel it “seat” into the connector. Some hard drives that are thin or oddly shaped may need to be guided carefully into position. If a drive is not properly seated, the hard drive icon will not illuminate on the OLED screen after powering on the device.

3

Re-attach the front panel. Align the 4 panel hooks with the corresponding slots on the chassis and slide the front panel down until it is firmly seated.

4

Connect an Ethernet cable to the LAN 1 Ethernet port. This cable should connect the ShareCenter Quattro to your local network via a router, switch, or directly to a computer for configuration.

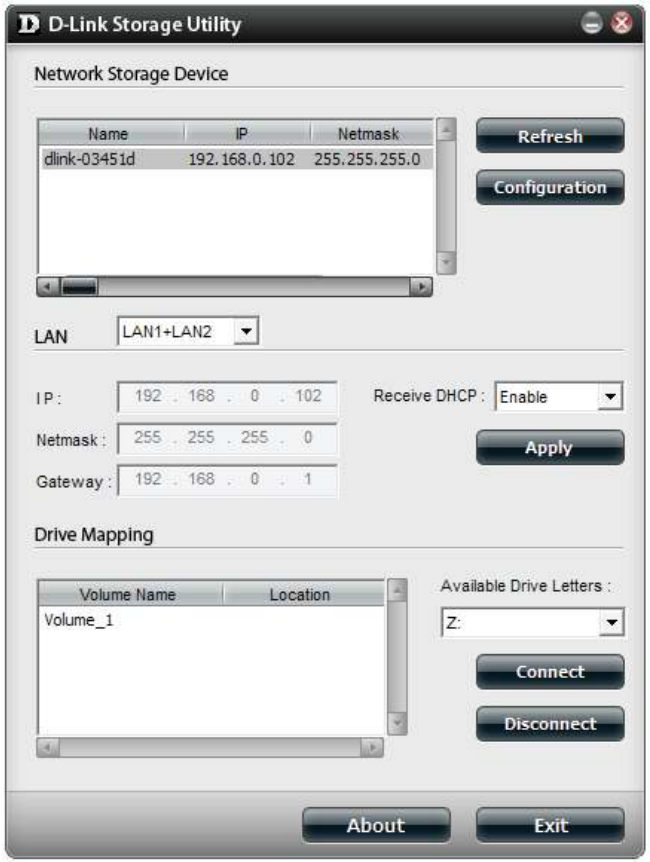
5

Connect the power adapter to the power receptacle.

D-Link Storage Utility

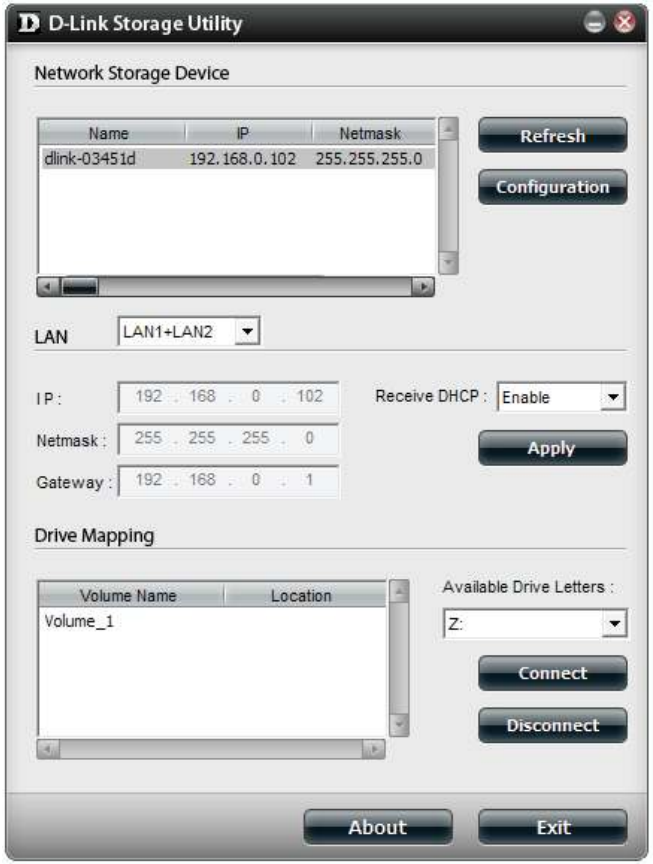
When first powered on, during the initial boot sequence, the ShareCenter will wait to be assiend an IP address via DHCP. If it does not receive a DHCP assigned IP address, the ShareCenter will be automatically assigned a 169.254.xxx.xxx address. It is recommended that you use the included D-Link Storage Utility software when accessing and configuring the ShareCenter for the first time. If you want to change the IP address before logging in or you have having trouble connecting to the ShareCenter IP address, you can then use the Storage Utility software included on the product CD to locate the device on your network and make any necessary changes.

Network Storage Device	The D-Link Storage Utility displays any ShareCenter™ devices it detects on the network here
Refresh	Click **Refresh** to refresh the device list
Configuration	Click **Configuration** to access the Web based configuration of the ShareCenter™
LAN	Configure the LAN Settings for the ShareCenter™ here
Apply	Click **Apply** to save changes to the LAN Settings
Connect	Click **Connect** to connect to the iSCSI target
Management	Click **Management** to edit the information
Drive Mapping	Volumes available for mapping are displayed here
Available Drive Letters	Choose an available drive letter. Click **Connect** to map the selected volume. Click **Disconnect** to disconnect the selected mapped volume
About	Click **About** to view the software version of the Easy Search Utility.
Exit	Click **Exit** to close the utility.



Select the ShareCenter from the list and click the **Configuration** button. This will launch the computer's default web browser and direct it to the IP address listed for the device. Make sure the browser is not configured to use a proxy server.

Note: *The computer used to access the ShareCenter web-based configuration manager must be on the same subnet as the ShareCenter. If your network is using a DHCP server and the computer receives IP settings from DHCP server, the ShareCenter will automatically be in the same subnet.*



Setup Wizard and Storage Utility

The ShareCenter Setup Wizard is the companion software to your DNS-345, enabling you to easily set up and manage your ShareCenter Quattro. You can now install the ShareCenter Setup wizard from the resource CD that came with your product.

To run the Setup Wizard, insert the ShareCenter Quattro CD into your CD-ROM drive:

1

Click Setup Wizard Utility

2

The Setup Wizard will step you through the configuration of getting your ShareCenter Quattro ready for immediate use. Select the Language of your choice and click the **Start** button.

Remove the Front Cover and Install the Hard Drives

Follow the instructions to remove the front cover of your ShareCenter Quattro.

Click **Next** to continue.

Follow the instructions to slide either one or two hard drive(s) into an available hard drive bay of your ShareCenter.

Click **Next** to continue.

Replace the Front Cover and Connect to the Local LAN.

With the hard drives installed properly into each bay, close the chassis by sliding the panel down into place.

Click **Next** to continue.

Connect a Cat5E Ethernet cable with RJ-45 connectors to your ShareCenter and connect the other end to a switch or router (Local LAN).

Click **Next** to continue.

Power and Device Selection

Connect the power adapter connector to the power receptacle at the back of the ShareCenter. Then power on the ShareCenter™ by pressing the power button located under the OLED screen.

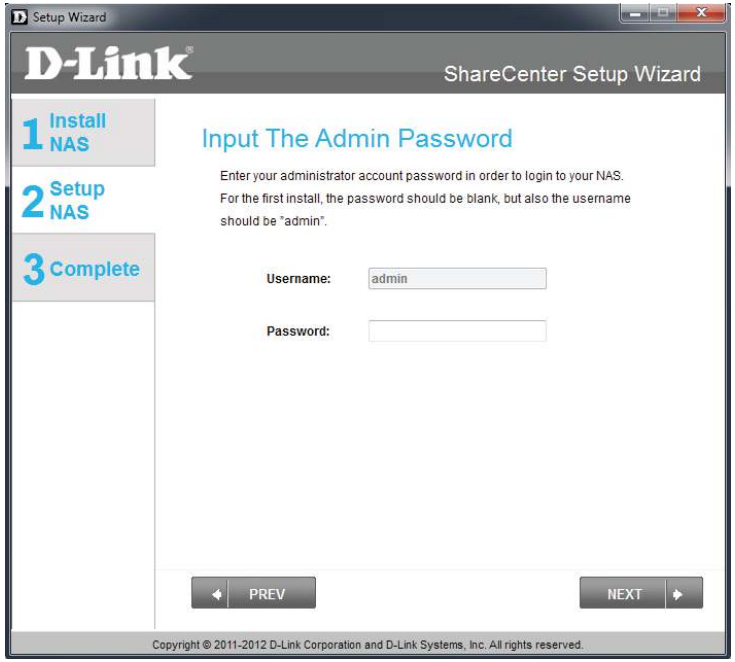
Click **Next** to continue.

With the power on, press the **Next** button on the device and check and make sure the IP address of your ShareCenter Quattro matches what you see on the screen.

Click **Next** to continue.

Admin Password

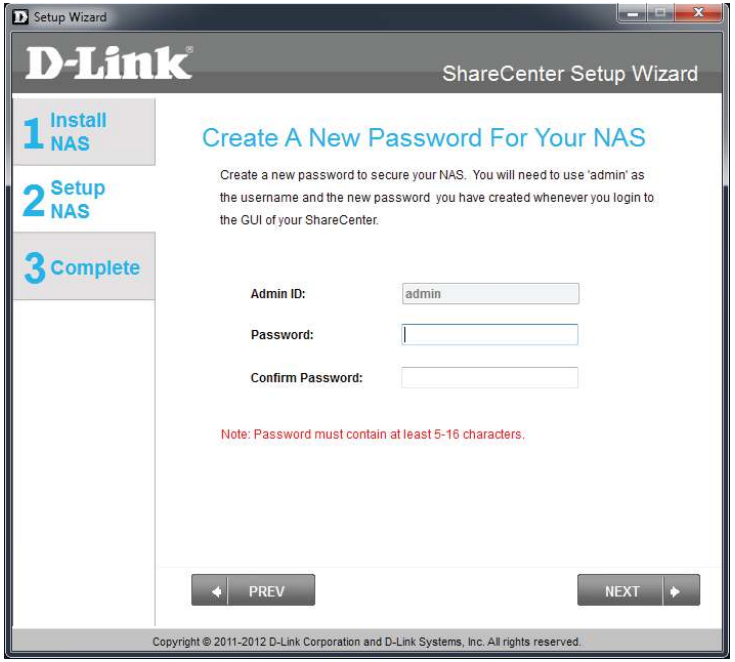
9



Enter the administrator password. If this is the first time you are doing the installation on this NAS, leave the password blank.

Click **Next** to continue.

10



In this step you can create a new password for the 'Admin" username. It is recommended you set a password, however you may also leave the fields blank.

Click **Next** to continue.

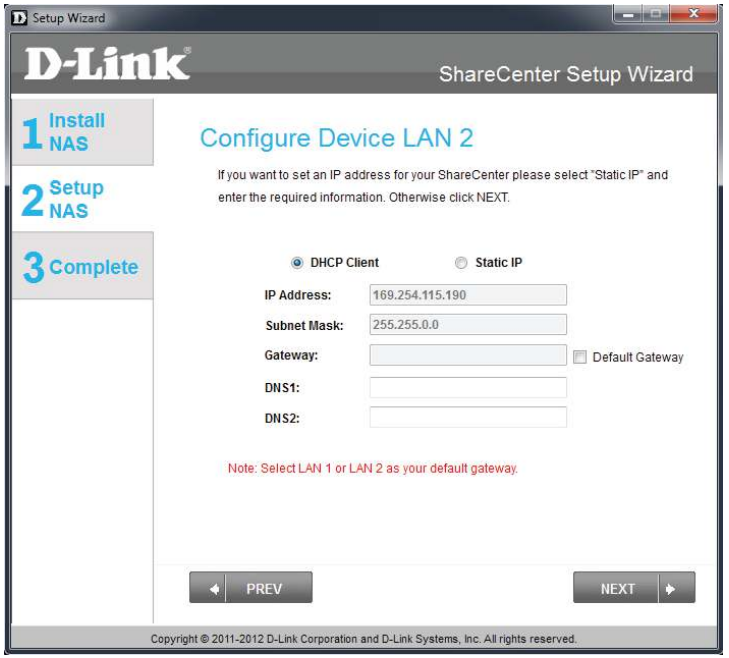
Networking Setup

11

You may either use Static IP or DHCP to configure the first IP network settings of the ShareCenter. If you select Static IP then enter the IP parameters as listed.

Click **Next** to continue.

12



You may either use Static IP or DHCP to configure the second IP network settings of the ShareCenter. If you select Static IP then enter the IP parameters as listed.

Click **Next** to continue.

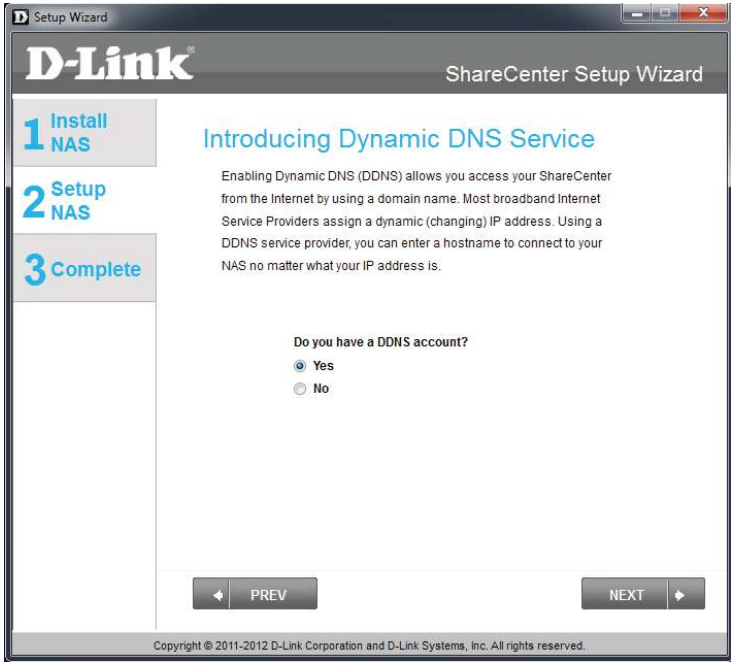
Dynamic DNS

13

If you want your ShareCenter to be part of a Windows Workgroup network, enter the workgroup name, a name for the device, and a description. The name you entered will be used whenever you map one of the ShareCenter™ volumes as a Network Drive.

Click **Next** to continue.

14

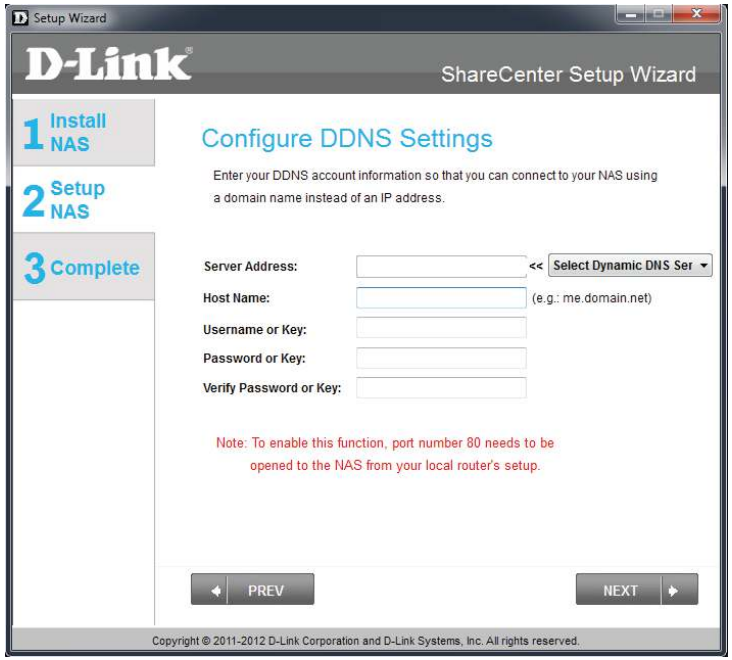


Click the '**Yes**' radio button if you already have a DDNS account to use for the ShareCenter Quattro DDNS. Click the '**No**' radio button and proceed to step 16 to obtain a new DDNS account.

Click **Next** to continue.

DDNS Account Setup

15



Enter the DDNS parameters requested in this window so that your ShareCenter can be accessed by a URL over the Internet.

Click **Next** to continue.

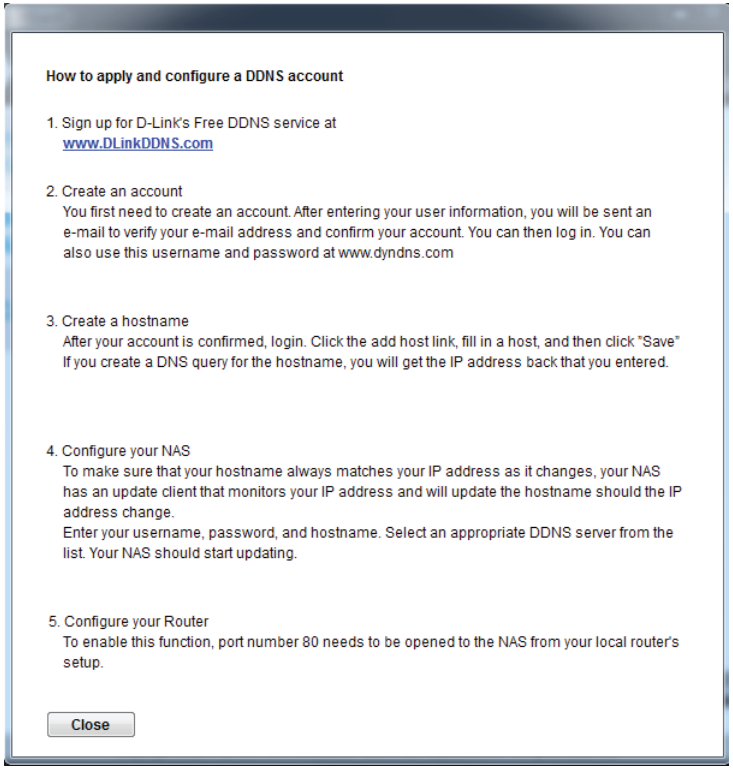
16

Click **Yes** to go to a Wizard with instructions and links on how to obtain a free DDNS account.

Click **No** skips the DDNS account setup wizard and transfers you back to the ShareCenter Setup Wizard.

DDNS Account and System Time

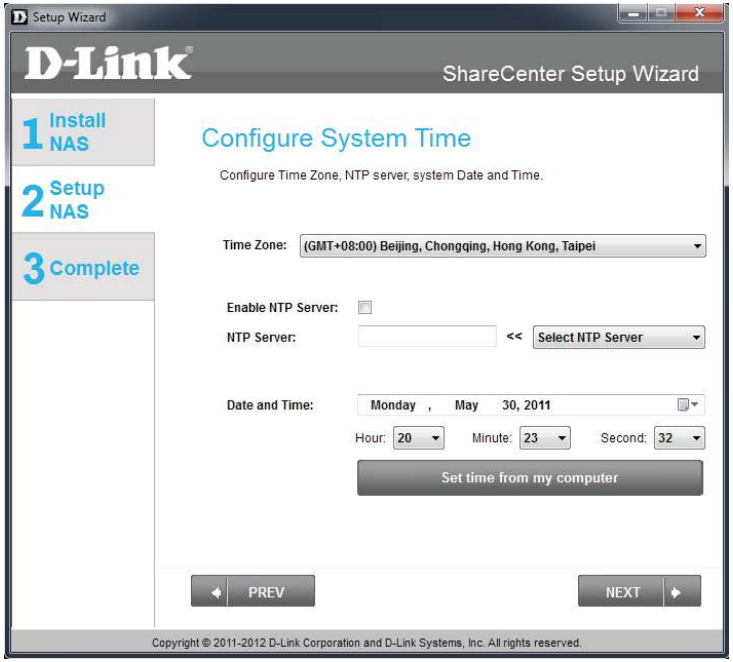
17



Follow the steps listed here in order to create a DDNS account and configure your LAN equipment and ShareCenter to work with the new settings.

Click **Close** to continue.

18

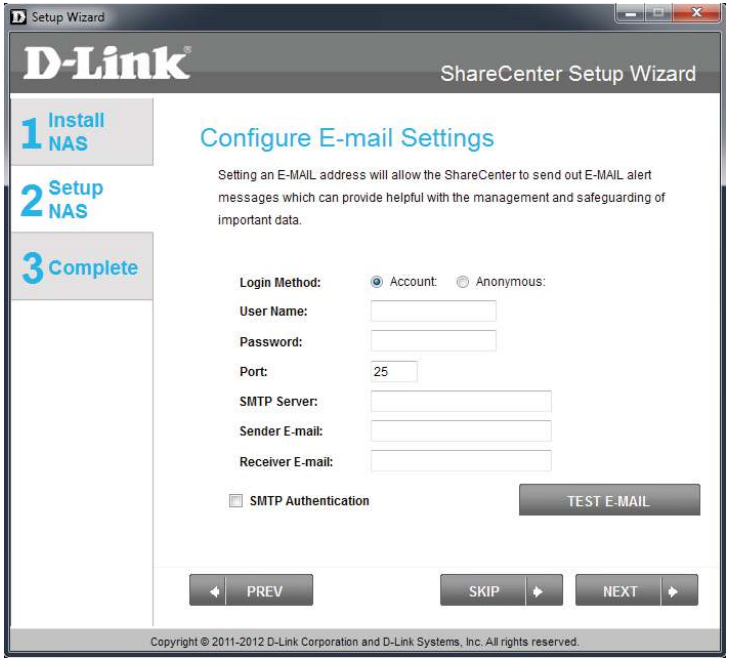


Select the ShareCenter system time date and timezone settings using this step. You can set the time and date manually, from an NTP server, or from the computers settings. The timezone is set manually.

Click **Next** to continue.

Email Settings and Volume Information

19

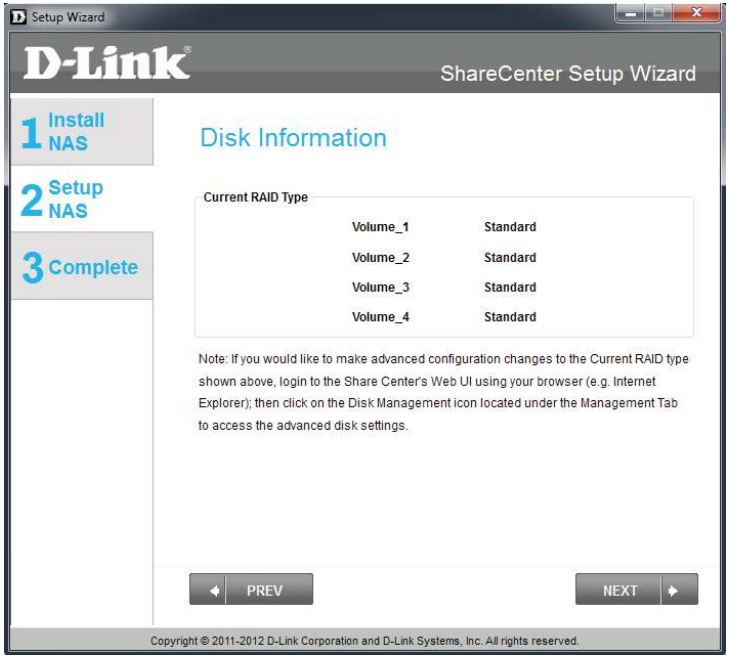


Configure an e-mail service with the ShareCenter to receive e-mail events to alert users of any changes to the system.

You must have all mail server information nearby or contact your systems administrator for assistance.

Click **Next** to continue.

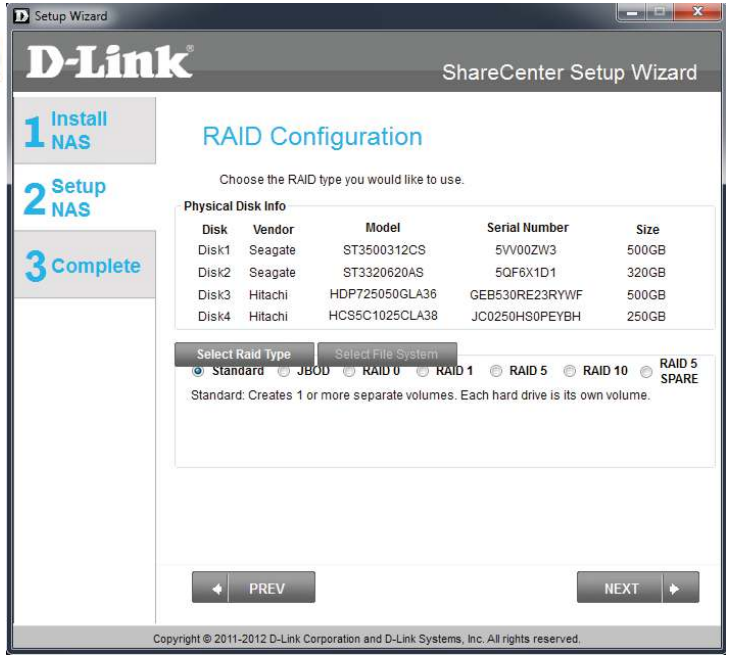
20



This step shows the configured Volumes set up on the ShareCenter Quattro.

Click **Next** to continue.

RAID Configuration and Encryption



Select one of the 4 Volume File Systems desired. Clicking on each file system type radio button will give a description if needed.

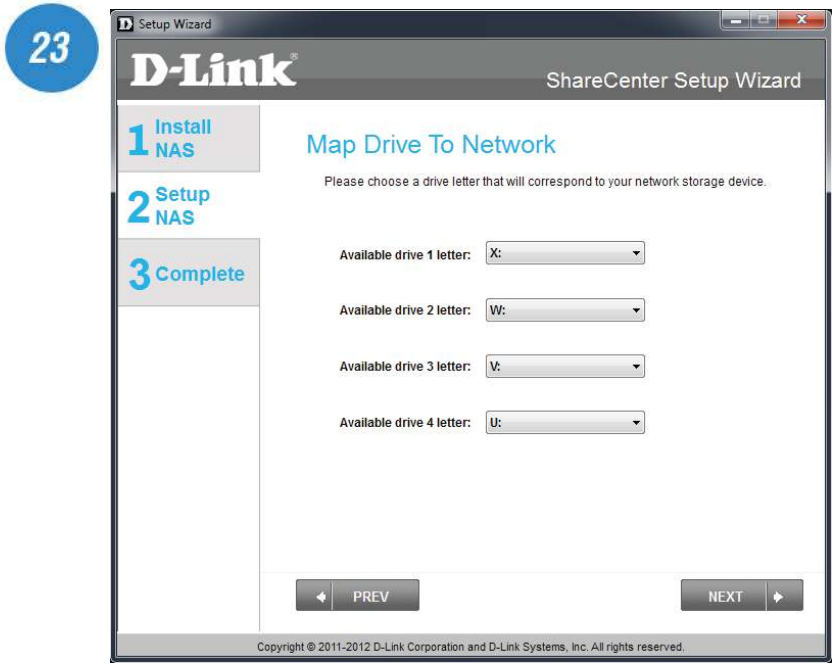
For more information concerning the different RAID Disk Formats please refer to the user manual.

Click **Next** to continue.

Once the RAID configuration is complete, the ShareCenter Quattro prompts you to encrypt each or all drives. Check the box next to the hard drive(s) you wish to encrypt.

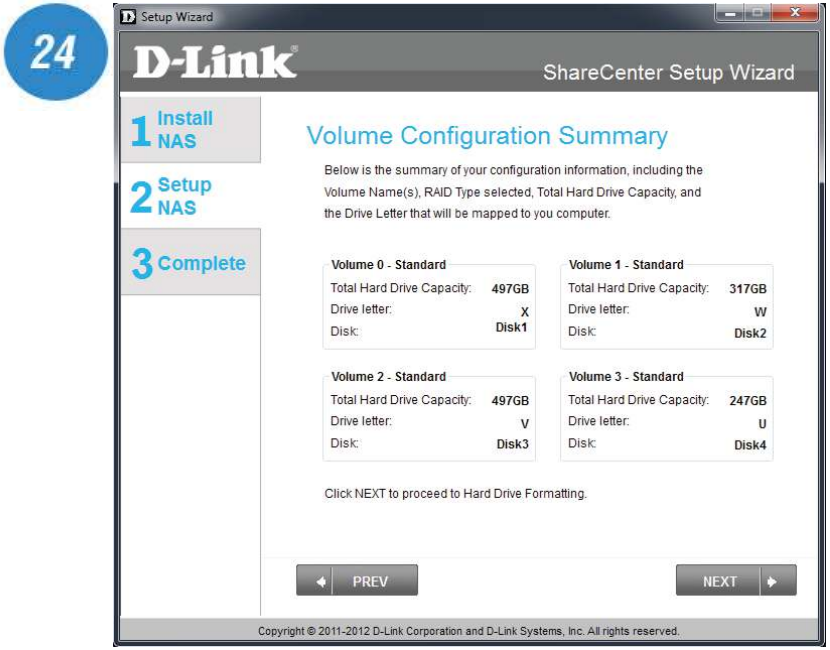
Click **Next** to continue.

Mapping a Drive and Checking Volume Summary



This step allows you to map the volume(s) created as network drive(s) on your computer.

Click **Next** to continue.

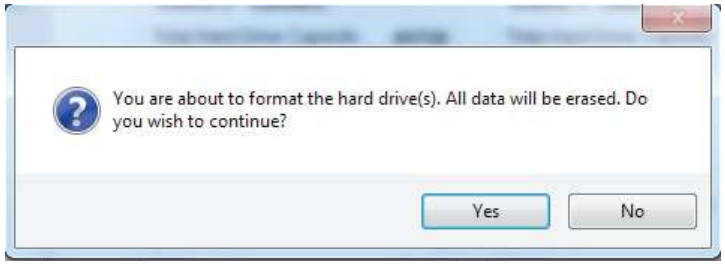


Review the detailed summary of your volume configuration here before clicking next and starting the drive format. If necessary use the **PREV** button to go back and reconfigure the RAID comfiguration of the volume(s).

Click **Next** to continue.

Formatting Volumes

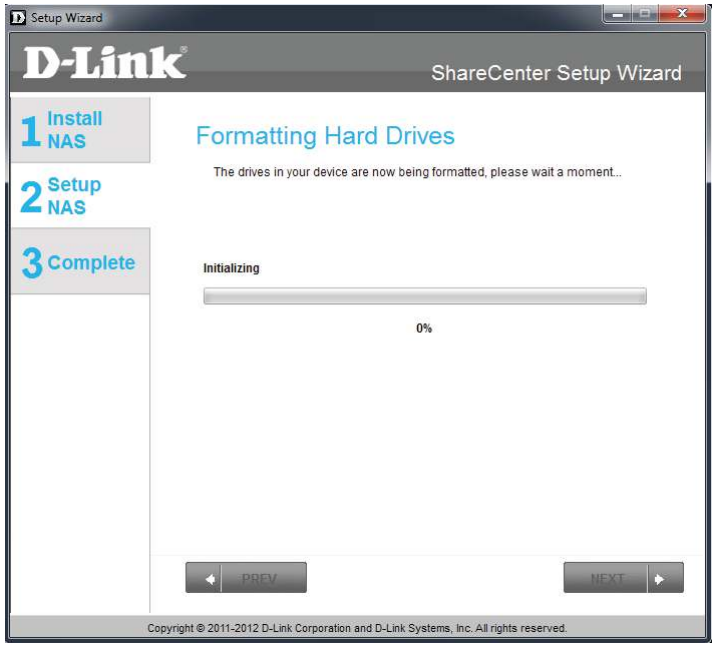
25



When you click **Next**, a warning message will appear to inform you that all data on the drive(s) will be lost. Click **Yes** to proceed or **No** to exit.

Click **Next** to continue.

26

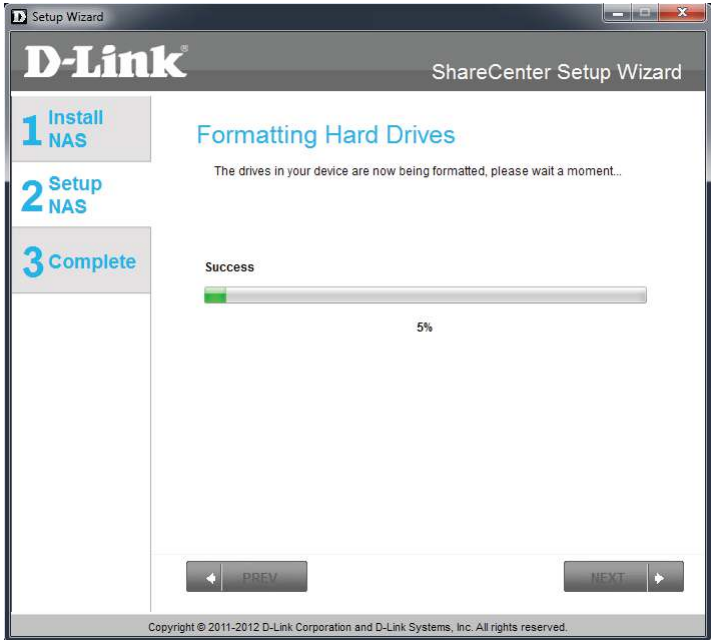


During the format process the wizard displays a percentage complete bar for each hard drive.

Click **Next** to continue.

Formatting Hard Drives and Selecting Add-on Packages

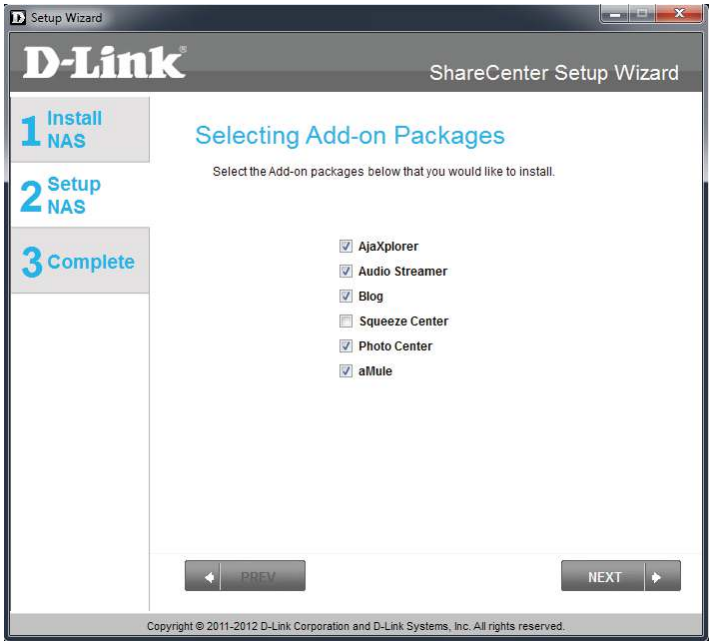
27



The wizard will notify you when formatting is complete successfully.

Click **Next** to continue.

28

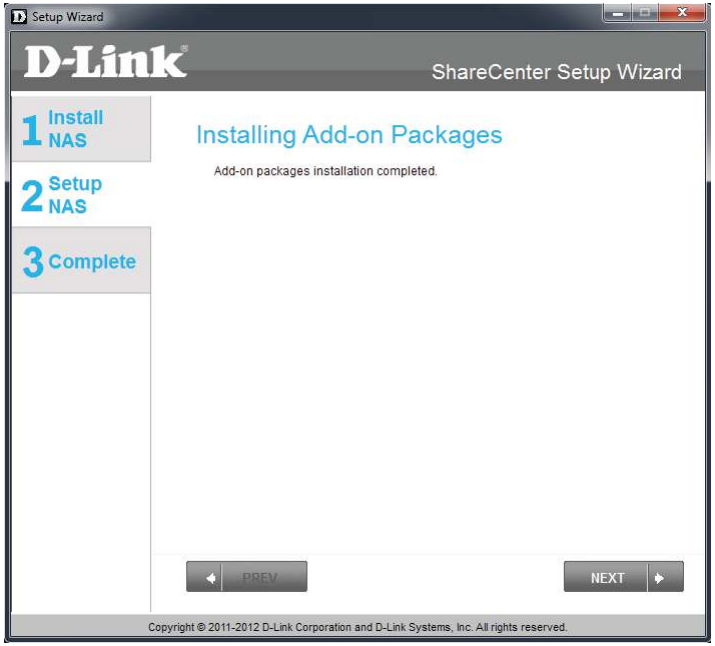


Your ShareCenter supports Add-On packages. Here you may install the Audio Streamer, Blog, SqueezeCenter, Photo Center, aMule, and AjaXplorer add-ons which extend the application functionality of your ShareCenter Quattro.

Click **Next** to continue.

Add-on Packages

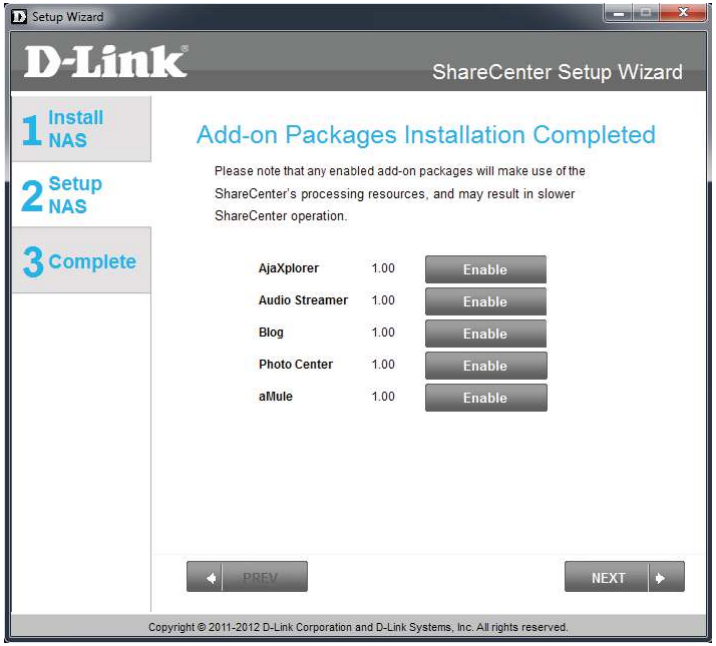
29



The wizard will notify you that the Add-on packages are installed successfully.

Click **Next** to continue.

30

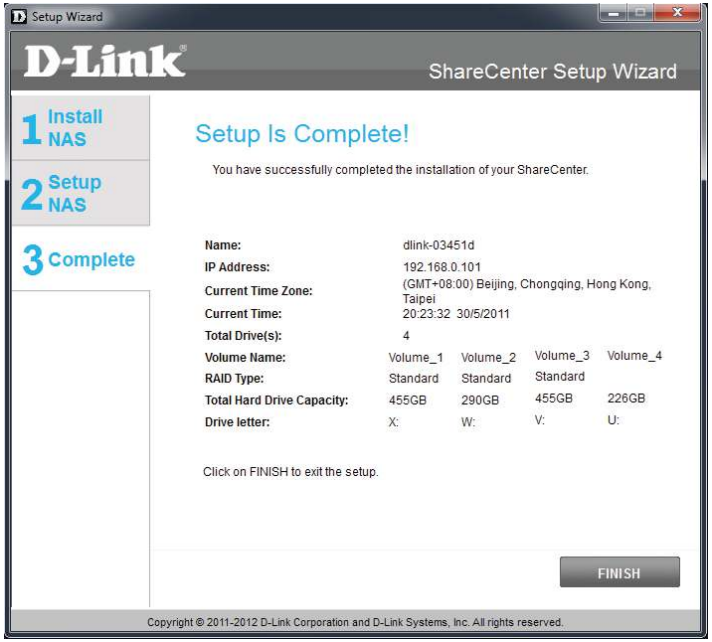


The next screen allows you to enable or disable the installed add-on packages.

Click **Next** to continue.

Wizard Complete

31



The ShareCenter Setup Wizard is complete. Click Finish to exit the wizard and start using your DNS-345 NAS.

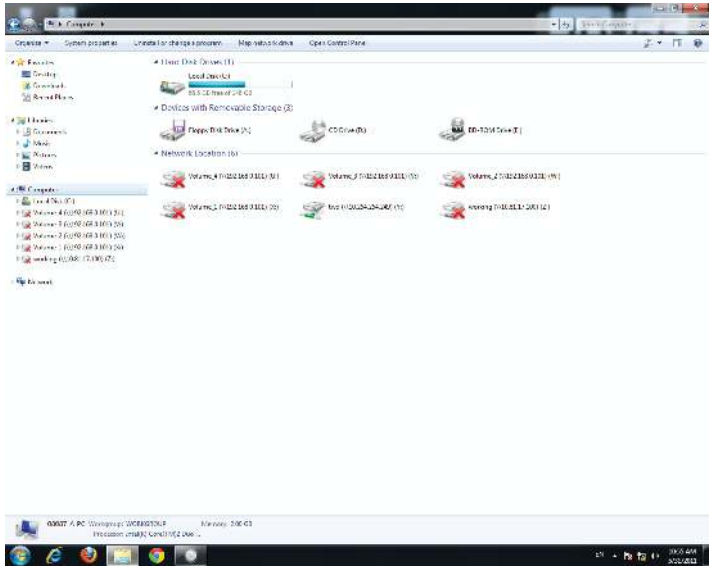
Click **Next** to continue.

Your ShareCenter Quattro is now installed and ready to use. If your drives are mapped using the wizard, you will be able to access them under your 'My Computer' icon.

If you did not use the wizard to map the drives, you can manually map or access the created volumes through your computers operating system. Detailed configurations using the Web UI is explained in the configuration section of this manual.

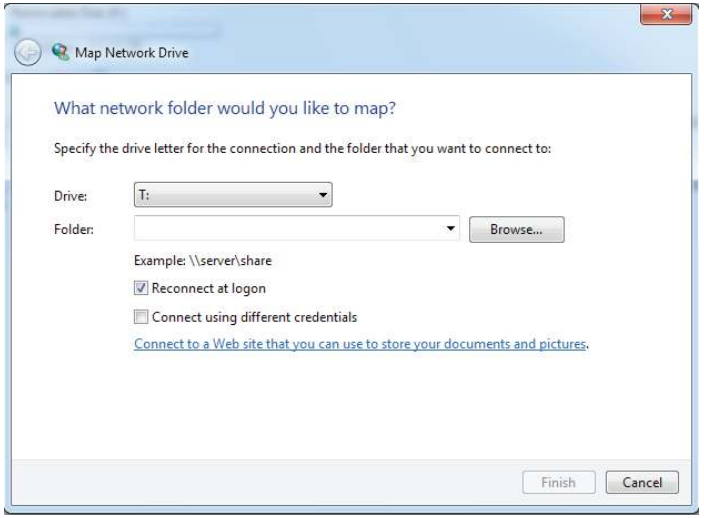
Mapping a Drive

Map a drive to your NAS using Windows 7 to access it through Windows Explorer.



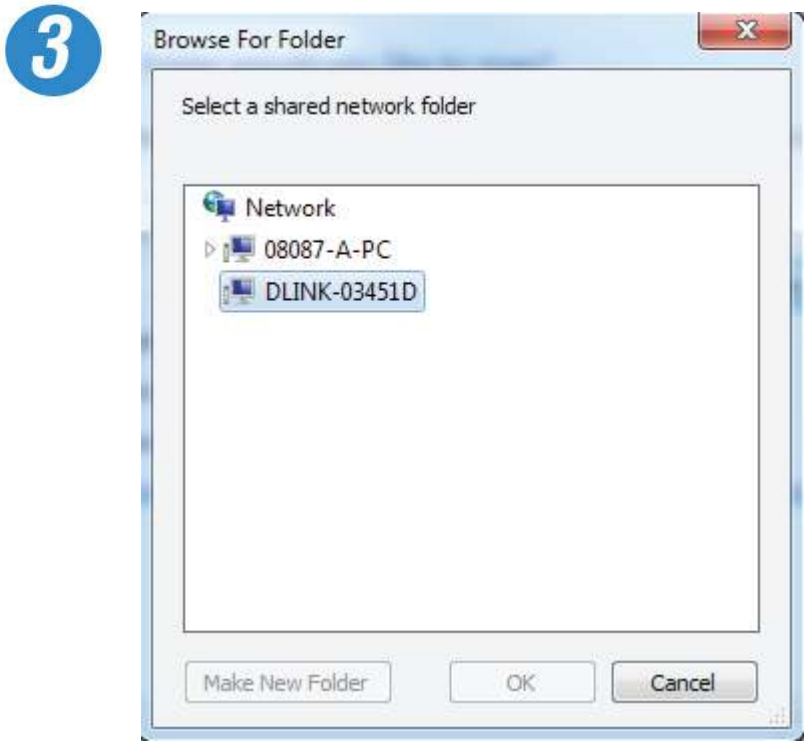
Click **Start**, then **Computer** (the name of your computer).

On the right-side panel is a list of your hard drives, removable storage , and network locations. If you do not have any network locations, this may be the first time you set up a network drive. Begin by clicking on '**Map network drive**'.

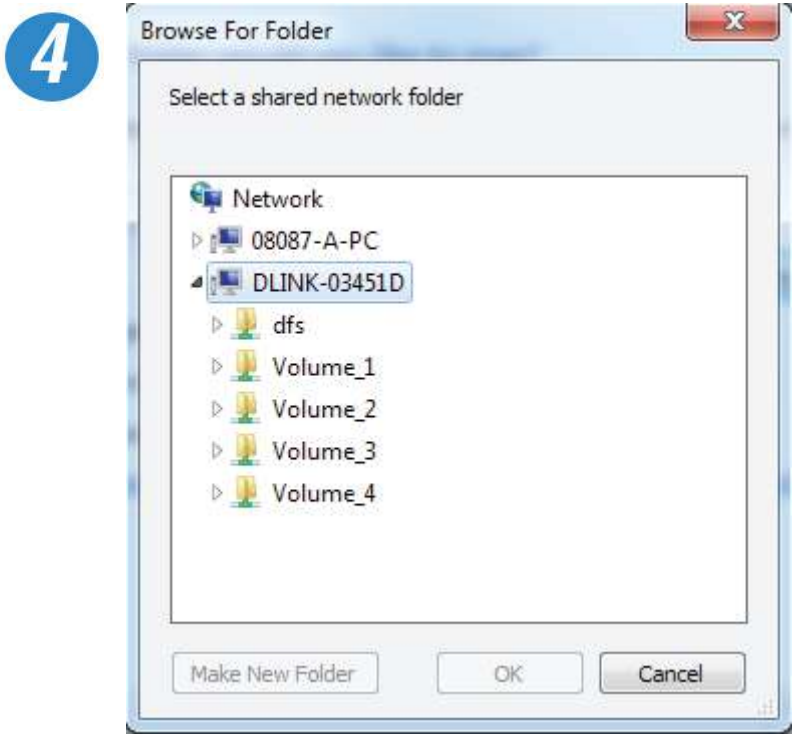


This screen shows some details on selecting a network drive.

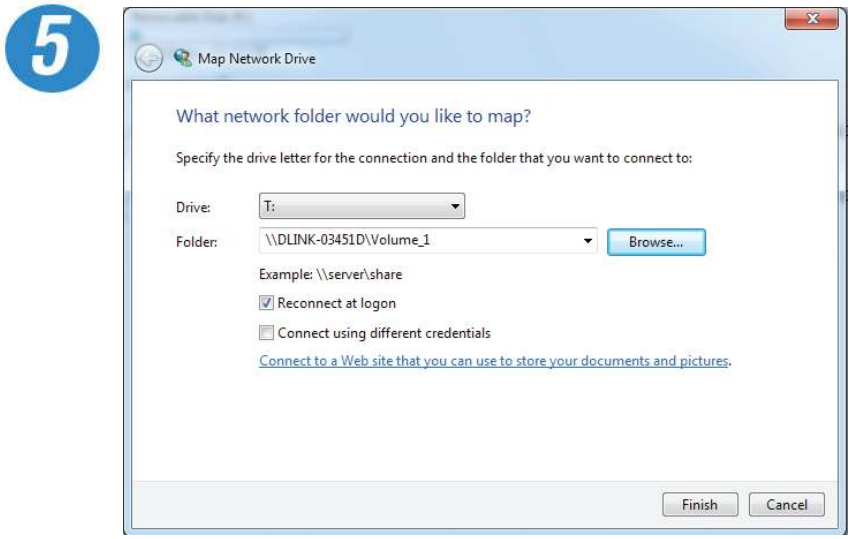
Click **Browse** to find your network.



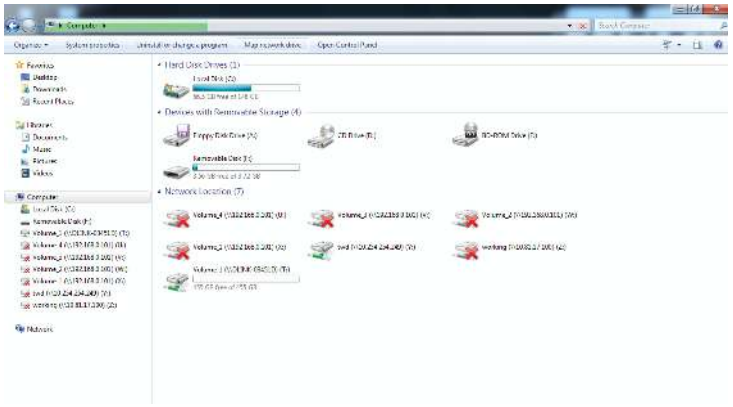
Windows will automatically detect all devices on your network including your DNS-345.



Click on your NAS to see the volumes you created earlier. Then select the volume that you wish to access and click **OK**.



After selecting your volume, click **Finish** proceed.



The drive will then appear in your Windows Explorer in green. This means the drive is active and ready for use.

Part II

Managing your ShareCenter Quattro DNS-345

ShareCenter Quattro is the key interface in managing your DNS-345. IT is a browser-based utility that allows you to manage and configure the different tools and services available. ShareCenter is divided into three main sections.

1. Management
2. Applications
3. My Favorites

These sections are divided into the essential features of the ShareCenter Quattro.

SECTION	FEATURE	DESCRIPTION
Management	Setup Wizard	Step by step guide through password & time settings, connectivity, and device configuration
	Disk Management	Configures disk volumes, RAID, and performs disk diagnostics
	Account Management	Configures user and group management, network shares, active directory paths, and distributed file systems
	Network Management	Configures LAN, Dynamic DNS, and Port Forwarding
	Application Management	Configures FTP, UPnP, iTunes server configurations, Add-ons, AFP, and NFS services
	System Management	Configures language, time and date, device, and system settings. Also allows you to control power, notifications, view logs, do firmware upgrades, SNMP checks and manage USB devices.
	System Status	Displays system and hard drive information along with resource monitoring

SECTION	FEATURE	DESCRIPTION
Applications	FTP/HTTP Downloads	Configure FTP and HTTP download settings
	Remote Backup	Configure remote backup services
	Local Backups	Configures local backups, Time Machine© settings, and USB backups
	P2P Downloads	Configure your P2P downloads and control your download schedules
	Web File Server	Create, configure, and manage your web file server settings
	Amazon S3	Create, modify, and delete your Amazon S3© settings

Configuration - Web UI Login

To manage and access your ShareCenter Quattro DNS-345, open a web browser from our Systems Requirements list, type in the IP address of your NAS, and login. When you were configuring your DNS-345, you set up your LAN settings. Under these settings you will find your IP address. Enter the IP address into your browser to navigate to the ShareCenter login page.

The following Login screen will appear:

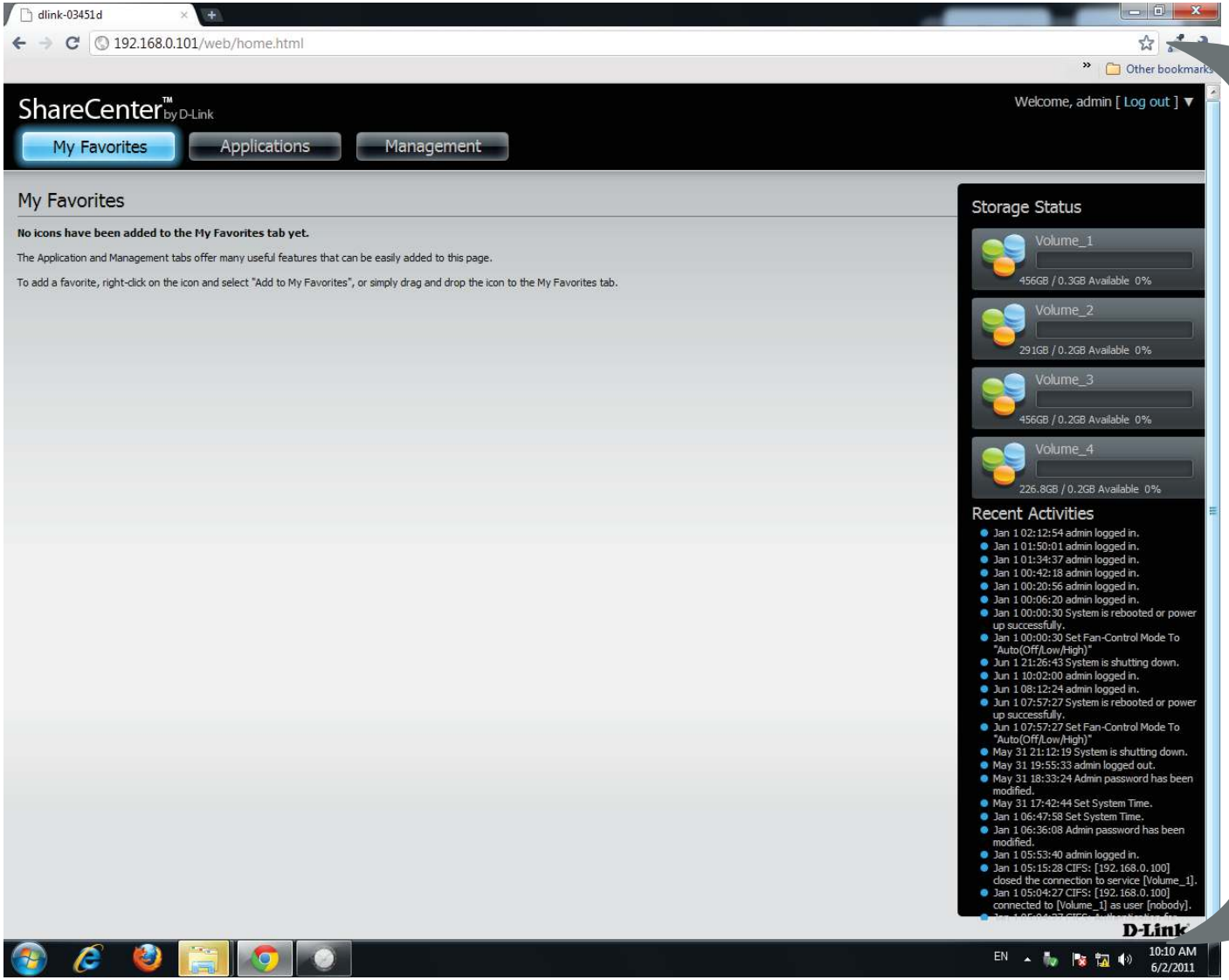
Select **System Administrator** and enter the password set using the Setup Wizard.

