



Cloud Storage

NAS Series

Version 5.1

Edition 1

User's Guide

Default Login Details

| | |
|-------------|--------------------------------------|
| Web Address | nas326 nas542 nas540 nas520 |
| User Name | admin |
| Password | 1234 |

Related Documentation and Online Support

IMPORTANT!

READ CAREFULLY BEFORE USE.

KEEP THIS GUIDE FOR FUTURE REFERENCE.

Screenshots and graphics in this book may differ slightly from your product due to differences in your product firmware or your computer operating system. Every effort has been made to ensure that the information in this manual is accurate.

Related Documentation

- **Quick Start Guide**
The Quick Start Guide shows how to connect the NAS and get up and running right away.
- **Web Configurator Online Help**
The embedded Web Help contains descriptions of individual screens and supplementary information.

Online Support Information

Visit our product support website at http://www.zyxel.com/support/support_landing.shtml and choose from these topics:

- **ZyXEL Support Center** - Acquire firmware, software, FAQ, product application or other support files for ZyXEL devices.
- **Downloads** - Acquire firmware, software, driver or other support files for ZyXEL devices.
- **Knowledge Base** - Find articles related to product applications, FAQ, and user experience.
- **Warranty Information** - ZyXEL offers warranty to the original end user (purchaser) that the product is free from any material or workmanship defects for a specific period (the Warranty Period) from the date of purchase. The Warranty Period varies by region.
- **Product Registration** - Register your ZyXEL product to receive the latest drivers and firmware updates.

Contents Overview

| | |
|---|------------|
| Getting to Know Your NAS | 14 |
| Getting Started | 19 |
| Accessing Your Cloud Remotely | 26 |
| zCloud | 30 |
| Managing Users, Groups, and Shares | 33 |
| Backing Up, Retrieving, and Syncing Files | 34 |
| Web Desktop at a Glance | 36 |
| Web Configurator | 38 |
| Storage Manager | 47 |
| Status Center | 103 |
| Control Panel | 106 |
| Videos, Photos, Music, & File Browser | 124 |
| Administrator | 139 |
| Managing Packages | 144 |
| Tutorials | 146 |
| Technical Reference | 201 |
| Status Screen | 203 |
| System Setting | 205 |
| Applications | 213 |
| Packages | 246 |
| Auto Upload | 262 |
| Dropbox | 274 |
| Using Time Machine with the NAS | 278 |
| Users | 281 |
| Groups | 287 |
| Shares | 291 |
| WebDAV | 300 |
| Maintenance Screens | 302 |
| Protect | 321 |
| Troubleshooting | 337 |

Table of Contents

| | |
|---|-----------|
| Related Documentation and Online Support | 2 |
| Contents Overview | 3 |
| Table of Contents | 4 |
| Chapter 1 | |
| Getting to Know Your NAS..... | 14 |
| 1.1 Overview | 14 |
| 1.2 LEDs | 15 |
| 1.3 Hard Disks | 16 |
| 1.4 SD Card | 16 |
| 1.5 Power Button | 16 |
| 1.6 COPY/SYNC Button | 17 |
| 1.7 RESET Button | 17 |
| Chapter 2 | |
| Getting Started | 19 |
| 2.1 Overview | 19 |
| 2.2 FindMe | 19 |
| 2.3 NAS Starter Utility | 19 |
| 2.3.1 NAS Seeker Screen | 20 |
| 2.3.2 Main NAS Starter Utility Screen | 21 |
| 2.3.3 Directory of the NAS | 22 |
| 2.3.4 Network Drive | 23 |
| 2.3.5 Configure System Settings | 23 |
| Chapter 3 | |
| Accessing Your Cloud Remotely..... | 26 |
| 3.1 myZyXELCloud Service | 26 |
| 3.2 ZyXEL Drive | 26 |
| 3.2.1 ZyXEL Drive Welcome | 26 |
| 3.2.2 NAS and File List | 27 |
| 3.2.3 Uploading and Media Streaming | 28 |
| Chapter 4 | |
| zCloud..... | 30 |
| 4.1 Using zCloud | 30 |
| 4.2 zCloud TV Streaming | 31 |

| | |
|--|-----------|
| Chapter 5 | |
| Managing Users, Groups, and Shares | 33 |
| 5.1 Managing Users, Groups, and Shares | 33 |
| Chapter 6 | |
| Backing Up, Retrieving, and Syncing Files | 34 |
| 6.1 About Backups | 34 |
| 6.2 Managing a USB Device and USB Backups | 34 |
| 6.3 Remote Backups | 34 |
| 6.4 Internal Backups | 34 |
| 6.5 Cloud Backups | 35 |
| 6.6 Synchronizing Files | 35 |
| | |
| Part I: Web Desktop at a Glance..... | 36 |
| | |
| Chapter 7 | |
| Web Configurator..... | 38 |
| 7.1 Overview | 38 |
| 7.2 Accessing the NAS Web Configurator | 38 |
| 7.3 Desktop | 41 |
| 7.3.1 Status Zone | 43 |
| 7.3.2 Grouping Icons | 44 |
| | |
| Chapter 8 | |
| Storage Manager..... | 47 |
| 8.1 Overview | 47 |
| 8.2 Storage Manager Overview | 47 |
| 8.3 Internal Storage | 49 |
| 8.3.1 Creating a Volume | 55 |
| 8.3.2 Managing a Volume | 56 |
| 8.3.3 Creating a Volume on Disk Group | 64 |
| 8.3.4 Editing a Volume on Disk Group | 69 |
| 8.3.5 Disk Group | 69 |
| 8.3.6 Hard Disk | 74 |
| 8.4 iSCSI | 81 |
| 8.4.1 iSCSI LUNs Screens | 82 |
| 8.4.2 iSCSI Targets Screens | 86 |
| 8.5 External Storage | 95 |
| 8.5.1 What You Need to Know About External Storage | 95 |
| 8.5.2 External Storage Screen | 95 |
| 8.5.3 Format the Volume | 97 |

| | |
|---|------------|
| 8.6 Technical Reference | 98 |
| Chapter 9 | |
| Status Center..... | 103 |
| 9.1 Overview | 103 |
| 9.1.1 System Information | 103 |
| 9.1.2 Network | 104 |
| Chapter 10 | |
| Control Panel | 106 |
| 10.1 Overview | 106 |
| 10.2 What You Can Do | 106 |
| 10.3 What You Need to Know | 106 |
| 10.4 TCP/IP Screens | 107 |
| 10.4.1 Configuring General TCP/IP Settings | 107 |
| 10.4.2 Configuring Network Interface | 108 |
| 10.4.3 Configuring Web Configurator | 112 |
| 10.4.4 Configuring Network Diagnosis | 113 |
| 10.5 UPnP Port Mapping Screen | 113 |
| 10.5.1 UPnP and the NAS's IP Address | 114 |
| 10.5.2 UPnP and Security | 115 |
| 10.5.3 The NAS's Services and UPnP | 115 |
| 10.5.4 UPnP Router | 116 |
| 10.5.5 Configuring UPnP Port Mapping | 116 |
| 10.6 Terminal Screen | 119 |
| 10.7 DyDNS Screen | 120 |
| 10.8 FW Upgrade Screen | 122 |
| Chapter 11 | |
| Videos, Photos, Music, & File Browser..... | 124 |
| 11.1 Overview | 124 |
| 11.2 File Browser | 124 |
| 11.2.1 Configure Share Screen | 126 |
| 11.2.2 Share and Folder Names | 128 |
| 11.3 Photo | 128 |
| 11.3.1 Exif and Google Maps (Photos) | 130 |
| 11.3.2 Slideshow (Photos) | 131 |
| 11.4 Music | 132 |
| 11.4.1 Now Playing (Music) | 134 |
| 11.5 Video | 134 |
| 11.6 Playzone Settings | 136 |
| 11.7 Application Zone | 138 |
| 11.8 Media Server | 138 |

| | |
|---|------------|
| 11.9 iTunes Server | 138 |
| Chapter 12 | |
| Administrator | 139 |
| 12.1 Overview | 139 |
| 12.2 Administrator Screens | 139 |
| 12.2.1 Global Administrator Icons | 140 |
| 12.2.2 Navigation Panel | 140 |
| 12.2.3 Main Window | 142 |
| 12.2.4 Status Messages | 142 |
| 12.2.5 Common Administrator Screen Icons | 142 |
| 12.2.6 Session Example (Windows) | 142 |
| Chapter 13 | |
| Managing Packages | 144 |
| 13.1 About Packages | 144 |
| 13.2 Managing Packages | 144 |
| 13.3 Available Packages | 145 |
| Chapter 14 | |
| Tutorials | 146 |
| 14.1 Overview | 146 |
| 14.2 Windows 7 Network | 146 |
| 14.2.1 If the NAS Icon Does Not Display | 148 |
| 14.2.2 NAS Icon Right-click Options | 149 |
| 14.3 Windows 7 Network Map | 150 |
| 14.4 Playing Media Files in Windows 7 | 152 |
| 14.5 Windows 7 Devices and Printers | 152 |
| 14.5.1 Windows 7 Desktop Shortcut | 153 |
| 14.6 File Sharing Tutorials | 155 |
| 14.6.1 Creating a User Account | 155 |
| 14.6.2 Creating a Share | 156 |
| 14.6.3 Creating a Group | 157 |
| 14.6.4 Accessing a Share From Windows Explorer | 158 |
| 14.6.5 Accessing a Share Using FTP | 160 |
| 14.6.6 Accessing a Share Through the Web Configurator | 161 |
| 14.7 Download Service Tutorial | 162 |
| 14.7.1 Copying/Pasting a Download Link | 162 |
| 14.7.2 Configuring the Download Service Preferences | 165 |
| 14.7.3 Using Download Service Notification | 168 |
| 14.8 Printer Server Tutorial | 171 |
| 14.9 Copy and Flickr Auto Upload Tutorial | 173 |
| 14.10 FTP Uploadr Tutorial | 174 |

| | |
|---|-----|
| 14.11 Web Configurator's Security Sessions | 177 |
| 14.11.1 Customizing the NAS's Certificate | 177 |
| 14.11.2 Downloading and Installing Customized Certificate | 179 |
| 14.11.3 Turn on the NAS's Web Security | 182 |
| 14.12 Using FTPES to Connect to the NAS | 188 |
| 14.13 Using a Mac to Access the NAS | 189 |
| 14.13.1 Finder | 189 |
| 14.13.2 Go Menu | 191 |
| 14.14 How to Use the BackupPlanner | 191 |
| 14.14.1 Creating an Archive Backup | 192 |
| 14.14.2 Creating a Synchronization Backup | 194 |
| 14.14.3 Restoring Archived Files by Backup Job | 196 |
| 14.14.4 Restoring by Backup Files | 198 |

Part II: Technical Reference..... 201

**Chapter 15
Status Screen 203**

| | |
|--------------------------|-----|
| 15.1 Overview | 203 |
| 15.2 Status Screen | 203 |

**Chapter 16
System Setting..... 205**

| | |
|---|-----|
| 16.1 Overview | 205 |
| 16.2 What You Can Do | 205 |
| 16.3 What You Need to Know | 205 |
| 16.4 Package Management Screen | 207 |
| 16.4.1 Displaying the Package Information | 208 |
| 16.5 Server Name Screen | 209 |
| 16.6 Date/Time Screen | 210 |

**Chapter 17
Applications 213**

| | |
|---|-----|
| 17.1 Overview | 213 |
| 17.2 What You Can Do | 213 |
| 17.3 What You Need to Know | 213 |
| 17.4 FTP Server Screen | 215 |
| 17.5 Media Server Screens | 216 |
| 17.5.1 Media Server Share Publish Screen | 217 |
| 17.5.2 Media Server Logitech® Media Server Screen | 218 |
| 17.6 iTunes Server Screen | 218 |

| | |
|--|------------|
| 17.7 Download Service Screen | 219 |
| 17.7.1 Adding a Download Task | 222 |
| 17.7.2 Configuring General Download Settings | 223 |
| 17.7.3 Configuring the P2P Download Settings | 225 |
| 17.7.4 Edit IP Filter | 227 |
| 17.7.5 Selecting Files to Download | 228 |
| 17.7.6 Displaying the Task Information | 229 |
| 17.8 Web Publishing Screen | 230 |
| 17.9 Print Server Screen | 231 |
| 17.9.1 Print Server Rename | 232 |
| 17.10 Copy/Sync Button Screen | 232 |
| 17.11 Technical Reference | 234 |
| 17.11.1 Sharing Media Files on Your Network | 234 |
| 17.11.2 Download Service | 235 |
| 17.11.3 Download Service Notification | 236 |
| 17.11.4 P2P Download Security | 236 |
| 17.11.5 Web Publishing Example | 238 |
| 17.11.6 Web Publishing | 240 |
| 17.11.7 Printer Sharing | 240 |
| 17.11.8 Copying Files | 241 |
| 17.11.9 Synchronizing Files | 242 |
| 17.12 Syslog Server Screen | 243 |
| Chapter 18 | |
| Packages | 246 |
| 18.1 Overview | 246 |
| 18.2 What You Can Do | 246 |
| 18.3 NFS Screen | 247 |
| 18.3.1 Add/Edit NFS Share | 248 |
| 18.3.2 NFS Session | 249 |
| 18.4 TFTP Server Screen | 250 |
| 18.5 pyLoad Screen | 251 |
| 18.6 ownCloud Setup | 251 |
| 18.7 Memopal | 254 |
| 18.8 GoogleDriveClient | 256 |
| 18.8.1 Account Setting Screen | 256 |
| 18.8.2 Account Setting Add Screen | 258 |
| 18.8.3 Update Period Screen | 261 |
| Chapter 19 | |
| Auto Upload | 262 |
| 19.1 Overview | 262 |
| 19.2 What You Can Do | 262 |

| | |
|--|------------|
| 19.3 What You Need to Know | 262 |
| 19.4 Flickr/YouTube Screen | 262 |
| 19.4.1 Configuring the Flickr Settings | 263 |
| 19.4.2 Configuring the YouTube Settings | 267 |
| 19.5 FTP Uploadr Screen | 270 |
| 19.5.1 Adding or Editing an FTP Server Entry | 271 |
| 19.5.2 FTP Uploadr Preferences Screen | 272 |
| Chapter 20 | |
| Dropbox | 274 |
| 20.1 Overview | 274 |
| 20.2 Dropbox Screen | 274 |
| 20.3 How to Use Dropbox with the NAS | 276 |
| Chapter 21 | |
| Using Time Machine with the NAS | 278 |
| 21.1 Overview | 278 |
| 21.2 Time Machine Screen | 278 |
| 21.3 Using Time Machine | 278 |
| Chapter 22 | |
| Users | 281 |
| 22.1 Overview | 281 |
| 22.2 What You Can Do | 281 |
| 22.3 Users Screen | 281 |
| 22.3.1 User Icons | 283 |
| 22.3.2 Adding or Editing an Account | 283 |
| 22.3.3 Usernames | 284 |
| 22.4 Displaying User Info | 285 |
| Chapter 23 | |
| Groups | 287 |
| 23.1 Overview | 287 |
| 23.2 What You Can Do | 287 |
| 23.3 Groups Screen | 287 |
| 23.3.1 Adding or Editing a Group | 288 |
| 23.3.2 Group Names | 289 |
| Chapter 24 | |
| Shares | 291 |
| 24.1 Overview | 291 |
| 24.2 What You Can Do | 291 |
| 24.3 Shares Screen | 291 |

| | |
|--|------------|
| 24.3.1 Adding or Editing Share | 293 |
| 24.3.2 Configuring Advanced Share Access | 294 |
| 24.3.3 Public and ANONYMOUS Share Access Rights | 295 |
| 24.4 Recycle Bin Configuration Screen | 295 |
| 24.4.1 Recycle Bins | 295 |
| 24.4.2 Configuring Recycle Bins | 296 |
| 24.5 Share Browser Screen | 296 |
| 24.5.1 Moving or Copying Files | 298 |
| Chapter 25 | |
| WebDAV | 300 |
| 25.1 Overview | 300 |
| 25.2 WebDAV Screen | 300 |
| 25.3 How to Use NetDrive with the NAS | 301 |
| Chapter 26 | |
| Maintenance Screens | 302 |
| 26.1 Overview | 302 |
| 26.2 What You Can Do | 302 |
| 26.3 Power Screen | 302 |
| 26.3.1 Editing the Power Control Schedule Screen | 304 |
| 26.4 Log Screen | 306 |
| 26.4.1 Report Config Screen | 307 |
| 26.4.2 Email Setting | 308 |
| 26.4.3 Report Setting | 308 |
| 26.4.4 Syslog Server Setting | 309 |
| 26.5 Configuration Screen | 310 |
| 26.6 SSL Certification | 311 |
| 26.6.1 Modifying or Creating a Certificate | 312 |
| 26.7 Shutdown Screen | 313 |
| 26.8 Unpair myZyXELcloud Screen | 314 |
| 26.9 Technical Reference | 314 |
| 26.9.1 Log Classes | 314 |
| 26.9.2 Log Severity Levels | 315 |
| 26.9.3 Log Messages | 315 |
| Chapter 27 | |
| Protect | 321 |
| 27.1 Overview | 321 |
| 27.2 What You Can Do | 321 |
| 27.3 Backup Screens | 321 |
| 27.3.1 Backup: Step 1 | 322 |
| 27.3.2 Backup: Step 2 | 323 |

| | |
|--|------------|
| 27.3.3 Backup: Step 3 | 325 |
| 27.3.4 Backup: Step 4 | 326 |
| 27.3.5 Edit Job Screen | 327 |
| 27.3.6 Edit Job: Step 1 | 328 |
| 27.3.7 Edit Job: Step 2 | 329 |
| 27.3.8 Restore Archive Screen | 330 |
| 27.3.9 Restore Archive: Step 1 | 330 |
| 27.3.10 Restore Archive: Step 2 | 331 |
| 27.3.11 Restore Archive: Step 3 | 331 |
| 27.4 Restore Screen | 332 |
| 27.4.1 Restore: Step 1 | 332 |
| 27.4.2 Restore: Step 2 | 334 |
| 27.4.3 Restore: Step 3 | 334 |
| 27.4.4 Restore: Step 4 | 335 |
| 27.5 Configuration File Backup and Restoration | 336 |
| Chapter 28 | |
| Troubleshooting..... | 337 |
| 28.1 Troubleshooting Overview | 337 |
| 28.2 Power, Hardware, Connections, and LEDs | 337 |
| 28.3 NAS Starter Utility | 339 |
| 28.4 NAS Login and Access | 340 |
| 28.4.1 Enabling Scripting of Safe ActiveX Controls | 341 |
| 28.5 I Cannot Access The NAS | 343 |
| 28.6 Users Cannot Access the NAS | 344 |
| 28.7 External USB Drives | 345 |
| 28.8 Storage | 345 |
| 28.9 Firmware | 346 |
| 28.10 File Transfer | 346 |
| 28.11 Networking | 347 |
| 28.12 Some Features' Screens Do Not Display | 347 |
| 28.13 Media Server Functions | 348 |
| 28.14 Download Service Functions | 350 |
| 28.15 Web Publishing | 350 |
| 28.16 Auto Upload | 351 |
| 28.17 Package Management | 352 |
| 28.18 Backups | 352 |
| 28.19 Google Drive | 353 |
| Appendix A Product Specifications | 354 |
| Appendix B Customer Support | 355 |
| Appendix C Legal Information | 361 |

Index366

Getting to Know Your NAS

1.1 Overview

Use the NAS as your own personal cloud. Here are some key features:

Start using ZyXEL NAS instantly with FindMe - Use ZyXEL FindMe to discover your NAS on your home network and get in control in under 15 seconds. Then do an easy installation with no need to install a NAS utility.

Access and share files from your NAS wherever you are - Using the ZyXEL Drive mobile app makes it easy.

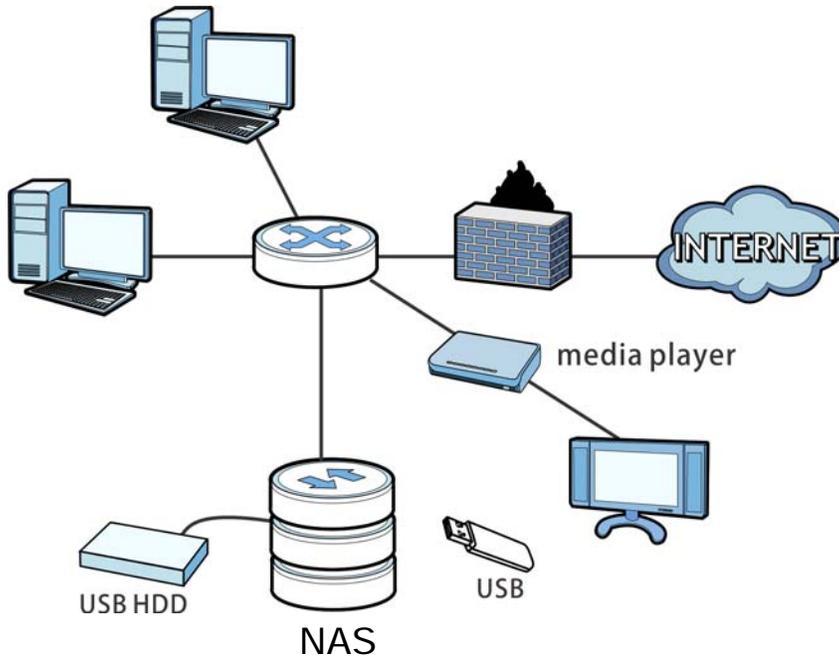
Create a shared cloud space for people without a NAS - Provide your cloud space for your friends or family members when you share a folder from the NAS with the ZyXEL Drive mobile app. Your friends and family members don't need to purchase an additional NAS - just install the ZyXEL Drive mobile app on their mobile devices.

Protect your data from drive failure - The NAS's RAID 1 capability clones contents from one drive to another. If a drive is damaged or corrupted, you still have another drive to restore from or use.

Get up and running quickly with the easy-to-use interface - The ZyXEL NSM (NAS Station Management) 5.1 intelligent desktop provides a rich feature set of tools with an easy-to-understand GUI design to help you get things done quickly. The multitasking capability through a multi-window interface enables you to quickly get applications up and running.

Check your NAS while you're away - Even if you have several ZyXEL NAS devices, visit the myZyXELcloud Web portal from anywhere to see their health status at a glance.

Stream multimedia contents to your big screen TV - Bring your favorite multimedia files on the NAS to the big screen. ZyXEL zCloud app lets you play your favorite videos, music, or photos on your big screen with TV streaming devices such as Apple TV, Google Chromecast, Roku 3, and Amazon Fire TV; or directly on smart TVs like those from Samsung and LG.

Figure 1 Example of the NAS in a Home Network

Above is the NAS in a home network. Users back up and share data on the NAS. The media player plays the NAS's media files on the TV. A USB hard drive provides extra storage space and files are copied directly from the USB mass storage device to the NAS.

Place the NAS behind a firewall and/or IDP (Intrusion Detection and Prevention) device to protect it from attacks from the Internet.

Refer to the Quick Start Guide for hardware connections and how to install and remove hard drives from the disk trays.

Note: Turn off and disconnect the NAS before you install or remove the internal hard disk or disks.

1.2 LEDs

This table describes the NAS's LEDs.

Table 1 LEDs

| LED | COLOR | STATUS | DESCRIPTION |
|--------|-------|----------|--|
| POWER | White | On | The NAS is turned on and receiving power. |
| | | Off | The NAS is turned off. |
| SYSTEM | White | On | The NAS has fully started and is operating normally. |
| | | Blinking | The NAS is starting up or upgrading the firmware. Note: Do not turn off the NAS while it is upgrading the firmware or you may render it unusable. |
| | Red | On | The NAS has a system error. |

Table 1 LEDs (continued)

| LED | COLOR | STATUS | DESCRIPTION |
|-------------|-------|---------------|--|
| HDD | White | On | The hard disk drive is connected properly to the NAS. This LED stays on white when the hard disk drive is in hibernation if you do not enable sleeping HDD LED blinking. |
| | | Blinking | The NAS is saving data to the hard disk drive. |
| | | Slow Blinking | Sleeping HDD LED blinking is enabled and the hard disk drive is in hibernation. |
| | Red | On | The NAS detected an error on the hard disk drive (like a bad sector for example). The NAS automatically tries to recover a bad sector, but the LED stays red until the NAS restarts. |
| | | Off | The NAS cannot detect a hard disk in the disk bay or the LED is disabled. |
| COPY | White | On | A USB device is connected to the NAS and the NAS is ready to copy. |
| | | Blinking | The NAS is copying or synchronizing files. |
| | Red | On | Copying or synchronizing files to or from the USB or SD failed. |
| | | Off | No USB device is connected. |
| LAN1 / LAN2 | Green | On | The NAS has a successful 10/100 Mbps Ethernet connection. |
| | | Blinking | The 100M LAN is sending or receiving packets. |
| | | Off | The NAS does not have a 10/100 Mbps Ethernet connection. |
| | Amber | On | The NAS has a successful 1000 Mbps Ethernet connection. |
| | | Blinking | The 1000 M LAN is sending or receiving packets. |
| | | Off | The NAS does not have a 1000 Mbps Ethernet connection. |

1.3 Hard Disks

The NAS has internal hard disk bays. Install SATA (Serial Advanced Technology Attachment) hard disks. Note that the SATA hard disks are treated as internal or SATA volumes. Any hard disk connected to a USB port is considered an external or USB volume.

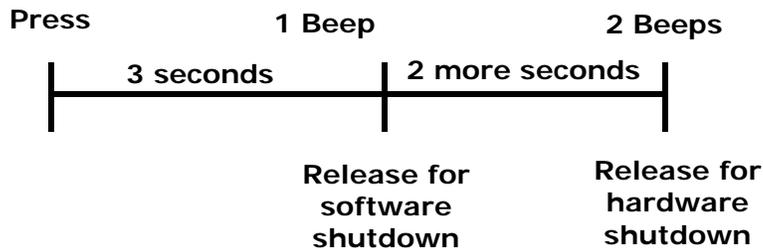
1.4 SD Card

Use up to a 128 GB SDXC card with the front panel SD card slot. The SD card slot works with the **COPY/SYNC** button (see [Section 1.6 on page 17](#) for details).

1.5 Power Button

Use the power button on the front panel to turn the NAS on or off.

- Press the power button for one second to turn on the NAS.

Figure 2 Using the Power Button to Turn Off the NAS

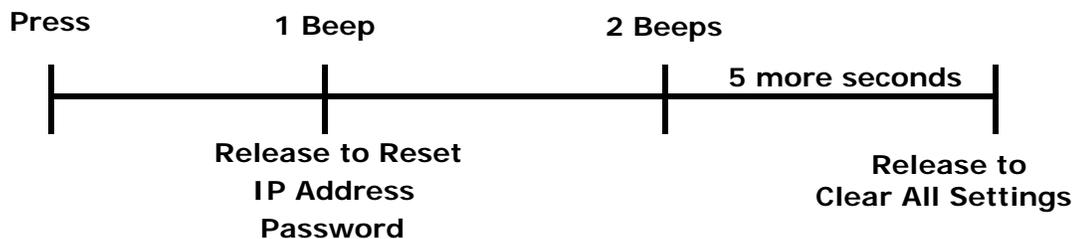
- To have the NAS go through its normal software shutdown process and turn itself off, press the power button until you hear one beep (after about three seconds), then release it.
- To perform a hardware shutdown and have the NAS immediately turn itself off without going through the normal shutdown process, press the power button until you hear a second beep (after about five seconds), then release it.

1.6 COPY/SYNC Button

Use the **COPY/SYNC** button on the front panel to copy or synchronize files between a connected USB or SD device and the NAS. See [Section 17.10 on page 232](#) for more details on how to configure the copy/sync settings.

1.7 RESET Button

Use the **RESET** button on the rear panel to restore the NAS's default settings.

Figure 3 The RESET Button

- Press the **RESET** button until you hear one beep (after about two seconds), then release it. You will hear one more beep after you release the button.
This resets the NAS's IP address and password to the default values.
- Press the **RESET** button until you hear two beeps. After the second beep, continue pressing the button for five more seconds, then release it. You will hear three quick beeps after you release the button.
This resets the NAS to the factory default configuration. All settings you have configured on the NAS, including IP address, password, user accounts, groups, and so on will be reset to the factory defaults.
The reset process does NOT affect the volume settings, nor data stored on the NAS.

You should periodically back up your configuration file to your computer (see [Section 26.5 on page 310](#) for details about managing the NAS's configuration file). You could then restore your configuration in the event that you or someone else reset the NAS to the factory defaults.

Note: Keep the NAS in a secure location in order to prevent unauthorized reset of the device.

You may need to close and re-open the NAS Starter Utility to discover the NAS. This is because the NAS automatically re-acquires IP address information, so its IP address may change. If no IP address information is assigned, the NAS uses Auto-IP to assign itself an IP address and subnet mask. For example, you could connect the NAS directly to your computer. If the computer is also set to get an IP address automatically, the computer and the NAS will choose addresses for themselves and be able to communicate.

Getting Started

2.1 Overview

Use FindMe or the NAS Starter Utility to find and access the NAS and the files on it.

The NAS Starter Utility supports Windows XP, Windows Vista, Windows 7, and Windows 8. Click **Help** to open a Web Help page about the NAS Starter Utility screens.

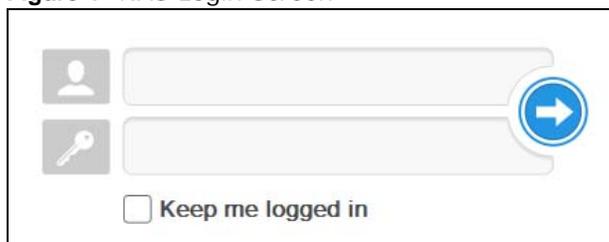
Note: Installing this version of the NAS Starter Utility uninstalls previous versions.

Note: Refer to the Quick Start Guide for your NAS's hardware connections and the steps for installing the NAS Starter Utility.

2.2 FindMe

- 1 Connect to <https://findme.zyxel.com> in your browser to find and connect to your NAS.
- 2 Use the default username "admin" and password "1234" to log in. See [Chapter 7 on page 38](#) for more on the web desktop.

Figure 4 NAS Login Screen



2.3 NAS Starter Utility

- The NAS Starter Utility broadcasts a request packet when you first run it. Each NAS has an NAS Starter Utility Agent that always listens and responds to requests from the NAS Starter Utility. The NAS Starter Utility receives the response packet that contains information, such as host name, IP, and so on.
- If you plan to use more than one NAS in your network, configure them with unique server names. This enables you to identify each NAS in the NAS Starter Utility screens.

2.3.1 NAS Seeker Screen

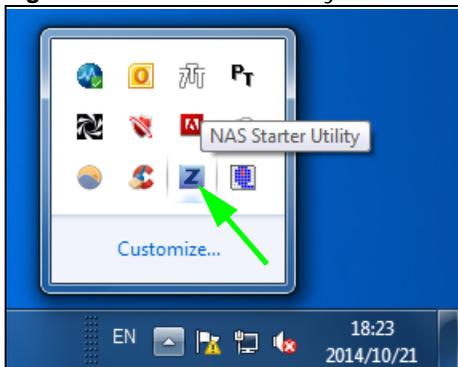
Use this screen to view the NASs in your network. The NAS's **Server Name**. The default is 'NAS' followed by the number of your model ('NAS540' for example). See [Section 2.3.5 on page 23](#) for how to change it to a more recognizable one in your network.

Click the **NAS Starter Utility** icon on your desktop or in the Windows system tray to start the NAS Starter Utility. Alternatively you can click **Start > Programs > ZyXEL > NAS Starter Utility**.

Figure 5 NAS Starter Utility Desktop Icon



Figure 6 NAS Starter Utility Windows System Tray Icon



The first time you open the NAS Starter Utility the discovery screen appears as follows.

Figure 7 NAS Seeker



The following table describes the labels in this screen.

Table 2 NAS Seeker

| LABEL | DESCRIPTION |
|---------|---|
| Connect | Select a NAS and click this to connect to it. |
| Refresh | Click this to refresh the screen. The NAS Starter Utility does not automatically refresh. |

Table 2 NAS Seeker (continued)

| LABEL | DESCRIPTION |
|-------------|--|
| Status | This shows whether the NAS is Online , Unreachable , Configuring , or Config Failed . |
| Server Name | This is the server name you configured for the NAS. If you have more than one NAS in your network, it is recommended that you give each one a unique name for identification purposes. |
| IP Address | This is the current IP address of the NAS. |

2.3.2 Main NAS Starter Utility Screen

The main NAS Starter Utility screen displays after you select an NAS in the **NAS Seeker** screen.

Figure 8 NAS Starter Utility Main Screen

The following table describes the labels in this screen.

Table 3 NAS Starter Utility Main Screen

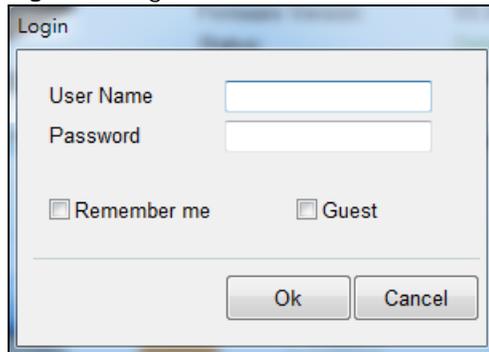
| LABEL | DESCRIPTION |
|---------------|--|
| ? | Click this to display the utility help. |
| Configuration | Click this to configure system settings (see Section 2.3.5 on page 23). |
| NAS Seeker | Click this to use the NAS Seeker screen (Section 2.3.1 on page 20) to find and connect to a different NAS on your network. |
| Server Name | This is the server name you configured for the NAS. If you have more than one NAS in your network, it is recommended that you give each one a unique name for identification purposes. |
| IP Address | This is the current IP address of the NAS. |

Table 3 NAS Starter Utility Main Screen (continued)

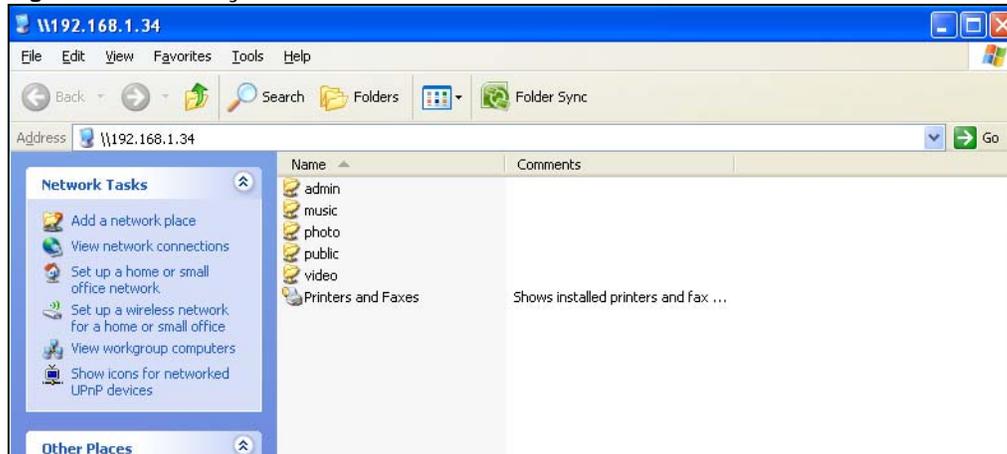
| LABEL | DESCRIPTION |
|---------------------------|--|
| MAC Address | This is the NAS's unique physical hardware address (MAC). |
| Firmware Version | This shows the version of firmware the NAS is currently using. |
| Status | This shows whether the NAS is Online , Uninitialized , Unreachable , Configuring , or Config Failed . |
| Run Initialization Wizard | This button displays if the NAS detects that the NAS has not yet configured any of the installed hard disks. Click this button to go to the Web Configurator login screen (see Section 7.2 on page 38). |
| Capacity | This shows the NAS's total, in-use, and remaining storage capacity. |
| DeskTop | Click this button to go to the Web Configurator login screen (see Section 7.2 on page 38). |
| Network Drive | Click this to add the NAS as a network drive in your computer's Windows Explorer. |
| Shared Folder | Click this to log into the NAS's file directory in Windows Explorer. |
| myZyXELcloud | Click this to go to mycloud.zyxel.com to set up a free DDNS hostname for the NAS so you can connect to it easily from the Internet. |

2.3.3 Directory of the NAS

In the main NAS Starter Utility screen click **Shared Folder** to log into the NAS's file directory in Windows Explorer. Enter the administrator user name and password and click **Login**.

Figure 9 Login

The utility opens the NAS's directory in Windows Explorer.

Figure 10 Directory

2.3.4 Network Drive

In the main NAS Starter Utility screen click **Network Drive** to add the NAS as a network drive in your computer's Windows Explorer.

Enter your user name and password and click **Login** to be able to add the NAS's shares to which you have access as network drives. Otherwise select **Guest** and click **Login** to be able to add the NAS's public shares as network drives.

Figure 11 Login

The screenshot shows a 'Login' dialog box with the following elements:

- User Name:** A text input field.
- Password:** A password input field.
- Remember me:** A checkbox.
- Guest:** A checkbox.
- Buttons:** 'Ok' and 'Cancel' buttons at the bottom.

Select a share on the NAS and the drive letter on your computer to which you want to map it. The shares that each user can select to map depends on the user's permissions. For example, if share1 is private to user1, then only user1 is allowed to map share1. The table displays the NAS shares that are already mapped to drive letters on your computer. After you click **Apply** you can see the new drive in Windows Explorer (My Computer) where you can access and use it like your computer's other drives.

Figure 12 Network Drive

The screenshot shows a 'Network Drive' dialog box with the following elements:

- Text:** "To quickly and easily access the files that are stored in the NAS directly right from Windows Explorer or My Computer, you can map a drive letter to a Shared".
- Drive Letter:** A dropdown menu currently showing 'Z:'.
- Shared Folder:** A list box containing: public, video, photo, music, and a partially visible '...'.
- Table:** A table with two columns: 'Shared Folder' and 'Network Drive'.
- Checkboxes:**
 - Open the network drive after clicking Apply
 - Reconnect at Windows login
- Buttons:** 'Apply' and 'Cancel' buttons at the bottom.

2.3.5 Configure System Settings

Use these screens to be able to change the NAS's server name, time zone, PPPoE, IP address, subnet mask, default gateway, or DNS settings.

Click **Configuration > System Setting** in the main utility screen to display the following screen.

Figure 13 NAS Starter Utility > Configuration > System Setting

The following table describes the labels in this screen.

Table 4 NAS Starter Utility > Configuration > System Setting

| LABEL | DESCRIPTION |
|------------------------------|---|
| Server Name | Specify a name to uniquely identify the NAS on your network. You can enter up to 15 alphanumeric characters with minus signs allowed but not as the last character. The name must begin with an alphabetic character (a-z) and is case sensitive. |
| Time Zone | Choose the time zone of your location. This will set the time difference between your time zone and Greenwich Mean Time (GMT). |
| Enable PPPoE Connection | Click this if your Internet connection requires you to enter a user name and password to connect to the Internet. Enter your user name and password |
| IP Address | Use these fields to configure the IP address of the LAN interface through which you are connected to the NAS. When the LAN interfaces are set to stand-alone, this configures the IP address of the LAN interface in the same subnet as your computer. It configures LAN1 if both LAN interfaces are in the same subnet as your computer. If you use the administrator configuration screens to set the LAN interfaces to link aggregation, this configures the IP address that both LAN interfaces share. |
| Automatically get IP address | Select this if the NAS is automatically assigned an IP address from the ISP or a DHCP server in your network. |
| Manually assign IP address | Select this if you want to assign the NAS a fixed IP address, subnet mask and default gateway. Note: Do not configure an IP address that is already in use in your network. This results to a network IP address conflict and makes the NAS inaccessible. |

Table 4 NAS Starter Utility > Configuration > System Setting (continued)

| LABEL | DESCRIPTION |
|----------------------|---|
| Use from DHCP server | Domain Name System (DNS) is for mapping a domain name to its corresponding IP address and vice versa. Select this if the NAS is automatically given DNS information from the ISP or a DHCP server in your network. |
| DNS | Domain Name System (DNS) is for mapping a domain name to its corresponding IP address and vice versa. Select Use from DHCP server if the NAS is automatically given DNS information from the ISP or a DHCP server in your network. Select Manually assign DNS server if you were given specific IP address(es) of the DNS server(s). Enter the primary and secondary DNS in the corresponding fields. |

Accessing Your Cloud Remotely

Use the NAS to set up your own secure personal cloud. Keep your videos, photos, music, and files safely at home and under your control. Access, share, and stream files from anywhere using your PC, Mac computer, and mobile devices.

3.1 myZyXELCloud Service

Use the myZyXELCloud service at <https://mycloud.zyxel.com> to set up a free hostname like name.zyxel.me and set the NAS to use it. This lets you easily access the NAS through the Internet. The myZyXELcloud Web portal also lets you monitor the NAS's health from anywhere.

3.2 ZyXEL Drive

Use the ZyXEL Drive app to stream or download photos, videos, and music to your Android or iOS phone through the Internet. You can also upload files from your phone to the NAS.

After setting up the myZyXELCloud service, go to <http://zyxel.to/zdrive> to get the ZyXEL Drive app for your Android or iOS phone.

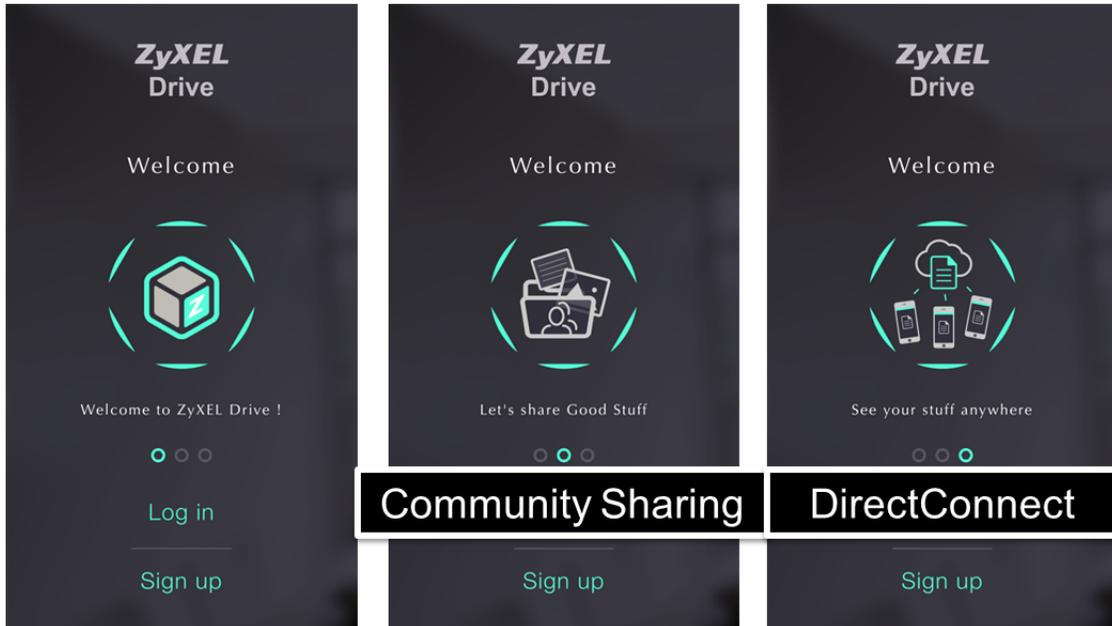
Log in, sign-up, and start playing.

3.2.1 ZyXEL Drive Welcome

Community Sharing - Send invitation links to friends and family to conveniently share selected NAS folders.

DirectConnect - Privately and securely access your NAS content from anywhere.

Figure 14 ZyXEL Drive Welcome

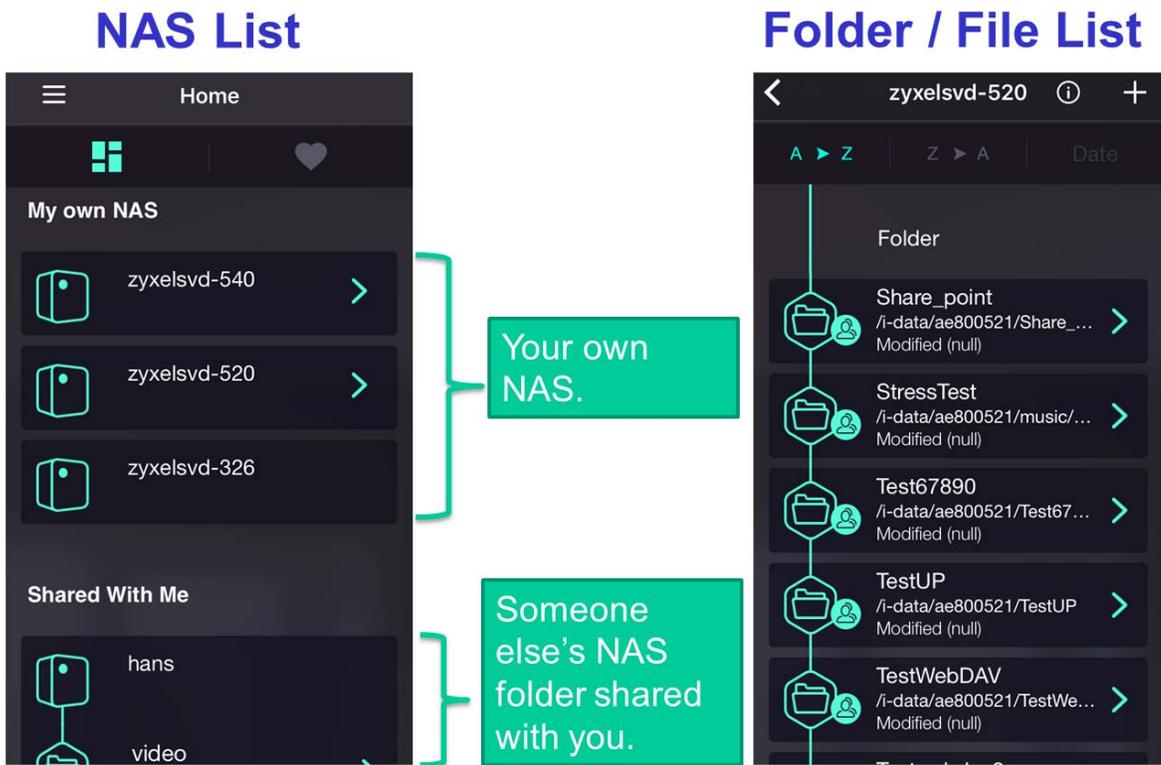


3.2.2 NAS and File List

My own NAS - Access and share files from your own NAS.