Click **Login.**

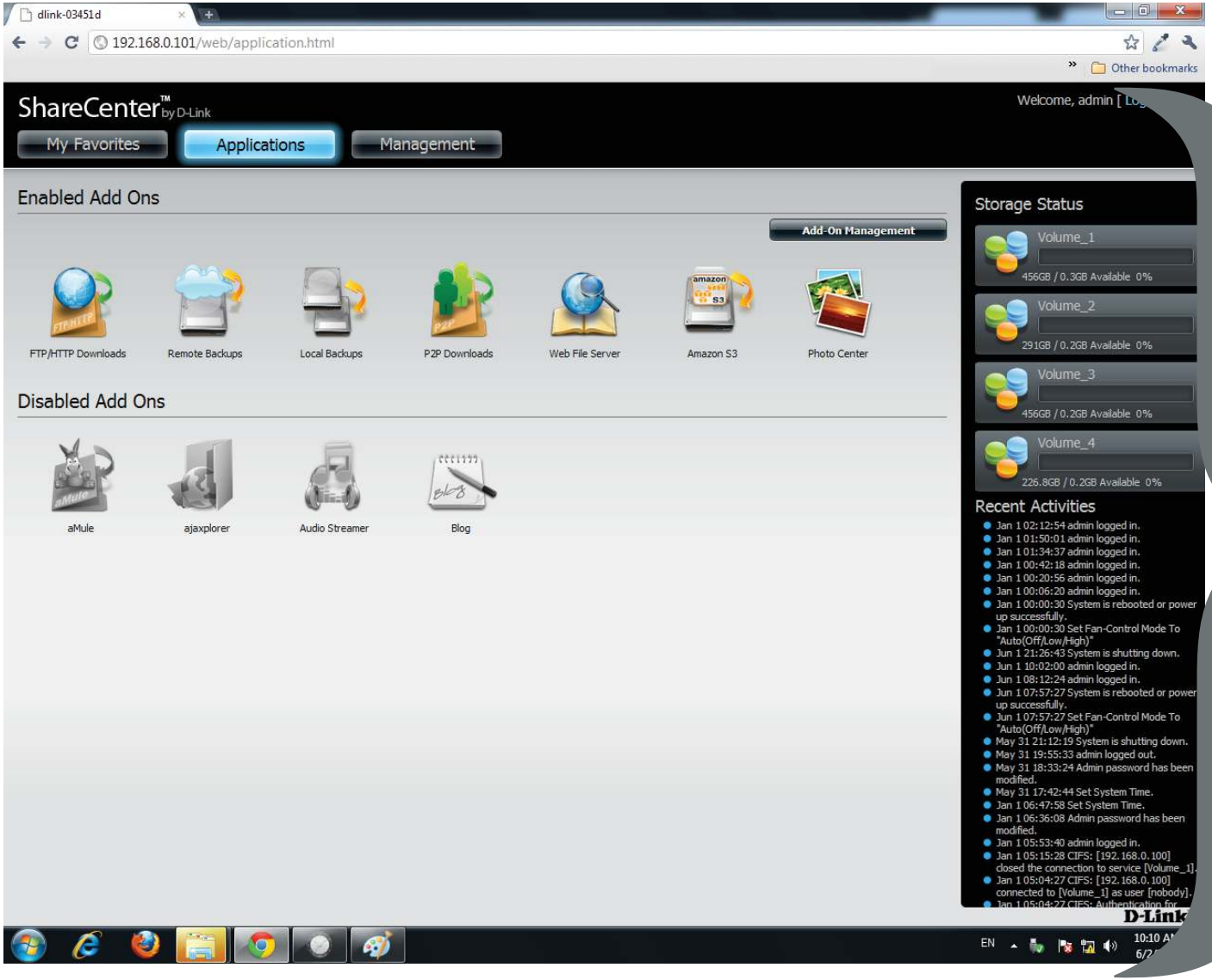
Note: *The computer, used to access the ShareCenter web-based configuration, manager must be on the same subnet as the ShareCenter Quattro. If your network is using a DHCP server and the computer receives IP settings from the DHCP, the ShareCenter™ will automatically be in the same subnet.*

Web UI General Layout

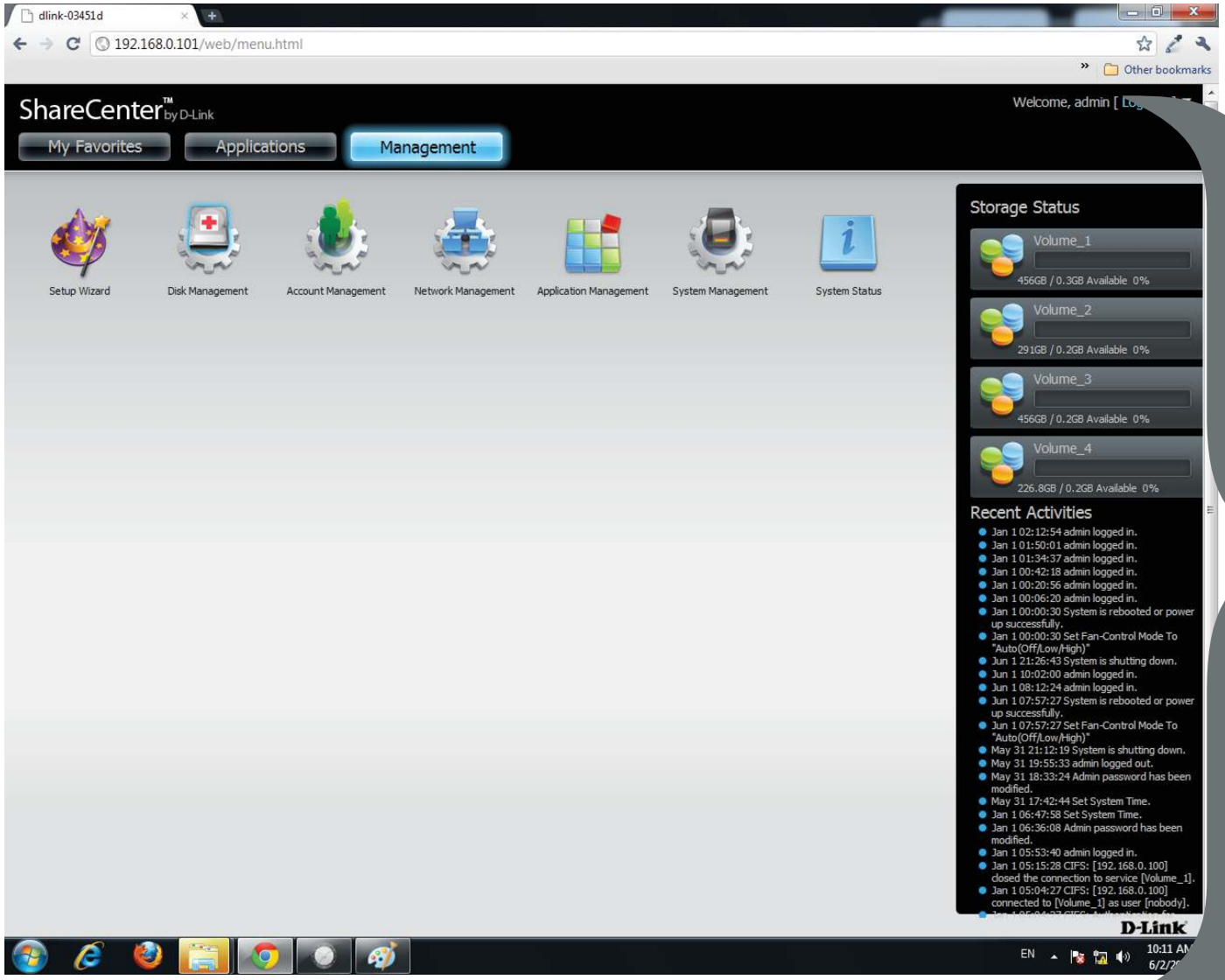
After logging in, the ShareCenter web UI will navigate you to the 'My Favorites' tab by default. You will see the Applications and Management tabs alongside of it. You will find the configuration icons in the Management tab.



The My Favorites screen



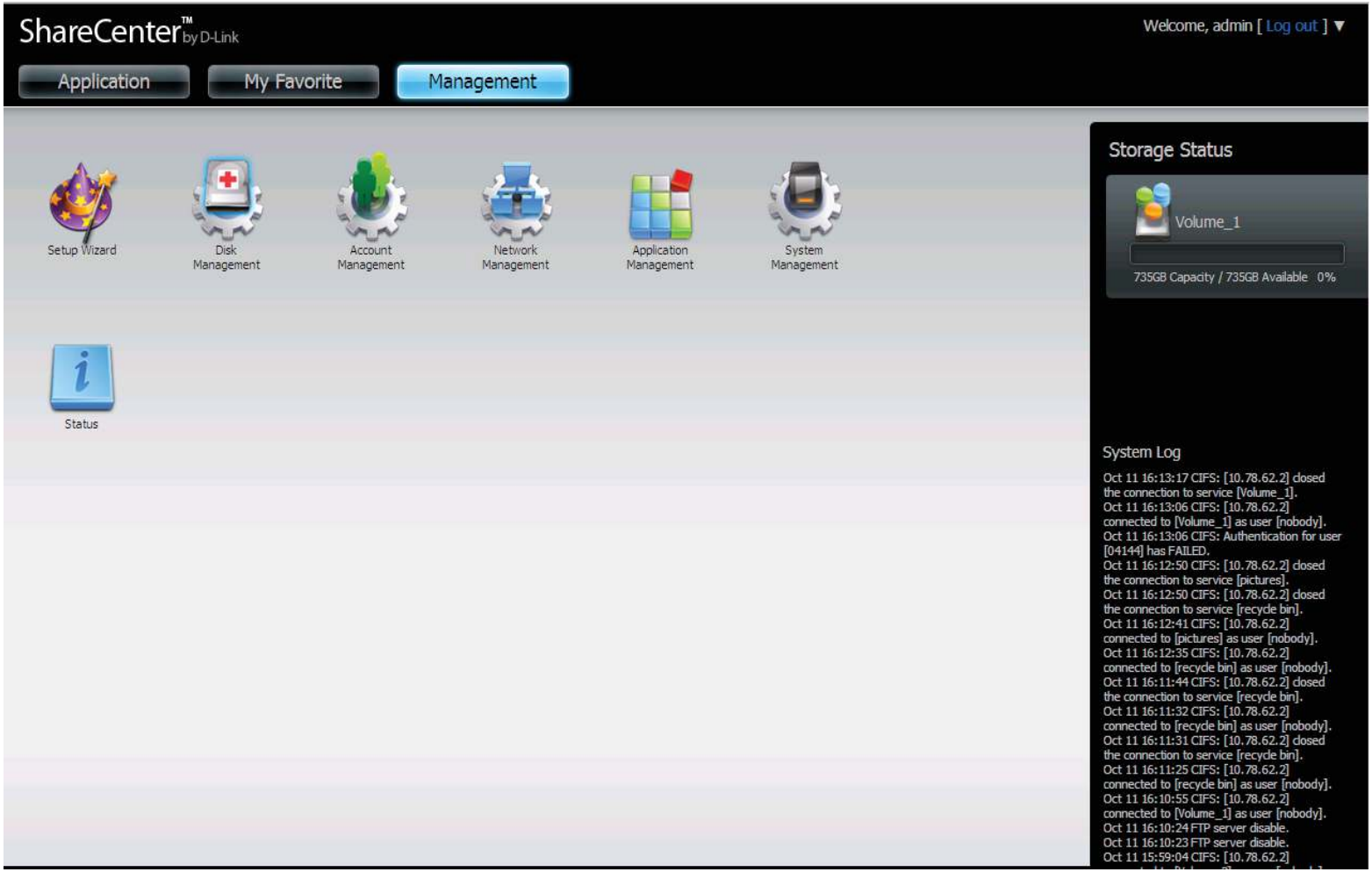
The Applications screen



The Management screen

Management

The Management tab contains the Setup Wizard, Disk Management, Account Management, Network Management, Application Management, System Management, and Status icons. Click on each of the icons to see the submenus.



Setup Wizard (Web UI)

The ShareCenter Quattro has a System Wizard that allows you to quickly configure some of the basic device settings. Click the System Wizard icon to start the Setup Wizard.

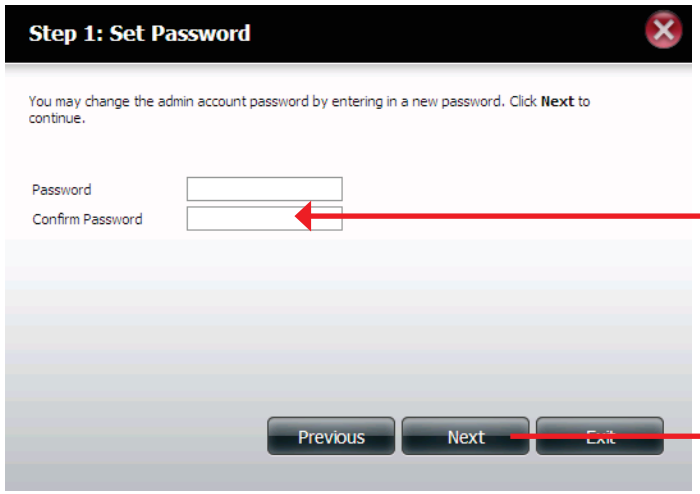
1

Click the **Run Wizard** button to start the setup wizard.

2

Click **Next** to continue.

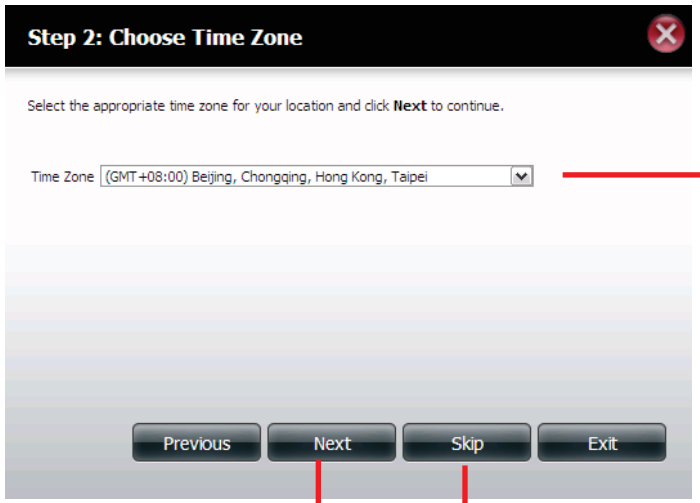
3



Update the administrator account password here and confirm the password or leave it blank.

Click **Next** to continue.

4

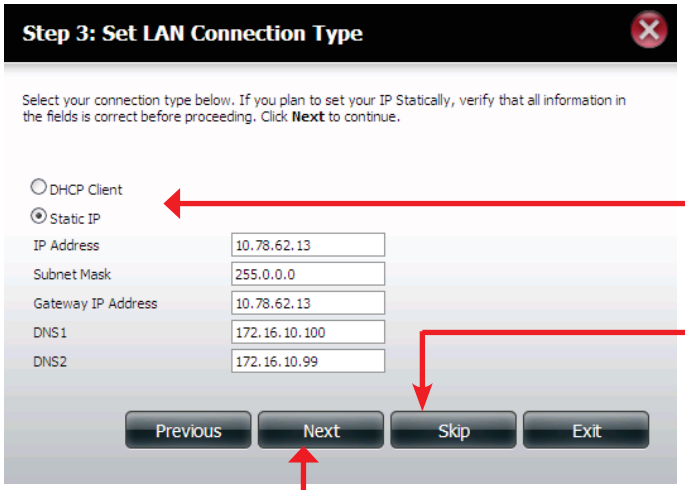


Set the timezone to the appropriate geographical zone closest to your location from the drop-down menu.

Click **Next** to continue.

Click **Skip** to ignore these settings.

5

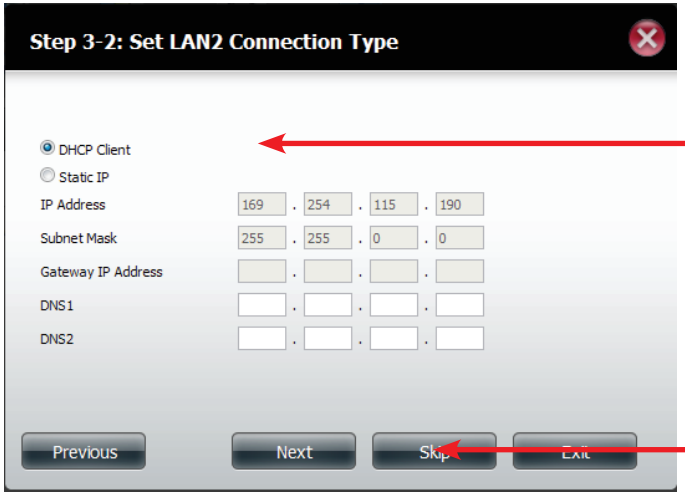


The ShareCenter LAN 1 parameters can either use DHCP to obtain its IP settings dynamically or Static to set them manually in the parameters below.

Click **Skip** to ignore these settings.

Click **Next** to continue.

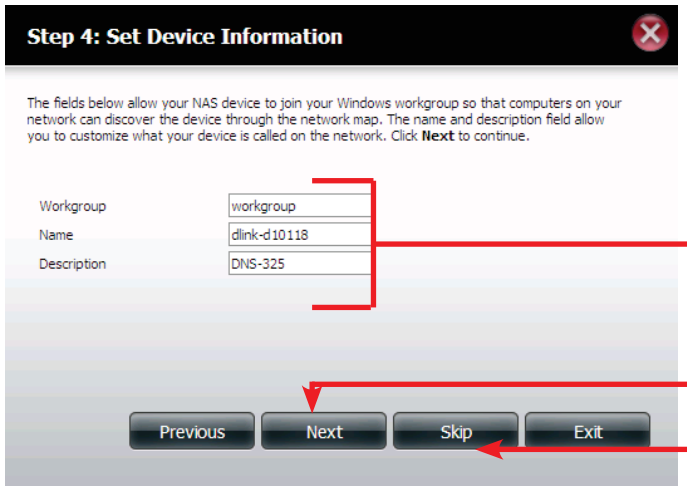
6



The ShareCenter LAN 2 parameters can either use DHCP to obtain its IP settings dynamically or Static to set them manually in the parameters below.

Click **Skip** to ignore these settings.

7

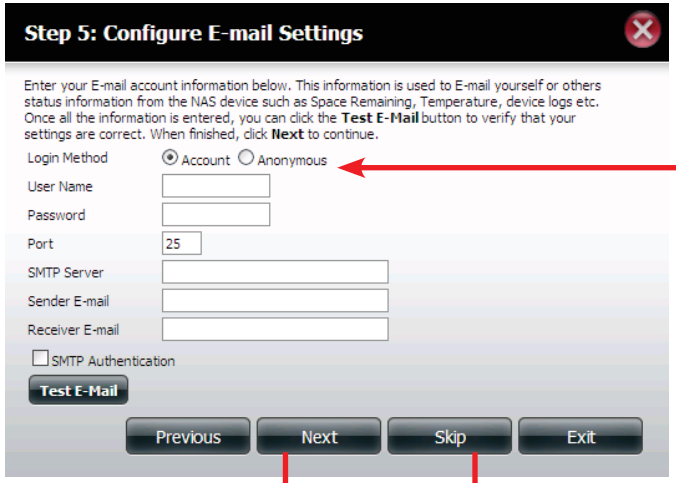


Here you can assign a workgroup and name to the ShareCenter in addition to a short description.

Click **Next** to continue.

Click **Skip** to ignore these settings.

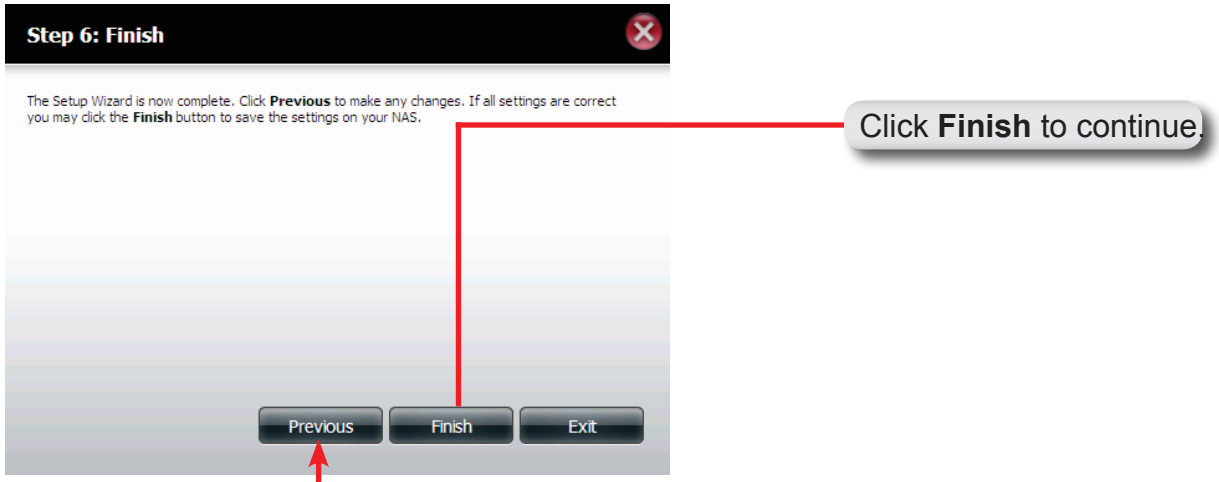
8



Click **Account** to enter your e-mail address in the boxes below. The e-mail account will then receive Event Alerts from the ShareCenter. Click **Anonymous** to create a random account with no specific settings.

Click **Skip** to ignore these settings.

Click **Next** to continue.



Click **Finish** to continue.

Click the Previous button to go back and heck your settings. If you are satisfied with the settings, click the Finish button to save and continue. Click Exit to end the wizard without saving the settings.

Disk Management

Hard Drive Configuration

To setup the Hard Drive RAID configuration of your ShareCenter, click on the Management tab and then the Disk Management icon. Select the Hard Drive Configuration menu item on the left of the window. This menu will allow you to set the RAID type and format your hard drives.

Hard Drive Configuration Your ShareCenter hard drives can be configured and formatted in various RAID configurations here.

Current Raid Type If the drives are already formatted the RAID configuration will be displayed here.

Set RAID type and Re-Format Click on this button to launch a wizard that allows you to select the RAID configuration and format the drives.

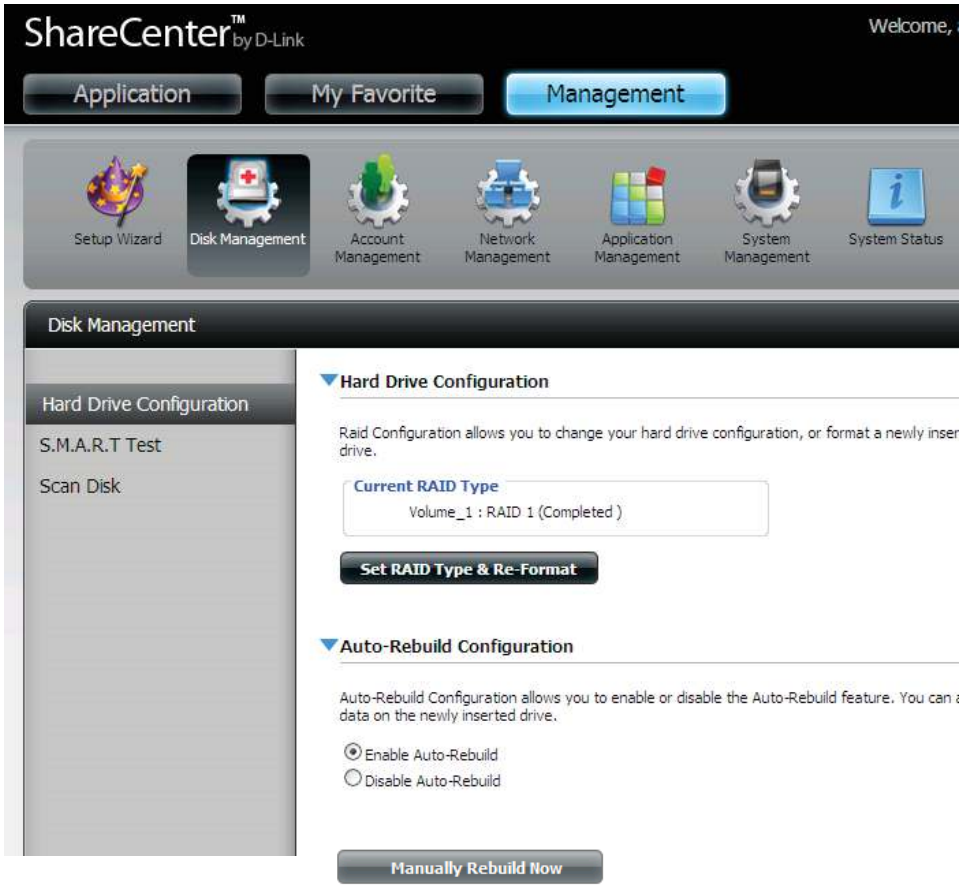
Auto-Rebuild Configuration If you have chosen RAID 1-5 as the configuration option, then set the Auto-Rebuild function here using the radio buttons.

Enable Auto-Rebuild Enabling Auto-Rebuild will rebuild a failed RAID 1-5 drive when a new drive has replaced the degraded one.

Disable Auto-Rebuild If you do not want to automatically rebuild drives after a failure when using the RAID 1-5 functionality then you can check this option.

Note: You can still rebuild a drive using the RAID 1-5 functionality however you must initiate the rebuild manually.

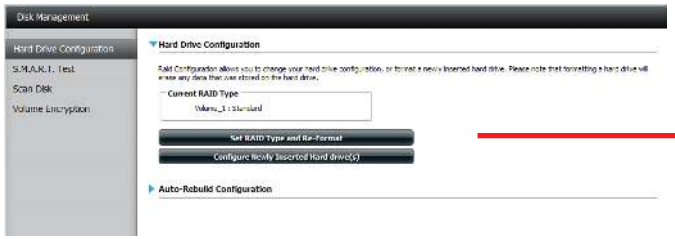
Manual Rebuild Now If Auto-Rebuild is disabled then you can use the Manual Rebuild option by clicking this button.



Hard Drive Configuration Wizard

When you click on the 'Set RAID type and Re-Format' button in the Disk Management-Hard Drive Configuration menu a wizard will start, allowing you to format your drives and create the volume RAID format. The following is an example of a standard volume configuration:

1

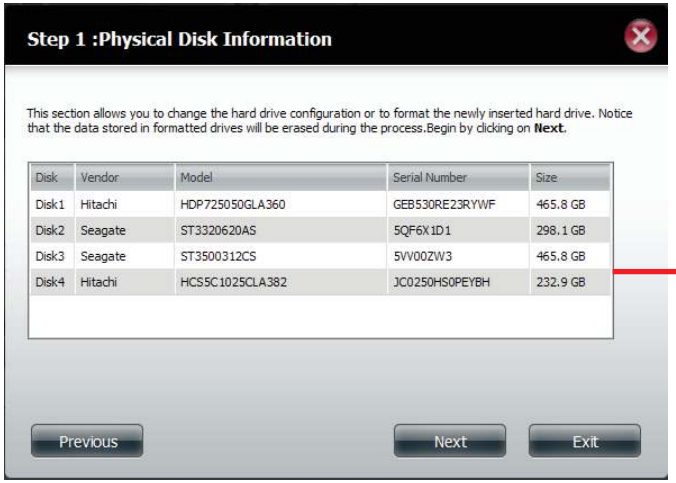


The 'Hard Drive Configuration' page shows the current RAID configuration under 'Current RAID Type'.

The options below provide other choices.
1. Set RAID type and Re-Format
2. Configure Newly Inserted Hard Drive(s)

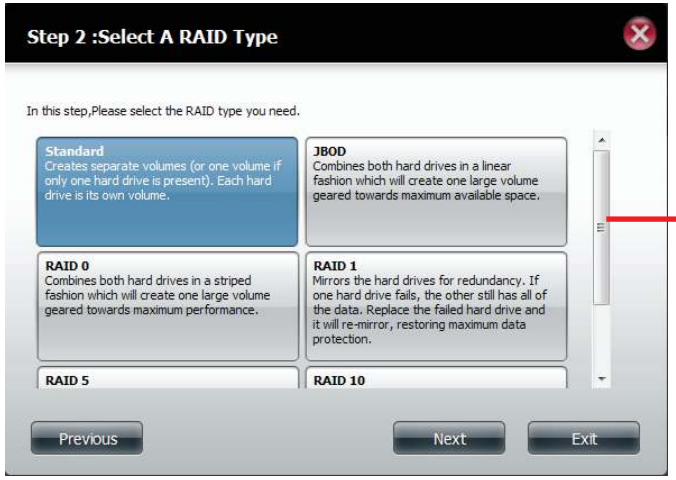
2

Click 'Set RAID Type and Re-Format'



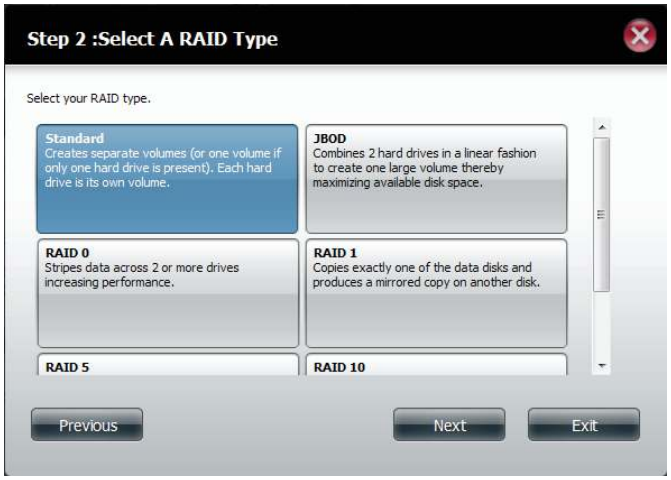
The 'Physical Disk Information' page displays all of the hard drives on the DNS-345. It shows the array number, vendor, model, serial number, and drive capacity.

Click **Next** to continue.



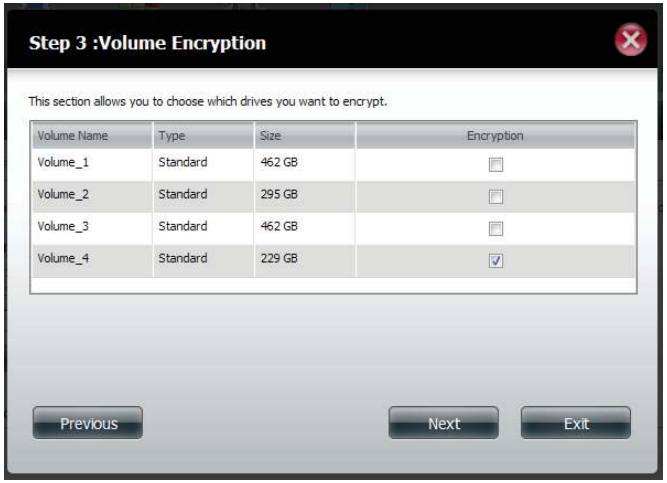
The 'Select a RAID Type' page gives you six different RAID options to configure your hard drives. Select the type you wish to use.

Click **Next** to continue.



Select **Standard** to create separate volumes for each individual drive.

Click **Next** to continue.



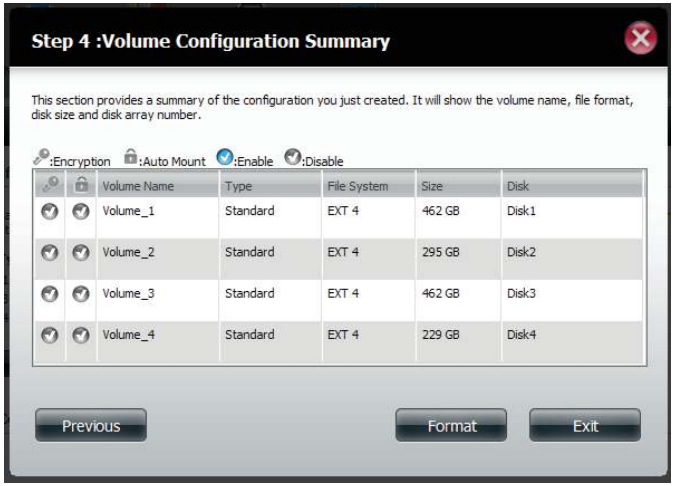
Choose a volume or volumes that you would like to encrypt.

Click **Next** to continue.

Select **Auto Mount** if you wish to mount the drive(s) without entering a password every time.

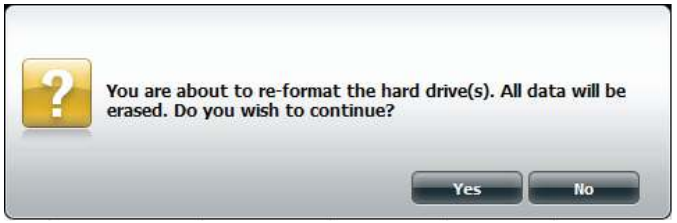
Enter the encryption password and enter it again to confirm.

Click **Next** to continue.



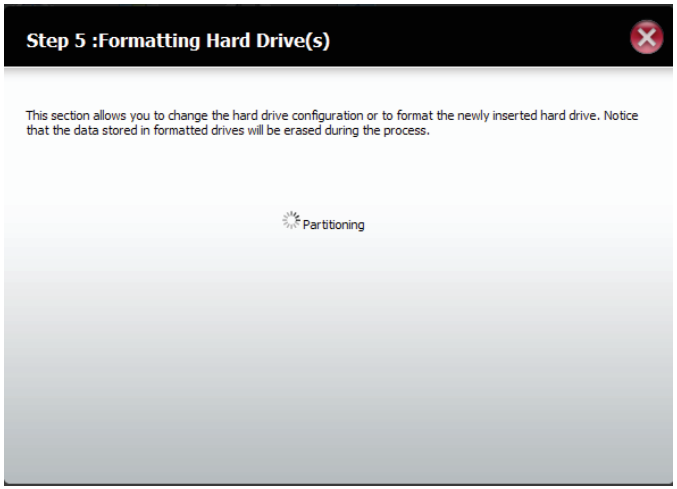
The 'Volume Configuration Summary' shows details on all of the configured drives. Check the details on the list and click **Format** to continue or click **Previous** to make changes.

Click **Next** to continue.



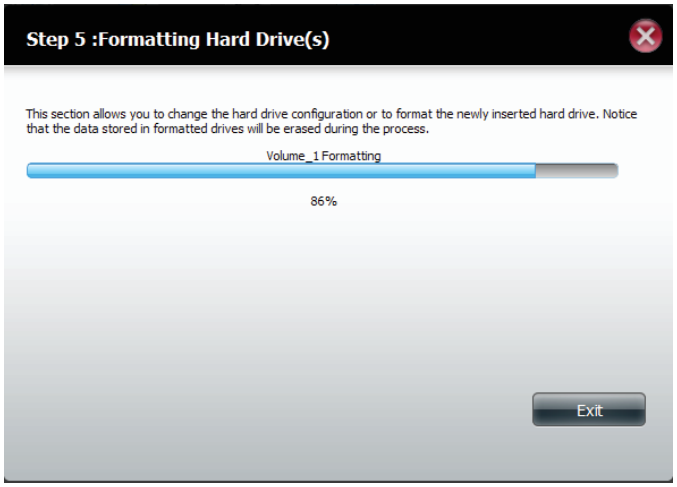
A warning message will appear to inform you that all volumes and data will be formatted and erased.

Click **Next** to continue.



Partitioning will now begin. Please be patient while this process takes place. Do not turn off your NAS during this process.

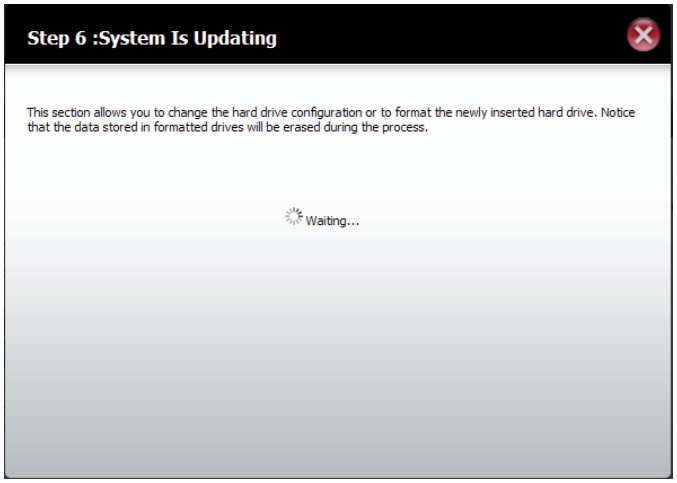
11



Once the partition is completed, the format process will begin. A graphical bar will show the volume being formatted. Please be patient during this process. Do not turn off your NAS during this process.

If you would like to change your settings at this stage, click Exit.

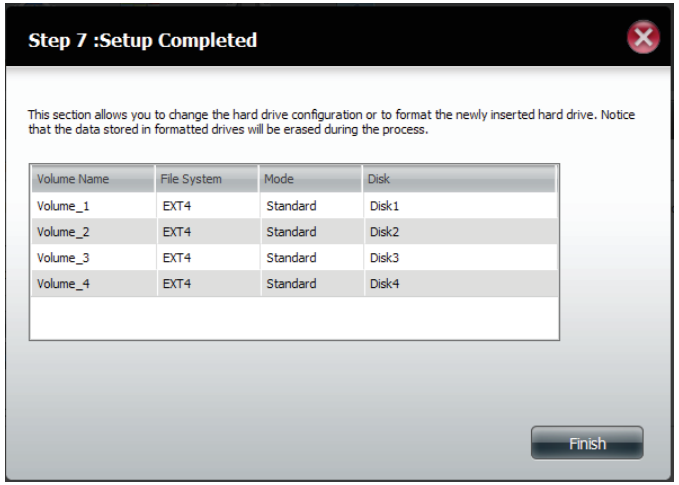
12



The system will now update all of the changes made.

Please be patient during this process. Do not turn off your NAS during this process.

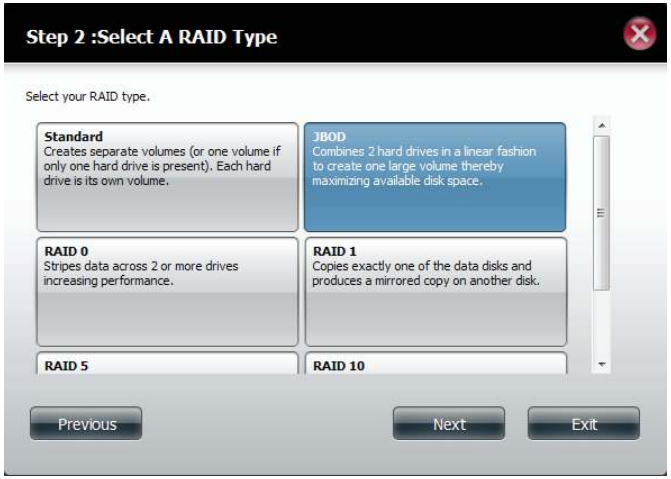
13



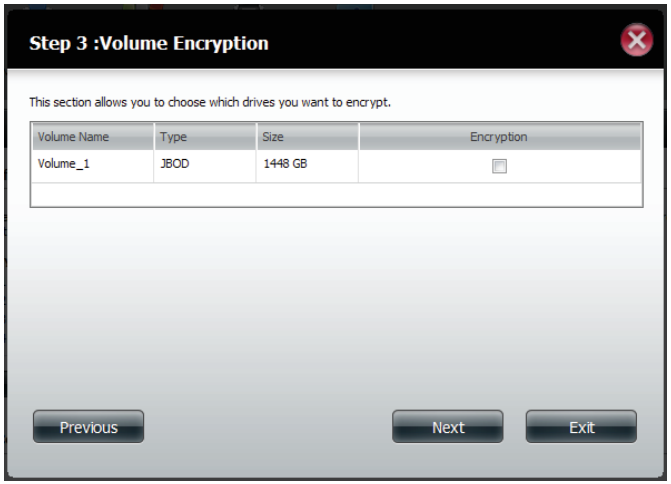
The wizard is now complete. It will show the volume number(s), file system selected, the type of RAID, and the disk formation in the RAID.

Click Finish to complete the process and start using your DNS-345.

JBOD

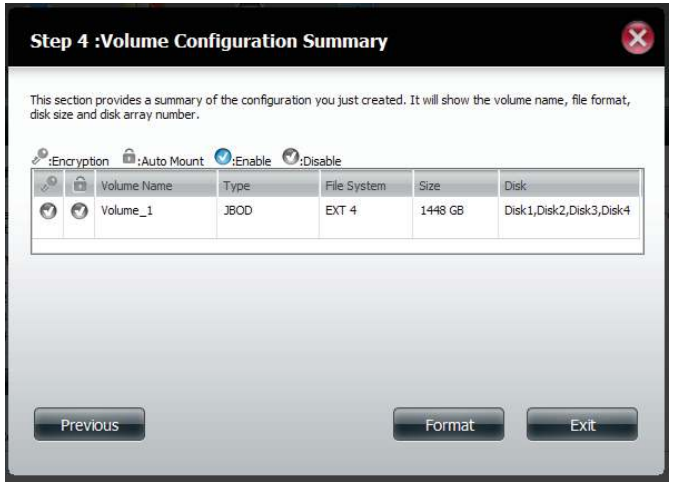


Select **JBOD** to create a single volume from all of the drives.
Click **Next** to continue.



Choose a volume or volumes that you would like to encrypt.

Click **Next** to continue.

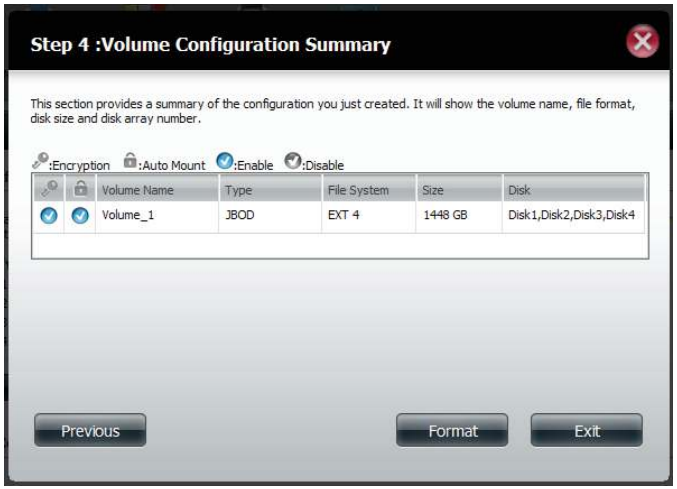


If you decided not to encrypt the volume, a volume configuration summary page will show the details of your configuration.

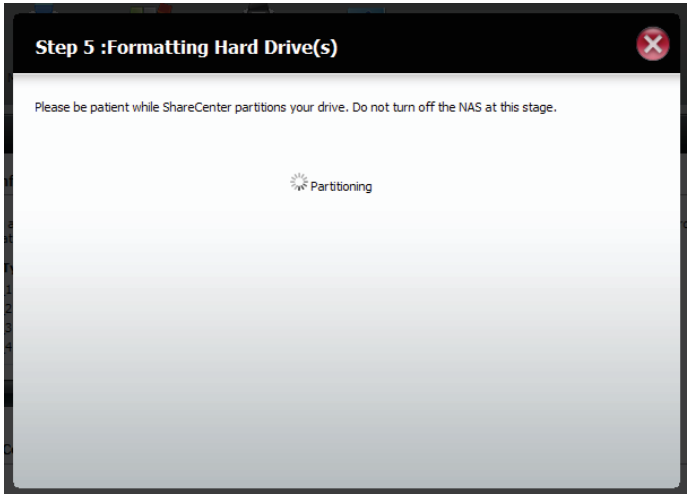
Click **Format** to continue or **Previous** make changes.

If you are encrypting the volume, select Auto Mount, enter a password, and confirm the password.

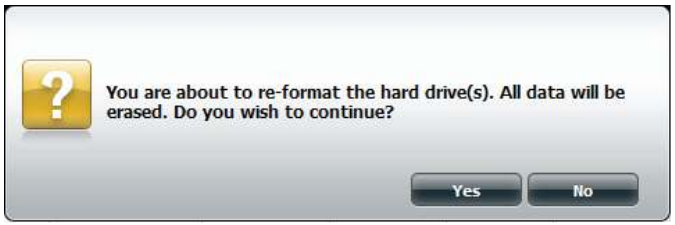
Click **Next** to continue.



The 'Volume Configuration Summary' shows details on all of the configured drives. Check the details on the list and click **Format** to continue or click **Previous** to make changes.

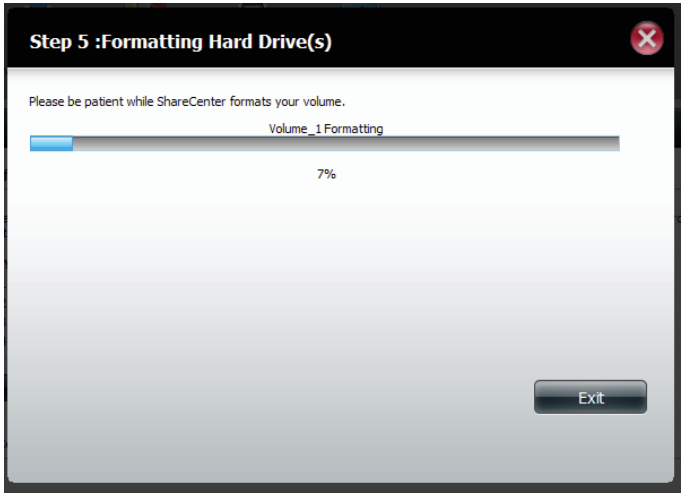


ShareCenter will now prepare the volume for partitioning.



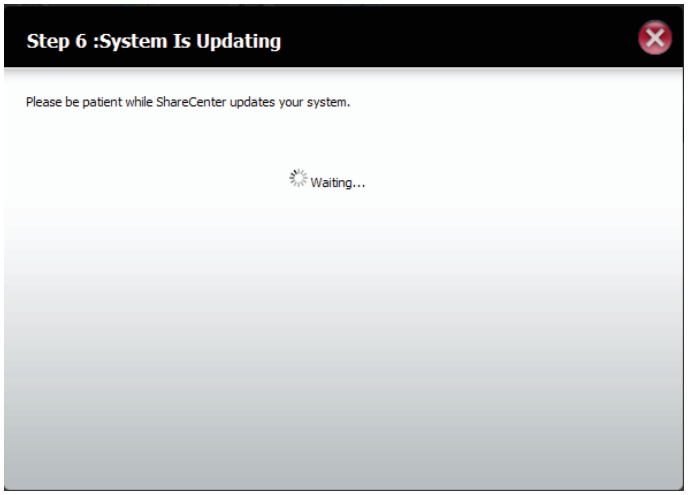
A warning message will appear to inform you that all volumes and data will be formatted and erased.

Click **Next** to continue.



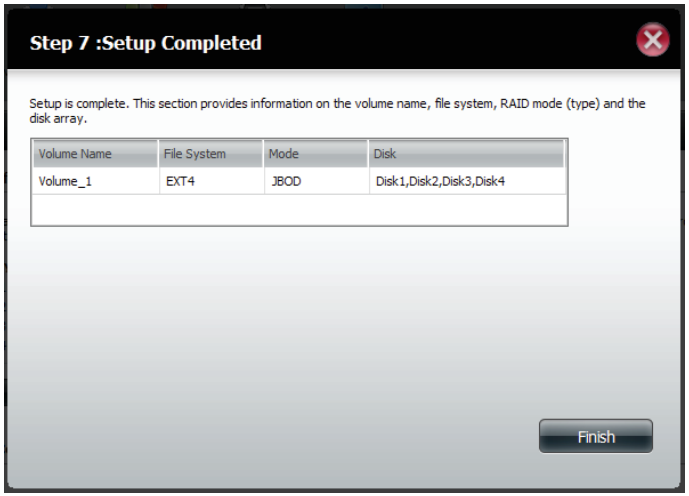
Once the partition is completed, the format process will begin. A graphical bar will show the volume being formatted. Please be patient during this process. Do not turn off your NAS during this process.

If you would like to change your settings at this stage, click Exit.



The system will now update all of the changes made.

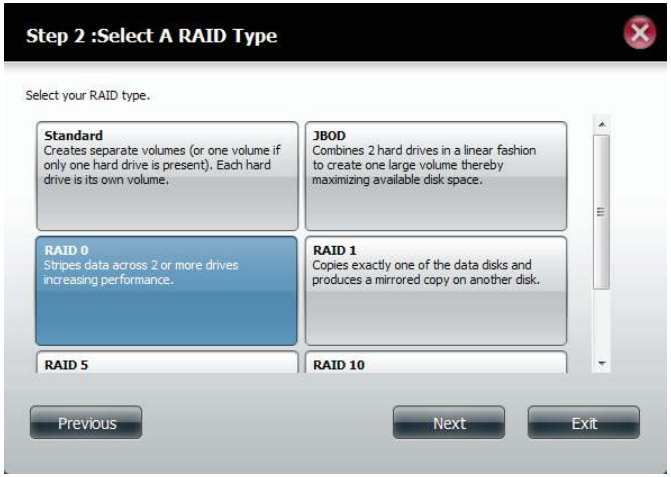
Please be patient during this process. Do not turn off your NAS during this process.



The wizard is now complete. It will show the volume number(s), file system selected, the type of RAID, and the disk formation in the RAID.

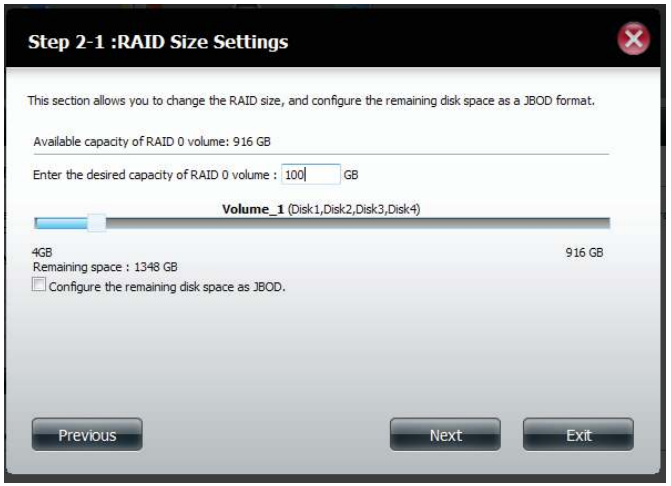
Click Finish to complete the process and start using your DNS-345.

RAID 0



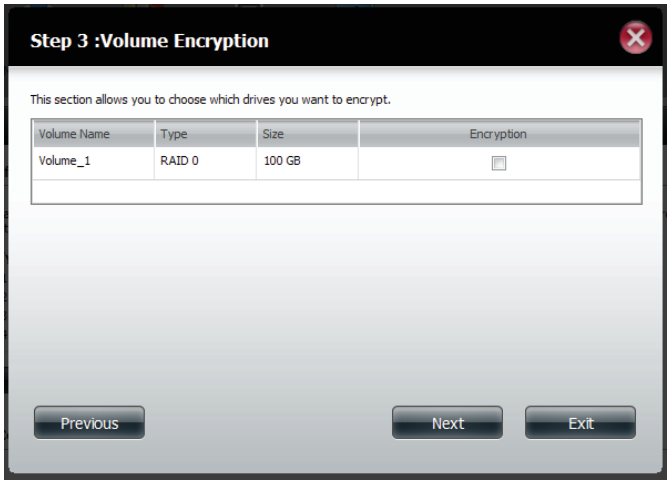
Select RAID 0 to mirror all of the drives

Click **Next** to continue.



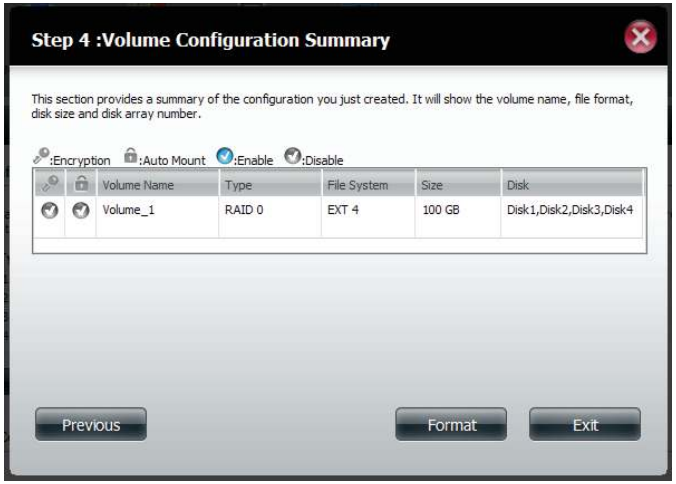
Select a capacity for RAID 0 (in GB) then check the box next to 'Configure the remaining disk space as JBOD' if you wish to configure the remaining space as JBOD.

Click **Next** to continue.



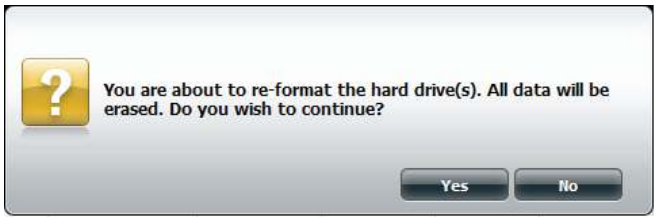
Choose a volume or volumes that you would like to encrypt.

Click **Next** to continue.



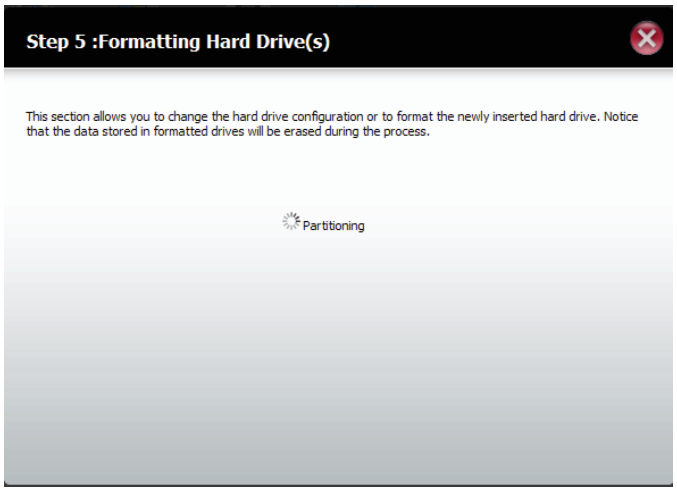
The 'Volume Configuration Summary' shows details on all of the configured drives. Check the details on the list and click Format to continue or click Previous to make changes.

Click **Next** to continue.

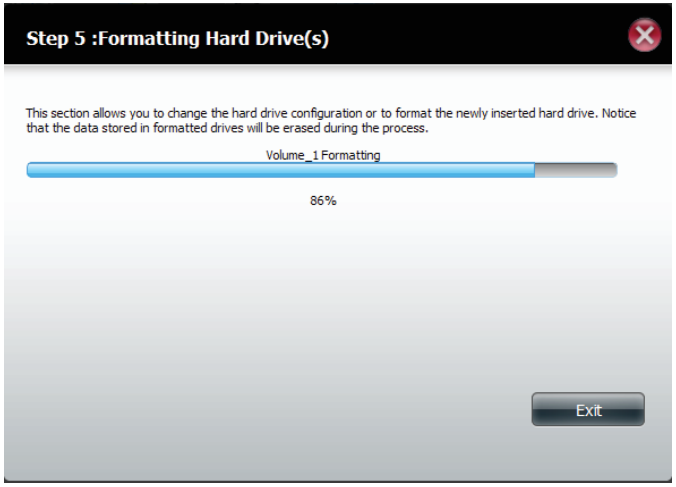


A warning message will appear to inform you that all volumes and data will be formatted and erased.

Click **Next** to continue.

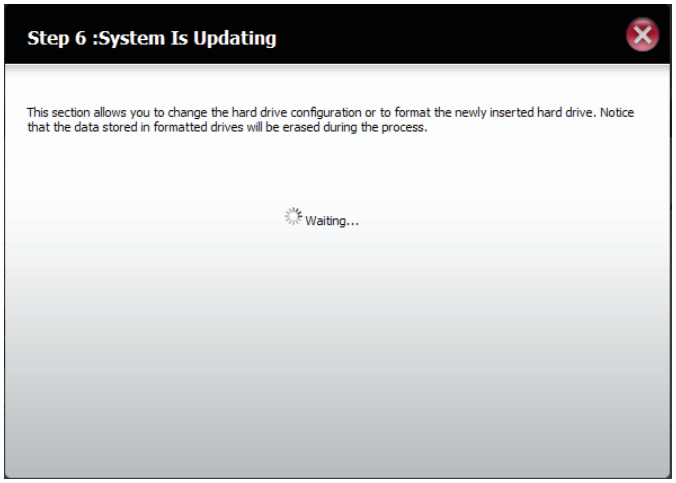


Partitioning will now begin. Please be patient while this process takes place. Do not turn off your NAS during this process.



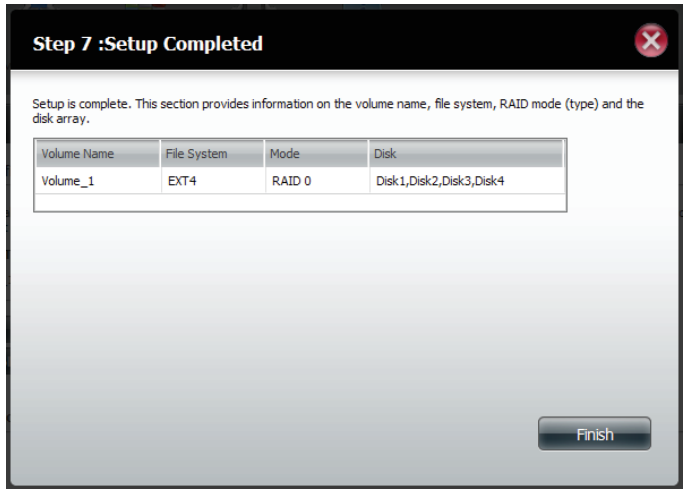
Once the partition is completed, the format process will begin. A graphical bar will show the volume being formatted. Please be patient during this process. Do not turn off your NAS during this process.

If you would like to change your settings at this stage, click Exit.



The system will now update all of the changes made.

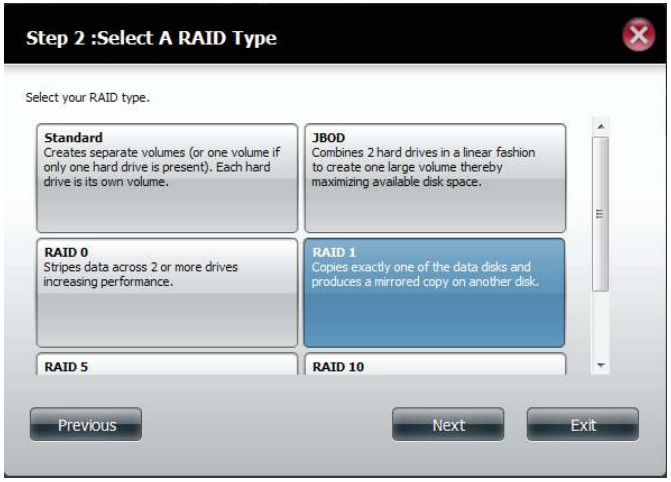
Please be patient during this process. Do not turn off your NAS during this process.



The wizard is now complete. It will show the volume number(s), file system selected, the type of RAID, and the disk formation in the RAID.

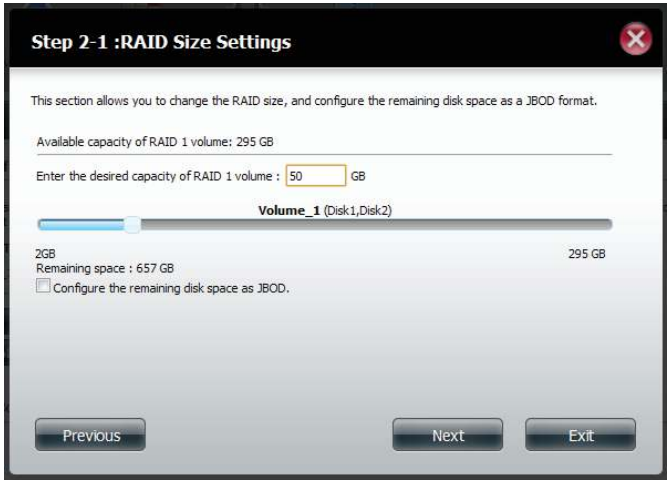
Click Finish to complete the process and start using your DNS-345.

RAID 1



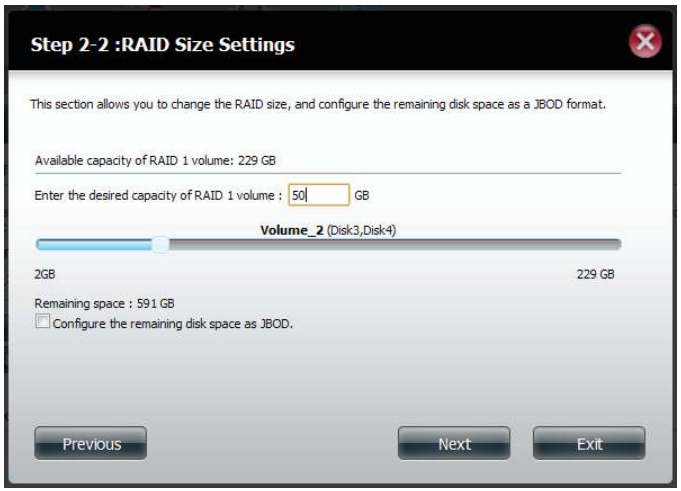
Select RAID 1. All the drives are striped.

Click **Next** to continue.



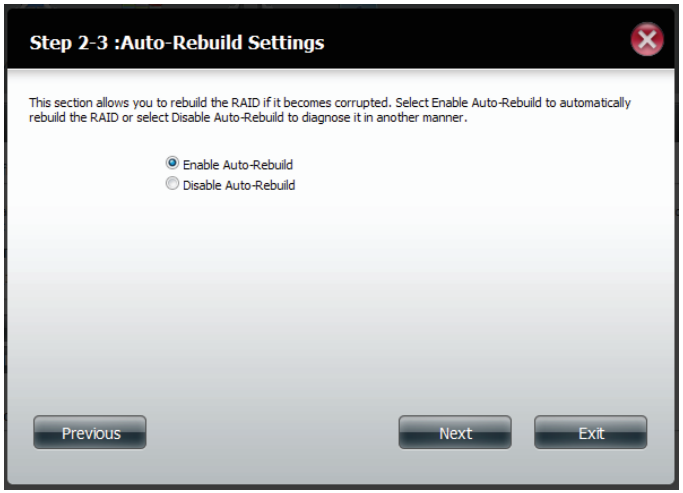
Enter the amount of disk space you would like to assign to the first volume for RAID 1.

Click **Next** to continue.



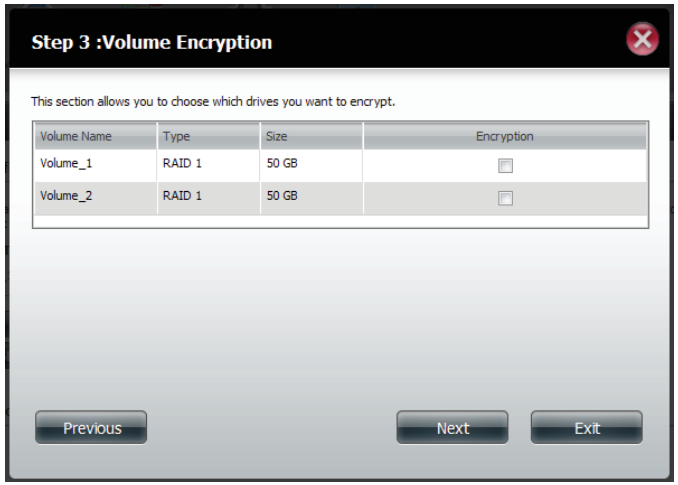
Enter the amount of disk space you would like to assign to the second volume for RAID 1.

Click **Next** to continue.



Click Enable Auto-rebuild to fix a RAID if it becomes corrupted.

Click **Next** to continue.

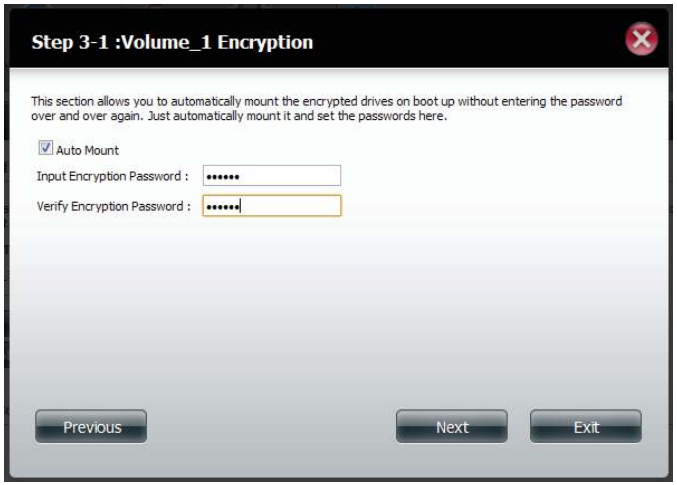


Choose a volume or volumes that you would like to encrypt.

Click **Next** to continue.

A warning message will appear, stating that your device will have some latency.

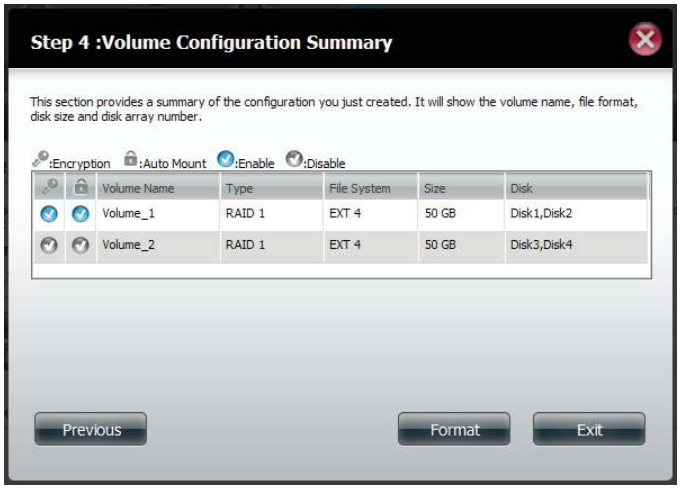
Click **Yes** to continue.



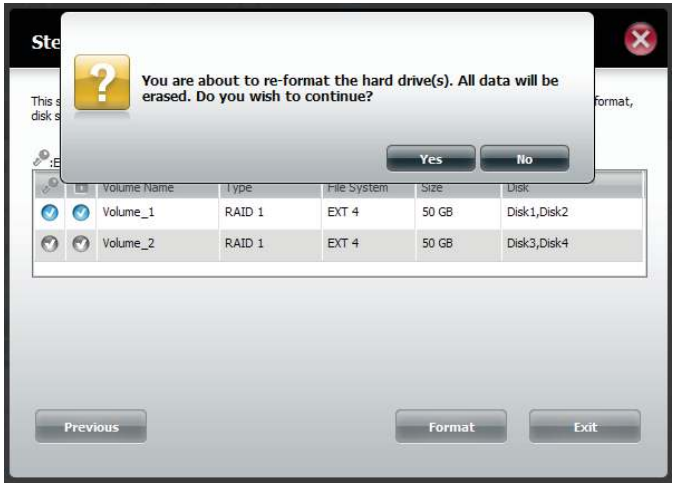
Select Auto Mount to configure the volume to mount when the device becomes active.

Enter a password and confirm it.

Click **Next** to continue.



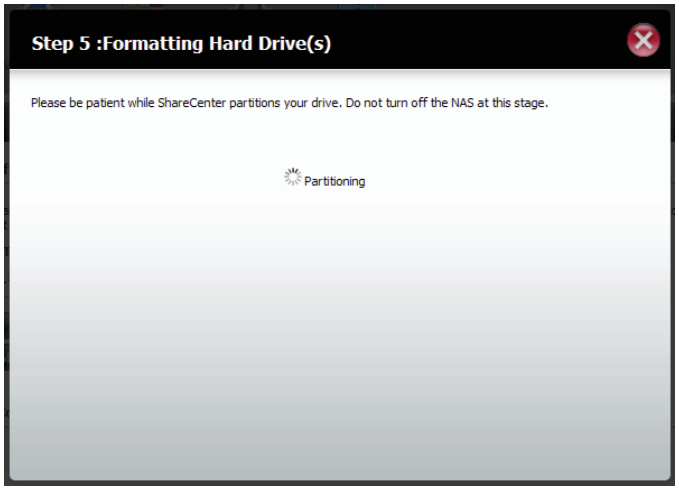
The 'Volume Configuration Summary' shows details on all of the configured drives. Check the details on the list and click **Format** to continue or click **Previous** to make changes.



The next window will ask you to confirm your drive selection.

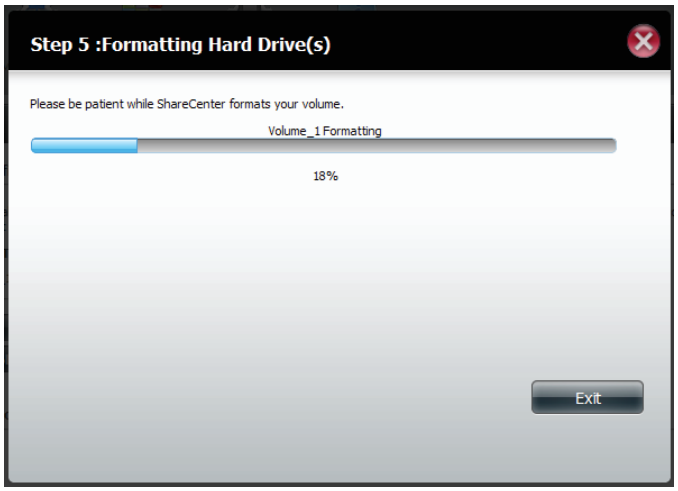
Click **Yes** to agree.

Click **No** to exit.



Partitioning will now begin. Please be patient while this process takes place. Do not turn off your NAS during this process.

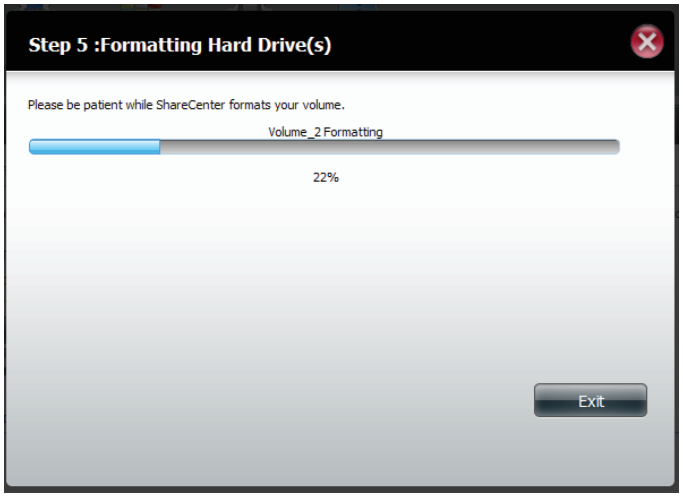
11



Once the partition is completed, the format process will begin. A graphical bar will show the volume being formatted. Please be patient during this process. Do not turn off your NAS during this process.

If you would like to change your settings at this stage, click Exit.

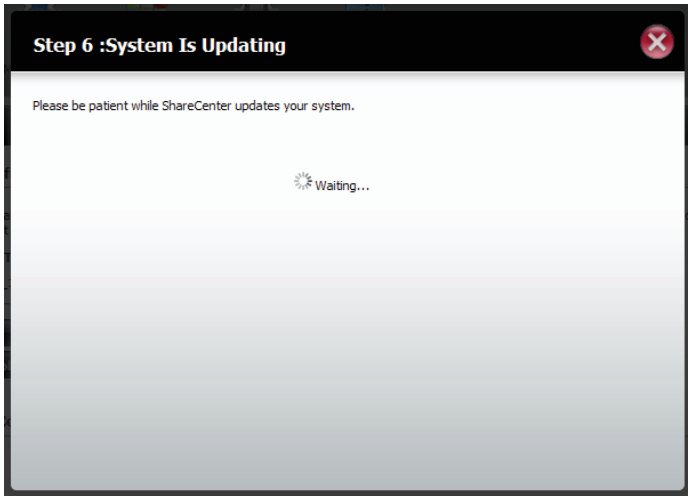
12



ShareCenter will format the second drive of the volume as well

If you would like to change your settings at this stage, click Exit.

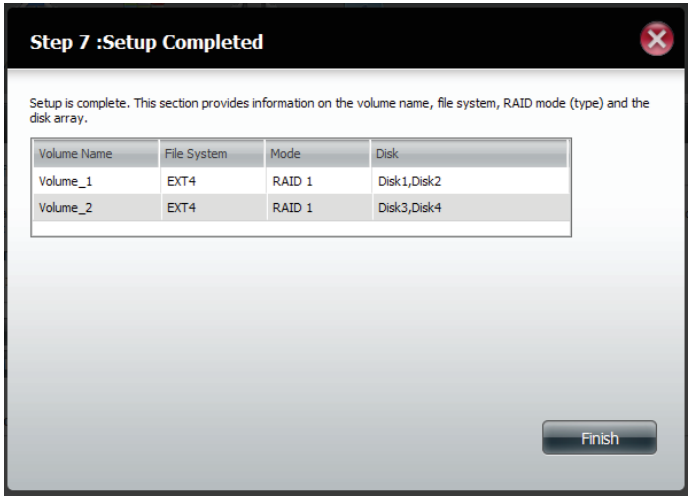
13



The system will now update all of the changes made.

Please be patient during this process. Do not turn off your NAS during this process.

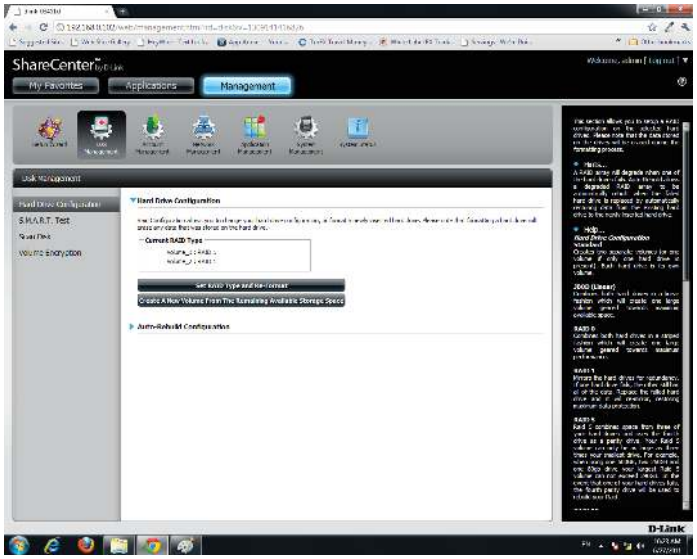
14



The wizard is now complete. It will show the volume number(s), file system selected, the type of RAID, and the disk formation in the RAID.

Click Finish to complete the process and start using your DNS-345.

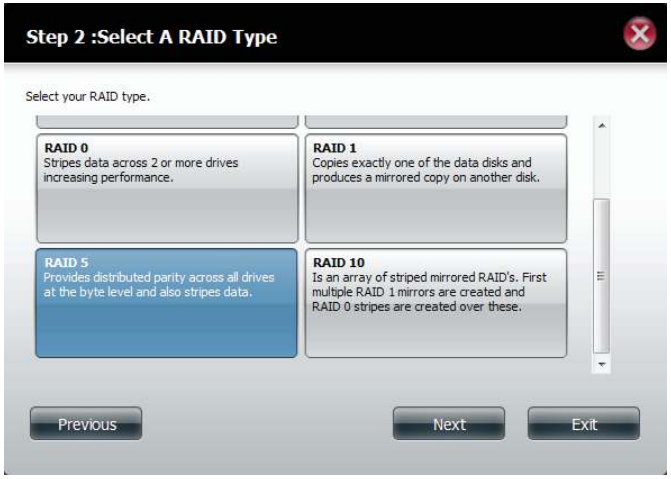
15



Once you have completed the wizard. ShareCenter will return to the main screen.

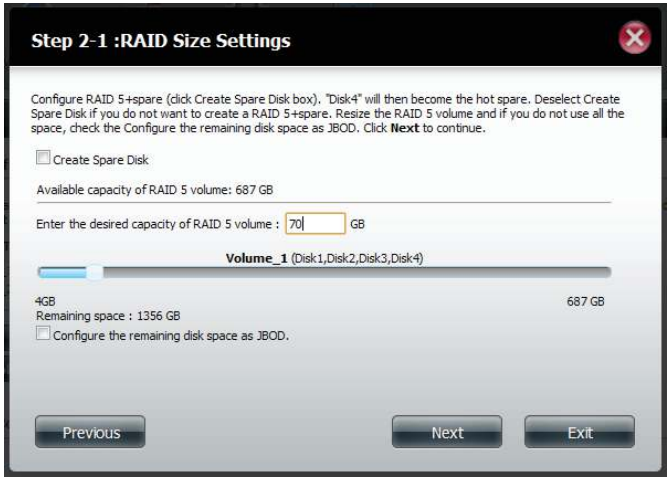
The RAID configuration you just set will be displayed.

RAID 5



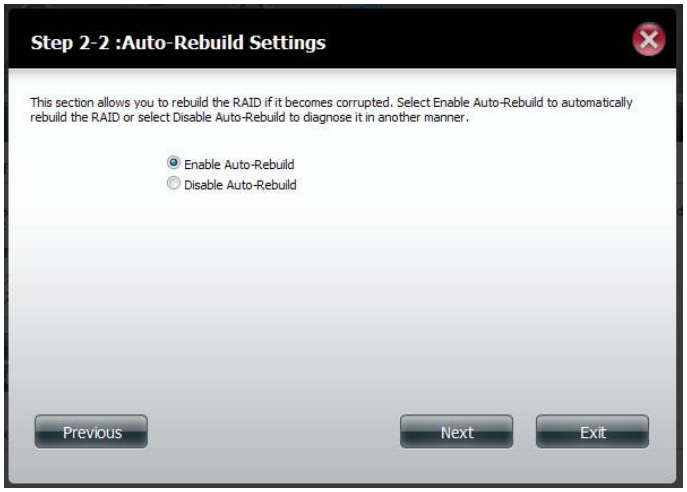
Select RAID 5. All the drives are striped.

Click **Next** to continue.



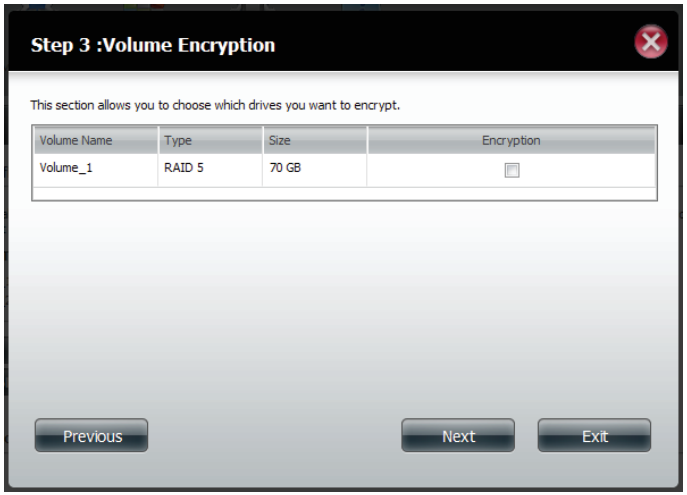
Select a capacity for RAID 5 (in GB) then check the box next to 'Configure the remaining disk space as JBOD' if you wish to configure the remaining space as JBOD.

Click **Next** to continue.



Click Enable Auto-rebuild to fix a RAID if it becomes corrupted.

Click **Next** to continue.

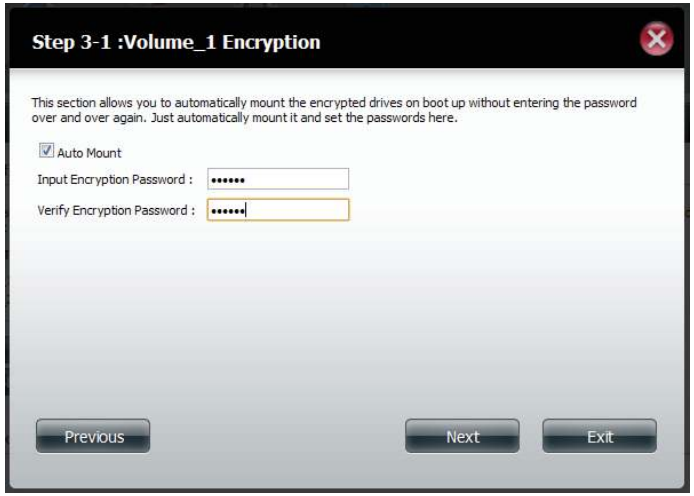


Choose a volume or volumes that you would like to encrypt.

Click **Next** to continue.

A warning message will appear, stating that your device will have some latency.

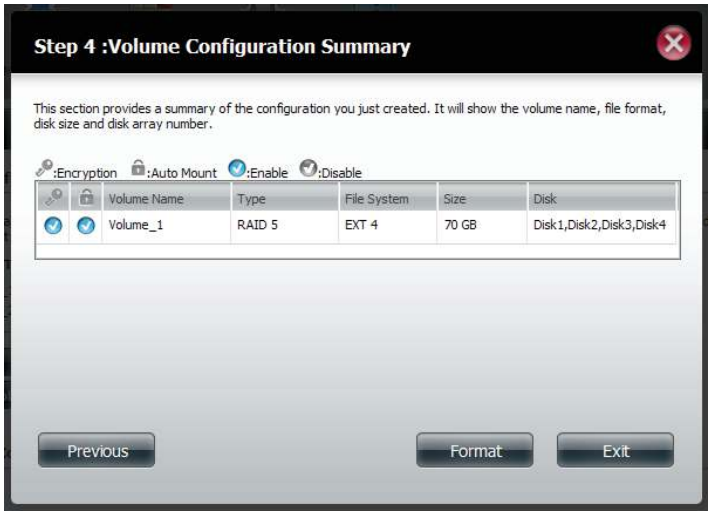
Click **Next** to continue.



Select Auto Mount to configure the volume to mount when the device becomes active.

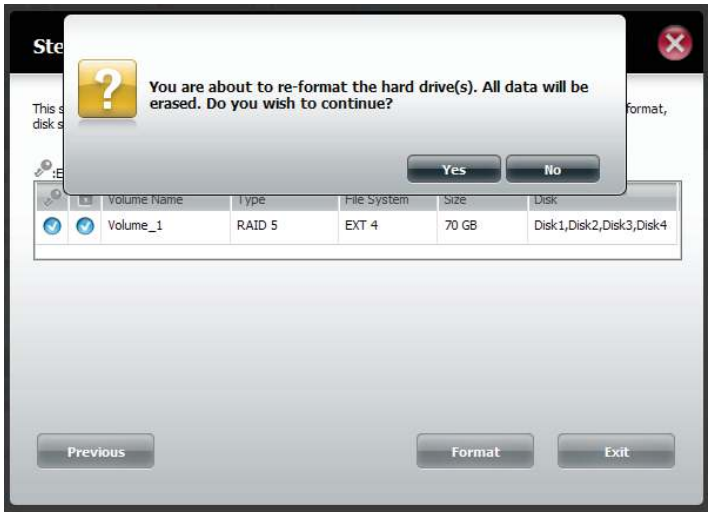
Enter a password and confirm it.

Click **Next** to continue.



The 'Volume Configuration Summary' shows details on all of the configured drives. Check the details on the list and click **Format** to continue or click **Previous** to make changes.

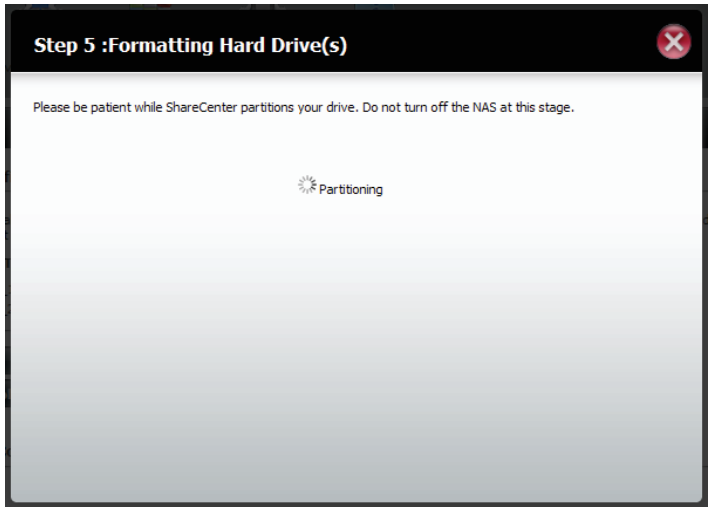
Click **Next** to continue.



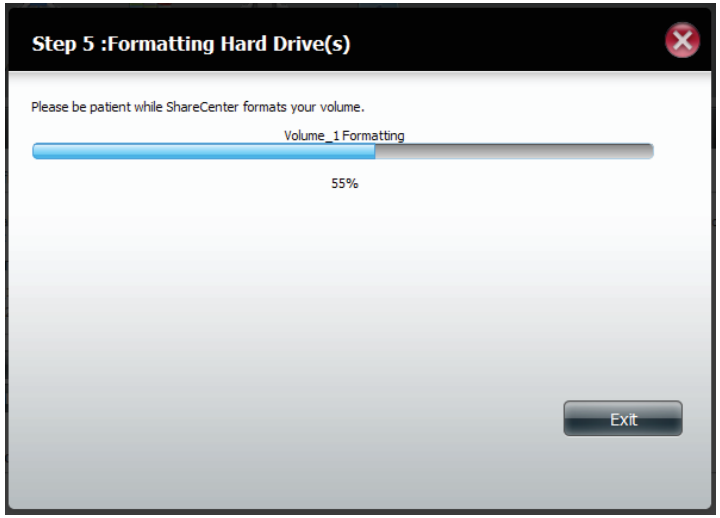
The next window asks you to confirm your selection to format the drives.

Click **Yes** to agree.

Click **No** to exit.



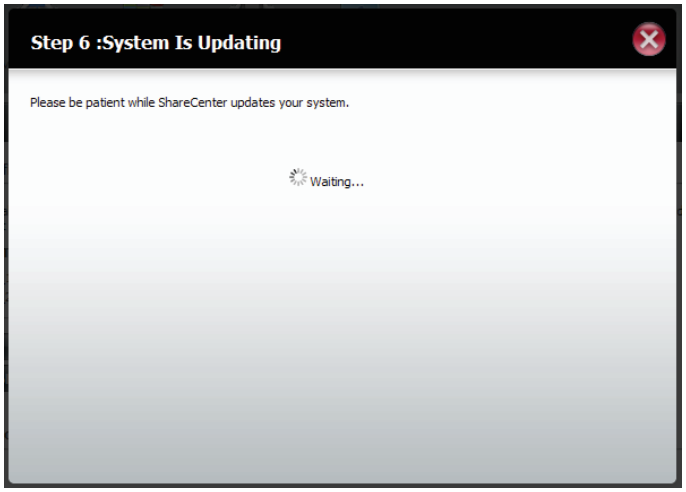
Partitioning will now begin. Please be patient while this process takes place. Do not turn off your NAS during this process.



Once the partition is completed, the format process will begin. A graphical bar will show the volume being formatted. Please be patient during this process. Do not turn off your NAS during this process.

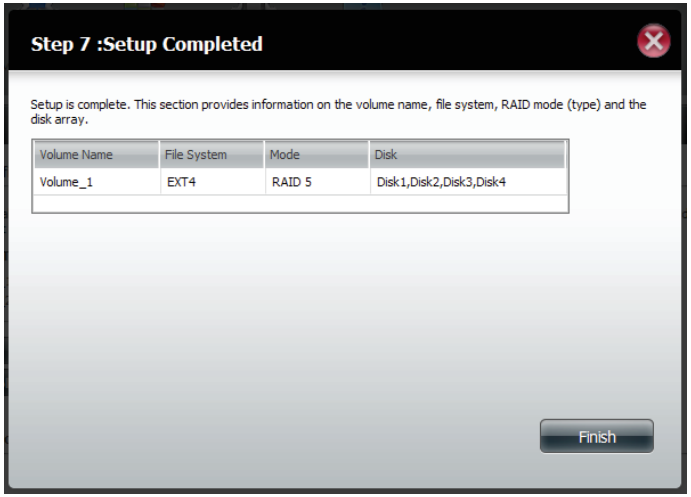
If you would like to change your settings at this stage, click Exit.

11



The system will now update all of the changes made.

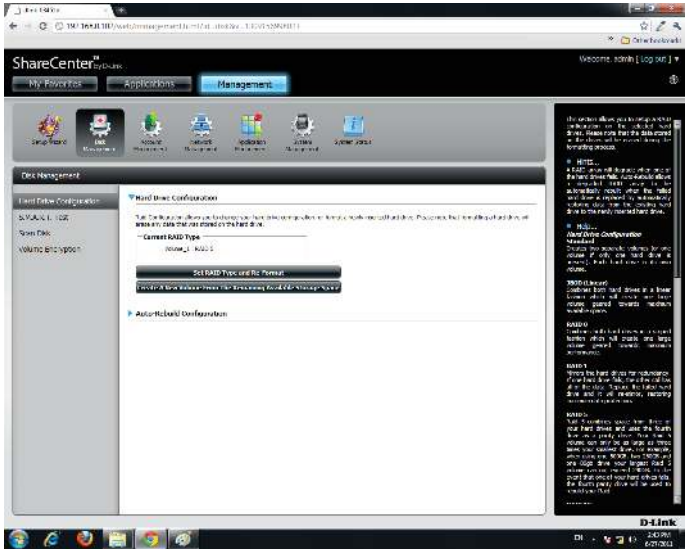
12



ShareCenter will format the second drive of the volume too.

If you would like to change your settings at this stage, click Exit.

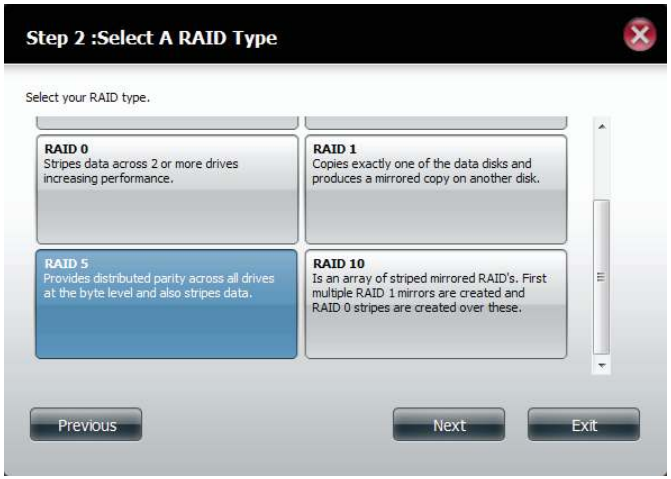
13



Once you have completed the wizard. ShareCenter will return to the main screen.

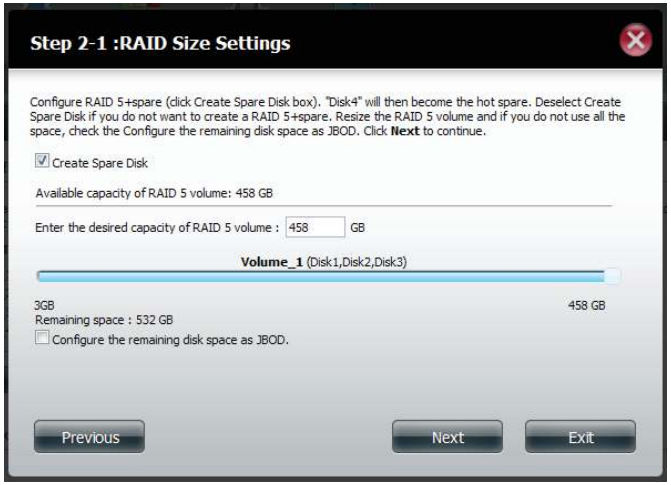
The RAID configuration you just set will be displayed.

RAID 5 + Spare



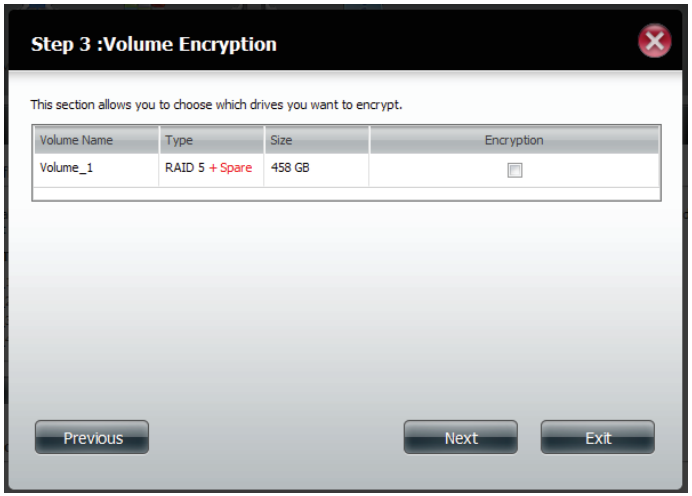
Select RAID 5. All the drives are striped.

Click **Next** to continue.



Click Create Spare Disk. This creates a RAID 5 plus the spare.

Click **Next** to continue.



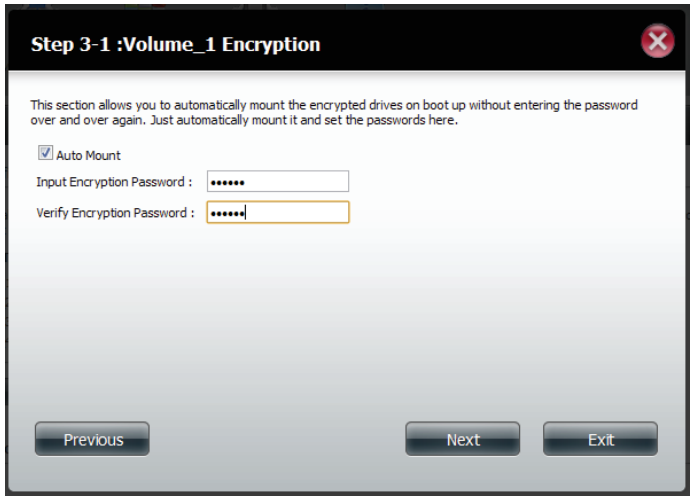
The volume is now configured for RAID 5 plus the spare.

Click **Next** to continue.

Choose a volume or volumes that you would like to encrypt.

A warning message will warn you that the system will operate slower.

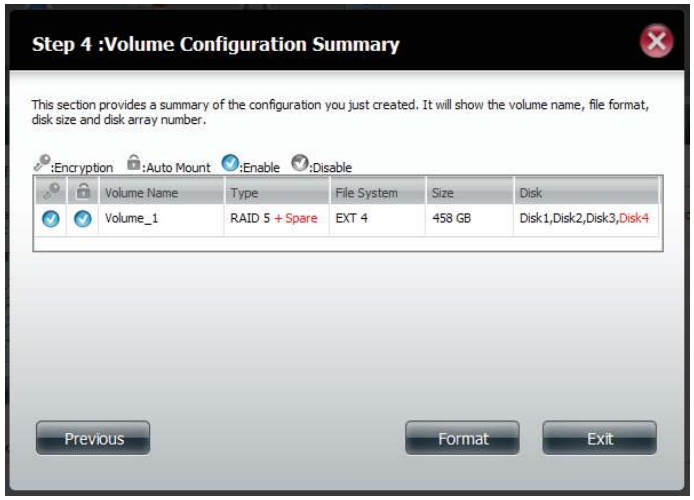
Click **Yes** to continue.



Select **Auto Mount** if you wish to mount the drive(s) without entering a password every time.

Enter the encryption password and enter it again to confirm.

Click **Next** to continue.

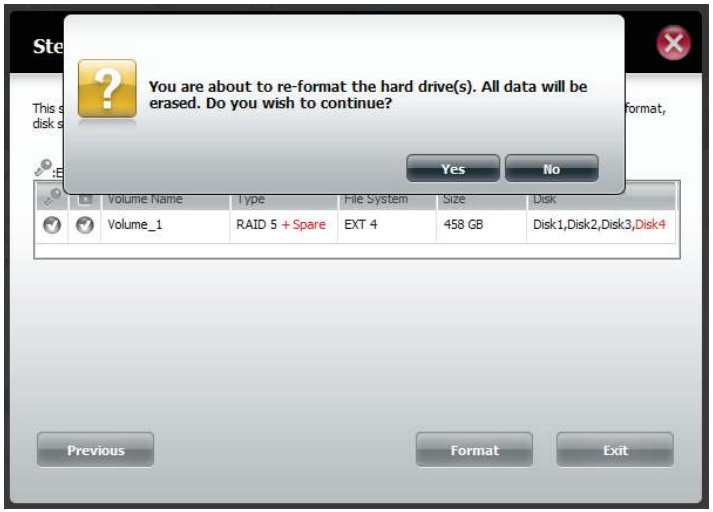


ShareCenter will now show the Volume Configuration Summary.

Make sure under type it reads RAID5 + Spare.

Check the details on the list and click Format to continue or click Previous to make changes.

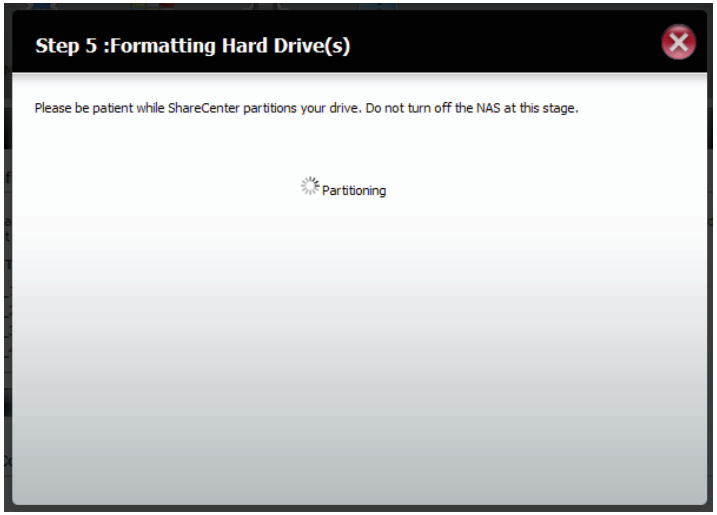
Click **Next** to continue.



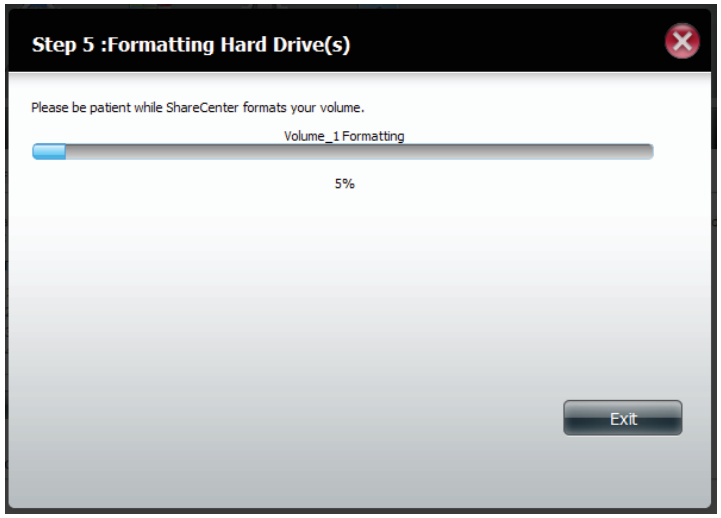
The next window asks you to confirm your selection to format the drives.

Click **Yes** to agree.

Click **No** to exit.

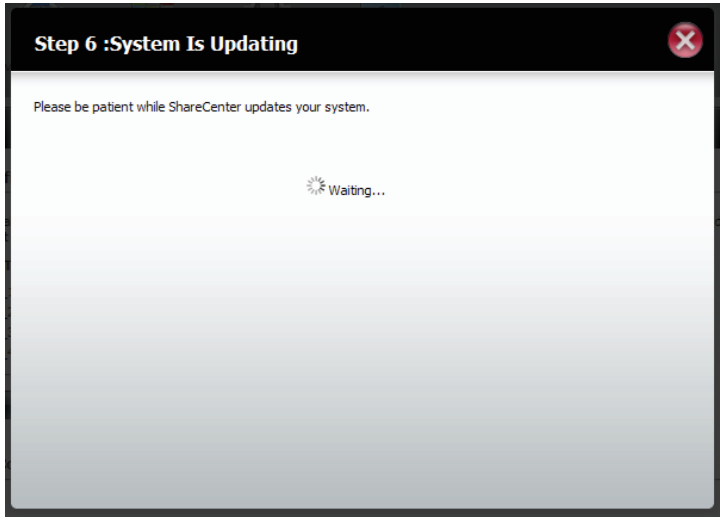


Partitioning will now begin. Please be patient while this process takes place. Do not turn off your NAS during this process.



Once the partition is completed, the format process will begin. A graphical bar will show the volume being formatted. Please be patient during this process. Do not turn off your NAS during this process.

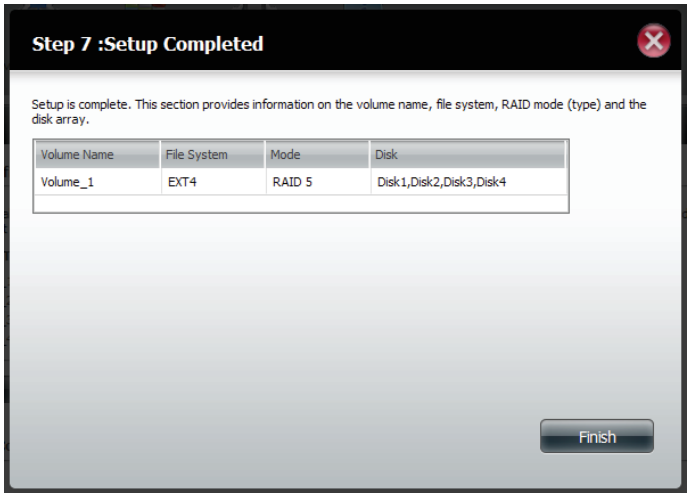
If you would like to change your settings at this stage, click Exit.



The system will now update all of the changes made.

Please be patient during this process. Do not turn off your NAS during this process.

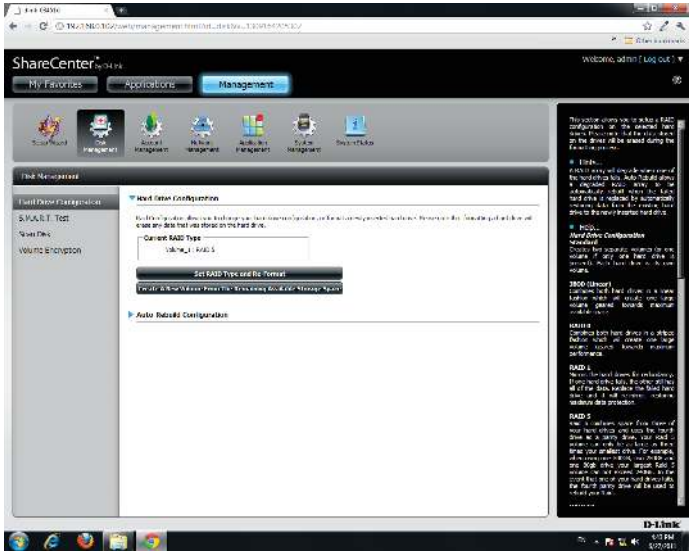
11



The wizard is now complete. It will show the volume number(s), file system selected, the type of RAID, and the disk formation in the RAID.

Click Finish to continue.

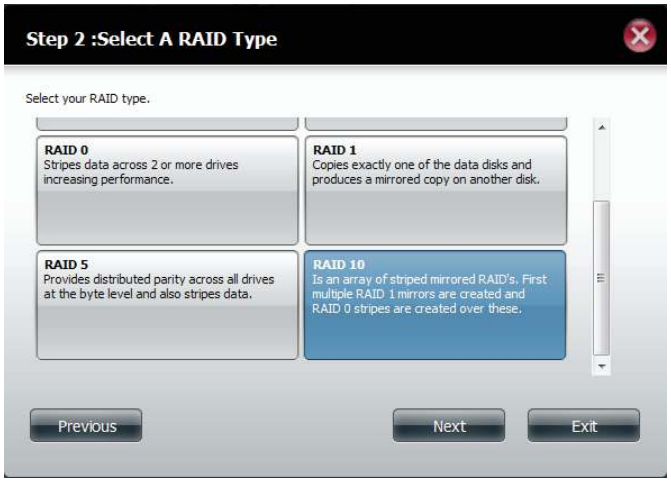
12



Once you have completed the wizard. ShareCenter will return to the main screen.

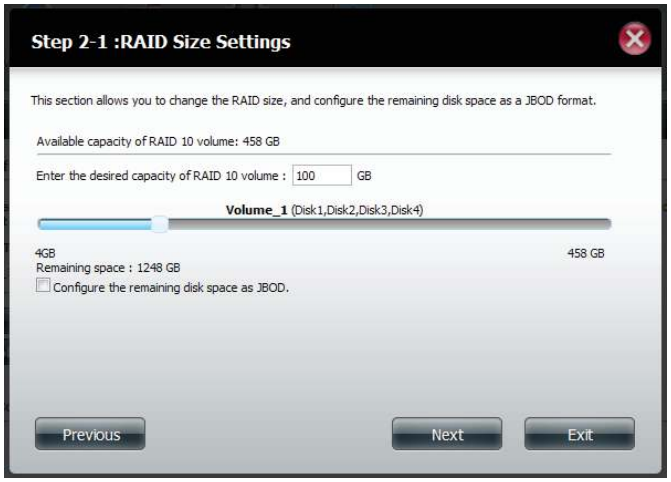
The RAID configuration you just set will be displayed.

RAID 10



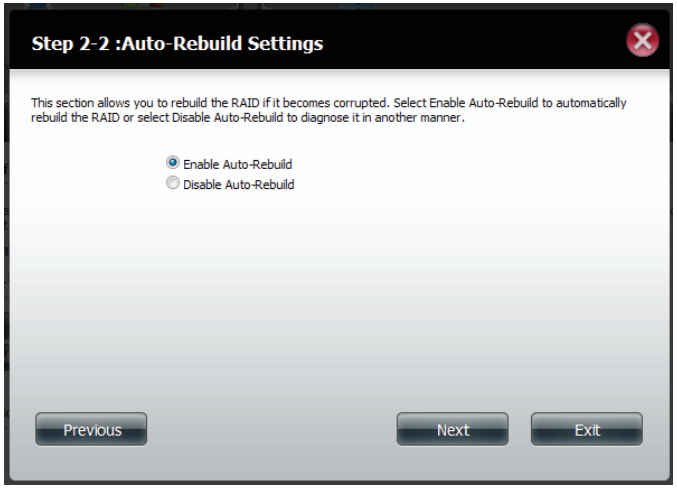
Select RAID 10. All drives are mirrored then striped.

Click **Next** to continue.



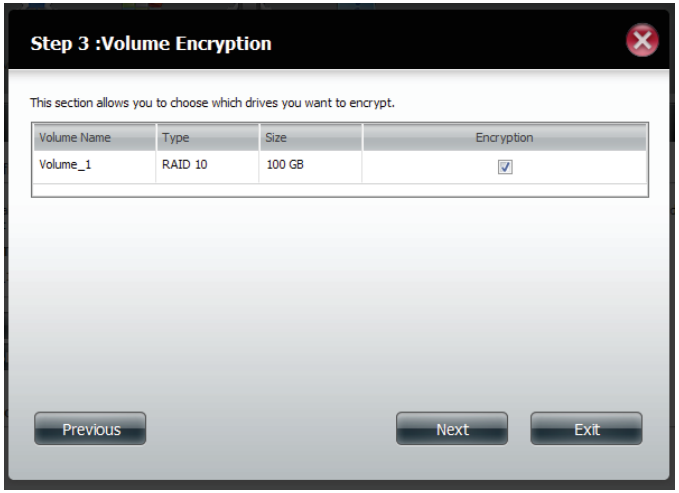
Select a capacity for RAID 10 (in GB) then check the box next to 'Configure the remaining disk space as JBOD' if you wish to configure the remaining space as JBOD.

Click **Next** to continue.



Click Enable Auto-rebuild to repair a RAID if it becomes corrupted.

Click **Next** to continue.

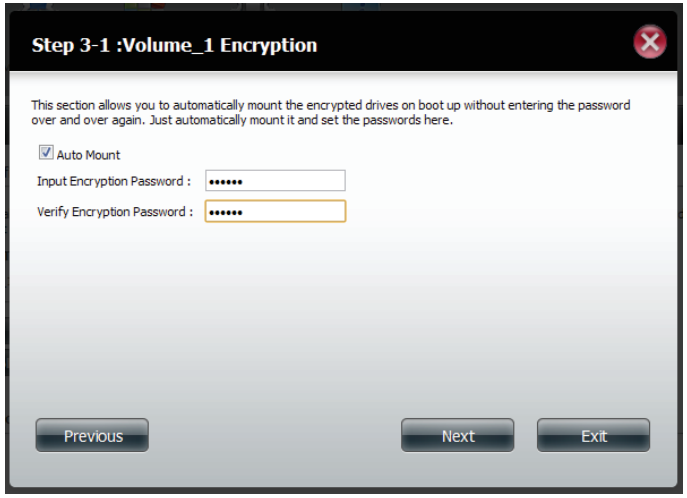


Choose a volume or volumes that you would like to encrypt.

Click **Next** to continue.

A warning message will warn you that the system will operate slower.

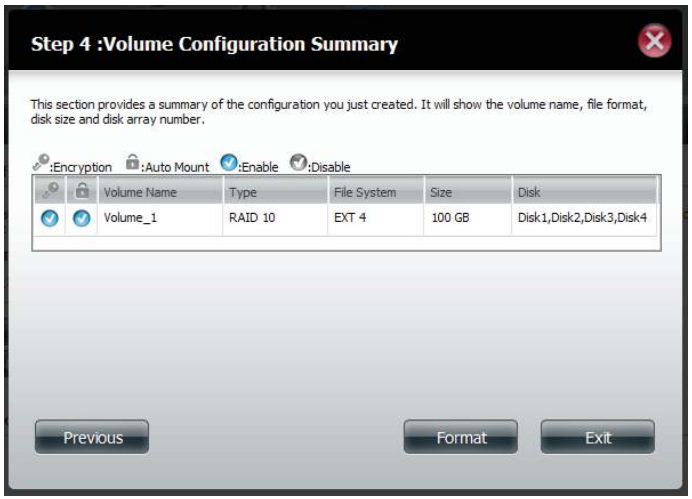
Click **Next** to continue.



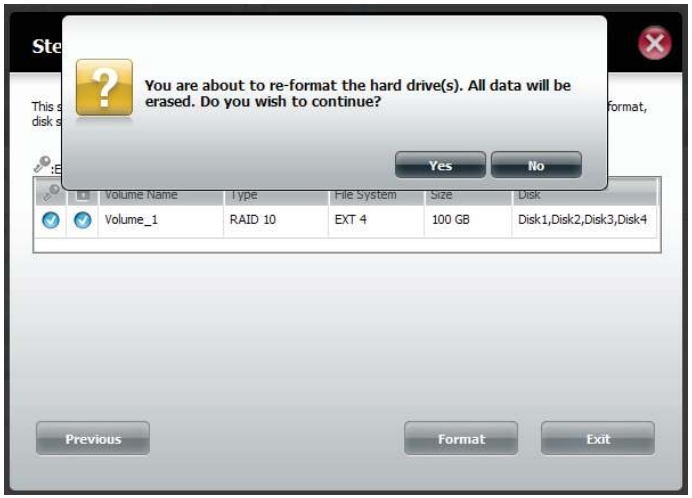
Select Auto Mount to configure the volume to mount when the device becomes active.

Enter a password and confirm it.

Click **Next** to continue.



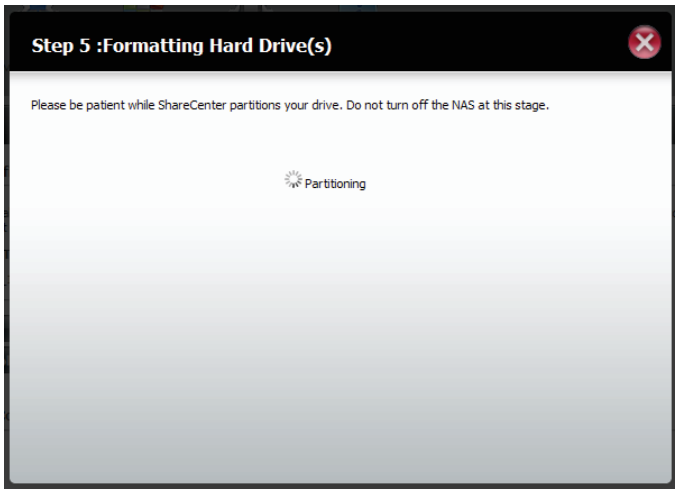
The 'Volume Configuration Summary' shows details on all of the configured drives. Check the details on the list and click **Format** to continue or click **Previous** to make changes.



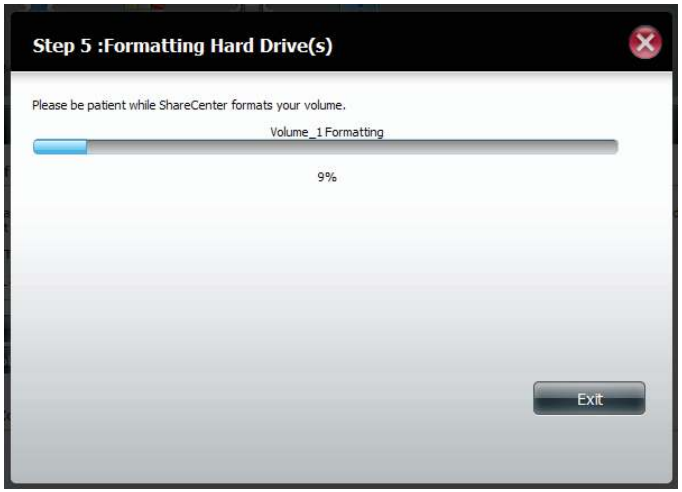
A warning message will appear to inform you that all volumes and data will be formatted and erased.

Click **Yes** to continue.

Click **No** to exit.



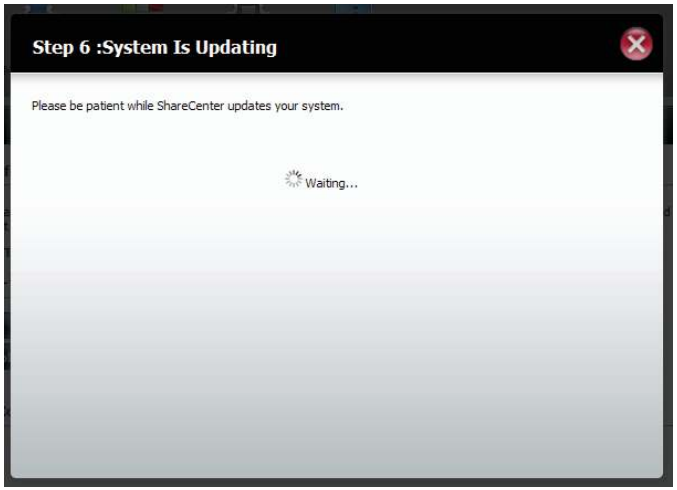
Partitioning will now begin. Please be patient while this process takes place. Do not turn off your NAS during this process.



Once the partition is completed, the format process will begin. A graphical bar will show the volume being formatted. Please be patient during this process. Do not turn off your NAS during this process.

If you would like to change your settings at this stage, click Exit.

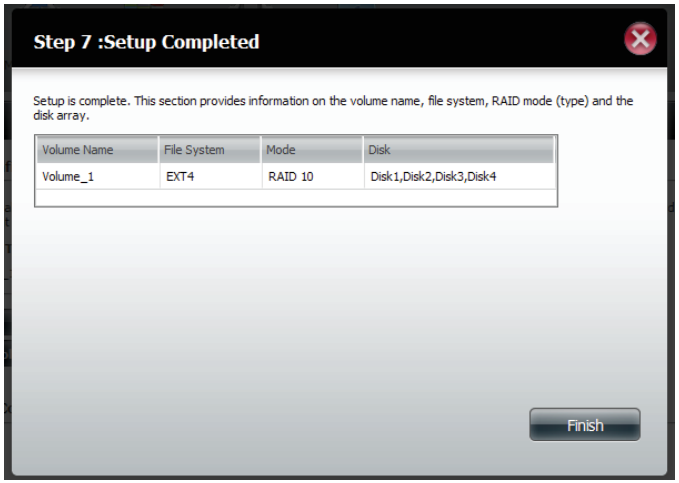
11



The system will now update all of the changes made.

Please be patient during this process. Do not turn off your NAS during this time.

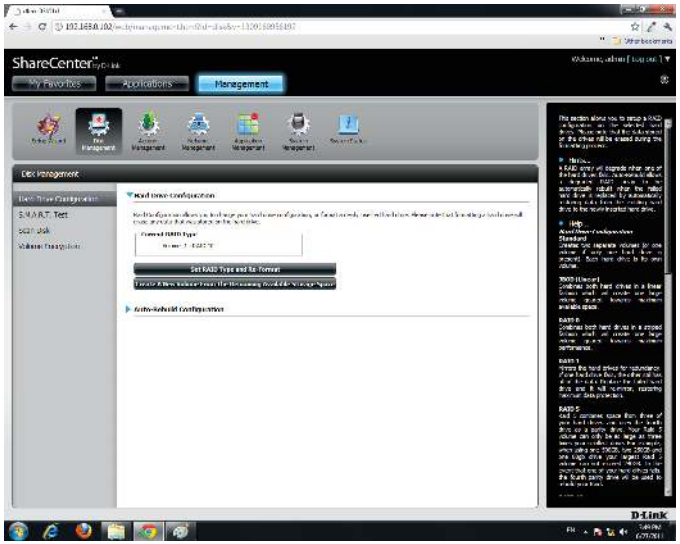
12



The wizard is now complete. It will show the volume number(s), file system selected, the type of RAID, and the disk formation in the RAID.

Click Finish to complete the process and start using your DNS-345.

13



Once you have completed the wizard. ShareCenter will return to the main screen.

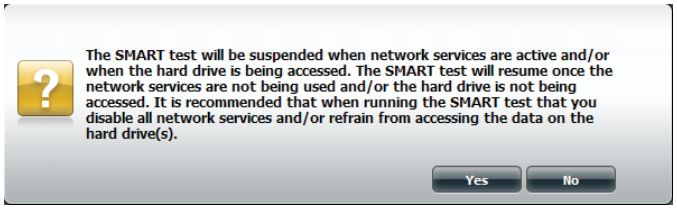
The RAID configuration you just set will be displayed.

A Quick S.M.A.R.T. Test

1

To perform the **Quick S.M.A.R.T.** Test, select the drive or volume then select the **Quick Test** radio button and click Start.

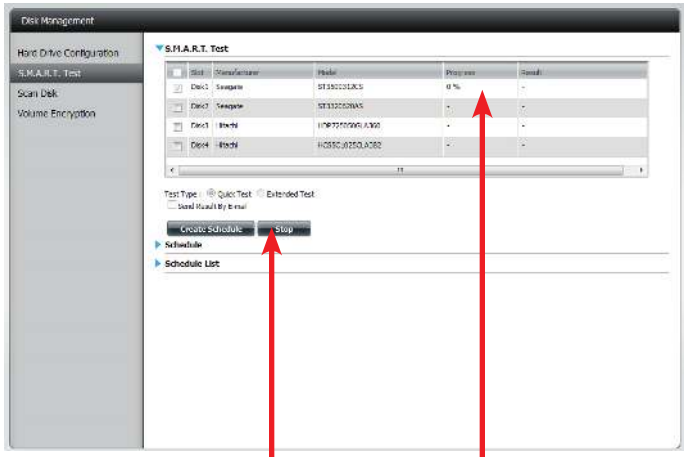
2



A warning message will prompt you to stop all services and network activity.

Click Yes to continue the **Quick S.M.A.R.T.** test.

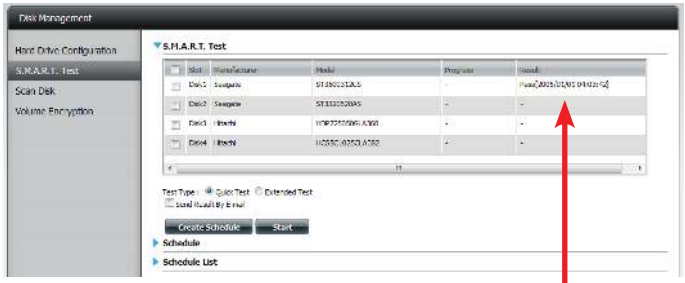
3



The test will run and a percentage completed will display under the Progress Tab.

The Start button will change to a Stop button.