Shared With Me - Access files on someone else's NAS folder that they have shared with you.

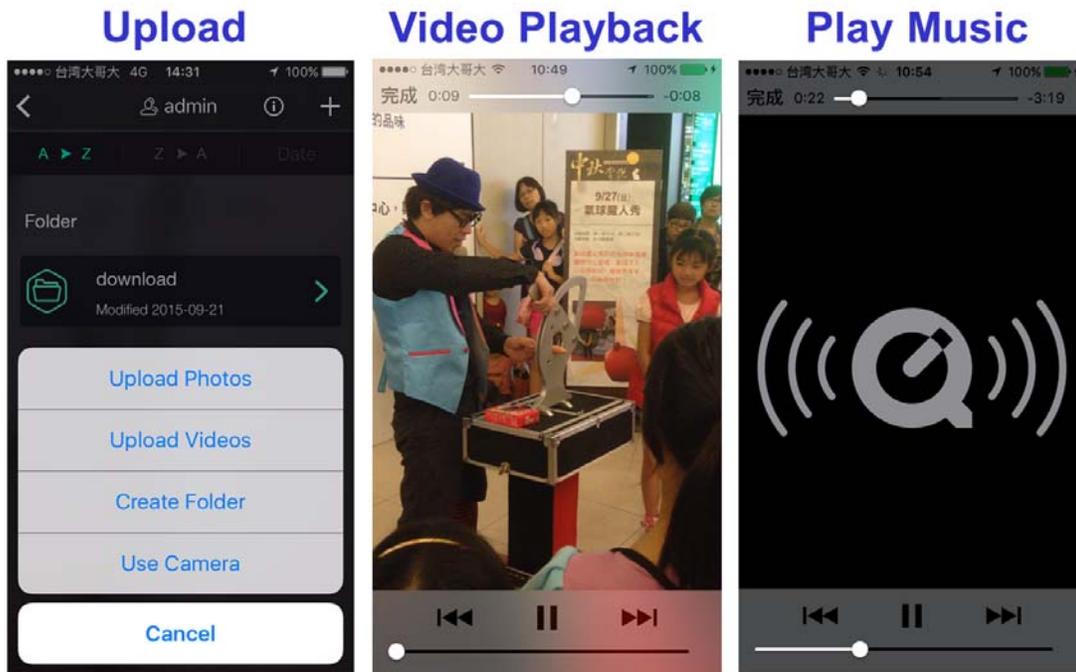
Figure 15 NAS and File List



3.2.3 Uploading and Media Streaming

Use ZyXEL Drive to upload photos and videos from your mobile device to the NAS. You can also stream videos and music stored on the NAS.

Figure 16 Uploading and Media Streaming



zCloud

ZyXEL zCloud app lets you play your favorite multimedia files on the NAS on your big screen TV. Use TV streaming devices such as Apple TV, Google Chromecast, Roku 3, and Amazon Fire TV; or play files directly on smart TVs like those from Samsung and LG.

- Browse your media contents from your NAS directly on your Android or iOS device.
- View photos stored on your NAS with the app's built-in slideshow.
- Play music stored on your NAS.
- Watch videos stored on your NAS .
- Upload files from your Android device to your NAS.
- Upload photos and videos from your iOS device to your NAS.
- Browse and manage files stored on the NAS.
- Compatibility: Requires Android 4.0.3 or later or iOS 7 or 8.

4.1 Using zCloud

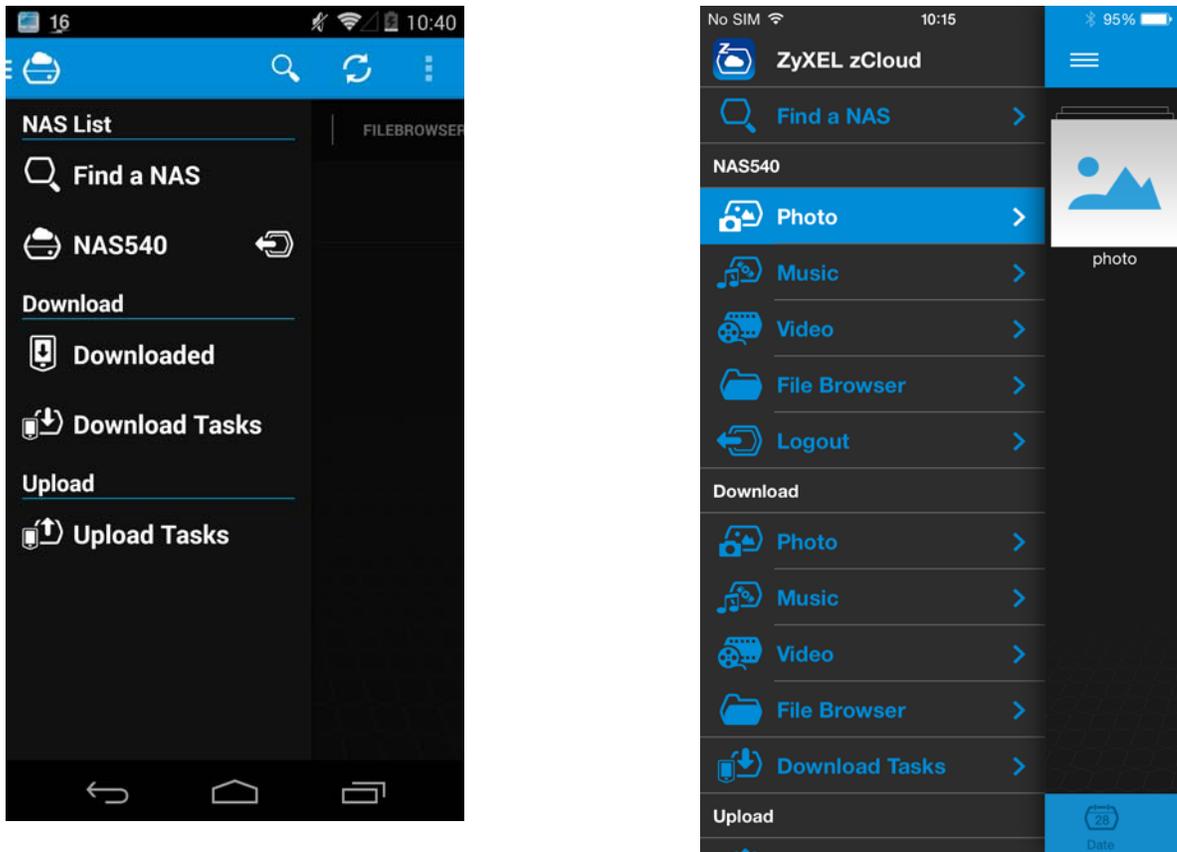
Install the zCloud app from Google Play or the Apple App store. Then tap the zCloud icon to open it.

Figure 17 zCloud Icon



The main menu displays.

Figure 18 zCloud Android and iOS Main Menus



Find a NAS - use your NAS's IP address and your user name and password to connect to it.

NAS540 - access the NAS's default photo, music, and video shares. You can play, download, upload and manage files.

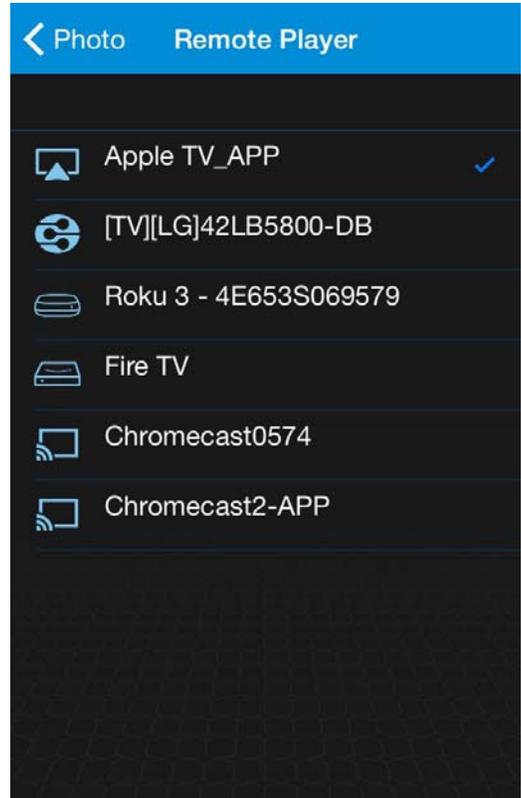
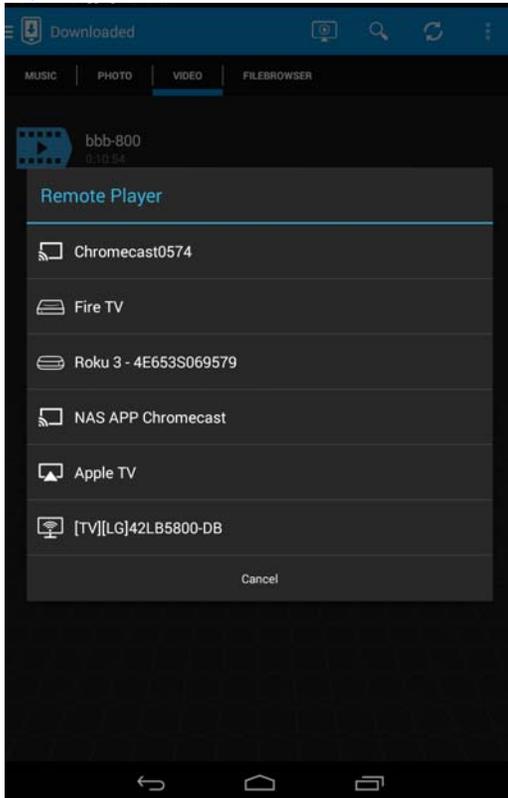
Download - access and manage files downloaded from the NAS to your Android or iOS device and manage download tasks.

Upload - view and manage upload tasks.

4.2 zCloud TV Streaming

Here is an example of the zCloud app letting you choose a player to use to stream a video on your TV.

Figure 19 zCloud Android and iOS TV Streaming



Managing Users, Groups, and Shares

5.1 Managing Users, Groups, and Shares

- Use the **Users** screens ([Chapter 22 on page 281](#)) to create and manage administrator and user accounts.
- Use the **Groups** screens ([Chapter 23 on page 287](#)) to create and manage groups of user accounts. You can assign users to groups and grant individual groups access rights to specific shares.
- Use the **Shares** screens ([Chapter 24 on page 291](#)) to manage access permissions mapped to specific folders on a volume. A share is equivalent to the Windows concept of a shared folder. Map a share to a network drive for easy and familiar file transfer for Windows users.

Backing Up, Retrieving, and Syncing Files

6.1 About Backups

Backup before you need it. The NAS's multiple backup methods make it easy to follow the 3-2-1 backup rule:

- At least **3** copies of data
- Stored on at least **2** different media
- With at least **1** copy off-site.

6.2 Managing a USB Device and USB Backups

Use the USB ports and SD card slot to copy or synchronize files between a connected USB or SD device and the NAS. You can use the USB drive or SD card for off-site backups.

- Use the **Copy/Sync** button on the front panel to copy or synchronize files between a connected USB or SD storage device and the NAS. See [Section 17.10 on page 232](#) to configure the copy/sync settings.
- Use the NAS's **Backup** screens ([Section 27.3 on page 321](#)) to schedule backups of files and folders on your NAS to a USB device or SD card. See [Section 14.14.2 on page 194](#) for an example.

6.3 Remote Backups

Use the NAS's **Backup** screens ([Section 27.3 on page 321](#)) to schedule backups of files and folders on your NAS to another ZyXEL NAS or a NAS using rsync.

- See [Section 14.14.1 on page 192](#) for an example of backing up to a remote NAS.
- Use the **Restore** screens ([Section 27.4 on page 332](#)) to restore previous backups based on the backup job. See [Section 14.14.3 on page 196](#) for an example.
- If you deleted an archive backup job or the NAS or the RAID array containing the backup job failed, you can restore by backup files. See [Section 14.14.3 on page 196](#) for an example.

6.4 Internal Backups

Use the NAS's **Backup** screens ([Section 27.3 on page 321](#)) to schedule backups of files and folders on your NAS to another folder on the NAS.

- See [Section 14.14.2 on page 194](#) for an example of how to back up the NAS to another NAS.
- Use the **Restore** screens ([Section 27.4 on page 332](#)) to restore previous backups based on the backup job. See [Section 14.14.3 on page 196](#) for an example.

6.5 Cloud Backups

Use the NAS with cloud services for off-site backups and synchronization.

- Use **Dropbox** ([Chapter 20 on page 274](#)) to log the NAS into your Dropbox account to easily move files to your NAS and have the NAS download *.torrent files.
- Use **Memopal** ([Section 18.7 on page 254](#)) to back up files on the NAS to your Memopal online backup and storage account.

6.6 Synchronizing Files

Besides backups, the NAS also provides pure synchronization solutions.

Note: Synchronization is not backup. When you delete a file in one location, synchronization deletes it in the other location. Do not store your only copy of a document in a synchronized folder.

- Use the **GoogleDriveClient** package ([Section 18.8 on page 256](#)) to two-way synchronize local NAS folders and Google Drive accounts. Changes in the Google Drive account appear in the local sync folder and changes in the local sync folder appear in the Google Drive account.
- Use the **ownCloud** package ([Section 18.6 on page 251](#)) to host your own private cloud on the NAS. The ownCloud package lets the NAS work as an ownCloud server so computers and mobile devices using the ownCloud client can access, sync, and share files across devices.

PART I

Web Desktop at a Glance

Web Configurator

7.1 Overview

This chapter describes how to access the NAS web configurator and provides an overview of its screens. The web configurator is an HTML-based management interface that allows easy NAS setup and management using an Internet browser.

Use Internet Explorer 11.0.9, Mozilla Firefox 31.0, Safari 5.1.7, Google Chrome 37.0.2, or later versions of these browsers. The recommended screen resolution is 1440 by 900 pixels or higher.

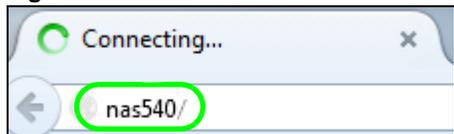
In order to use the web configurator you need to allow:

- Web browser pop-up windows from your device. Web pop-up blocking is enabled by default in Windows XP SP (Service Pack) 2.
- JavaScript (enabled by default).

7.2 Accessing the NAS Web Configurator

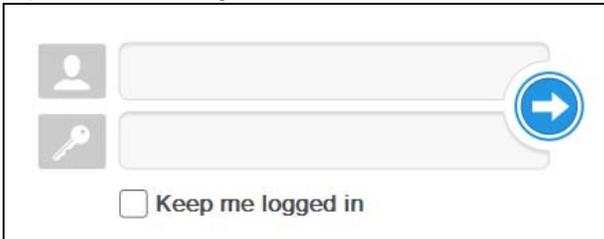
- 1 Make sure your NAS is properly connected and that your computer is in the same subnet as the NAS (refer to the Quick Start Guide or the appendices).
- 2 Open your browser and type in the server name of the NAS. The default is “nas” followed by the number of your model (“nas540” for example). Configure the server name of your NAS using the **Network Configuration** screen ([Section 2.3.5 on page 23](#)) of the NAS Starter Utility.

Figure 20 NAS URL



- 3 The default username and password are “admin” and “1234” respectively. Enter your username and password. See [Chapter 22 on page 281](#) for how to create other user accounts. If you use the option to stay logged in (assuming you do not log out), make sure you keep your computer secure from unauthorized access. Click the arrow to log in. Logging in with a (non-administrator) user account takes you to a different Desktop screen (see [Section 7.3 on page 41](#) for details).

Figure 21 NAS Login Screen



Make sure you have a backup of any existing data in the hard disk before installing it in the NAS. Creating a volume formats the hard disk and deletes all data in the process.

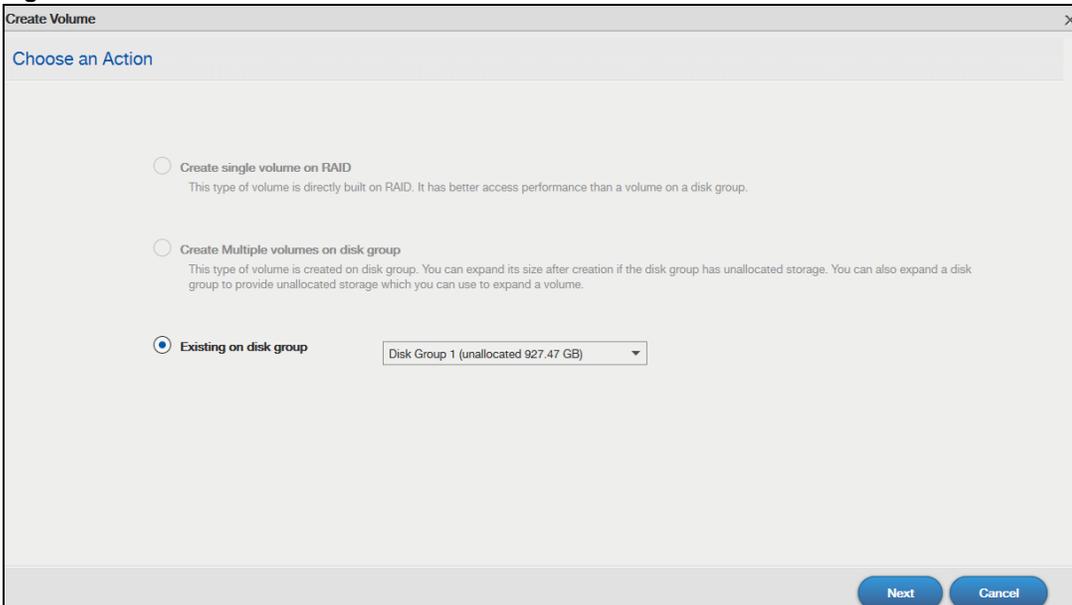
- 4 This screen displays if you have not created a volume yet. Click **Create Volume** to make a volume or click the **x** to close the screen to go to the **Desktop** (Section 7.3 on page 41).

Figure 22 Welcome Screen



- 5 Select **Create single volume on RAID** for a simple set up. Go to Section 8.3.1 on page 55 for details.
 Select **Create Multiple volumes on disk group** to be able to create more than one storage volume. Go to Section 8.3.3 on page 64 for details.

Figure 23 Create Volume



If you choose **Existing on disk group**, you will go to the screens below after clicking **Next**.

Figure 24 Existing on Disk Group

The figure shows two screenshots of the 'Create Volume' web configurator interface. The top screenshot displays the 'Create volume on disk group' step, and the bottom screenshot displays the 'Summary' step.

Top Screenshot: Create Volume / 2 Summary

Create volume on disk group

Disk group information

Name: Disk Group 1

Unallocated capacity: 99.99% 927.47 GB / 927.57 GB

Create Volume

Volume Name:

Allocated volume size: GB

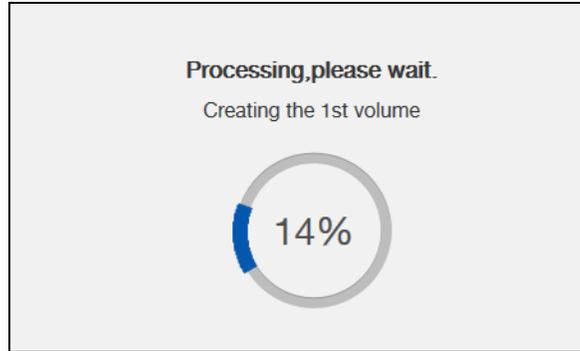
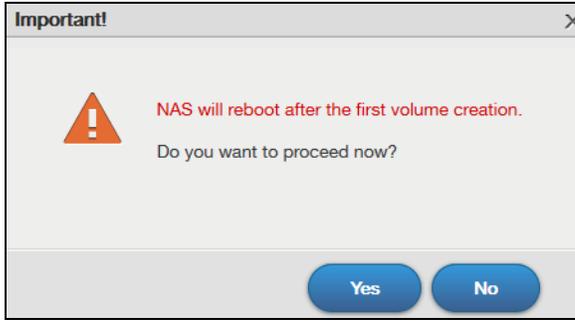
Bottom Screenshot: Create Volume / 2 Summary

| Item | Value |
|-----------------|---|
| Volume Type | Multiple volumes on RAID (Disk Group 1) |
| Volume Name | Volume1 |
| Volume Capacity | 10 GB |

Buttons: Back, Apply, Cancel

If this is the first time the NAS has created a volume, it needs to reboot after the volume is created. Click **Yes** to reboot or **No** to go to the Desktop.

Figure 25 Reboot



7.3 Desktop

The **Desktop** screen displays after you log in. Hover your mouse over the heading bar icons to display their names.

Figure 26 Desktop (Administrator)



Figure 27 Desktop (User)



Note: The Web Configurator session automatically times out if left idle for 15 minutes. Simply log back into the NAS if this happens to you.

- 1 **Desktop** - click this to minimize all windows so you can see the desktop. Click it again to restore the windows to their previous state.

- 2 **Storage Manager**- click this to open the storage configuration screens.
- 3 **Control Panel** - click this to open the control panel screens to configure the network setting and upgrade firmware.
- 4 **Status Center** - click this to display NAS status information.
- 5 **Help** - click this to display the NAS' embedded help system screens.
- 6 **Administrator** - click this to open the administrator configuration screens in a new tab.
- 7 **File Browser** - click this to see files in a tree-folder structure.
- 8 **Photo** - click this to view photos in the shares that publish photos.
- 9 **Music** - click this to view and play music files in the shares that publish music.
- 10 **Video** - click this to view and play video files in the shares that publish videos.
- 11 **myZyXELcloud** - click this to go to mycloud.zyxel.com to set up a free DDNS hostname for the NAS so you can connect to it easily from the Internet.
- 12 **User** - click this to display the **Logout** link.
- 13 **Eject NAS External Drives** - click this to eject the connected external volumes.
- 14 **Playzone Settings** - click this to open the playzone configuration screen in a new tab.
- 15 **Application Zone** - click this to open the application zone in a new tab.

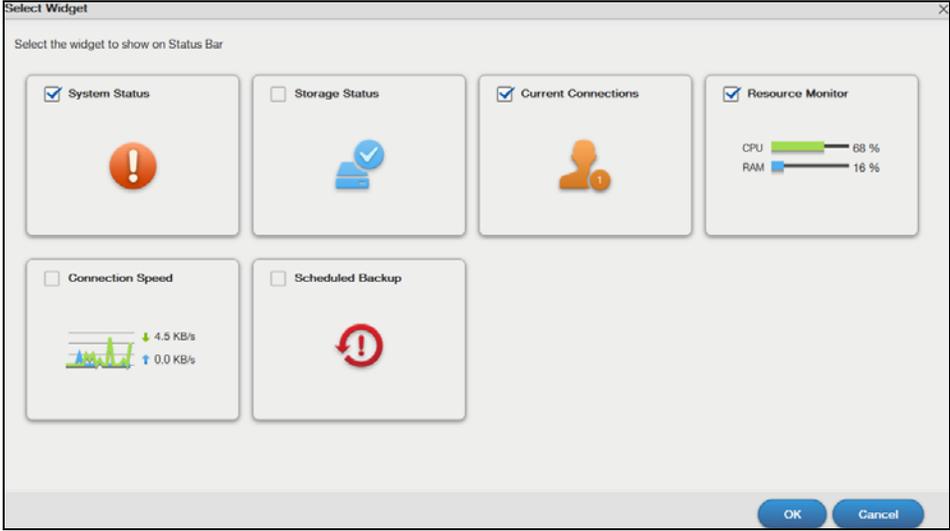
7.3.1 Status Zone

The Status Zone displays icons for various features you can access.

Table 5 Status Zone Icons

| ICON | DESCRIPTION |
|---|--|
|  | Click System Status to open the Status Center screen. System Status displays the health state of the NAS. A green circle with a check mark indicates healthy. |
|  | Web Sessions displays the current number of web sessions. Click this to go to the Network screen for more details. |

Table 5 Status Zone Icons (continued)

| ICON | DESCRIPTION |
|--|---|
|  | <p>Click this to select widgets to show on the status bar.</p>  <p>Select or clear the widgets to show or hide on the Status bar. Click OK to save your changes or Cancel to exit this screen without saving changes.</p> |
|  | <p>Click this to hide or show the status bar.</p> |

7.3.2 Grouping Icons

You can drag one icon to another one and make them a group as shown below.

Figure 28 Grouping Icons



After the group is created, the default group name is NewGroup. You can click the icon to change the group name. In the following example, the group name is changed to Media.

Figure 29 Change the Group Name



You can also move the group to another page by right-clicking the icon as shown next.

Figure 30 Move the Group Location



Storage Manager

8.1 Overview

This chapter displays the status of both internal and external storage, and introduces how to configure disk groups, volumes, and iSCSI functions. Click **Storage Manager** on the **Desktop** to go to the following screens in a new window.

8.2 Storage Manager Overview

Click **Storage Manager** on the **Desktop** to display the status of both internal and external storage, and configure disk groups, volumes, and iSCSI functions.

The **Storage Manager Overview** screen displays the status, current storage configuration and volume usage of internal volumes and capacity usage of external volumes.

Figure 31 Storage Manager > Overview > Internal Volumes

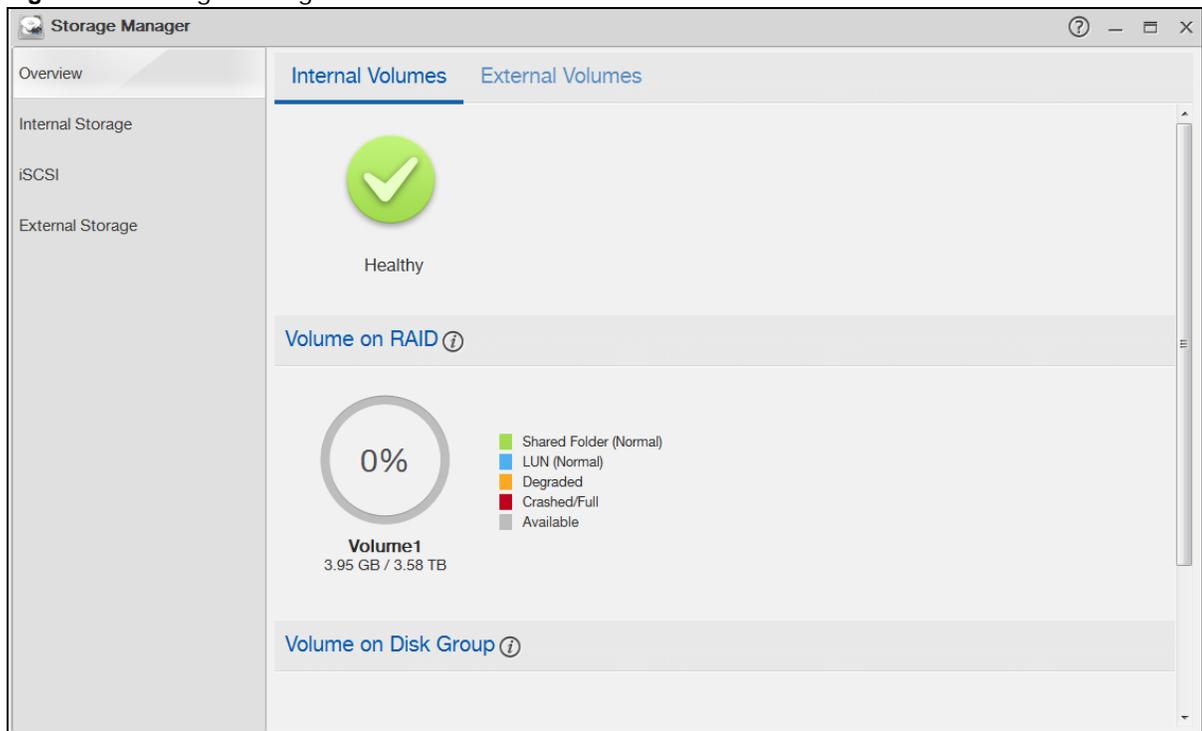
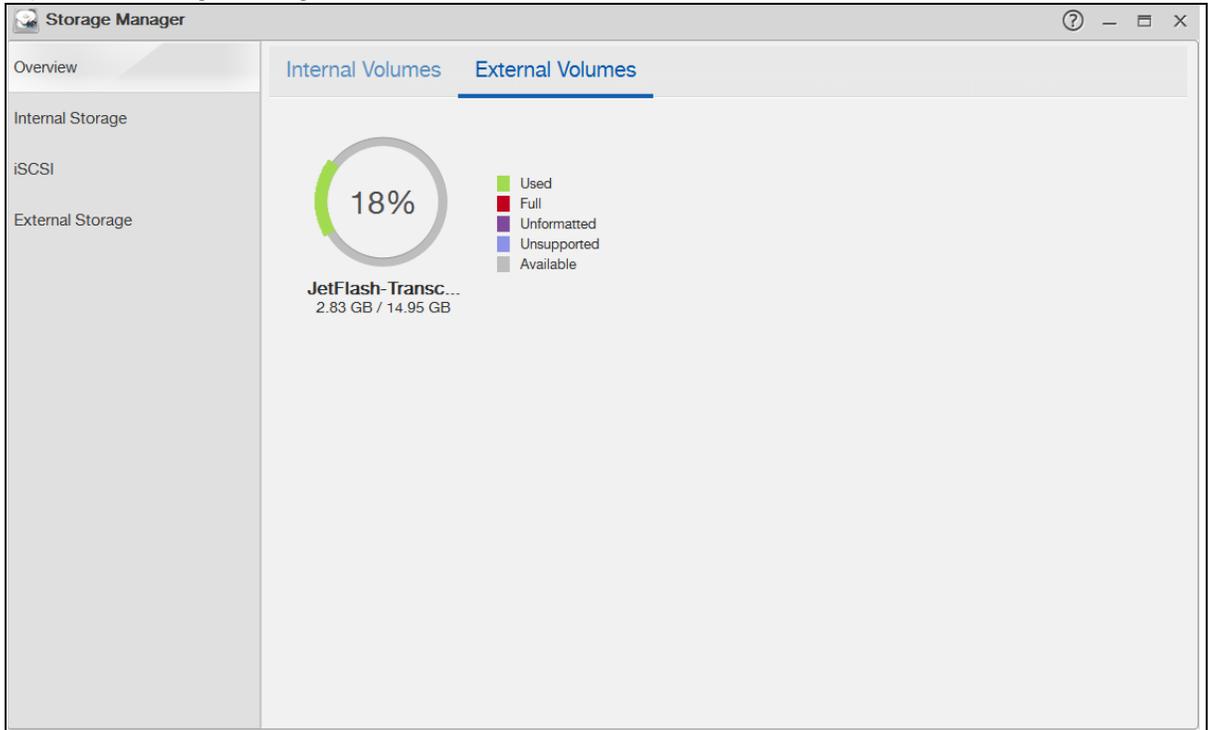


Figure 32 Storage Manager > Overview > External Volumes

The following table describes the labels in this screen.

Table 6 Storage Manager > Overview

| LABEL | DESCRIPTION |
|--------------|---|
| Storage | <p>The circular icon displays the overall health state of the NAS.</p> <p>A green circle with a check mark indicates healthy.</p> <p>An orange circle with an exclamation mark indicates attention. This appears when a volume or disk group is degraded. Click Repair to repair it.</p> <p>An red circle with an exclamation mark indicates danger. This appears when a volume or disk group is crashed. You cannot recover the volume.</p> |
| Volume Usage | This shows how much of each volume is currently used. |

Table 6 Storage Manager > Overview (continued)

| LABEL | DESCRIPTION |
|-------------------------------|--|
| Volume (for Internal Volumes) | <p>This section shows the current storage usage for each volume built directly on top of a RAID. These volumes have higher access performance than volumes on a disk group but are less flexible in regards to size.</p> <p>Details include the currently used percentage of the volume.</p> <p>Shared Folder (Normal) - green on the circle represents the volume's percentage of used capacity in a healthy state.</p> <p>LUN (Normal) - blue on the circle represents the iSCSI LUN's percentage of used capacity.</p> <p>Degraded - orange on the circle represents the volume's percentage of used capacity in a degraded state. Degraded means one or more disks has failed but you can still replace a faulty disk to recover the volume.</p> <p>Crashed/Full - a red exclamation point represents the volume is in a down state. Down means you cannot recover the volume. Full means the volume has run out of space.</p> <p>Available - gray on the circle represents the volume's percentage of unused capacity.</p> <p>This section also displays the volume's used capacity, and total capacity available.</p> |
| Volume (for External Volumes) | <p>Details include the currently used percentage of the volume.</p> <p>Used - green on the circle represents the volume's percentage of used capacity in a healthy state.</p> <p>Full - a red exclamation point represents the volume has run out of space.</p> <p>Unformatted - purple on the circle represents the connected USB storage device is not formatted with a file system.</p> <p>Unsupported - violet on the circle represents the connected USB storage device uses a file system the NAS does not support.</p> <p>Available - gray on the circle represents the volume's percentage of unused capacity.</p> <p>This section also displays the volume's used capacity, and total capacity available.</p> |
| Volume on Disk Group | <p>This section shows the current storage usage for each volume built on top of a disk group. You can expand a volume's size after creation if the disk group has unallocated space. You can also expand a disk group by adding hard disks.</p> |

8.3 Internal Storage

A volume is a basic storage space on the NAS. To store data on the NAS, you must create at least one volume. Your NAS supports the following:

- Internal volumes (built on the hard disks installed in the NAS)
- External volumes (built on the external storage devices attached to the NAS)

Internal Volumes

Table 7 Internal Volumes

| OPTION | DESCRIPTION |
|----------------------|---|
| Volume | Allocates all the available space to the volume. Provides better performance. |
| Volume on Disk Group | Allows you to create multiple volumes on a disk group. Allows you to customize the size of a volume. |

RAID Types

The following table describes RAID types.

Note: RAID 5, RAID 6, RAID 10, and the hot spare option apply to 4-bay NAS devices.

Table 8 RAID Types

| RAID TYPE | NO. OF HDD | NO. OF HDD ALLOWED TO FAIL | DESCRIPTION | CAPACITY |
|-----------|------------|----------------------------|---|--|
| Basic | 1 | 0 | Use Basic with one disk. It has no fault tolerance. | 1 x (HDD size) |
| JBOD | 2-4 | 0 | Use JBOD with two or more disks for maximum capacity. This is just a collection of disks with no fault tolerance. | sum of HDD sizes |
| RAID 0 | 2-4 | 0 | Use RAID 0 with two or four disks for maximum speed and no fault tolerance. | sum of HDD sizes |
| RAID 1 | 2-4 | (No. of HDD) - 1 | Use RAID 1 to create an exact copy of data on one disk to a second disk. Use this with two to four disks to mirror primary data to another disk(s) with high performance. You can add a hot spare to a 2-disk RAID 1. | Smallest HDD size |
| RAID 5 | 3-4 | 1 | Use RAID 5 with three or four disks to balance performance and hard disk capacity usage with data protection in case of disk failure. You can add a hot spare to a 3-disk RAID 5. | (No. of HDD - 1) x (smallest HDD size) |
| RAID 6 | 4 | 2 | Use RAID 6 with four disks for more data protection in case of disk failure. | (No. of HDD - 2) x (smallest HDD size) |
| RAID 10 | 4 | 1 HDD in each RAID 1 group | Use RAID 10 with four disks to get better performance than RAID 6, with slightly less data protection. | (No. of HDD / 2) x (smallest HDD size) |

Repair Volumes or Disk Groups

If a hard disk in a RAID 1 with a hot spare or a RAID 5 with a hot spare fails, the NAS automatically uses the hot spare to re-build the volume or disk group. Later you can replace the failed hard disk and add the new disk as a hot spare.

A hard disk failure in a RAID 1, RAID 5, RAID 6, or RAID 10 degrades the volume or disk group. Replace the failed disk and use the **Internal Storage** screen's **Repair** link to repair the volume.

Change RAID Type

You can change the following RAID types without losing stored data. This can help you manage your storage capacity as you add more disks.

Table 9 Internal Volumes

| RAID TYPE | WHAT YOU CAN CHANGE IT TO |
|-----------|-----------------------------------|
| Basic | RAID 1 |
| RAID 1 | RAID 1 with a hot spare or RAID 5 |
| RAID 5 | RAID 5 with a hot spare or RAID 6 |

Expand Volumes or Disk Groups

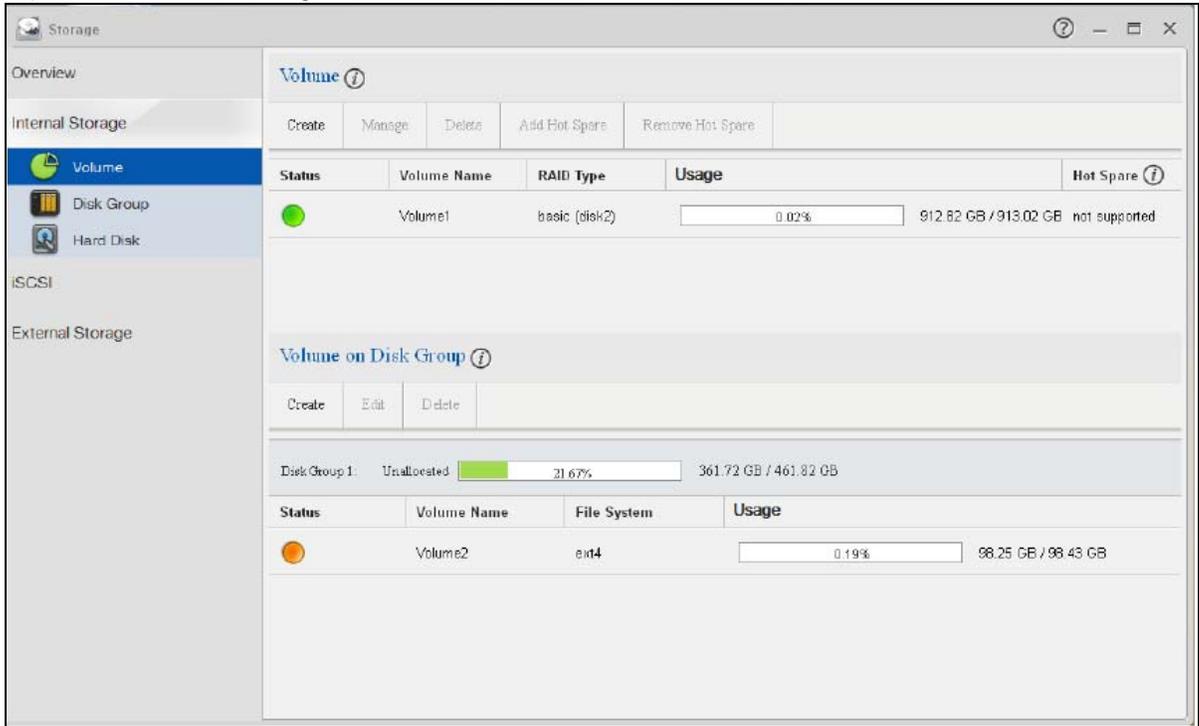
As your content grows, you can do the following to expand the storage capacity of a volume or disk group without losing stored data.

Table 10 Expand Volumes and Disk Groups

| EXPANSION METHOD | DESCRIPTION |
|------------------------------|--|
| Using unallocated disk space | You can add more storage space to a volume if there is still some space unallocated on the same disk group. |
| Adding disks | You can add one or more disks to a JBOD, RAID 1 or RAID 5. The hard disk you want to add must have capacity equal to or greater than the smallest disk in the volume or disk group. |
| Replacing with larger disks | You can replace smaller disks in a RAID 1, RAID 5, or RAID 6 with larger disks. Replace disks one-by-one. Replace the smallest disk in the volume or disk group first. After replacing a disk, you must use the Internal Storage screen's Manage link to repair the volume. Wait for the repair process to complete before you replace another disk. |

Use the **Volume** screen to configure and manage internal volumes. From the **Internal Storage** screen, click **Volume** to open the screen as shown.

Figure 33 Internal Storage Volume



The following table describes the labels in this screen.

Table 11 Internal Storage > Volume

| LABEL | DESCRIPTION |
|--------|--|
| Volume | Use this section to configure and manage volumes built on hard disks directly. |
| Create | <p>Click this to format internal hard disks and create a new volume. All data on the disk(s) will be lost.</p> <p>Note: This button is not available while the NAS is creating, deleting, or changing the RAID type of any volume or disk group.</p> <p>A pop-up screen appears if all installed hard disks are used by other volumes or disk groups. You will need to install another hard disk into the NAS if any disk tray is available or remove unnecessary volumes or disk groups to release the storage space. Click OK to close this screen.</p> <p>No Disk in NAS</p> <div style="border: 1px solid gray; padding: 5px;"> <p>No Disk in NAS ✕</p> <p> To create volumes on the NAS, you need to put hard disks into the NAS first.</p> <p>Note: This NAS support hot swapping, so you can put in disks without shutting down your NAS.</p> <p style="text-align: right;">OK</p> </div> |

Table 11 Internal Storage > Volume (continued)

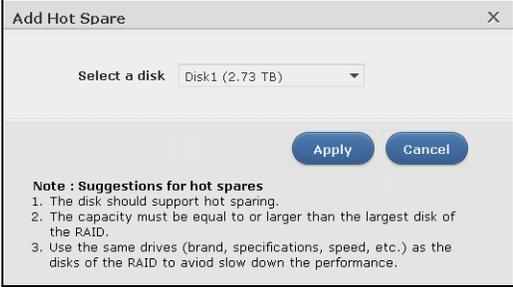
| LABEL | DESCRIPTION |
|------------------|--|
| Manage | <p>Select a volume and click Manage to edit, repair or expand the volume.</p> <p>Note: This button is available only when you can repair, expand or change RAID type.</p> |
| Delete | <p>Select a volume and click Delete to remove it.</p> <p>Note: If you delete a volume, all data in the volume disks is erased.</p> |
| Add Hot Spare | <p>Select a RAID 1 or RAID 5 volume and click Add Hot Spare to add another disk as a hot-spare (standby) to the RAID array. A pop-up screen displays.</p> <p>Figure 34 Add Hot Spare</p>  <p>Select a disk from the drop-down list box and then click Apply.</p> <p>See Table 8 on page 50 for more information about RAID.</p> <p>Note: The capacity of the disk you are adding must be equal to or greater than the largest disk in the RAID 1 or RAID 5 array.</p> |
| Remove Hot Spare | <p>Select a RAID 1 or RAID 5 volume and click Remove Hot Spare to remove the standby drive from the RAID array.</p> |
| Status | <p>This field shows whether the volume is normal, degraded, crashed, Creating, Deleting, Expanding, Repairing or Changing the RAID type.</p> <p>Normal: A green circle represents a healthy volume.</p> <p>Degraded: An orange circle represents a degraded RAID 1 volume.</p> <p>Crashed: A red circle represents a down volume.</p> <p>The following status also displays the percentage of an action has been completed.</p> <p>Creating: The NAS's percentage progress in creating the volume.</p> <p>Deleting: The NAS's percentage progress in deleting the volume.</p> <p>Expanding: The NAS's percentage progress in expanding the volume. For a RAID 1 volume, this also displays the percentage of resynchronizing the NAS has finished and the evaluated remaining time.</p> <p>Repairing: The NAS's percentage progress in repairing the volume. For a RAID 1 volume, this also displays the percentage of resynchronizing the NAS has finished and the evaluated remaining time.</p> <p>Changing: The NAS's percentage progress in changing the volume's RAID type. For a RAID 1 volume, this also displays the percentage of resynchronizing the NAS has finished and the evaluated remaining time.</p> |
| Volume Name | <p>This field shows the name of the volume. Click the column's heading cell to display an arrow. Use the arrow to sort the table entries in ascending or descending order.</p> |
| RAID Type | <p>This field shows what type of disk storage technology (Basic, a RAID level or JBOD) a volume uses.</p> |

Table 11 Internal Storage > Volume (continued)

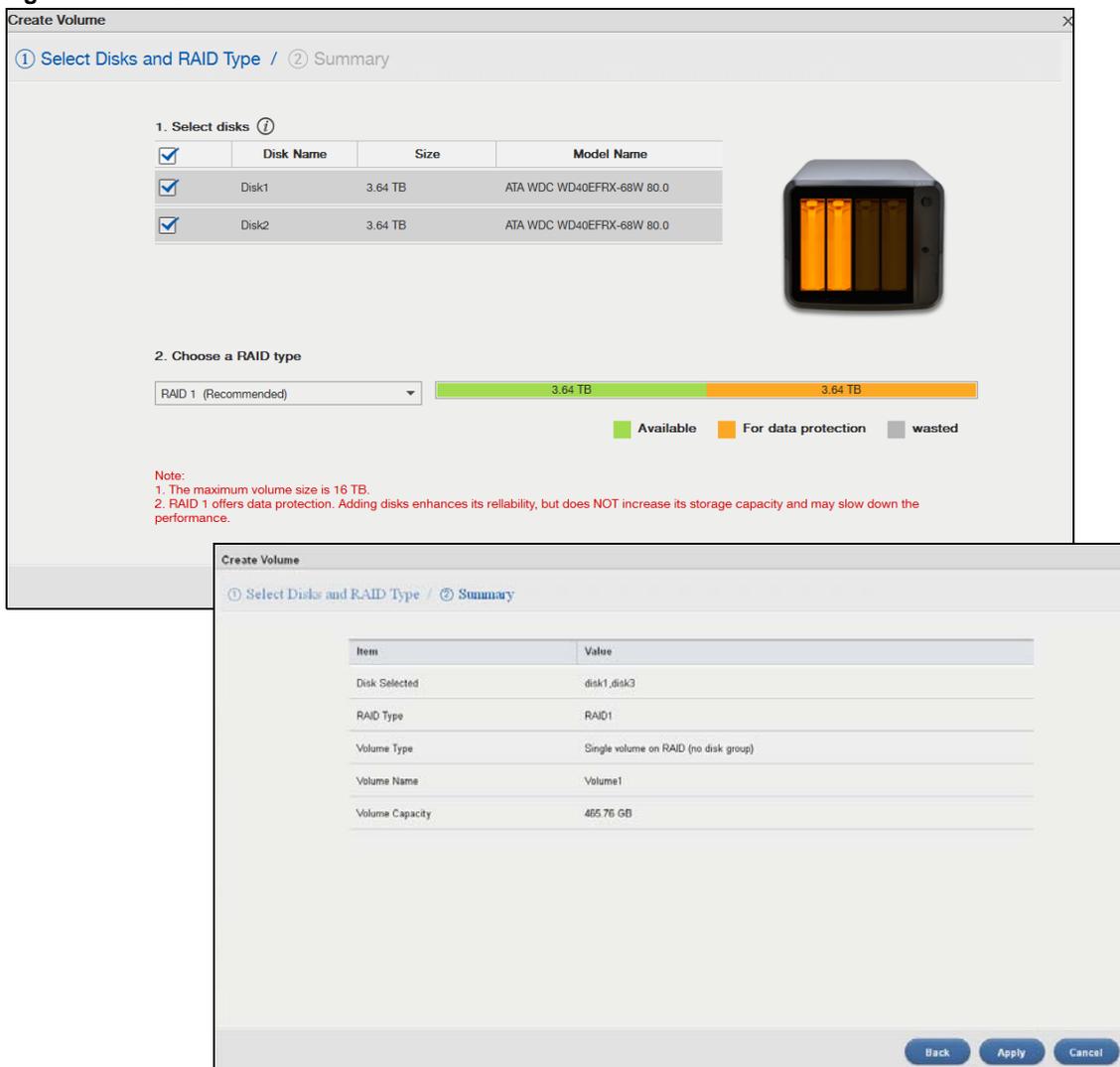
| LABEL | DESCRIPTION |
|--|--|
| Usage | This field shows the percentage of the volume being used, the percentage that is available, and the total disk size. |
| Hot Spare | This field shows the name of the standby disk if there is any for a RAID 1 or RAID 5 volume. Otherwise, it shows not supported . |
| Volume on Disk Group Use this section to configure and manage volumes built on disk groups. | |
| Create | Click this to format internal hard disks and create a new volume on a disk group. All data on the disks will be lost. Note: This button is unavailable when a volume or disk group is being created, deleted or changing the RAID type. |
| Edit | Select a volume and click Edit to expand the volume's capacity. |
| Delete | Select a volume and click Delete to remove it. Note: If you delete a volume, all data in the volume disks is erased. Note: Deleting a volume on a disk group here does not delete the corresponding disk group. To delete a disk group, click Internal Storage > Disk Group . |
| Disk Group X | This field shows the name of the disk group, the percentage of the disk group size that is available, the disk group size being used, and the total disk group size. |
| Status | This field shows whether the volume is normal, degraded, crashed, Creating , Deleting , Expanding , Repairing or Changing the RAID type. Normal: A green circle represents a healthy volume. Degraded: An orange circle represents a degraded RAID 1 volume. Crashed: A red circle represents a down volume. The following status also displays the percentage of an action has been completed. Creating: The NAS's percentage progress in creating the volume. Deleting: The NAS's percentage progress in deleting the volume. Expanding: The NAS's percentage progress in expanding the volume. For a RAID 1 volume, this also displays the percentage of resynchronizing the NAS has finished and the evaluated remaining time. Repairing: The NAS's percentage progress in repairing the volume. For a RAID 1 volume, this also displays the percentage of resynchronizing the NAS has finished and the evaluated remaining time. Changing: The NAS's percentage progress in changing the volume's RAID type. For a RAID 1 volume, this also displays the percentage of resynchronizing the NAS has finished and the evaluated remaining time. |
| Volume Name | This field shows the name of the volume. Click the column's heading cell to display an arrow. Use the arrow to sort the table entries in ascending or descending order. |
| File System | This field shows what file system the volume uses. At the time of writing, your NAS uses the EXT4 file system for internal volumes . |
| Usage | This field shows the percentage of the volume being used, the percentage that is available, and the total disk group size. |

8.3.1 Creating a Volume

Use the **Create Volume** screen to configure a volume directly on a disk/RAID, which has better performance. Click **Create** in the **Volume** section of the **Internal Storage > Volume** screen to open the screen as shown.