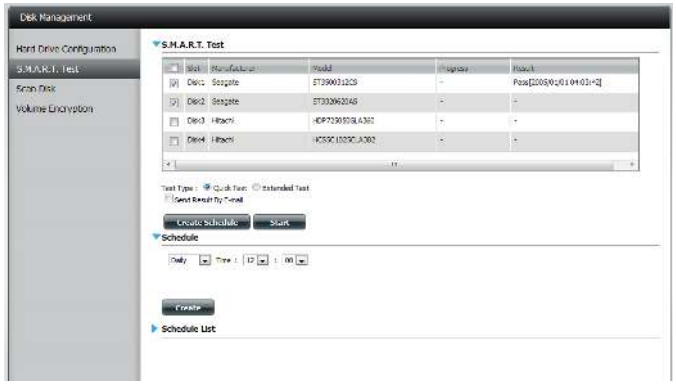
4



When the test is complete, the results will be displayed under the Results Tab.

Creating a Schedule for the S.M.A.R.T Test

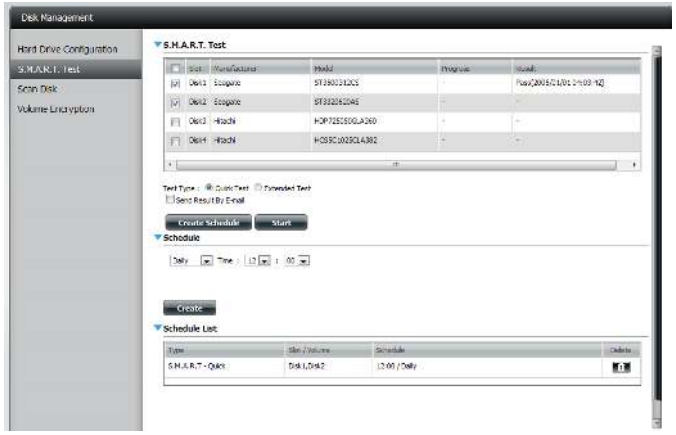
1



To create a schedule, select the disks/volumes to run the test on. Then under Schedule, select the period (Daily/Weekly/Monthly) and from the drop-down list select the time.

Click **Create**

2



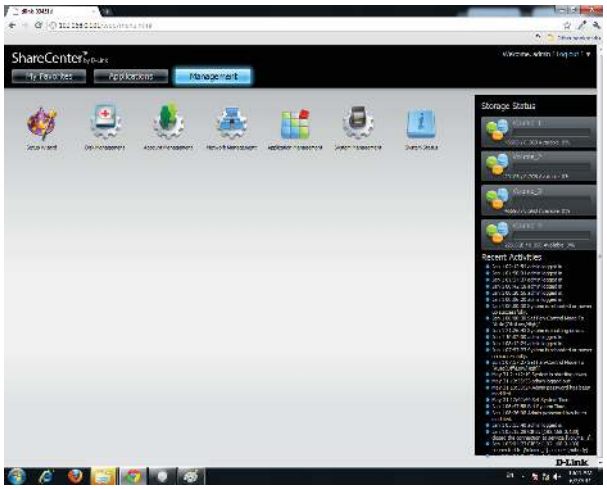
To view the Schedule List, click on the **schedule list arrow**. A new table will appear showing details of the new schedule created.

To delete a scheudle, click on the **Trash Can**.

Scanning the volumes

Scan Disk provides a method to test the disk's file system on your ShareCenter Quattro. Scan Disk scans your disks file system for errors and/or corruption.

1



Click **Management**, then **Disk Management**, and then **Scan Disk**.

2

Select the volume from the drop-down list you wish to scan.

Click **Scan Disk**

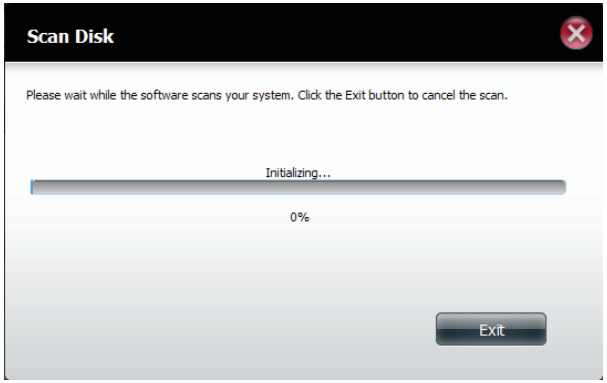
3

A warning message will prompt you to stop running all services (hard drive and network activity)

Click **Yes** to proceed

Click **No** to cancel

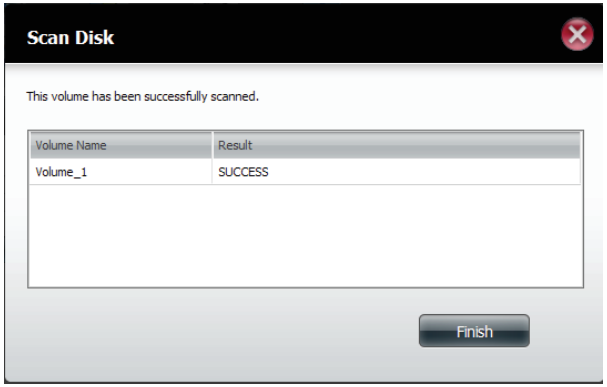
4



The DNS-345 will initialize the volume(s) and begin scanning.

Please wait while the software scans your machine or click **Exit** to cancel the scan.

5



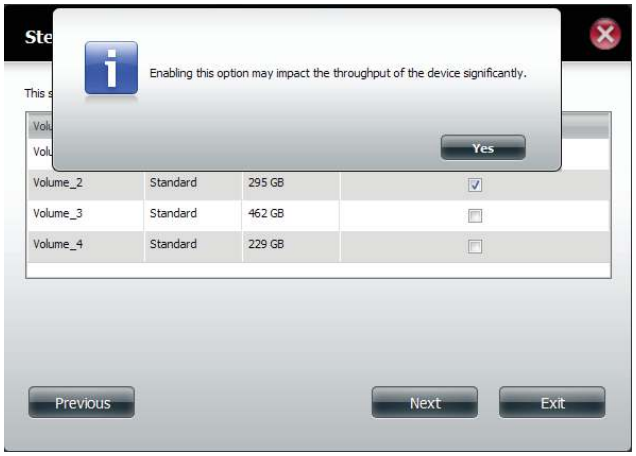
When the scan is complete, the table will either display **Success** or **Failure**.

Click **Finish** to exit.

Volume Encryption

Volume Encryption begins at the disk level right after you finished selecting you RAID option. Volume Encryption allows you to mount the volume on startup without the need to re-enter a password at every login. Once encryption is set in Auto Mount, the drives will automatically mount whenever the NAS starts up. Let's take a look at the steps needed to complete Volume Encryption.

1



Under Hard Drive Configuration, select the volume you wish to encrypt. A warning message will appear noting that enabling this option might impact the performance of the device.

Click **Yes** to continue.

2

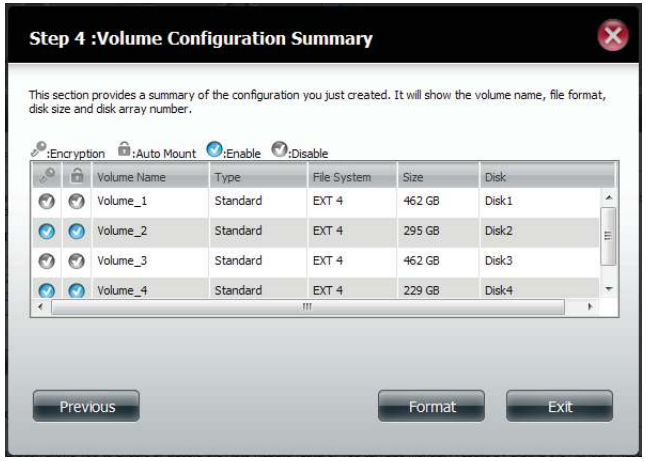
Next, you will be prompted to configure the drive. Select Auto Mount if you wish to setup encryption when the NAS starts up.

Enter a password, then confirm it and click **Next** to continue.

NB: Please take note that once you enable volume encryption throughput will be much slower.

If the passwords do not match then a message will appear.

Click **Yes**, to re-enter the matching passwords.

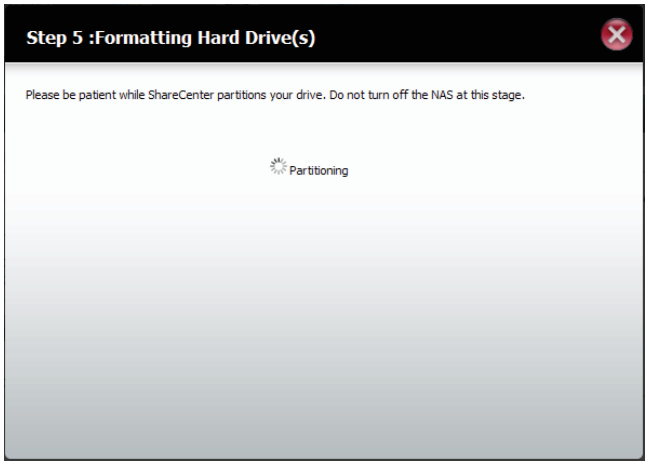


The Volume Configuration Summary shows which volumes are encrypted and which ones are not.

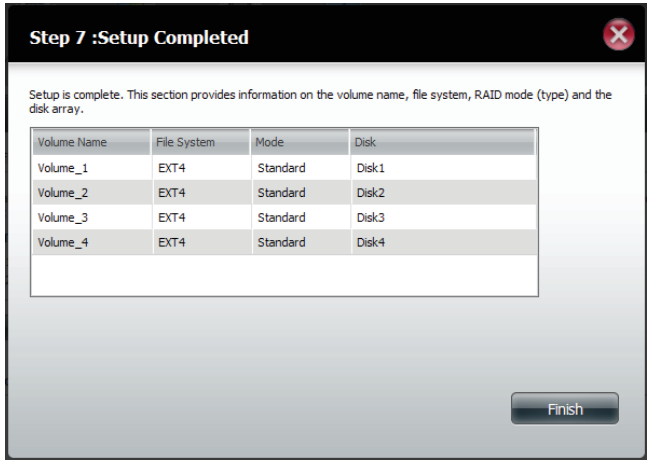
Click **Format** to start the formatting process.

A message will appear asking you to confirm your hard drive selection for formatting.

Click **Yes** to start the formatting process.



Please be patient as the partitioning and formatting process begins.



When formatting is complete, a table displaying the volumes formatted, partitioned, and encrypted will appear.

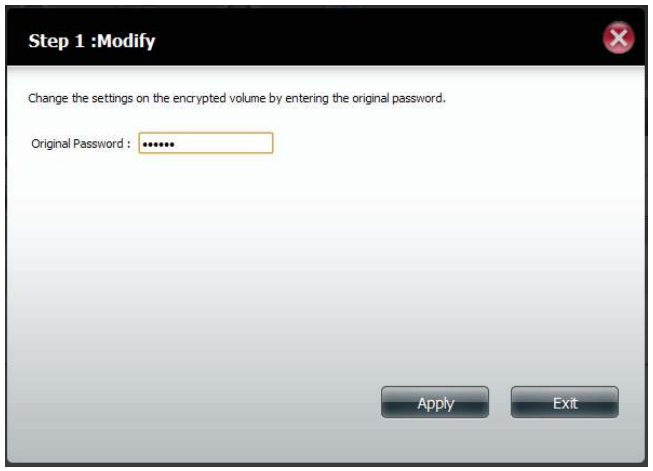
Click **Finish** to close this window.

Go to Disk Management, Volume Encryption to see a list of encrypted volumes.

Select the volume(s) you wish to modify. Your selection(s) will turn red.

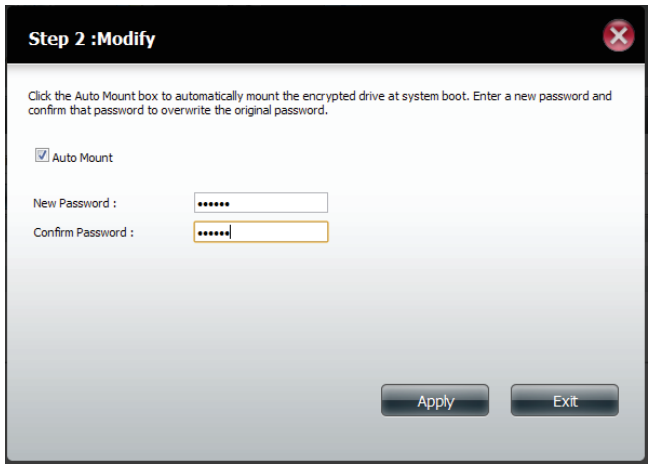
Click **Modify**.

10



Enter the password into the field provided and click **Apply**.

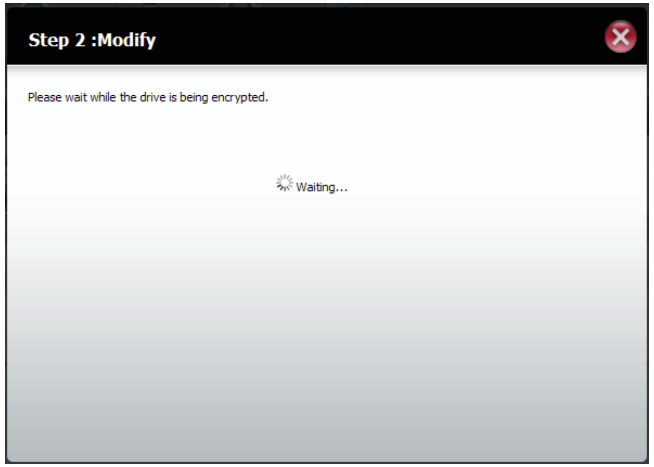
11



You have the option to enable Auto Mount and enter a new password. If you choose not to enable Auto Mount you can leave this field blank.

Click **Apply** to continue.

12



The volumes will be partitioned and formatted once again.

Please be patient while this process takes place. Do not turn off your NAS during this process.

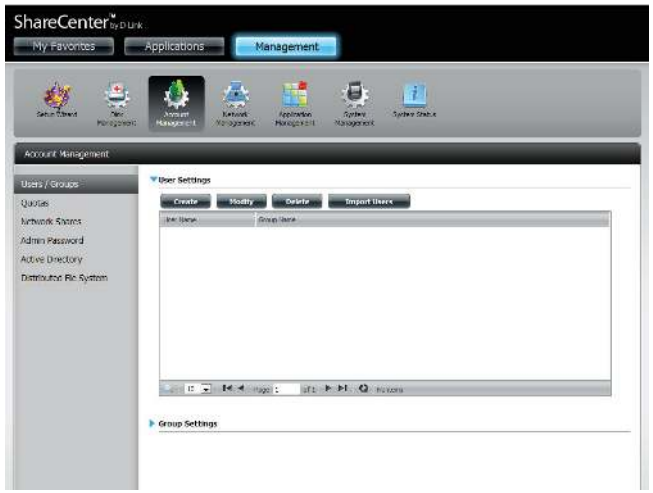
13

The wizard will return you to the Volume Encryption page where you can view the encrypted volumes.

Account Management - Creating Single Users

The Users/Groups menu is used to create and manage user and group accounts. Up to 512 users and 64 groups can be created. By default, all users have read and write access to all folders. However access rules can be created and edited in the Network Shares menu.

1



Click **Management**, **Account Management.**

Under Users/Groups, User Settings click **Create**

2

The User Setup Wizard will appear.

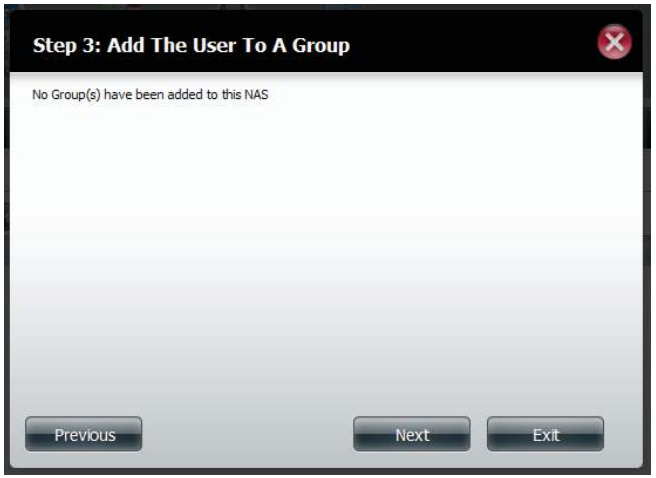
Click **Next** to continue.

In Step 1, select 'Create a Single User'

Click **Next**

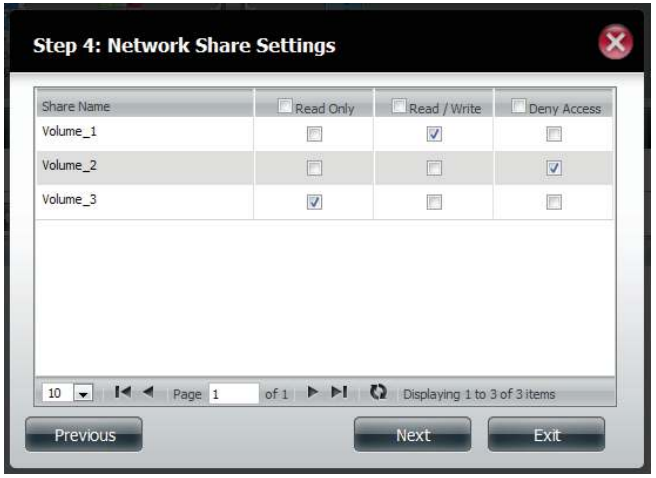
In Step 2, enter the user name and password for the new user.

Click **Next** to continue



In Step 3, add the user to a group by entering the group details. (If no group exists click **Next**)

Click **Next** to continue.



In Step 4, select the network share settings. Select Read Only, Read/Write, or Deny Access.

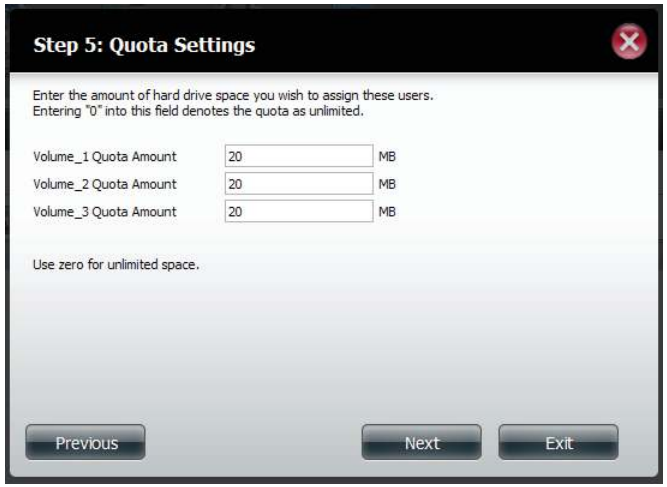
Click **Next** to continue.

Assign Privileges/Access Methods for the user(s). Check the options you need.

Click **Next** to continue.

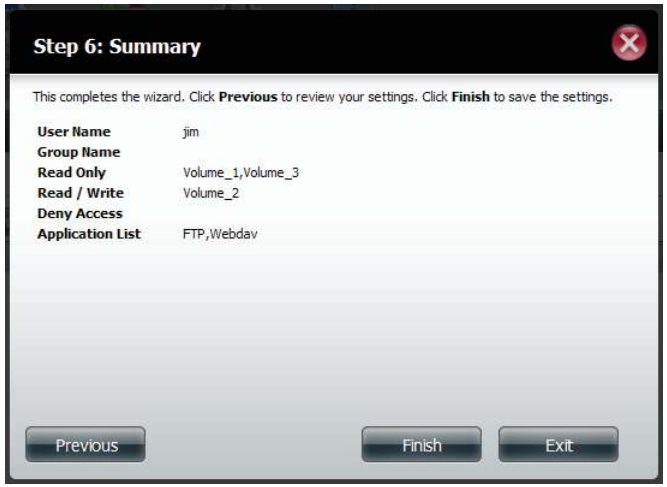
WebDAV is one of the options.

Click **Next** to continue.



In Step 5, enter the amount of disk space you wish to assign the user on each volume. Enter zero to provide unlimited disk space to the user.

Click **Next** to continue.



The final step is a summary of all the configurations you made.

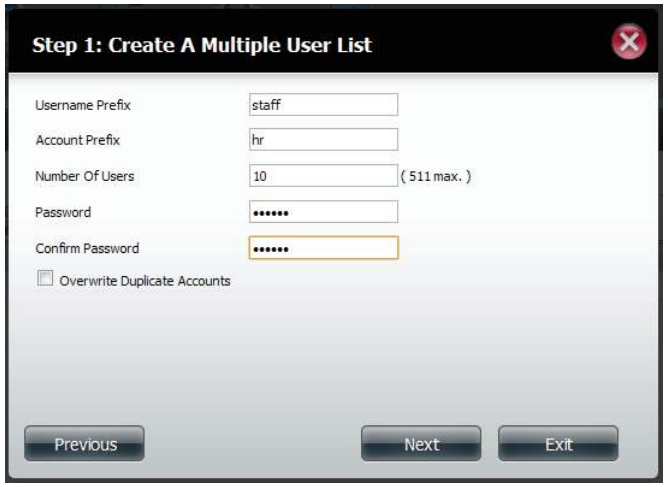
Click **Finish** to accept the changes.

Click **Exit** to cancel the changes.

Account Management - Creating Multiple Users

In Step 1, select 'Create a Multiple user'

Click **Next**



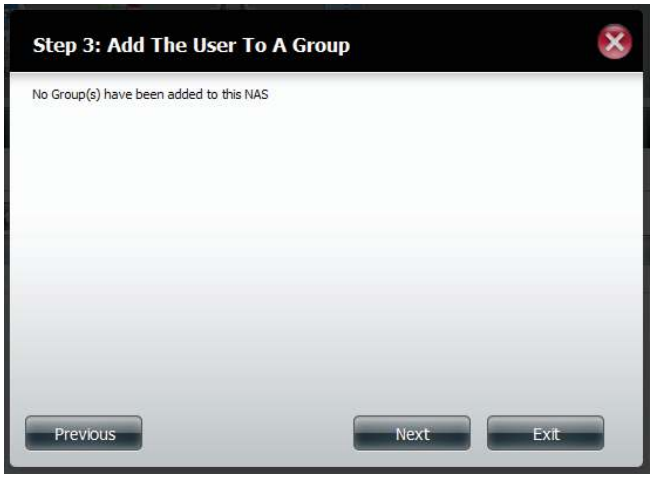
Enter a username.

Enter the account prefix (Eg. this could be a department in the company).

Enter the amount of users you want to create. Next to the input field is the remaining amount of users you can add to the NAS.

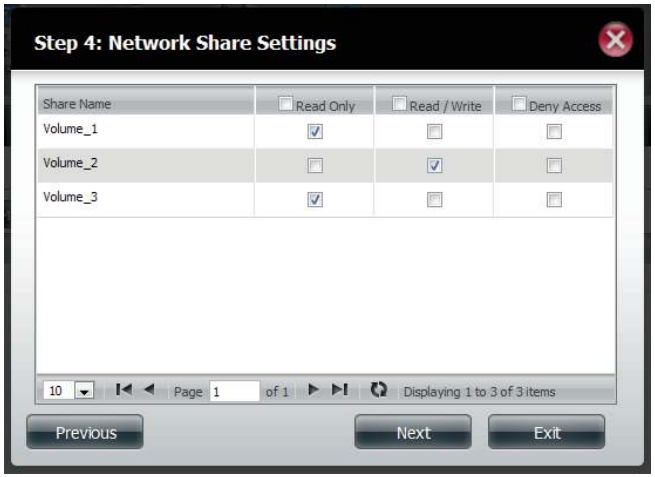
Enter a password and confirm it.

Click **Next** to continue.



In Step 3, add the user to a group by entering the group details.(If no group exists click Next)

Click **Next** to continue.



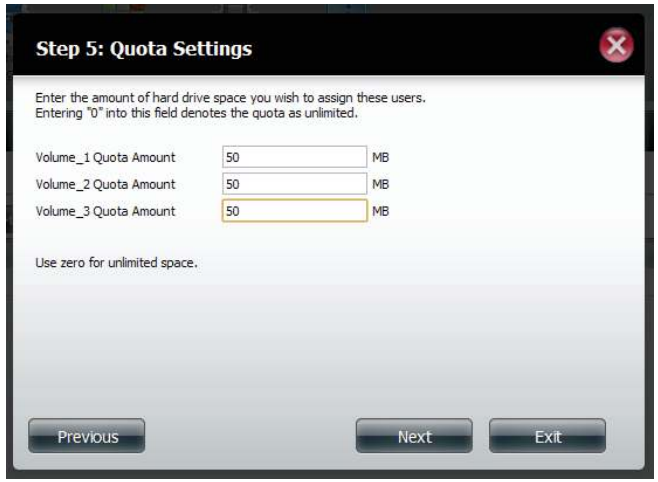
In Step 4, select the network share settings. Select Read Only, Read/Write, or Deny Access.

Click **Next** to continue.

Assign Privileges/Access Methods for the user(s).

Check the options you need

Click **Next** to continue.



In Step 5, enter the amount of disk space you wish to assign the user on each volume. Type 0 to provide unlimited disk space to the user.

Click **Next** to continue.

The final step is a summary of all the configurations you made.

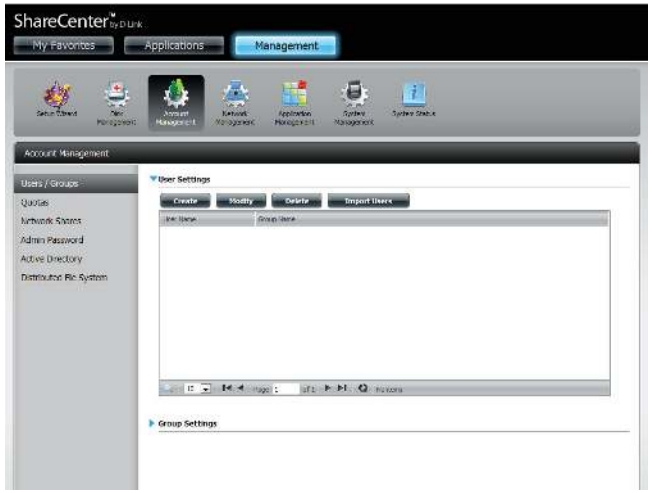
Click **Finish** to accept the changes.

Click **Exit** to cancel the changes.

The User Settings window will show a list of the users created.

Account Management - Creating the same user

1



Click **Management**, **Account Management**.

Under Users/Groups, User Settings click **Create**

2

The User Setup Wizard will appear.

Click **Next** to continue.

In Step 1, select 'Create a Single User'

Click **Next**

If you have created the same user twice, a message will appear prompting you to enter a new username.

Click **Yes** and enter a new username.

Account Management - Modify Users

Click the user you wish to modify. The user will be highlighted in red.

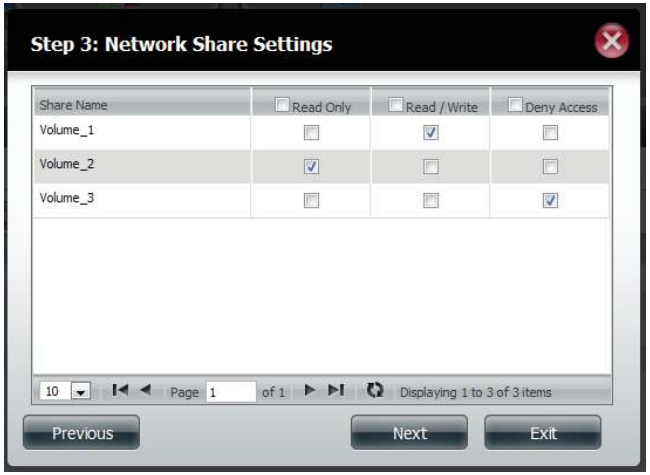
Click **Modify** to continue.

The User Setup Wizard will appear.

Click **Next** to continue.

In Step 1, change the username or password.

Click **Next** to continue



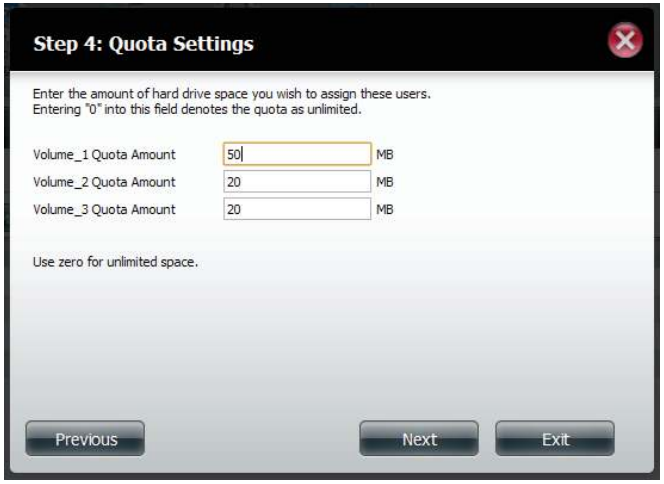
Change the Network Share Settings accordingly.

Click **Next** to continue

Reassign Privileges/Access Methods for the user(s).

Check the options you need

Click **Next** to continue.



In Step 4, enter the re-assigned amount of disk space you wish to assign the user on each volume. Type 0 to provide unlimited disk space to the user.

Click **Next** to continue.

The final step is a summary of all the configurations you made.

Click **Finish** to accept the changes.

Click **Exit** to cancel the changes.

A message will appear stating the user details have been changed successfully.

Click **Yes** to exit the wizard.

Account Management - Deleting Users

1

Click the user you wish to delete. The user will be highlighted in red.

Click **Delete** to continue.

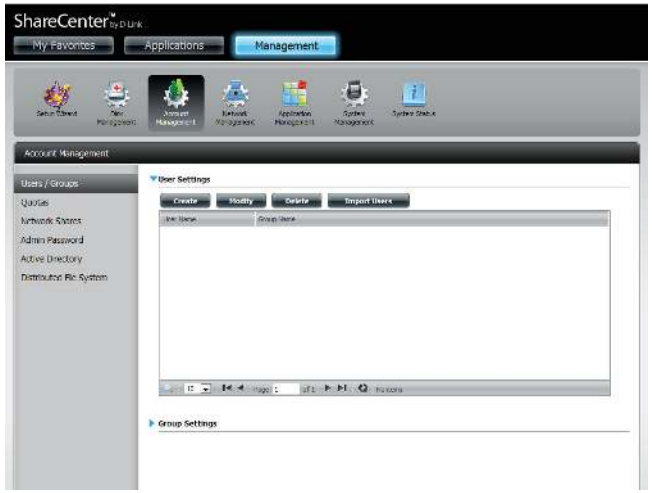
2

A message will appear prompting you to confirm deleting the user.

Click **Yes** to confirm.

The user is now automatically removed from the list.

Account Management - Importing Users



Click **Account Management, Users/Groups**

Click **Import Users**

The Import Users Wizard will start.

Click **Next** to continue.

In Step 1, click **Download** to see a sample file.

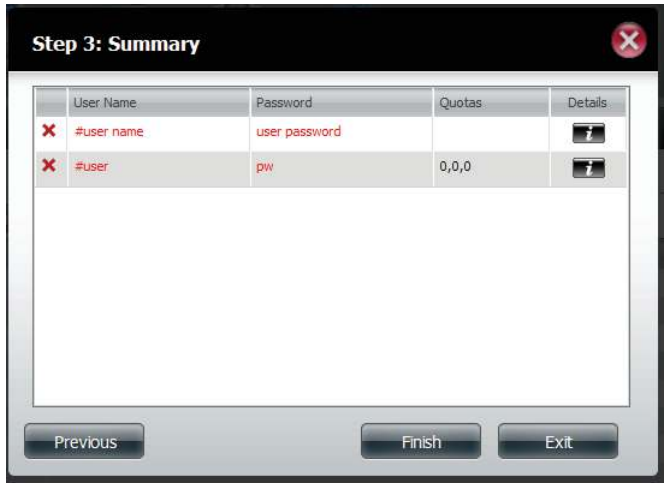
Click **Overwrite Duplicate Accounts** if this is necessary

Click **Choose File** to import the list.

Click **Next** to continue

Assign the privileges and access methods.

Click **Next** to continue.

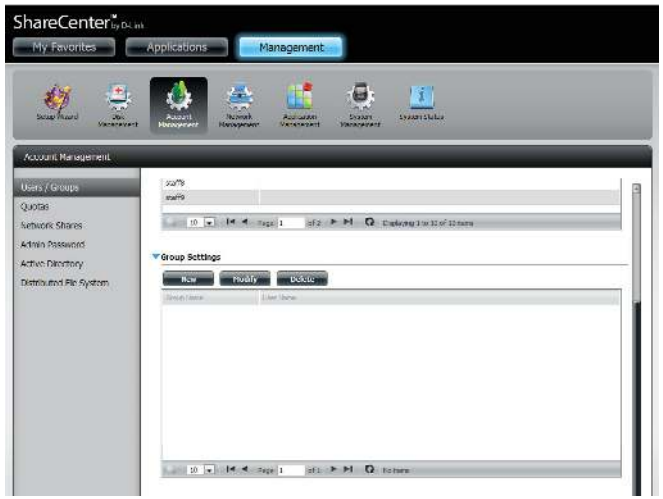


If there are problems with the user list, the wizard will show the errors in red on the table.

The Summary will show a list of imported users.

Click **Finish** to close the wizard or go back to change the import file.

Account Management - Creating a Group



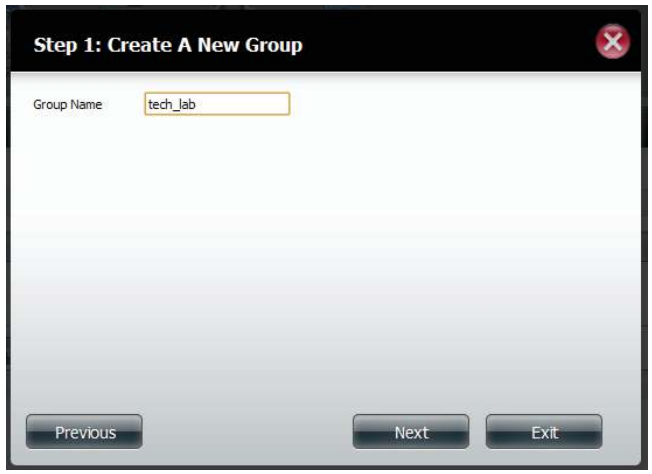
Click **Account Management, Users/Groups**

Click the **blue arrow** and the Group Settings will appear.

Click **New** to create a new Group.

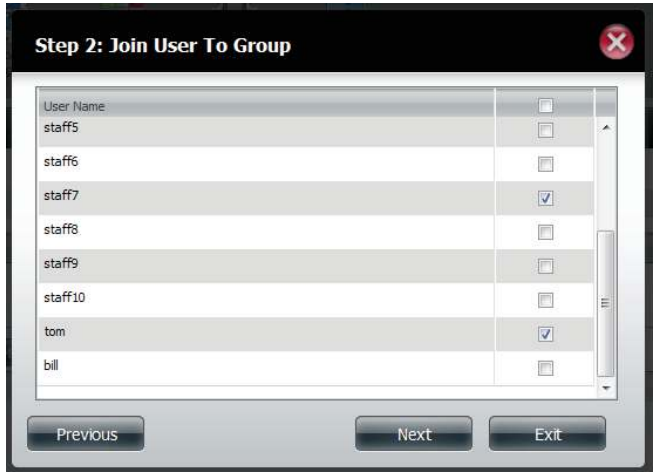
The Group Setup Wizard will now start.

Click **Next** to continue.



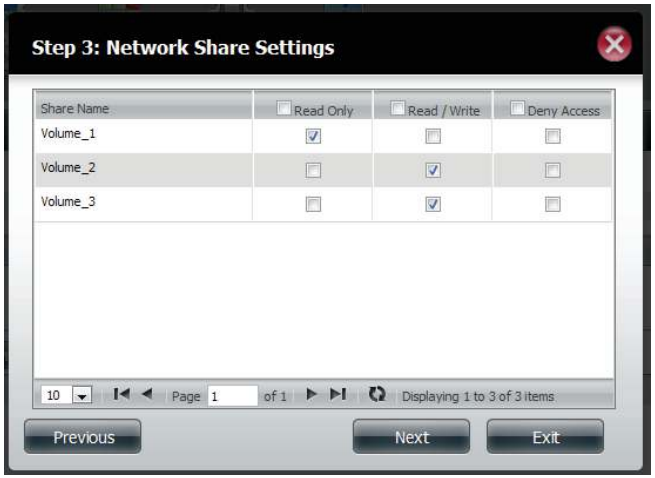
In Step 1, enter a Group Name.

Click **Next** to continue



In Step 2, click the checkbox to select the user(s) you wish to add to the group.

Click **Next** to continue.



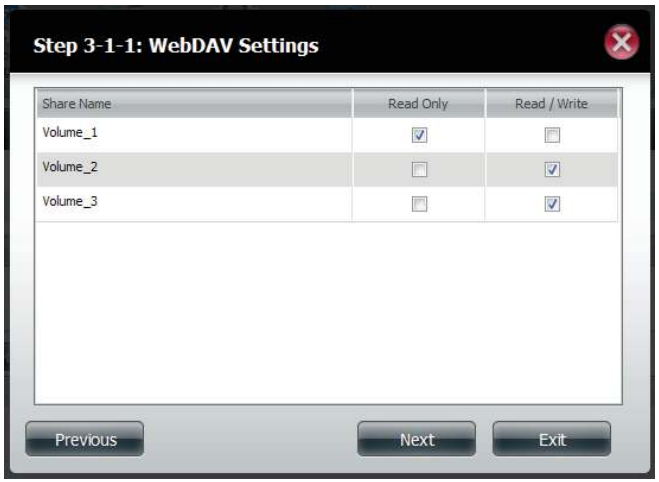
Select the Network Share Settings (read, read/write, deny access) for the corresponding disk volume for the group.

Click **Next** to continue.

Select the Assigned Privileges for the group.

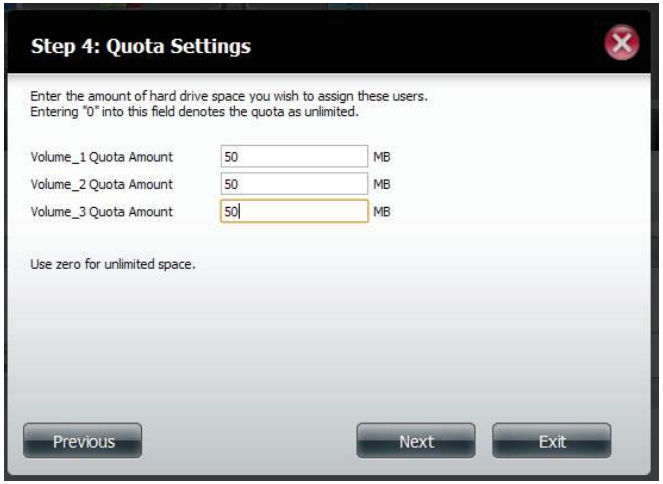
The greyed out selections are there by default.

Click **Next** to continue.



Select the appropriate WebDAV settings.

Click **Next** to continue.



Enter the amount of space you want to assign to the group for each volume. Enter zero to give unlimited disk space to the group.

Click **Next** to continue.

9

The wizard is now complete. The last step shows a summary of the group you created. Click **Previous** to change your settings or **Finish** to end the wizard.

10

Under Group Settings, a table will show the group you just created.

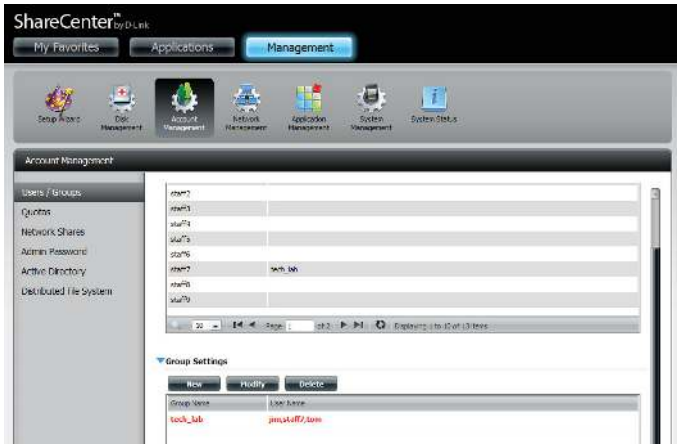
Account Management - Modifying a Group

1

Click **Account Management, Users/Groups**

Click the **blue arrow** and the Group Settings table will appear.

2

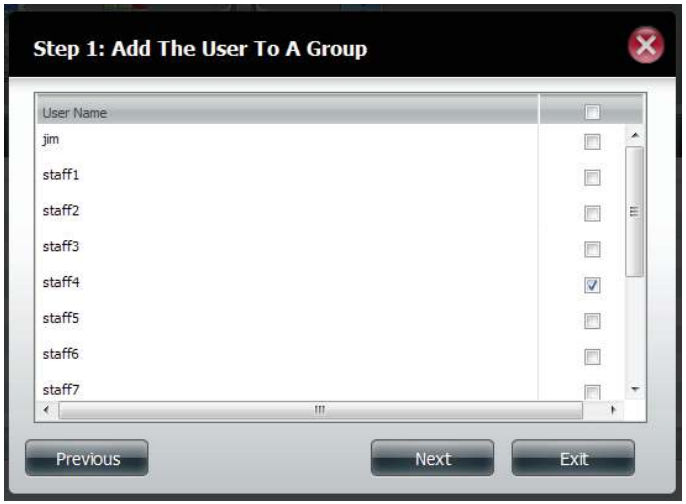


Select the group you want to modify. Your selection will turn red.

Click **Modify** to change the settings for the Group.

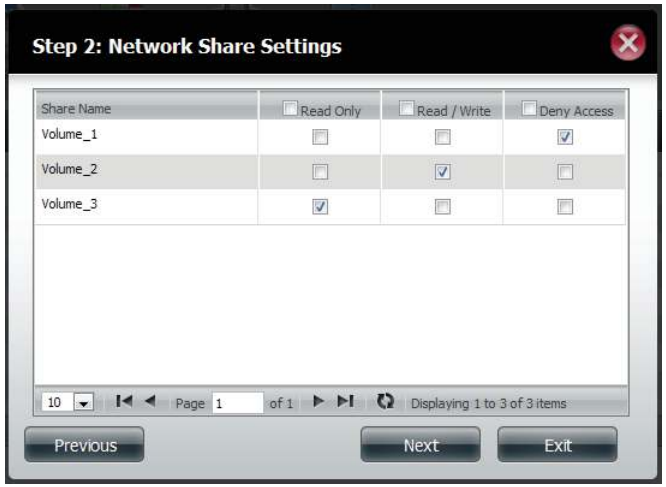
The Group Setup Wizard will now start.

Click **Next** to continue.



In Step 1, make the necessary modifications to the group(s).

Click **Next** to continue.



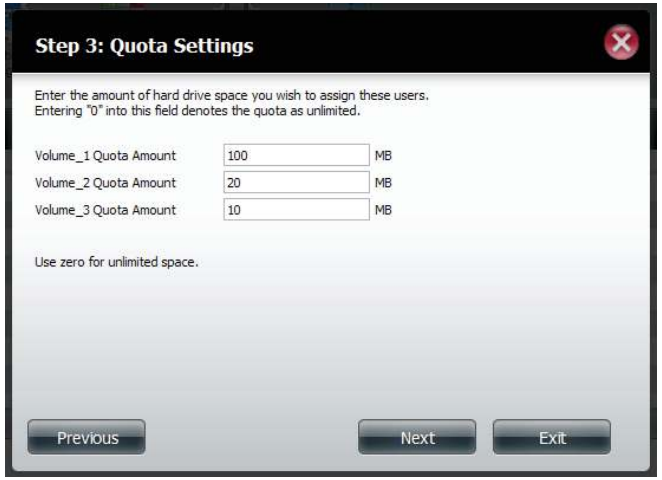
Select the appropriate Network Share Settings (read, read/write, deny access) for the corresponding disk volume for the group.

Click **Next** to continue.

Select the appropriate Assigned Privileges to the group.

The greyed out selections are there by default and cannot be modified.

Click **Next** to continue.



Edit the amount of space you want to assign to the group for each volume. Enter zero to give unlimited disk space to the group.

Click **Next** to continue.

When editing the quota, make sure the size is not smaller than the user quota on his/her account.

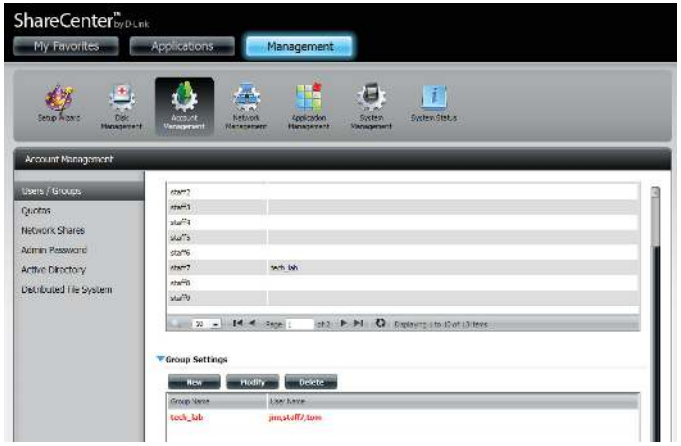
Click **Yes** to change the quota.

The wizard is now complete and will show a summary of the group you edited.

Click **Previous** to change your settings or **Finish** to end the wizard. **Exit** will cancel all changes you made.

Account Management - Deleting a Group

1



Select the Group you want to delete.

Click **Delete**.

2

A warning message will appear asking you to verify if you want to delete the Group.

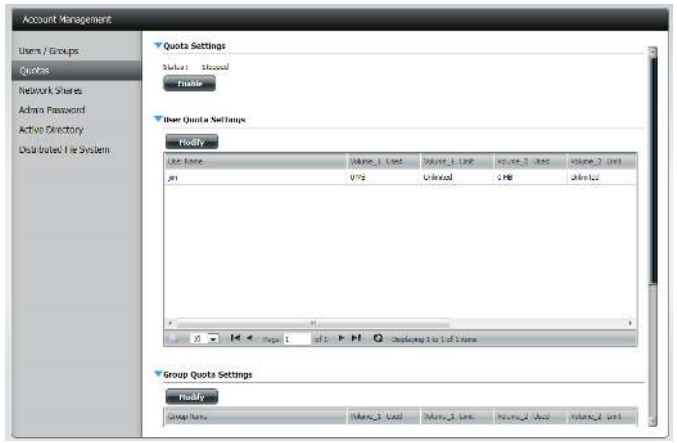
Click **Yes** to delete the Group.

Click **No** to cancel your decision.

Quota Settings

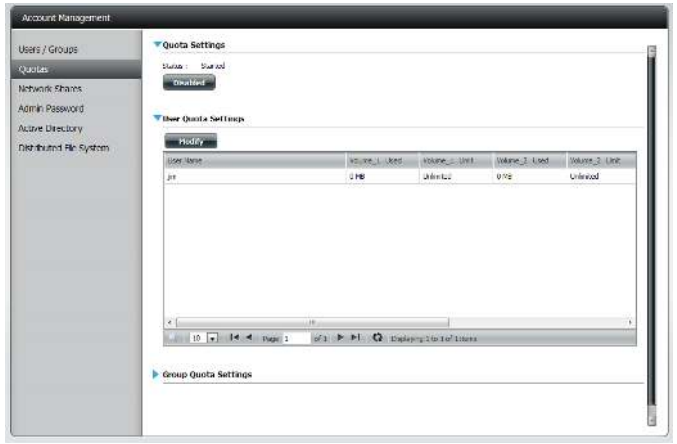
The ShareCenter Quattro supports storage quotas for both group and individuals. Assigning a quota to a group or user will limit the amount of storage allocated. By default, users and groups do not have a quota.

1

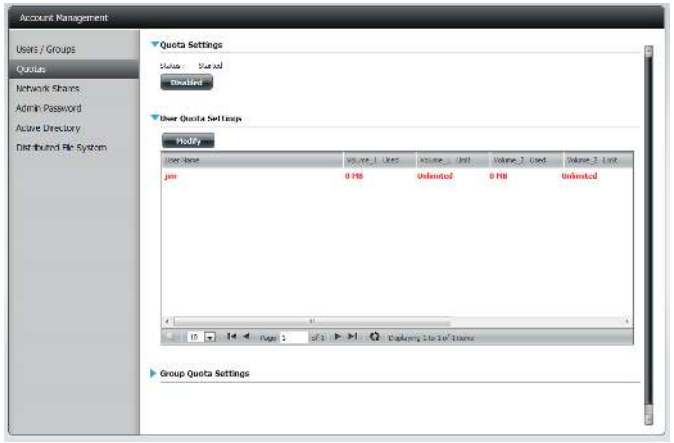


Click **Enable** to activate Quota Settings. The status will now display 'Started', notifying you that the Quota Settings have begun.

2

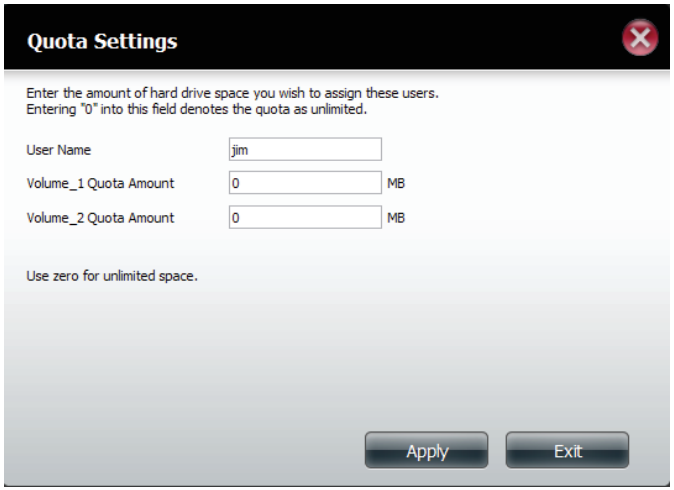


To Modify a User's Quota Settings, click the **blue arrow** to reveal a table of users.



Select the User. Your selection will turn red.

Click **Modify** to change his/her settings.

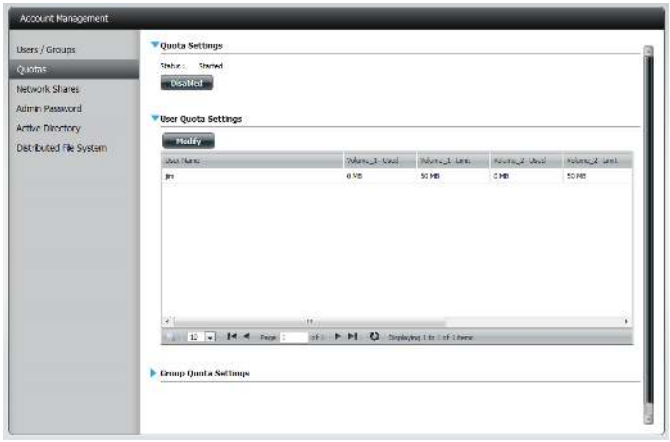


The Quota Settings configuration box will display the user account you want to modify.

Enter a new volume quota amount.

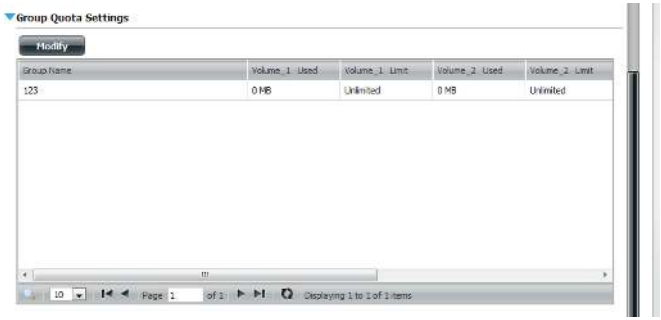
Click **Apply** to confirm your settings.

5

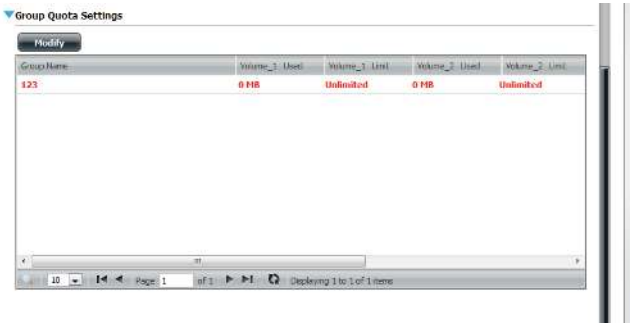


The modified quota settings will be displayed in the table.

6

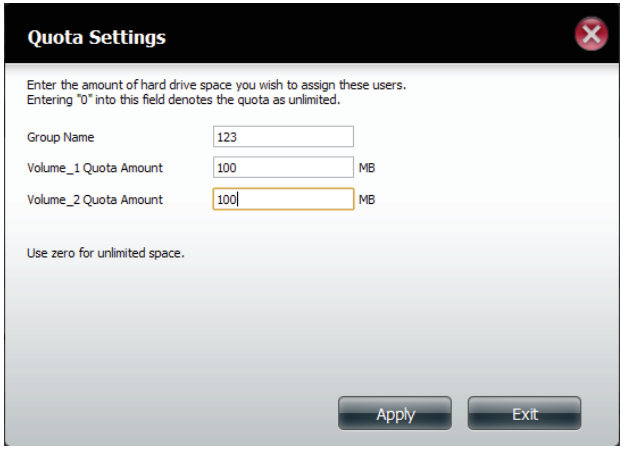


For Group Quota Settings, click the **blue drop down arrow** to view the group quota table.



Select the group. Your selection will turn red.

Click **Modify**.



The Group Quota Settings screen will display the group you want to modify.

Enter the new quota volume settings for the current group.

Click **Apply**.

The table under the Group Quota Settings window will display the modified quota settings.

Network Shares

The Network Shares page allows the user to configure shared folders and rights to specific users and groups. In order to create network access rules, the default rule must be removed first. This can be done simply by clicking on the Delete button. You can also mount .iso files in the ISO Mount Shares Settings. When a user has access to a mounted .iso, he/she will have also have access to all the files on it.

Network Shares: / ISO Mount Shares

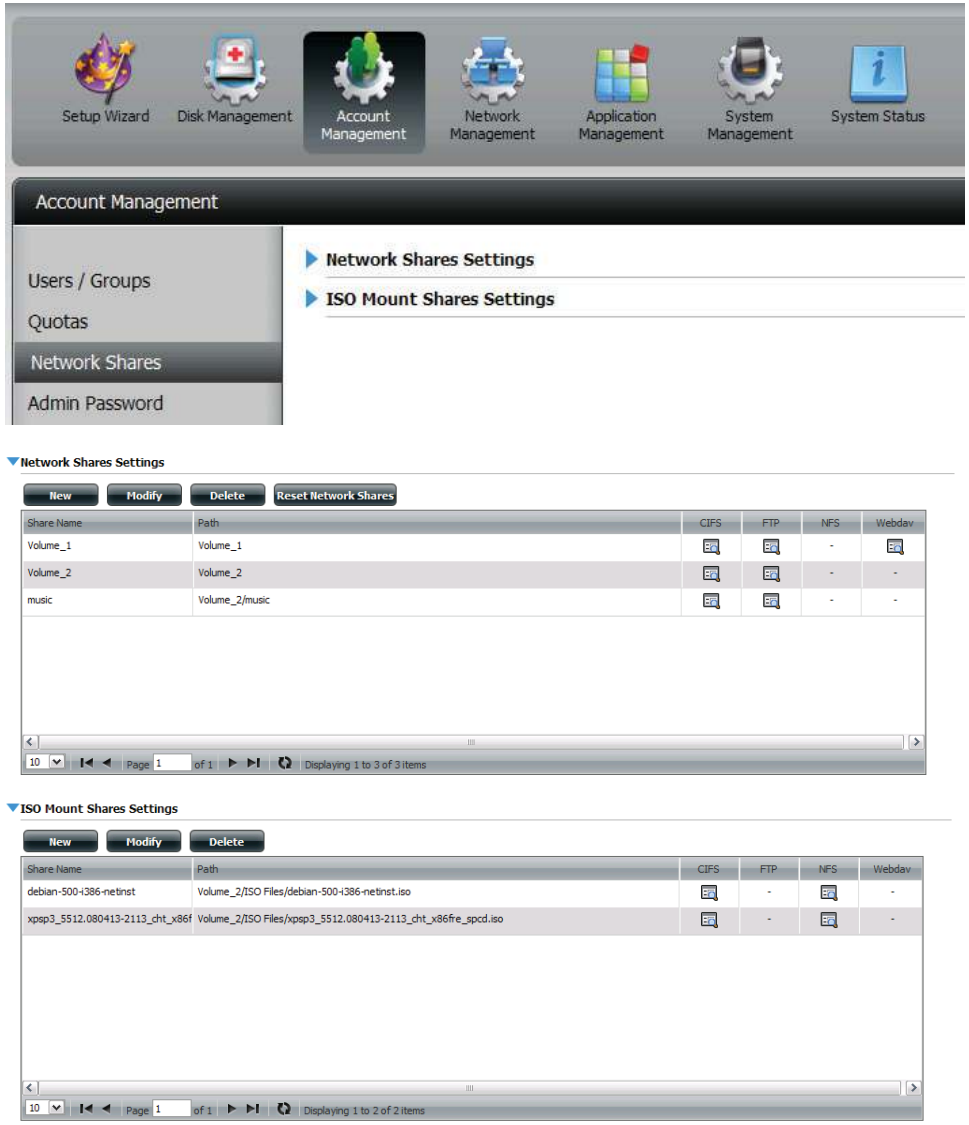
The Network Shares Settings window allows the user to add, modify, and remove both new and existing Network Share and ISO Mount Share Settings.

To add a rule click on the **New** button. To modify an existing rule click on the **Modify** button. To remove a rule click on the **Delete** button.

To select a rule, simply click on the rule. Your selection will turn red, indicating it is selected for use.

At the bottom of the table, the user can navigate through pages and also refresh the window by click on the **Refresh** button.

Click on the **Reset Network Shares** button to reset the network access list to the default configuration,



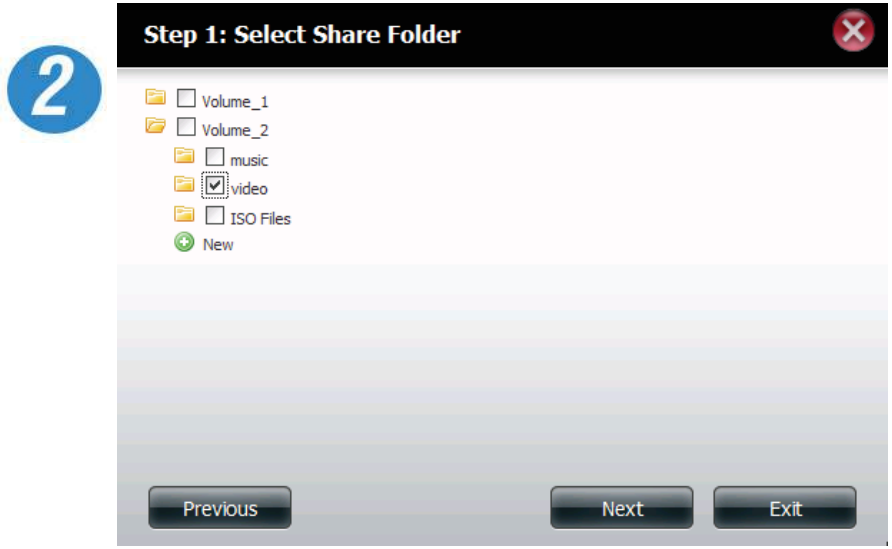
Adding/Modifying New Network Shares Wizard

The following section will describe how to add a new Network Share on the ShareCenter. To add a Network Share click on the **New** button. An easy to configure wizard will launch.

This window welcomes the user to the setup wizard for creating a new network share.

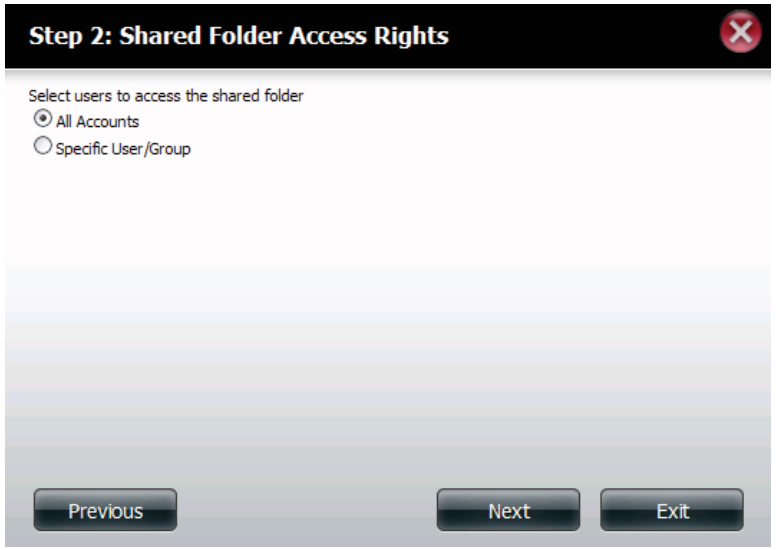
In this wizard the user will be able to:
1) Select share folders.
2) Configure shared folder access rights.
3) Configure network access settings.
4) View a summary of the configuration before completing.

Click **Next** to continue.



Select the Share Folder from one of the volumes.

Click **Next** to continue.



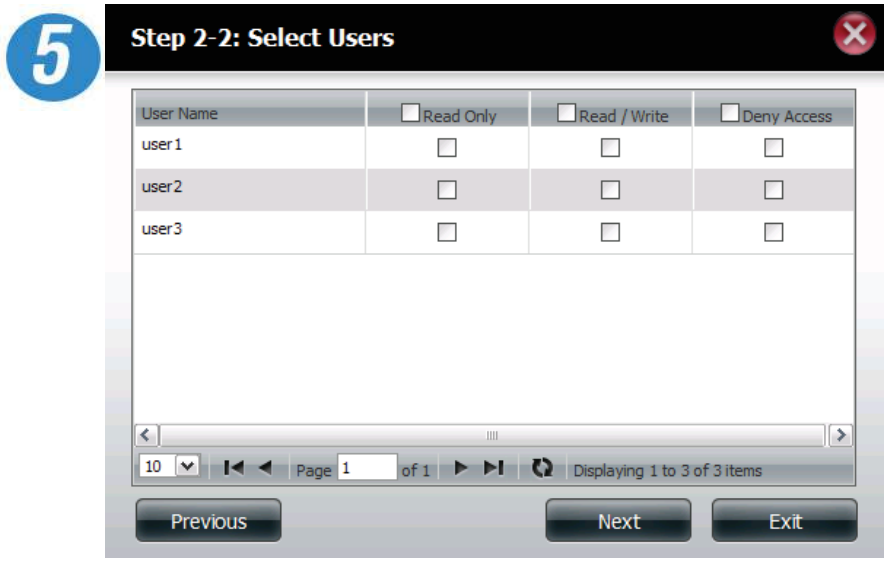
Select the user accounts or group which are allowed to access this folder(s). Select ***All Accounts*** to allow access to this folder to all the accounts. Select ***Specific User/group*** to only allow certain users or groups access to this folder.

Click **Next** to continue.

Select the appropriate access rights for the share. Options to choose from are Read Only, Read/Write, and Deny Access.

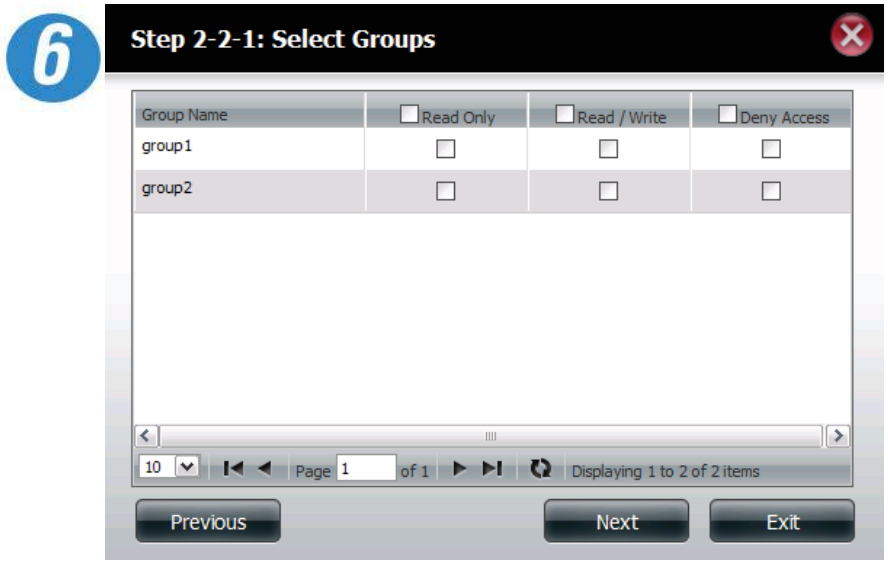
This procedure can also be used to block certain users from accessing certain folders.

Click **Next** to continue.



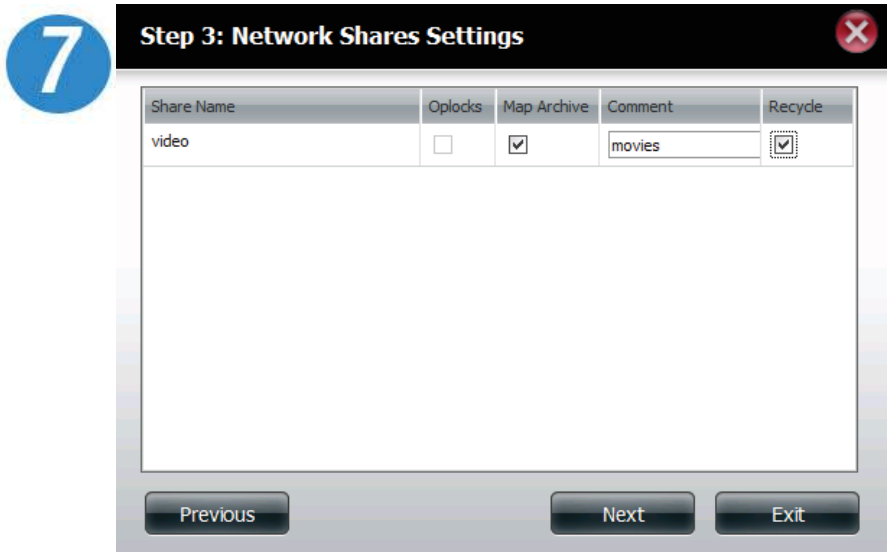
If you select a specific user / group in Step 3 then this step allows you to set the access rights for each User configured on the ShareCenter

Click **Next** to continue.



If you selected specific user/group in Step 2 then this step allows you to set the access rights for each Group configured on the ShareCenter.

Click **Next** to continue.

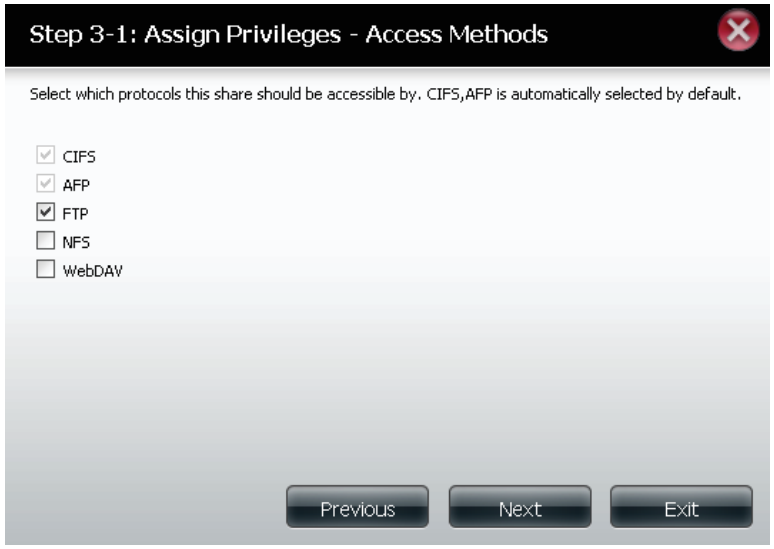


Here the user can assign privileges to this share. Opportunistic locks (oplocks) are a characteristic of the LAN Manager networking protocol implemented in the 32-bit Windows family.

Oplocks are guarantees made by a server for a shared logical volume to its clients. These guarantees inform the Client that a file's content will not be allowed to be changed by the server, or if some change is imminent, the client will be notified before the change is allowed to proceed.

Oplocks are designed to increase network performance when it comes to network file sharing. However it is recommended to set the share oplocks to No (off) when using file-based database applications. When enabled, the file attribute "Map Archive" will be copied as the file is being stored on the ShareCenter Quattro.

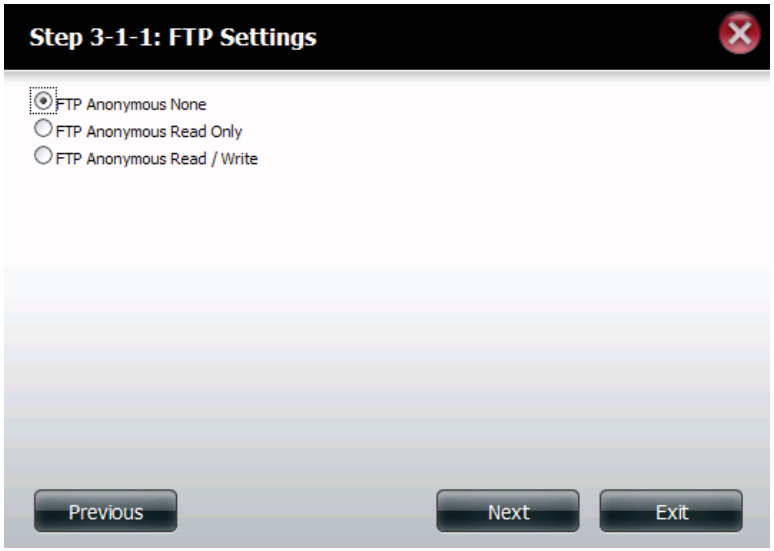
Click **Next** to continue.



Here the user can assign more protocol privileges that a user can use to access this share. Options to choose from are FTP, NFS and WebDAV. CIFS and AFP are set as default.

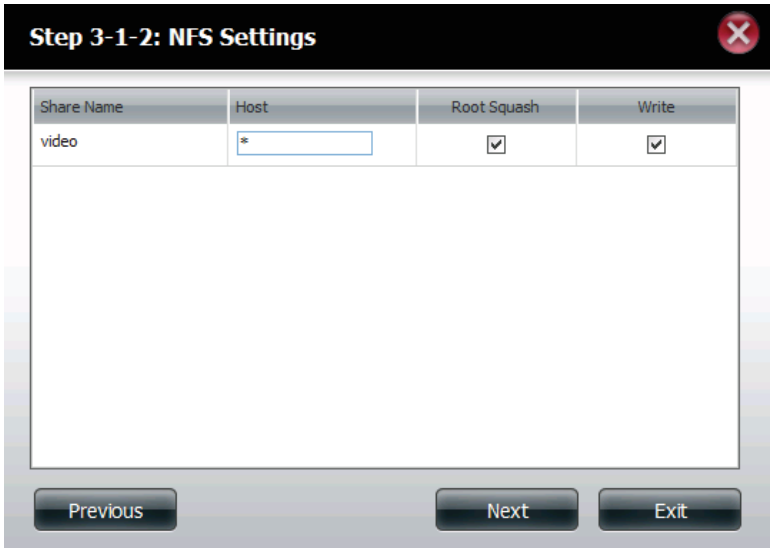
- CIFS is short for Common Internet File System.
- AFP is short for Apple Filing Protocol.
- FTP is short for File Transfer Protocol
- NFS is short for Network File System.
- WebDAV is short for Web-based Distributed Authoring and Versioning.

Click **Next** to continue.



Here the user can configure the FTP settings for this share. FTP access can be:
1) FTP Anonymous None (No Access).
2) FTP Anonymous Read Only (Limited Access).
3) FTP Anonymous Read/Write (Full Access).

Click **Next** to continue.



If you checked NFS as an access method to your network share then this step allows you to set the parameters below:

- Host - Allowable host address that can access using NFS (* indicates all hosts)
- Root Squash - Disables writing to the Root owned directories and files on the system when the user has root access privileges.
- Write - provide write permission to the file system.

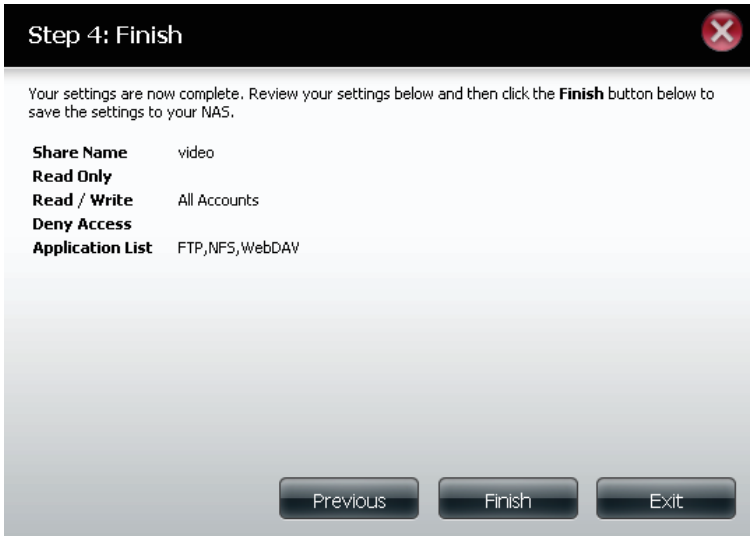
Click **Next** to continue.

11

If you checked WebDAV as an access method in Step 3, then this step will allow you to set the access parameters.

Click **Next** to continue.

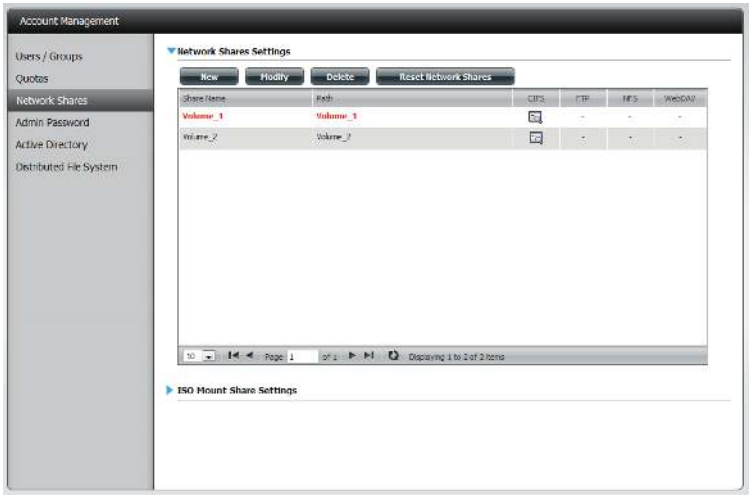
12



Here a summary of the created shares will be displayed.

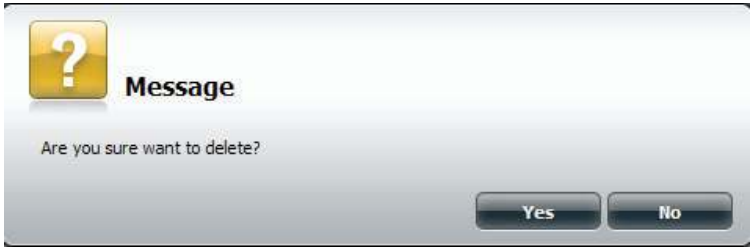
Click **Next** to continue.

Deleting a Network Share



Select the Network Share you wish to delete. Your selection will turn red.

Click **Delete**.

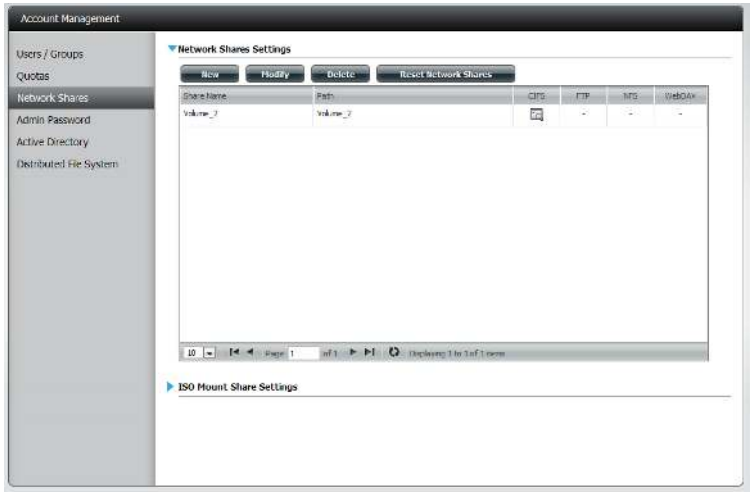


A warning message will appear prompting you to verify if you wish to delete te Share.

Click **Yes** to delete.

Click **No** to Cancel.

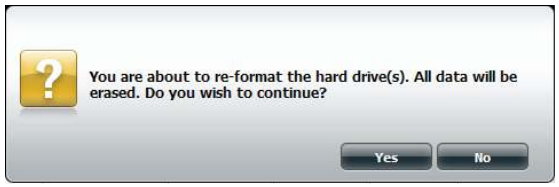
3



The deleted Share will be removed from the Network Share List.

Resetting the Network Shares

Select the **Reset Network Shares** button.



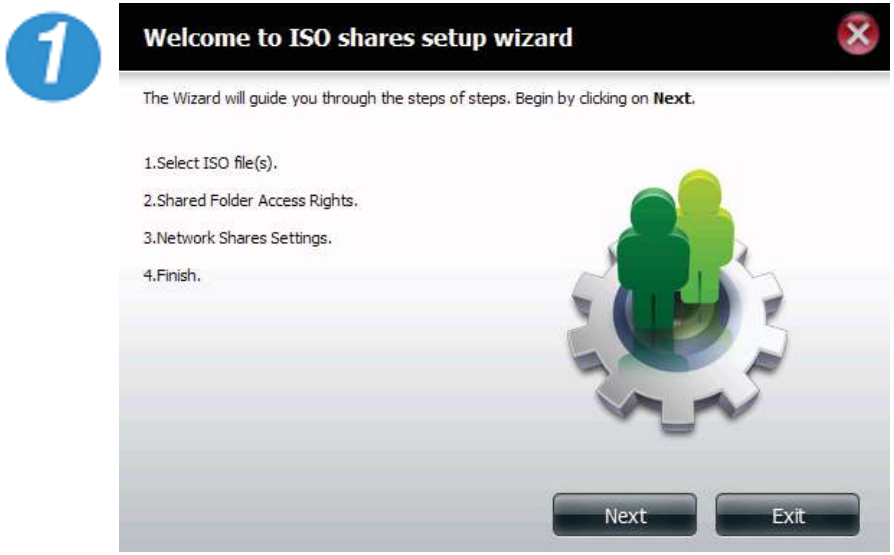
A warning message will prompt you to confirm your selection.

Click **Yes** to confirm.

Click **No** to cancel.

Adding New ISO Mount Shares Wizard

The following section will describe how to add a new ISO mount on the ShareCenter. To add an ISO Mount, click on the **New** button. An easy to configure wizard will launch.



The wizard provides these options

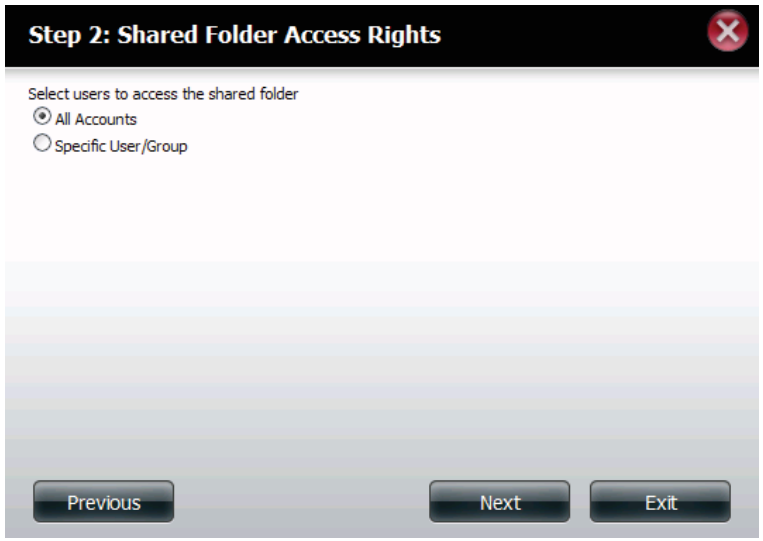
1. Select the .iso file to be mounted.
2. Set the users and groups access rights to the mounted .iso file.
3. Add a comment describing the file and select the appropriate network protocols.
4. Confirm the changes.

Click **Next** to continue.

Expand one of your Volume File System trees to select the desired .iso file.

Check the box to the left of the .iso file to select it.

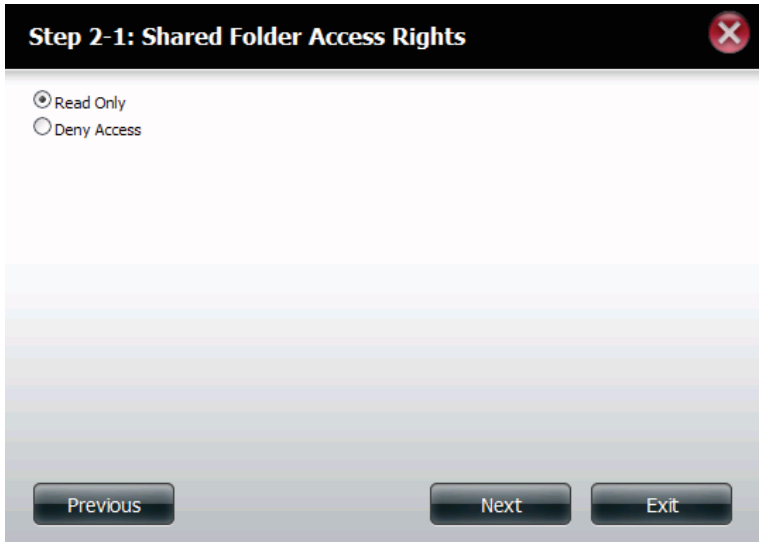
Click **Next** to continue.



Assign access privileges to this ISO Mount share.

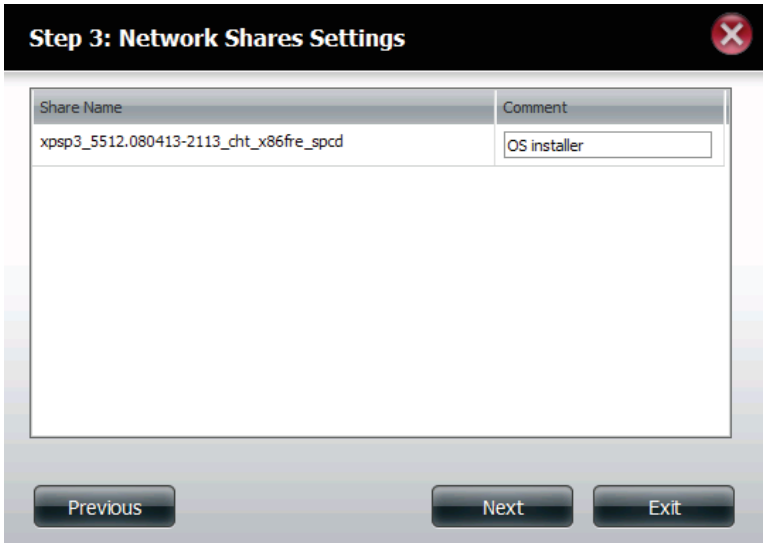
- Select ***All Accounts*** to assign the ISO Mount share read/deny privileges to all users.
- Select ***Specific User/Group*** in order to assign read/deny privileges to individual users and groups.

Click **Next** to continue.



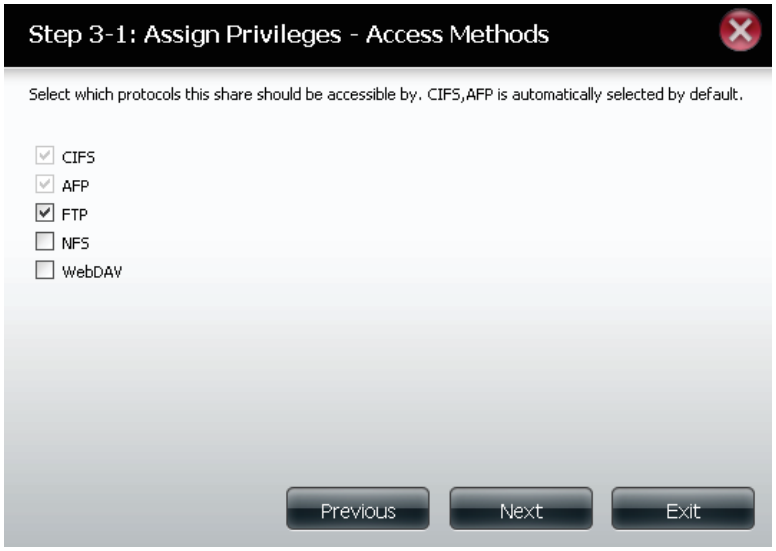
The user can assign ***Read Only*** or ***Deny Access*** privileges to the ISO Mount share here. Click on the appropriate radio button for the privileges you would like to assign.

Click **Next** to continue.



Add a comment that describes the ISO Mount Share.

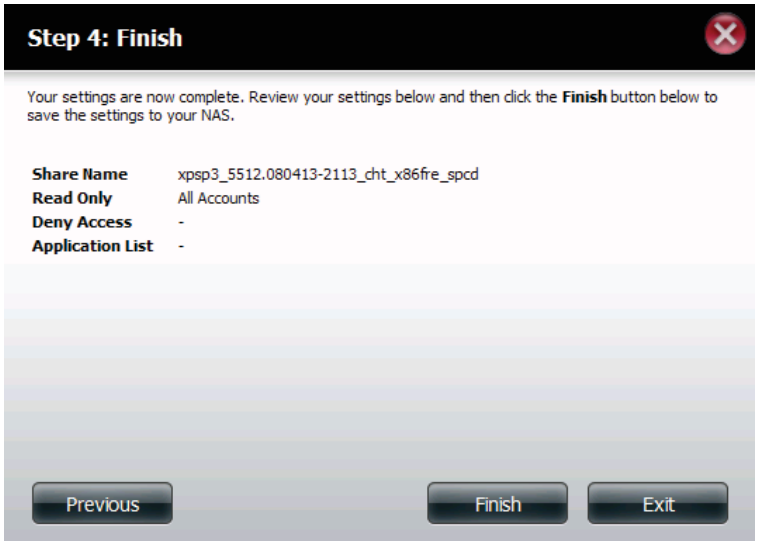
Click **Next** to continue.



Assign more protocol privileges that a user can use to access this share. Options to choose from are FTP, NFS and WebDAV. CIFS and AFP are set as default.

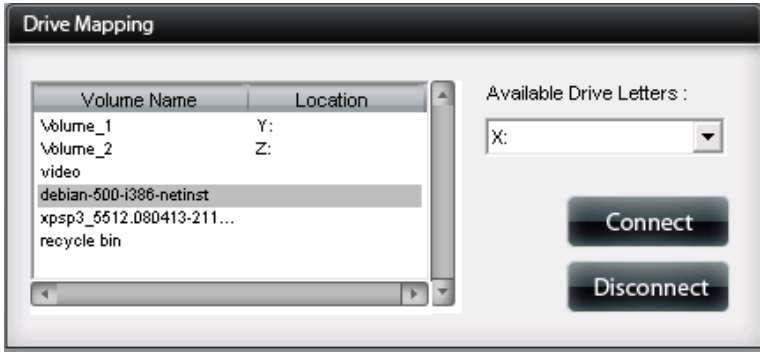
- CIFS is short for Common Internet File System.
- AFP is short for Apple Filing Protocol.
- FTP is short for File Transfer Protocol
- NFS is short for Network File System.
- WebDAV is short for Web-based Distributed Authoring and Versioning.
-

Click **Next** to continue.



A summary of the share will be displayed.

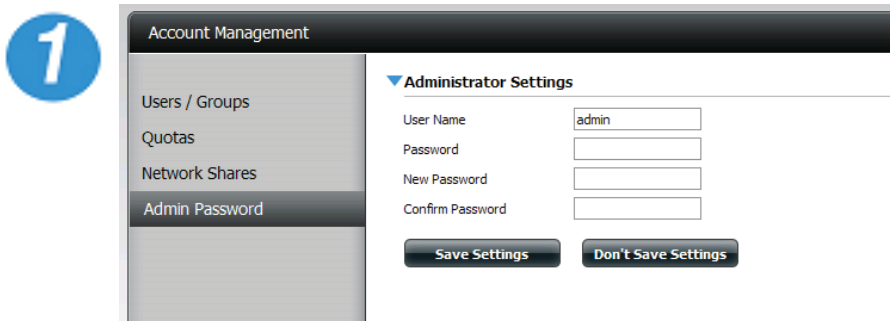
Click on the **Finish** button to accept the change and complete the wizard.



Through the D-Link Storage Utility, the ISO Mount Share can now be mapped to your computer as a normal network share.

Admin Password

Changes to the administrator username and password can be made here.



The Administrator Settings allows you to change the Username and Password settings.

Enter a new **Username**

Type the **original Password**

Enter a **New Password**

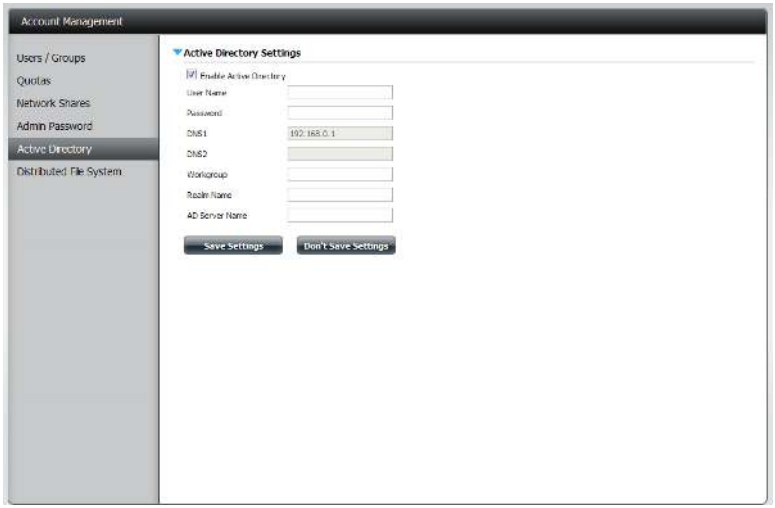
Confirm the **New Password**

Click **Save Settings** to accept the changes

Click **Don’t Save Settings** to cancel changes

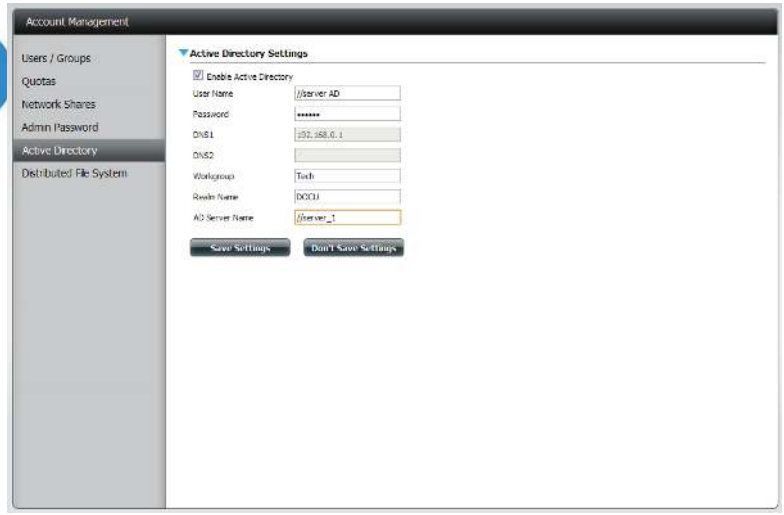
Active Directory Settings

Allows you to configure and communicate with a Windows Active Directory.



Active Directory is a Windows Server Service that allows you or your company to manage an Active Directory.

Check the box next to **Enable Active Directory**.



Enter the details to communicate with the Active Directory server.

Enter a valid Username and Password provided by your systems administrator.

Enter the DNS 1 and/or DNS 2 IP addresses.

Enter a Workgroup if required.

Enter a Real Name.

Enter an Active Directory Server name.

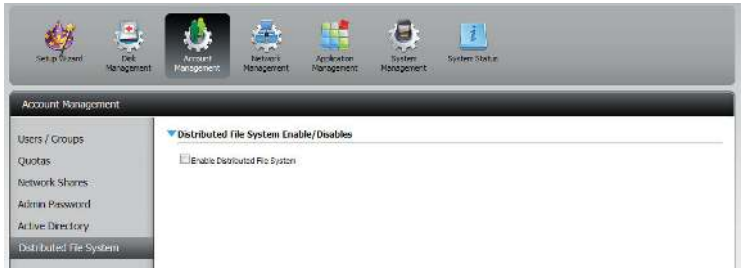
Click **Save Settings** to connect to the Active Directory.

Click **Don't Save Settings** to cancel.

Distributed File System

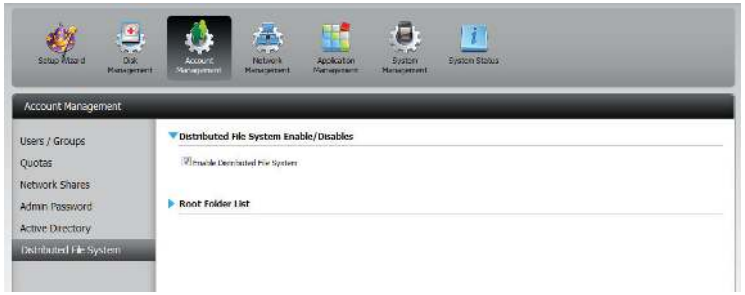
Distributed File System enables a better file management system without the complications of setting up each individual file system.

1



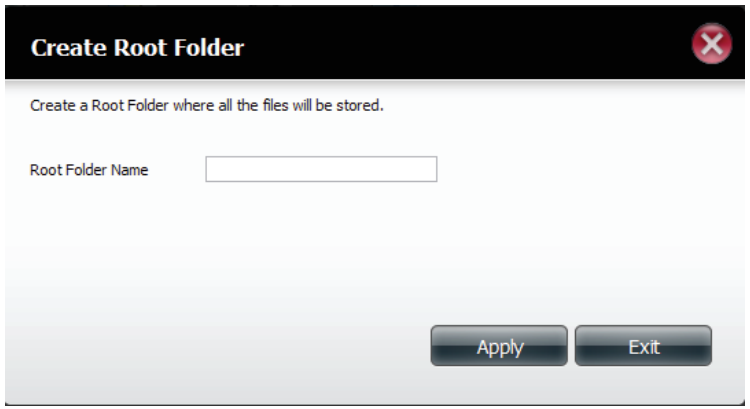
Click **Account Management,**then **Distributed File System**.

2



Check the **Enable Distributed File System** box. A new table list will appear called the Root Folder List.

Note: For Administrators - Setup a username and password identical to each PC connected to the NAS for DFS to work.



Once you have access to the Root Folder List, click **New** to create a new folder list.

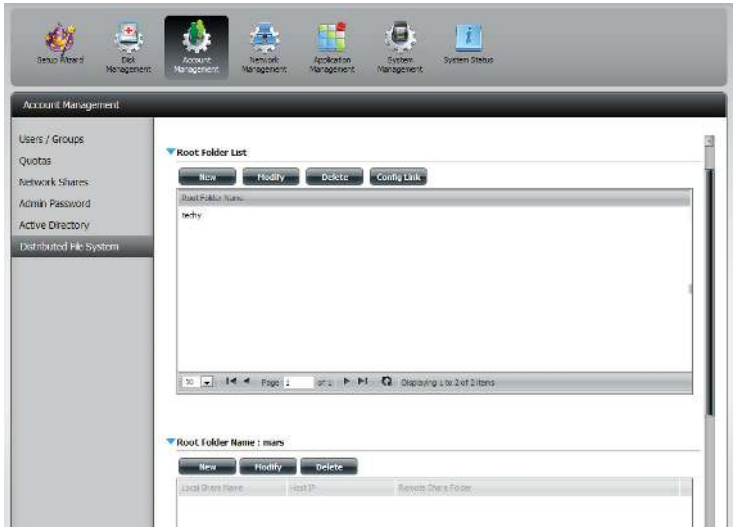
You will be prompted to enter a Root Folder Name in the field.

Click **Apply**.

The Root Folder List will now show the new root folder name and provide options to **Modify, Delete,** or **Config Link.**

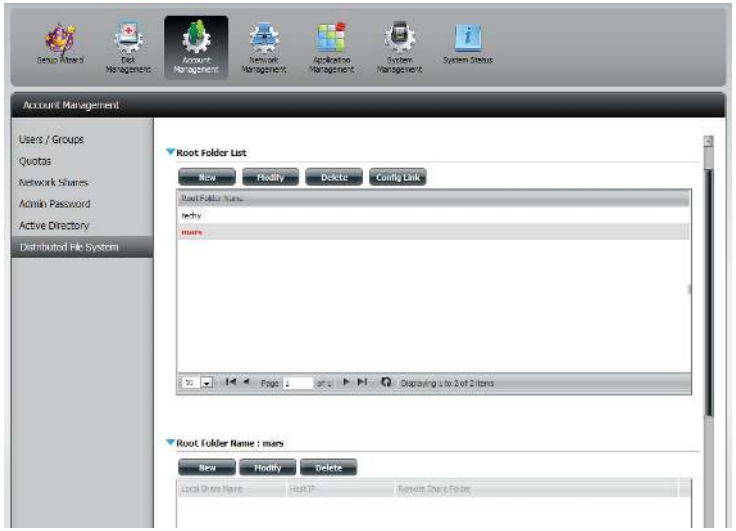
To modify a folder within the list, click **Modify**.

Enter a new folder name and click **Apply**.



The modified name will be shown in the table.

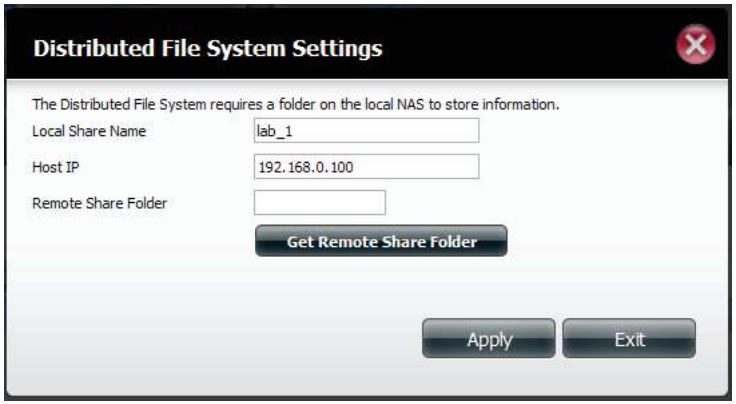
To delete the folder list just click **Delete**.



To Config Link a Root Folder List click the **Config Link** button.

A new Root Folder Name table will appear below the current Root Folder List.

Click **New** to configure it.



The Distributed File System Settings box will appear.

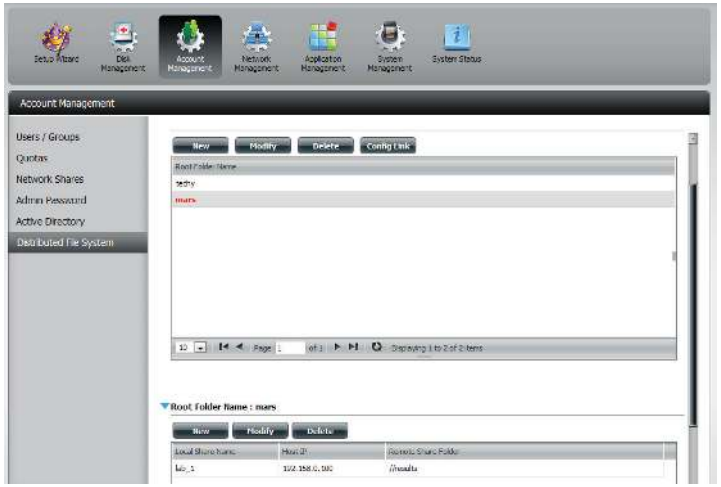
Enter a Local Share Name

Enter the Host IP address

Enter the Remote Share Folder or click **Get Remote Share Folder** and click **Apply**

If you do not know the Remote Share Folder location, a warning message will appear notifying you that the wizard was unable to find the Remote Share Folder.

Click **Yes** to enter the remote share folder manually.



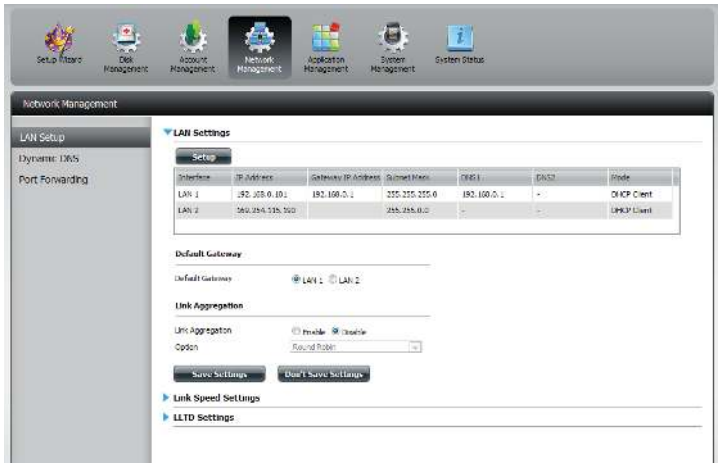
Once you have entered the correct details, the local share is created, displaying the host IP and remote share folder address.

To delete a remote folder click the **delete** button.

Network Management

Network Management controls and manages all issues referring to LAN settings. Even though your LAN settings were configured in the Setup Wizard, it can still be configured here. The LAN setup wizard allows you to configure both LAN cards as a single device. This is Ethernet Port Bonding and provides a more direct management of your LAN throughput. It also enables redundancy. If one of the ports should fail, the other acts as backup. The network load is balanced across all links.

1



Go to **Network Management,** then **LAN Setup.**

2

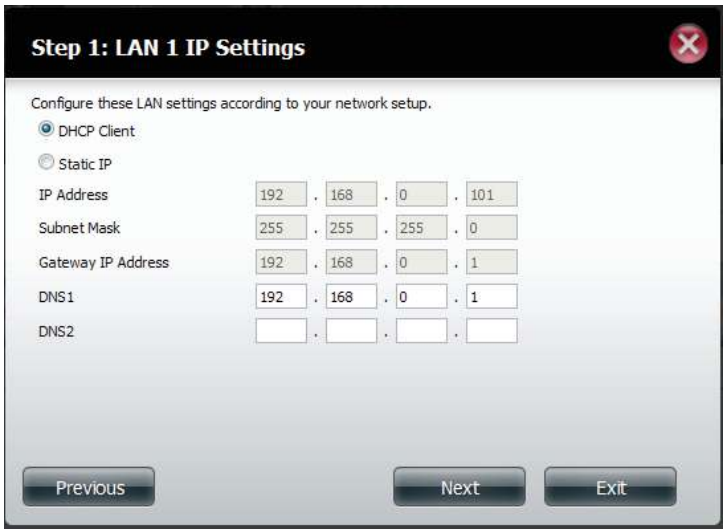
Select the LAN port you wish to configure. Your selection will turn red.

Click **Setup**.

The LAN setup wizard gives you the option to configure two main settings.

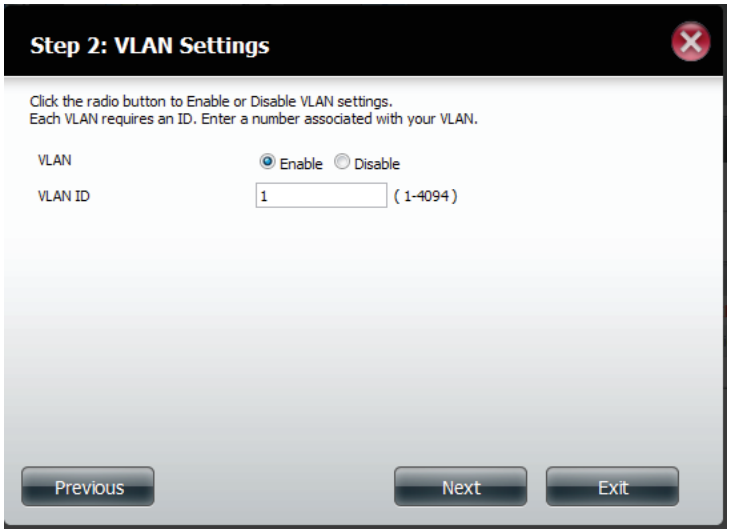
IP settings and VLAN settings.

Click **Next** to continue.



Step 1 allows you configure your LAN settings. Here you can choose between DHCP settings or you can manually configure your own LAN.

Click **Next** to continue.



Step 2 requires you to setup your VLAN settings. Select the **Enable** radio button to enable VLAN or click the **Disable** radio button to disable VLAN.

Enter a VLAN identification number and click **Next**.

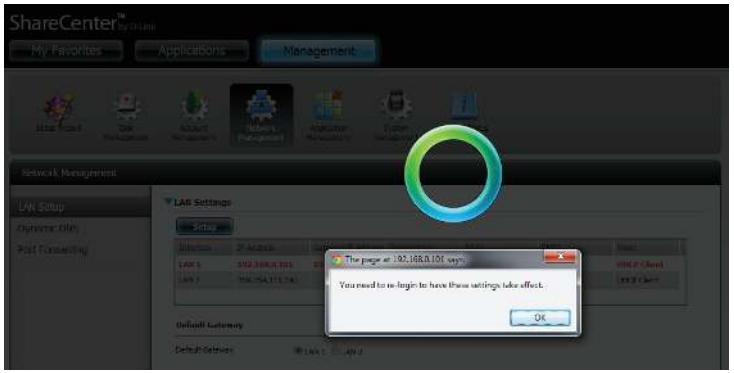
Step 3 shows a summary of what you just configured.

Click **Finish** to exit the wizard.

To configure the Link Aggregation settings, click the Enable radio button, then under option, select Round Robin. You can select other link aggregation options from the drop-down list. The other options include Balance-XOR, Broadcast, 802.3ad, Adaptive Transmit Load Balancing, and Adaptive Load Balancing.

For the Default Gateway, select either LAN 1 or LAN 2. The default gateway is your primary LAN port for accessing data on your network.

7



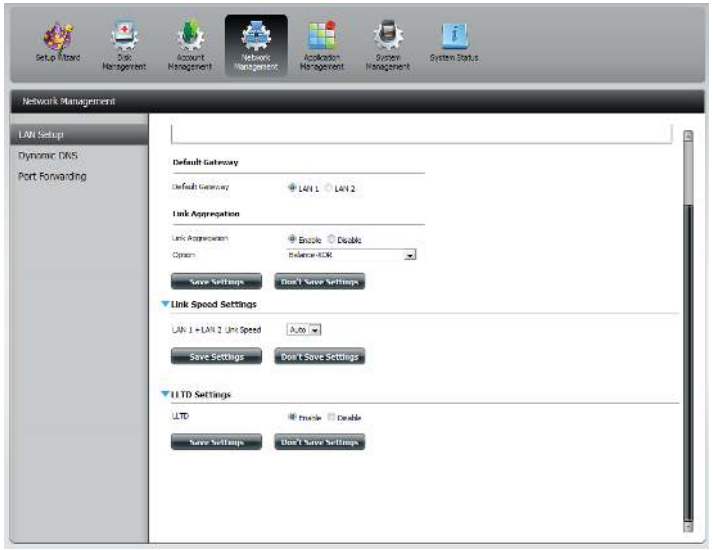
A window will appear to inform you that changes will take place after you login again.

Click **OK**, then logout and log back in to allow the changes to take effect.

8

The wizard combined both LAN ports under one configuration group.

1 See more details on Link Aggregation termiinology under the help file.

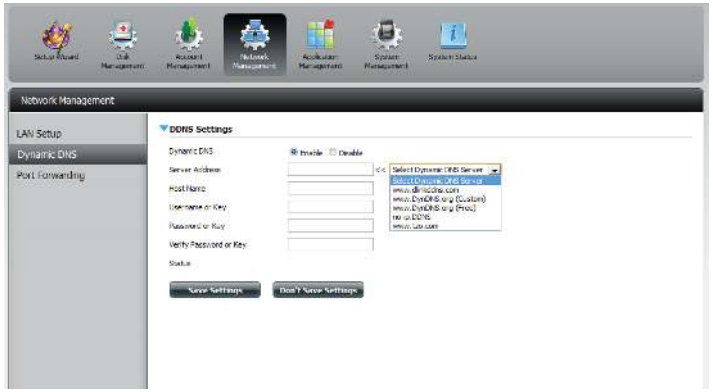


The basic LAN Setup also includes Link Speed Settings and LLTD Settings. Choose the option that suits your needs and click **Save Settings** to continue.

Note: Link aggregation, or IEEE 802.3ad, is a computer networking term which describes using multiple Ethernet network cables/ports in parallel to increase the link speed beyond the limits of any one single cable or port, and to increase the redundancy for higher availability. Link aggregation is an inexpensive way to set up a high-speed backbone network that transfers much more data than any one single port or device can deliver. Link aggregation also allows the network's backbone speed to grow incrementally as demand on the network increases, without having to replace everything and buy new hardware. The ShareCenter Quattro DNS-345 provides this feature to better enable the network it's on. Apply various link aggregation options that warrant support for your network.

Network Management - DDNS

DDNS can be configured in five ways: 1) dlinkddns.com , 2) dyndns.org (custom), 3) dyndns.org (free version), 4) no-ip, or 5) www.tzo.com setup.



Go to **Network Management,** then **Dynamic DNS.**

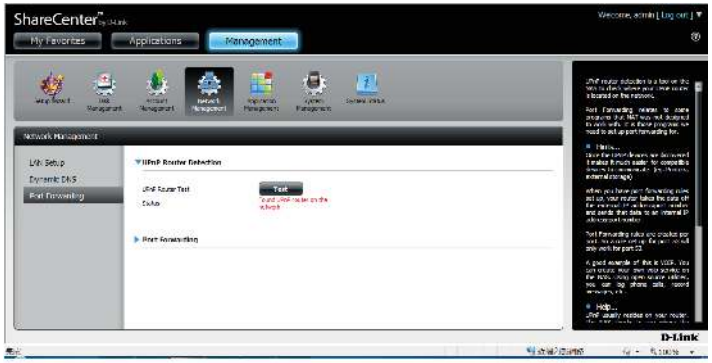
Click **Enable** to select Dynamic DNS, then from the drop-down list select the server, enter the Host Name, username, password, verify the password, and click **Save Settings**.

Note: refer to the D-Link DDNS site for more details on creating your Dynamic DNS connection with D-Link products. https://www.dlinkddns.com/howto.

Network Management - UPnP Router Detection

You can configure UPnP router detection and Port Forwarding in Network Management.
Note: You will need a UPnP router on your network.

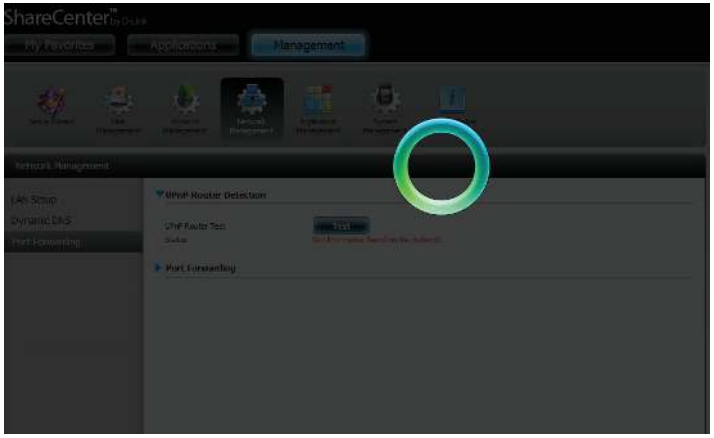
1



Login and select Network Management, then click the **blue button** to reveal the UPnP router settings.

Click **Test** to run a search.

2

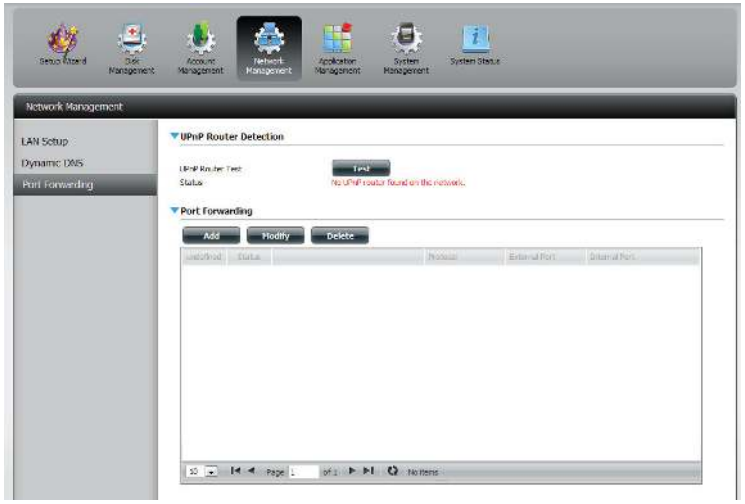


The DNS-345 is searching for a router. Do not turn off your NAS.

3

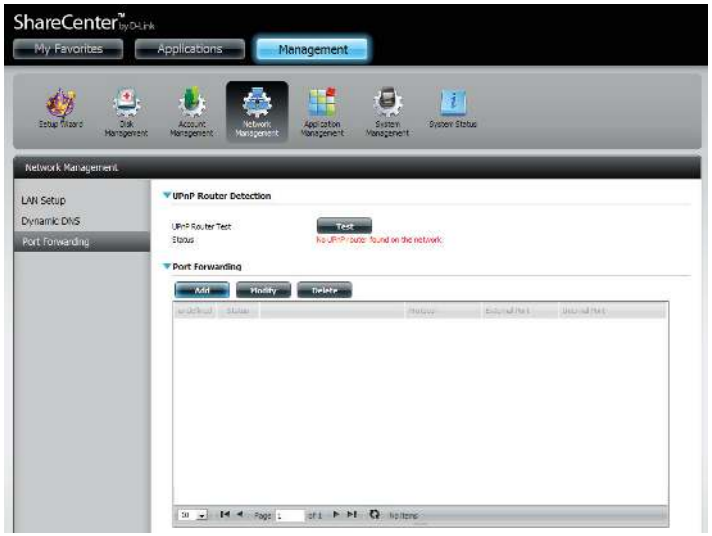
A message will notify you that the wizard has found a UPnP router on the network.

4



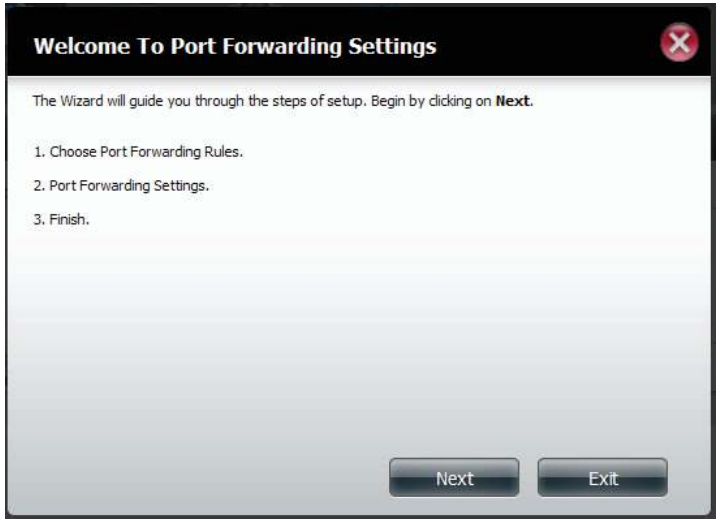
Click the **blue arrow** to reveal the Port Forwarding options.

Network Management - Port Forwarding



Login and select **Network Management**, then click the **blue arrow** to reveal Port Forwarding settings.

Click **Add**.

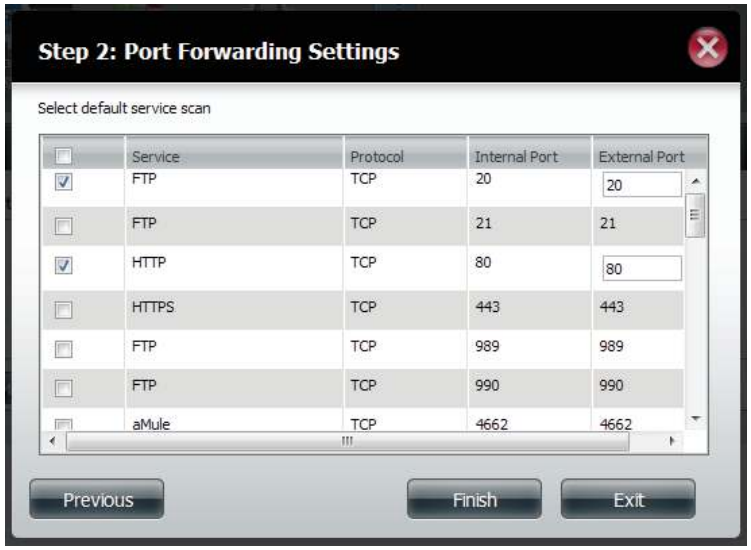


The Port Forwarding wizard will starts.

Click **Next** to continue.

In Step 1, select the Port Forwarding Rule that best suits your needs.

Click **Next** to continue.