Note: Create a volume on a disk group instead if you want to have multiple volumes on a disk. See [Section 8.3.3 on page 64](#) for more information. Moreover, the maximum size for one volume is 16TB.

Figure 35 Create Volume



The following table describes the labels in this screen.

Table 12 Create Volume

| LABEL | DESCRIPTION |
|------------------------------------|--|
| Step 1. Select Disks and RAID Type | |
| Select disks | This section lists all available hard disks in the table and displays the disk trays where they are currently installed on the graphic at the right. |

Table 12 Create Volume (continued)

| LABEL | DESCRIPTION |
|---|--|
| | Select one or more hard disks where you want to create a volume. Use the check box on the top to select or unselect all entries in this column. |
| Disk Name | This field shows the name of the hard disk. |
| Size | This field shows the total disk size. |
| Model Name | This field shows the model of the hard disk. |
| Choose a RAID type | <p>Select a RAID type from the drop-down list box. The corresponding space allocations of available size, data protection area, and wasted size display.</p> <p>Use Basic with one disk.</p> <p>Use JBOD with two or more disks for maximum capacity.</p> <p>Use RAID 0 with two or four disks for maximum speed.</p> <p>Use RAID 1 with two or more disks to mirror primary data to another disk(s) with high performance.</p> <p>Use RAID 5 with three or more disks to balance performance, hard disk capacity usage with data protection in case of disk failure.</p> <p>Use RAID 6 with four disks for more data protection in case of disk failure.</p> <p>Use RAID 10 with four disks to get better performance than RAID 6, with slightly less data protection.</p> <p>See Table 8 on page 50 or Section 8.6 on page 98 for more information.</p> <p>Note: Use the same capacity of hard disks for RAID 1, 5, 6, or 10 to avoid wasting space.</p> |
| Back | This button is not available at this step. |
| Next | Click Next to go to the next step. |
| Cancel | Click Cancel to close the screen without saving any settings. |
| Step 2. Summary | |
| Use this screen to review the settings you configured in the last step. | |
| Disk Selected | This field displays the hard disks you have selected. |
| RAID Type | This field displays the type of RAID on which the volume will be built. |
| Volume Type | This field displays the type of the volume, Single volume on RAID (no disk group) . |
| Volume Name | This field displays the name of the volume. |
| Volume Capacity | This field displays the size of the volume. |
| Back | Click Back to go to the previous step. |
| Apply | Click Apply to save the settings. |
| Cancel | Click Cancel to close the screen without saving any settings. |

8.3.2 Managing a Volume

Use the **Manage Volume** screen to repair, expand a volume or change the volume's RAID type. In the **Internal Storage > Volume** screen, select a volume and then click **Manage** in the **Volume** section to open the screen as shown.

The available options vary depending on the conditions it matches. For example, the **Repair RAID** option is available only when a degraded volume is selected.

Figure 36 Manage Volume (Repair RAID)

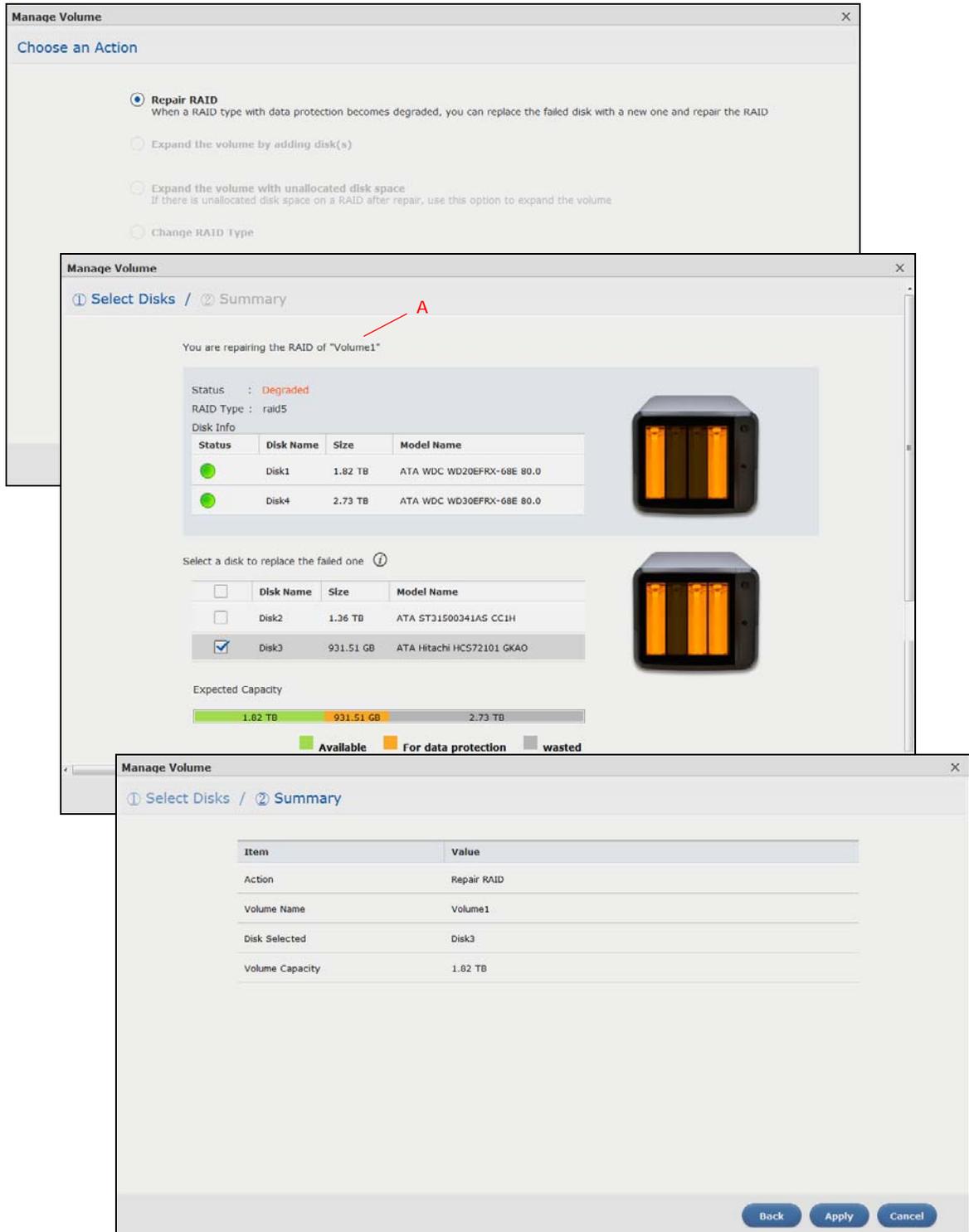


Figure 37 Manage Volume (Expand the volume by adding disk(s))

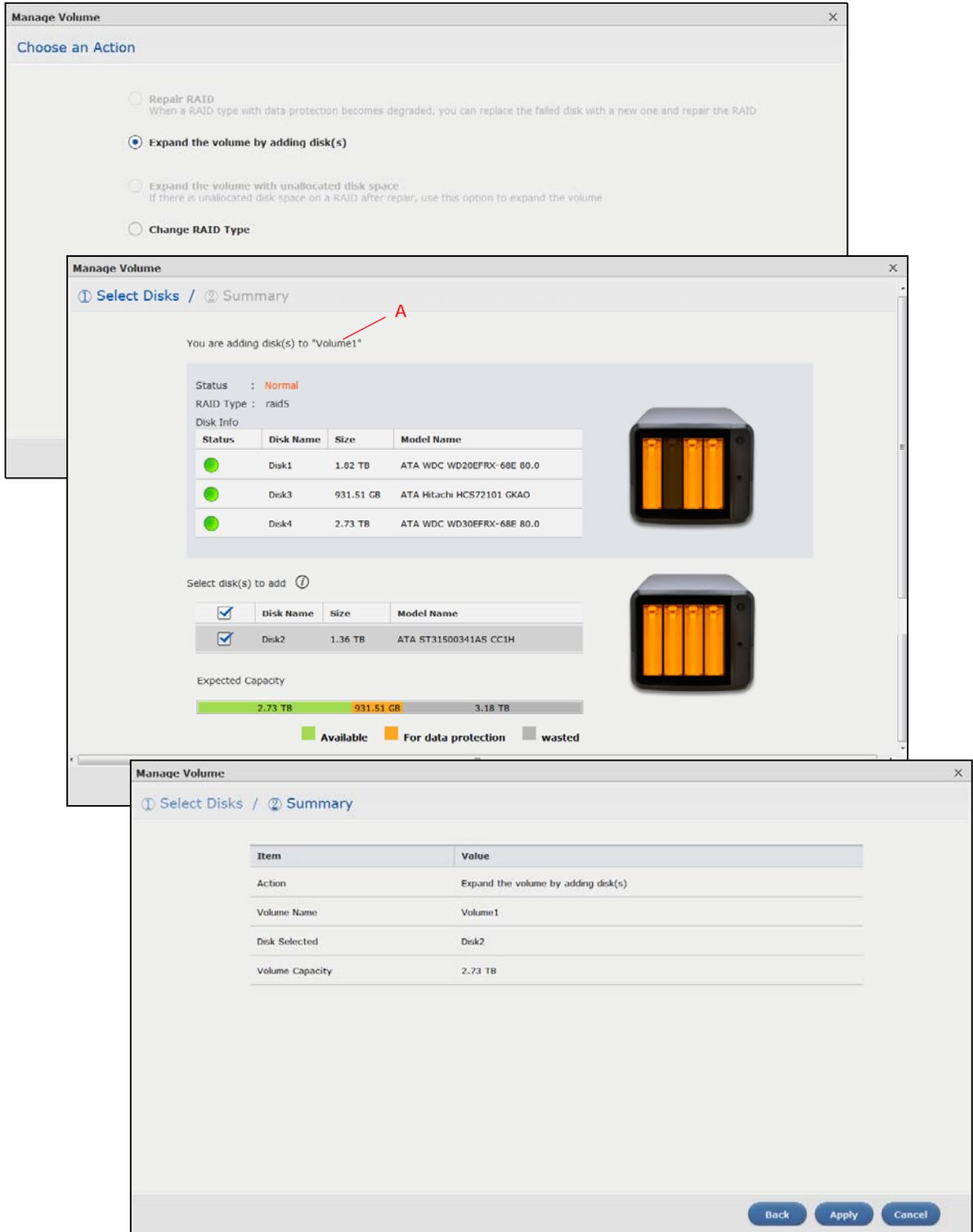


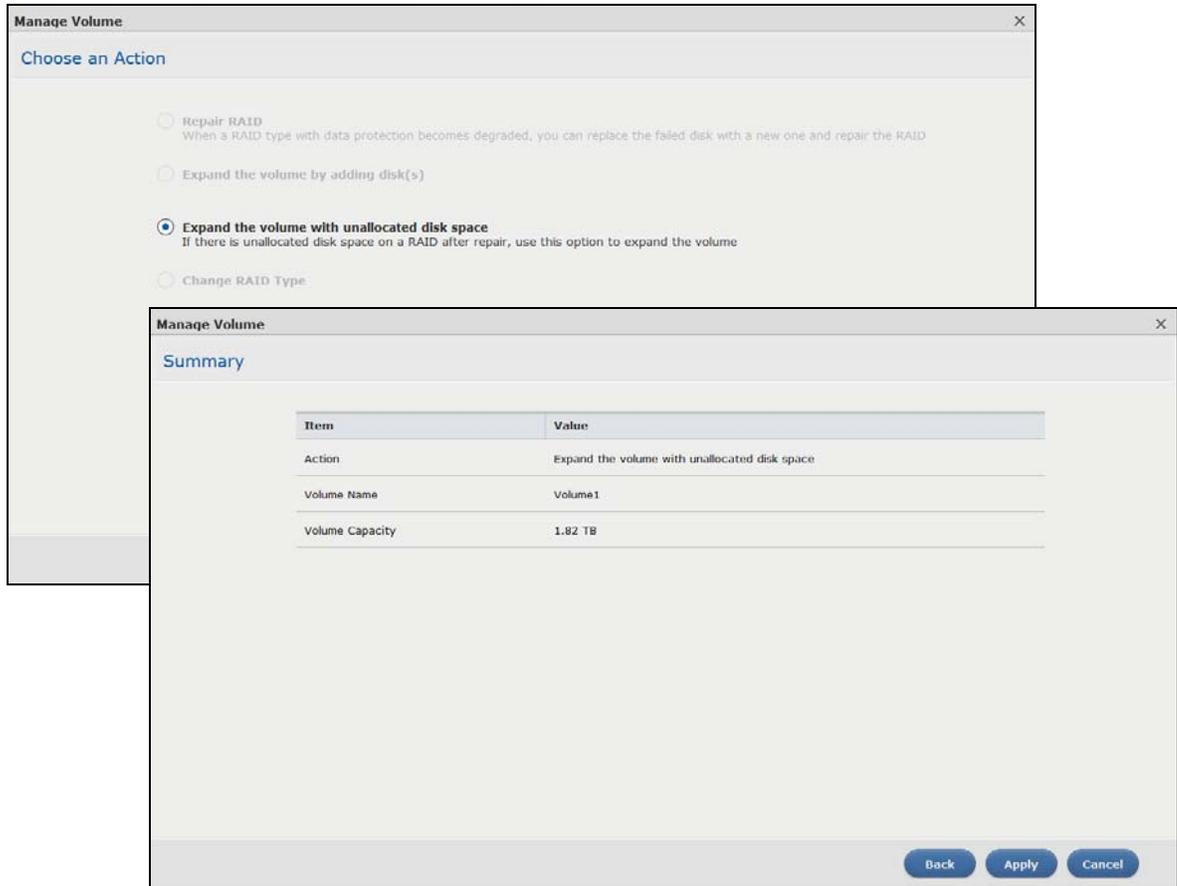
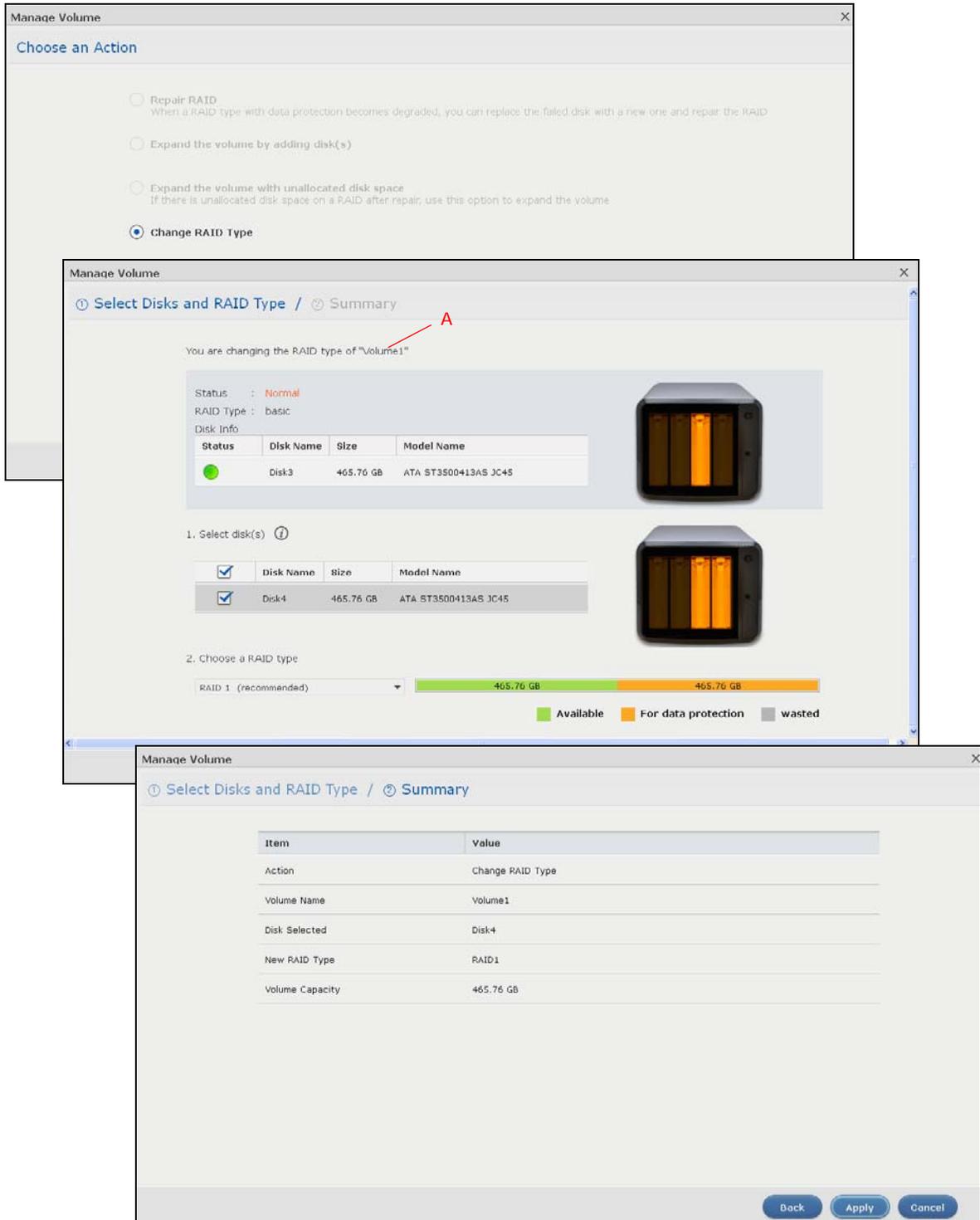
Figure 38 Manage Volume (Change RAID Type)

Figure 39 Manage Volume (Change RAID Type)



The following table describes the labels in this screen.

Table 13 Manage Volume

| LABEL | DESCRIPTION |
|---|--|
| Repair RAID | Select this to repair a degraded RAID volume. |
| Expand the volume by adding disk(s) | Select this to add one or more disks to a JBOD, RAID 1 or RAID 5 volume. You can add a disk to increase an array's capacity or to use as a hot-spare (standby). When you add a disk to an existing array, you do not have to re-create shares, access rights and so on as you would if you create a new volume. Note: This option is available when a disk has not been allocated to any volume or disk group yet. |
| Expand the volume with unallocated disk space | Select this to add more storage space to a volume if there is still some space unallocated on the same disk group. Select this if the NAS fails to expand a volume by adding disk(s) and the final volume capacity is not as expected. For example, you want to expand a 1 TB RAID 1 volume by adding two more 1 TB disks. The volume size should be 2 TB after expansion, however, you just see 1 TB. Use this option to fix the issue. |
| Change RAID Type | Select this if you want to change the volume's RAID type from Basic to RAID 1, RAID 1 to RAID 5, or RAID 5 to RAID 6. |
| The following describes labels on the following screens after you select Repair RAID in this screen. | |
| Step 1. Select Disks | |
| A | This shows the name of the volume you have selected. |
| Status | This field displays the status of the volume. |
| RAID Type | This field displays the type of RAID on which the volume is built. |
| Disk Info | |
| Status | This field displays the status of the disk. |
| Disk Name | This field displays the name of the disk. |
| Size | This field displays the total capacity of the disk. |
| Model Name | This field displays the model of the disk. |
| Select a disk to replace the failed one | This section lists all available hard disks in the table and displays the corresponding disk tray of the disks you selected on the graphic at the right. |
| | Select one or more hard disks for increasing the volume's capacity. Use the check box on the top to select or unselect all entries in this column. |
| Disk Name | This field shows the name of a hard disk. |
| Size | This field shows the total disk size. |
| Model Name | This field shows the model of the hard disk. |
| Expected Capacity | This field shows the corresponding space allocations of available size, data protection area, and wasted size according to your selections on hard disks above. Note: Use the same capacity of hard disks for RAID 1, 5, 6, or 10 to avoid wasting space. |
| Back | Click Back to go to the previous step. |
| Next | Click Next to go to the next step. |
| Cancel | Click Cancel to close the screen without saving any settings. |
| Step 2. Summary | |
| Use this screen to review the settings you configured in the last step. | |
| Action | This field displays for what the configuration is. |
| Volume Name | This field displays the name of the volume. |
| Disk Selected | This field displays the hard disks you have selected. |

Table 13 Manage Volume (continued)

| LABEL | DESCRIPTION |
|---|---|
| Volume Capacity | This field displays the total available size of the volume. |
| Back | Click Back to go to the previous step. |
| Apply | Click Apply to save the settings. |
| Cancel | Click Cancel to close the screen without saving any settings. |
| The following describes labels on the following screens after you select Expand the volume by adding disk(s) in this screen. | |
| Step 1. Select Disks | |
| A | This shows the name of the volume you have selected. |
| Status | This field displays the status of the volume. |
| RAID Type | This field displays the type of RAID on which the volume is built. |
| Disk Info | |
| Status | This field displays the status of the disk. |
| Disk Name | This field displays the name of the disk. |
| Size | This field displays the total capacity of the disk. |
| Model Name | This field displays the model of the disk. |
| Select disk(s) to add | This section lists all available hard disks in the table and displays the corresponding disk tray of the disks you selected on the graphic at the right. |
| | Select one or more hard disks for increasing the volume's capacity. Use the check box on the top to select or unselect all entries in this column. |
| Disk Name | This field shows the name of a hard disk. |
| Size | This field shows the total disk size. |
| Model Name | This field shows the model of the hard disk. |
| Expected Capacity | This field shows the corresponding space allocations of available size, data protection area, and wasted size according to your selections on hard disks above. Note: Use the same capacity of hard disks for RAID 1, 5, 6, or 10 to avoid wasting space. |
| Back | Click Back to go to the previous step. |
| Next | Click Next to go to the next step. |
| Cancel | Click Cancel to close the screen without saving any settings. |
| Step 2. Summary | |
| Use this screen to review the settings you configured in the last step. | |
| Action | This field displays for what the configuration is. |
| Volume Name | This field displays the name of the volume. |
| Disk Selected | This field displays the hard disks you have selected. |
| Volume Capacity | This field displays the total available size of the volume. |
| Back | Click Back to go to the previous step. |
| Apply | Click Apply to save the settings. |
| Cancel | Click Cancel to close the screen without saving any settings. |
| The following describes labels on the following screens after you select Expand the volume with unallocated disk space in this screen. | |
| Summary | |
| Action | This field displays for what the configuration is. |

Table 13 Manage Volume (continued)

| LABEL | DESCRIPTION |
|--|--|
| Volume Name | This field displays the name of the volume. |
| Volume Capacity | This field displays the total available size of the volume. |
| Back | Click Back to go to the previous step. |
| Apply | Click Apply to save the settings. |
| Cancel | Click Cancel to close the screen without saving any settings. |
| The following describes labels on the following screens after you select Change RAID Type in this screen. | |
| Step 1. Select Disks and RAID Type | |
| A | This shows the name of the volume you have selected. |
| Status | This field displays the status of the volume. |
| RAID Type | This field displays the type of RAID on which the volume is built. |
| Disk Info | |
| Status | This field displays the status of the disk. |
| Disk Name | This field displays the name of the disk. |
| Size | This field displays the total capacity of the disk. |
| Model Name | This field displays the model of the disk. |
| Select disk(s) | This section lists all available hard disks in the table and displays the corresponding disk tray of the disks you selected on the graphic at the right. |
| | Select one or more hard disks for changing the volume's RAID type. Use the check box on the top to select or unselect all entries in this column. |
| Disk Name | This field shows the name of a hard disk. |
| Size | This field shows the total disk size. |
| Model Name | This field shows the model of the hard disk. |
| Choose a RAID type | <p>Select a RAID type from the drop-down list box. The corresponding space allocations of available size, data protection area, and wasted size display.</p> <p>Use RAID 1 with two or four disks to mirror primary data to another disk(s) with high performance.</p> <p>Use RAID 5 with three or more disks to balance performance, hard disk capacity usage with data protection in case of disk failure.</p> <p>Use RAID 6 with four disks for more data protection in case of disk failure.</p> <p>See Table 8 on page 50 or Section 8.6 on page 98 for more information.</p> <p>Note: Use the same capacity of hard disks for RAID to avoid wasting space.</p> |
| Back | Click Back to go to the previous step. |
| Next | Click Next to go to the next step. |
| Cancel | Click Cancel to close the screen without saving any settings. |
| Step 2. Summary | |
| Use this screen to review the settings you configured in the last step. | |
| Action | This field displays for what the configuration is. |
| Volume Name | This field displays the name of the volume. |
| Disk Selected | This field displays the hard disks you have selected. |
| RAID Type | This field displays the type of RAID on which the volume will be built. |

Table 13 Manage Volume (continued)

| LABEL | DESCRIPTION |
|-----------------|--|
| Volume Capacity | This field displays the total size of the volume. |
| Back | Click Back to go to the previous step. |
| Apply | Click Apply to save the settings. |
| Cancel | Click Cancel to close the screen without saving any settings. |

8.3.3 Creating a Volume on Disk Group

Use the **Create Volume on Disk Group** screen to configure a volume on an existing or new disk group. Click **Create** in the **Volume on Disk Group** section of the **Internal Storage > Volume** screen to open the screen as shown.

Note: It is suggested to create a volume directly on a disk instead of on a disk group if high performance is important to you. See [Section 8.3.1 on page 55](#) for more information.

Figure 40 Create Volume on an Existing Disk Group

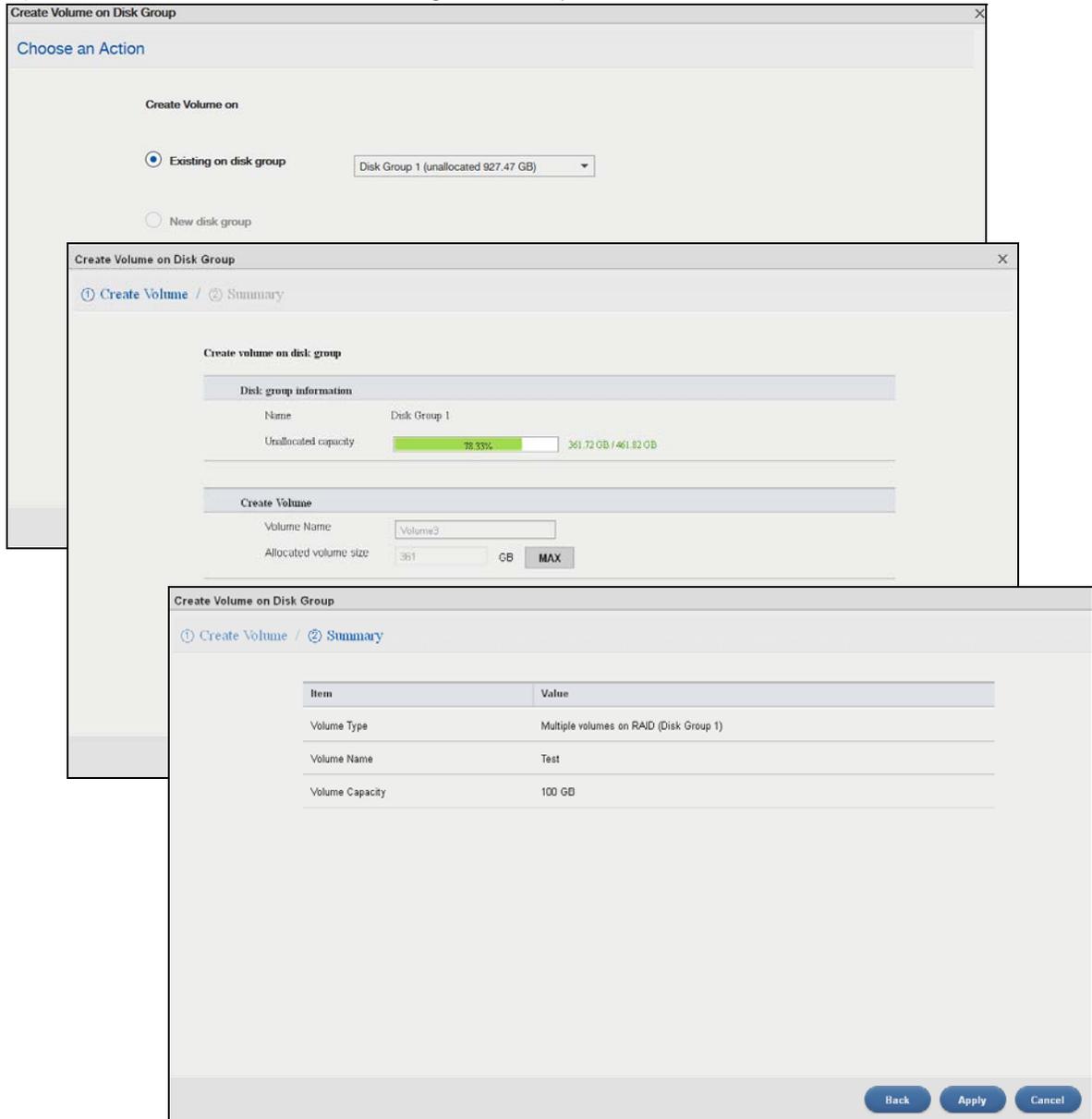
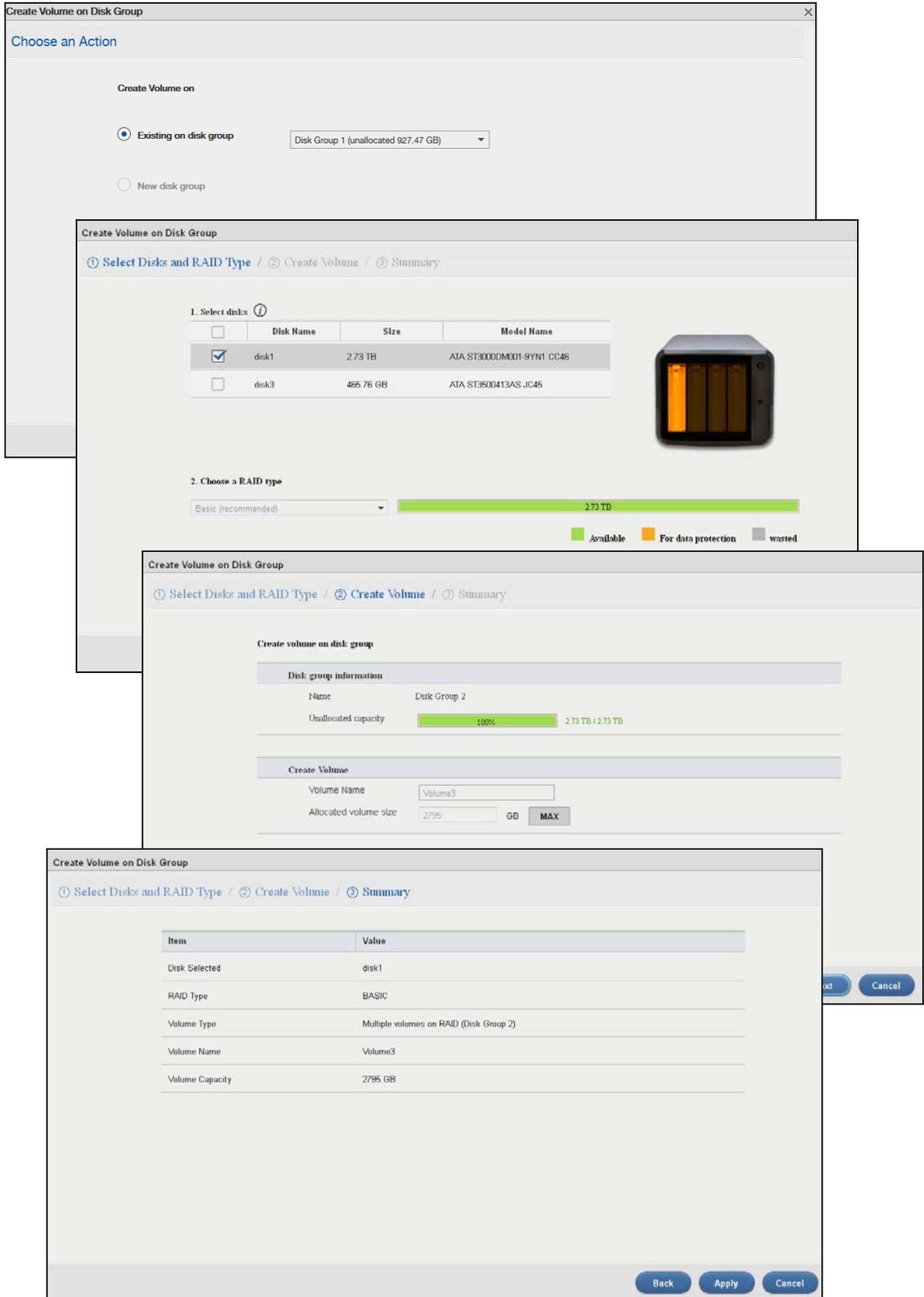


Figure 41 Create Volume on a New Disk Group



The following table describes the labels in this screen.

Table 14 Create Volume on Disk Group

| LABEL | DESCRIPTION |
|--|---|
| Choose an Action | |
| Create Volume on | Select Existing on disk group and a disk group from the drop-down list box to create a volume on the disk group. This option is available only when there is an existing disk group available. Select New disk group to create a disk group and then a volume on the disk group. |
| The following fields describe the labels on the following screens if you select Existing on disk group on the Choose an Action screen. | |
| Step 1. Create Volume | |
| Disk group information | |
| Name | This field displays the name of the disk group. |
| Unallocated capacity | This field displays the percentage of the available size, the size in use, and total size of the disk group. |
| Create Volume | |
| Volume Name | This field displays the default name of the volume. You can also type a new name for the volume. |
| Allocated Volume Size | This field displays the number of Gigabytes available on the volume by default. You can change the size to allocate to this volume. Click MAX to allocate all available size of the disk group to the volume. |
| Back | Click Back to go to the previous step. |
| Next | Click Next to go to the next step. |
| Cancel | Click Cancel to close the screen without saving any settings. |
| Step 2. Summary | |
| Volume Type | This field displays the type of the volume, Multiple volumes on RAID (Disk Group X) where Disk Group X is the disk group's name. |
| Volume Name | This field displays the name of the volume. |
| Volume Capacity | This field displays the size of the volume. |
| Back | Click Back to go to the previous screen. |
| Next | Click Next to go to the next step. |
| Cancel | Click Cancel to close the screen without saving any settings. |
| The following fields describe the labels on the following screens after you select New disk group on the Choose an Action screen. | |
| Step 1. Select Disks and RAID Type | |
| Select disks | This section lists all available hard disks in the table and displays the disk trays they are currently installed on the graphic at the right. |
| | Select one or more hard disks where you want to create a volume. Use the check box on the top to select or unselect all entries in this column. |
| Disk Name | This field shows the name of the hard disk. |
| Size | This field shows the total disk size. |
| Model Name | This field shows the model of the hard disk. |

Table 14 Create Volume on Disk Group (continued)

| LABEL | DESCRIPTION |
|---|---|
| Choose a RAID type | <p>Select a RAID type from the drop-down list box. The corresponding space allocations of available size, data protection area, and wasted size display.</p> <p>Use Basic with one disk.</p> <p>Use JBOD with two or more disks for maximum capacity.</p> <p>Use RAID 0 with two or four disks for maximum speed.</p> <p>Use RAID 1 with two or more disks to mirror primary data to another disk(s) with high performance.</p> <p>Use RAID 5 with three or more disks to balance performance, hard disk capacity usage with data protection in case of disk failure.</p> <p>Use RAID 6 with four disks for more data protection in case of disk failure.</p> <p>Use RAID 10 with four disks to get better performance than RAID 6, with slightly less data protection.</p> <p>See Table 8 on page 50 or Section 8.6 on page 98 for more information.</p> <p>Note: Use the same capacity of hard disks for RAID 1, 5, 6, or 10 to avoid wasting space.</p> |
| Back | Click Back to go to the previous screen. |
| Next | Click Next to go to the next step. |
| Cancel | Click Cancel to close the screen without saving any settings. |
| Step 2. Create Volume | |
| Disk group information | |
| Name | This field displays the name of the disk group. |
| Unallocated capacity | This field displays the percentage of the available size, the size in used, and total size of the disk group. |
| Create Volume | |
| Volume Name | This field displays the default name of the volume. You can also type a new name for the volume. |
| Volume Capacity | This field displays the number of Gigabytes available on the volume by default. You can set the size to allocate for this volume. Click MAX to allocate all available capacity of the disk group to the volume. |
| Back | Click Back to go to the previous step. |
| Next | Click Next to go to the next step. |
| Cancel | Click Cancel to close the screen without saving any settings. |
| Step 3. Summary | |
| Use this screen to review the settings you configured in the last step. | |
| Disk Selected | This field displays the hard disk(s) on which the RAID array will be built. |
| RAID Type | This field displays the type of RAID on which the volume will be built. |
| Volume Type | This field displays the type of the volume, Multiple volumes on RAID (Disk Group X) where Disk Group X is the disk group's name. |
| Volume Name | This field displays the name of the volume. |
| Volume Capacity | This field displays the size of the volume. |
| Back | Click Back to go to the previous step. |
| Apply | Click Apply to save the settings. |
| Cancel | Click Cancel to close the screen without saving any settings. |

8.3.4 Editing a Volume on Disk Group

Use the **Edit Volume on Disk Group** screen to expand a volume's capacity. In the **Internal Storage > Volume** screen, select a volume and then click **Edit** in the **Volume on Disk Group** section to open the screen as shown.

Figure 42 Edit Volume on Disk Group

The screenshot shows a window titled "Edit Volume on Disk Group". Inside, there's a section for "Unallocated capacity on Disk Group 1" with a green progress bar at 99.96% and the text "2.72 TB / 2.73 TB". Below that, "Current volume size" is listed as "1007.90 MB". The "New volume size" field has a text input with "1" and a "GB" label, followed by a "MAX" button. At the bottom right, there are "Apply" and "Cancel" buttons.

The following table describes the labels in this screen.

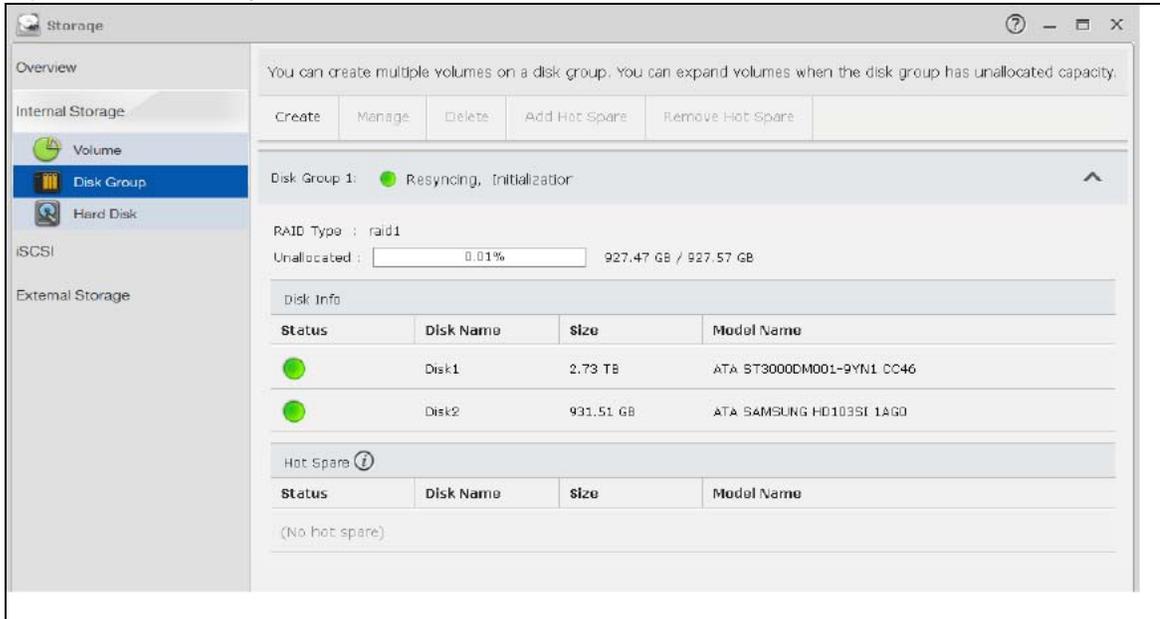
Table 15 Edit Volume on Disk Group

| LABEL | DESCRIPTION |
|--------------------------------------|---|
| Unallocated capacity on Disk Group X | This field displays the percentage of the disk group size unallocated to other volumes, the size in use, and total size of the disk group. |
| Current volume size | This field displays the total size of the volume, excluding the file system size. |
| New volume size | This field displays the smallest size to which you can expand the volume (this includes the volume's current available size, file system size, and a minimum additional capacity for expansion). You can enter a bigger number or click MAX to allocate all the rest of the space in the disk group to the volume. |
| Apply | Click Apply to save the settings. |
| Cancel | Click Cancel to close the screen without saving any settings. |

8.3.5 Disk Group

Use the **Disk Group** screen to configure and manage disk groups. From the **Internal Storage** screen, click **Disk Group** to open the screen as shown.

Figure 43 Disk Group



The following table describes the labels in this screen.

Table 16 Disk Group

| LABEL | DESCRIPTION |
|------------------|--|
| Create | Click this to format internal hard disks and create a new disk group. All data on the disk(s) will be lost. Note: This button is not available while the NAS is creating, deleting, or changing the RAID type of any volume or disk group. |
| Manage | Select a volume and click Manage to edit, repair, or expand the volume. Note: This button is available only when you can repair, expand or change RAID type. |
| Delete | Select a disk group and click Delete to remove it. Note: If you delete a disk group, all data in the disk group is erased. |
| Add Hot Spare | Select a RAID 1 or RAID 5 disk group and click Add Hot Spare to add another disk as a hot-spare (standby) to the RAID array. See Section 8.6 on page 98 for more information. Note: The capacity of the disk you are adding must be equal to or greater than the largest disk in the RAID 1 or RAID 5 array. Note: You need four hard disks installed to use RAID 5 with hot spare. |
| Remove Hot Spare | Select a RAID 1 or RAID 5 disk group and click Remove Hot Spare to remove the standby drive from the RAID array. |

Table 16 Disk Group (continued)

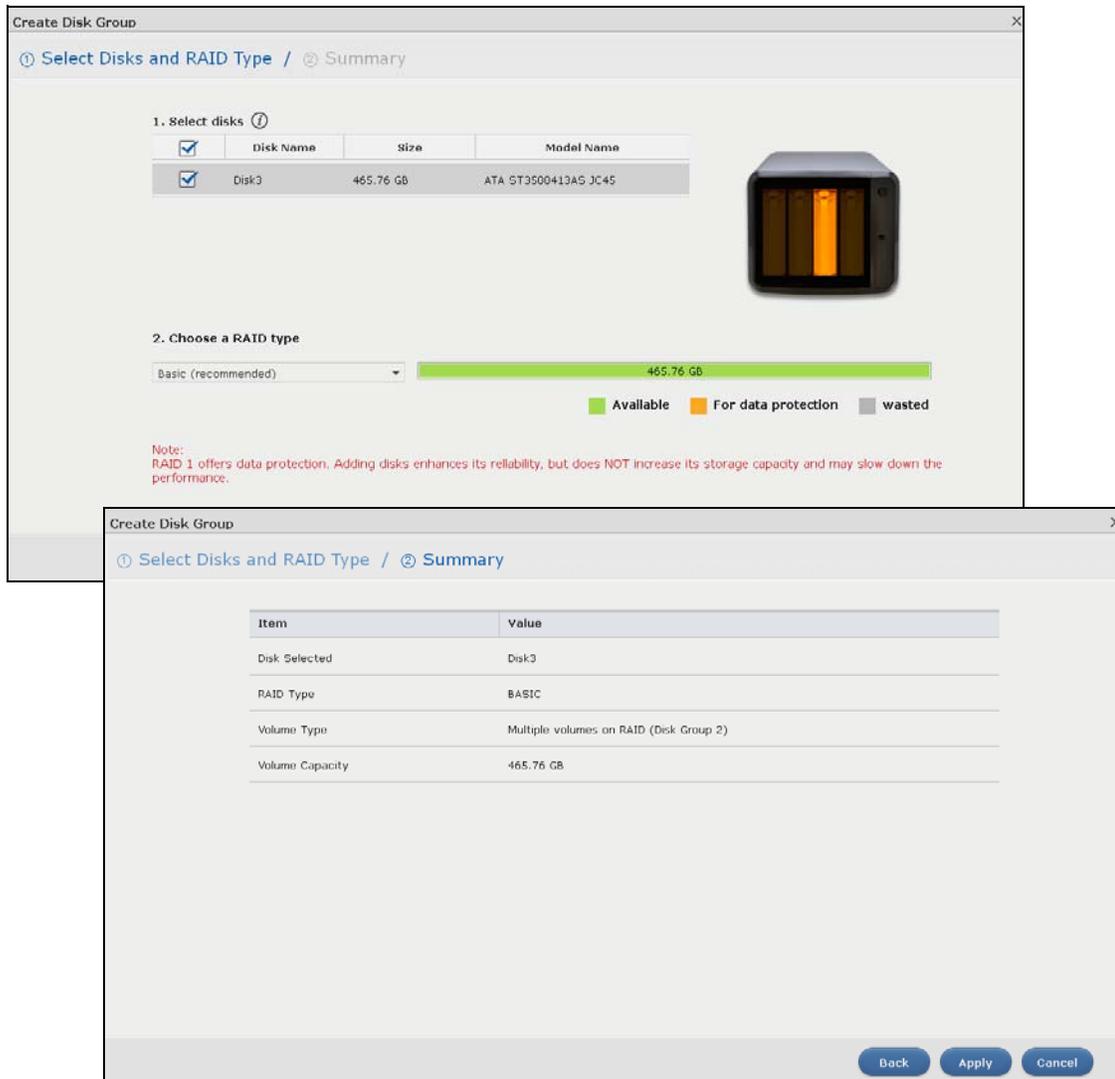
| LABEL | DESCRIPTION |
|--------------|---|
| Disk Group X | <p>This field shows the name of the disk group and whether it is normal, degraded, crashed, Creating, Deleting, Expanding, Repairing or Changing the RAID type.</p> <p>Normal: A green circle represents a healthy volume.</p> <p>Degraded: An orange circle represents a degraded RAID 1 volume.</p> <p>Crashed: A red circle represents a down volume.</p> <p>The following status also displays the percentage of an action has been completed.</p> <p>Creating: The NAS's percentage progress in creating the volume.</p> <p>Deleting: The NAS's percentage progress in deleting the volume.</p> <p>Expanding: The NAS's percentage progress in expanding the volume. For a RAID 1 volume, this also displays the percentage of resynchronizing the NAS has finished and the evaluated remaining time.</p> <p>Repairing: The NAS's percentage progress in repairing the volume. For a RAID 1 volume, this also displays the percentage of resynchronizing the NAS has finished and the evaluated remaining time.</p> <p>Changing: The NAS's percentage progress in changing the volume's RAID type. For a RAID 1 volume, this also displays the percentage of resynchronizing the NAS has finished and the evaluated remaining time.</p> |
| RAID Type | This field shows the type of the RAID over which this disk group is running. |
| Unallocated | This field shows the percentage of the disk group size that is available, the disk group size being used, and the total disk group size. |
| Disk Info | |
| Status | This field shows the status of the disk. |
| Disk Name | This field shows the name of the disk. |
| Size | This field shows the total size of the disk. |
| Model Name | This field shows the model of the disk. |
| Hot Spare | |

Table 16 Disk Group (continued)

| LABEL | DESCRIPTION |
|------------|--|
| Status | <p>This field shows the status of the hot-spare disk.</p> <p>This field shows the name of the disk group and whether it is normal, degraded, crashed, Creating, Deleting, Expanding, Repairing or Changing the RAID type.</p> <p>Normal: A green circle represents a healthy volume.</p> <p>Degraded: An orange circle represents a degraded RAID 1 volume.</p> <p>Crashed: A red circle represents a down volume.</p> <p>The following status also displays the percentage of an action has been completed.</p> <p>Creating: The NAS's percentage progress in creating the volume.</p> <p>Deleting: The NAS's percentage progress in deleting the volume.</p> <p>Expanding: The NAS's percentage progress in expanding the volume. For a RAID 1 volume, this also displays the percentage of resynchronizing the NAS has finished and the evaluated remaining time.</p> <p>Repairing: The NAS's percentage progress in repairing the volume. For a RAID 1 volume, this also displays the percentage of resynchronizing the NAS has finished and the evaluated remaining time.</p> <p>Changing: The NAS's percentage progress in changing the volume's RAID type. For a RAID 1 volume, this also displays the percentage of resynchronizing the NAS has finished and the evaluated remaining time.</p> |
| Disk Name | This field shows the name of the hot-spare disk. |
| Size | This field shows the total size of the hot-spare disk. |
| Model Name | This field shows the model of the hot-spare disk. |

8.3.5.1 Creating a Disk Group

Use the **Create Disk Group** screen to create a disk group. From the **Storage > Disk Group** screen, click the **Create** button to open the screen as shown.

Figure 44 Create Disk Group

The following table describes the labels in this screen.

Table 17 Create Disk Group

| LABEL | DESCRIPTION |
|------------------------------------|--|
| Step 1. Select Disks and RAID Type | |
| Select disks | This section lists all available hard disks in the table and displays the disk trays the hard disks are currently installed in the graphic on the right. |
| | Select one or more hard disks where you want to create a disk group. Use the check box on the top to select or unselect all entries in this column. |
| Disk Name | This field shows the name of the hard disk. |
| Size | This field shows the total disk size. |
| Model Name | This field shows the model of the hard disk. |

Table 17 Create Disk Group (continued)

| LABEL | DESCRIPTION |
|---|---|
| Choose a RAID type | <p>Select a RAID type from the drop-down list box. The corresponding space allocations of available size, data protection area, and wasted size display.</p> <p>Use Basic with one disk.</p> <p>Use JBOD with two or more disks for maximum capacity.</p> <p>Use RAID 0 with two or four disks for maximum speed.</p> <p>Use RAID 1 with two or more disks to mirror primary data to another disk(s) with high performance.</p> <p>Use RAID 5 with three or more disks to balance performance, hard disk capacity usage with data protection in case of disk failure.</p> <p>Use RAID 6 with four disks for more data protection in case of disk failure.</p> <p>Use RAID 10 with four disks to get better performance than RAID 6, with slightly less data protection.</p> <p>See Table 8 on page 50 or Section 8.6 on page 98 for more information.</p> <p>Note: Use the same capacity of hard disks for RAID 1, 5, 6, or 10 to avoid wasting space.</p> |
| Back | Click Back to go to the previous screen. |
| Next | Click Next to go to the next step. |
| Cancel | Click Cancel to close the screen without saving any settings. |
| Step 2. Summary | |
| Use this screen to review the settings you configured in the last step. | |
| Disk Selected | This field displays the hard disk(s) on which the RAID array will be built. |
| RAID Type | This field displays the type of RAID on which the volume will be built. |
| Volume Type | This field displays the type of the volume, Multiple volumes on RAID (Disk Group X) where Disk Group X is the disk group's name. |
| Volume Capacity | This field displays the size of the volume. |
| Back | Click Back to go to the previous step. |
| Apply | Click Apply to save the settings. |
| Cancel | Click Cancel to close the screen without saving any settings. |

8.3.6 Hard Disk

Use the **Hard Disk** screen to view all disk information. From the **Storage** screen, click **Hard Disk** to open the screen as shown.

Figure 45 Hard Disk

The screenshot shows the 'Storage' application window with the 'S.M.A.R.T.' tab selected. The left sidebar shows 'Internal Storage' with 'Hard Disk' selected. The main area displays a table with the following data:

| Status | Disk Name | Used by | Size | Model Name | Temperature |
|--------|-----------|------------------------|------------|---------------------------|--------------|
| ● | disk1 | | 2.73 TB | ATA ST3000DM001-9YN1 CC46 | 39°C/102.2°F |
| ● | disk2 | Volume1 (basic) | 931.51 ... | ATA SAM5UNG HD103SI 1AG0 | 33°C/91.4°F |
| ● | disk3 | | 465.76 ... | ATA ST3500413AS JC46 | 40°C/104°F |
| ● | disk4 | Disk Group 1 (raid1) | 465.76 ... | ATA ST3500413AS JC46 | 41°C/105.8°F |

The following table describes the labels in this screen.

Table 18 Hard Disk

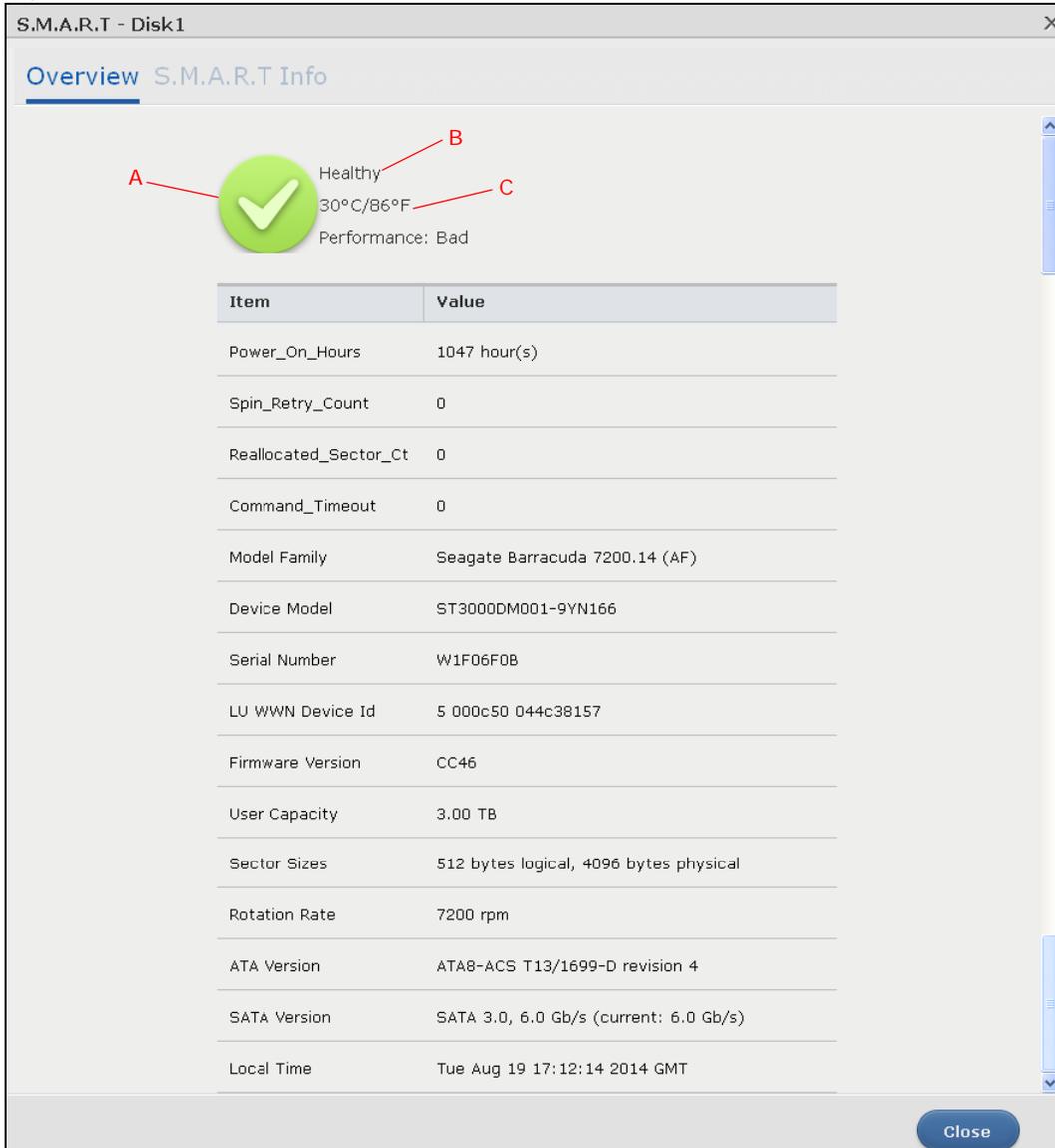
| LABEL | DESCRIPTION |
|-------------|--|
| Status | This field shows the status of an installed hard disk. Normal: A green circle displays. This represents the volume is functioning normally. Crashed: A red circle displays. This represents the volume is down. |
| Disk Name | This field shows the name of the hard disk. |
| Used by | This field shows the name of a volume or disk group built on the hard disk if any. This field also displays the RAID type the volume or disk group is using. |
| Size | This field shows the total size of the hard disk. |
| Model Name | This field shows the model of the hard disk. |
| Temperature | This field shows the temperature of the hard disk in degrees celsius (°C) and fahrenheit (°F). |

8.3.6.1 S.M.A.R.T

Use the **S.M.A.R.T** screens to view hard disk health indicators. Self Monitoring, Analysis, and Reporting Technology (S.M.A.R.T) detects and reports the reliability of hard disks using standard indicators (called “attributes”), to help you anticipate possible disk failures.

Note: The available S.M.A.R.T information varies from one hard disk vendor to another.

From the **Internal Storage > Hard Disk** screen, select a disk and click **S.M.A.R.T** to open the screen as shown.

Figure 46 S.M.A.R.T Overview

The following table describes the labels in this screen.

Table 19 S.M.A.R.T Overview

| LABEL | DESCRIPTION |
|------------------|--|
| A | This shows the current status of the hard disk (a green circle with a check mark indicates healthy). |
| B | This shows the overall health of the hard disk based on S.M.A.R.T diagnostics. |
| C | This shows the temperature of the hard disk in degrees celsius (°C) and fahrenheit (°F). |
| Performance | This shows your hard disk's performance (Good or Bad). |
| Power_On_Hours | This field shows the number of hours the hard disk has been in power-on state since it was produced. |
| Spin_Retry_Count | This field shows the total number of spin start retry attempts. This is the number of attempts to spin up to fully operational speed the hard drive has made when the first attempt did not succeed. An increase in this value is an indicator of hard disk mechanical subsystem problems. |

Table 19 S.M.A.R.T Overview (continued)

| LABEL | DESCRIPTION |
|-----------------------|--|
| Reallocated_Sector_Ct | This field shows the total number of reallocated sectors on the hard drive. When the hard drive detects a read/write/verification error, it marks the sector as "reallocated" and transfers the data to a specially reserved (spare) area. The process is also known as remapping with "reallocated" sectors known as remaps. The more sectors the hard disk has to reallocate, the slower read and write speeds become. |
| Command_Timeout | This field shows the temperature of the hard disk in degrees celsius (°C) and fahrenheit (°F). |
| Model Family | This field shows the model family of the hard disk. |
| Device Model | This field shows the hard disk model number that uniquely identifies a hard disk. |
| Serial Number | This field shows this individual hard disk's serial number from the manufacturer. |
| LU WWN Device Id | This field shows the hard disk's Logical Unit World Wide Name Device Identifier. |
| Firmware Version | This field shows the version number of the hard disk's internal operating software. |
| User Capacity | This field shows the hard disk's usable size. |
| Sector Sizes | This field shows the sector size of the hard disk. A sector is the smallest physical storage unit on a hard disk. Normally it is 512 bytes. |
| Rotation Rate | This field shows the rotational speed of the hard disk, measured in revolutions per minute (rpm). |
| ATA Version | This field shows the hard disk's Advanced Technology Attachment version number. |
| SATA Version | This field shows the hard disk's Serial ATA (SATA) version number. |
| Local Time | This field shows the local time that the hard disk is using. |
| SMART support | This field shows whether or not the hard disk is SMART-capable. |
| SMART support | This field shows whether or not the hard disk has SMART monitoring turned on. |
| Close | Click this button to close the screen. |

8.3.6.2 SMART Info

Use this screen to display more details information about the volume.

Click **S.M.A.R.T Info** in the **S.M.A.R.T Overview** screen to display the following.

Figure 47 S.M.A.R.T Info

The screenshot shows a window titled "S.M.A.R.T - Disk3" with a sub-header "Overview S.M.A.R.T Info". Below the header is a table with the following data:

| ID | Attribute | Value | Worst | Threshold | Type | Updated | When Failed | Raw Data |
|----|-----------------------|-------|-------|-----------|----------|---------|-------------|----------|
| 1 | Raw_Read_Error_Rate | 098 | 098 | 016 | Pre-fail | Always | | 4 |
| 2 | Throughput_Perform... | 137 | 137 | 054 | Pre-fail | Offline | | 79 |
| 3 | Spin_Up_Time | 124 | 124 | 024 | Pre-fail | Always | | 623 |
| 4 | Start_Stop_Count | 100 | 100 | 000 | Old_age | Always | | 346 |
| 5 | Reallocated_Sector_Ct | 100 | 100 | 005 | Pre-fail | Always | | 0 |
| 7 | Seek Error Rate | 100 | 100 | 067 | Pre-fail | Always | | 0 |

The following table describes the labels in this screen.

Table 20 S.M.A.R.T Info

| LABEL | DESCRIPTION |
|-----------|--|
| ID | This is the identification number used to tag a hard disk attribute. This is standard across all S.M.A.R.T-enabled storage devices. However it depends on the storage vendor which attributes it will allow S.M.A.R.T to diagnose. |
| Attribute | This refers to an attribute of the hard disk that S.M.A.R.T can assess. Attributes describe the hard disk's physical state, performance, wear-and-tear, and so on. |
| Value | This is a value that corresponds to the Raw Data . Compare this with the Threshold . S.M.A.R.T compresses the raw value(s) into a digit from 1 to 253, where 1 indicates the worst scenario while 253 indicates the best scenario. The values 100 or 200 usually represent the mean or normal value. |
| Worst | This is the lowest value attained by the hard disk since S.M.A.R.T started its assessment of the hard disk. |
| Threshold | This is the attribute's threshold value. If the attribute's current normalized value is less than or equal to the threshold, the attribute has failed. An attribute value close to or below the threshold indicates the hard drive is no longer reliable. |
| Type | This shows S.M.A.R.T's assessment of the hard disk. Old_age indicates end-of-product life from old-age (normal wearing out) if the attribute value is less than or equal to the threshold. Pre-fail indicate imminent hard drive failure if the attribute value is less than or equal to the threshold. Note that just because an attribute is of the Pre-fail type does not mean your hard drive is ready to fail. It only means this if the current normalized value of the attribute is less than or equal to the threshold. |

Table 20 S.M.A.R.T Info

| LABEL | DESCRIPTION |
|-------------|--|
| Updated | This indicates when the hard drive updates the value for this attribute. <ul style="list-style-type: none"> • Always means the hard drive updates this attribute during normal operation and during offline activities. • Offline means the hard drive only updates this attribute when no one is accessing the hard drive. |
| When Failed | This column indicates when (if ever) the attribute failed. An attribute has failed if the normalized value is less than or equal to the threshold. <ul style="list-style-type: none"> • -: This displays if the attribute is not failing now and has never failed in the past. • FAILING_NOW: This displays if the attribute's current normalized value is less than or equal to the threshold. • In_the_past: This displays if the attribute's current normalized value is greater than the threshold but the worst recorded value is less than or equal to the threshold. |
| Raw Data | This is the attribute's unprocessed raw data. These values show exact amounts of time or numbers of attempts or errors. The meaning to the raw values is specific to the hard drive manufacturer. Table 42 on page 156 has some information about whether a higher or lower individual raw S.M.A.R.T. attribute value is better. |
| Close | Click this button to close the screen. |

8.3.6.3 S.M.A.R.T Attributes

The following table describes some common S.M.A.R.T. attributes. If a higher or lower raw attribute value is better, it is indicated in the **BETTER** column. Since S.M.A.R.T. attributes and their definitions vary by manufacturer, refer to the hard drive manufacturer for details about the attributes your hard drive supports.

Table 21 S.M.A.R.T. Attributes

| ID | ATTRIBUTE NAME | BETTER | DESCRIPTION |
|----|---------------------------|--------|--|
| 01 | Read Error Rate | Low | Shows the rate of hardware read errors. If this is not zero, there is a problem with the disk surface or the read/write heads. |
| 02 | Throughput Performance | High | This is the hard drive's general (overall) throughput performance. A decreasing value indicates a problem. |
| 03 | Spin-Up Time | Low | This is the average number of milliseconds the hard drive took for spindle spin up (from zero RPM to fully operational). |
| 04 | Start/Stop Count | | The total number of spindle start and stop cycles. |
| 05 | Reallocated Sectors Count | Low | Total number of reallocated sectors on the hard drive. When the hard drive detects a read/write/verification error, it marks the sector as "reallocated" and transfers the data to a specially reserved (spare) area. The process is also known as remapping with "reallocated" sectors known as remaps. The more sectors the hard drive has to reallocate, the slower read and write speeds become. |
| 06 | Read Channel Margin | | This is the margin of a channel when it reads data. |
| 07 | Seek Error Rate | Low | This is the rate of the magnetic heads' seek errors. A failure in the mechanical positioning system, such as servo damage or a thermal widening of the disk, results in seek errors. An increasing number of seek errors indicate the condition of the disk surface and the mechanical subsystem are worsening. |
| 08 | Seek Time Performance | High | This is an average performance indicator for the seek operations of the magnetic heads. Mechanical subsystem problems cause this value to decrease. |

Table 21 S.M.A.R.T. Attributes (continued)

| ID | ATTRIBUTE NAME | BETTER | DESCRIPTION |
|-----|--|--------|---|
| 09 | Power-On Hours (POH) | Low | This is how many hours the hard drive has been in a power-on state. The raw value lists the total number of hours (or minutes, or seconds depending on the manufacturer). |
| 10 | Spin Retry Count | Low | This is the total number of spin start retry attempts. This is the number of attempts to spin up to fully operational speed the hard drive has made when the first attempt did not succeed. An increase in this value is an indicator of hard disk mechanical subsystem problems. |
| 11 | Recalibration Retries | High | This is the number of times recalibration was requested when the first attempt did not succeed. A decrease in this value is an indicator of hard disk mechanical subsystem problems. |
| 12 | Device Power Cycle Count | | This is the number of times the hard drive has gone through a full power on and power off. |
| 13 | Soft Read Error Rate | Low | This is the number of uncorrected read errors the hard drive has reported. If this is not zero, back up your data. |
| 190 | Airflow Temperature | Low | This indicates the temperature of the airflow measured by a Western Digital hard drive. |
| 190 | Temperature Difference from 100 | High | This indicates the value of 100 - the temperature in degrees Celsius. Manufacturers can set a minimum threshold that corresponds to a maximum temperature. |
| 191 | G-sense error rate | Low | This is the number of mistakes caused by impact loads. |
| 192 | Power-off Retract Count | Low | This is how many times the heads are loaded off the media. |
| 193 | Load/Unload Cycle | Low | This is the number of load and unload cycles into head landing zone position. |
| 194 | Temperature | Low | This is the hard drive's internal temperature. |
| 195 | Hardware ECC Recovered | High | This is the time between ECC (Error Correction Code)-corrected errors. |
| 196 | Reallocation Event Count | Low | This is the total number of reallocation (remap) operations. The raw value is the total attempts to move data from reallocated sectors to a spare area. Successful and unsuccessful attempts are both included. |
| 197 | Current Pending Sector Count | Low | This is the number of unstable sectors awaiting reallocation. If the sector is later successfully written or read, this value decreases and reallocation is not performed. Only failed write attempts cause a reallocation, not read errors. This can be difficult to test since only direct I/O writes to the disk cause reallocations, not cached writes. |
| 198 | Uncorrectable Sector Count | Low | This is the number of errors reading or writing a sector that were not correctable. An increase in this value is an indicator of disk surface defects or mechanical subsystem problems. |
| 199 | UltraDMA CRC Error Count | Low | This is the number of data transfer errors through the interface cable according to the ICRC (Interface Cyclic Redundancy Check). |
| 200 | Write Error Rate / Multi-Zone Error Rate | Low | This is the total number of errors in writing sectors. |
| 201 | Soft Read Error Rate | Low | This is the number of read/write head off-track errors. If the value is not zero, make a backup. |
| 202 | Data Address Mark Errors | Low | This is the number of data address mark errors. This could also be a different, manufacturer-specific attribute. |
| 203 | Run Out Cancel | Low | This is the number of ECC (Error Correction Code) errors. |

Table 21 S.M.A.R.T. Attributes (continued)

| ID | ATTRIBUTE NAME | BETTER | DESCRIPTION |
|-----|-----------------------------|--------|--|
| 204 | Soft ECC Correction | Low | This is the number of errors corrected by software ECC (Error Correction Code). |
| 205 | Thermal Asperity Rate (TAR) | Low | This is the number of thermal asperity errors. Thermal asperity is a read signal spike caused by sensor temperature rise due to touching the disk surface or contaminant particles. |
| 206 | Flying Height | | This is the height of the hard drive's read/write heads above the disk surface. |
| 207 | Spin High Current | | This is the quantity of high current used to spin up the drive. |
| 208 | Spin Buzz | | This is the number of buzz routines to spin up the drive. When the arm holding the read/write heads is stuck, the motor driving it tries to oscillate the arm to free it. This causes an audible vibration. |
| 209 | Offline Seek Performance | | This is the hard drive's seek performance during offline operations. Offline operations are tests the drive does itself as opposed to those that an external diagnostic tool has it do. Seek performance is how quickly the drive moves from track to track. |
| 220 | Disk Shift | Low | This is how far the disk has moved relative to the spindle (this kind of shift is usually due to shock). |
| 221 | G-Sense Error Rate | Low | This is the number of errors that have resulted from external vibration and shock. |
| 222 | Loaded Hours | | This is how long the hard drive has operated under data load (this requires movement of the magnetic head armature). |
| 223 | Load/Unload Retry Count | | This is how many time the magnetic head has changed position. |
| 224 | Load Friction | Low | This is resistance caused by friction in mechanical parts during operation. |
| 225 | Load/Unload Cycle Count | Low | This is the total number of load cycles. |
| 226 | Load 'In'-time | | This is the total time that the magnetic heads actuator has had a load (not been in the parking area). |
| 227 | Torque Amplification Count | Low | This is the number of attempts to compensate for variations in platter speed. |
| 228 | Power-Off Retract Cycle | Low | This is how many times the magnetic armature was automatically retracted because the power was cut. |
| 230 | GMR Head Amplitude | | This is the amplitude of thrashing (or the distance of repetitive forward and reverse head motion). |
| 231 | Temperature | Low | This is the hard drive's temperature. |
| 240 | Head Flying Hours | | This is the total time that the head has been positioning. |
| 250 | Read Error Retry Rate | Low | This is the number of errors in reading from the disk. |

8.4 iSCSI

The NAS supports the iSCSI (Internet Small Computer System Interface) standard and can serve as an iSCSI target. When the iSCSI initiator is successfully connected to an iSCSI target over an IP

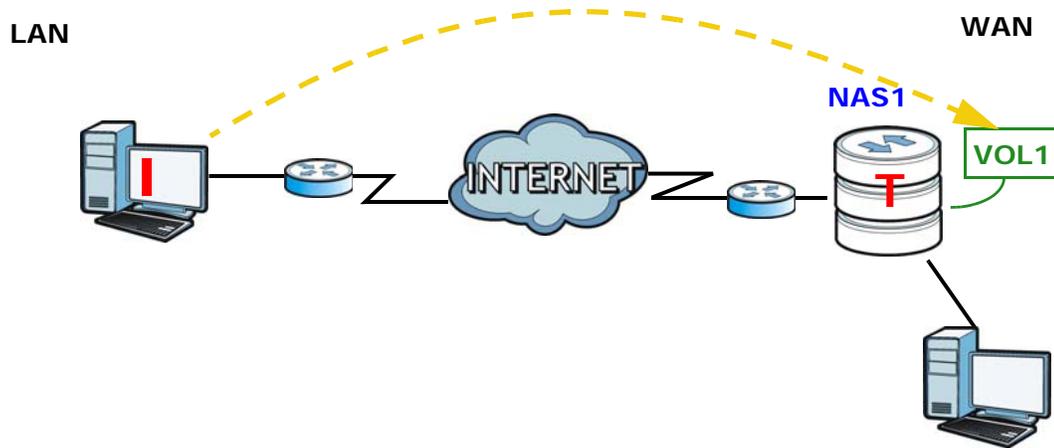
network, data transmission and storage management can be processed through the network. In other words, you can access and manage the target the same way as a locally attached drive.

In the following example, a branch office has a NAS named **NAS1**. You want to expand your data storage capacity by accessing an iSCSI LUN (Logical Unit Number) volume called **VOL1** on **NAS1** over the Internet. Your computer is the iSCSI initiator and the NAS is the iSCSI target. When the initiator is successfully connected to the target, your computer can use **VOL1** on the NAS as its own internal storage.

The configuration steps are as follows:

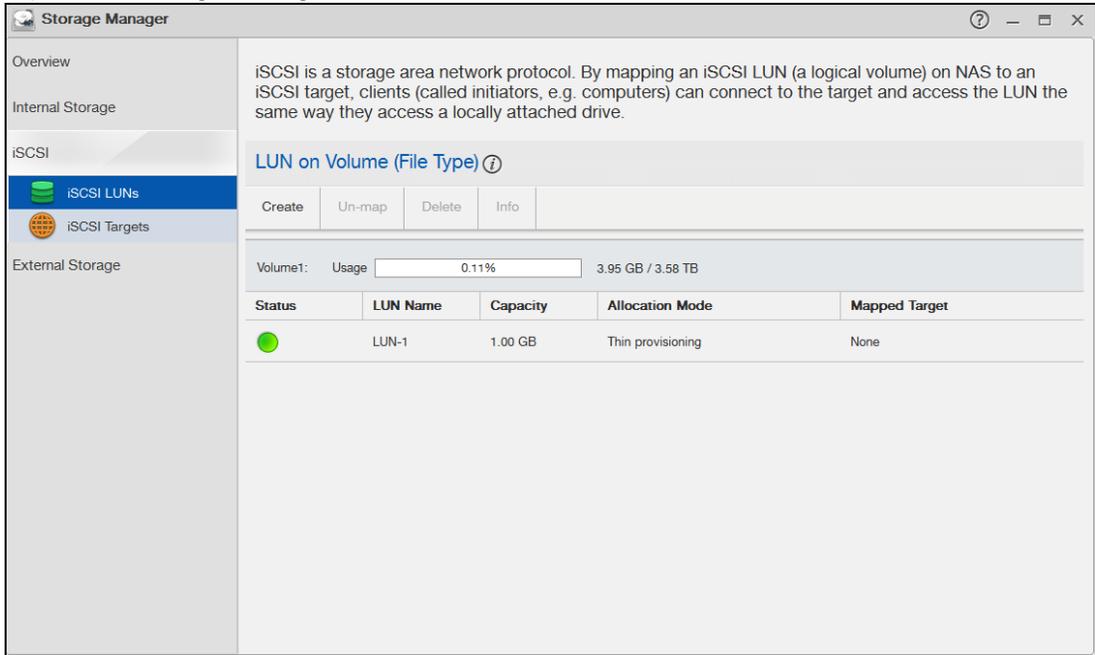
- 1 Create an iSCSI LUN Volume for the iSCSI target in NAS1.
- 2 Configure NAS1 as an iSCSI target.

Figure 48 iSCSI Connection Example



8.4.1 iSCSI LUNs Screens

This section enables you to create, up-map, and delete LUN volumes, as well as display the volumes' information. Click **Storage Manager > iSCSI > iSCSI LUNs** to display the following screen.

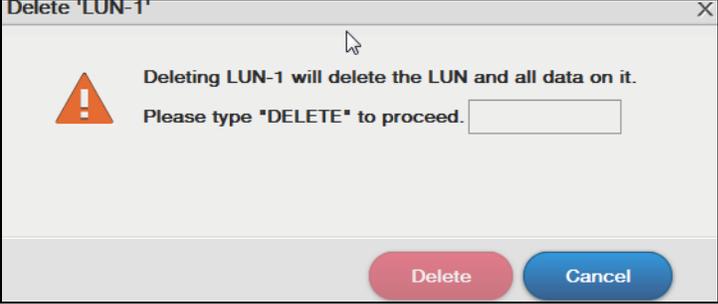
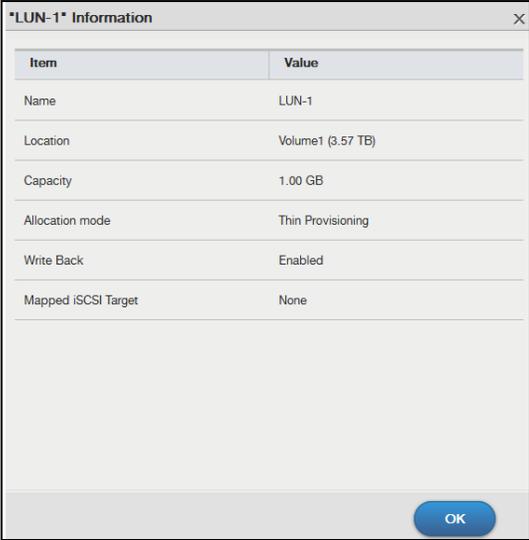
Figure 49 Storage Manager > iSCSI > iSCSI LUNs

The following table describes the labels in this screen.

Table 22 iSCSI > iSCSI LUNs

| LABEL | DESCRIPTION |
|--------|--|
| Create | Click this to create a new LUN on a volume. See more details on Section 8.4.1.1 on page 84 . |
| Un-map | Click this to open the following screen where you can un-map the LUN from the iSCSI target. <div> </div> <p>Key in UN-MAP and click Un-map to un-map the LUN from the iSCSI target. Click Cancel to close this screen.</p> |

Table 22 iSCSI > iSCSI LUNs (continued)

| LABEL | DESCRIPTION |
|--------|---|
| Delete | <p>Click this to open the following screen where you can delete an existing LUN.</p>  <p>Key in DELETE and click Delete to remove an existing LUN. Click Cancel to close this screen.</p> |
| Info | <p>Click this item to check detailed information about the LUN.</p>  <p>Name - Displays the name of the LUN.</p> <p>Location - Displays the name of the volume the LUN is located in.</p> <p>Capacity - Displays the size of the LUN.</p> <p>Allocation mode - Displays the allocation method the LUN applies.</p> <p>Write Back - Displays whether the write back feature is enabled or disabled.</p> <p>Mapped iSCSI Target - Displays the iSCSI target name the LUN is mapped to.</p> |

8.4.1.1 Creating a New LUN

A LUN is a unit of storage shared over iSCSI that can be mapped to an iSCSI target. You must create an iSCSI LUN volume before you configure an iSCSI target for it. Click **Create** in the **iSCSI LUNs** section of the **Storage Manager > iSCSI** screen to open the screens as shown.

Figure 50 Creating a New LUN

Create a LUN on Volume (File Type)

Set up LUN Properties / Summary

Name: LUN-1

Location: Volume1 (Available 3659.73 GB)

Capacity: 1 GB

Allocation mode: Thin provisioning *i* Instant allocation *i*

Enable write back *i*

Next Cancel

Create a LUN on Volume (File Type)

Set up LUN Properties / Summary

| Item | Value |
|-----------------|--------------------------------|
| Name | LUN-1 |
| Location | Volume1 (Available 3659.73 GB) |
| Capacity | 1 GB |
| Allocation mode | Thin Provisioning |
| Write Back | Enabled |

Back Apply Cancel

The following table describes the labels in these screens.

Table 23 Create a New LUN

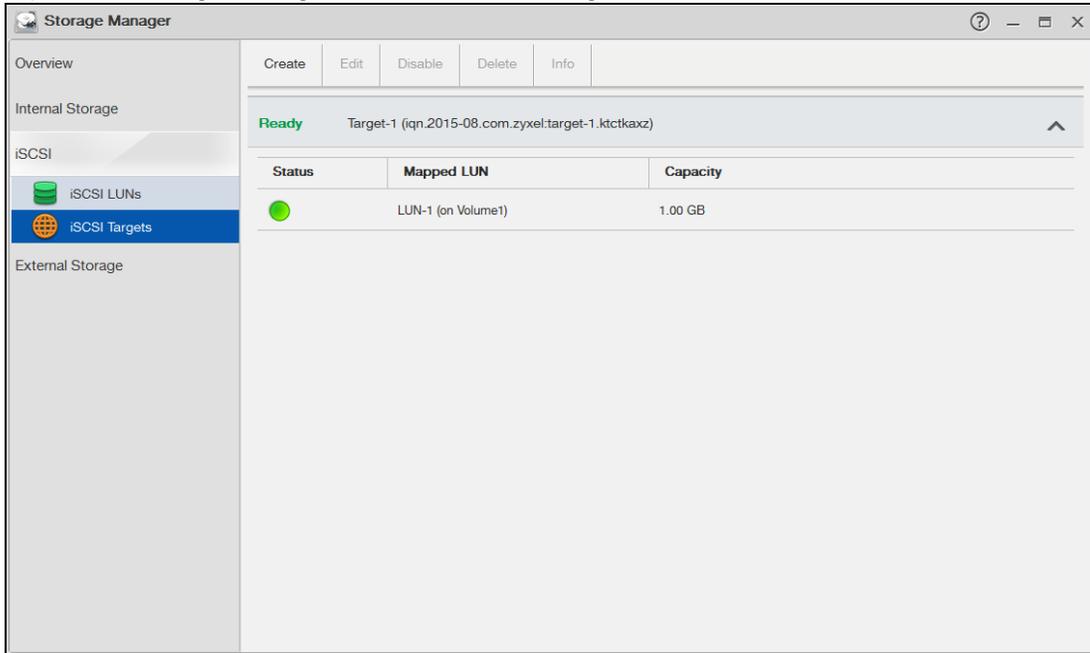
| LABEL | DESCRIPTION |
|---|---|
| Step 1. Set Up LUN Properties | |
| Name | Type a LUN name in this field. Note: Valid characters for the name are 0-9, a-z, and A-Z, and the maximum length is 30 characters. The "-" symbol is allowed as well, but cannot be the first character. |
| Location | Select a volume to create the LUN on. |
| Capacity | Type the size of the LUN in this field. |
| Allocation Mode | Select the method the NAS uses to allocate storage space to the LUN. Thin provisioning - Allocate space only when an initiator writes data to it. Instant allocation - Allocate the specified disk space to the LUN when you create the LUN. |
| Enable Write Back | Select this option to increase the write performance. Write Back is a feature that collects data in the hard disk's cache memory first and permanently writes data into the hard disk when the system is idle. Note: It also creates a serious data integrity hazard. Data loss may occur if the NAS experiences unexpected power loss before it has time to write the cached data to the hard disk. |
| Next | Click Next to go to the next step. |
| Cancel | Click Cancel to close the screen without saving any settings. |
| Step 2. Summary | |
| Use this screen to review the settings you configured in the last step. | |
| Name | Displays the name of the LUN. |
| Location | Displays the name of the volume the LUN is located in. |
| Capacity | Displays the size of the LUN. |
| Allocation Mode | Displays the allocation method the LUN applies. |
| Write Back | Displays whether the Write Back feature is enabled or disabled. |
| Back | Click Back to go to the previous step. |
| Apply | Click Apply to save the settings. |
| Cancel | Click Cancel to close the screen without saving any settings. |

8.4.2 iSCSI Targets Screens

The iSCSI target refers to the storage resource that is actually attached to the iSCSI storage device. The initiator can manage the assigned disk volume on the iSCSI target over the Internet as if it was the initiator's internal storage volume.

iSCSI Targets allows you to create, edit, and delete an iSCSI target and map a target to an existing LUN. Click **Storage Manager > iSCSI > iSCSI Targets** to show the following screen.

Figure 51 Storage Manager > iSCSI > iSCSI Targets

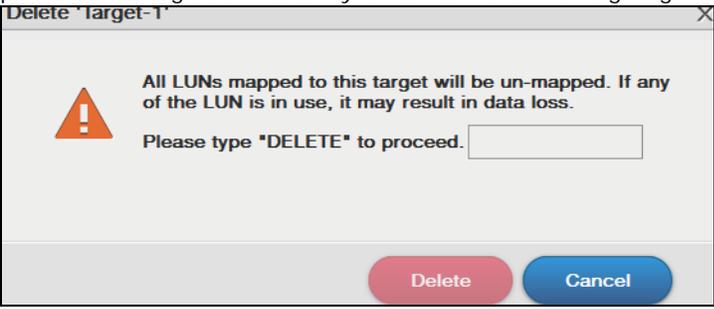


The following table describes the labels in these screens.

Table 24 iSCSI > iSCSI Targets

| LABEL | DESCRIPTION |
|------------------|--|
| Create | Click this to create a new iSCSI target. See more details on Section 8.4.2.1 on page 88 . |
| Edit | Click this to modify the configuration of the iSCSI target. See more detailed on Section 8.4.2.2 on page 92 . |
| Disable / Enable | <p>Disable - Click this to open the following screen where you can deactivate an existing target.</p> <div style="border: 1px solid gray; padding: 10px; margin: 10px 0;"> <p style="text-align: center;">Disable 'Target-1'</p> <p style="text-align: center;"> If the LUN(s) mapped to the target is in use, to disable the target may result in data loss. Please type "DISABLE" to proceed. <input style="width: 100px;" type="text"/> </p> <p style="text-align: right;"> Disable Cancel </p> </div> <p>Key in DISABLE and click Disable to deactivate the target. Click Cancel to close this screen.</p> <p>Enable - When the iSCSI is disabled, click Enable will activate the target.</p> |

Table 24 iSCSI > iSCSI Targets (continued)

| LABEL | DESCRIPTION |
|--------|--|
| Delete | <p>Click this to open the following screen where you can delete an existing target.</p>  <p>Key in DELETE and click Delete to remove an existing target. Click Cancel to close this screen.</p> |
| Info | <p>Click this item to check detailed information about the target.</p>  <p>Name - Displays the created target name.</p> <p>IQN - Displays the target's iSCSI Qualified Name (IQN) format.</p> <p>Allowed initiator (IQN) - Displays the allowed initiator's iSCSI Qualified Name (IQN) format.</p> <p>Authentication - Displays the authentication method the target applies.</p> <p>CRC Checksum - Displays the data transmission error detecting technique.</p> <p>Maximum receive segment bytes - Displays the maximum data segment length in bytes that the iSCSI target can receive.</p> <p>Maximum send segment bytes - Displays the maximum data segment length in bytes that the iSCSI target can send. This feature is for the NAS326 only.</p> <p>Mapped iSCSI Luns - Displays the LUNs mapped with the target.</p> |

8.4.2.1 Creating a New Target

Click **Create** in the **iSCSI Targets** section of the **Storage Manager > iSCSI** screen to open the screens as shown.

Note: The NAS can create only 10 targets at maximum.

Figure 52 Creating a new LUN

The figure consists of three overlapping screenshots of the 'Create an iSCSI Target' wizard, showing the configuration process in three steps: 'Set up Target Properties', 'Map iSCSI LUNs', and 'Summary'.

Step 1: Set up Target Properties

The wizard displays the following configuration fields:

- Name:** Target-1
- IQN:** iqn.2015-08.com.zyxel.target-1.rzipfrxt
- Allowed initiator (IQN):** iqn.1991-05.com.microsoft:twpcmt03231-01.zyxel.com
- CHAP:**
 - Enable mutual CHAP
 - Username:** iqn.1991-05.com.microsoft:twpcmt
 - Password:** [Redacted]
 - Confirm Password:** [Redacted]

Step 2: Map iSCSI LUNs

The wizard displays a table of mapped LUNs:

| <input type="checkbox"/> | Status | LUN Name | Capacity |
|-------------------------------------|--------|--------------------|----------|
| <input checked="" type="checkbox"/> | ● | LUN-1 (on Volume1) | 1.00 GB |

Step 3: Summary

The wizard displays a summary table of the configuration:

| Item | Value |
|-------------------------|--|
| Name | Target-1 |
| IQN | iqn.2015-08.com.zyxel.target-1.rzipfrxt |
| Allowed initiator (IQN) | iqn.1991-05.com.microsoft:twpcmt03231-01.zyxel.com |
| Authentication | Mutual CHAP |
| Mapped iSCSI LUNs | LUN-1, |

At the bottom of the wizard, there are three buttons: **Back**, **Apply**, and **Cancel**.