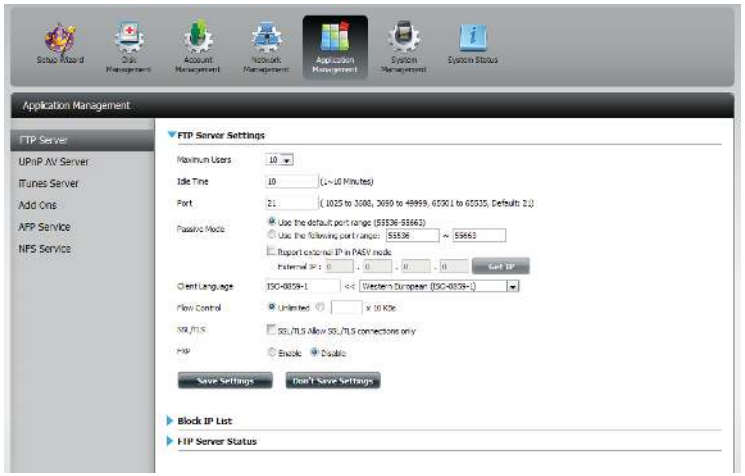


Select the default service you wish to Port Forward. Note: You can select more than one port.

Click **Previous** to change the Port Forward Rule or **Finish** to end the wizard.

Application Management - FTP server

The Application Management section allows you to configure many services for your DNS-345. The server and service settings include: FTP server, UPnP AV server, iTunes server, selected Add on features, AFP, and NFS services. Let's begin by looking at configuration options for the FTP server.



1

Click **Application Management**,then **FTP server**.

From the drop-down menu select the amount of users you want to give access to.

Set an idle time

Configure the default FTP port

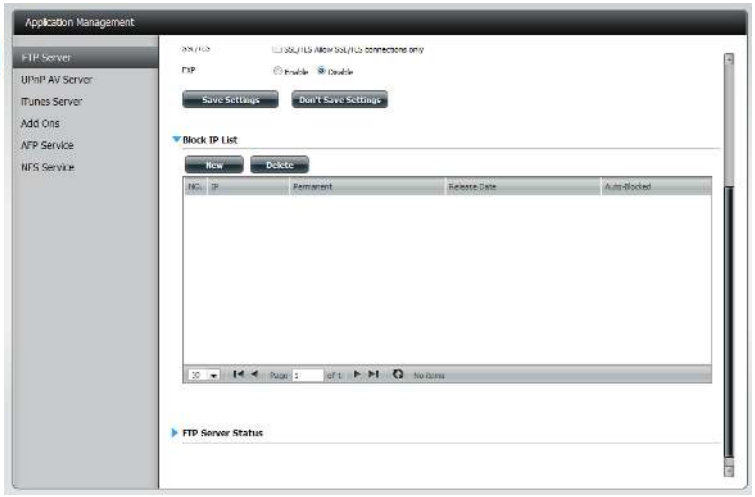
Select a default port range or select a passive mode type

Select a language

Select the correct flow control

Click to enable **SSL/TLS** and click Enable **FXP** to continue

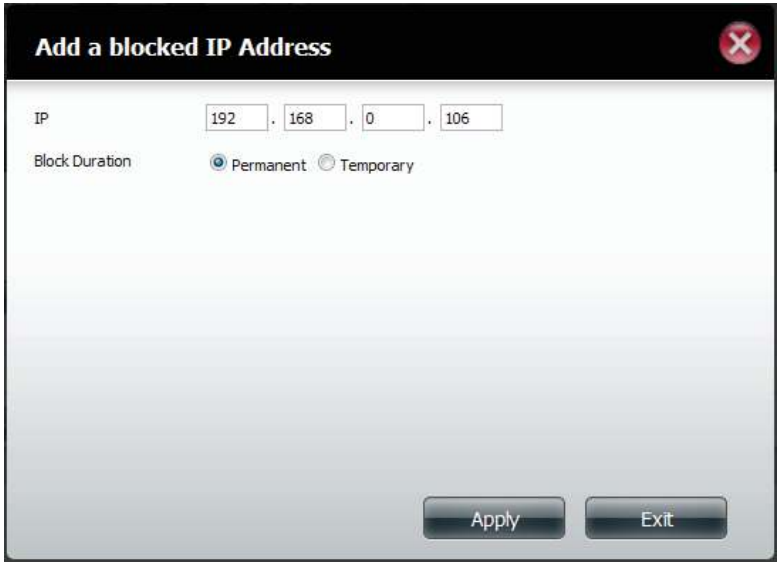
Click **Save Settings** to save the changes.



The window expands to include a Blocked IP list and FTP Server Status reports.

Click the **blue arrow** to see the drop-down list.

Click **New** to block a specific IP address.



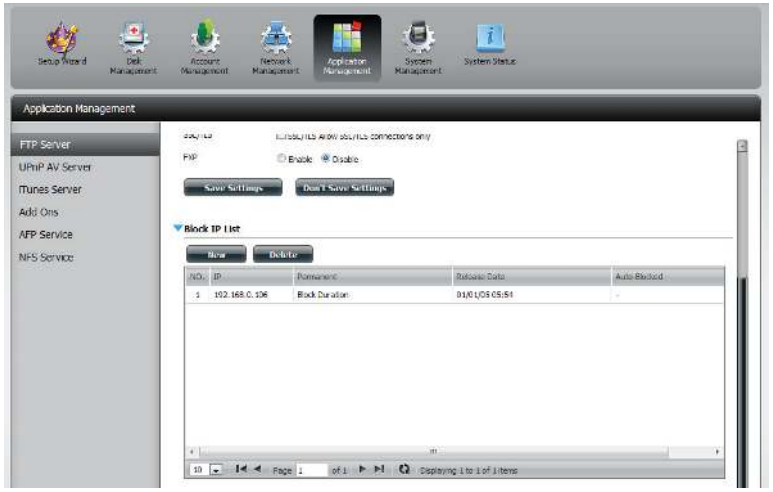
Enter the IP address of a machine you wish to block.

Select permanent if you wish to block the IP address permanently or Temporary if you wish to set a time frame.

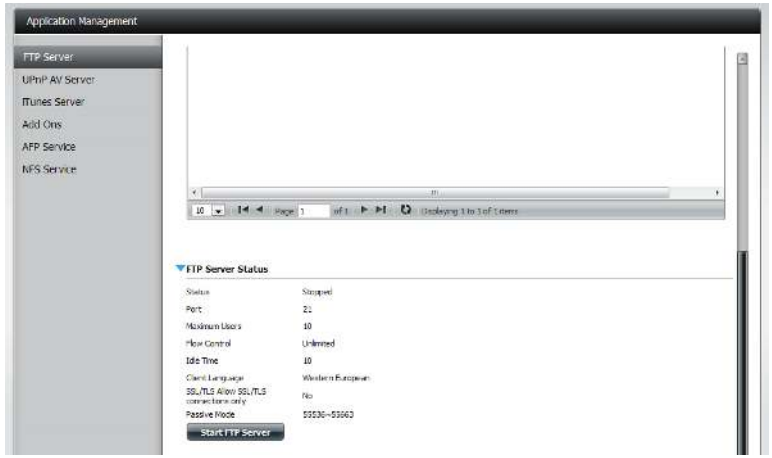
If your choice is permanent, click **Apply** and continue.

If your choice was Temporary, then you need to select a blocked time frame.

Click **Apply** to continue.



The Blocked IP list will display the IP addresses you blocked.

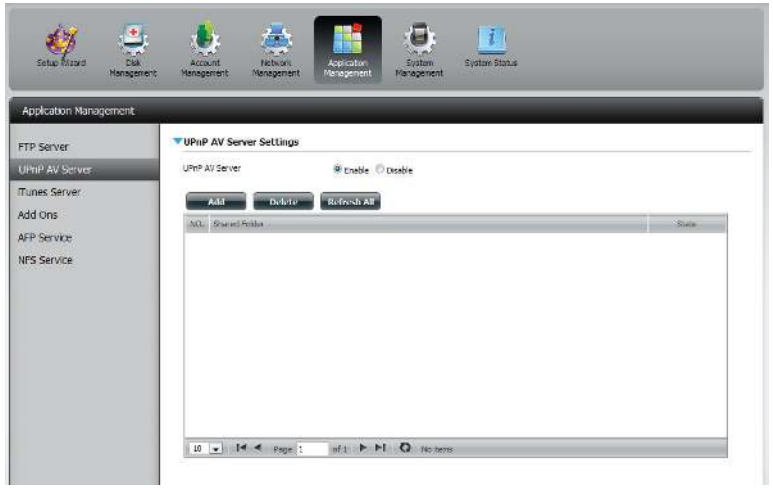


Click the **blue arrow** next to FTP server status to reveal the FTP details.

The FTP server is stopped by default. Click **Start** FTP server to run the process.

UPnP Server

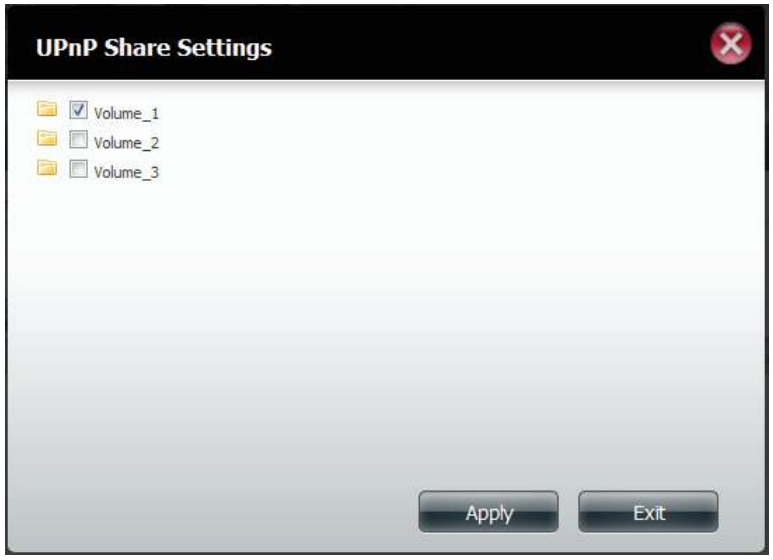
The ShareCenter features a UPnP AV Server. This server provides the ability to stream photos, music and videos to UPnP AV compatible network media players. If the server is enabled, the ShareCenter will be automatically detected by UPnP AV compatible media players on your local network. Click the **Refresh All** button to update all the shared files and folder lists.



Click **Application Management,** then **UPnP server**.

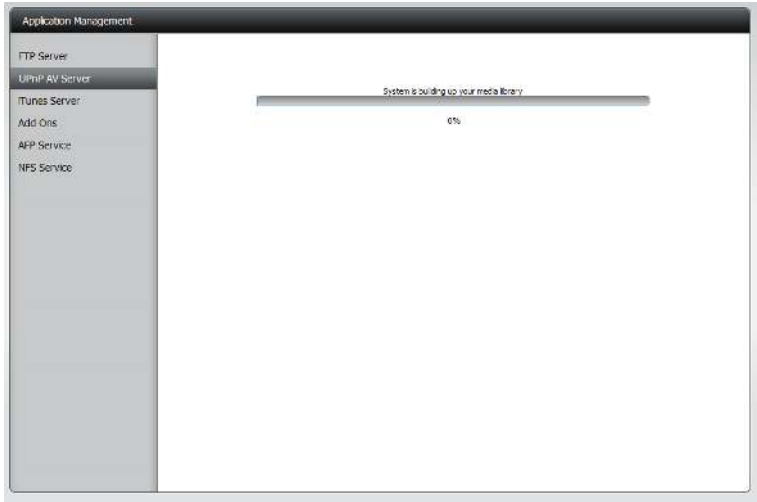
Click the **Enable** radio button to enable the UPnP server.

Click **Add** to configure the UPnP share.



Select the volume you like to share and click **Apply**.

3



The system will not build the media library.

4

When the system has finished building the media library, a sucess message will appear.

Click **Yes** to continue.

5

The selected volume will appear in the table under the UPnP server.

iTunes Server

To configure the iTunes Server click **Application Management,** then **iTunes Server**.

Click **Enable** next to iTunes Server.

Select the folder (usually Root) to place and share your iTunes.

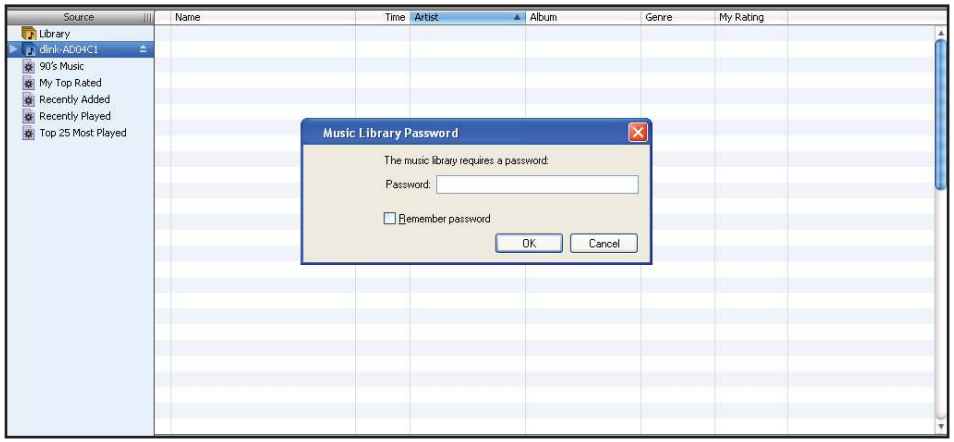
Enter a Password.

Select a Language.

Select an Auto Refresh option.

Click **Save Settings**.

After enabling the iTunes server on the ShareCenter, launch iTunes. In your iTunes utility, select the ShareCenter and enter the iTunes server password if required.



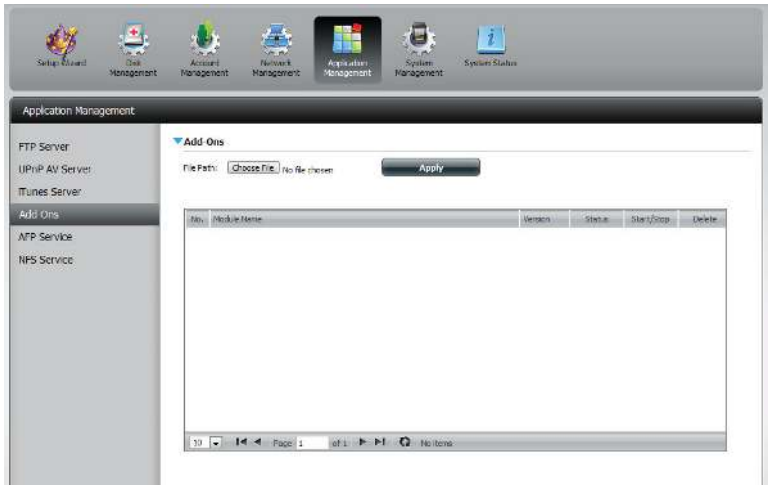
Select the ShareCenter. When prompted, enter in the iTunes server password. Click OK.

Media stored on the ShareCenter will then be available for use in iTunes.

Add Ons

The Add On menu allows multiple application software to add extended functionality to your ShareCenter. The Add on software is available from the D-Link website in your country and some of them are available from the Installation Wizard. Below is a list of some of the supported Add-ons available.
Click the **Refresh All** button to update all the shared files and folder lists.

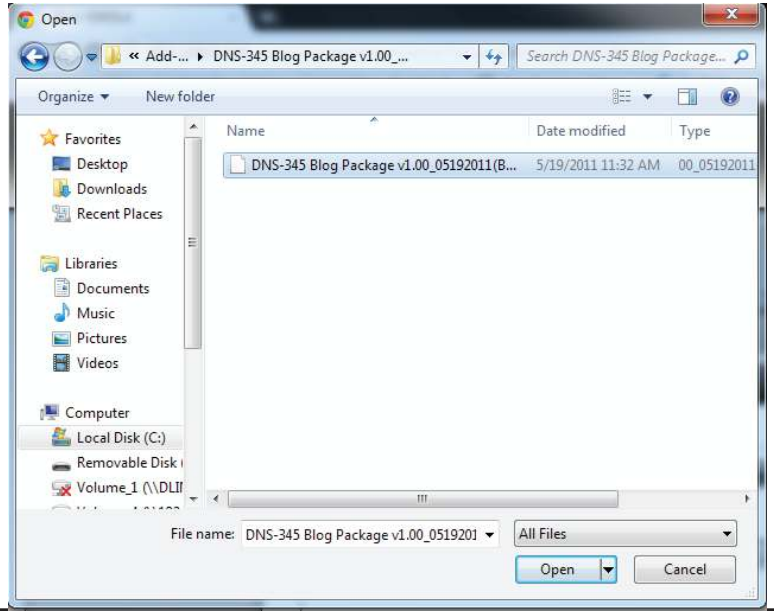
1



Click **Application Management,** then **Add Ons.**

Click **Choose File** to locate the add on packages on your local hard drive.

2

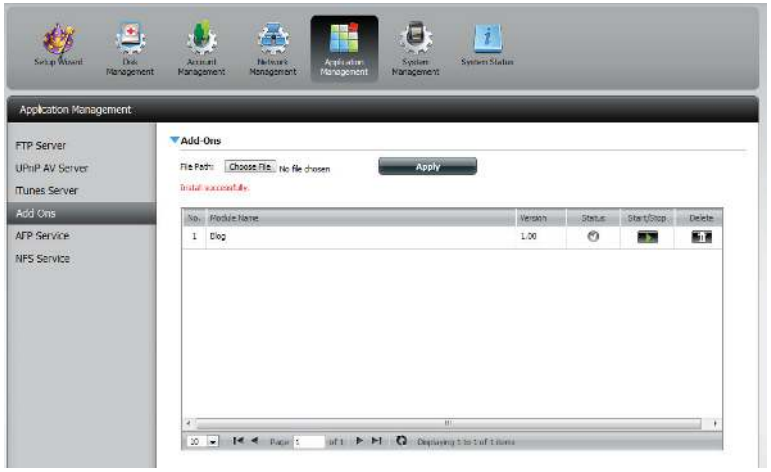


Once you have located the file, select it and click **Open**.

3

Once the path of the package has been located, click **Apply** to add the package.

4



Under Add-ons, a red message will appear to show that the installation of the package was successful.

Click the **Start** button under Start/Stop.

Click the **Applications** button at the top of the browser. You will see your add-ons installed here.

Click it to **enable** the add-on.

AjaXplorer Ajaxplorer provides an enhanced "explorer-like" interface which can download and upload ShareCenter files over the internet. Ajaxplorer also allows a user, on any internet connection, to stream video/audio and view image files that are stored on the ShareCenter.

Photo Center The Photo Center add-on sets up your ShareCenter to share your photos over the web. It provides a convenient interface from which you can create albums of photos with descriptions. The albums are then accessible over the web using HTTP so that your family and friends can then view your ShareCenter stored photos from any internet connection.

SqueezeCenter Use the SqueezeCenter add-on to connect your Logitech Media Squeezebox player so that it can play music files stored on your ShareCenter.

Blog (Wordpress) Create your own ShareCenter based customized Blog. Using the ShareCenter's internet connection the Blog created using WordPress can be accessed and commented on from any internet connection.

Audio Streamer Turn your ShareCenter into an Internet Streaming Music site. From your ShareCenter, the Audio Streamer add-on can transmit multiple streams of playing music files to any internet connection.

Caution: Your ShareCenter CPU resources will be reduced depending on the number of Add-ons you have enabled. Therefore for optimal performance make sure to disable any add-ons not in use.

Note: To check the complete list of Add-on application software available consult your local D-Link support page .

aMule aMule is a P2P application for streaming a variety of different media. It enables users to search for P2P files over networks. It works on all major platforms.

AFP and NFS Services

The ShareCenter supports Apple Filing Service for connectivity with MAC OS based computers. If you need to use AFP service enable it here otherwise leave it disabled to reduce CPU resource overhead.

The ShareCenter supports Network File System (NFS) service. To enable this multi-platform file system on your ShareCenter enable it here. Otherwise disable the option to prevent unnecessary CPU overhead. Click the 'Refresh All' button to update all the shared files and folder lists.

Click **Application Management,** then **AFP Service.**

Click the **Enable** radio button to turn AFP services on

Click **Save Settings** to save the AFP services.

Click **Application Management,** then **NFS Service.**

Click the **Enable** radio button to turn NFS services on.

Click **Save Settings** to save the NFS service.

System Management - Language

The language packs help users customize the DNS-345 to their specific region. Download your language pack from the D-Link website or the CD and follow the instructions below. When you disable the language pack, the GUI will return to English.

Click **System Management ,** then **Language** to install a new language.

Click **Choose File**

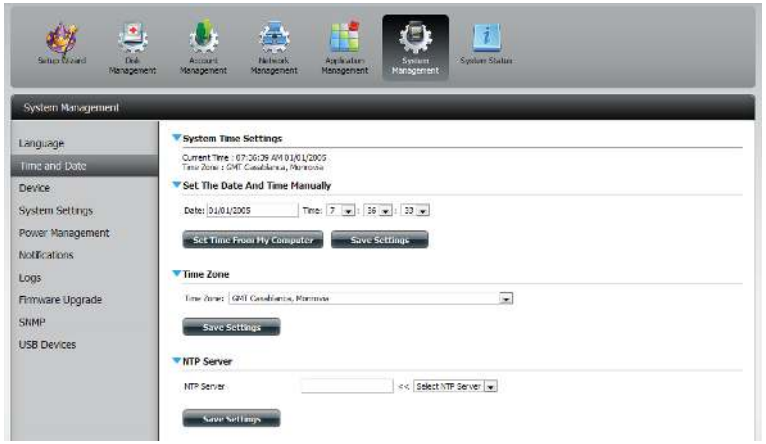
Browse your computer hard drive for the selected pack and click **Apply**.

If you have not selected a language package, a message will prompt you to locate one.

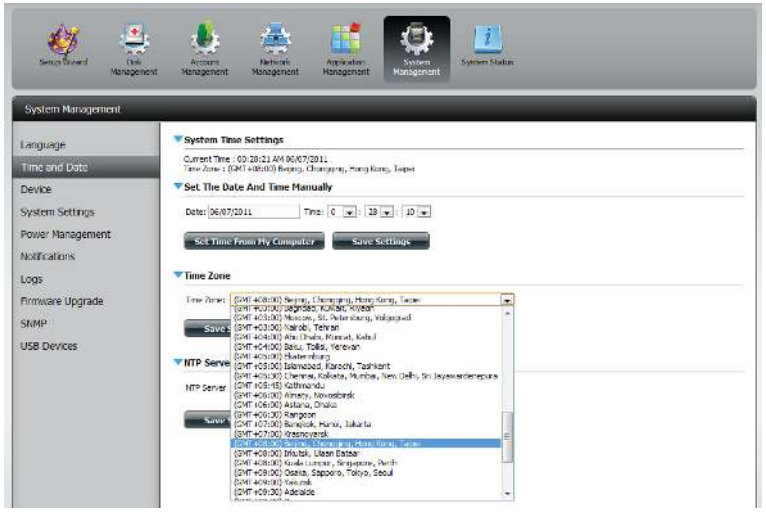
Click **Yes** to continue.

System Management - Time and Date

The Time and Date configuration option allows you to configure, update, and maintain the correct time and date on the internal system clock. In this section you can set the time zone that you are in, and set the NTP (Network Time Protocol) Server in order to periodically update your system time from the NTP Server. You can also use the time and date of your compute as the system time.



Click **System Management,** then **Time and Date.** Select the **Set Time from My Computer** button. A confirmation message will appear.



Select the time zone.

Select the NTP server.

Click **Save Settings**.

System Management - Device

The device settings page allows you to assign a workgroup, name, and description to the device. You can access this device by typing the host name in the URL section of your web browser. For example: http://dlink-d10001

Click **System Management,** then **Device.**

Enter a Workgroup.

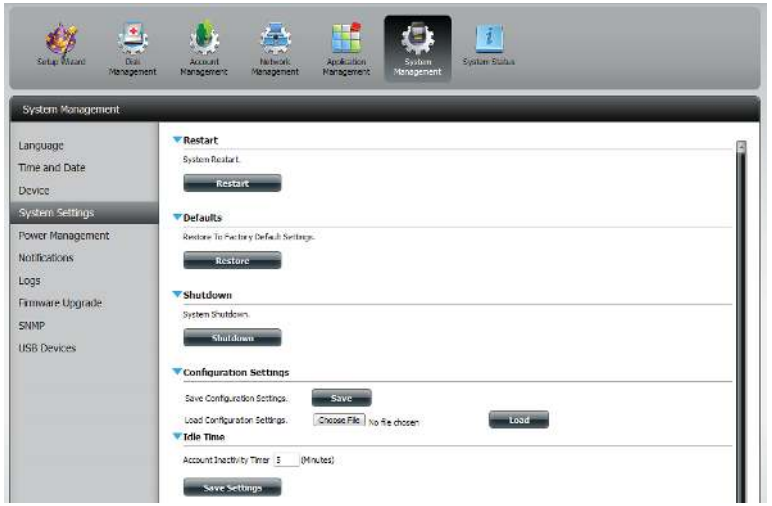
Enter a Name.

Enter a Description.

Click **Save Settings** to continue.

System Management - System Settings

System Settings provides easy-accessable features to control your DNS-345. Users can restart the NAS, restore the system to it's original state, set idle times, shutdown the system, configure settings, and configure system temperature settings.



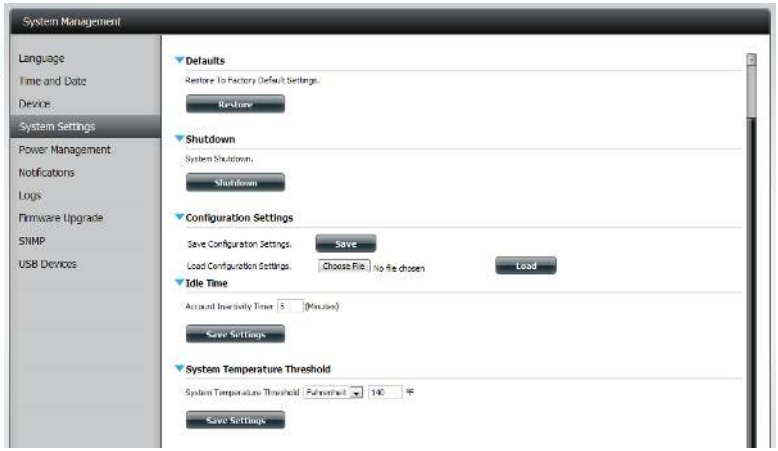
Click **System Management ,** then **System Settings.**

Click the **Restart** button to restart the DNS-345

Click the **blue arrow** to view the drop down list. Click the **Restore** button to restore the system to factory defaults.

Click the **blue arrow** to view the drop down list. Click the **Shutdown** button to shutdown the system.

Under Configuration Settings, choose the file you want to load, click **Load**



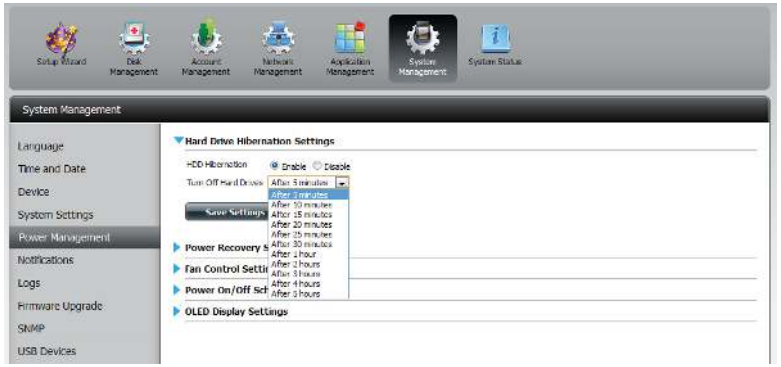
Under Idle Time, click the **blue arrow** to view the drop down list.

Type in the inactive time and click **save settings**.

Under System Temperature Threshold, click the **blue arrow** to view the temperature settings. Change the settings according to your needs and click **Save Settings**.

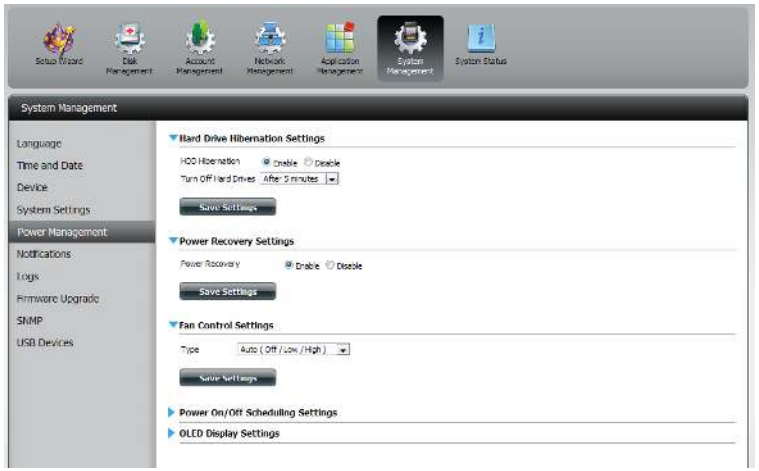
System Management - Power Management

The ShareCenter Quattro Power Management feature allows you to configure the drives to shut down while power remains constant to the device. The drives will power up again when data is accessed.



Click **System Management** , then **Power Management.**

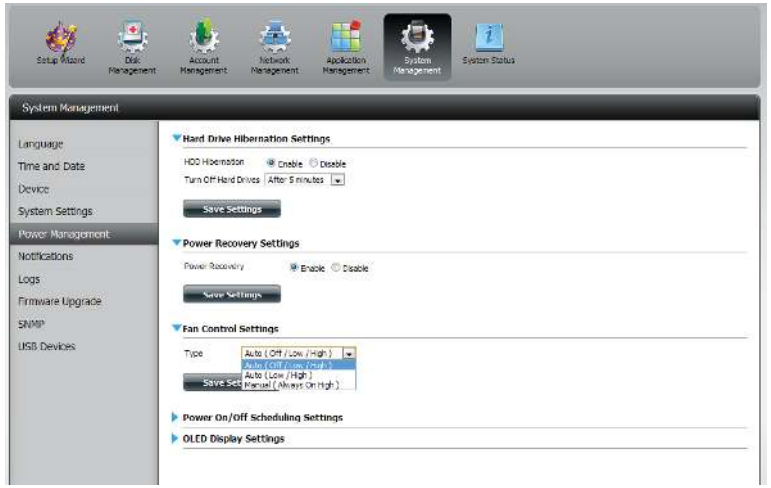
Click **Enable** to enable hard drive hibernation. Then from the drop-down list select a time frame.



Click the **blue arrow** to reveal Power Recovery.

Select **Enable** to use Power Recovery.

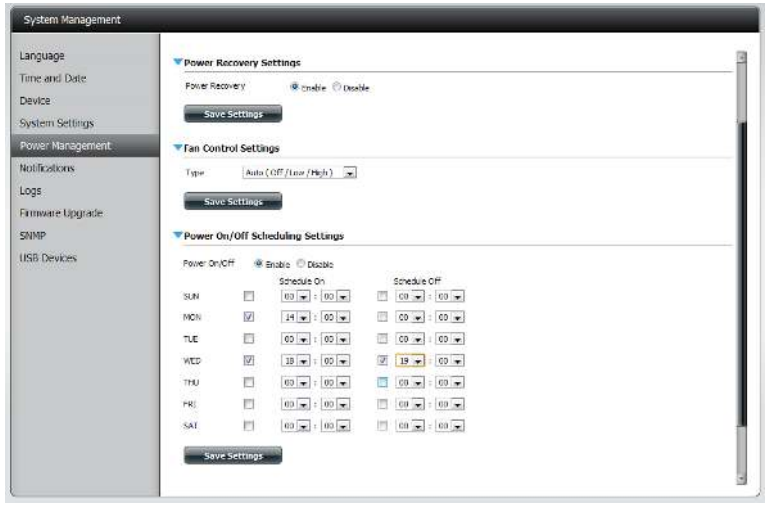
Click **Save Settings** to continue



Click the **blue arrow** to reveal the Fan Control Settings

Select a type of control settings

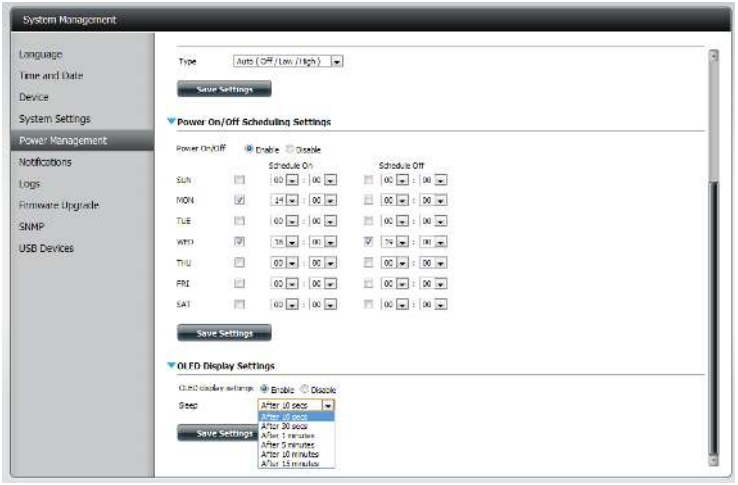
Click **Save Settings** to continue.



Click the **blue arrow** to reveal Power On/Off Schedule Settings

Click **Enable** and choose the day and time for the schedule.

Click **Save Settings** to continue.



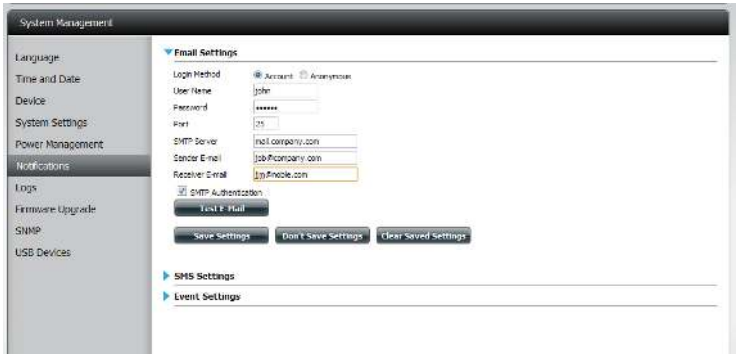
Click the **blue arrow** to reveal OLED Display Settings

Click **Enable** to Display the OLED for a specific time period.

Click **Save Settings** to continue

System Management - Notifications

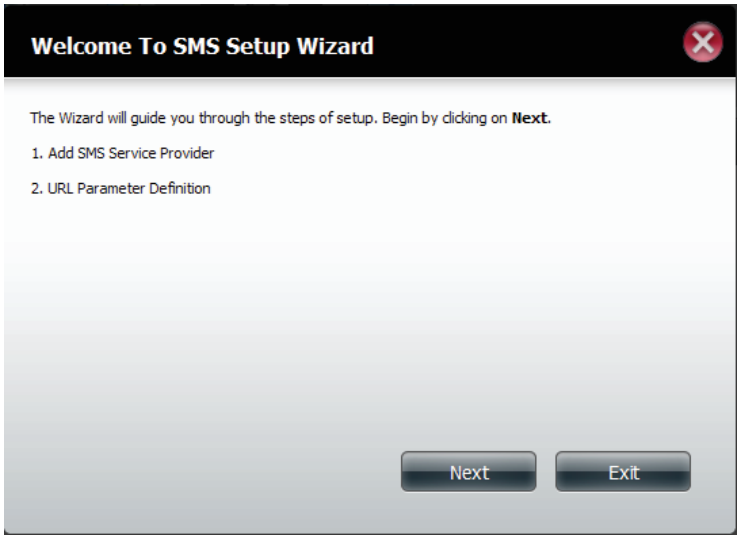
The ShareCenter Quattro System Management – Notifications feature can be configured to send e-mail notifications that alert you about operational and drive status conditions. These alerts can prove helpful in managing and safeguarding important data.



Click **System Management,** then **Notifications,** and then **E-mail Settings**

Create an account by entering your e-mail details.

Click **Save Settings** to continue



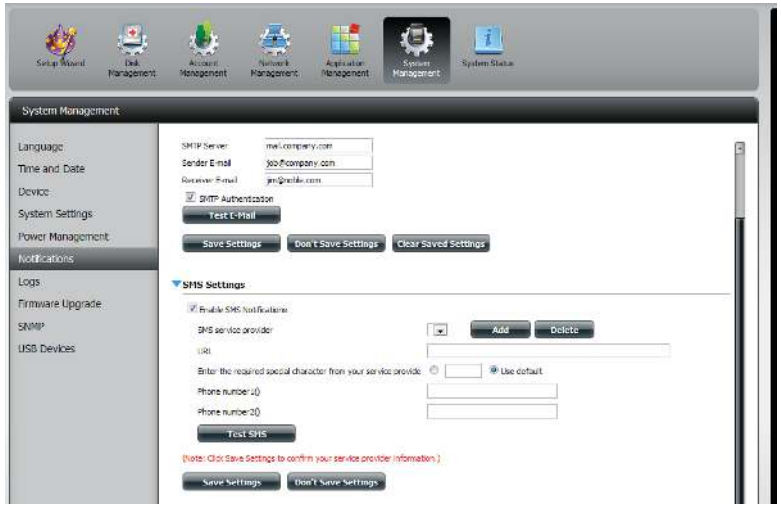
Click **System Management,** then **Notifications,** and then **SMS Settings.**

Follow the instructions on the wizard.

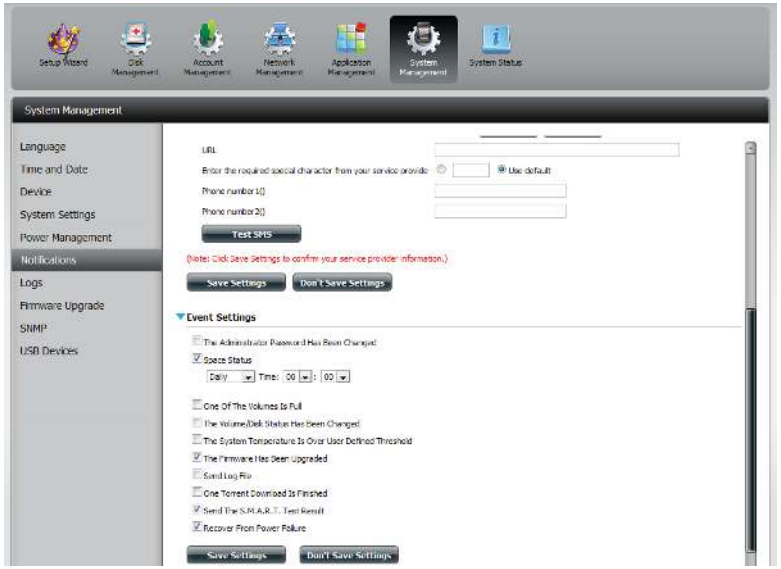
Click **Next** to proceed

Step 1 Enter your SMS provider details.

Click **Next** to continue.



Click **Save Settings** to proceed.



Click **System Management,** then **Notifications,** and then **Event Settings.**

Select the events you wish to enable.

Click **Save Settings** to continue.

System Management - Logs

Within the Logs menu item you can setup your ShareCenter to receive Log Events from other ShareCenters or send the ShareCenter's log events to another ShareCenter or SysLog server. You can also view the NAS system logs and the FTP logs here.

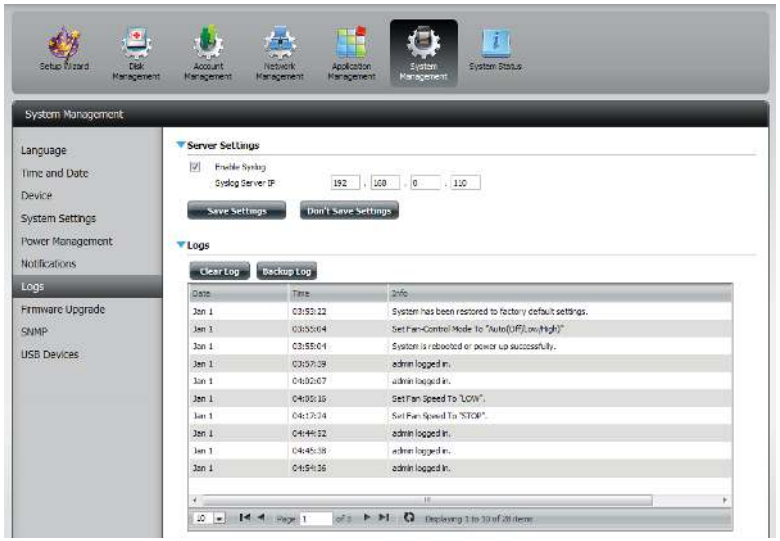
Click **System Management,** then **Logs**

Click the **blue arrow** to reveal the Server Settings

Click **Enable Syslog**

Enter an IP address

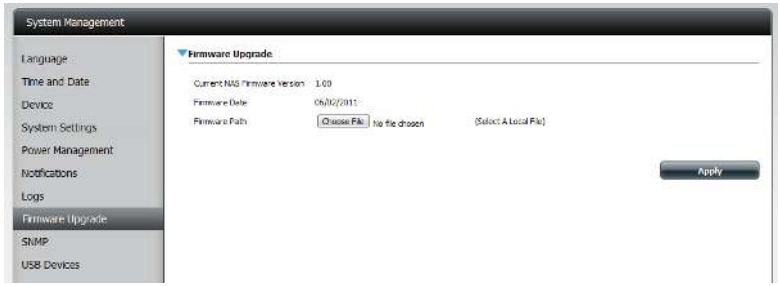
Click **Save Settings**.



Click the **blue arrow** to reveal the Logs

System Management - Firmware Upgrade

The Firmware Upgrade Page makes it simple to check for and upload new firmware releases to the device. This section provides a link to check for new firmware on the D-Link support website. If new firmware is available, download the file to your local computer.



Click **System Management,** then **Firmware Upgrade**

Click the **blue arrow** to reveal the current firmware version.

Click **Choose File** to locate the new firmware

Click **Browse/Open**

Click **Apply**

The system will now reboot. Do not disconnect the power.

System Management - SNMP

Enabling SNMP allows for the NAS administrator to receive notifications.

Click **System Management,** then **SNMP**

Click **Enable** to activate SNMP.

Enter the SNMP community details.

Enable notifications and specify the IP address.

Click **Save Settings** to continue.

System Management - USB Devices

Enable a string of USB devices.

1

Click the **blue arrow** button to reveal the UPS Settings.

Click to enable the Network UPS.

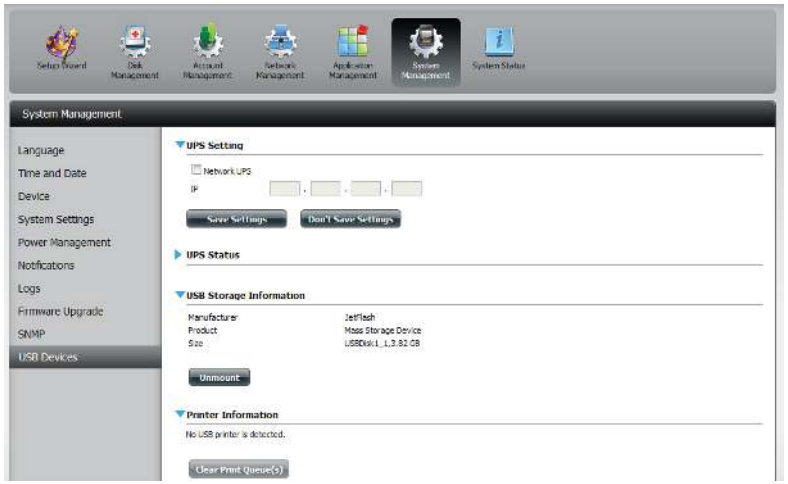
Enter an IP address and click **Save Settings.**

The UPS Status will show the current status of your UPS.

2

Click the **blue arrow** to reveal the USB storage Information.

It displays information on the manufacturer, product name, and size(capacity).

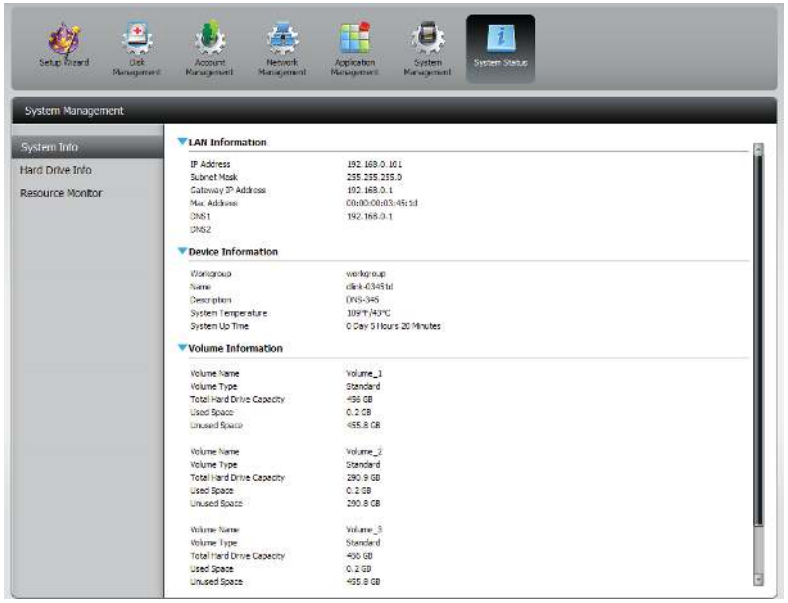


Click the **blue arrow** to reveal Printer Information.

It displays information on the manufacturer, product type, and connection details.

System Status - System Info

The System Status information screen provides information on the DNS-345. System Info provides information on the LAN ports, Device Information, and Hard Drive information. Hard Drive Info displays information on all hard drives including the manufacture details, temperatures, size, and status. Resource Monitor offers more detailed specs on the CPU, Memory, Bandwidth, and Processes.



Click **System Status,** then **System Info**

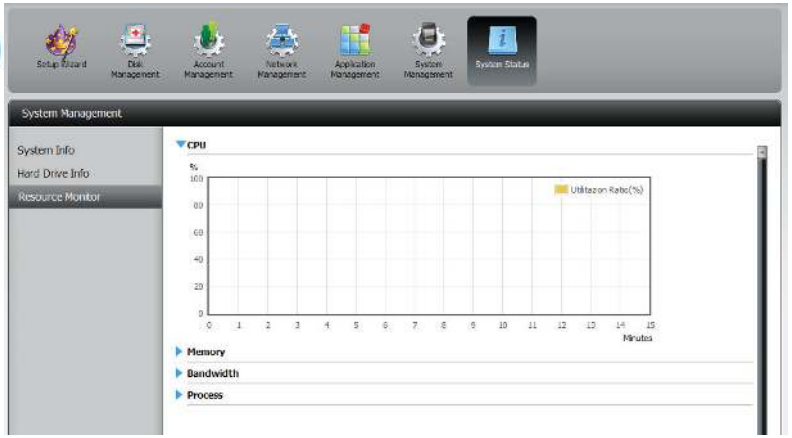
Click the **blue arrow** from each of the headings to reveal information on each segment.

LAN Information, Device Information, and Volume Information.

Click **System Status,** then **Hard Drive Info**

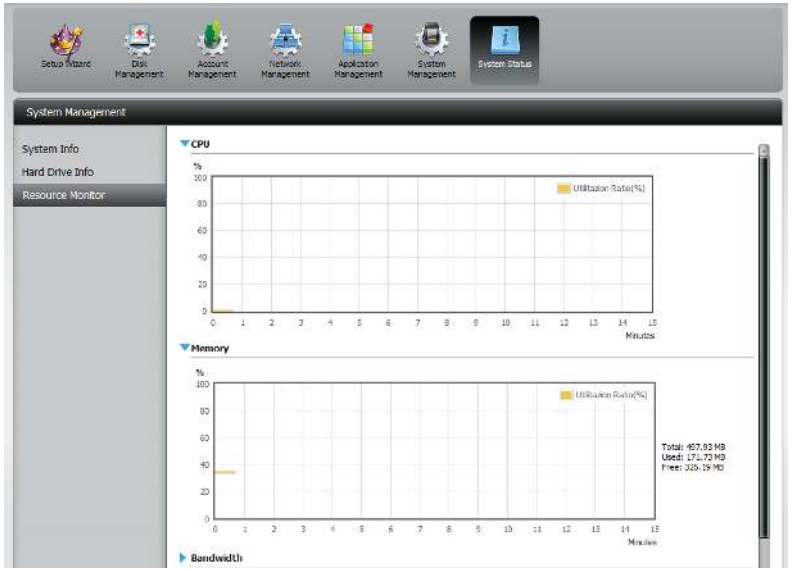
Click the **blue arrow** to reveal a table of hard drive information.

3



Click the **blue arrow** to reveal the Resource Monitoring details.

The monitor provides information on the CPU, memory, bandwidth, and processes in action.



Part III

Applications

FTP/HTTP Downloads

Schedule file and folder backups from an FTP server, web server, or local network share. Always test the URL before applying changes. This will help to ensure a successful download.

Category Use the radio buttons to select the type of server that the source files/folders for the Schedule Downloads are located on. Click the **HTTP** radio button to specify that the source files are located on a web server. Click the **FTP** radio button to specify that the source files/folders are located on an FTP server.

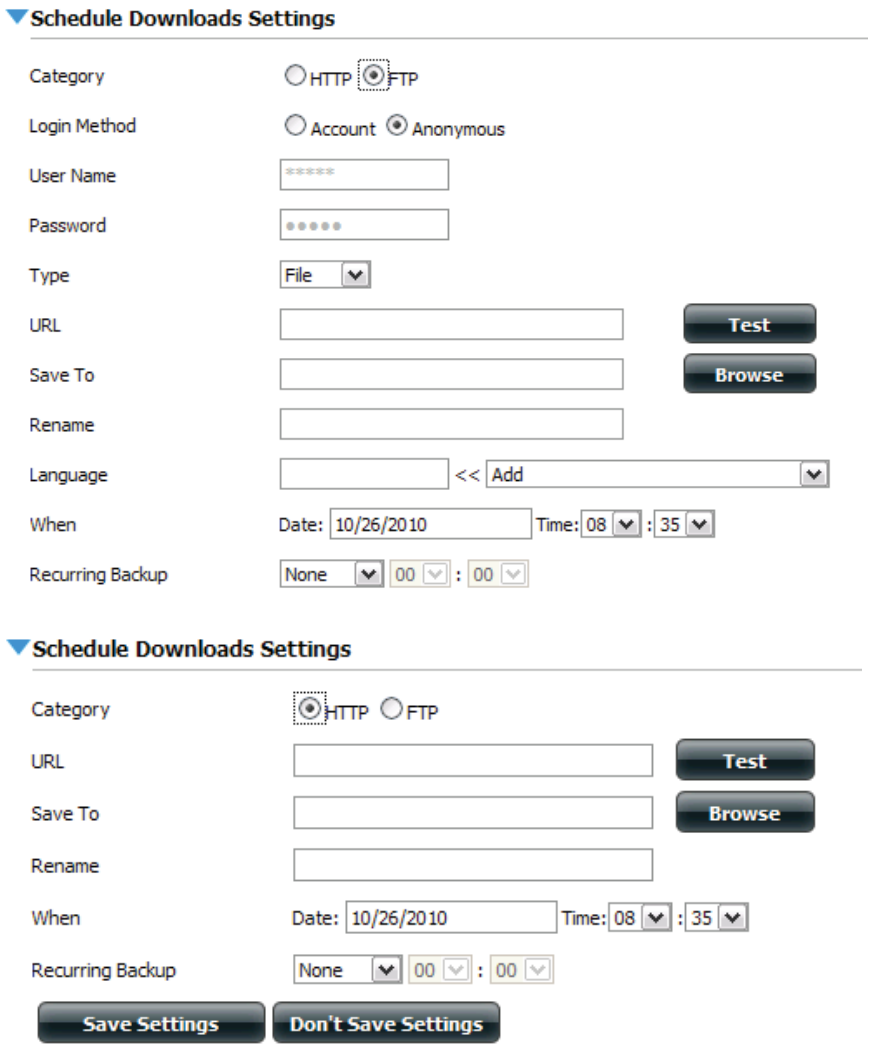
Login Method Enter the login information for the site that contains the files that you want to schedule for downloading. If no password is required, choose **Anonymous**. If a password is required, choose **Account** and provide the user name and password.

Username Enter the user name here.

Password Enter the password here.

Type Select either **File** or **Folder** from the drop-down list depending on whether you wish to download a file or a folder. Choose **File** if you wish to download a specific file. Choose **Folder** if you wish to download all the files in a specific folder.

URL Enter the FTP/ HTTP site address for the scheduled download. Click on **Test** to verify access to the site address and file/folder. If you have chosen **File** from the above drop down list, you must specify the exact file in the URL path, including the file extension. (e.g. http://example.com/test/testfile.txt).



Save To Enter the specific destination on the internal drives for the downloaded files or folders to be saved to. Click **Browse** to browse the internal drives.

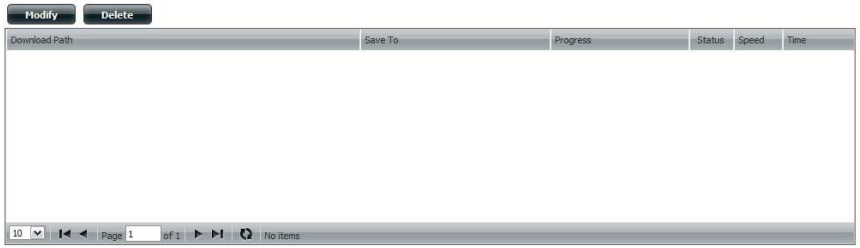
Rename If you would like to rename a file after it has been downloaded from the specified HTTP/FTP server, enter the name you would like the file to be renamed to in this field.

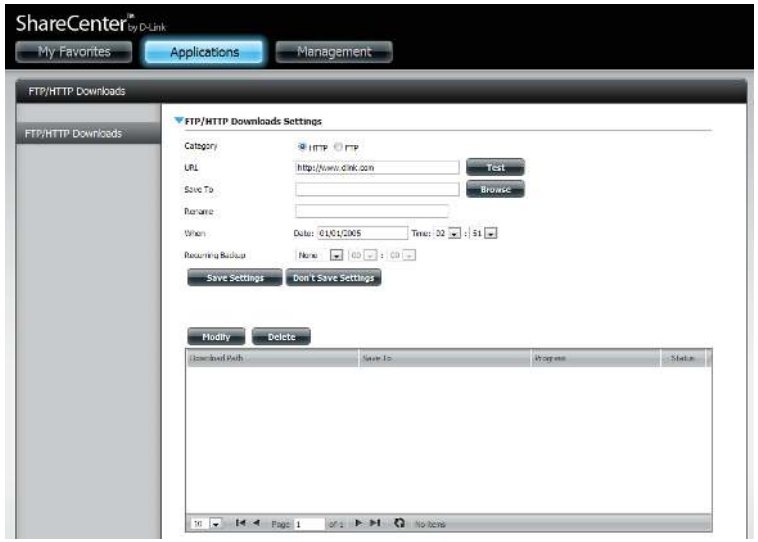
Language Use the drop-down menu to select the language used in the file or folder that you are trying to download.

When Select the date and time for the download to occur.

Recurring If you wish to schedule a recurring backup, select the desired interval (daily, weekly, or monthly) and the time you want the backup to start.

Schedule Download List Pending and completed download events will be listed here. The current status for each event is displayed here. In addition, there is an option to delete a download event at any time. Current download statistics, such as **%** completed and download speed, are displayed for each event. A refresh button is also provided to produce updated listings at any time.



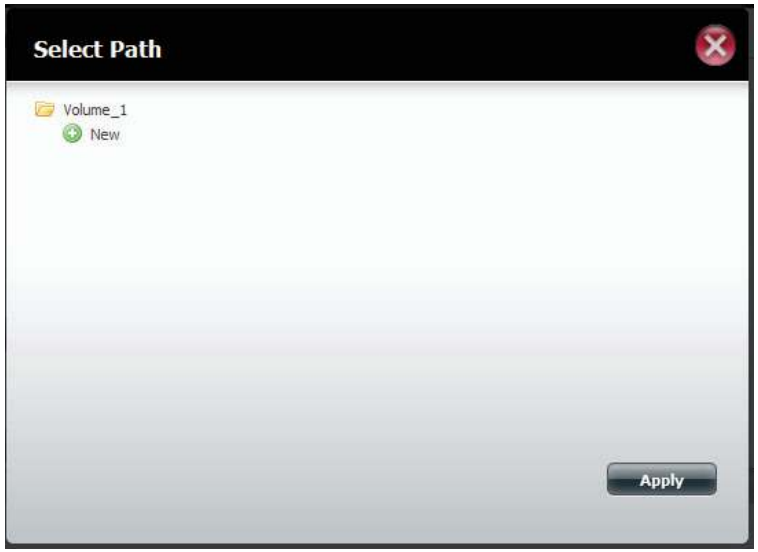


Login and select **Applications,** then **FTP/HTTP**

Select **HTTP** by clicking on the radio button.

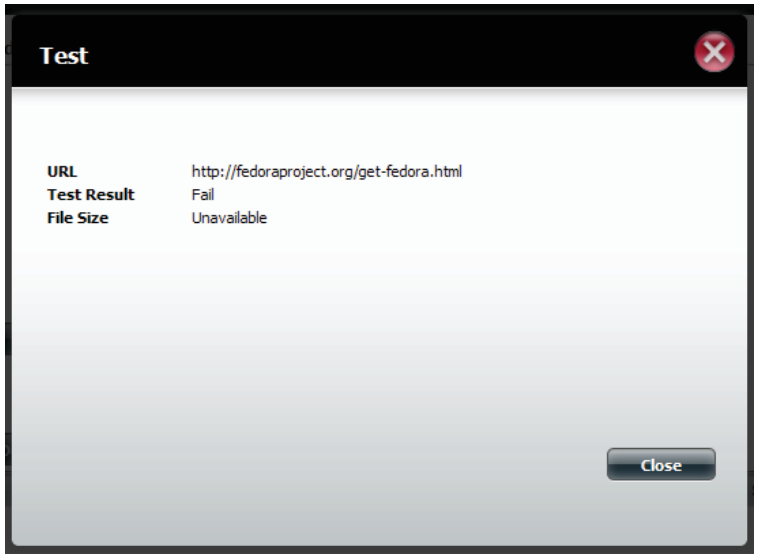
Enter a URL.

Click **Test** to test the URL.