The following table describes the labels in these screens.

Table 25 Create a New Target

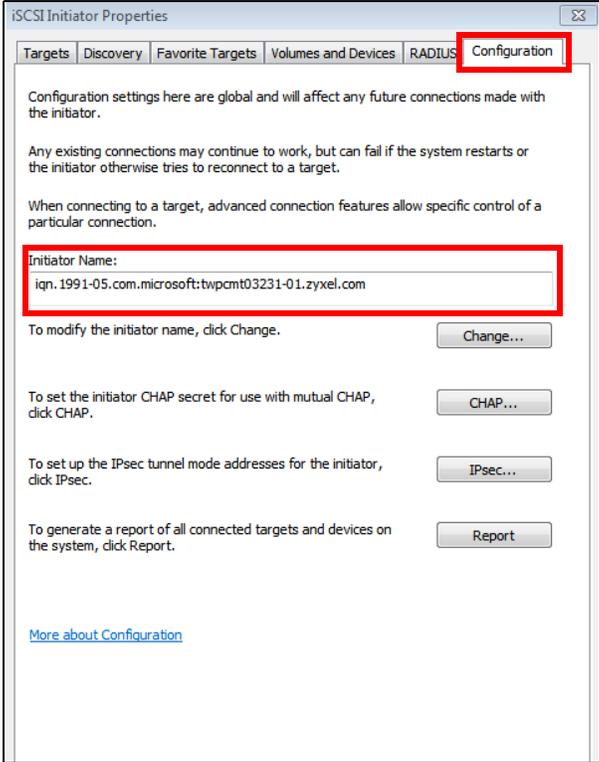
| LABEL | DESCRIPTION |
|----------------------------------|--|
| Step 1. Set Up Target Properties | |
| Name | Enter the name of your iSCSI target. Note: Valid characters for the name are 0-9, a-z, and A-Z, and the maximum length is 30 characters. The “-” symbol is allowed as well, but cannot be the first character. |
| IQN | The iSCSI Qualified Name (IQN) of the target is automatically generated after you enter the target name. |
| Allowed initiator (IQN) | <p>The allowed initiator name is in the iSCSI Qualified Name (IQN) format.</p> <p>To check the initiator name, open the iSCSI Initiator program on your computer. Select the Configuration tab and you can see the initiator name as shown in the following screen.</p>  <p>Note: If you use your computer as the iSCSI initiator, download and install the iSCSI Initiator first. For example, use Microsoft iSCSI Software Initiator with a Microsoft OS or globalSAN iSCSI Initiator with MAC OS.</p> |

Table 25 Create a New Target (continued)

| LABEL | DESCRIPTION |
|--|--|
| CHAP | <p>If the iSCSI target has configured Challenge Handshake Authentication Protocol (CHAP) here, the initiator needs to enter the secret before the initiator connects to the target. The target will authenticate the initiator with the username and password (shared secret). The connection fails if the username and password are not entered correctly.</p> <p>Username - The user name is for the initiator to authenticate the initiator when attempting connection.</p> <p>Password - The password is for the target to authenticate the initiator when attempting connection.</p> <p>Confirm password - Re-type the password to make sure you entered it correctly.</p> <p>Note: Valid characters for password are 0-9, a-z, and A-Z.</p> |
| Enable mutual CHAP | <p>Mutual CHAP is a two-way authentication between the iSCSI initiator and the target. If the initiator has configured CHAP authentication, the target must enter the secret that's set up by the initiator when attempting connection.</p> <p>Select this check box to perform mutual CHAP on the target.</p> <p>Username - The user name is for the initiator to authenticate the initiator when attempting connection.</p> <p>Password - The password is for the target to authenticate the initiator when attempting connection.</p> <p>Confirm password - Re-type the password to make sure you entered it correctly.</p> <p>Note: Valid characters for password are 0-9, a-z, and A-Z.</p> |
| Next | Click Next to go to the next step. |
| Cancel | Click Cancel to close the screen without saving any settings. |
| <p>Step 2. Map iSCSI LUNs</p> <p>Use this screen to map the iSCSI target to an existing LUN.</p> <p>Note: One iSCSI target can map to several LUN, but one LUN can only map to one target.</p> | |
| Status | Displays the status of the iSCSI LUN(s). |
| LUN Name | Displays the LUN name. |
| Capacity | Displays the size of the iSCSI LUN(s). |
| Back | Click Back to go to the previous step. |
| Next | Click Next to go to the next step. |
| Cancel | Click Cancel to close the screen without saving any settings. |
| <p>Step 3. Summary</p> <p>Use this screen to review the settings you configured in the last step.</p> | |
| Name | Displays the iSCSI target name. |
| IQN | Displays the IQN of the target. |
| Allowed initiator (IQN) | Displays the IQN of the allowed initiator. |
| Authentication | Displays the CHAP authentication method the target applies. |
| Mapped iSCSI LUNs | Displays the iSCSI LUN the target maps to. |
| Back | Click Back to go to the previous step. |

Table 25 Create a New Target (continued)

| LABEL | DESCRIPTION |
|--------|--|
| Apply | Click Apply to save the settings. |
| Cancel | Click Cancel to close the screen without saving any settings. |

8.4.2.2 Editing a Created Target

You can edit iSCSI target settings such as allowed initiator (IQN), CHAP, and CRC checksum after you create a target. Click **Storage Manager > iSCSI Targets** and select **Edit** to open the following screens.

Properties

The **Properties** screen allows you to edit the allowed initiator (IQN), CHAP authentication features as shown in the following screen.

Figure 53 iSCSI Targets > Edit > Properties

Table 26 iSCSI Targets > Edit > Properties

| LABEL | DESCRIPTION |
|-------------------------|---|
| Name | Displays the name of your iSCSI target. |
| IQN | Displays the iSCSI Qualified Name (IQN) of the target. |
| Allowed initiator (IQN) | The allowed initiator name is in the iSCSI Qualified Name (IQN) format. You can connect with another initiator by changing the allowed initiator IQN. The system will display a prompt if you enter an invalid character or username of unacceptable length in this field. |

Table 26 iSCSI Targets > Edit > Properties (continued)

| LABEL | DESCRIPTION |
|--------------------|--|
| CHAP | <p>Username - The user name is for the initiator to authenticate the initiator when attempting connection.</p> <p>Password - The password is for the target to authenticate the initiator when attempting connection.</p> <p>Confirm password - Re-type the password to make sure you entered it correctly.</p> <p>Note: Valid characters for password are 0-9, a-z, and A-Z, and the valid length is 12-14 characters.</p> |
| Enable mutual CHAP | <p>Select this check box to perform mutual CHAP on the target.</p> <p>Username - The user name is for the target to authenticate the initiator when attempting connection.</p> <p>Password - The password is for the target to authenticate the initiator when attempting connection.</p> <p>Confirm password - Re-type the password to make sure you entered it correctly.</p> <p>Note: Valid characters for password are 0-9, a-z, and A-Z, and the valid length is 12-14 characters.</p> |
| Apply | Click Apply to save your changes. |
| Cancel | Click Cancel to close the screen without saving any settings. |

Map iSCSI LUNs

If the existing iSCSI target doesn't map to any iSCSI LUN, go to **Map iSCSI LUNs** to configure the mapping.

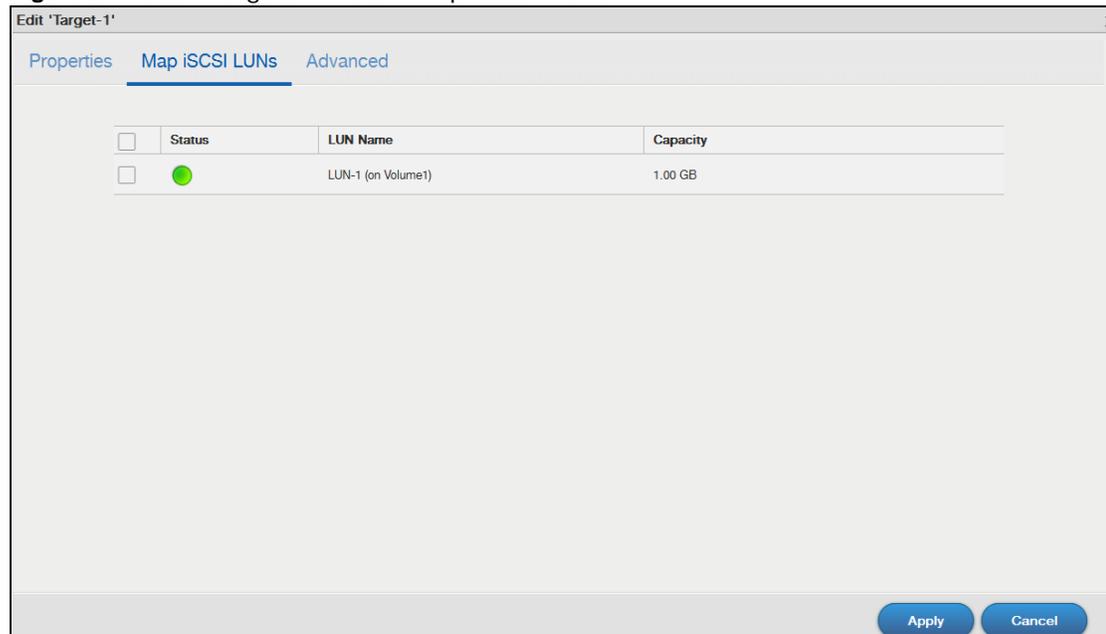
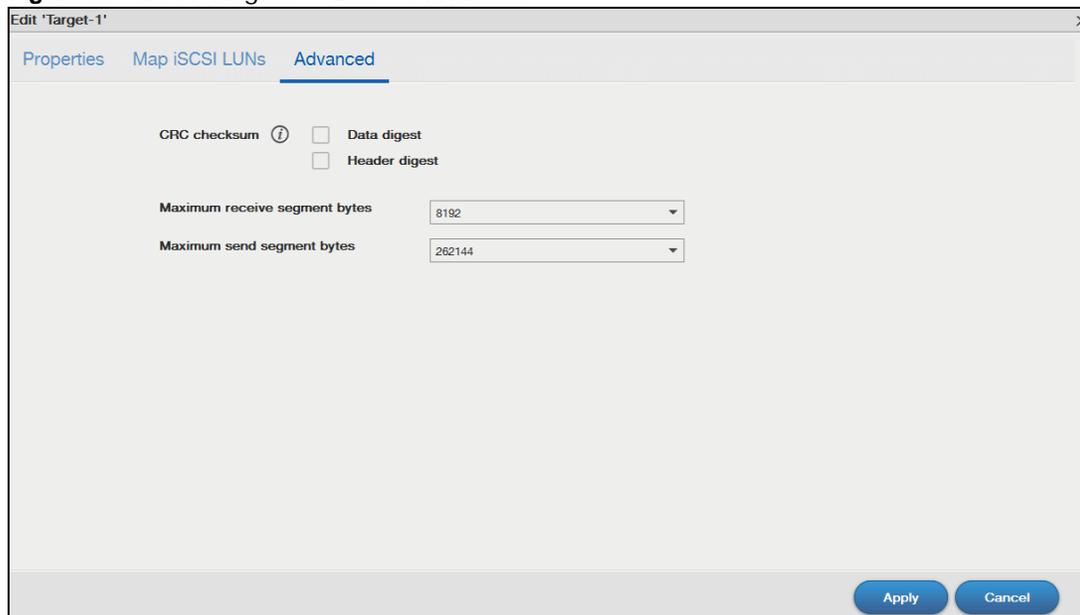
Figure 54 iSCSI Targets > Edit > Map iSCSI LUNs

Table 27 iSCSI Targets > Edit > Map iSCSI LUNs

| LABEL | DESCRIPTION |
|----------|--|
| Status | Displays the status of the iSCSI LUN. |
| LUN Name | Displays the iSCSI LUN name. |
| Capacity | Displays the size of the iSCSI LUN. |
| Apply | Select the check to choose a LUN, and click Apply to save your changes. |
| Cancel | Click Cancel to close the screen without saving any settings. |

Advanced

Go to **Advanced** screen for other configurations such as CRC checksum and maximum receive/send segments.

Figure 55 iSCSI Targets > Edit > Advanced**Table 28** iSCSI Targets > Edit > Advanced

| LABEL | DESCRIPTION |
|-------------------------------|--|
| CRC checksum | Cyclic Redundancy Check (CRC) checksum is a technique for detecting data transmission errors. It ensures correct data transmissions between the initiator and the target. If you select the Data/Header Digest, the iSCSI initiator will be verified by these parameters when transmitting data. |
| Data digest | Select the check box to enable data digest. The data digest protects the integrity of the data. |
| Header digest | Select the check box to enable header digest. The header digest protects the integrity of the header. |
| Maximum receive segment bytes | Select the maximum receive segments allowed in bytes. Four options are applied: 262144, 65536, 9182, 4092. |

Table 28 iSCSI Targets > Edit > Advanced (continued)

| LABEL | DESCRIPTION |
|----------------------------|--|
| Maximum send segment bytes | Select the maximum send segments allowed in bytes. Four options are applied: 262144, 65536, 9182, 4092. Note: This feature is for the NAS326 only. |
| Apply | Click Apply to save your changes. |
| Cancel | Click Cancel to close the screen without saving any settings. |

8.5 External Storage

This chapter covers the management of external volumes and disks.

Use the **External Storage** screen ([Section 8.5.2 on page 95](#)) to display information on all external volumes, configure volumes' name and format volumes.

8.5.1 What You Need to Know About External Storage

Disk

USB-attached storage disks and SD cards are treated as external disks/volumes.

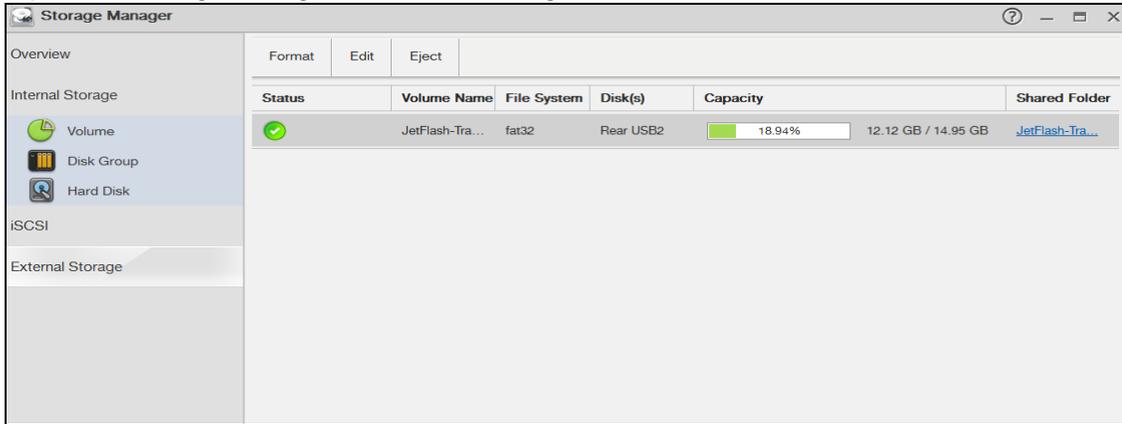
Volume

A volume is a storage area on a disk or disks. You can create volumes on SD cards or external disks attached to the USB ports. You cannot spread a volume across external disks like you can with internal disks.

8.5.2 External Storage Screen

Click **Storage Manager > External Storage** in the navigation panel to display the following screen. Use this screen to format and edit external volumes on USB-connected storage and SD cards.

Figure 56 Storage Manager > External Storage



The following table describes the labels in this screen.

Table 29 Storage Manager > External Storage

| LABEL | DESCRIPTION |
|--------|---|
| Format | Click this to format the connected USB disk. See Section 8.5.3 on page 97 for more information. |
| Edit | <p>Click this to modify the volume name.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> </div> <p>Volume name -</p> <ul style="list-style-type: none"> • Type a volume name from 1 to 31 characters. • Acceptable characters are all alphanumeric characters and " " [spaces], "_" [underscores], and "." [periods]. • The first character must be alphanumeric (A-Z 0-9). • The last character cannot be a space " ". <p>Apply - Click this to save your change and rename the volume.</p> <p>Cancel - Click this to exit this screen without saving changes.</p> |

Table 29 Storage Manager > External Storage (continued)

| LABEL | DESCRIPTION |
|---------------|---|
| Eject | <p>Click this to eject the external volume.</p>  <p>Click Yes to eject the volume or No to exit this screen without saving changes.</p> |
| Status | <p>This field shows whether the volume is Normal, Unsupported, or Unformatted.</p> <p>Normal means the USB connected device is functioning properly.</p> <p>Unsupported means the USB connected device uses a file system the NAS does not support.</p> <p>Unformatted means the USB connected device is not formatted with a file system.</p> <p>Note: There is no explicit message from CIFS that tells users their volume is degraded or down.</p> |
| Volume Name | <p>This field displays the volume name. If the status is Unsupported or Unformatted, the volume name displays "--".</p> |
| File System | <p>This field displays the file system that an external (USB or SD) volume is using.</p> |
| Disk(s) | <p>This field shows to which USB port the disk is connected.</p> |
| Capacity | <p>This field shows total disk size, the percentage of the volume being used and the percentage that is available. If the status is Unsupported, the capacity displays "Unknown". If the status is Unformatted, the capacity displays "--".</p> |
| Shared Folder | <p>This field displays the folder that shares files. Roll your mouse over the link and click it to display the files in the File Browser.</p> |

8.5.3 Format the Volume

This allows you to format the connected USB disk. Click **External Storage > Format** to show the following screen.

Note: Formatting the disk will also delete all your data in the USB drive. If the connected external volume has more than one partition, you can choose which partition you want to format.

Figure 57 External Storage > Format

The screenshot shows a dialog box titled "Format 'JetFlash-Transcend-16GB-8-07-1'". It contains two input fields: "Volume Name" with the text "JetFlash-Transcend-16GB-8-07-1" and "File System" with a dropdown menu showing "NTFS (Recommended)". At the bottom, there are two buttons: "Apply" and "Cancel".

The following table describes the labels in this screen.

Table 30 External Storage > Format

| LABEL | DESCRIPTION |
|-------------|--|
| Volume Name | Type a volume name from 1 to 31 characters. Acceptable characters are all alphanumeric characters and " " [spaces], "_" [underscores], and "." [periods]. The first character must be alphanumeric (A-Z 0-9). The last character cannot be a space " ". |
| File System | Select the file system you want the new volume to use. Windows file systems NTFS : Recommended. FAT32 : Newer, and more efficient than FAT16. Supports a volume size of up to 2 TB (Tera Bytes) and individual file sizes of up to 4 GB. exFAT : Designed to bridge the gap between the NTFS file system and the older FAT32 file system. It is a 64-bit file system that can store files over 4 GB. Linux file systems EXT2 : Older file system. EXT3 : The same as EXT2, but adds a journaled file system and is more robust. EXT4 : Supports larger files and better performance than EXT3. |
| Apply | Click this to save your changes and format the disk. |
| Cancel | Click this to exit this screen without saving changes. |

8.6 Technical Reference

This section contains background on JBOD and the RAID levels used on the NAS.

JBOD

- Minimum number of disks: 1
- Total capacity: Sum of the member disks
- Advantages: Maximum storage capacity, especially for disks of mixed sizes. Flexibility (you can add disks to the JBOD)
- Disadvantages: Not as fast or reliable as RAID.

JBOD allows you to combine multiple physical disk drives into a single virtual one, so they appear as a single large disk. JBOD can be used to turn several different-sized drives into one big drive. For

example, JBOD could convert 100 GB, 200 GB, 250 GB, and 500 GB drives into one large logical drive of 1050 GB. Since data isn't striped across disks, if one disk fails, you should just lose the data on that disk (but you may lose data in the whole array depending on the nature of the disk failure). You can add disks to the JBOD array later (using the Add disk to JBOD feature) and even remove them so JBOD offers a lot of flexibility. However JBOD read performance is not as good as RAID as only one disk can be read at a time and they must be read sequentially. The following figure shows three disks in a single JBOD array. Data is not written across disks but written sequentially to each disk until it's full.

Table 31 JBOD

| | | |
|--------|--------|--------|
| A1 | B1 | C1 |
| A2 | B2 | C2 |
| A3 | B3 | C3 |
| A4 | B4 | C4 |
| | | |
| DISK 1 | DISK 2 | DISK 3 |

RAID 0

RAID 0 spreads data across two or more disks (data striping) with no mirroring nor parity for data redundancy, so if one disk fails the entire array will be lost. The major benefit of RAID 0 is performance. The following figure shows two disks in a single RAID 0 array. Data can be written and read across disks simultaneously for faster performance.

Table 32 RAID 0

| | |
|--------|--------|
| A1 | A2 |
| A3 | A4 |
| A5 | A6 |
| A7 | A8 |
| | |
| DISK 1 | DISK 2 |

RAID 0 capacity is the size of the sum of the capacities of the disks in the RAID 0. For example, if you have four disks of sizes 1 TB, 2 TB, 3 TB and 2 TB respectively in one RAID 0 array, then the maximum capacity is 8 TB.

Typical applications for RAID 0 are non-critical data (or data that changes infrequently and is backed up regularly) requiring high write speed such as audio, video, graphics, games and so on.

RAID 1

RAID 1 creates an exact copy (or mirror) of a set of data on another disk. This is useful when data backup is more important than data capacity. The following figure shows two disks in a single RAID

1 array with mirrored data. Data is duplicated across two disks, so if one disk fails, there is still a copy of the data.

Table 33 RAID 1

| | |
|--------|--------|
| A1 | A1 |
| A2 | A2 |
| A3 | A3 |
| A4 | A4 |
| | |
| DISK 1 | DISK 2 |

As RAID 1 uses mirroring and duplexing, a RAID 1 array needs an even number of disks (two or four for the NAS).

RAID 1 capacity is limited to the size of the smallest disk in the RAID array. For example, if you have two disks of sizes 150 GB and 200 GB respectively in one RAID 1 array, then the maximum capacity is 150 GB and the remaining space (50 GB) is unused.

Typical applications for RAID 1 are those requiring high fault tolerance without need of large amounts of storage capacity or top performance, for example, accounting and financial data, small database systems, and enterprise servers.

RAID 6

RAID 6 can tolerate two simultaneous drive failures by calculating dual distributed parity data on striped data across disks. Dual parity provides extra data protection, however, it is slower to write than most other RAID levels.

RAID 6 uses parity to store redundant data on space equal to the size of two disks for later data recovery. Therefore, on a RAID 6 array, only 50% of the space is available as usable capacity. If you have four disks of sizes 1TB, 1TB, 2TB, 2TB respectively in one RAID 6 array, then the maximum capacity of the array is the capacity of the smallest drive (1TB, 1TB, 2TB, 2TB) * (Number of disks - 2) = 1TB * (4-2) = 2TB. The remaining space (2 TB) is unused.

Table 34 RAID 6

| RAID 6 | | | |
|--------|--------|--------|--------|
| A1 | A2 | AP | AQ |
| B1 | BP | BQ | B2 |
| CP | CQ | C1 | C2 |
| DQ | D1 | D2 | DP |
| | | | |
| DISK 1 | DISK 2 | DISK 3 | DISK 4 |

RAID 10

RAID 10 (RAID 1+0) is a nested RAID where two RAID 1 arrays are stored on the physical disks with a RAID 0 array on top. It is a stripe of mirrors. RAID 1 provides redundancy while RAID 0 boosts performance. The following figure shows two disks in two RAID 1 arrays. Data is duplicated across two disks, so if one disk fails, there is still a copy of the data. These two arrays are configured as a single RAID 0 array for faster performance.

Table 35 RAID 10

| RAID 0 | | | |
|--------|--------|--------|--------|
| RAID 1 | | RAID 1 | |
| A1 | A1 | A2 | A2 |
| A3 | A3 | A4 | A4 |
| A5 | A5 | A6 | A6 |
| A7 | A7 | A8 | A8 |
| | | | |
| DISK 1 | DISK 2 | DISK 3 | DISK 4 |

Typical applications for RAID 10 are those requiring both high performance and reliability such as enterprise servers and high-end moderate-sized database systems. RAID 10 is often used in place of RAID 1 or RAID 5 by those requiring higher performance. It may be used instead of RAID 1 for applications requiring more capacity.

RAID 5

RAID 5 provides the best balance of capacity and performance while providing data redundancy. It provides redundancy by striping data across three disks and keeps the parity information (AP) on the fourth disk (in each stripe). In case of disk failure, data can be recovered from the surviving disks using the parity information. When you replace the failed disk, the reconstructed data is written onto the new disk. Re-synchronize the array to have it return to its original state. The following example shows data stripped across three disks (A1 to A3 in the first strip for example) with parity information (AP) on the fourth disk.

Table 36 RAID 5

| | | | |
|--------|--------|--------|--------|
| A1 | A2 | A3 | AP |
| B1 | B2 | BP | B3 |
| C1 | CP | C2 | C3 |
| DP | D1 | D2 | D3 |
| | | | |
| DISK 1 | DISK 2 | DISK 3 | DISK 4 |

The capacity of a RAID 5 array is the smallest disk in the RAID set multiplied by one less than the number of disks in the RAID set. For example, if you have four disks of sizes 150 GB, 150 GB, 200

GB and 250 GB respectively in one RAID 5 array, then the maximum capacity is 450 GB (3 * 150 GB, the smallest disk size) and the remaining space (300 GB) is unused.

Typical applications for RAID 10 are transaction processing, relational database applications, enterprise resource planning and other business systems. For write-intensive applications, RAID 1 or RAID 1+0 are probably better choices, as the performance of RAID 5 will begin to substantially decrease in a write-heavy environment.

Hot-spare

A RAID 1 or RAID 5 array with a hot-spare operates as a three-disk RAID 1 or RAID 5 array with the fourth disk on standby. The standby disk automatically comes into play if a disk in the array fails. The advantage of a hot-spare is that if a disk fails, then the array resynchronizes automatically with the standby disk and operates at healthy array speed after the resynchronization.

Note: You need four hard disks installed to use RAID 10, RAID 5 or RAID 5 with hot-spare.

RAID and Data Protection

If a hard disk fails and you're using a RAID 1, RAID 10, or RAID 5 array then your data will still be available (but at degraded speeds until you replace the hard disk that failed and re-synchronize the array). However, RAID cannot protect against file corruption, virus attacks, files incorrectly deleted or modified, or the NAS malfunctioning.

Status Center

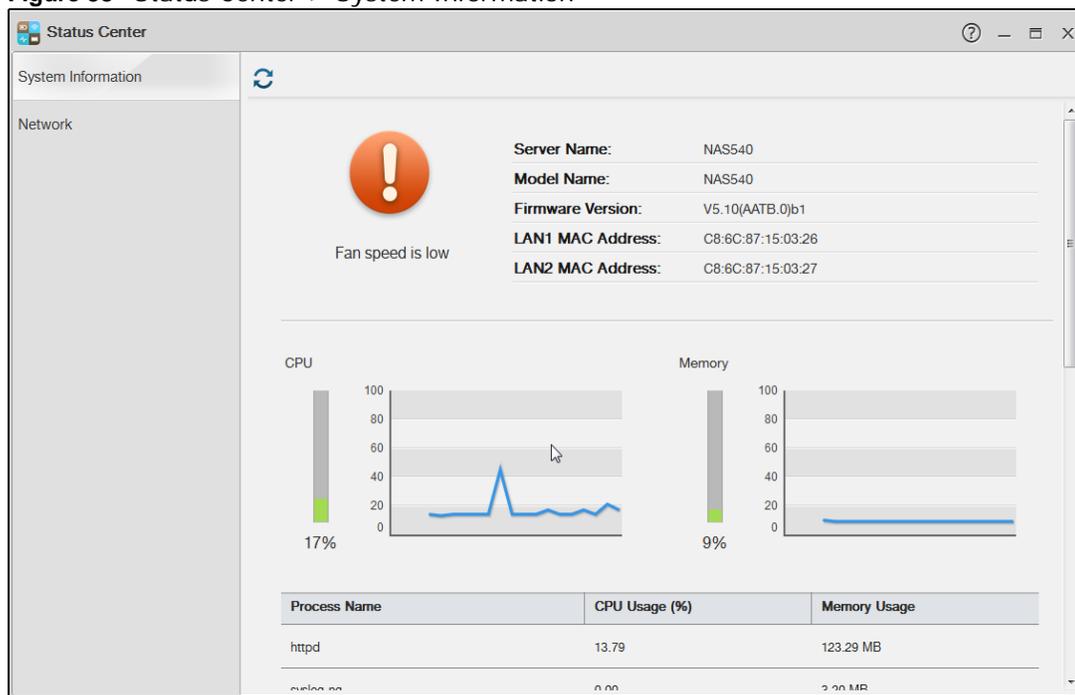
9.1 Overview

Status Center displays the system information or network connection status.

9.1.1 System Information

In the **Desktop** screen, click **Status Center** to display **System Information** for detailed NAS status information.

Figure 58 Status Center > System Information



The following table describes the labels in this screen.

Table 37 Status Center > System Information

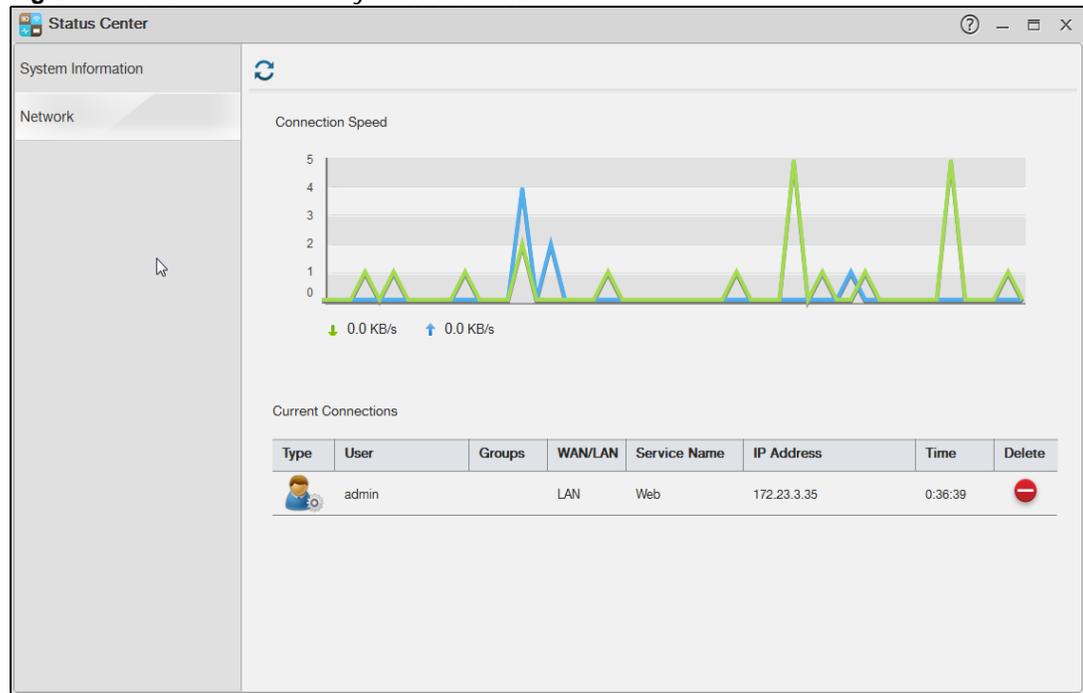
| LABEL | DESCRIPTION |
|------------------|---|
| Refresh | Click the Refresh icon to update this display. |
| Status | The circular icon displays the health state of the NAS. A green circle with a check mark indicates healthy. |
| Server Name | This displays the name which helps you find the NAS on the network. |
| Model Name | This displays which model this NAS device is. |
| Firmware Version | This is the NAS firmware version. |

Table 37 Status Center > System Information (continued)

| LABEL | DESCRIPTION |
|------------------|--|
| LAN1 MAC Address | This displays the NAS's unique physical hardware address (MAC) for the LAN1 Ethernet port. You need the MAC address to register the product at myZyXEL.com. Customer support may also request it for troubleshooting purposes. |
| LAN2 MAC Address | This displays the NAS's unique physical hardware address (MAC) for the LAN2 Ethernet port. |
| CPU | This displays a summary of CPU usage by all current processes. Note: If too many users are using the NAS then the NAS may appear sluggish. |
| Memory | This shows how much of the NAS's total memory is being used. |
| Process Name | This displays the top 10 processes that occupy the most CPU usage. |
| CPU Usage | This displays a summary of CPU usage by all current processes. |
| Memory Usage | This shows how much of the NAS's total memory is being used. |
| CPU Temperature | This displays the temperature near the NAS's CPU. The NAS generates an emergency log if the temperature goes out of the normal operating range. If the temperature goes even higher, the NAS shuts down automatically to avoid damage from overheating. If the NAS overheats, make sure the fans are working and it is in a well ventilated place. |
| Fan Speed | This is the RPM (Rotations Per Minute) of the NAS's fans. |

9.1.2 Network

The **Network** screen display the NAS connection status. From **Status Center** screen, click **Network** to open the screen as shown.

Figure 59 Status Center > System Information

The following table describes the labels in this screen.

Table 38 Status Center > Network

| LABEL | DESCRIPTION |
|--------------|---|
| Type | Displays the type of the user account. |
| User | Displays the user name. |
| Groups | Displays the group the current user belongs to. |
| WAN/LAN | Displays whether the connection is from the WAN or the LAN. |
| Service Name | Displays the service name. |
| IP Address | Displays the IP address of the user. |
| Time | Displays the connection time. |
| Delete | Click this to disconnect the user. |

Control Panel

10.1 Overview

This chapter discusses the **Control Panel** screens. Use the **Control Panel** screens to configure network settings and upload firmware.

10.2 What You Can Do

- Use the **TCP/IP** screen ([Section 10.4 on page 107](#)) to configure the NAS's TCP/IP network connection settings such as the teaming mode and IP addresses.
- Use the **PPPoE** screen ([Section 10.4.2.2 on page 111](#)) to configure PPPoE settings for a direct Internet connection.
- Use the **UPnP Port Mapping** screen ([Section 10.5 on page 113](#)) to automatically configure your Internet gateway's firewall and Network Address Translation (NAT) to allow access to the NAS from the Internet.
- Use the **Terminal** screen ([Section 10.6 on page 119](#)) to enable or disable Telnet and SSH access.
- Use the **DyDNS** screen ([Section 10.7 on page 120](#)) to configure the domain name settings of your NAS.
- Use the **FW Upgrade** screen ([Section 10.8 on page 122](#)) to upload new firmware.

10.3 What You Need to Know

IP Address

The NAS needs an IP address to communicate with other devices on your network. The NAS can get an IP address automatically if you have a device on your network that gives them out. Or you can assign the NAS a static (fixed) IP address.

DNS Server Address

A DNS (Domain Name System) server maps domain names (like www.zyxel.com) to their corresponding numerical IP addresses. This lets you use domain names to access web sites without having to know their IP addresses. The NAS can receive the IP address of a DNS server automatically (along with the NAS's own IP address). You can also manually enter a DNS server IP address in the NAS.

PPPoE

Point-to-Point Protocol over Ethernet (PPPoE) allows the NAS to establish a direct Internet connection if you do not have a router. PPPoE is a dial-up connection. You need a username and password from your Internet Service Provider (ISP) to set up the connection.

10.4 TCP/IP Screens

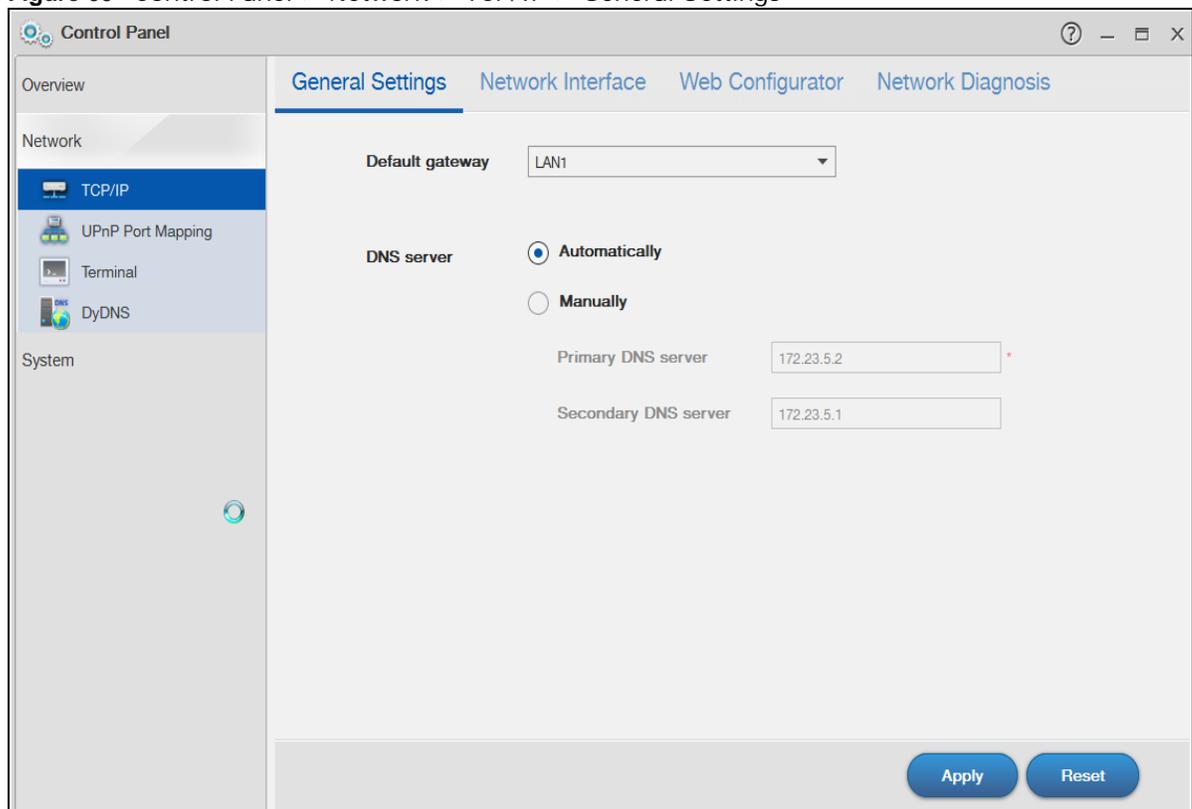
Use the **TCP/IP** screens to have the NAS use a dynamic or static IP address, subnet mask, default gateway, PPPoE and DNS servers, and to test the network connection.

10.4.1 Configuring General TCP/IP Settings

Click **Control Panel > Network > TCP/IP > General Settings** in the navigation panel to open the following screen. This screen allows you to configure the default gateway and DNS server.

Note: If you change the NAS's IP address, you need to log in again after you apply changes.

Figure 60 Control Panel > Network > TCP/IP > General Settings



The following table describes the labels in this screen

Table 39 Control Panel > Network > TCP/IP > General Settings

| LABEL | DESCRIPTION |
|----------------------|--|
| Default Gateway | Select the LAN interface to use as the default gateway. |
| DNS Server | DNS (Domain Name System) is for mapping a domain name to its corresponding IP address and vice versa. If you have the IP address(es) of the DNS server(s), enter them. |
| Automatically | Select the option to have the NAS get a DNS server address automatically. |
| Manually | Select this option to choose a static DNS server address. Type the DNS server IP address(es) into the fields below. |
| Primary DNS Server | Type a primary DNS server IP address. |
| Secondary DNS Server | Type a secondary DNS server IP address. |
| Apply | Click this to save your TCP/IP configurations. After you click Apply , the NAS restarts. Wait until you see the Login screen or until the NAS fully boots and then use the NAS Starter Utility to rediscover it. |
| Reset | Click this to restore your previously saved settings. |

10.4.2 Configuring Network Interface

Use the **Network Interface** screen to edit the IPv4 or IPv6 settings of LAN 1 and LAN 2, set up port trunking, and configure PPPoE settings. Click **Control Panel > Network > TCP/IP > Network Interface** in the navigation panel to open the following screen.

Figure 61 Control Panel > Network > TCP/IP > Network Interface

| Status | Interface | IP Settings | IP Address | Subnet Mask |
|-------------------------|-----------|---------------|-------------|---------------|
| ● | LAN 2 | Automatically | 0.0.0.0 | 0.0.0.0 |
| ● 100 Mbps, full-duplex | LAN 1 | Automatically | 172.23.3.37 | 255.255.255.0 |
| ● | ppp0 | -- | 0.0.0.0 | 0.0.0.0 |

The following table describes the labels in this screen.

Table 40 Control Panel > Network > TCP/IP > Network Interface

| LABEL | DESCRIPTION |
|---------------|--|
| Status | Display data transmission rate and transmission system. |
| Interface | Display the interface name. |
| IP Settings | Display the IP settings (automatically or manually) of an interface. |
| IP Address | Display the IP address of an interface. |
| Subnet Mask | Display the subnet mask of an interface. |
| Create | Click it to open the following screen to set up a port trunking. For adding a port trunking, see Section 10.4.2.1 on page 110 . |
| Automatically | Select this option to have the interface get IP address information automatically. If no IP address information is assigned, the NAS uses Auto-IP to assign itself an IP address and subnet mask. For example, you could connect the NAS directly to your computer. If the computer is also set to get an IP address automatically, the computer and the NAS will choose addresses for themselves and be able to communicate. |
| Manually | Select this option for the interface to use fixed TCP/IP information. You must fill in the following fields. IP Address - Type an IP address in this field. Subnet Mask - Type an IP subnet mask in this field. Default Gateway - Type a default gateway address in this field. |
| Create | Click this to save the settings and create a port trunk. |
| Cancel | Click this to return to the previous screen without saving. |
| Edit | Click this to modify the IPv4 or IPv6 settings of LAN 1 and LAN 2. For editing the PPPoE settings, see Section 10.4.2.2 on page 111 . |
| IPv4 Settings | Click this to configure the following IPv4 settings. Automatically - Select this option to have the interface get IP address information automatically. Manually - Select this option for the interface to use fixed TCP/IP information. <ul style="list-style-type: none"> • IP Address - Type an IP address in this field. • Subnet Mask - Type an IP subnet mask in this field. • Default Gateway - Type a default gateway address in this field. |
| IPv6 Settings | Click this to configure the following IPv6 settings. Mode - <ul style="list-style-type: none"> • Select Auto to have the Device use the IPv6 prefix from the connected router's Router Advertisement (RA) to generate an IPv6 address. • Select Manual if you have a fixed IPv6 address assigned by your ISP. • Select Disable to not assign any IPv6 address for the NAS. Address - Enter the IPv6 address assigned by your ISP. Subnet prefix length - Enter the address prefix length to specify how many most significant bits in an IPv6 address compose the network address. The range is 0 to 128 Default Gateway - Enter the IP address of the next-hop gateway. The gateway is a router or switch on the same segment as your Device's interface(s). The gateway helps forward packets to their destinations. |
| Apply | Click this to save your TCP/IP configurations. After you click Apply , the NAS restarts. Wait until you see the Login screen or until the NAS fully boots and then use the NAS Starter Utility to rediscover it. |

Table 40 Control Panel > Network > TCP/IP > Network Interface (continued)

| LABEL | DESCRIPTION |
|--------|---|
| Cancel | Click this to return to the previous screen without saving. |
| Remove | Click this to remove the port trunking. Note: This button is available only when the port trunking is created. |

10.4.2.1 Creating a Port Trunking

Link Aggregation: Link aggregation combines LAN1 and LAN2 into a single logical link with greater bandwidth. Both interfaces use the same IP address and MAC address. It also includes fault tolerance and load balancing. Connect LAN1 and LAN2 to the same Ethernet switch.

Figure 62 Link Aggregation

Use this screen to set up port trunking. Click **Control Panel > Network > TCP/IP > Network Interface**, and then click **Create**.

Figure 63 Creating a Port Trunking

The following table describes the labels in this screen.

Table 41 Control Panel > Network > TCP/IP > Network Interface > Create

| LABEL | DESCRIPTION |
|---------------|--|
| Automatically | Select this option to have the interface get IP address information automatically. If no IP address information is assigned, the NAS uses Auto-IP to assign itself an IP address and subnet mask. For example, you could connect the NAS directly to your computer. If the computer is also set to get an IP address automatically, the computer and the NAS will choose addresses for themselves and be able to communicate. |
| Manually | Select this option for the interface to use fixed TCP/IP information. You must fill in the following fields. IP Address - Type an IP address in this field. Subnet Mask - Type an IP subnet mask in this field. Default Gateway - Type a default gateway address in this field. |
| Create | Click this to save the settings and create a port trunking. |
| Cancel | Click this to return to the previous screen without saving. |

10.4.2.2 Configuring PPPoE Settings

Use this screen to configure PPPoE settings for a direct Internet connection. Select the ppp0 interface and then click **Edit**.

Figure 64 Control Panel > Network > TCP/IP > Network Interface > PPPoE

The following table describes the labels in this screen.

Table 42 Control Panel > Network > TCP/IP > Network Interface > PPPoE

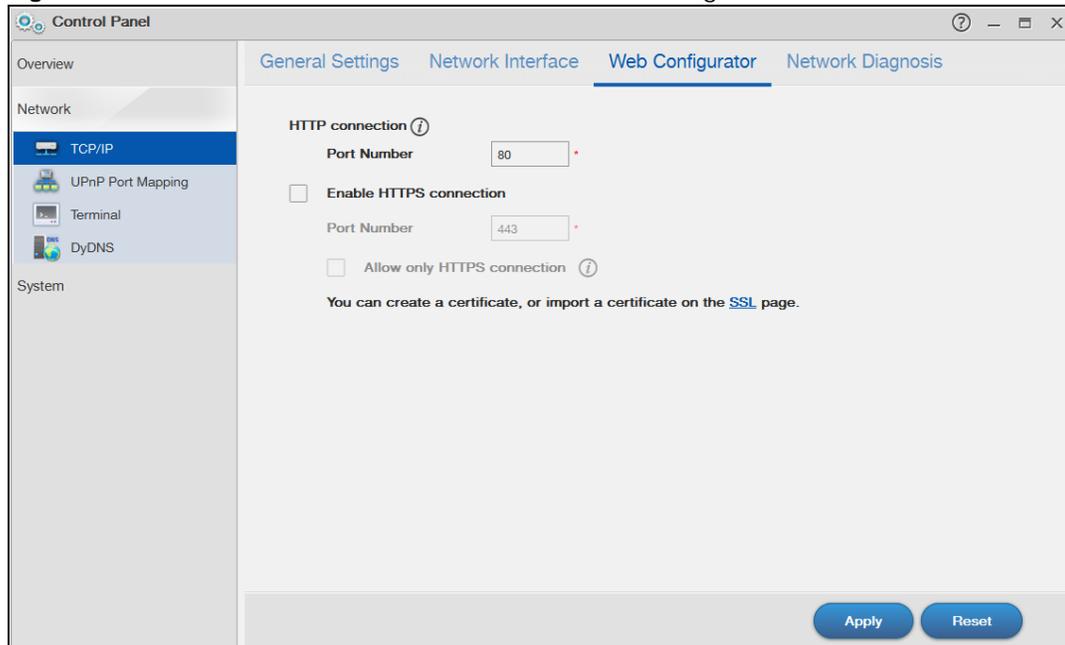
| LABEL | DESCRIPTION |
|--|--|
| Enable PPPoE to directly connect to the Internet | Select or clear this field to enable or disable PPPoE. |
| Username | Enter the username exactly as your ISP assigned. If assigned a name in the form user@domain where domain identifies a service name, then enter both components exactly as given. |
| Password | Enter the password associated with the username above. |
| Show password | Select this field to reveal the password hidden behind asterisks or clear this field to hide the password. |

Table 42 Control Panel > Network > TCP/IP > Network Interface > PPPoE (continued)

| LABEL | DESCRIPTION |
|--------|---|
| Apply | Click this to save your changes. |
| Cancel | Click this to return to the previous screen without saving. |

10.4.3 Configuring Web Configurator

Click **Control Panel > Network > TCP/IP > Web Configurator** to configure the port number of HTTP and HTTPS.

Figure 65 Control Panel > Network > TCP/IP > Web Configurator

The following table describes the labels in this screen.

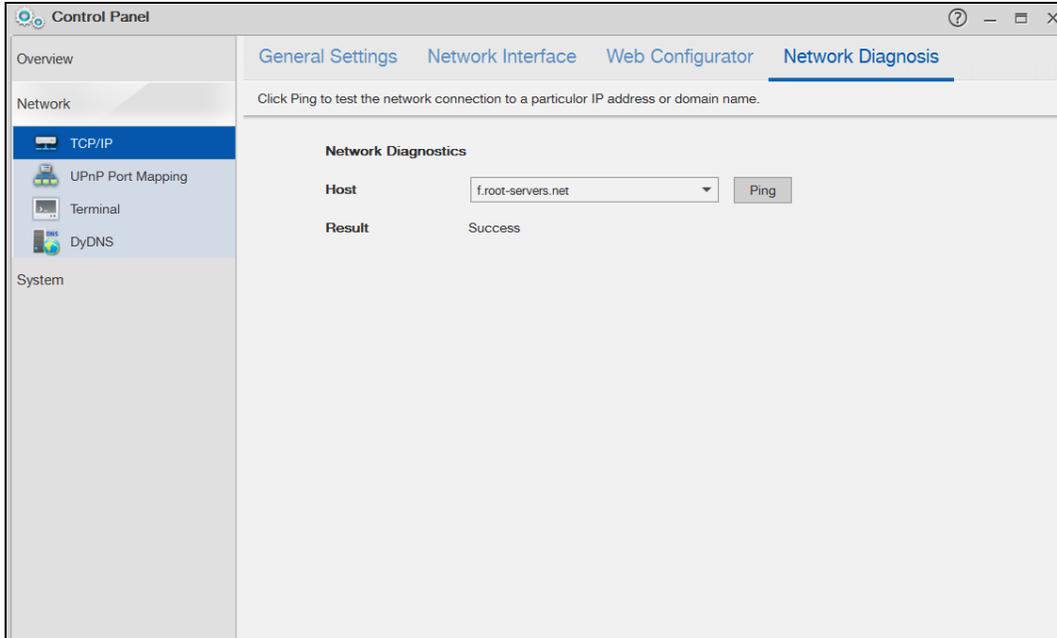
Table 43 Control Panel > Network > TCP/IP > Web Configurator

| LABEL | DESCRIPTION |
|-----------------------------|---|
| Port Number | Specify the port number of HTTP connection. Note: The port number 8082 is reserved for media streaming. |
| Enable HTTPS connection | Select or clear this field to enable or disable HTTPS connection. |
| Port Number | Specify the port number of HTTPS connection. |
| Allow only HTTPS connection | Select this field to allow connection to the Web Configurator via HTTPS only. Clear this field to allow connection to the Web Configurator via both HTTP and HTTPS. |
| Apply | Click this to save your changes. |
| Cancel | Click this to return to the previous screen without saving. |

10.4.4 Configuring Network Diagnosis

Click **Control Panel > Network > TCP/IP > Network Diagnosis** to test the network connection to a particular IP address or domain name.

Figure 66 Control Panel > Network > TCP/IP > Network Diagnosis



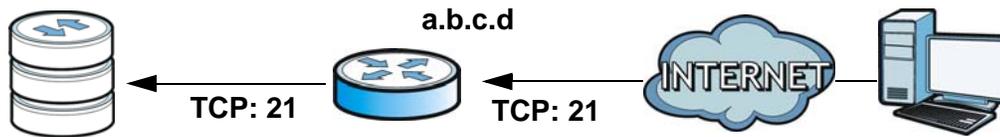
The following table describes the labels in this screen.

Table 44 Control Panel > Network > TCP/IP > Network Diagnosis

| LABEL | DESCRIPTION |
|--------|---|
| Host | Select a specific host to perform the diagnosis. |
| Ping | Click this to test the network connection. |
| Result | Displays whether or not the test received a response from the host. |

10.5 UPnP Port Mapping Screen

Use UPnP (Universal Plug and Play) port mapping to allow access from the WAN to services you select on the NAS. It is recommended that you place the NAS behind an Internet gateway firewall device to protect the NAS from attacks from the Internet. Many such Internet gateways use UPnP to simplify peer-to-peer network connectivity between devices. UPnP can automatically configure the Internet gateway's firewall and Network Address Translation (NAT) to allow access to the NAS from the Internet.

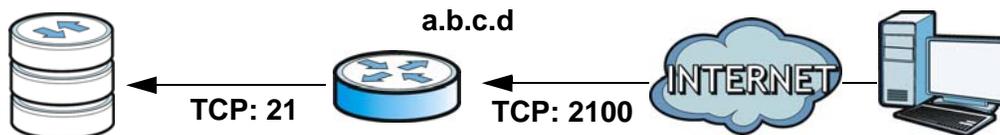
Figure 67 UPnP for FTP Access**192.168.1.20**

In the above example, UPnP creates a firewall rule and NAT port forwarding mapping to send FTP traffic (using TCP port number 21) from the public IP address a.b.c.d to the NAS's private IP address of 192.168.1.20.

Use the NAS's **UPnP Port Mapping** screen to configure the UPnP settings your Internet gateway uses to allow access from the WAN (Internet) to services you select on the NAS. You can also set which port Internet users need to use in order to access a specific service on the NAS.

Note: To use UPnP port mapping, your Internet gateway must have UPnP enabled.

If your Internet gateway supports Port Address Translation (PAT is sometimes included with a port forwarding feature), you can have the Internet users use a different TCP port number from the one the NAS uses for the service.

Figure 68 UPnP Port Address Translation for FTP Example**192.168.1.20**

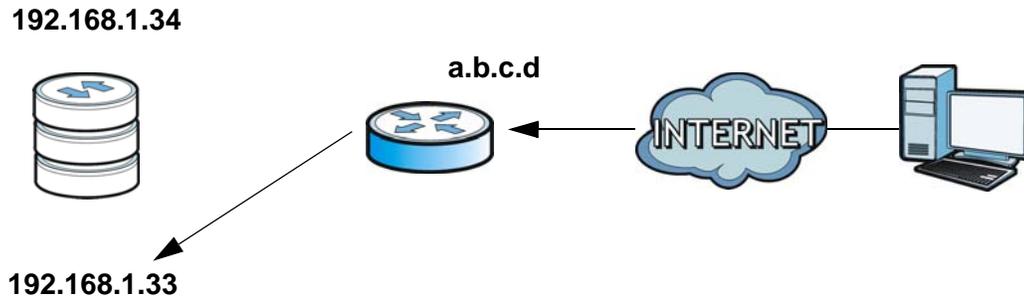
In the above example, the Internet gateway uses PAT to accept Internet user FTP sessions on port 2100, translate them to port 21, and forward them to the NAS.

10.5.1 UPnP and the NAS's IP Address

It is recommended that the NAS use a static IP address (or a static DHCP IP address) if you will allow access to the NAS from the Internet. The UPnP-created NAT mappings keep the IP address the NAS had when you applied your settings in the **UPnP Port Mapping** screen. They do not automatically update if the NAS's IP address changes.

Note: WAN access stops working if the NAS's IP address changes.

For example, if the NAS's IP address was 192.168.1.33 when you applied the **UPnP Port Mapping** screen's settings and the NAS later gets a new IP address of 192.168.1.34 through DHCP, WAN access stops working because the Internet gateway still tries to forward traffic to IP address 192.168.1.33. Since you can no longer access the NAS from the WAN, you would have to access the NAS from the LAN and re-apply your **UPnP Port Mapping** screen settings to update the Internet gateway's UPnP port mappings.

Figure 69 UPnP Using the Wrong IP Address

10.5.2 UPnP and Security

UPnP's automated nature makes it easier to use than manually configuring firewall and NAT rules, but it is also less secure. Using UPnP may make your network more susceptible to snooping and hacking attacks.

10.5.3 The NAS's Services and UPnP

This section introduces the NAS's services which an Internet gateway can use UPnP to allow access to and from the Internet.

CIFS (Windows File Sharing)

Common Internet File System (CIFS) is a standard protocol supported by most operating systems in order to share files across the network. Using UPnP port mapping for CIFS allows users to connect from the Internet and use programs like Windows Explorer to access the NAS's shares to copy files from the NAS, delete files on the NAS, or upload files to the NAS from the Internet.

If you configure UPnP port mapping to allow CIFS access from the WAN but cannot get it to work, you may also have to configure the Internet gateway to also allow NetBIOS traffic. See [Section 16.3 on page 205](#) for more on CIFS.

FTP

File Transfer Protocol is a standard file transfer service used on the Internet. Using UPnP port mapping for FTP allows remote users to use FTP from the Internet to access the NAS's shares. A user with read and write access to a share can copy files from the share, delete files from the share, or upload files to the share. See [Section 17.4 on page 215](#) for more on FTP. If you use UPnP to allow FTP access from the WAN, you may want to use a different WAN port number (instead of the default of port 21) to make it more secure. Remember to tell the remote users to use the custom port number when using FTP to access the NAS.

HTTP (Web Configurator)

You can use UPnP port mapping to allow access to the NAS's management screens. If you use UPnP to allow web configurator access from the WAN, you may want to use a different WAN port number (instead of the default of port 80) to make it more secure. Remember to use the custom port number when accessing the NAS's web configurator from the Internet.

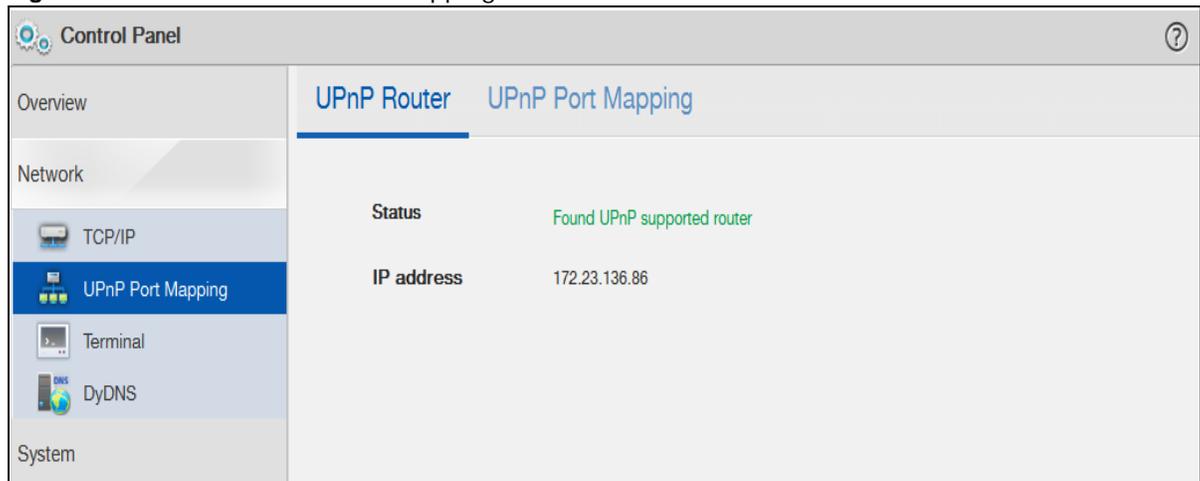
HTTP (Web Published Shares)

This is the NAS's web publishing feature that lets people access files using a web browser without having to log into the Web Configurator. Use UPnP port mapping to allow access to these files from the Internet without having to enter a user name or password. See [Section 17.8 on page 230](#) for more on web publishing.

10.5.4 UPnP Router

UPnP allows access to your NAS through a UPnP router. Click **Network > UPnP Port Mapping > UPnP Router** to check if the NAS has found a UPnP router on the network.

Figure 70 Network > UPnP Port Mapping > UPnP Router



The following table describes the labels in this screen.

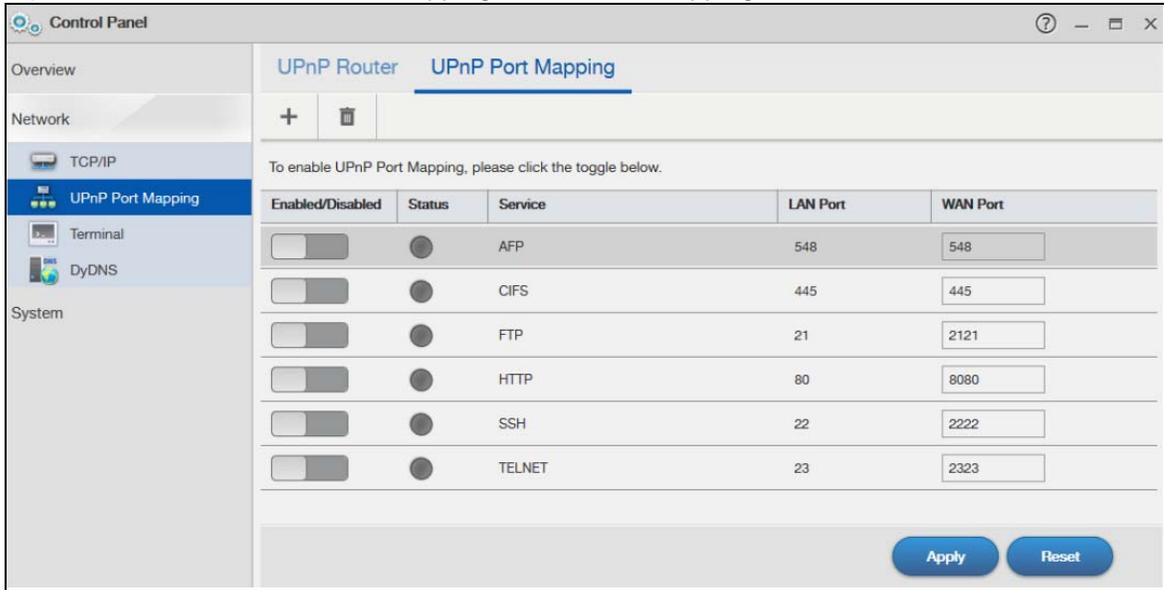
Table 45 Network > UPnP Port Mapping > UPnP Router

| LABEL | DESCRIPTION |
|------------|---|
| Status | Displays whether a UPnP router is found. |
| IP address | Displays the IP address of the UPnP router. |

10.5.5 Configuring UPnP Port Mapping

Click **Network > UPnP Port Mapping > UPnP Port Mapping** to display the **UPnP Port Mapping** screen.

Use this screen to set how the Internet gateway's UPnP feature configure's the Internet gateway's NAT IP address mapping and port mapping settings. These settings allow Internet users connected to the Internet gateway's WAN interface to access services on the NAS. You can set which port Internet users need to use to access a specific service on the NAS.

Figure 71 Network > UPnP Port Mapping > UPnP Port Mapping

The following table describes the labels in this screen.

Table 46 Network > UPnP Port Mapping > UPnP Port Mapping

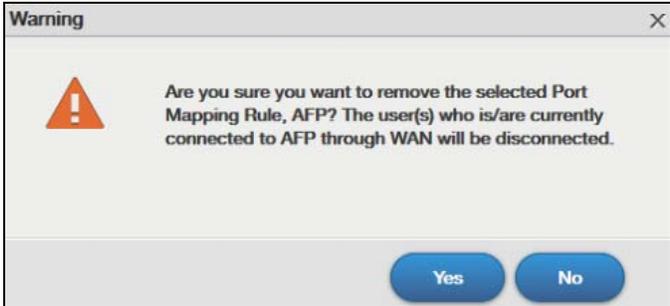
| LABEL | DESCRIPTION |
|------------------|---|
| Add | Click this to add a service and create a port mapping rule. See more details on Section 10.5.5.1 on page 118 . |
| Remove | Click this to open the following screen where you can remove a port mapping rule.  Click Yes to remove the selected port mapping rule or No to close this screen. |
| Enabled/Disabled | Use this to enable or disable a selected port mapping rule. |
| Status | Displays the status of the port mapping rule. A green circle indicates the port mapping rule is enabled and you can access the service. A grey circle indicates the port mapping rule is disabled. A red circle indicates the router's settings failed to be changed. "-" indicates a new mapping rule. |
| Service | This read-only field identifies a service on the NAS. |
| LAN Port | Displays the NAS's internal port number for the service. |

Table 46 Network > UPnP Port Mapping > UPnP Port Mapping (continued)

| LABEL | DESCRIPTION |
|----------|--|
| WAN Port | <p>When you enable one of the NAS's services, specify the port number (1 ~65,535) Internet uses need to use to connect to the Internet gateway's WAN port in order to access the service on the NAS. Whoever wants to access a service on the NAS from the Internet must use this port number.</p> <p>Make sure there is not another service using TCP protocol with the same port number.</p> <p>If another device is using the same port (the Internet gateway has the same port number mapped to another LAN IP address), the NAS overwrites it when you apply the setting and WAN users can no longer access the other device.</p> |
| Apply | Click Apply to save your changes back to the NAS. |
| Reset | Click Reset to begin configuring this screen afresh. |

10.5.5.1 Adding a Port Mapping Rule

Some Internet gateways will delete all UPnP mappings after reboot. So if the Internet gateway reboots, you may need to re-apply the UPnP port mapping again. Click **UPnP Port Mapping > Add** to add NAS services and create port mapping rules.

Add Port Mapping Rule(s) X

To use port number on the router (WAN) that is different from the one on the NAS (LAN), your router should support Port Address Translation (PAT).

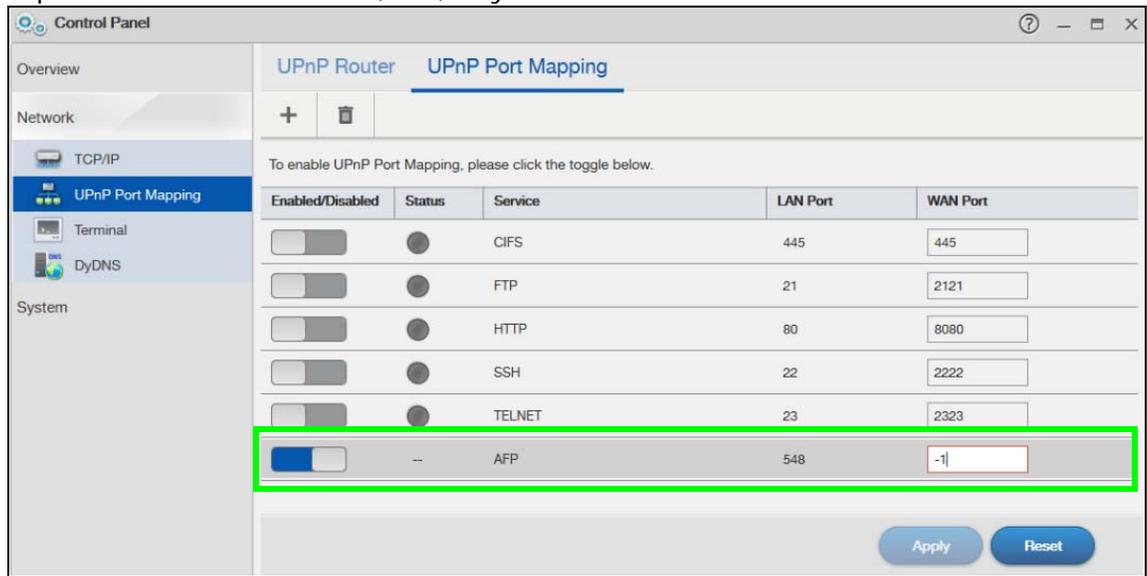
Select the service(s) to create port mapping rules

| <input type="checkbox"/> | Service | LAN Port |
|--------------------------|---------------------|----------|
| <input type="checkbox"/> | MEDIASERVER | 9001 |
| <input type="checkbox"/> | HTTPS | 443 |
| <input type="checkbox"/> | WEBDAV_HTTP | 5002 |
| <input type="checkbox"/> | WEBDAV_HTTPS | 5003 |
| <input type="checkbox"/> | WEBPUBLISHING_HTTP | 80 |
| <input type="checkbox"/> | WEBPUBLISHING_HTTPS | 443 |

Apply Cancel

Select the services you want to create port mapping rules for, and click **Apply** to add the services. Click **Cancel** to close the screen without saving any setting.

Note: The default of the WAN port for the newly created service displays -1. Specify the port number from 1 to 65,535, or you cannot access that service from the Internet.



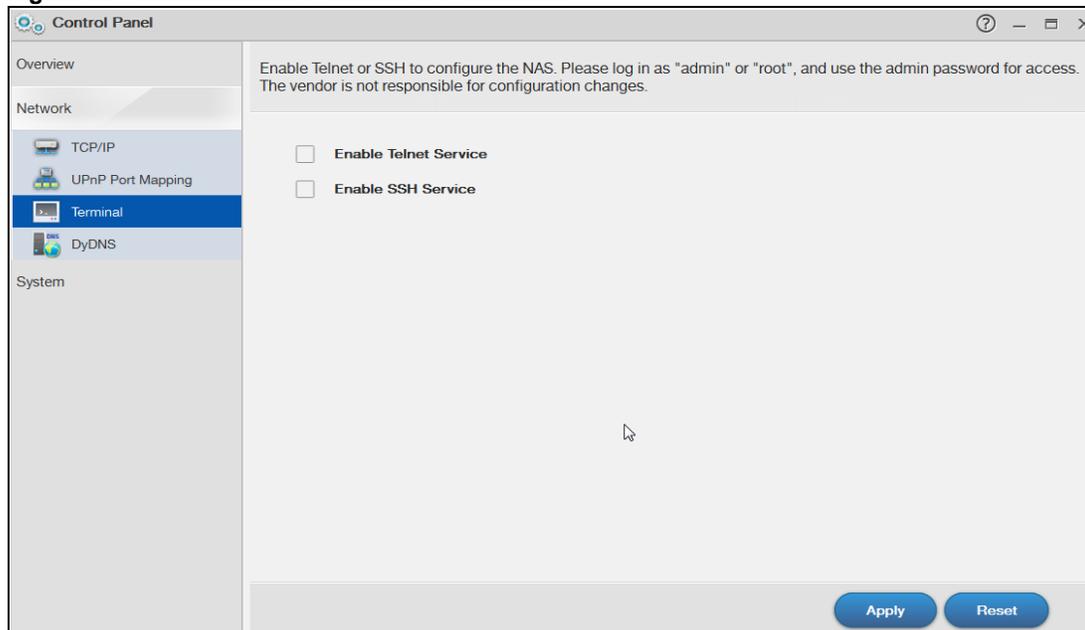
10.6 Terminal Screen

Use this screen to enable or disable Telnet and SSH (Secure SHell) access to the NAS.

Telnet or SSH access lets you use line commands to configure the NAS. Use these commands at your own risk. The vendor takes no responsibility for any changes you make using the commands.

Click **Control Panel** > **Network** > **Terminal** in the navigation panel to open the following screen.

Figure 72 Control Panel > Network > Terminal



The following table describes the labels in this screen.

Table 47 Control Panel > Network > Terminal

| LABEL | DESCRIPTION |
|-----------------------|---|
| Enable Telnet Service | Select this to enable Telnet access to the NAS. Clear it to not allow Telnet access to the NAS. To use Telnet, log in as "admin" or "root" and use the admin password. |
| Enable SSH Service | Select this to enable SSH access to the NAS. Clear it to not allow SSH access to the NAS. To use SSH, log in as "admin" or "root" and use the admin password. |
| Apply | Click this to save your changes. |
| Reset | Click this to restore previously saved settings. |

10.7 DyDNS Screen

Use this to enable and configure Dynamic DNS.

Dynamic DNS (DyDNS) allows you to update your current dynamic IP address with a dynamic DNS service so that anyone can contact you (such as through NetMeeting or CUSeeMe). You can also access your FTP server or Web site on your own computer using a domain name (for instance myhost.dhs.org, where myhost is a name of your choice) that will never change instead of using an IP address that changes each time you reconnect. Your friends or relatives will always be able to call you even if they don't know your IP address.

Click **Control Panel > Network > DyDNS** to open the following screen.

Figure 73 Control Panel > Network > DyDNS

Control Panel

Overview

Network

- TCP/IP
- UPnP Port Mapping
- Terminal
- DyDNS**

System

Enable DyDNS to update current dynamic IP address with a dynamic DNS service, so that you can access NAS by a domain name.

Enable DyDNS

Service provider DynDNS.com

Hostname

Username

Password

Status Disabled

Default Gateway LAN1

External Address --

The following table describes the labels in this screen.

Table 48 Control Panel > Network > DyDNS

| LABEL | DESCRIPTION |
|------------------|--|
| Enable DyDNS | Select this to use dynamic DNS. You need to have registered a dynamic DNS account with a service provider such as www.dyndns.org. The Dynamic DNS service provider will give you a password or key. |
| Service Provider | Select your Dynamic DNS service provider. |
| Hostname | Enter your host name provided by the Dynamic DNS service. |
| Username | Enter your user name for your DNS account. |
| Password | Enter the password assigned to your DNS account. |
| Status | This shows the DyDNS update result: Disabled – You have manually disabled the DyDNS feature. Error – An unrecoverable error (such as authentication error) occurred caused the NAS to disable the DyDNS feature automatically. Fail to update – A recoverable error (such as a temporary Internet disconnect) occurred. The NAS will retry later. Updated - The NAS updated the DyDNS server with the NAS's public IP address. |
| Default Gateway | This shows with which public IP of interface the NAS updated the DyDNS server. |
| External Address | This shows the IP address of the NAS that can be accessed in the Wide Area Network (WAN). Note that this is not assigned by the DyDNS server. |
| Apply | Click this to save your changes. |
| Reset | Click this to clear the fields. |

10.8 FW Upgrade Screen

Use this screen to upgrade the NAS firmware. You should first have downloaded the latest firmware files from the ZyXEL website.

Do not turn off the NAS while it is upgrading the firmware or you may render it unusable.

Click **Control Panel > System > FW Upgrade** to open the following screen. **Latest Firmware Check** allows you to check the latest firmware version and perform the upgrade.

Figure 74 Control Panel > System > FW Upgrade > Latest Firmware Check

Latest Firmware Check Manual Firmware Upgrade

Before upgrading, please back up all disk data. The system LED will start blinking after you click Upgrade Now. Please do not power off NAS while FW is upgrading. Until the reboot completes, you may need to reconfigure device in some cases.

Model Name NAS540

Current firmware version V2015-09-13_22_22_36(AATB.0)b1

Last Check 2015/06/03 19:29:05

Periodically check for latest firmware automatically

Status V5.04(AATB.0) is ready to upgrade

| | |
|--------------|--------------------------------|
| Release Date | 2015/05/14 |
| Release Note | 504AATB0C0.pdf |
| Size | 58.15 MB |

The following table describes the labels in this screen.

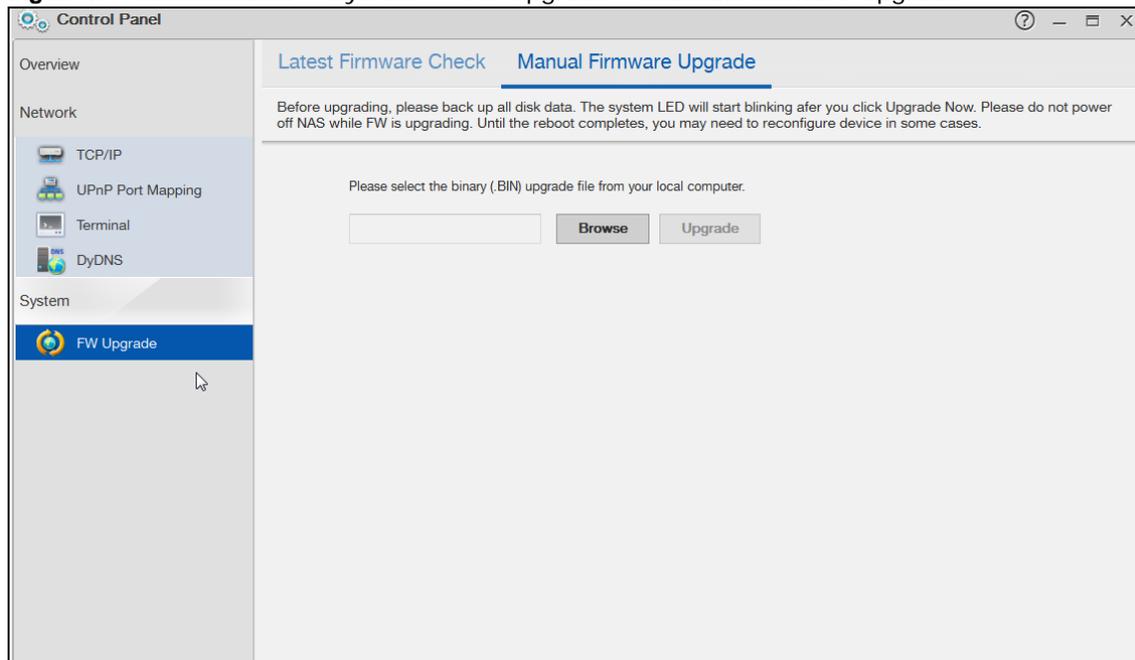
Table 49 Control Panel > System > FW Upgrade > Latest Firmware Check

| LABEL | DESCRIPTION |
|--|--|
| Model Name | Displays the model name of your NAS |
| Current Firmware Version | Displays the current firmware version of your NAS |
| Last Check | Displays the last checking time. If no, it is blank. |
| Check Now | Click this to check ZyXEL's server for updated firmware. |
| Periodically Check for Latest Firmware Automatically | Select this to have the NAS regularly check ZyXEL's server for updated firmware. The NAS notifies you at login if a new firmware is available. Click Apply to save this field's setting. |
| Status | Displays the firmware checking status or error messages. If there is no previous checking information, it displays --. |

Table 49 Control Panel > System > FW Upgrade > Latest Firmware Check (continued)

| LABEL | DESCRIPTION |
|-------------|---|
| Upgrade Now | Click this to upload the new firmware. The NAS automatically restarts after you upgrade. Wait until the restart completes before accessing the NAS again. If you interrupt the upgrade, then the NAS may become unusable. See page 354 for your model's LED behavior during firmware upgrade. |
| Reset | Click this to refresh the screen. |

You can also download the firmware from the ZyXEL website and upgrade the firmware manually. Click **Control Panel > System > Manual Firmware Upgrade** to show the following screen.

Figure 75 Control Panel > System > FW Upgrade > Manual Firmware Upgrade

The following table describes the labels in this screen.

Table 50 Control Panel > System > Firmware > Manual Firmware Upgrade

| LABEL | DESCRIPTION |
|---------|--|
| Browse | Click this to find the file on your computer. Note: You cannot choose a downgraded firmware. If you do, the screen will show: The NAS firmware cannot be downgraded, please select a newer version of binary (BIN) upgrade file from your computer. |
| Upgrade | Click this to upgrade the firmware after you find the file. |

Videos, Photos, Music, & File Browser

11.1 Overview

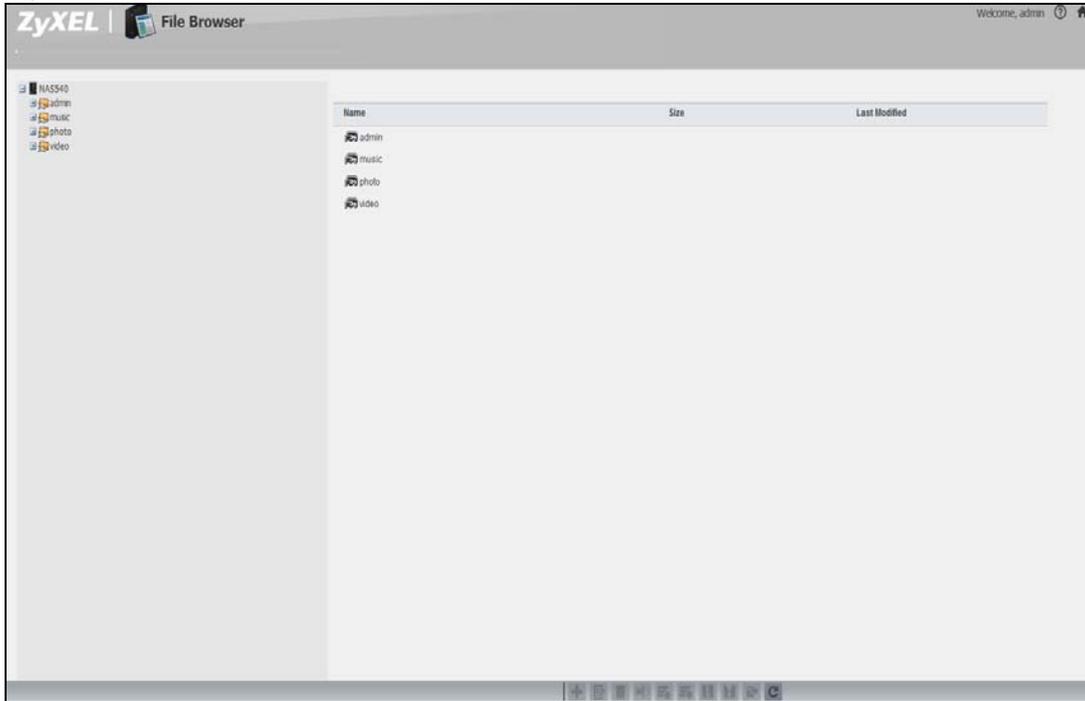
This chapter introduces the **File Browser**, **Photo**, **Music**, **Video**, **Media Server** and the **iTunes Server** for sharing media files.

11.2 File Browser

Click **File Browser** on the Desktop to open the following screen in a new tab. Use the file browsing screens to play, open, upload, and download files. A share is a set of user access permissions for a specific folder on a volume (gives someone access to a folder). It is equivalent to the Windows concept of a shared folder, but the access rights are independent of the folder (you configure the share and the folder separately). You can map a share to a network drive for easy and familiar file transfer for Windows users.

- A folder icon with a hand indicates a share.
- The administrator owns and manages the public shares.
- Double-click a media file to open it. Double-click other types of files to be able to save them.
- Click to the right of a file or folder name to select it.
- Use the [SHIFT] key to select a range of entries. Hold down the [CTRL] key to select multiple individual entries.
- Drag and drop files to open a screen that lets you choose whether to copy or move them.
- You can upload files of up to 2 GB in size.
- You can download individual files of up to 4 GB in size with Mozilla Firefox and Internet Explorer 7 and later or up to 2 GB in size with Internet Explorer 6.

Figure 76 File Browser



The following table describes the labels in this screen.

Table 51 File Browser

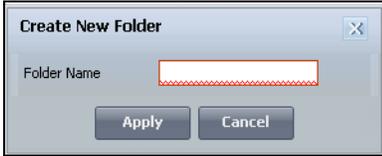
| LABEL | DESCRIPTION |
|-------------------|--|
| Up | Click this to go to the next higher layer in the share's folder tree. |
| Name | This column identifies the names of folders and files in the share. Click a file's file name to open the file or save it to your computer. Click a folder's name to display the folder's contents. |
| Size | This column displays a file's size in bytes. |
| Last Modified | This column displays the last time the file or folder was changed (in year-month-day hour:minute:second format). |
| Create New Folder | <p>Click this to open the following screen where you can create a new folder within the share.</p>  <p>Specify a name to identify the folder. See Section 11.2.2 on page 128 for more information on folder names. Click Apply to create a folder or click Cancel to exit this screen.</p> |
| Configure Share | Select a share and click this link to open a screen where you can see and configure share management details. |
| Delete | Select a file or folder and click this to delete it from the NAS. |
| Rename | Select a file or folder and click this to change its name. |

Table 51 File Browser (continued)

| LABEL | DESCRIPTION |
|------------|--|
| Upload | <p>Click this to open the following screen where you can add files to the share.</p>  <p>Use the Browse button to locate your file/s and click Apply to upload the file. Click Cancel to close this screen.</p> <p>Note: Do not refresh the screen while an upload is going on.</p> |
| Download | <p>Select a file and click this to save the file to your computer.</p> <p>Note: Do not refresh the screen while a download is going on.</p> |
| Compress | <p>Select files or folders and click this to compress them into a zip file.</p> |
| Decompress | <p>Select a zipped file and click this to create a folder named after the zip file and save the decompressed files into the folder.</p> |
| Restore | <p>When you are in a recycle bin folder, select a folder or file and click this to restore it.</p> |
| Refresh | <p>Click this to update the information displayed in the screen.</p> <p>Note: Do not refresh the screen while an upload or download is in progress.</p> |

11.2.1 Configure Share Screen

In the **File Browser** screen, select a share and click **Configure Share** to open the following screen where you can see and configure share management details.

Figure 77 File Browser > Configure Share

The following table describes the labels in the this screen.

Table 52 File Browser > Configure Share

| LABEL | DESCRIPTION |
|------------------------------------|---|
| Share Name | Configure a name to identify this share. Type a share name from 1 to 239 single-byte (no Chinese characters allowed for example) ASCII characters. The name cannot be the same as another existing local share. See Section 11.2.2 on page 128 for more information on share names. This is not configurable for the NAS's default admin, music, photo, public, and video shares. |
| Volume | This shows the volume the share is on. It is read-only. |
| Make this share owned by | Select the administrator or user account that is to own (manage) this share. The share owner controls access rights to the share. This is not configurable for the NAS's default admin and public shares. |
| Enable This Share | Select this option to allow users to access this share. When this option is not selected, you cannot see and access this share. |
| Enable Recycle Bin | Select this option to keep deleted items in a recycle bin. When you delete an item, a recycle folder is created within the share, and the deleted item is stored in the recycle bin. Later if you want to retrieve a deleted item, you can select the item from the recycle folder and move/copy the item to another share. |
| Publish this share to Media Server | Select this option to make the share's files available to media clients. When you publish a share, you can also select whether or not to publish music tracks, photos, and videos. |
| Publish this share to Web | Select this option to let people use a web browser to access this share's files without logging into the Web Configurator screens. |
| Share Access | <p>Select who can access the files in the share and how much access they are to be given. If you publish the share to the media server or the web, all users will have at least read-only access to the share, regardless of what you configure here.</p> <p>Select Keep it private to owner to allow only the share owner to read files in the share, delete files in the share and save files to the share.</p> <p>Select Make it public to allow anyone (with or without a user account on the NAS) to read files in the share, delete files in the share and save files to the share.</p> <p>Select Advanced to select which individual users can read the share's files, which users can delete the share's files, and which users are blocked from doing either.</p> |
| Apply | Click this to save your changes. |
| Cancel | Click this to return to the previous screen without saving. |

11.2.2 Share and Folder Names

The name can only contain the following characters:

- Alphanumeric (A-z, 0-9) and Unicode.

The NAS allows FTP access to shares, folders or files with names encoded in the UTF-8 (8-bit UCS/Unicode Transformation Format) format. So your FTP client must support UTF-8 in order to access shares, folders or files on the NAS with Unicode names.

- Spaces
- _ [underscores]
- . [periods]
- - [dashes]

Other limitations include:

- All leading and trailing spaces are removed automatically.
- Multiple spaces within names are converted to a single space.
- Share names must be unique (they cannot be the same as other share names).
- The NAS creates automatic volume names for external (USB) disk volumes. These are a type of share, so the share name you configure cannot conflict with the external (USB) disk volume names. "ExtVol1" or "ExtVol2" are examples of external (USB) disk volume names.
- Folder names must be unique (they cannot be the same as other folder names).
- The minimum character length of a name is one character, that is a name cannot be blank.
- The maximum character length of share name is 239 characters.
- Unicode is supported for share names, although your FTP client must support UTF-8. Full support should be available in all Windows versions after Windows 2000.

11.3 Photo

Click the **Photo** icon on the **Desktop** to open the photo folder in a new tab. Double-click the photo folder to view photos in the shares that publish photos. The following figures show the files as thumbnail and list views of files.

Figure 78 Photo (Thumbnail)

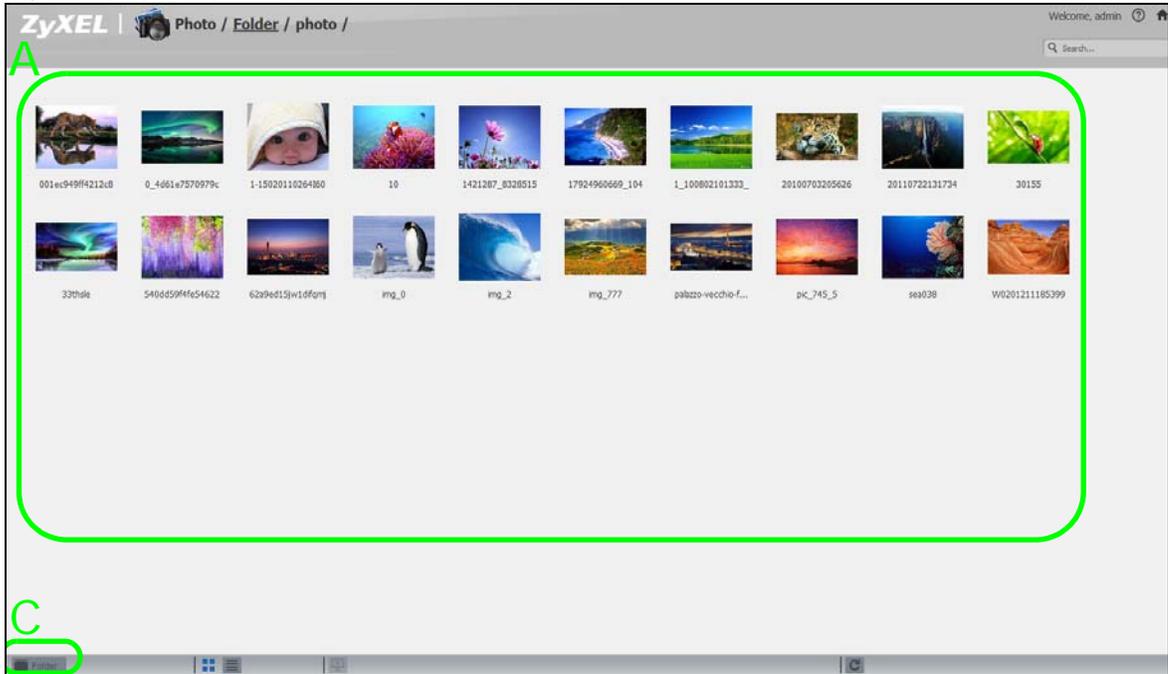
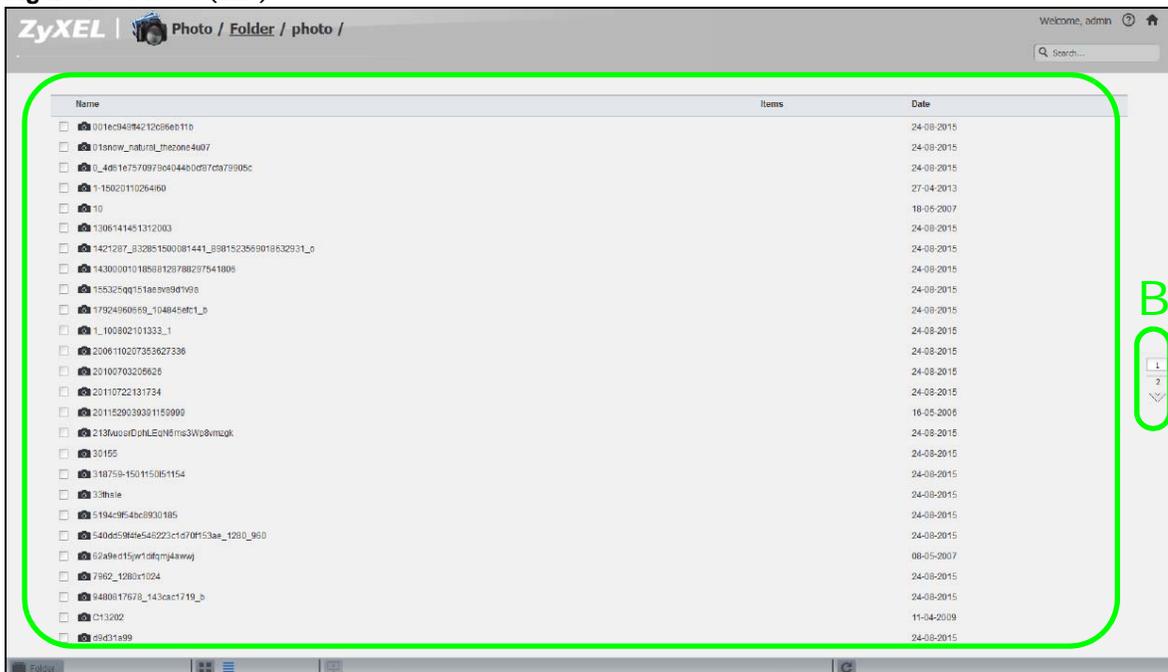


Figure 79 Photo (List)



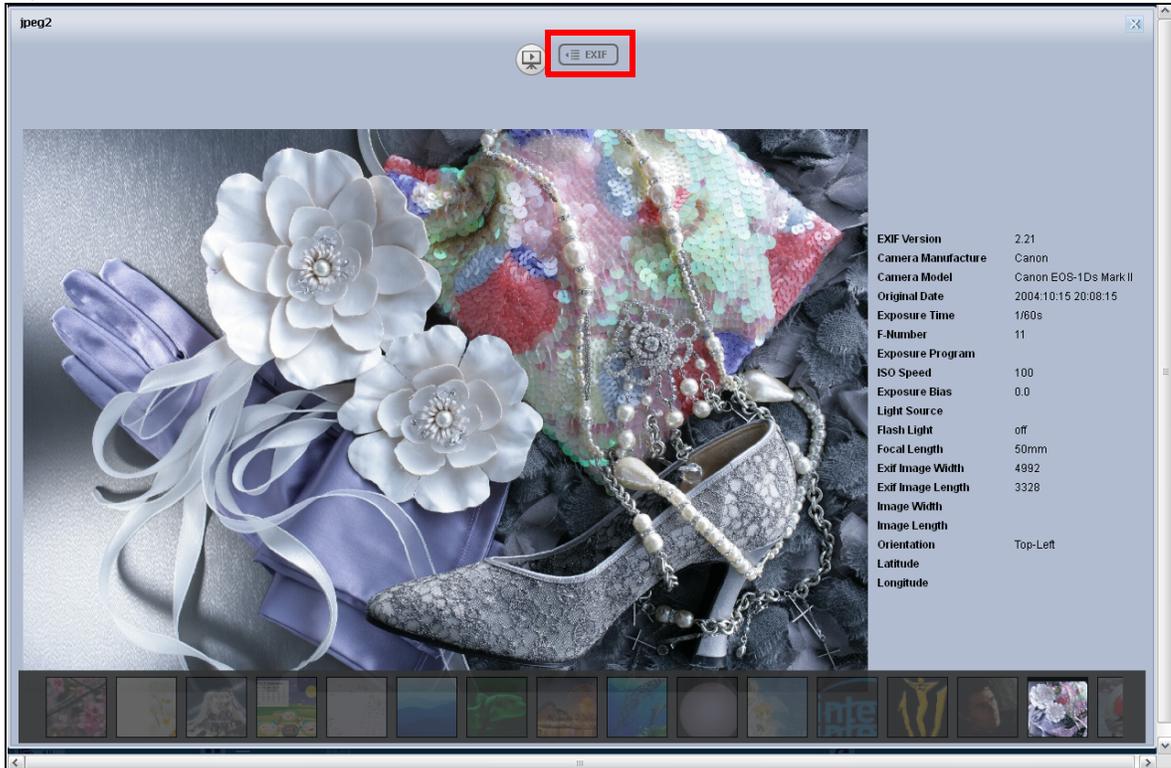
The following table describes the labels in this screen.