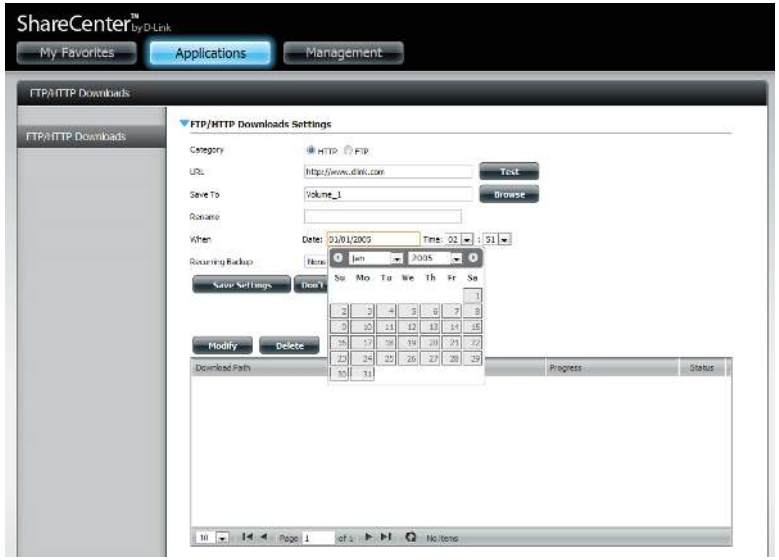
Under Save To, click the **Browse** button to save your HTTP files.

Enter (optional) details under Rename.



Click **Test** to test the URL. The test results will either show pass or fail.

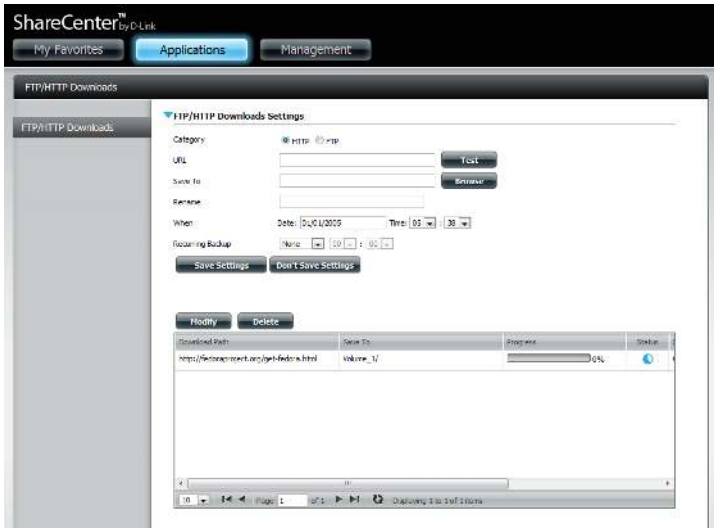
Click **Close** to proceed.



Select a date and time for the download settings

Select a recurring backup time frame.

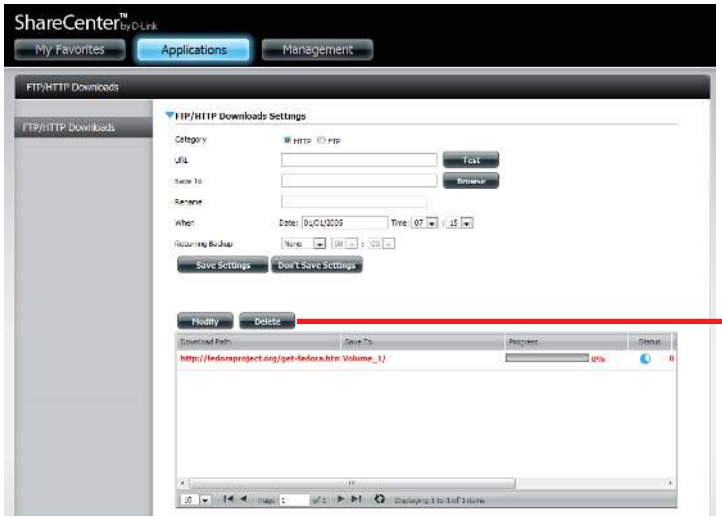
Click **Save Setting** to continue.



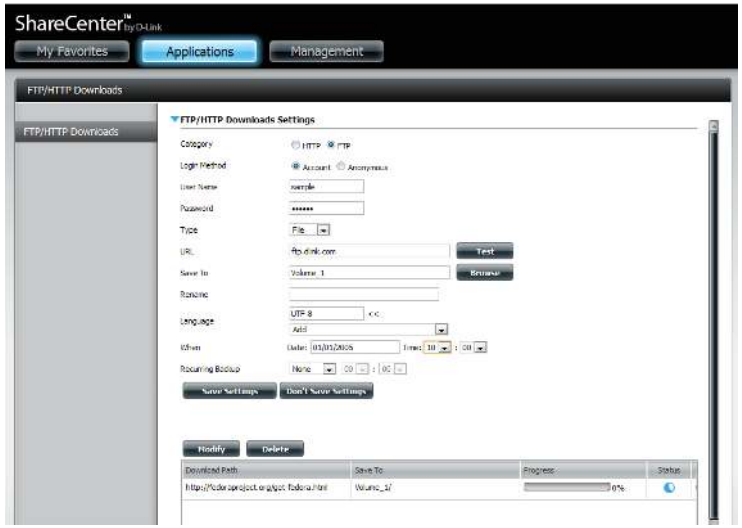
The table below will show the HTTP downloads.

To edit an item, select it first then click **Modify.**

To delete an item, select it first then click on the **Delete** button.



Applications - FTP Downloads



1. Click **Applications,** then **FTP**

2. Select Account as the Login Method.

3. Enter a username, password.

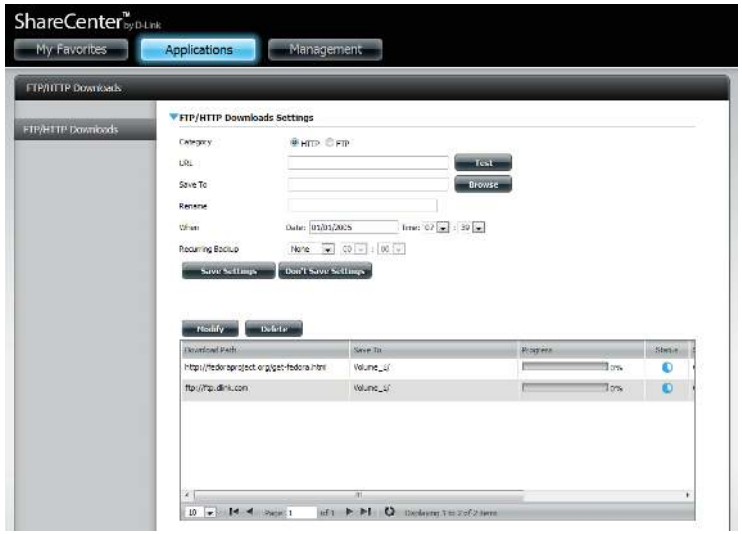
4. Select a type

5. Enter a URL

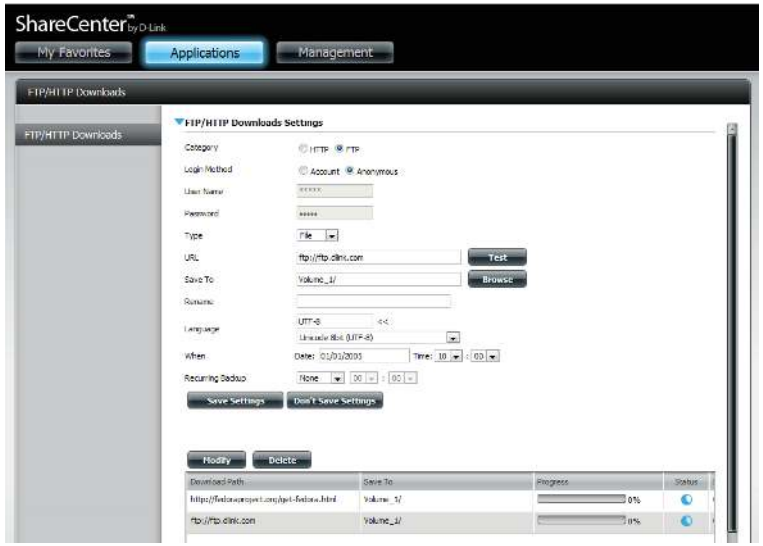
6. Browse to a location to save files to.

7. Select the Language and Scheduling

8. Click **Save Settings.**



1. The table below will now show the FTP path and status.



For Anonymous settings:

Click the **Anonymous** radio button and follow the rest of step 1.

Since the Login Method is Anonymous, the username and password sections are greyed out.

Click **Save Settings** once complete.

Remote Backups

Remote Backups allows you to back up your ShareCenter to another ShareCenter or Linux Server or vice versa from a remote ShareCenter or Linux Server to your ShareCenter. Use the **Create** button in the remote backups list to start a wizard where you can configure your ShareCenter's Remote Backup functionality.

Enable remote backup service Check this box to enable the remote backup server functionality to access a remote NAS or Linux server.

Note: If you are not using the Remote Backup functionality of your ShareCenter leave this box unchecked so that your ShareCenter's performance will not be affected by the additional overhead used by this process.

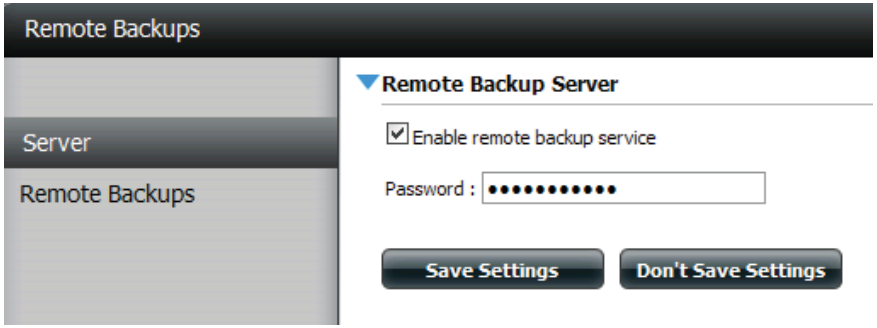
Password Input a password here that the remote client will use.

Remote Backups list This is the list of remote backup jobs built by pressing the **Create** button above the list to configure each job.

Create Click the **Create** button to build a new remote backup job on your ShareCenter.

Modify Click this button to make changes to your existing Remote Backup jobs in the Remote Backup list. You must select the remote backup job first and then click the modify button.

Delete To remove a Remote Backup job select the job in the list and then click the Delete button.



Remote Backups - Create wizard

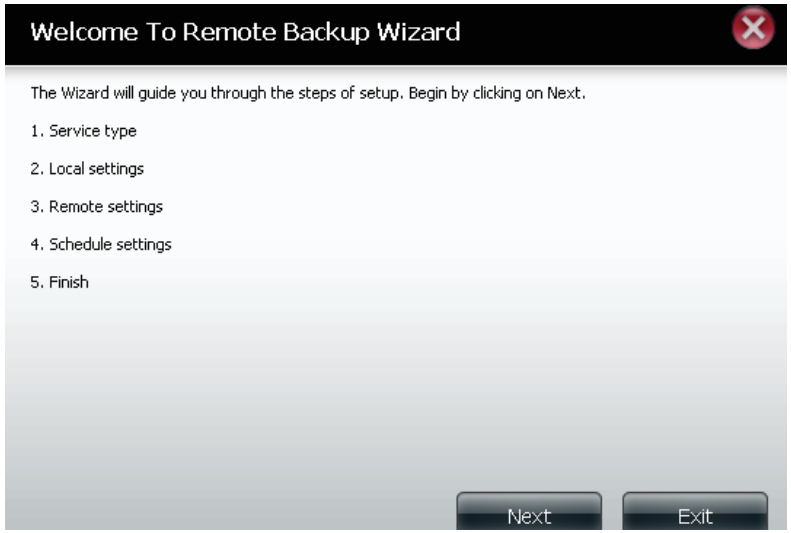
When you click the **Create** button above the Remote Backup list a wizard will start, guiding you to configure a new Remote Backup job.

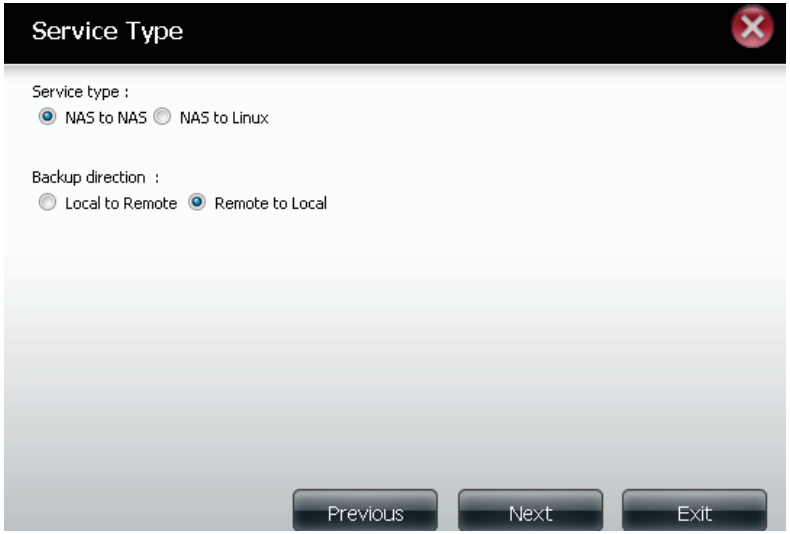
Welcome Displays the steps of the wizard.

Step 1. Service Type

NAS to NAS: backup from the local NAS to a remote NAS or vice versa.
NAS to Linux back from the local NAS to a Linux file system or vice versa

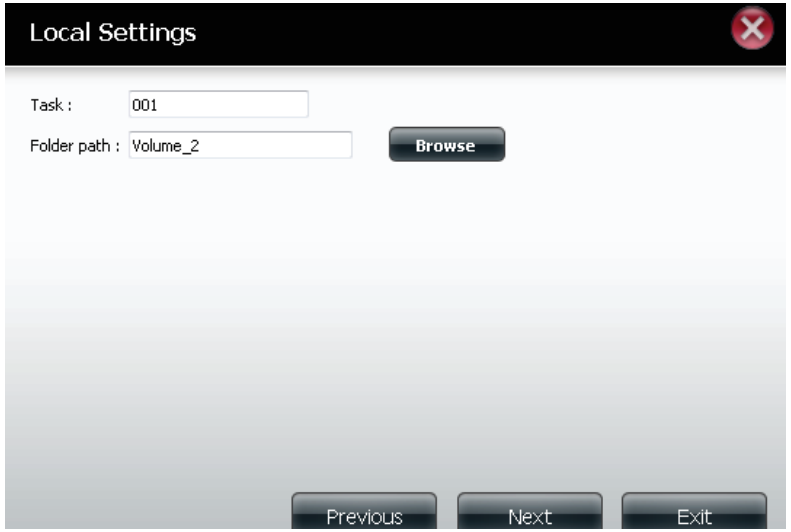
Local to Remote: sets the backup source as the local NAS and the target destination for the backup files as the remote NAS or Linux file system.
Remote To Local: sets the backup source as the remote NAS or Linux file system and the target destination for the backup files as the local NAS.





Step 2. Local Settings

Task (Name): the name used to refer to the backup job which will be listed later in the Remote Backup list.
Folder Path: select a local network share folder or file as the target or source for the backup job.



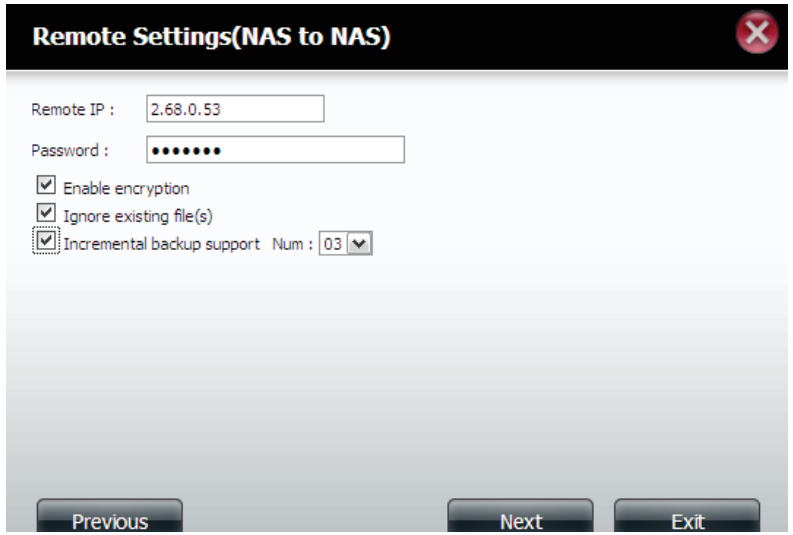
Step 3. Remote Settings

Remote IP: The backup process uses Rsync protocol and needs to know the IP address of the destination source or target device for the backup. Input the IP of the remote NAS or Linux file system.

Enable Encryption: Checking this box will enable SSH encryption of the files that are transferred (backed up) over the network between the local and remote devices.

Ignore existing file(s): Checking this box prevents the backup process from writing over any files in the target file system that are not part of the backup files or folders. Therefore any existing files in the target system are preserved.

Incremental backup support Num (#): Checking this box provides multiple backup-capability at scheduled times. The first backup The first backup in an incremental series captures all the files for backup. Subsequent backups are incremental in that only the files and the folders that have changed in the backup source since the last incremental backup will need to be backed up. Each incremental backup builds a complete snapshot of the backup source however only the initial backup contains all the original files and folders. The subsequent backups in the incremental series contain new files and folders plus the links to the first incremental backup.



Step 4. Remote Settings

Remote Path: Using the **browse** button, select the file system (folder) path to the remote target or source system for backup.

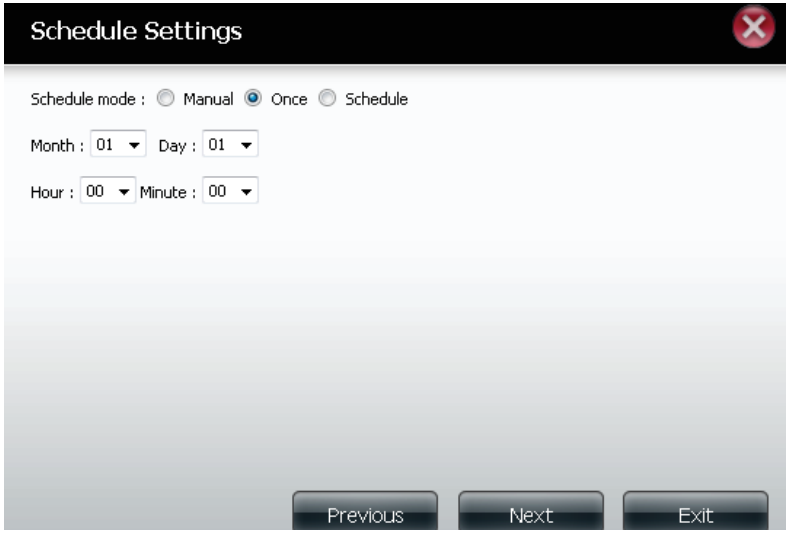
Step 5 Schedule Settings

Scheduled Mode:

Manual: Check either **yes** or **no** selection below to start the backup (yes) immediately on completion of the wizard or (no) manually start the backup from the Remote Backup list.

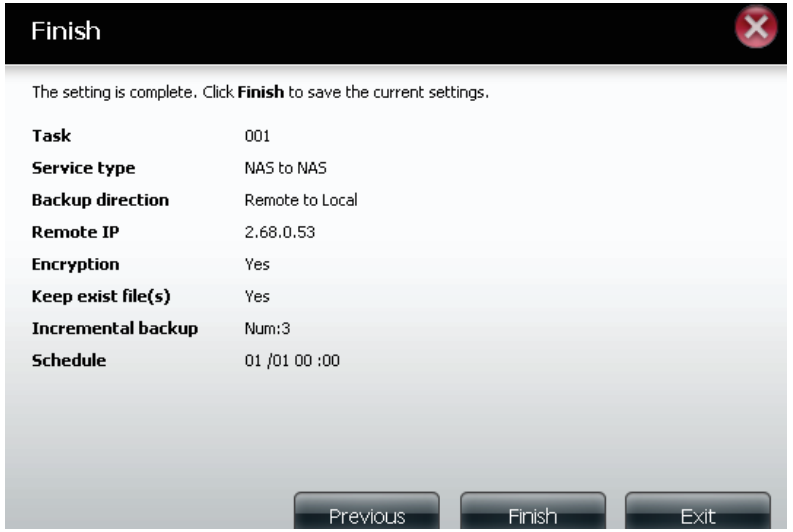
Once - select this option to run the Remote Backup once at a specific date and time set here.

Scheduled: select this option to set the backup to occur daily, weekly, monthly per a specific schedule.



Step 6. Finished

Click on the **Finish** button if you are satisfied with all the settings of the Backup job created. Otherwise click on the **Previous** button to go back and make changes. Alternatively click on **Exit** to end the configuration without adding a Remote Backup job.



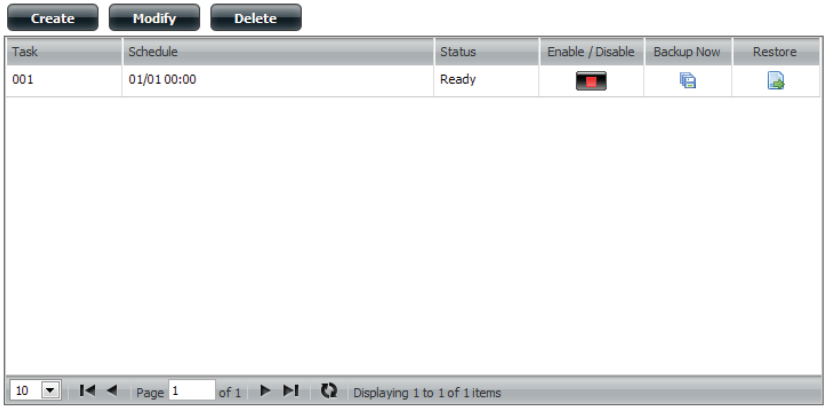
Remote Backups list

Task: The name of the Remote Backup job.
Schedule: When the Remote Backup job will execute.
Status: Current status which can be

- Ready the remote backup job is ready to be executed.
- Finished the remote backup job has executed completely and successfully.
- Failed the Remote backup job was unsuccessful during execution.

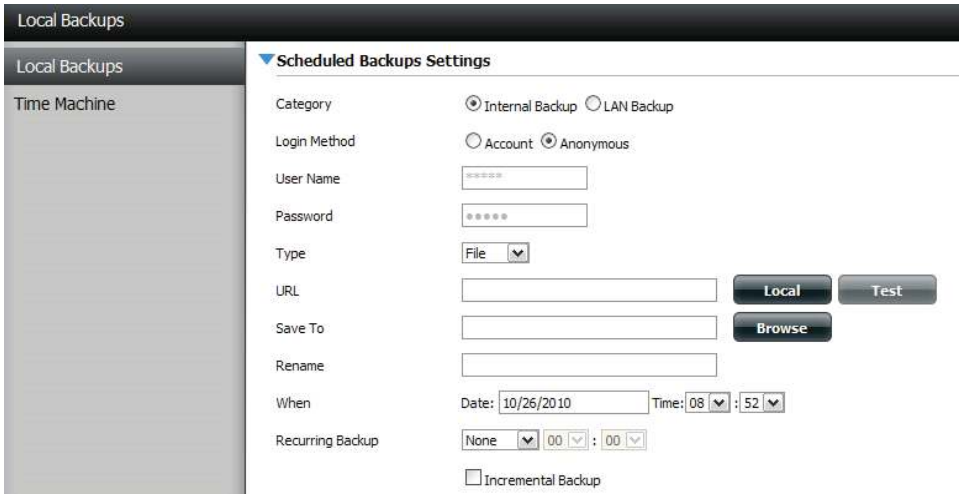
Enable/Disable: If the button shows a red circle the remote backup job is enabled. Clicking the **red button** will disable the remote backup job ad the button will change to a green right pointing triangle. Clicking the **green triangle** will enable the job again.
Backup now : Clicking this button will execute the backup job immediately as long as the job is enabled.

Restore: Clicking this button will write the backup files and folders back into the source file system from the backup target system (reverse the file direction).
Navigation buttons: Use these buttons to move up and down in the list when there are multiple jobs configured.
Refresh Button: Click this button during a backup or recovery process to monitor the progress by updating the progress completed bar.



Local Backups

Schedule local file and folder backups from the local network share of the device or from the local computer. Always test the URL before applying changes. This will help to ensure a successful download.



Category Use the radio buttons to select the backup method. If your NAS device has two volumes you can click the **Internal Backup** radio button to backup the data from the first volume to the second volume and vice-versa. The Internal Backup feature also allows you to backup an existing folder on a volume to another folder on the same volume but nested folders in the same volume are not allowed.
If you want to backup the data from your PC or another NAS device to your NAS device, click the LAN Backup radio button.

Login Method Enter the login information for the site that contains the files that you want to schedule downloads from. If no password is required choose **Anonymous**. If a password is required choose **Account** and provide the user name and password. This option is only available for LAN Backups.

Username Enter the user name used here..

Password Enter the password used here.

Type Select **File** or **Folder**, depending on what you want to download or backup.

URL Enter the URL of the site or server you are initiating a transfer from. E.g. ftp://123.456.789/Test or ftp://123.456.789/test.txt

Save To Enter a valid destination drive on the ShareCenter, or click **Browse** to select the destination.

Rename Enter the renamed file name here.

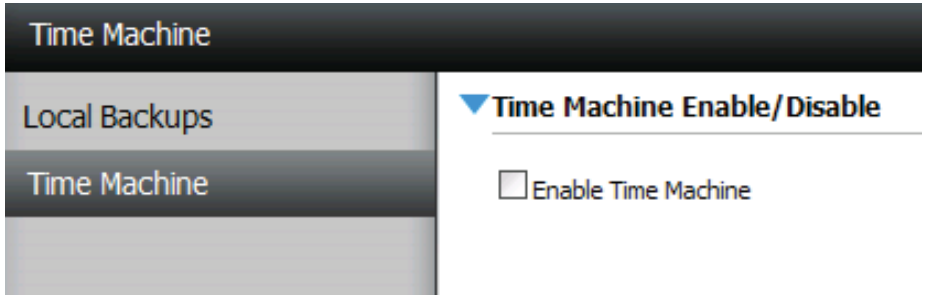
When Enter the date and time you want the scheduled backup or download to initiate.

Recurring Backup Designate the interval and time you want the backup or download to run unattended.

Incremental Backup By default all local backups and file/folder downloads are in Overwrite mode, meaning that identical files in the destination folder will be overwritten by the source files. Checking Incremental Backup will have the ShareCenter Quattro compare identical file names at the source and destination. Files will only be overwritten if the source file is more recent.

Local Backups - Time Machine

This section allows the user to configure the ShareCenter so that it becomes a backup destination in the Mac OS X Time Machine. In order to use this function, the AFP service is required. The AFP service will start automatically as soon as this function is enabled.



Enable Time Machine Click this to enable the Time Machine function to work with a MAC OS X Time Machine. The Time Machine Settings list will appear when this checkbox is ticked.

Time Machine Settings list A list of destination folders on the Network Shares associated with the Time Machine backup.

New Adds a NAS folder as a Time Machine destination.

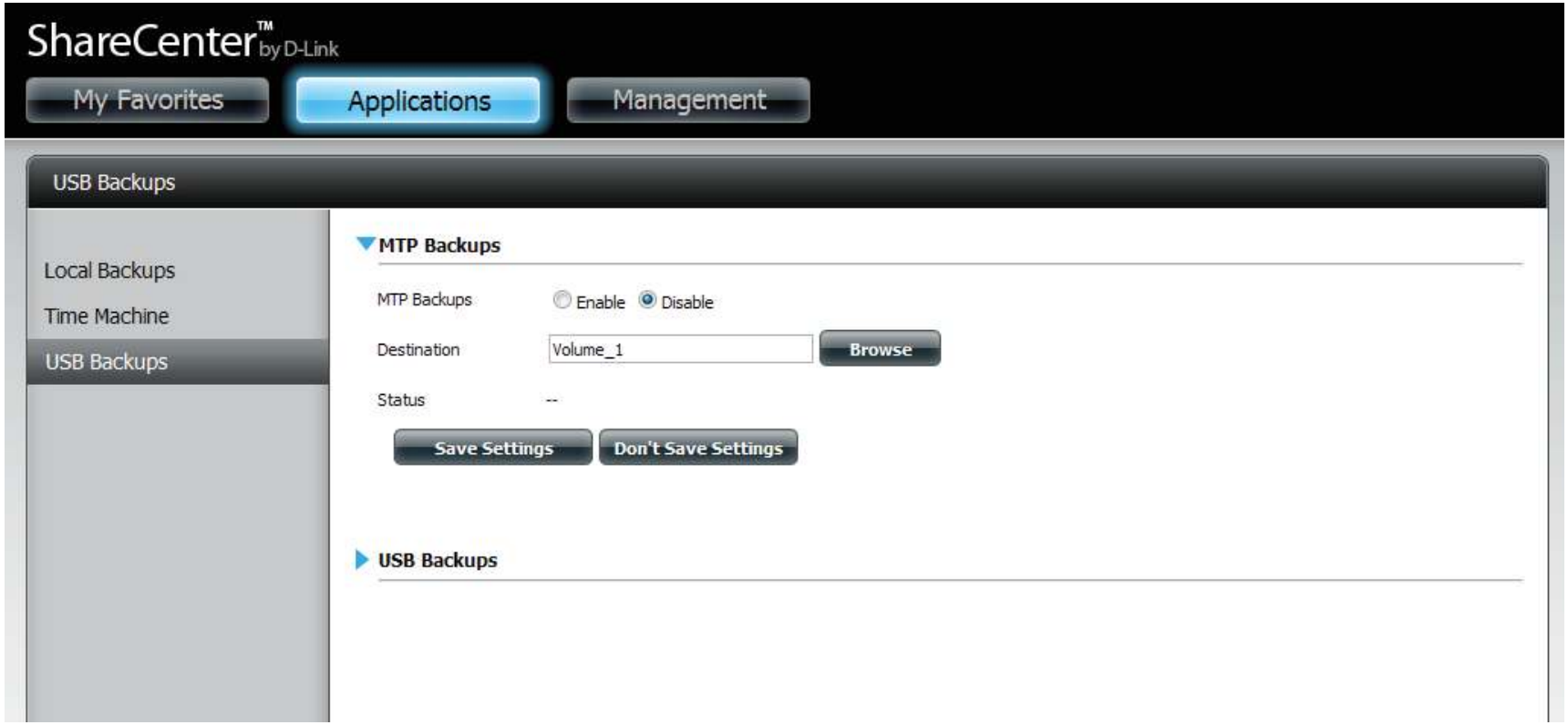
Delete Deletes a NAS folder setup as a Time Machine destination.

Remove all Network Shares Delete all the NAS folders in the list configured as Time Machine Destinations.

Local Backups - USB Backups

This section allows the user to configure the ShareCenter so that it becomes a backup destination for any USB device that is connected to your DNS-345. You can connect a USB flash drive for uploading firmware, use an external hard drive to copy data from your NAS to the external storage, or connect another NAS for USB backup.

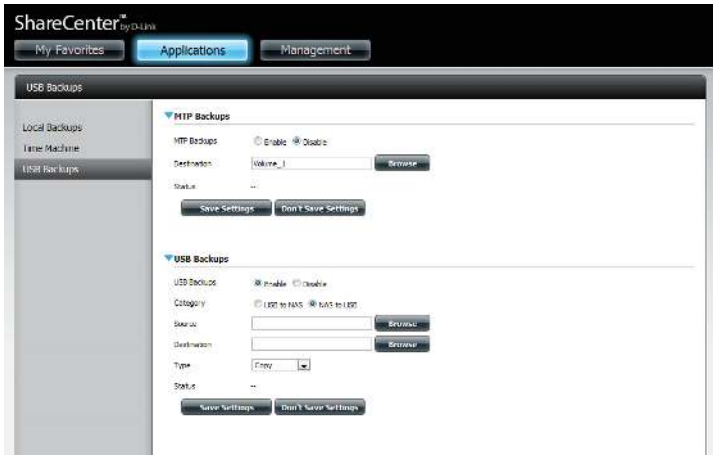
MTP Backups is a data solution that continuously secures your data and makes restoration easy. It allows for digital media data to be synchronized between your NAS and portable devices. The main benefit to using MTP backups is that there is no need for drivers. The protocol resides on the NAS and all configurations take place between your NAS and the portable device.



Click **Applications,** then **Local Backup,** and then **USB Backups**

Click **Browse** under Destination. Find the volume you want to backup to and click **Save Settings.**

All files in this volume now support MTP.



Under USB Backups click the **Enable** radio button

Under Category, select your USB backup format, USB to NAS or NAS to USB.

Clock **Browse** to locate your source.

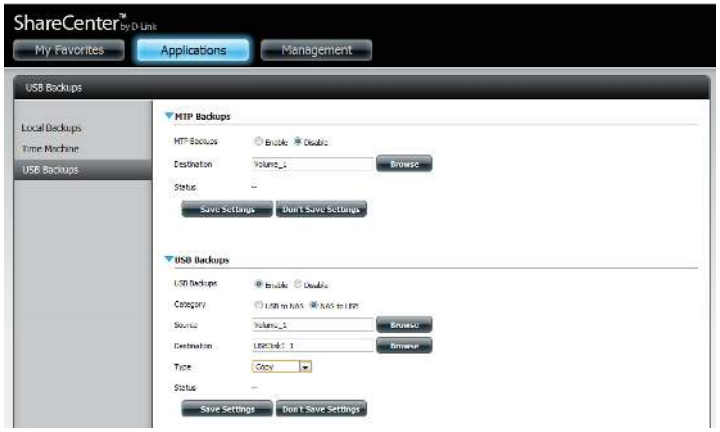
Under Source, select the path where you want to backup.

Click **Apply** to continue.

Click **Browse** to find the destination.

Select the path or USB device for your backup.

Click **Apply** to continue.



Select the **Type** you wish to copy

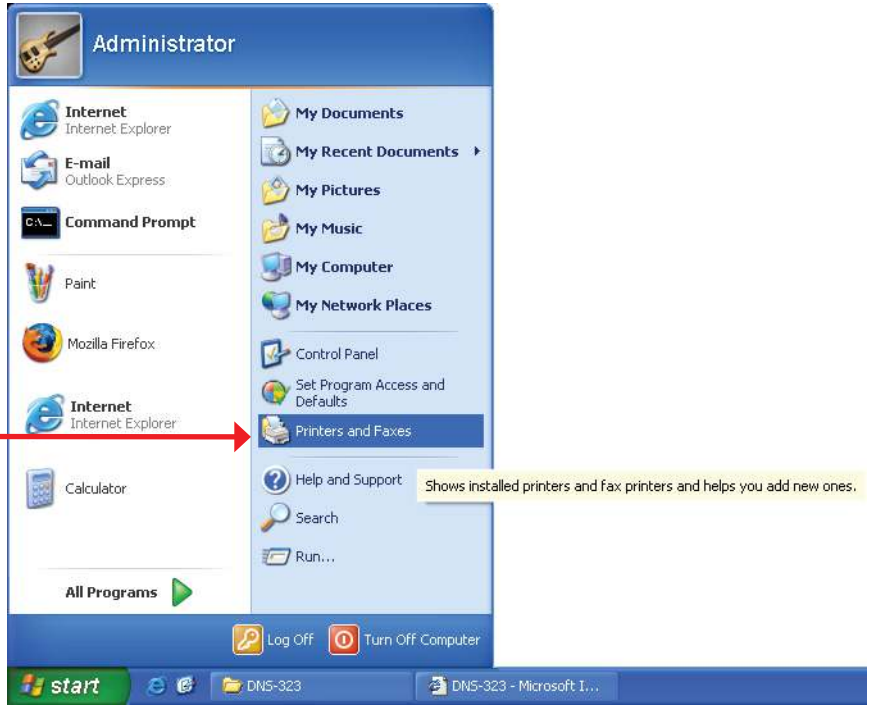
Click **Save Settings**.

USB Print Server

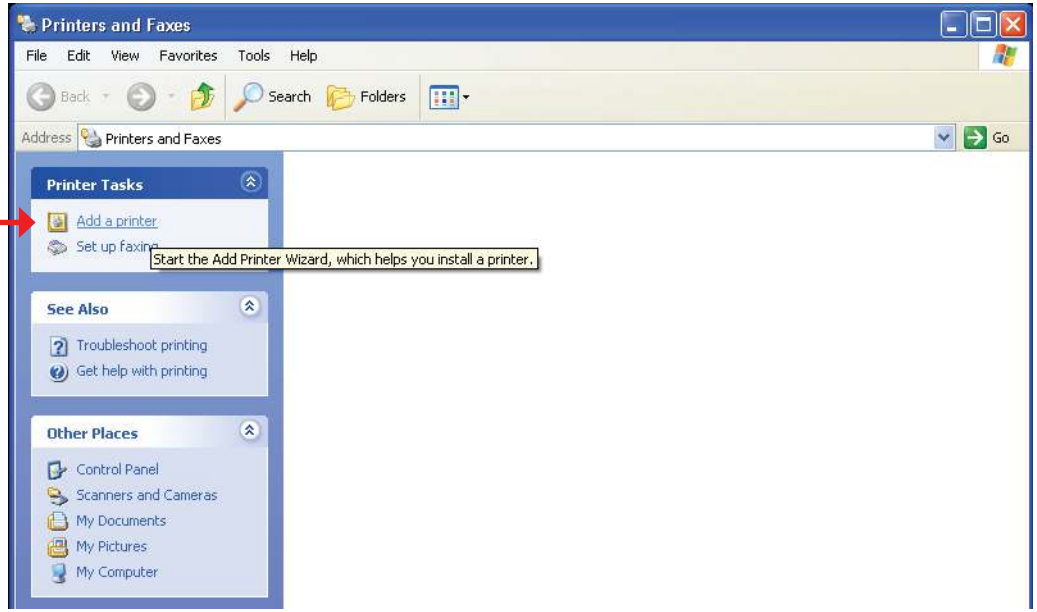
The ShareCenter features a built-in USB print server, giving users the ability to share a printer on their local network. Connect a USB printer to the USB port on the back of the ShareCenter. It is important to ensure that the printer's drivers are already installed on any computer you want to print from.

Adding a Printer:

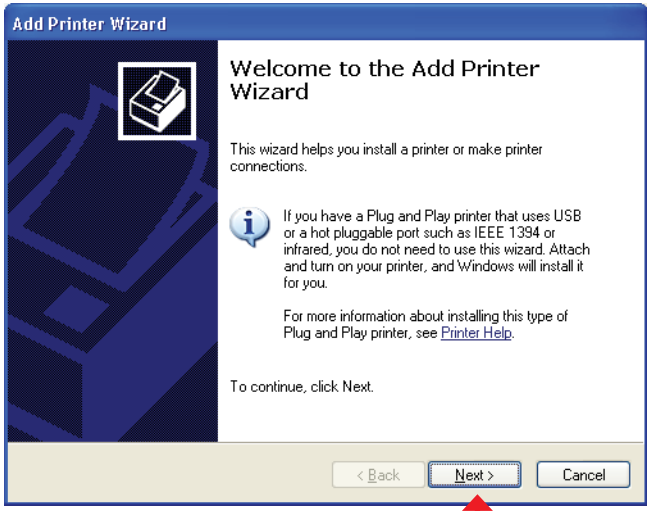
Click **Start** and select **Printers and Faxes**.



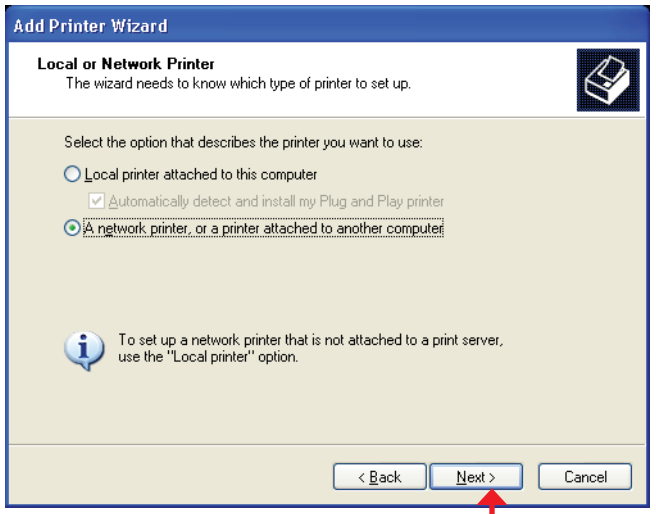
Select **Add a printer**.



The Windows® Add Printer Wizard will launch:

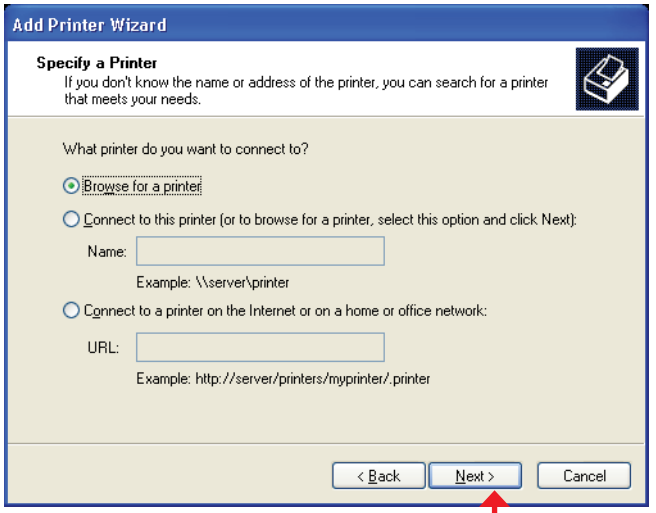


Click **Next** to continue.



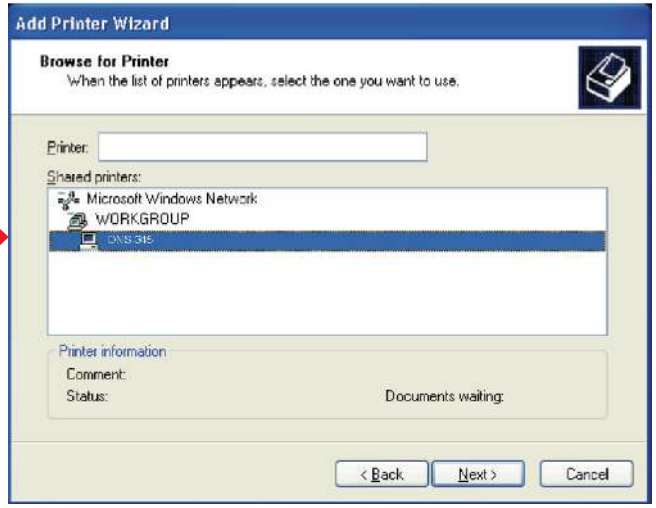
When prompted to choose a local, or network printer, select **"A network printer, or a printer attached to another computer."**

Click **Next** to continue.

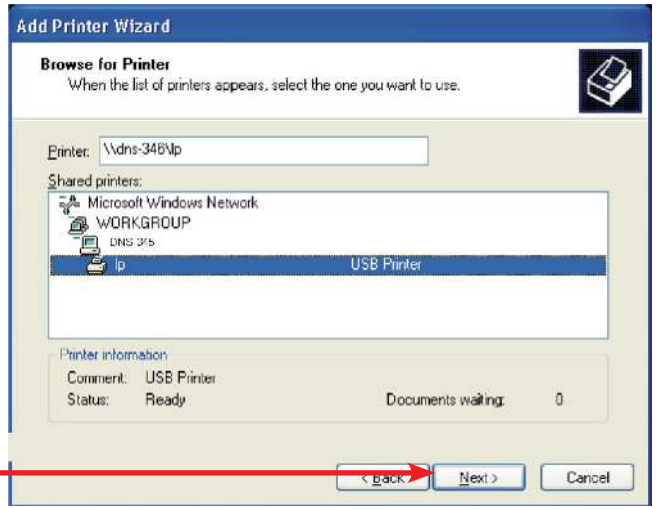


Select **"Browse for a printer"** and click **Next** to continue.

Select Double-click **DNS-345** from the Shared Printers list to expand the tree.

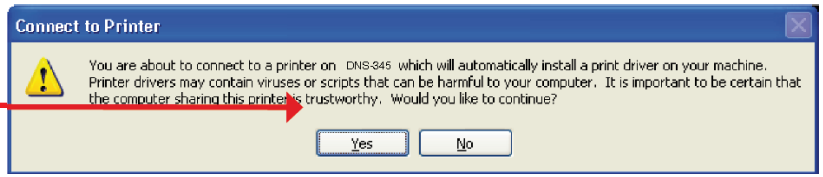


Select the available USB printer, and click **Next** to continue.

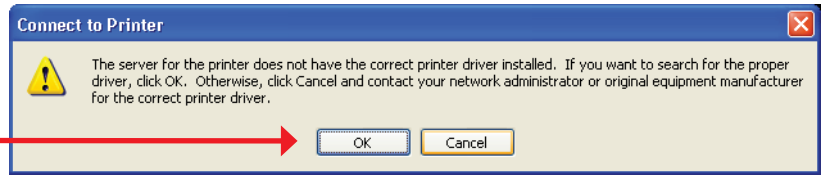


The following printer driver messages will appear:

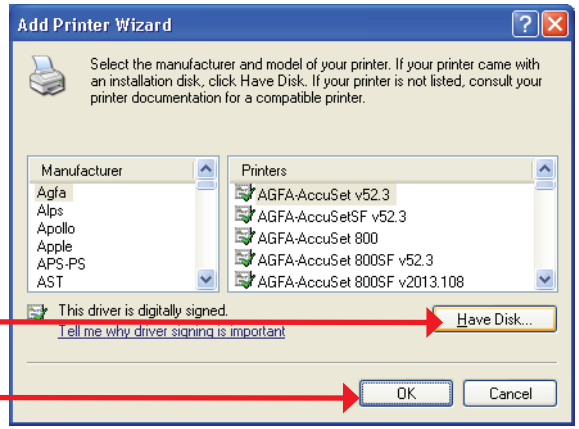
Click **Yes** to continue.



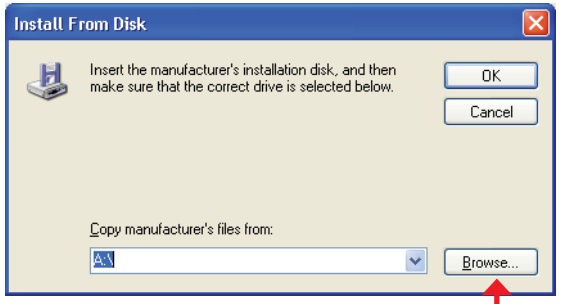
Click **OK** to continue and select a printer driver.



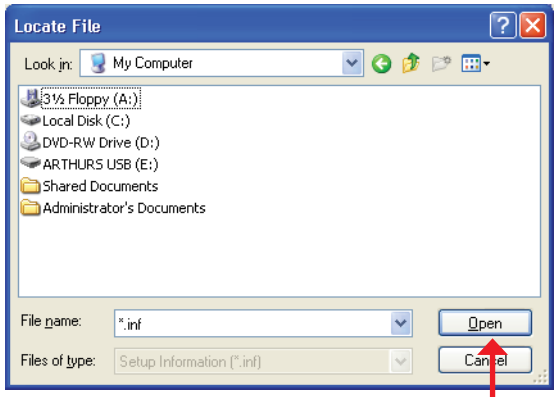
Select the appropriate printer driver from the list and click **OK** to complete the wizard. If the driver is not in the list, select **Have Disk**.



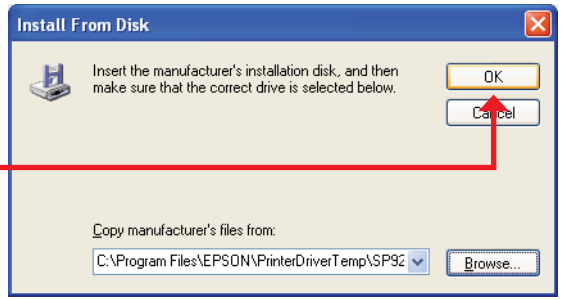
Insert the print driver CD or browse to the appropriate directory.

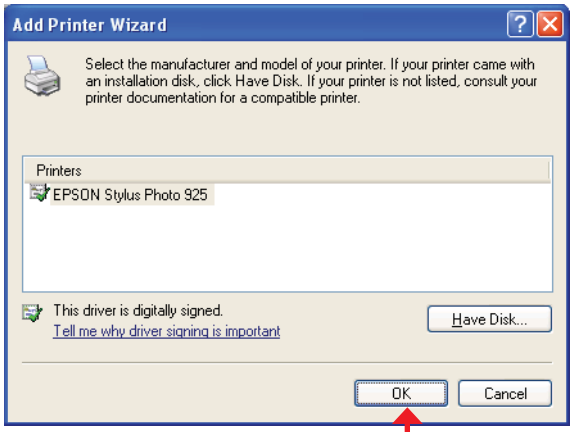


Select the appropriate driver file, and click **Open** to continue.

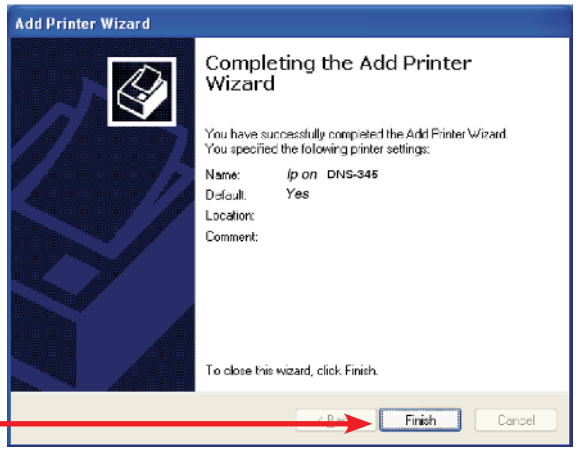


Click **OK** to continue.



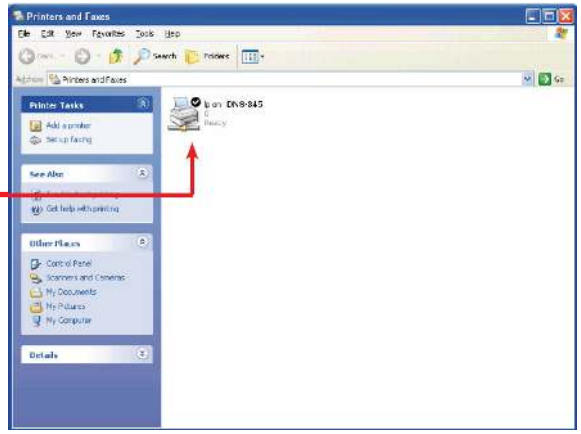


Verify the driver is correct, and click **OK** to continue.



The wizard will install the printer drivers, and return a completion screen. Click **Finish**.

The printer should now appear as an available printer.



P2P Downloads - Settings

In this menu you can configure P2P download management settings

P2P Here the user can enable or disable the peer to peer function.

Download Schedule In the block provided the user can configure the running schedule for P2P downloads. Simply select the **Start** and **Stop** block for the appropriate Time and Date.

Auto Download Here the user can enable or disable the automatic download option.

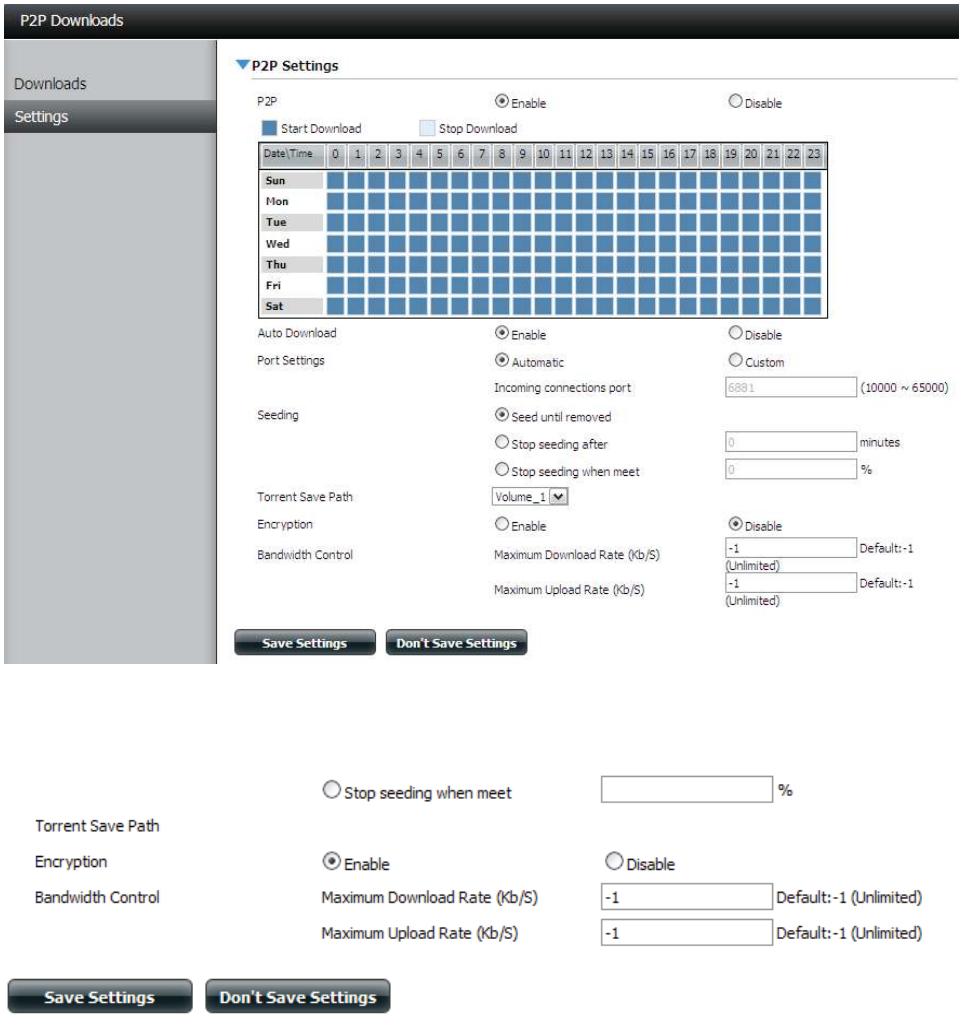
Port Settings The user can choose whether to allow the device to automatically choose an incoming connections port or configure the incoming connections port manually.

Seeding Here the user can configure seeding options.

Torremt Save Path The torrent paths will be displayed here.

Encryption Here the user can choose to enable or disable the encryption used.

Bandwidth Control Here the user can choose to allow the device to automatically choose the bandwidth control speed, or you can manually configure the maximum download rate and maximum upload rate. Enter the value **-1** to set the respective field to **unlimited**.



P2P Downloads - Downloads

Here the user can add torrents and view P2P download lists.

Add Torrent from URL In the field provided you can copy and paste a link to a torrent file hosted on the internet. The BitTorrent download manager will add the torrent file to the download manager and begin downloading your files.

Add Torrent from File Here you can browse for a torrent file you have downloaded onto your PC. This allows you to load the torrent file from your local PC.

P2P Downloads list In this window all the running tasks will be displayed.

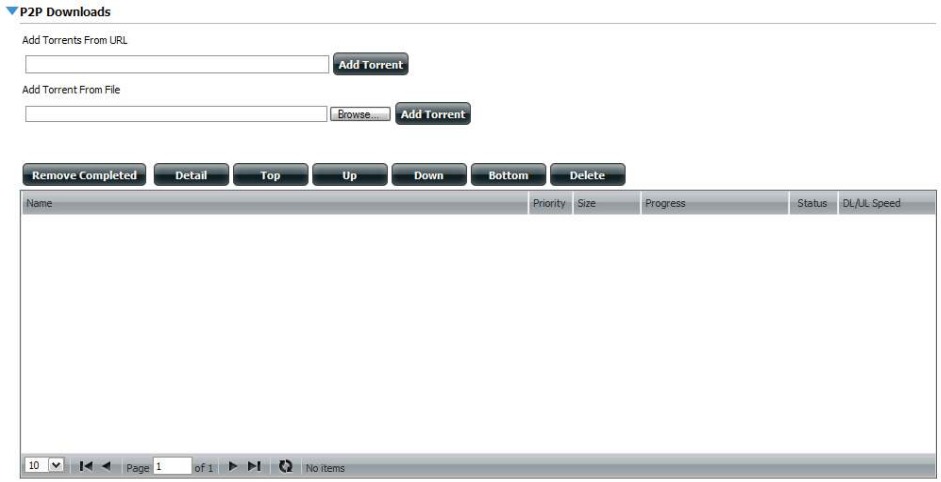
Remove Completed The user can click on the **Remove Completed** button to remove finished downloads. Sometimes identifying finished jobs, when multiple downloads exist, can be difficult. This option makes it is easier for the user to remove finished downloads from the list with a single click.

Detail The **Details** button allows the user to view the files that are being downloaded for each torrent.

Top,Up, Down,Bottom The **Top, Up, Down and Bottom** buttons allow the user to move the selected P2P download in the task list. The downloads at the top of the list carries more priority than the one list below them.

Delete The **Delete** button allows the user to remove a selected download. This will remove not only the torrent file, but also the partially downloaded files too.

Start / Stop The **Start** and **Stop** buttons allow users to start and stop selected P2P downloads in the task list.



Navigation At the bottom of the P2P Task window there are a couple of navigation controls. When multiple tasks exist, the user can select how many tasks will be displayed by using the drop-down menu. The user can also navigate to other pages when more than one page exists.

Refresh The **Refresh** button allows the user to refresh the P2P task list so it displays the most updated statistics.

Web File Server

Whenever you cannot mount the network shares of your NAS, use the Web File Server to access the files using a browser over the internet. If the network, that your ShareCenter is connected to is using NAT then you will need to forward HTTP port 80 across your router for access over the internet.

Up Left click the **Up** button to go up (or back) one directory in the folder structure of the selected network share.

Upload Select a destination folder in a network share by navigating in the folder view on the left. Then left click the **Upload** button to open a dialogue window where you can browse to select a file on your computer for uploading to the destination folder.

Download Select a file to download to your computer by navigating in the folder view on the left. When you find the file **left click** on it in the folder. Your selection will be highlighted in red. Next click on the **Download** button and save or open the file as needed.

Refresh **Left click** the **Refresh** button to update the folder and file view of the Web File Server.

Download Downloads the file to your computer.

Copy Copies the file to the clipboard and opens a wizard to allow you to select the folder to paste the file into. Once you have chosen the folder clicking **OK** to paste the file into the folder.

Move Moves the file to a new folder on the disk.

Delete Removes the selected file from disk.

Rename Allows you to configure a new file name for the selected file.

Properties Displays the file properties such as ownership, access rights, and modify time.

Amazon S3

Amazon S3 is an adjustable online storage facility. This feature is used on your DNS-345 to store and retrieve any amount of data. The Amazon S3 feature allows you to create and modify files that interact with your NAS in the cloud. Data can be stored and retrieved through a simple web interface from your NAS. Stored objects cannot be larger than 5GBs, but users can store an unlimited amount of objects. All objects are retrievable with a unique key code assigned to each user.