Table 53 Photo Screen

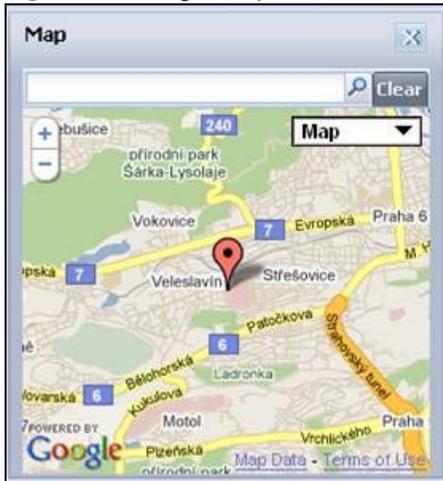
| LABEL | DESCRIPTION |
|-----------|---|
| ZyXEL | The path of the current view. Click an underlined link to go to that location in the path. Music, Photo, or Video indicates the category of files. |
| Search | Use this to look for a file by name. |
| A | View files. Double-click an item to play it. You can also select check boxes for multiple items when you display the files as a list. |
| B | The current page and total number of pages displays when a category has multiple pages of entries. Click an arrow or type a number to go to another page of entries. |
| C | Select a view type for displaying folders and files: Date - Sort photos by date. All - Display all of the category's files. Folder - List the folders containing files. |
| Thumbnail | Click this to view the files as thumbnails. |
| List | Click this to view the files as a list. |
| Slideshow | Click this to display files as a slideshow. |
| Refresh | Click this to update the display in the screen. |

11.3.1 Exif and Google Maps (Photos)

Double-click a photo file to display it. Thumbnails of all photos in the view display across the bottom of the screen. Click a photo's **EXIF** button to display or hide the photo's Exchangeable image file format (Exif) data.

Figure 80 Exif Information

If a photo's Exif data includes GPS location data, click the latitude or longitude link to display the location in Google Maps. Click **Clear** to delete the markers of other photos and only display the current photo's marker.

Figure 81 Google Maps

11.3.2 Slideshow (Photos)

In a **Photo** menu click the **SlideShow** button to display the menu's files as a slideshow. Move your cursor over the slideshow's screen to display full screen, previous, pause, and next buttons for controlling the slideshow.

Note: Your browser must have the Flash Player plug-in installed to view slideshows.

Figure 82 Slideshow



11.4 Music

Click the **Music** icon on the **Desktop** to open the music folder in a new tab. Double-click the music folder to view and play music files in the shares that publish photos. The following figures show thumbnail and list views of files.

Figure 83 Music (Thumbnail)

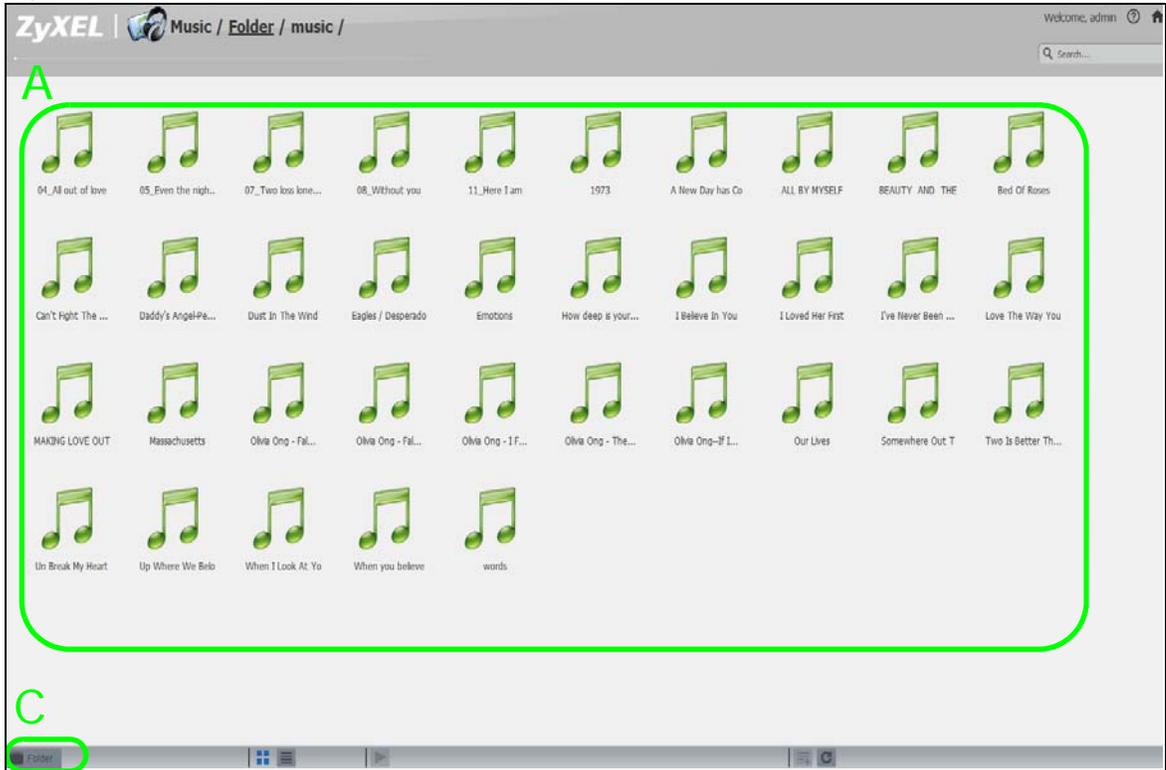
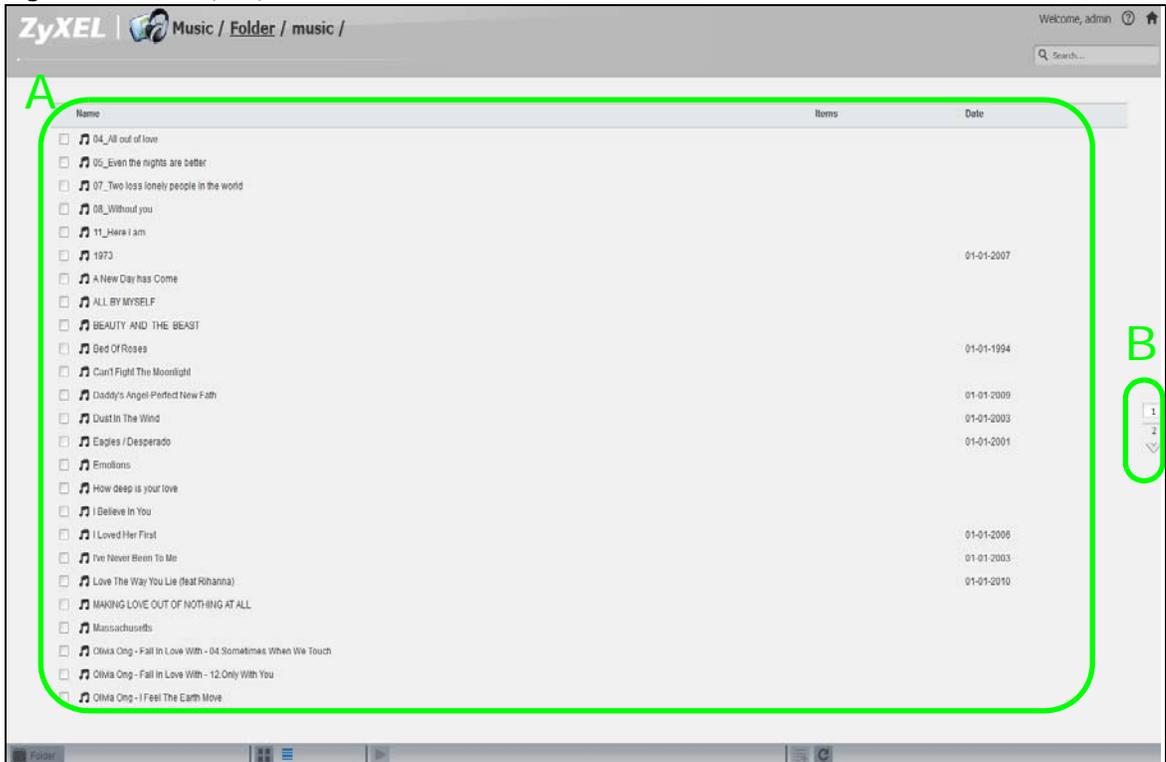


Figure 84 Music (List)



This table describes common labels in the Playzone media server screens. Not every item displays in every screen.

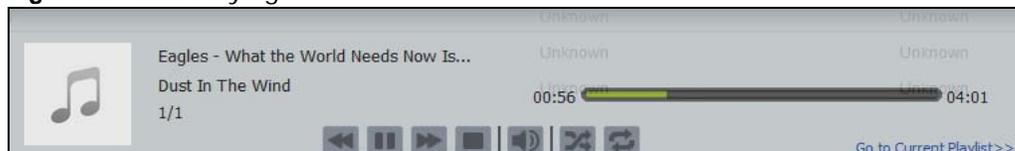
Table 54 Music Screen

| LABEL | DESCRIPTION |
|-------------------------|--|
| ZyXEL | The path of the current view. Click an underlined link to go to that location in the path. Music , Photo , or Video indicates the category of files. |
| Search | Use this to look for a file by name. |
| A | View files. Double-click an item to play it. You can also select check boxes for multiple items when you display the files as a list. |
| B | The current page and total number of pages displays when a category has multiple pages of entries. Click an arrow or type a number to go to another page of entries. |
| C | Select a view type for displaying folders and files: Artist - Sort music by artist. All - Display all of the category's files. Folder - List the folders containing music files. Current Playlist - Show the playing and queued songs. |
| Thumbnail | Click this to view the files as thumbnails. |
| List | Click this to view the files as a list. |
| Play | Click this to play the currently selected file. You can also double-click a file to play it. |
| Add to Current Playlist | Click this to add the selected music file to the currently playing playlist. |
| Refresh | Click this to update the display in the screen. |
| Now Playing | This link is available when a song is playing. Click it to see details about the song that is currently playing. |

11.4.1 Now Playing (Music)

A **Now Playing** link displays when a song is playing. Click it to display a panel like the following. This screen displays the name of the current song and it's play progress and lets you control the playback.

Figure 85 Now Playing



11.5 Video

Click the **Video** icon on the **Desktop** to open the video folder in a new tab. Double-click the video folder to view and play video files in the shares that publish videos. The following figures show the thumbnail and list views of files.

Figure 86 Video (Thumbnail)

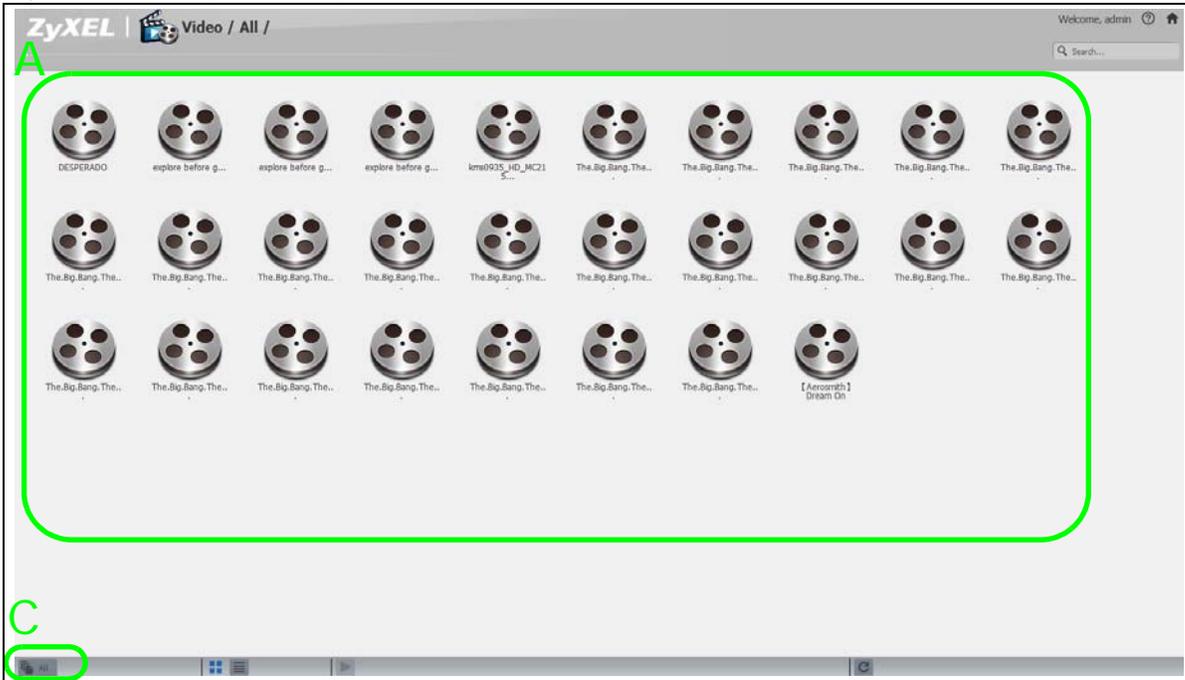
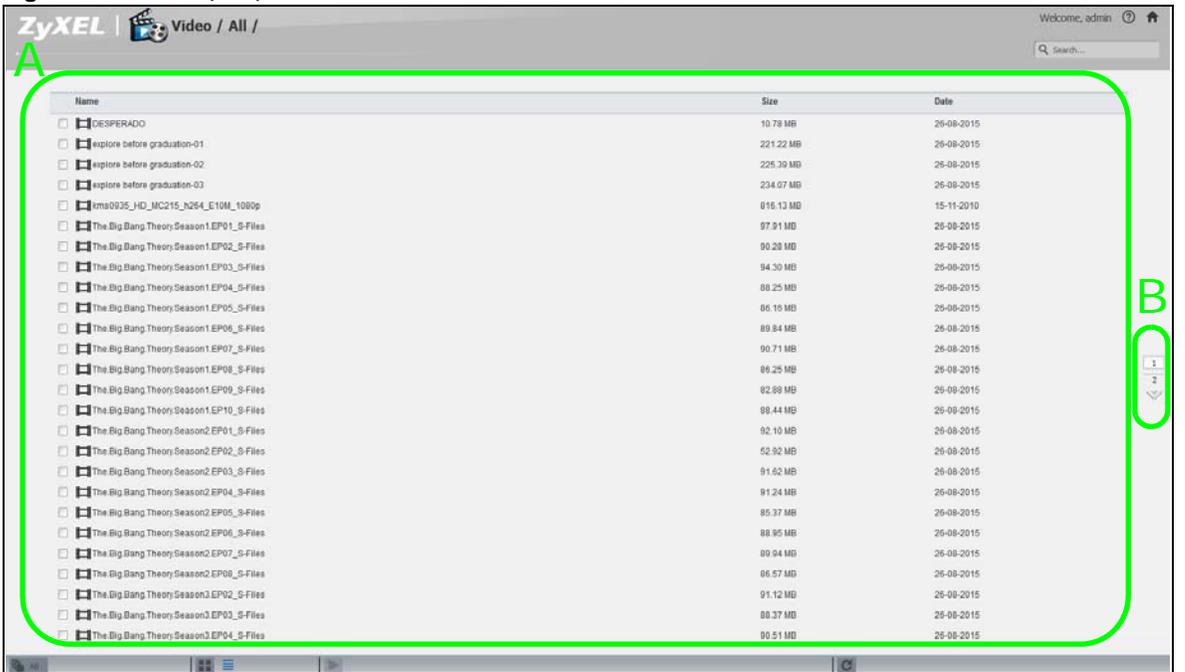


Figure 87 Video (List)



The following table describes the labels in this screen.

Table 55 Video Screen

| LABEL | DESCRIPTION |
|-----------|---|
| ZyXEL | The path of the current view. Click an underlined link to go to that location in the path. Music , Photo , or Video indicates the category of files. |
| Search | Use this to look for a file by name. |
| A | View files. Double-click an item to play it. You can also select check boxes for multiple items when you display the files as a list. |
| B | The current page and total number of pages displays when a category has multiple pages of entries. Click an arrow or type a number to go to another page of entries. |
| C | Select a view type for displaying folders and files: All - Display all of the category's files. Folder - List the folders containing music files. |
| Thumbnail | Click this to view the files as thumbnails. |
| List | Click this to view the files as a list. |
| Play | Click this to play the currently selected file. You can also double-click a file to play it. |
| Refresh | Click this to update the display in the screen. |

11.6 Playzone Settings

The **Playzone Settings** screen is only available with user accounts. Click **Playzone Settings** to open the following screen. Use this screen to change general Playzone screen settings and account passwords.

Figure 88 Playzone Settings

ZyXEL | Playzone Settings

Player

- VLC
- Quicktime

Music Setting

Double Click Behavior Setting

- Replace current playlist and start to play
- Append to current playlist

Photo Slideshow

Slide Effect Enable Ken Burns

Slide Interval

Video Setting

Video Playback Play Next

Change Password

Account Name

Old Password

New Password

Password (Confirm)

System Language

Language

The following table describes the labels in this screen.

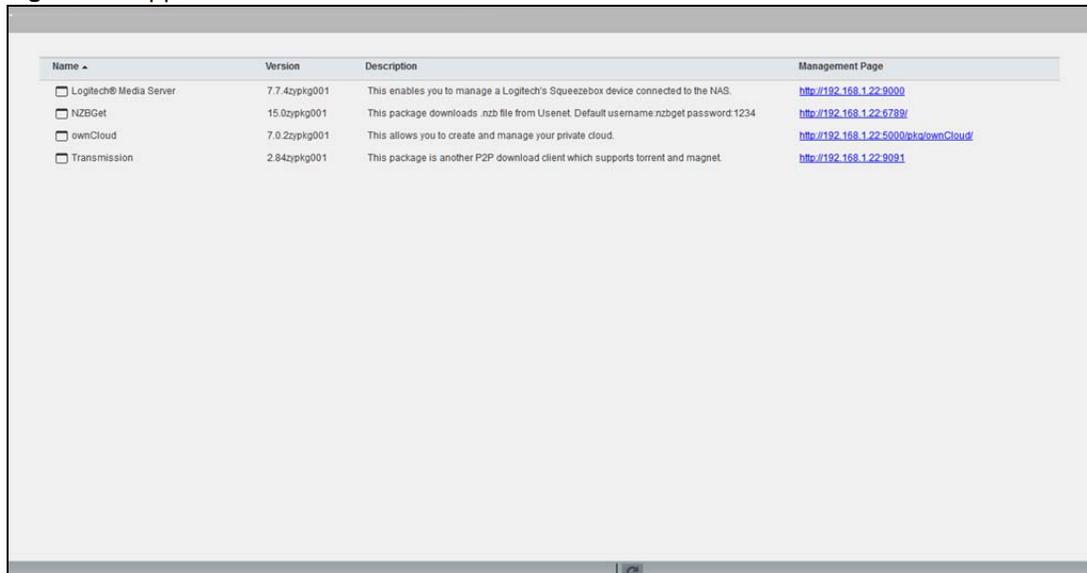
Table 56 Playzone Settings

| LABEL | DESCRIPTION |
|-------------------------------|--|
| VLC | This field displays you already have VLC player installed. |
| Quicktime | This field displays you already have Quicktime installed. |
| Double Click Behavior Setting | <p>Select Replace current playlist and start to play to have double clicking a song cause the NAS to immediately stop any currently playing song and start playing the double-clicked song.</p> <p>Select Append to current playlist to have double clicking a song add a song to the end of the current playlist.</p> |
| Slide Effect | Enable the Ken Burns effect to have the NAS automatically pan and zoom photos in slideshows. Disable it to display photos in slideshows normally. |
| Slide Interval | Select how long to display each image in a slideshow before changing to the next. |
| Video Playback | Select Play Next to play the rest of the video files in a folder. So for example, a folder has video files 1~10 and you play video 3. When video 3 finishes the device continues playing the rest of the videos in the folder (4~10). It does not loop back and play videos 1 and 2. |
| Account Name | Type the user name of the account for which you want to change the password. |
| Old Password | Type the user's current password. |
| New Password | Create a new password for the user. You can type from one to 14 single-byte (no Chinese characters allowed for example) ASCII characters. |
| Password (Confirm) | You must type the exact same password that you just typed in the above field. |
| Language | Select the web configurator language from the drop-down list box. |
| Apply | Click this to save your changes. |
| Reset | Click this to refresh the screen. |
| Cancel | Click this to exit the screen without saving your changes. |

11.7 Application Zone

Normal users can click **Application Zone** to go to the management page of installed, non-built-in packages.

Figure 89 Application Zone



| Name | Version | Description | Management Page |
|---|---------------|---|---|
| <input type="checkbox"/> Logitech® Media Server | 7.7.4zypkg001 | This enables you to manage a Logitech's Squeezebox device connected to the NAS. | http://192.168.1.22:9000 |
| <input type="checkbox"/> NZBGet | 15.0zypkg001 | This package downloads .nzb file from Usenet. Default username:nzbget password:1234 | http://192.168.1.22:6789/ |
| <input type="checkbox"/> ownCloud | 7.0.2zypkg001 | This allows you to create and manage your private cloud. | http://192.168.1.22:5000/pkg/ownCloud/ |
| <input type="checkbox"/> Transmission | 2.84zypkg001 | This package is another P2P download client which supports torrent and magnet. | http://192.168.1.22:9091 |

The following table describes the labels in the this screen.

Table 57 Application Zone

| LABEL | DESCRIPTION |
|-----------------|--|
| Name | This is the name of the application. |
| Version | This is the version number of the item. |
| Description | This is a brief description of the application. |
| Management Page | Click this link to go the application's management page where you can configure settings for it. |
| Refresh | Update the list of applications in the screen. |

11.8 Media Server

Use the **Media Server** screens to enable or disable the sharing of media files with media clients and select which shares to share. See [Section 17.5 on page 216](#) for details.

11.9 iTunes Server

Use the iTunes server to share media files with iTunes users on your network. See [Section 17.6 on page 218](#) for details.

Administrator

12.1 Overview

This chapter describes how to access the administrator screens and provides an overview of its screens.

12.2 Administrator Screens

The **Desktop** screen displays an **Administrator** icon when you log in with an administrator account. Click it to open the administrator configuration screens in a new tab. The **Status** screen displays first. See [Chapter 15 on page 203](#) for more information about the **Status** screen.

Figure 90 Status

The screenshot shows the Zyxel NAS540 Status page. The interface includes a sidebar menu (2) with categories like System Setting, Applications, Auto Upload, Sharing, Maintenance, and Protect. The top navigation bar (1) contains the Zyxel logo and a language dropdown. The main content area (3) is divided into two sections: System Information and Active Sessions. The System Information section displays the following details:

| | |
|-----------------------|-----------------|
| Server Name | NAS540 |
| Model Name | NAS540 |
| Firmware Version | V5.10(AATB.0)bt |
| Media Server Status | Enabled |
| FTP Server Status | Enabled |
| Web Publishing Status | Disabled |
| UPS | N/A |

The Active Sessions section contains a table with the following data:

| Type | Share Name | Username | Connected At | IP Address |
|------|------------|----------|---------------------|-------------|
| Web | | admin | 2015-08-28 16:47:18 | 172.23.3.35 |
| Web | | admin | 2015-09-01 14:30:24 | 172.23.3.35 |

The bottom status bar (4) shows a message icon and the text 'Message Ready'.

12.2.1 Global Administrator Icons

The icons and language label at the top-right of the screen (1) are visible from most of the administrator screens. The following table describes the 'global' icons and labels.

Table 58 Global Labels and Icons

| LABEL/ICON | DESCRIPTION |
|------------|---|
| Language | Select the web configurator language from the drop-down list box. |
| Help | Click this to open Web Help for the current screen. |
| Home | Click this to go to the Desktop screen. |

12.2.2 Navigation Panel

The navigation panel on the left of the Web Configurator screen (2) contains screen links. Click a link to display sub-links. There are no sub-links for the **Status** screen. Certain screens also contain hyper links that allow you to jump to another screen.

The following table describes the navigation panel screens.

Table 59 Screens Summary

| LINK | SCREEN | FUNCTION |
|----------------|-------------|---|
| Status | | This screen shows system information, the status of the volumes, and the users who are currently using the NAS. |
| System Setting | Packages | The NAS can download multiple packages/files at once and automatically goes through all the installation steps. |
| | Server Name | Specify the NAS's server name and workgroup name. |
| | Date / Time | Chose a time zone and/or allow the NAS to synchronize with a time server. |

Table 59 Screens Summary (continued)

| LINK | SCREEN | FUNCTION |
|--------------|---|--|
| Applications | FTP Server | Enable FTP file transfer to/from the NAS, set the number of FTP connections allowed, an FTP idle timeout, and the character set. |
| | Media Server | Enable or disable the sharing of media files and select which shares to share. |
| | iTunes Server | Use the iTunes server to share media files with iTunes users on your network. |
| | Download Service | Have the NAS handle large file downloads. |
| | Web Publishing | Let people use a web browser to access files in shares without logging into the Web Configurator. |
| | Print Server | View and manage the NAS's list of printers and print jobs. |
| | Copy/Sync Button | Copy or synchronize files between a USB device and the NAS. |
| | Auto Upload - Flickr/YouTube | Upload files in selected shares to your Flickr and/or YouTube accounts. |
| | Auto Upload - FTP Uploadr | Upload files in selected shares to FTP servers. |
| | Dropbox | Use your Dropbox account to easily move files to your NAS and have the NAS download *.torrent files. |
| | Time Machine | Use Time Machine in OS X to use your NAS as a backup volume. |
| | Memopal | Back up files from the NAS to your Memopal account. |
| | GoogleDriveClient | Use GoogleDriveClient to synchronize local user folders on the NAS with Google Drive cloud storage accounts. |
| | Syslog Server | Enable the syslog server and select the categories to include in the log report. |
| | TFTP Server | Configure the NAS to accept log files from TFTP clients. |
| pyLoad | Configure the NAS to use pyLoad to manage your downloads, including those from one-click hosting sites. | |
| Sharing | Users | View, create and edit administrator and user accounts to let people use the NAS. |
| | Groups | View, create and edit groups. Groups allow you to organize users into specific groups. You can create shares accessible only by the group members. |
| | Shares | View, create and edit shares. Shares are shared folders to which you can allow specific users read/write access rights. |
| | WebDAV | Allow remote users to use client programs that support WebDAV to edit and manage files stored on the NAS |
| Maintenance | Power | Configure power saving settings for the NAS and have the NAS turn itself off and on or reboot according to the schedules you configure. |
| | Log | View the NAS's logs and configure how you want to receive the log reports. |
| | Configuration | Back up and/or restore the NAS configuration file. |
| | SSL | Configure HTTPS and the NAS's SSL certificate. |
| | Shutdown | Restart the NAS or shut it down. |
| | Unpair myZyXELcloud | Remove the pairing between the NAS and the myZyXELcloud account. |
| Protect | Backup | Create and customize backup jobs. |
| | Restore | Restore previous backups made with the NAS. |
| Network | NFS | Install the NFS package to display this screen where you can configure NFS (Network File System) file-sharing. |

12.2.3 Main Window

The main window (3) shows the screen you select in the navigation panel. It is discussed in the rest of this document.

12.2.4 Status Messages

The **Message** text box at the bottom of the screen (4) displays status messages as you configure the NAS.

12.2.5 Common Administrator Screen Icons

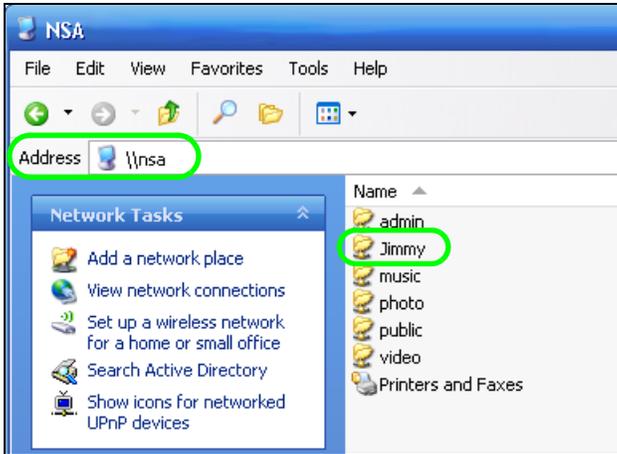
The following table explains some icons that appear in several administrator configuration screens.

Table 60 Common Administrator Screen Icons

| ICON | DESCRIPTION |
|---|--|
|  | Edit Click this to go to a screen where you can change the configuration settings of an entry. |
|  | Delete Click this to delete an entry from the list. |
|  | Edit Click this to jump to related item's configuration screen. |
|  | Refresh Click this to refresh the data for the field or value with which it is associated. |
|  | User See the chapter on user accounts for detailed information on variants of this icon. |
|  | Share See the chapter on shares for detailed information on variants of this icon. |
|  | Healthy This represents a healthy volume. |
|  | Down This represents a down volume. |
|  | Scan Disk Click this to scan a hard disk for file system errors. Note: It is recommended to scan the volume every three months or 32 reboots. |
|  | Eject Click this before you remove an external hard drive so that you do not lose data that is being transferred to or from that hard drive. |

12.2.6 Session Example (Windows)

Open Windows Explorer and type two back slashes followed by the NAS name or IP address. Initially you can only read and write to the **Public**, **Video**, **Music**, and **Photo** folders until you create other shares on the NAS. This session is then displayed as shown in the following figure.



Managing Packages

13.1 About Packages

Packages enhance the functions of your NAS. Your NAS supports various packages that let you do more. Your NAS comes with some packages pre-installed. The **Packages** screen also includes a list of packages to add.

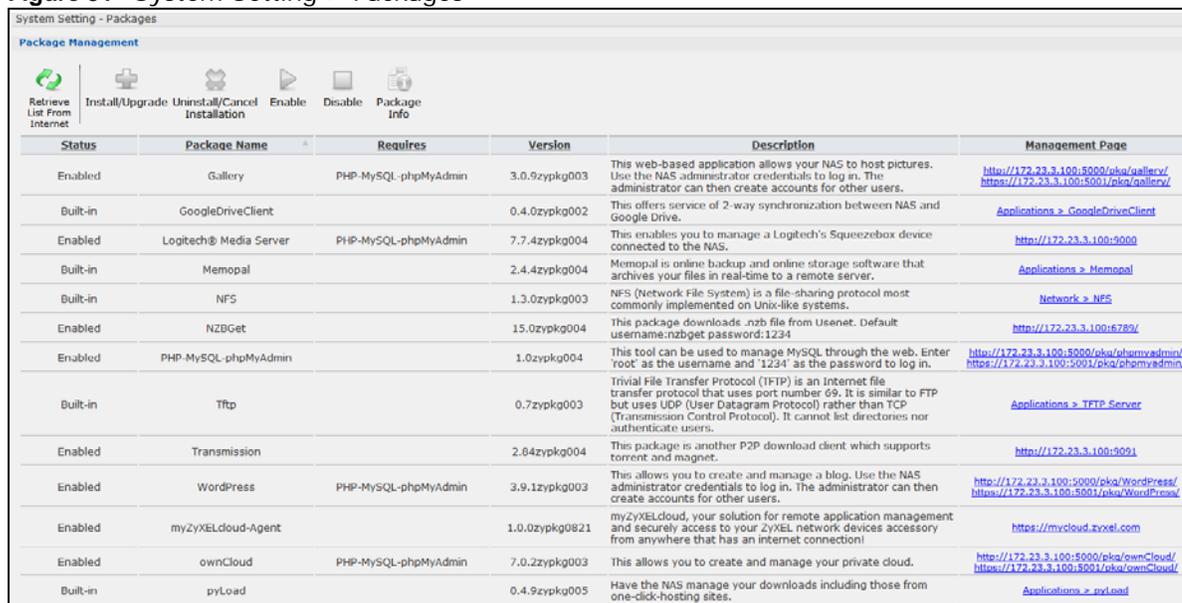
Note: Check what packages do before you install them. Only install packages you actually plan to use.

Note: Get support for each package through its individual vendor.

13.2 Managing Packages

In the administrator screens, click **System Setting** > **Packages** to install, remove, or upgrade packages. See [Section 16.4 on page 207](#) for details.

Figure 91 System Setting > Packages



| Status | Package Name | Requires | Version | Description | Management Page |
|----------|------------------------|----------------------|----------------|--|--|
| Enabled | Gallery | PHP-MySQL-phpMyAdmin | 3.0.9zypkg003 | This web-based application allows your NAS to host pictures. Use the NAS administrator credentials to log in. The administrator can then create accounts for other users. | http://172.23.3.100:5000/pka/gallery/ https://172.23.3.100:5001/pka/gallery/ |
| Built-in | GoogleDriveClient | | 0.4.0zypkg002 | This offers service of 2-way synchronization between NAS and Google Drive. | Applications > GoogleDriveClient |
| Enabled | Logitech® Media Server | PHP-MySQL-phpMyAdmin | 7.7.4zypkg004 | This enables you to manage a Logitech's Squeezebox device connected to the NAS. | http://172.23.3.100:9000 |
| Built-in | Memopal | | 2.4.4zypkg004 | Memopal is online backup and online storage software that archives your files in real-time to a remote server. | Applications > Memopal |
| Built-in | NFS | | 1.3.0zypkg003 | NFS (Network File System) is a file-sharing protocol most commonly implemented on Unix-like systems. | Network > NFS |
| Enabled | NZBGet | | 15.0zypkg004 | This package downloads .nzb file from Usenet. Default username:nzbget password:1234 | http://172.23.3.100:6789/ |
| Enabled | PHP-MySQL-phpMyAdmin | | 1.0zypkg004 | This tool can be used to manage MySQL through the web. Enter 'root' as the username and '1234' as the password to log in. | http://172.23.3.100:5000/pka/phpmyadmin/ https://172.23.3.100:5001/pka/phpmyadmin/ |
| Built-in | Tftp | | 0.7zypkg003 | Trivial File Transfer Protocol (TFTP) is an Internet file transfer protocol that uses port number 69. It is similar to FTP but uses UDP (User Datagram Protocol) rather than TCP (Transmission Control Protocol). It cannot list directories nor authenticate users. | Applications > TFTP Server |
| Enabled | Transmission | | 2.84zypkg004 | This package is another P2P download client which supports torrent and magnet. | http://172.23.3.100:9091 |
| Enabled | WordPress | PHP-MySQL-phpMyAdmin | 3.9.1zypkg003 | This allows you to create and manage a blog. Use the NAS administrator credentials to log in. The administrator can then create accounts for other users. | http://172.23.3.100:5000/pka/WordPress/ https://172.23.3.100:5001/pka/WordPress/ |
| Enabled | myZyXELcloud-Agent | | 1.0.0zypkg0821 | myZyXELcloud, your solution for remote application management and securely access to your ZyXEL network devices accessory from anywhere that has an internet connection! | https://mycloud.zyxel.com |
| Enabled | ownCloud | PHP-MySQL-phpMyAdmin | 7.0.2zypkg003 | This allows you to create and manage your private cloud. | http://172.23.3.100:5000/pka/ownCloud/ https://172.23.3.100:5001/pka/ownCloud/ |
| Built-in | pyLoad | | 0.4.9zypkg005 | Have the NAS manage your downloads including those from one-click-hosting sites. | Applications > pyLoad |

13.3 Available Packages

Use packages to add the following applications to the NAS.

- Use the **NFS** screen ([Section 18.3 on page 247](#)) to configure the Network File System (NFS) settings of your NAS.
- Use the **TFTP Server** screen ([Section 18.4 on page 250](#)) to configure the NAS to accept log files from TFTP clients.
- Use the **pyLoad** screen ([Section 18.5 on page 251](#)) to use pyLoad manage your downloads including those from one-click hosting sites.
- Use **ownCloud** ([Section 18.6 on page 251](#)) to store, synchronize, and share files, photos, calendars, and more with computers and mobile devices using an ownCloud client.
- Use **Memopal** ([Section 18.3 on page 247](#)) to back up files on the NAS to your Memopal online backup and storage account.
- Use the **GoogleDriveClient** screens ([Section 18.8 on page 256](#)) to synchronize local NAS shares or folders and Google Drive accounts.

Access the following applications' configuration screens through the **Package Management** screen. Refer to the applications' own documentation for further information.

- **Gallery** - This web-based application allows your NAS to host pictures. You can upload images in your local computer or shares to this application. Use the Gallery administrator account (default username admin, password 1234) to log into the Gallery console. There you can create accounts for other users.
- Use **Logitech® Media Server** ([Section 17.5.2 on page 218](#)) to manage a Logitech Squeezebox device connected to the NAS.
- The **NZBGet** news grabber helps download files from UseNet.
- **PHP-MySQL-phpMyAdmin** can be used to manage MySQL through the web. Enter 'root' as the username and '1234' as the password to log in. This includes MySQL, PHP, and phpMyAdmin.
- **Transmission** - This Bit Torrent client supports adding tasks through torrent files and magnet links.
- **WordPress** - This allows you to create and manage a blog. Use the WordPress administrator account (default username admin, password 1234) to log in. You can then create accounts for other users.
- **myZyXELcloud-Agent** - Use this to go to mycloud.zyxel.com to set up a free DDNS hostname for the NAS so you can connect to it easily from the Internet.

14.1 Overview

This chapter provides tutorials that show how to use the NAS.

- [Windows 7 Network](#), see [page 146](#)
- [Windows 7 Network Map](#), see [page 150](#)
- [Playing Media Files in Windows 7](#), see [page 152](#)
- [Windows 7 Devices and Printers](#), see [page 152](#)
- [File Sharing Tutorials](#), see [page 155](#)
- [Download Service Tutorial](#), see [page 162](#)
- [Copy and Flickr Auto Upload Tutorial](#), see [page 173](#)
- [FTP Uploadr Tutorial](#), see [page 174](#)
- [Web Configurator's Security Sessions](#), see [page 177](#)
- [Using FTPES to Connect to the NAS](#), see [page 188](#)
- [Using a Mac to Access the NAS](#), see [page 189](#)
- [How to Use the BackupPlanner](#), see [page 191](#)

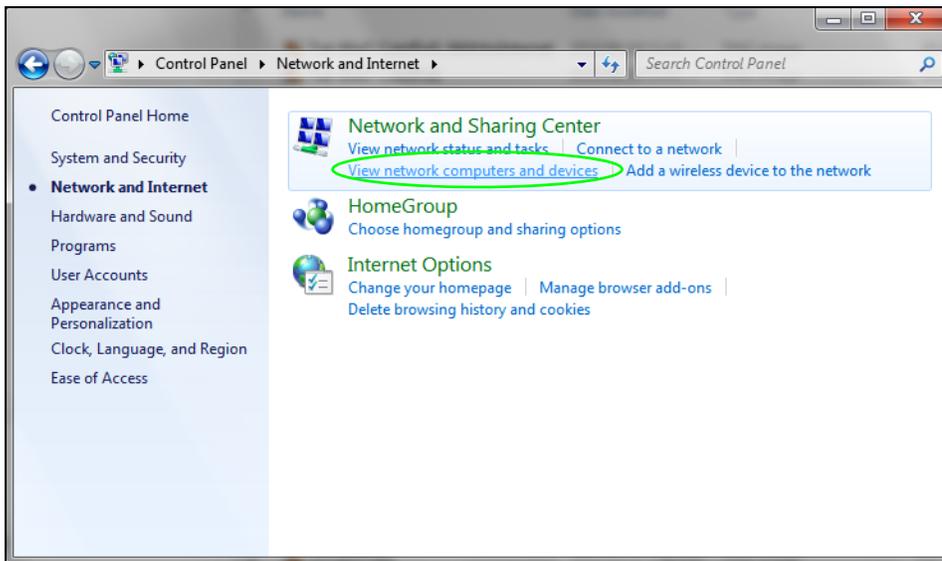
14.2 Windows 7 Network

To see your NAS in a Windows 7 home or work network:

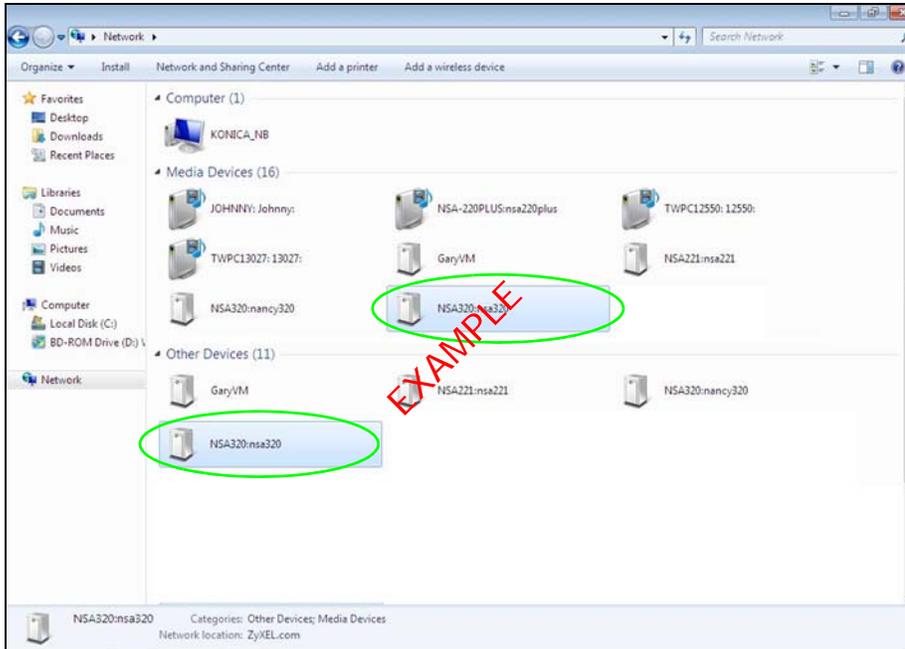
- 1 Click **Start > Control Panel**. Set **View by** to **Category** and click **Network and Internet**.



- 2 Click **View network computers and devices**.