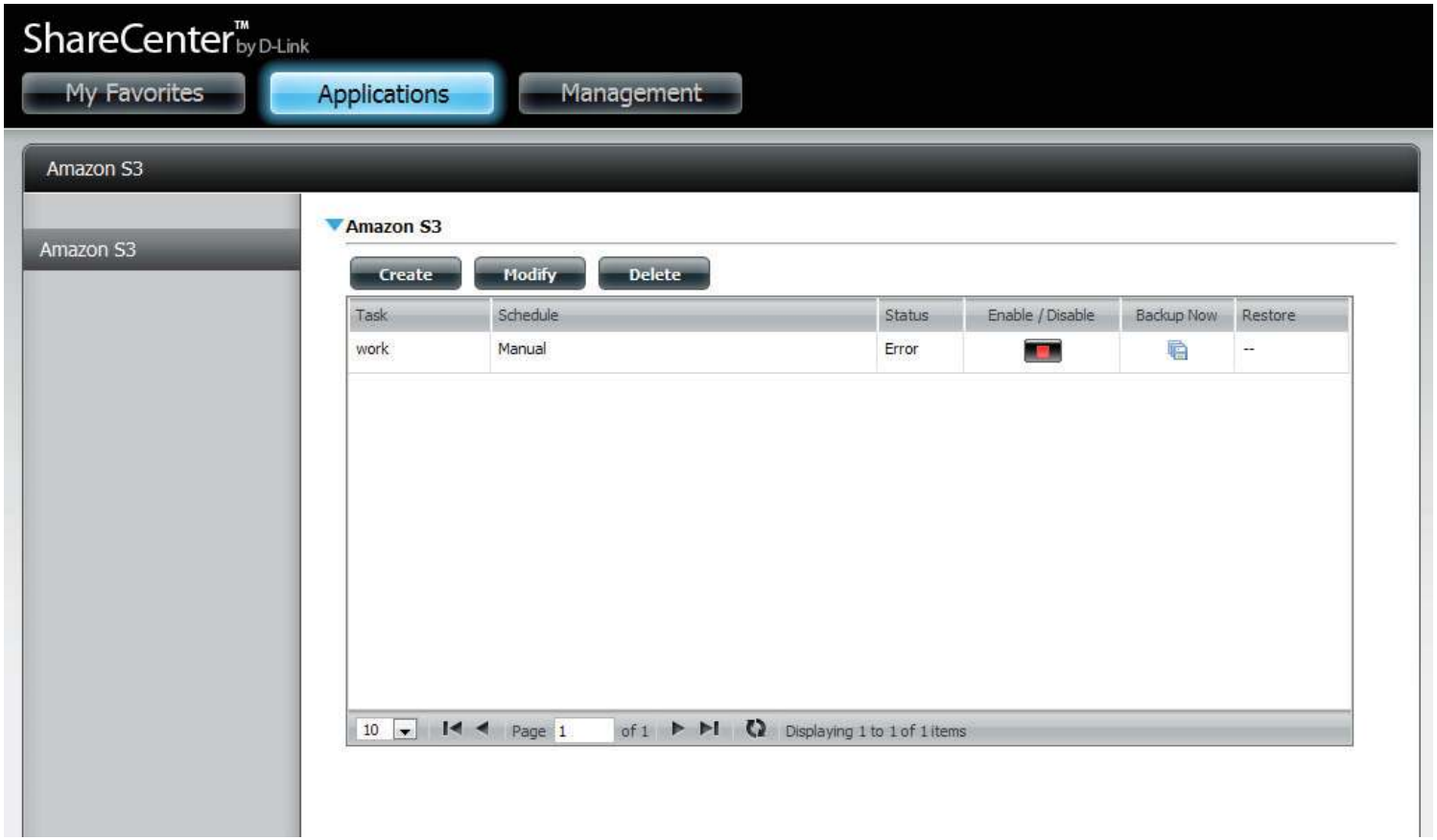
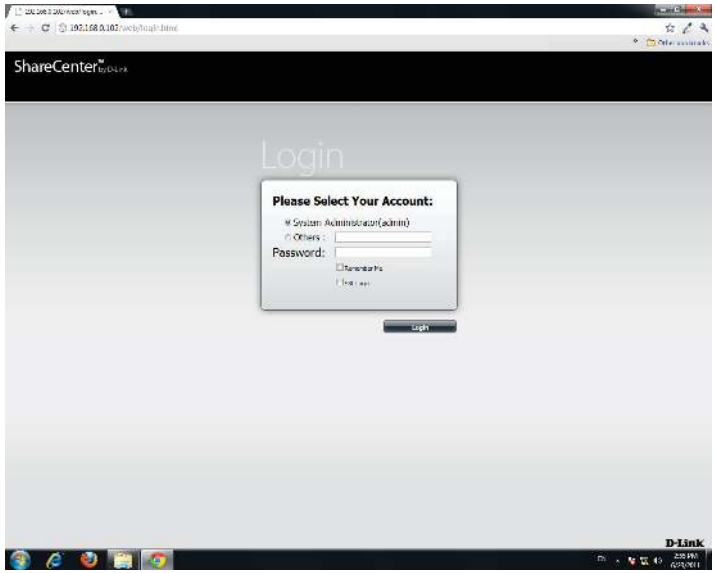


Photo Center

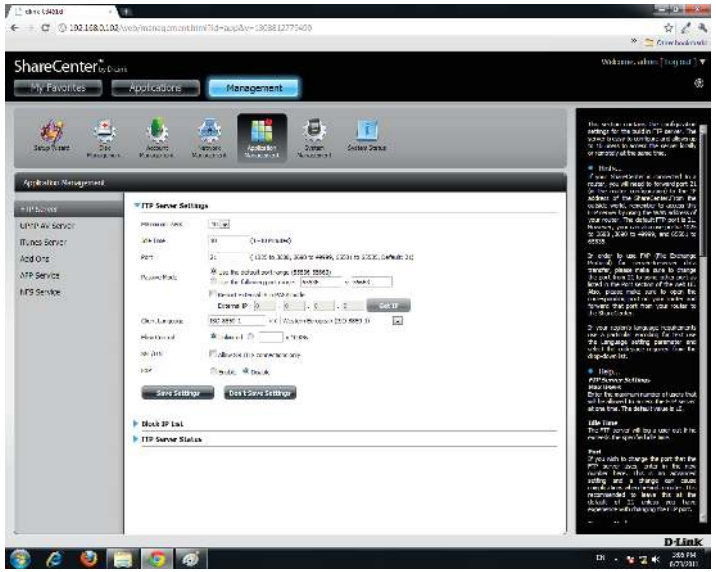
Photo Center is an Add-On tool for photos. You can create individual albums, group albums, Gallery's, and etc. This application is managed and placed on your DNS-345 from the Applications window.

1



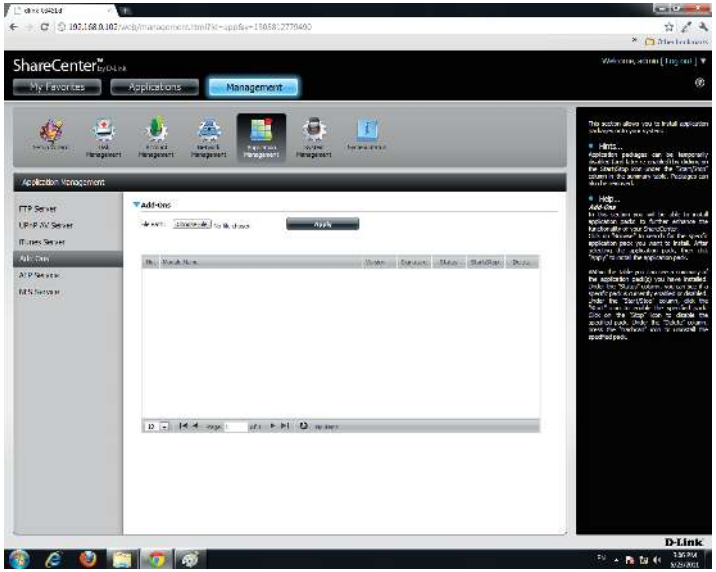
Login to your ShareCenter

2



Click **Management,** then click **Application Management.**

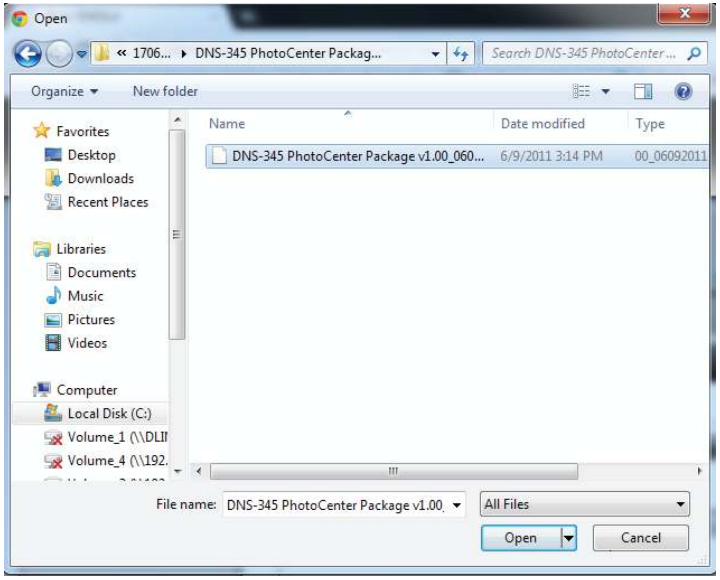
3



Click **Add Ons**

Then click **Choose File** to find the Photo Center Application on your computer.

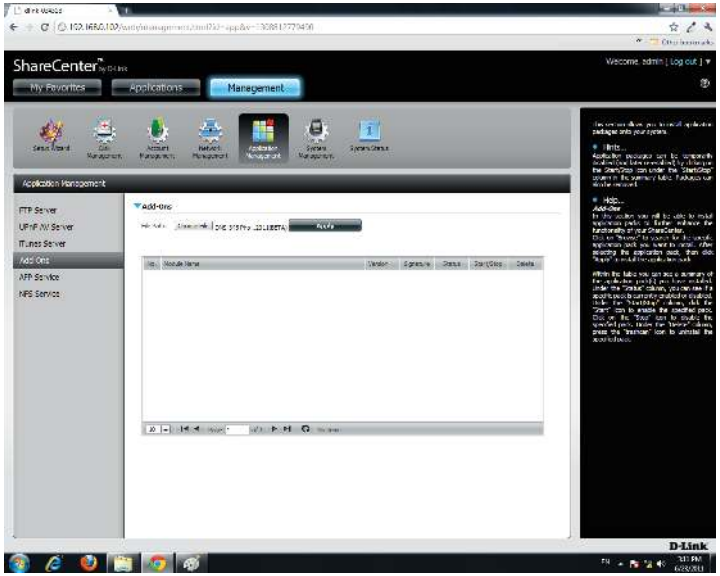
4



Browse through your computer to find the folder for the application.

Click **Open**.

5



The File Path has now been set.

Click **Apply** to continue.

6

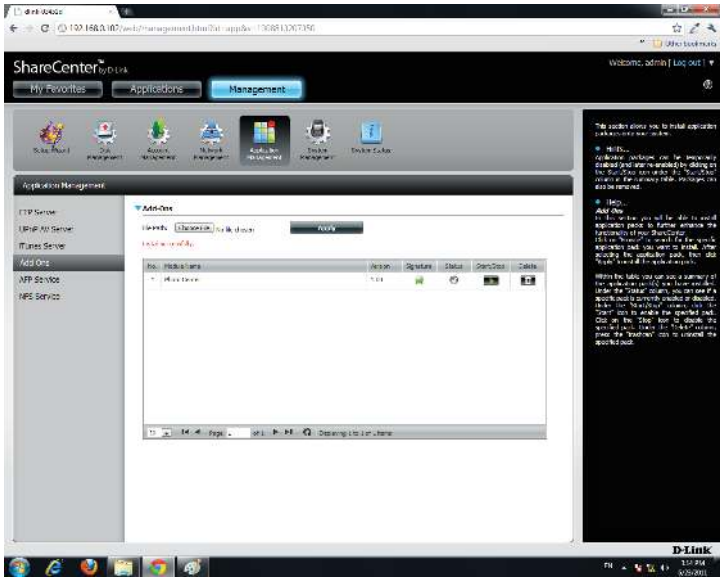
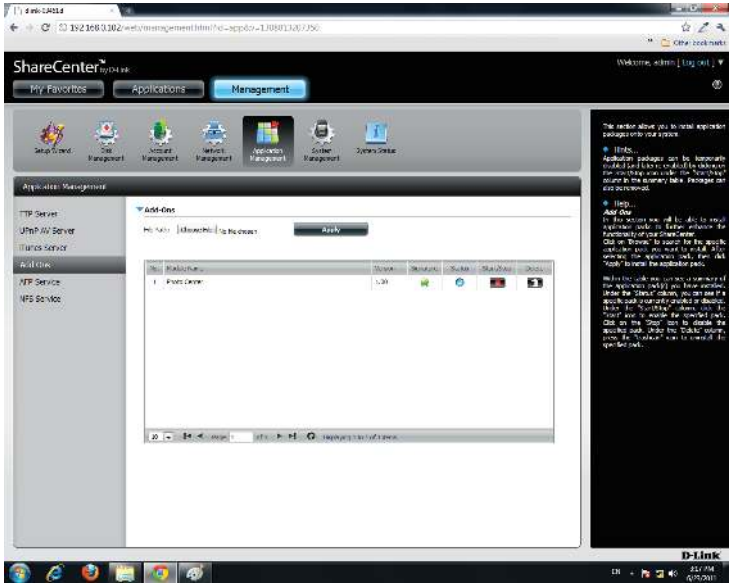


Photo Center is now installed on the NAS.
Below File Path it should read **Install Successfully**.

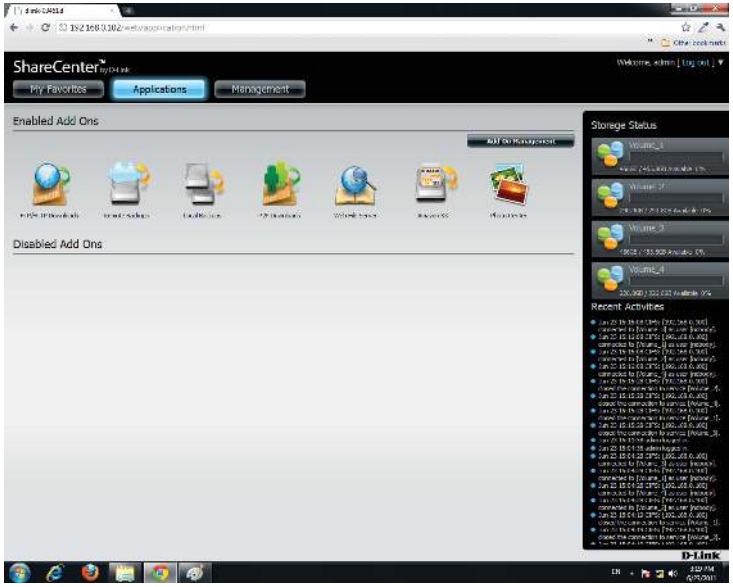
In the table, you will see the **Photo Center** application listed.

7



Click the **green arrow** under Start/Stop to activate the application.

8

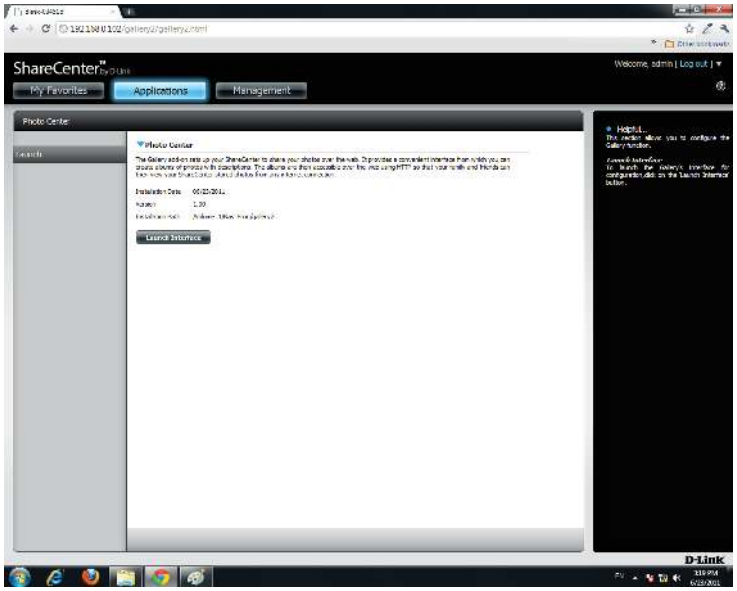


Return to the Application window.

Photo Center will now appear under the **Enabled Add-Ons** section.

Click **Photo Center** to launch the application.

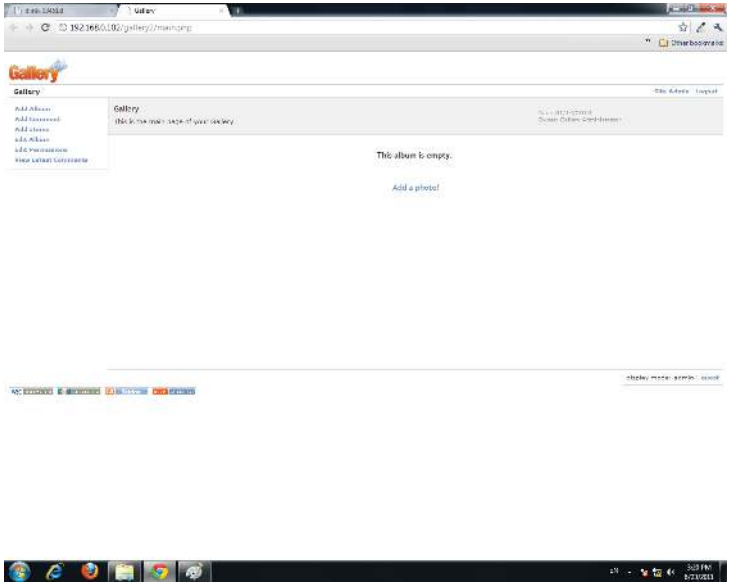
9



Under Launch, there is a brief description of Photo Center.

Click **Launch Interface** to enter the online program.

10



The application will now open in a new tab in your browser. The program is ready to create a Gallery in the following manners:

Add Albums
Add Comments
Add Items
Edit Albums
Edit Permissions

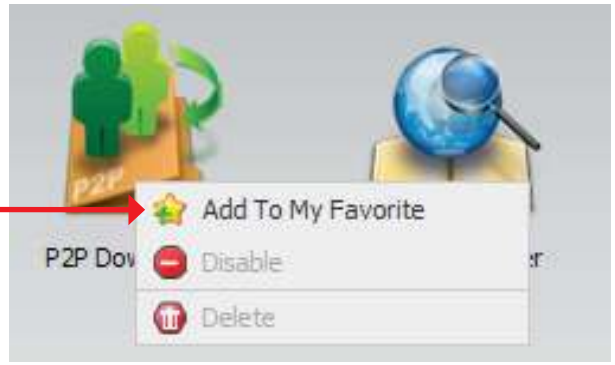
My Favorites

The My Favorites tab allows you to add any icon you routinely access from the Applications or Management Tab in one convenient location for quick and easy access. You can add icons to the My Favorites tab using two different methods.

Add an Icon to My Favorites

There are two methods to adding an Icon to My Favorites. You can either right click the icon and select: **Add to My Favorites** or use the **Drag and Drop** method. Both are shown below.

Method 1:
Right click on an icon in the applications or management tab and click on the **Add to My Favorite** menu item from the command list that appears.



Method 2:
Click and hold the left mouse button down over the icon and drag it over to the **My Favorites** tab. You will see a white arrow pointing to the My Favorites tab while you are dragging the icon.

Removing an Icon from My Favorites

To remove an Icon from the **My Favorites** tab, simply right click on it and select **Remove From My Favorite** in the context selection that appears.

Right click an Icon in the **My Favorites** tab and select the **Remove From My Favorite** option. The Icon alias should disappear from the My Favorites tab view.

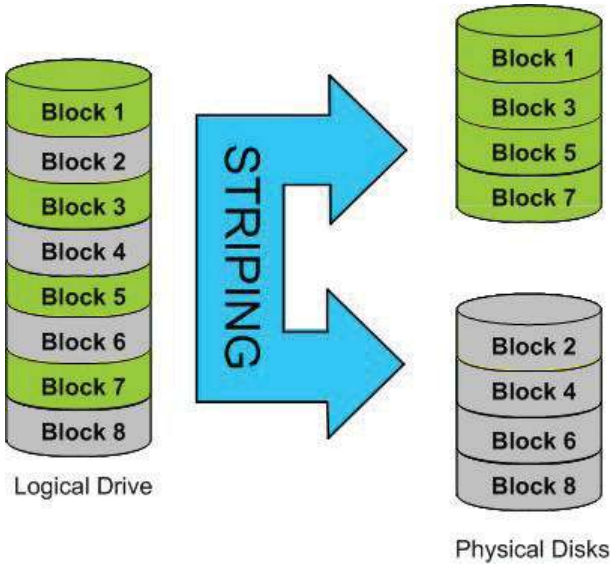
Knowledge Base

What is RAID?

RAID, short for Redundant Array of Independent Disks, is a combination of two or more disks with the aim of providing fault tolerance and performance improvement. There are several different levels of RAID, with each one providing a different method of sharing or distributing data amongst the drives. The ShareCenter™ Quattro supports JBOD, RAID 0, RAID 1, and Standalone.

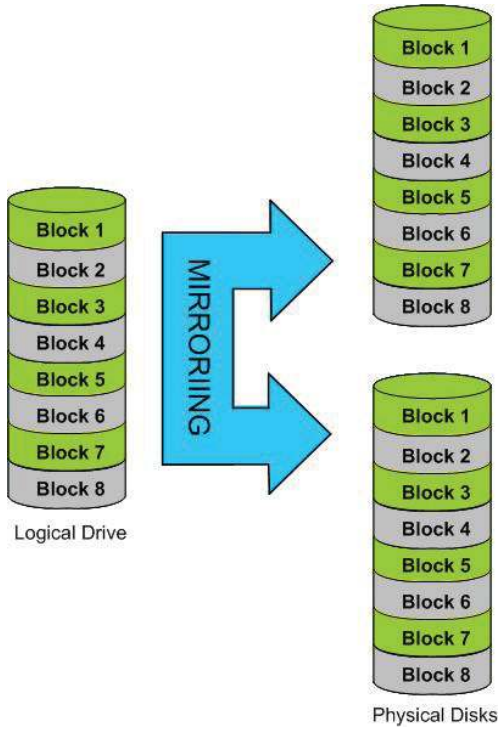
RAID 0 RAID 0 provides data striping, which spreads out blocks of data over all the drives, but does not provide data redundancy.

Although performance is improved, the lack of fault tolerance means that if one drive fails, all data in the array will be lost.



RAID 1 RAID 1 provides mirroring over multiple disks, with the same read/write speed of a single disk. A RAID 1 array can only be as large as it's smallest member disk.

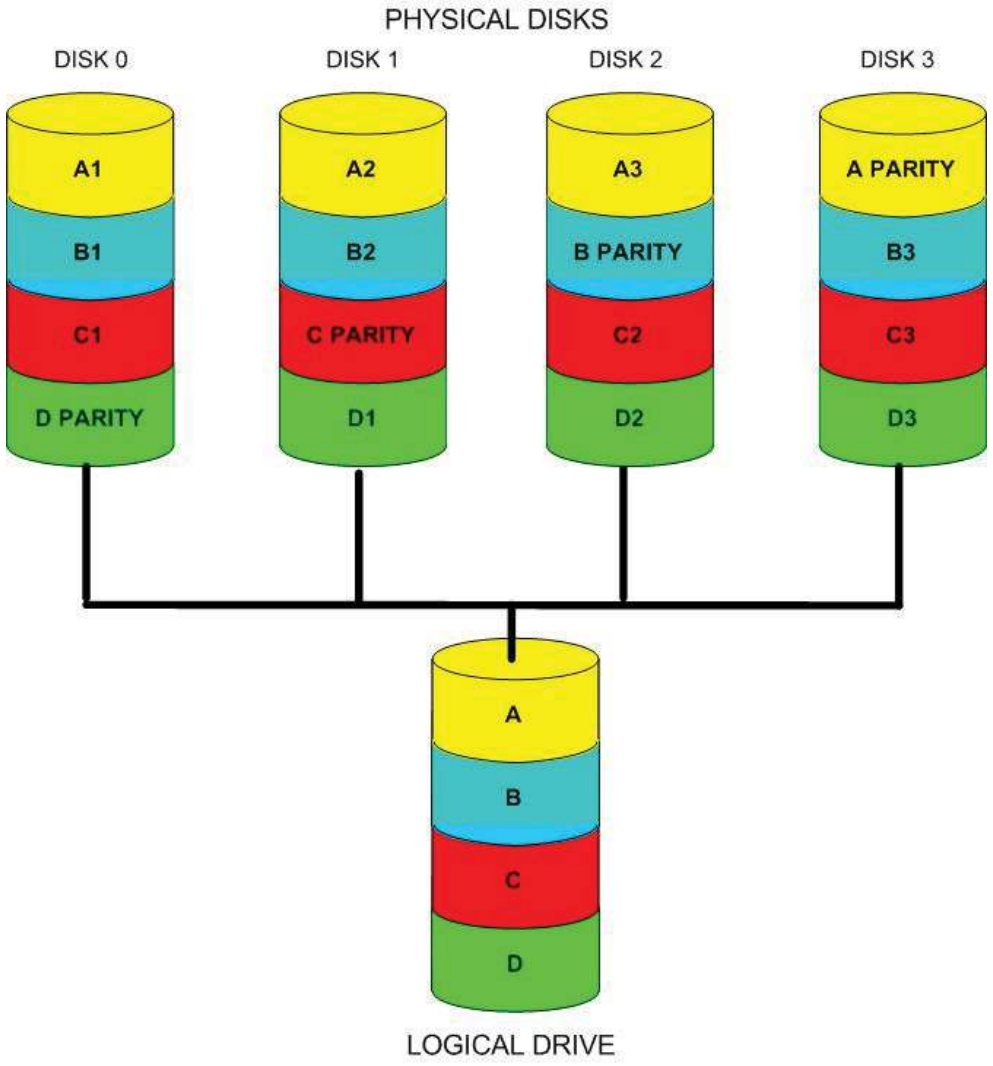
Because the data is stored on multiple disks, RAID 1 provides fault tolerance and protection, in addition to performance advantages.



RAID 5 RAID 5 provides data striping with distributed parity, which stores information that can be used to reconstruct data. A RAID 5 array will be the size of all the combined disks capacity minus the capacity of one disk, e.g. If there are 4x 80GB disks in the array, the arrays capacity will be 240GB (3x80GB).

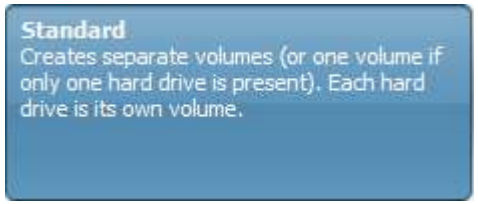
Implementing RAID 5 on the ShareCenter Pro allows it to continue operating even if one of the disks fails.

The diagram below indicates the operation of RAID 5:



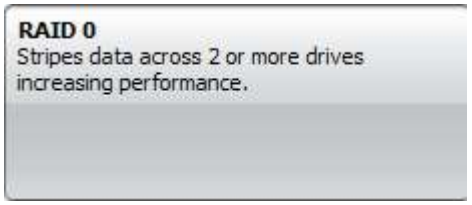
RAID OPTIONS

Here is a list of the RAID options available on the ShareCenter Quattro DNS-345

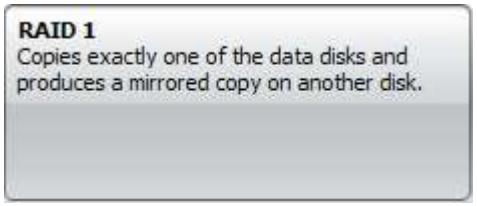


Standard RAID - creates a single volume for one drive or more drives.

JBOD - allows you to create a large virtual disk drive by concatenating two or more smaller drives together. The individual hard drives that makes up a JBOD RAID can be different sizes and manufacturers. The total size of the JBOD RAID is the combined total of all the individual drives in the set.

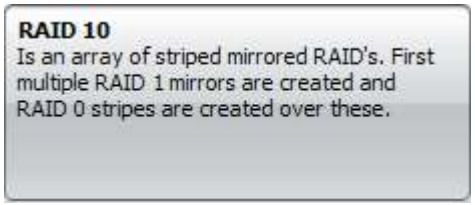


RAID 0 lets you assign two or more disks as a striped set. Once you create the striped set, you will see it as a single disk drive. But when you write data to the RAID 0 striped set, the data will be distributed across all of the drives that make up the set. Because each disk has less to do, it takes less time to write the data. The same is true when reading data; instead of a single disk having to seek out and then send a large block of data, multiple disks each stream their part of the data stream. As a result, RAID 0 striped sets can provide a dynamic increase in disk performance.



RAID 1 lets you assign two disks as a mirrored set. Once you create the mirrored set, you will see it as a single disk drive. But when you write data to the mirrored set, it will duplicate the data across all members of the set. This ensures that your data is protected against loss if any hard drive in the RAID 1 set fails. In fact, as long as any single member of the set remains functional, you will continue to operate normally, with complete access to your data.

RAID 5 is another striping RAID level, designed to increase the speed of disk reads and writes. RAID 5 provides drive failure tolerance, allowing any single drive in the array to fail without losing any data in the array. When a drive fails, the RAID 5 array can still be used to read or write data. Once the failed drive is replaced, the RAID 5 array can enter a data recovery mode, where the parity data in the array is used to rebuild the missing data on the newly installed drive.



RAID 10 is a nested RAID system created by combining RAID 1 and RAID 0. The combination is known as a stripe of mirrors. The difference is that each member of the striped set has its data mirrored. This ensures that if any single drive in the RAID 10 array fails, the data is not lost. RAID 10 requires a minimum of four drives and can be expanded in pairs.

RAID Comparison Chart

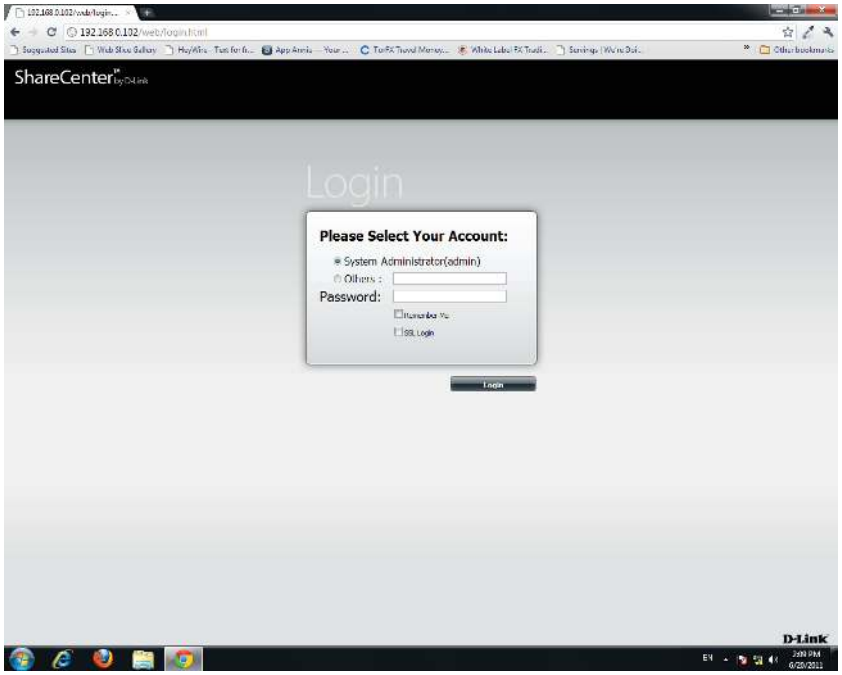
RAID level	Minimum Drives	Protection	Description	Strengths	Weaknesses
Standard	1	None	Creates a single volume for one drive or several drives	Saves on costs	No data protection like proper RAID
JBOD	1	None	Allows you to create a large virtual disk drive by concatenating two or more smaller drives together.	Saves on costs	No redundancy and limited data protection.
RAID 0	2	None	Data striping without redundancy	High Performance	No data protection, one drive fails, all is lost
RAID 1	2	Single drive failure	Disk mirroring	High data protection	High redundancy cost because all data is duplicated, twice the storage capacity is required
RAID 5	3	Single drive failure	Block-level data striping with distributed parity	High data protection, support multiple simultaneous reads and writes	Write performance is slower than RAID 0 or RAID 1
RAID 5+Spare	3	Single drive failure	Data striping across all drives.	High data protection.	
RAID 10	4	1 Disk per mirrored stripe	Combination of RAID 0 (data striping) and RAID 1 (mirroring)	Highest data protection, can tolerate multiple drive failures.	High redundancy cost because all data is duplicated, twice the storage capacity is required.

USB Print Server

The ShareCenter™ features a built-in USB print server, giving users the ability to share a printer on their local network. Connect a USB printer to the USB port on the back of the ShareCenter™. It is important to ensure that the printer's drivers are already installed or available on any computer you want to print from.

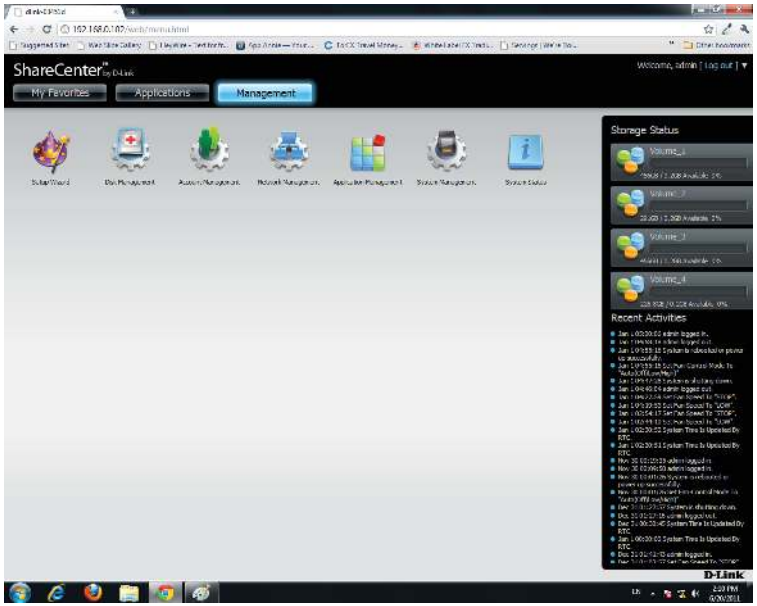
Note: Only Printer function is supported. The ShareCenter does not support the copy and scan functions of Multi-Function Printers.

1



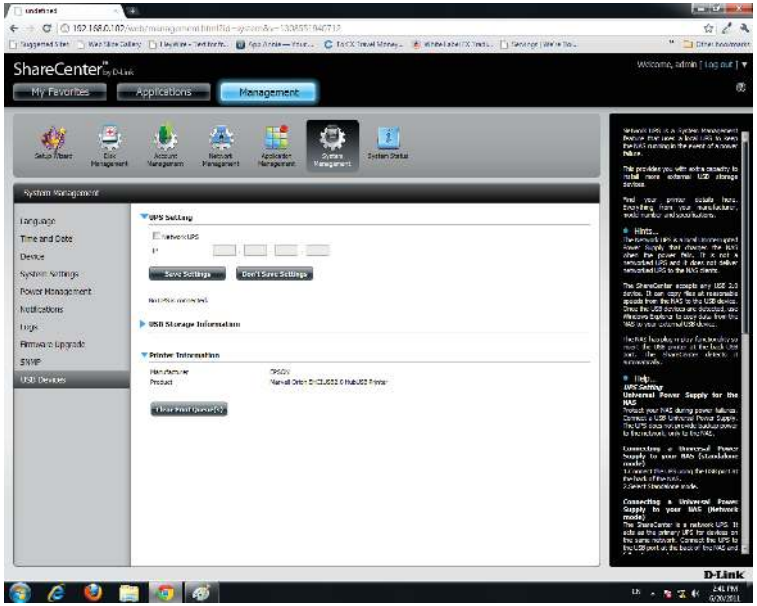
Log into ShareCenter

2



Click **Management**

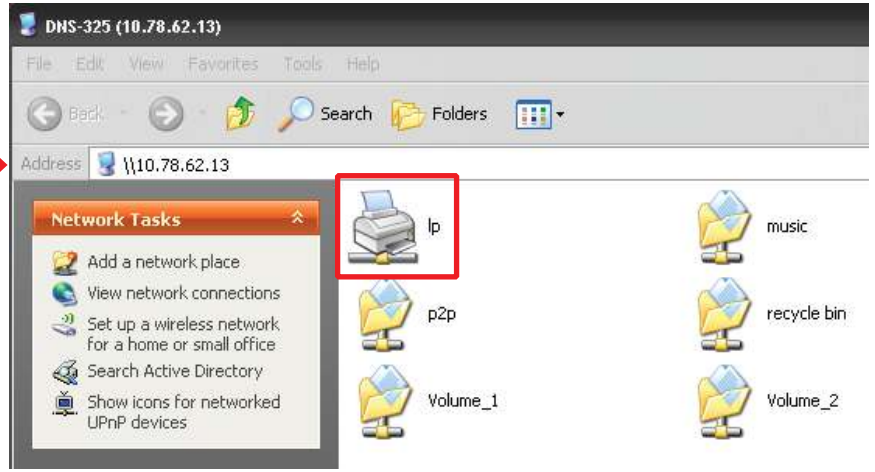
3



Click **System Management**, then **USB Devices.**

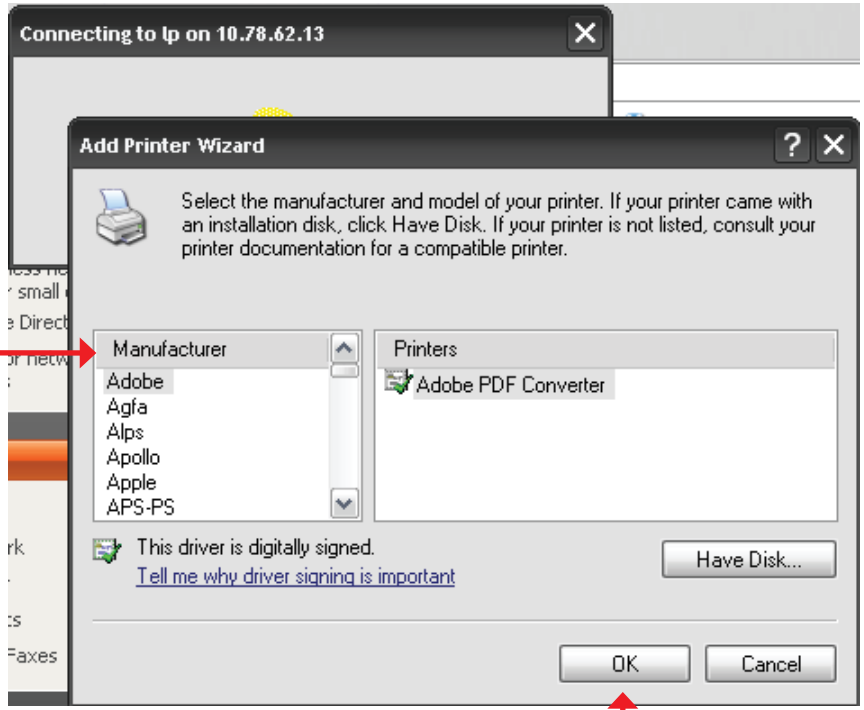
Click the **blue arrow** to view the Printer Information.

Connect to your ShareCenter with **Samba** and then double click the **IP** icon.

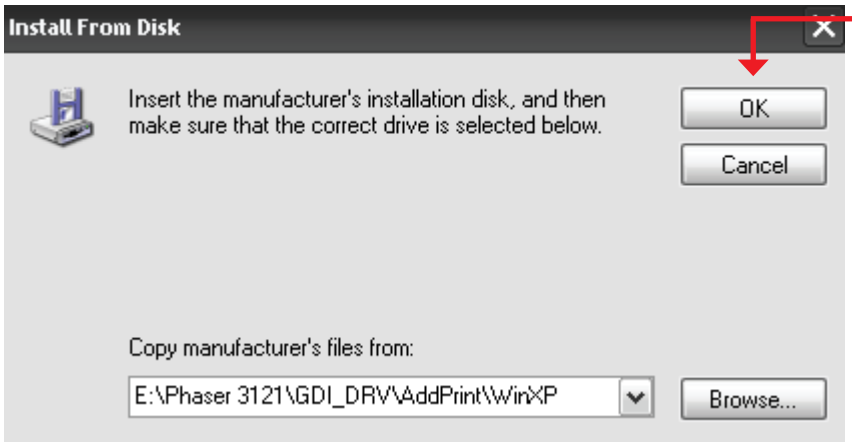


The Windows® Add Printer Wizard will launch:

Select the printer driver from the installed Manufacturer list or use the **Have Disk** button to browse for the printer driver file.

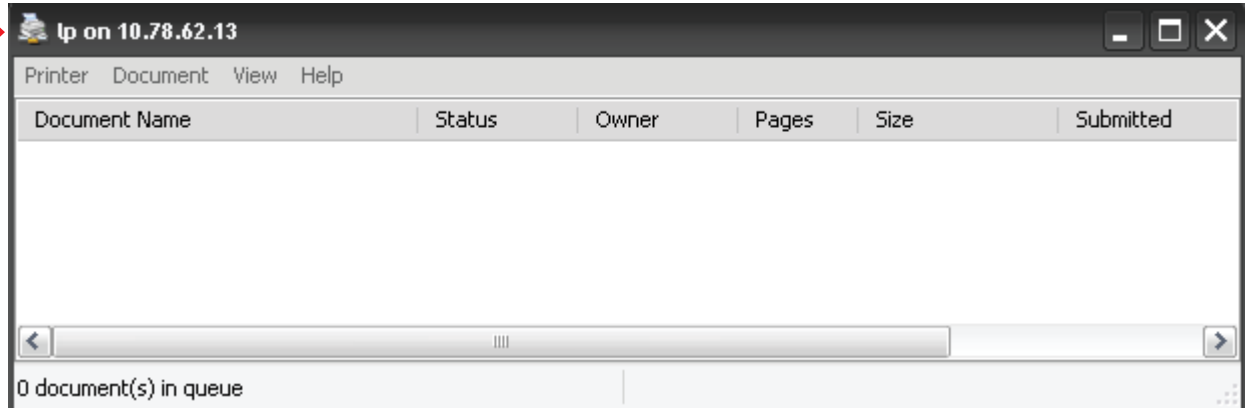


Click **OK** to continue.



Once you have selected the proper driver as shown in the browse list then click **OK** to install the printer.

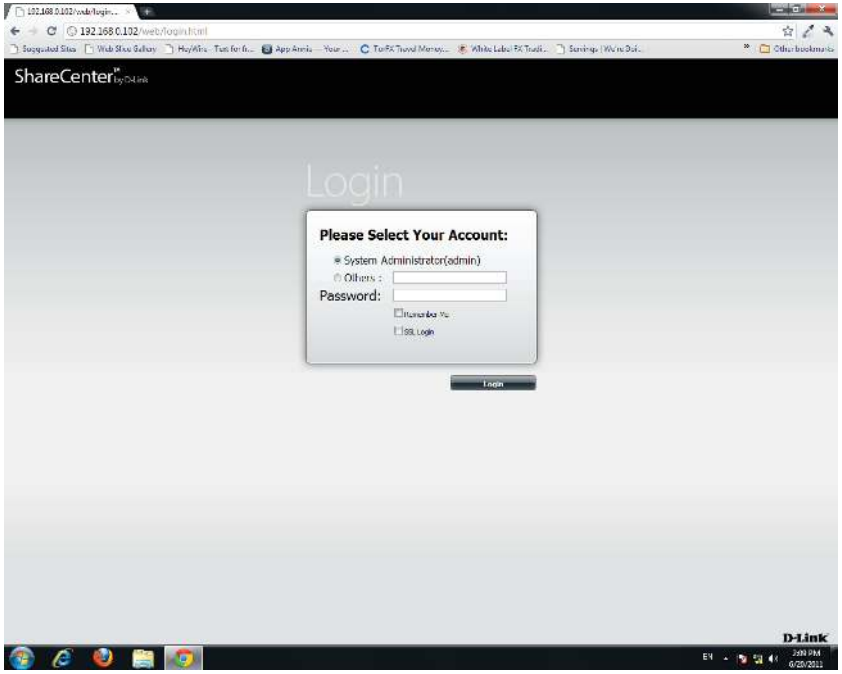
The printer is now installed and the printer queue will appear.



UPS Connectivity

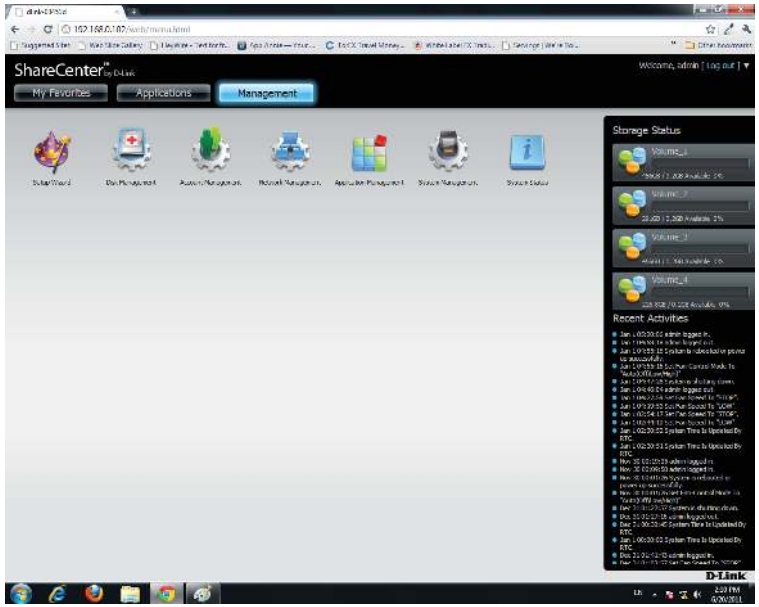
The ShareCenter™ features a built-in USB UPS backup service, giving users the ability to share the UPS on their local network. Connect a UPS to the USB port on the back of the ShareCenter™.

1



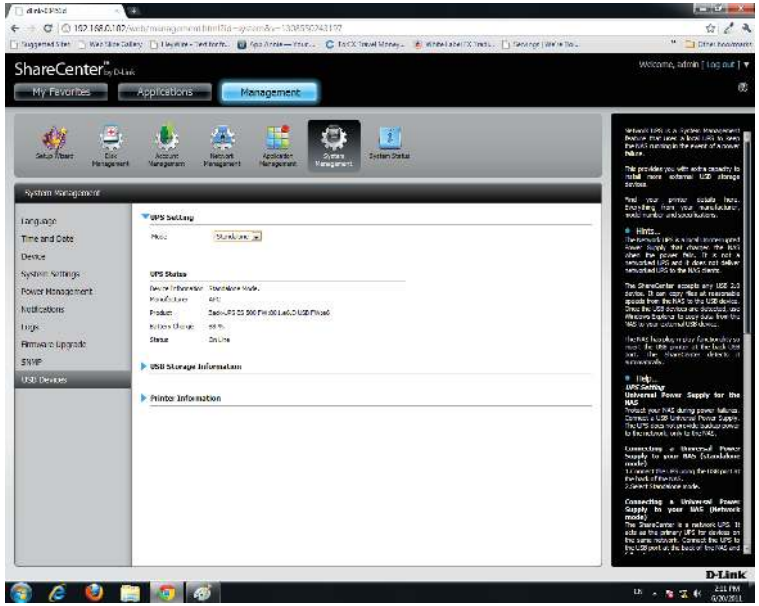
Log into ShareCenter

2



Click **Management**

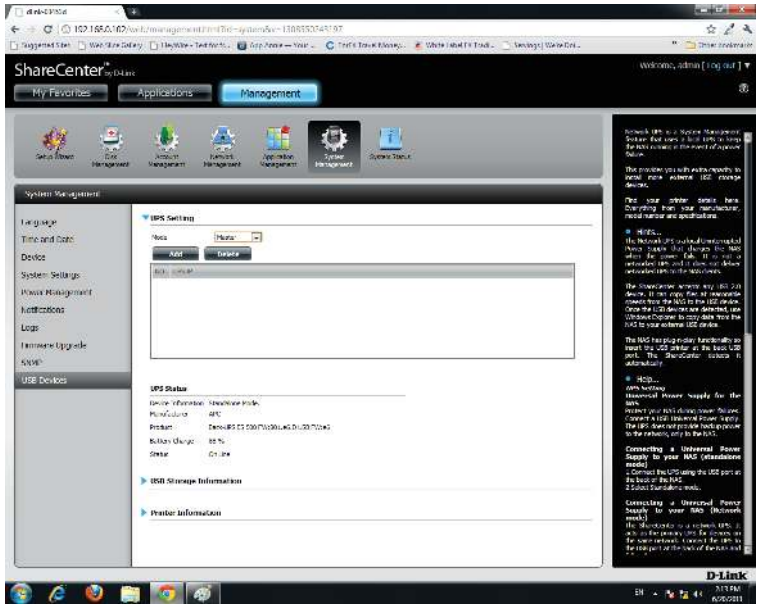
3



Click **System Management,** then **USB Devices.**

Click the **blue arrow** next to UPS Settings. There are two modes, **Standalone** and **Master**.

The UPS Status screen shows the mode, manufacturer, product type, battery charge meter, and status



Under **Mode**, select **Master** from the drop-down list

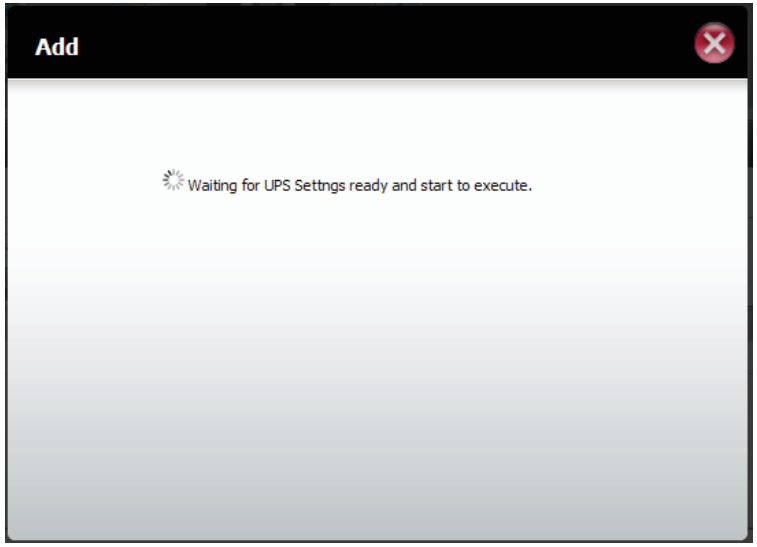
Click **Add**

Enter the IP address of the other NAS on the network.

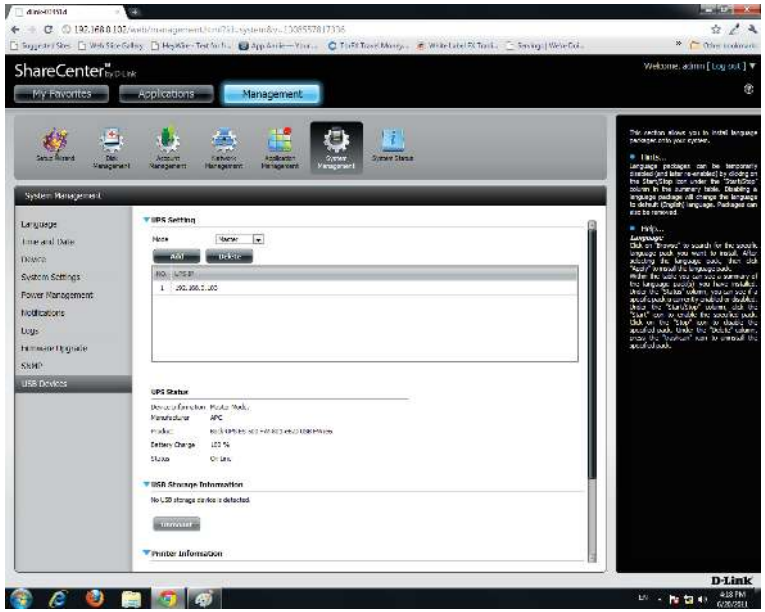
Click the '**+**' button to add more IP addresses. If you do not add an IP address a message will appear.

The message will asks you to enter an IP address.

Click **Yes** to continue.



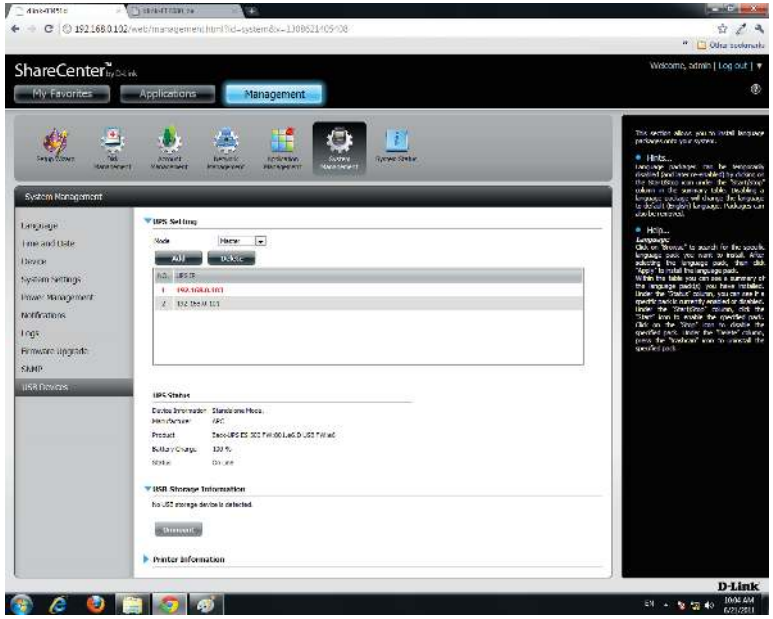
Once you have entered an IP address, the system will check its database for IP address records.



The UPS Settings table will display the IP address(es) you added.

Deleting a UPS Slave

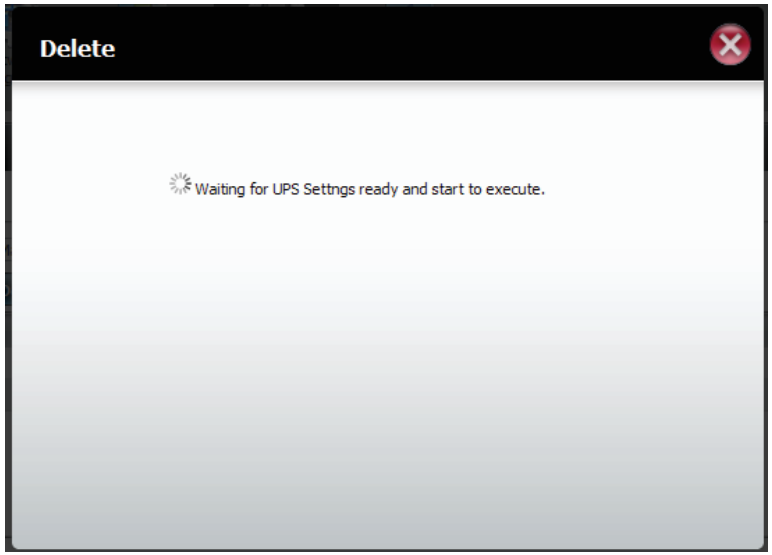
1



Under **Management, System Management, UPS Devices**, select the IP address. Your selection will turn red.

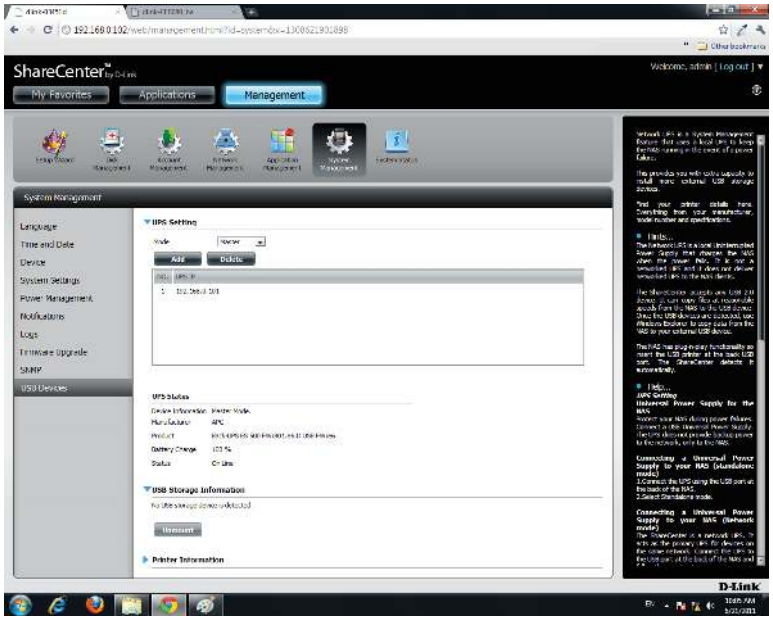
Click **Delete**.

2



The DNS-345 will process your request.

3



The IP address will no longer be listed in the table.

Knowledge Base

What is Ethernet Bonding?

From your network's perspective, channel bonding or "port trunking" -- combines both of the computer's interfaces into a single interface that looks like nothing out of the ordinary to your applications. A combined logical interface can provide load balancing and fault tolerance. The OS can alternate which interface it uses to send traffic, or it can gracefully fail over between them in the event of a problem. You can even use it to balance your traffic between multiple wide area network (WAN) connections, such as DSL and cable, or dialup and your next door neighbor's unsecured Wi-Fi.

The DNS-345 has several options under Link Aggregation. Here are there uses:

Round-robin mode is good for general purpose load balancing between the adapters, and if one of them fails, the link will stay active via the other. The other six mode options provide features for different setups.

- Mode 1, active backup, uses just one adapter until it fails, then switches to the other.
- Mode 2, balance XOR, tries to balance traffic by splitting up outgoing packets between the adapters, using the same one for each specific destination when possible.
- Mode 3, broadcast, sends out all traffic on every interface.
- Mode 4, dynamic link aggregation, uses a complex algorithm to aggregate adapters by speed and other settings.
- Mode 5, adaptive transmit load balancing, redistributes outgoing traffic on the fly based on current conditions.
- Mode 6, adaptive load balancing, does the same thing, but attempts to redistribute incoming traffic as well by sending out ARP updates.

Complex modes are most likely unnecessary for home use. If you have a lot of network traffic you are looking to manage, consult the bonding driver documentation. For most folks, bonding's fault tolerance and failover is a larger gain than any increased link speed. For example, bonding two WAN links gives you load balancing and fault tolerance between them, but it does not double your upstream throughput, since each connection (such as a Web page HTTP request) has to take one or the other route.