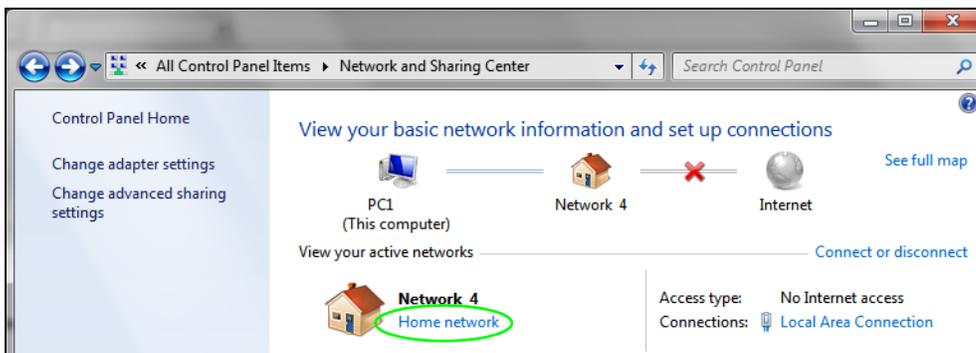
- 3 The NAS icon displays twice because the NAS is both a media server and a storage device. Double-click either NAS icon to open the Web Configurator login screen.



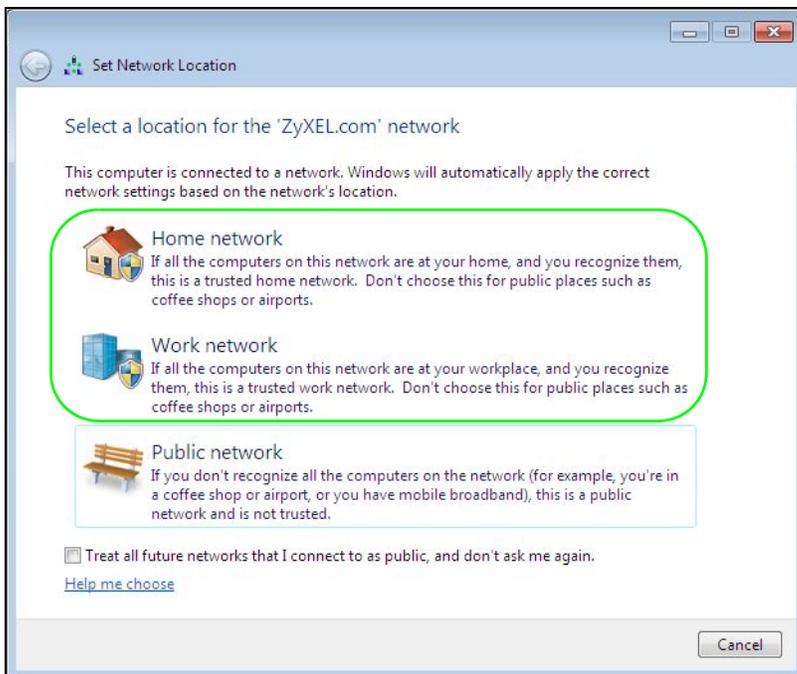
14.2.1 If the NAS Icon Does Not Display

The network containing the NAS must be set as a home or work network in order for the NAS icons to display. If the network containing the NAS displays as “Public”:

- 1 Click **Network and Sharing Center** and then the network’s link (circled in the figure).

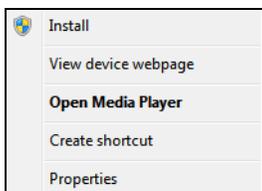


- 2 Use the **Set Network Location** screen to set the network’s location to home or work.

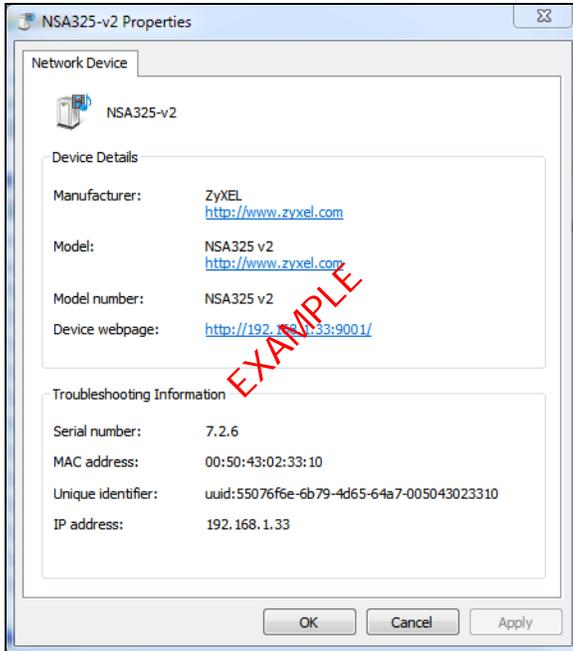


14.2.2 NAS Icon Right-click Options

Right-click the NAS's icon to see these options:



- **Install/Uninstall:** Click **Install** to add the NAS as a device in your computer. After you install the NAS you can see it in the computer's list of devices (see [Section 14.5 on page 152](#)). Click **Uninstall** to remove the NAS from the list of devices installed in your computer.
- **View device web page** opens the Web Configurator login screen.
- **Open Media Player** opens the computer's default media player.
- **Create shortcut** adds a desktop shortcut to the Web Configurator login screen.
- **Properties** opens a window of NAS details and troubleshooting information.

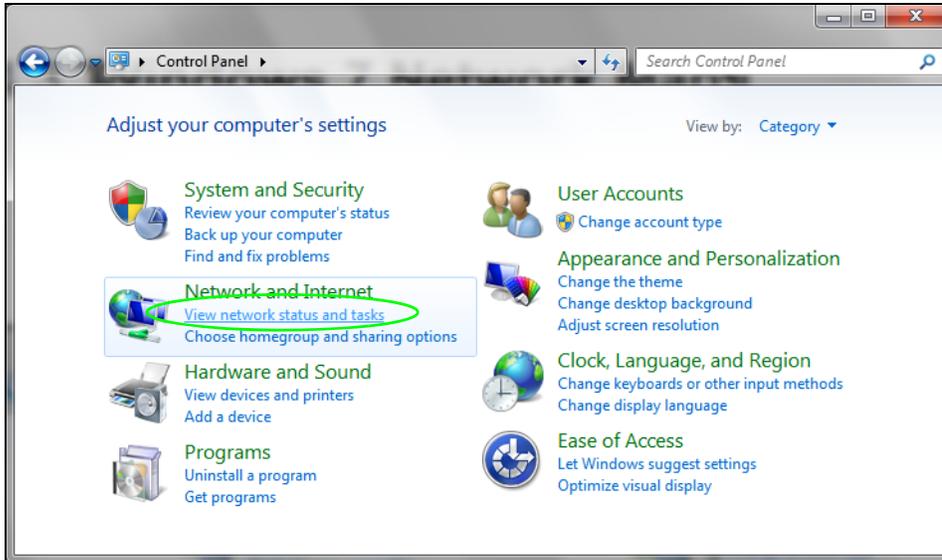


- **Manufacturer** identifies the company that produced the NAS.
- **Model** identifies the NAS model.
- **Model number** identifies the NAS model number.
- **Device webpage** shows the IP address for accessing the Web Configurator.
- **Serial number** is unavailable because the NAS does not have one.
- **MAC address** is the NAS's unique physical hardware address (MAC). You need the MAC address to register the product at myZyXEL.com. Customer support may also request it for troubleshooting purposes.
- **Unique identifier** is a unique UPnP ID that the NAS generated.
- **IP address** is the NAS's IP address. It is also the IP address for accessing the Web Configurator.

14.3 Windows 7 Network Map

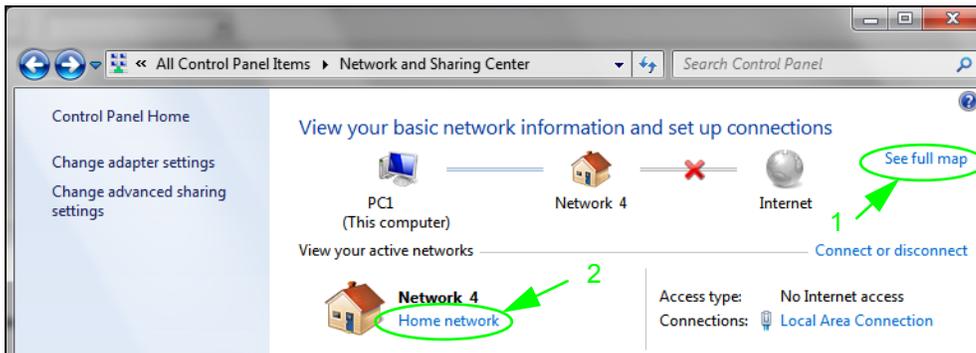
To see your NAS in a Windows 7 home or work network map:

- 1 Click **Start > Control Panel > View network status and tasks** (or **Network and Sharing Center** if you view the Control Panel by icons).

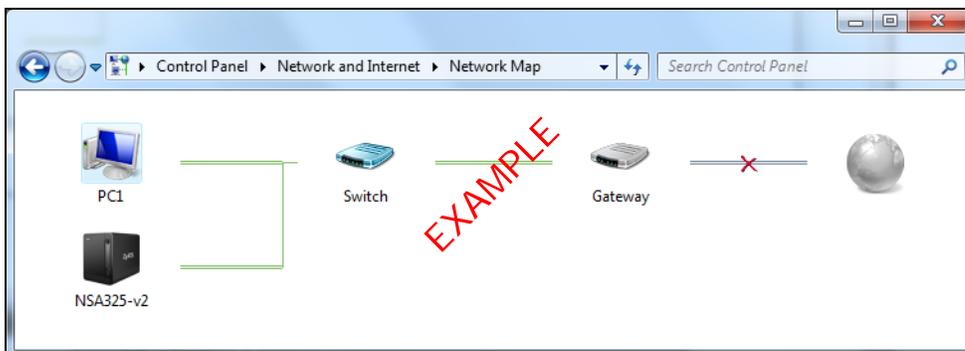


- 2 Click **See full map** (1 in the figure).

The network containing the NAS must be set as a home or work network in order to use the full map feature. If the network containing the NAS displays as “Public”, click the network’s link (2 in the figure, although it is already set to home here) and use the **Set Network Location** screen to set the network’s location to home or work (see [page 148](#)).



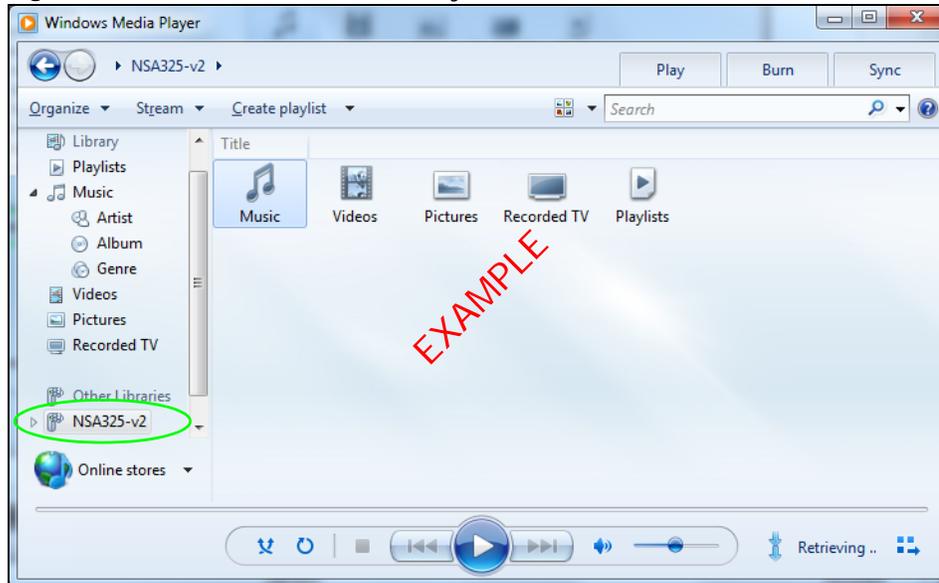
- 3 Double-click the NAS’s icon to open the Web Configurator login screen. See [Section 14.2.2 on page 149](#) for the NAS icon’s right-click options.



14.4 Playing Media Files in Windows 7

In Windows 7, the NAS automatically displays as a library in Windows Media Player.

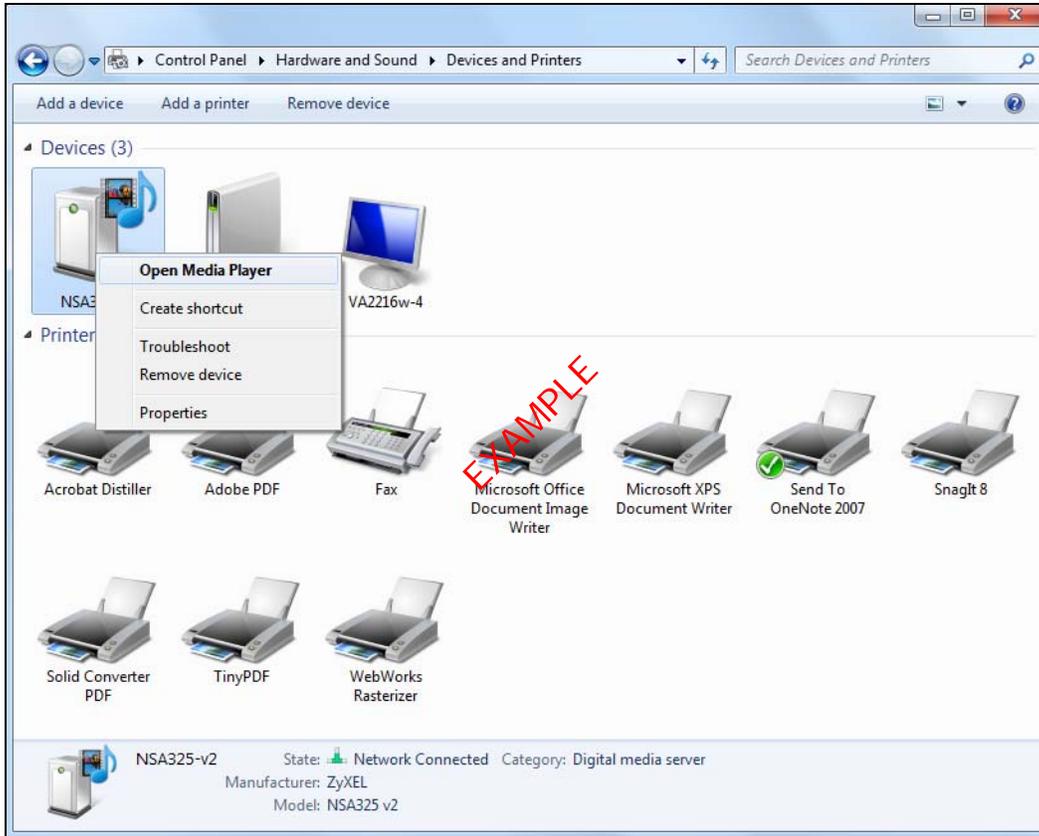
Figure 92 NAS in Windows Media Player



14.5 Windows 7 Devices and Printers

After you use the NAS's network icon's install option you can manage the NAS from the Windows 7 **Devices and Printers** folder.

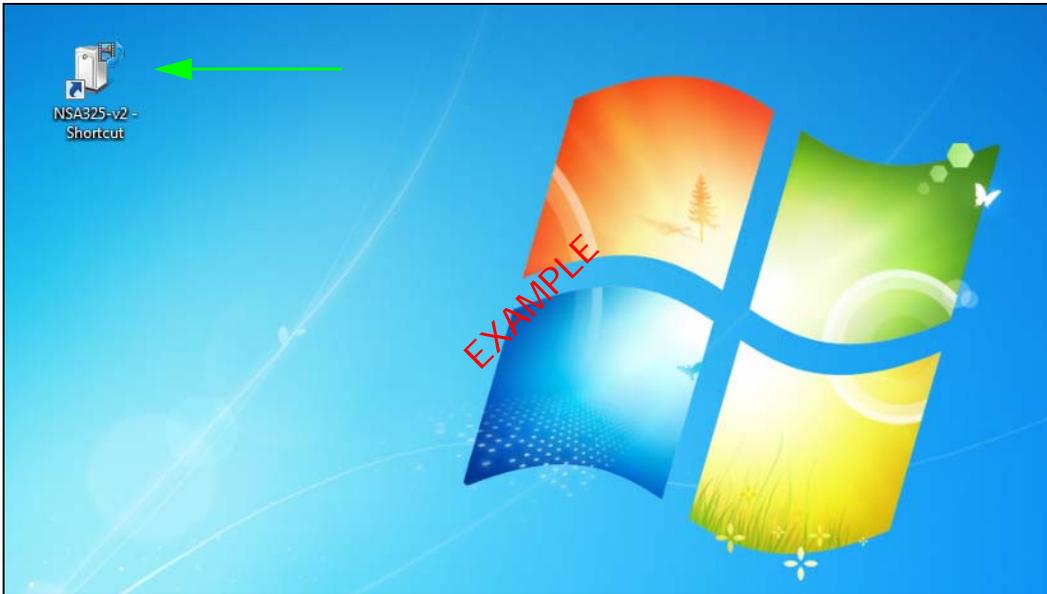
Click **Start > Control Panel > Hardware and Sound > Devices and Printers**. Select the NAS icon to display information about the NAS. Double-click the NAS icon to open a properties window (see [page 149](#)). Right-click the icon to display these options:



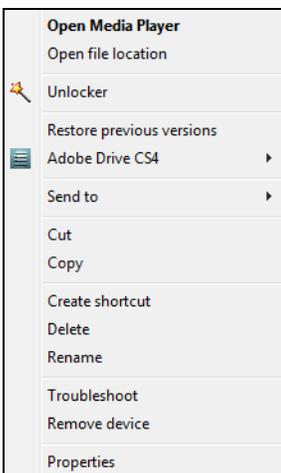
- **Open Media Player** opens the computer's default media player.
- **Create shortcut** has Windows make a desktop shortcut to this screen.
- **Troubleshoot** opens Windows' device troubleshooting wizard.
- **Remove device** removes the NAS from the Windows 7 **Devices and Printers** folder.
- **Properties** opens a window of NAS details and troubleshooting information (see [page 149](#)).

14.5.1 Windows 7 Desktop Shortcut

This is the NAS's desktop shortcut. Double-click it to open a properties window (see [page 149](#)).



- 1 Right-click the NAS's desktop shortcut icon to see these options:



- **Open Media Player** opens the computer's default media player.
- **Open file location** takes you to the Windows 7 **Devices and Printers** folder.
- **Download NAS Starter Utility** downloads the NAS's Starter Utility. It lets you find, set up, and manage the NAS as well as copy files to it and access the files on it. See [Chapter 2 on page 19](#) for details.
- **Restore previous versions** is the Windows 7 option for restoring a file or folder. It does not apply to this shortcut.
- **Send to** give you options for copying the shortcut to another location.
- **Cut** removes this shortcut so you can paste it somewhere else.
- **Copy** copies the shortcut so you can paste it somewhere else.
- **Create shortcut** has Windows make a desktop shortcut to this icon.
- **Delete** sends the shortcut to the recycle bin.
- **Rename** lets you change the name of the shortcut.

- **Troubleshoot** opens Windows' device troubleshooting wizard.
- **Remove device** removes the NAS from the Windows 7 **Devices and Printers** folder.
- **Properties** opens a window of details about the shortcut.

14.6 File Sharing Tutorials

The following sections cover using the NAS for file sharing. This chapter assumes you have already followed the Quick Start Guide instructions to perform initial setup and configuration (so you have a working volume). See the rest of this User's Guide for details on configuring the NAS's various screens.

14.6.1 Creating a User Account

Jimmy wants to create accounts for his sons Bob and Kevin. This is how he would do it.

- 1 Go to the advanced administration screens.
- 2 Click **Sharing > Users** to open the **Users** screen. Then click **Add User**.



- 3 Configure the screen as follows and write down the username and password to give to Bob. If the username and password are the same as Bob's Windows login, Bob will not need to enter a username and password when he logs into his share from his computer. Set the **Account Type** to **User** so Bob doesn't get to configure the whole NAS. Click **Apply** to create the account.

Add User

General Settings Quota (per volume) Group Membership

Username: Bob

New Password: ●●●●

Password (Confirm): ●●●●

Account Type: Administrator User

Apply Cancel

- 4 The account now displays in the **Users** screen.

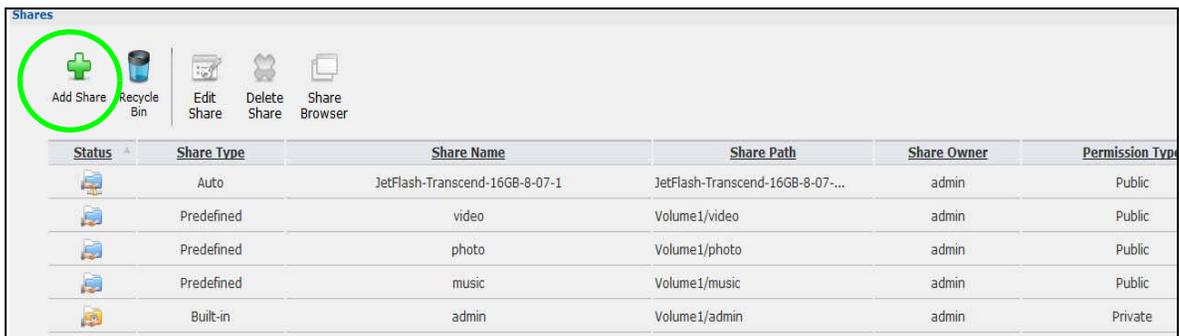
| Page 1 Of 1 | |
|---|----------|
| User Type | Username |
|  | Bob |
|  | Jimmy |
|  | John |
|  | admin |

Now that Jimmy has created Bob's account, he can go through the steps again to create another account for Kevin. After both accounts are created, he can go to [Section 14.6.2 on page 156](#) to create shares for Bob and Kevin.

14.6.2 Creating a Share

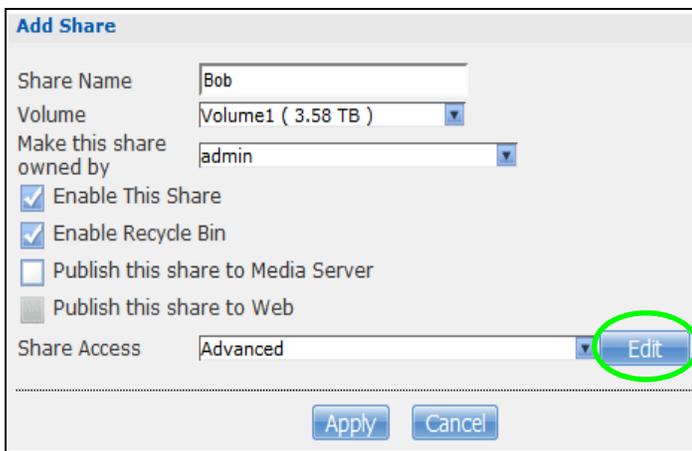
Suppose Jimmy has already created separate accounts for his sons Bob and Kevin. Now Jimmy wants to create a share for each son. He also wants to make sure that each son can only access his own share (to keep them from deleting each other's files). This is how he would do it.

- 1 In the NAS's administration web configurator screens, click **Shares > Add Share**. Click **Add Share** to create a new share.



| Status | Share Type | Share Name | Share Path | Share Owner | Permission Type |
|---|------------|--------------------------------|----------------------------------|-------------|-----------------|
|  | Auto | JetFlash-Transcend-16GB-8-07-1 | JetFlash-Transcend-16GB-8-07-... | admin | Public |
|  | Predefined | video | Volume1/video | admin | Public |
|  | Predefined | photo | Volume1/photo | admin | Public |
|  | Predefined | music | Volume1/music | admin | Public |
|  | Built-in | admin | Volume1/admin | admin | Private |

- 2 Specify a name for the share and select which volume it should be on. Configure the screen as follows. Then click **Edit**.



Add Share

Share Name:

Volume:

Make this share owned by:

Enable This Share

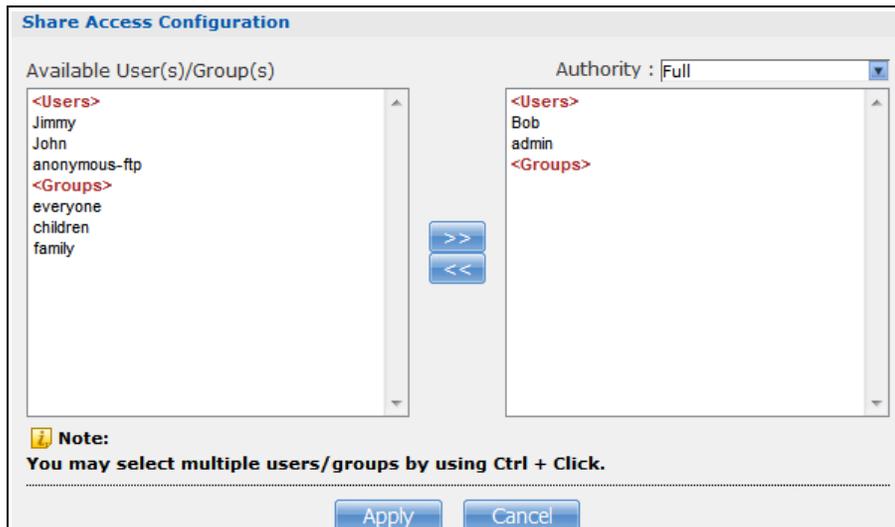
Enable Recycle Bin

Publish this share to Media Server

Publish this share to Web

Share Access: **Edit**

- Configure the screen as follows to give Bob full access right to the share. Then click **Apply** to create the share.

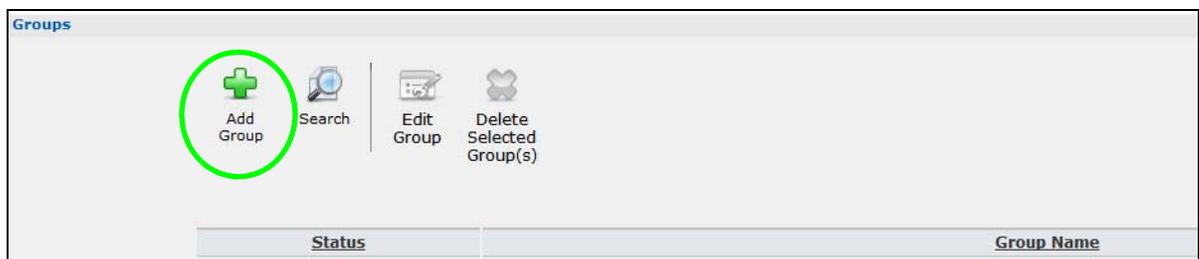


Now that Jimmy has created Bob's share, he can go through the steps again to create another share for Kevin.

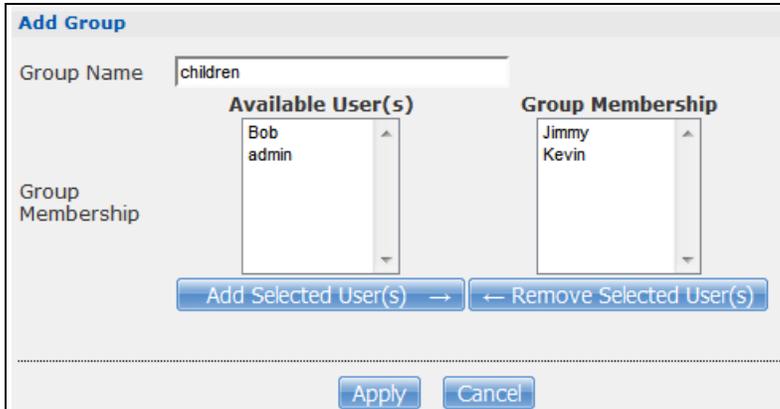
14.6.3 Creating a Group

After creating user accounts for Bob and Kevin, Jimmy wants to create a group for his sons and another one for the parents. Jimmy can assign access rights to his sons' group for certain shares such as a cartoons share and allow only the parents' group to access the scary movie share. This is how he would create the group.

- In the NAS's administration web configurator screen, click **Groups > Add Group**.



- Specify a name for the group. Select the user(s) you want to add to the group from the **Available User(s)** list and click **Add Selected User(s)**. Configure the screen as follows. Then click **Apply** to create the group.

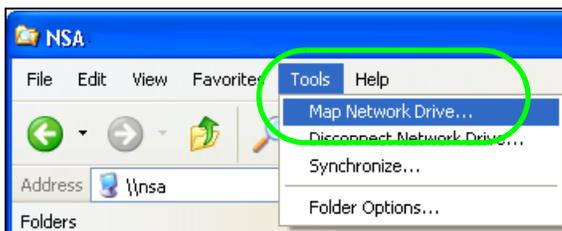


Now that Jimmy has created a group for Bob and Kevin, he can go through the steps again to create another group for the parents. Then he can see the rest of the tutorials for how to use the groups in assigning access rights to shares.

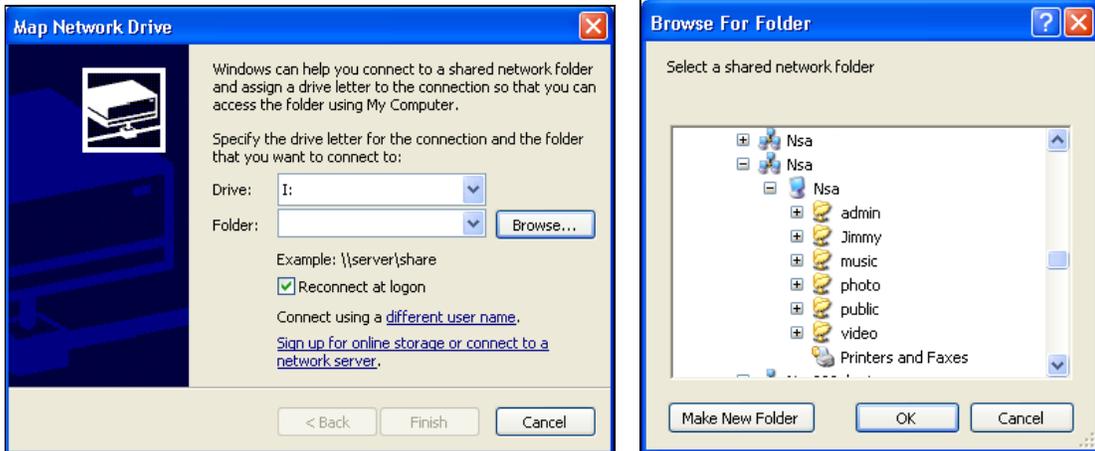
14.6.4 Accessing a Share From Windows Explorer

If you map a NAS share (where data is stored) to a Windows network drive, you can use Windows Explorer to transfer files to and from the NAS as if it was another folder on your computer. Here he maps Jimmy's share to Jimmy's computer.

- 1 Start Windows Explorer and go to the NAS's server name. The default is 'nas' followed by the number of your model ('nas540' for example).
- 2 Click **Tools > Map Network Drive**.



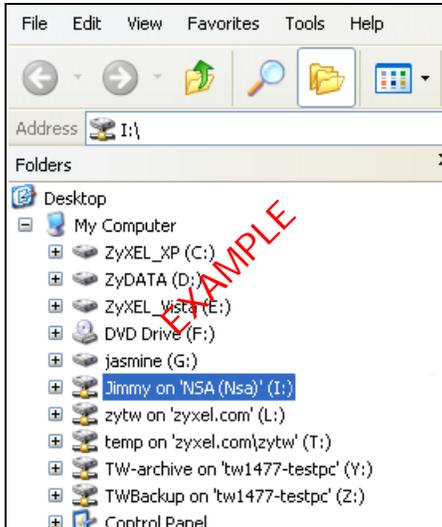
- 3 Select the network drive that you want to map the NAS to from the **Drive** list box. This example uses **I**. Then browse to and select the share on the NAS. Click **Finish**.



- 4 Enter the username and password for Jimmy's account and click **OK**. You do not need to do this if the username and password are the same as Jimmy's Windows login.



- 5 After the mapping is done, you can then simply copy and paste or drag and drop files from/to your local computer's drives to or from this network folder. Just like the NAS's share was another folder on your computer.

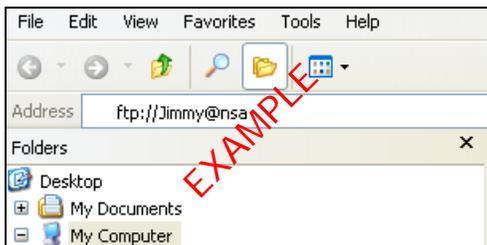


Now that Bob has mapped Jimmy's share to Jimmy's computer, he can go through the steps again to map Kevin's share to Kevin's computer.

14.6.5 Accessing a Share Using FTP

You can also use FTP to access the NAS. Suppose Jimmy is temporarily using a different computer and wants to access his share without mapping it to the computer. This is how he would do it.

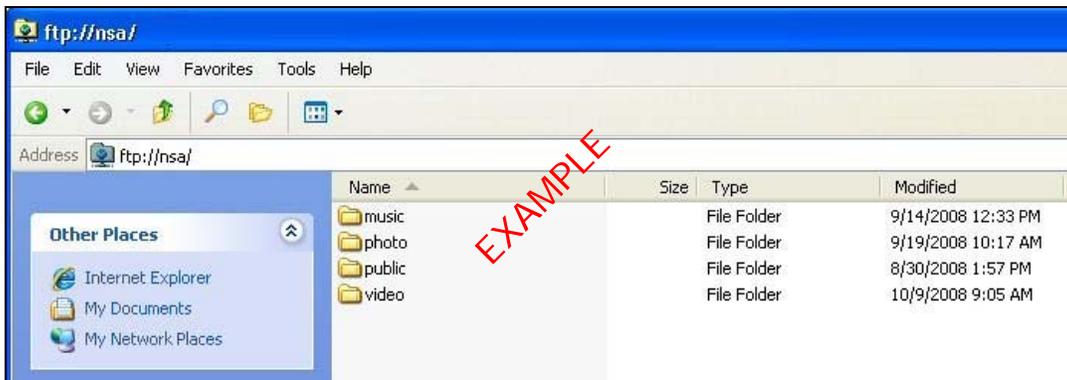
- 1 Open the FTP client (Windows Explorer is used here) and type "ftp://username@server" where "username" is the account's username and "server" is the NAS's IP address or server name.



- 2 Enter your password and click **Login**.



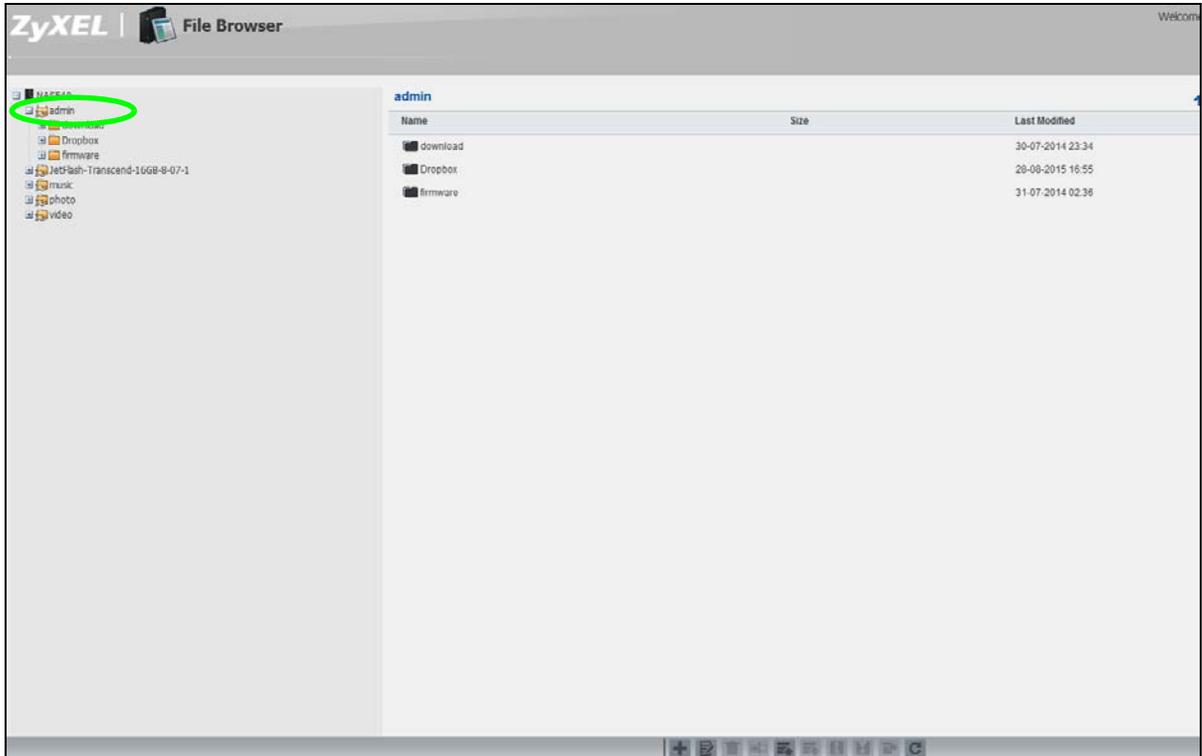
- Now you can access files and copy files from/to your local computer's drives to or from this network folder.



14.6.6 Accessing a Share Through the Web Configurator

You can browse and access files through the web configurator.

- Log into the NAS web configurator (see [Section 7.2 on page 38](#)) using the appropriate user name and password (this example uses Jimmy's) and click **File Browser**. Click a share (the admin share in this example) to see the top level of the share's contents.



- 2 Click a folder's file name to browse the folder. You can open files or copy them to your computer. You can also create new folders and upload additional files to the share.
- 3 Click the logout icon when your are done.

14.7 Download Service Tutorial

This tutorial covers using the NAS to download a file from the Internet. Use this same procedure for P2P downloads as well as regular HTTP (web) and FTP downloads. See [Section 17.11.2 on page 235](#) for more on the download service.

14.7.1 Copying/Pasting a Download Link

- 1 Open your Internet browser (this example uses Internet Explorer).
- 2 Find a download link for the file you want. In this example, www.zyxel.com has a **Server 1** link for downloading a datasheet for ZyXEL's NSA325 v2.

Download Library

Search Results for "Keyword : NSA325 v2"

Displaying documents 1 - 10 of total 12 found.

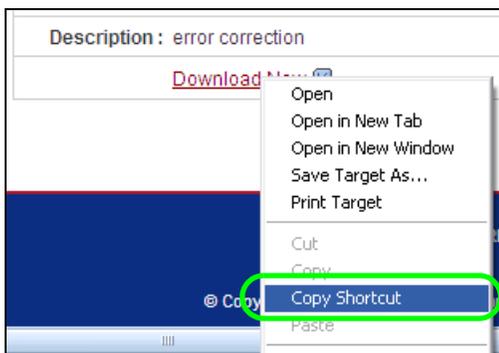
[Search Again](#)

| Material Type | Product Model | Version | Release Date | Download |
|---------------|---------------|-----------------|--------------|----------------------|
| Firmware | NSA325 v2 | V4.71(AALS.0)C0 | Sep 10, 2014 | Server 1 Server 2 |
| Datasheet | NSA325 v2 | 2 | Aug 14, 2014 | Server 1 Server 2 |
| Software | NSA325 v2 | 2.10_MAC_ENG | Jul 01, 2014 | Server 1 Server 2 |

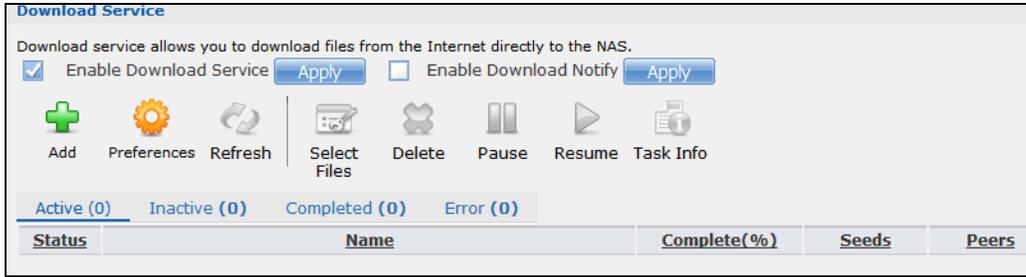
Note: Make sure the link opens either the file you want or a pop-up window about how to handle the file.

Note: It is also OK for the link to open a .torrent file. If you are redirected to a screen that says the download should start in a few seconds, there may be a link to click if the download does not start automatically. See if that link opens the file or the pop-up window.

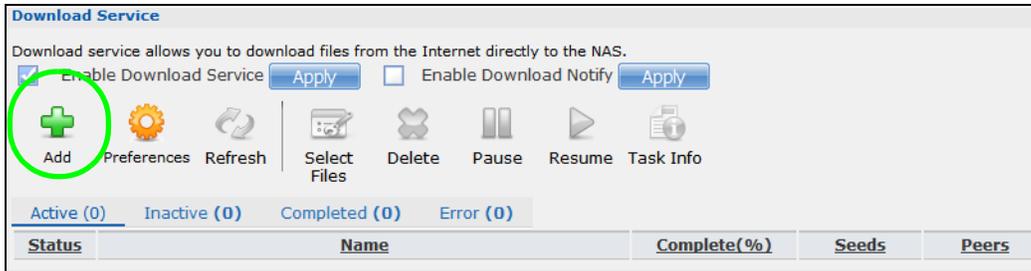
- Right-click the download link and select **Copy Shortcut** in Internet Explorer (or **Copy Link Location** in Firefox).



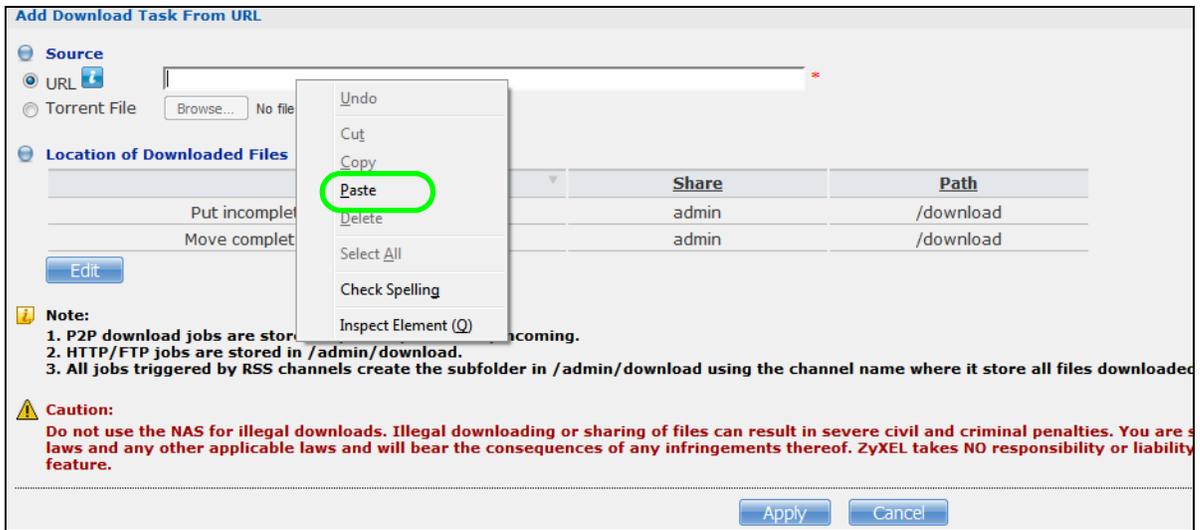
- Log into the NAS web configurator (see [Section 7.2 on page 38](#)) using the administrator account and click **Application Zone** and the **Application Zone > Download Service** link.



5 Click **Add**.



6 Right-click the **URL** field and select **Paste**.



7 The URL displays in the **URL** field. Click **Apply**.

Add Download Task From URL

Source

URL

Torrent File No file selected.

Location of Downloaded Files

| | Share | Path |
|-----------------------------|-------|-----------|
| Put incomplete downloads in | admin | /download |
| Move completed downloads to | admin | /download |

Note:

1. P2P download jobs are stored in /admin/download/incoming.
2. HTTP/FTP jobs are stored in /admin/download.
3. All jobs triggered by RSS channels create the subfolder in /admin/download using the channel name where it store all

Caution:

Do not use the NAS for illegal downloads. Illegal downloading or sharing of files can result in severe civil and criminal penalties and any other applicable laws and will bear the consequences of any infringements thereof. Zyxel takes NO responsibility for illegal activity.

- 8 After a few moments, the download task appears in the **Download Service** screen's **Active** tab.

The download appears in the **Completed** tab when it is done. By default the NAS stores all downloads in the **admin** share's **download** folder. See [Section 14.6.4 on page 158](#), [Section 14.6.5 on page 160](#), or [Section 14.6.6 on page 161](#) for how to access a share.

14.7.2 Configuring the Download Service Preferences

Once you added a list of download tasks to the NAS (see [Section 14.7.1 on page 162](#)), you can have the NAS download files during a specific time period of the day. You can also configure the P2P download settings to control bandwidth and optimize download efficiency.

Say you have the NAS turned on all the time, but you only want the NAS download files at night. Here is how you use the download period control feature to set the time range.

- 1 Click **Applications** > **Download Service** > **Preferences** to open the **General Settings** screen.
- 2 Select **Enable Download Period Control** and use the arrows to adjust the time period from 23:30 to 09:00. Click **Apply** to save your changes. The NAS only downloads files within this 9.5-hour period every day.

Preferences

General Settings P2P download

Location of Downloaded Files

| | Share | Path |
|-----------------------------|-------|-----------|
| Put incomplete downloads in | admin | /download |
| Move completed downloads to | admin | /download |

Edit

Note:

1. P2P download jobs are stored in /admin/download/incoming.
2. HTTP/FTP jobs are stored in /admin/download.
3. All jobs triggered by RSS channels create the subfolder in /admin/download using the channel name where it s

Download Period Control

Enable Download Period Control

Download Service is active in the specified time period (hh:mm - hh:mm)

23 :30 - 09 :00

Apply Reset Cancel

Note: If you configure the **Power On/Off Schedule** feature in the **Power Management** screen, make sure your active download period does not conflict with the power-off period.

Note: If power failure occurs during the active download period, the NAS will verify whether the downloaded files were damaged. If a file is corrupted, the NAS will download the file again. If the file is intact but not completely downloaded, the NAS will resume the download task after it restarts.

- 3 When it is not the download time, you see a message in the **Download Service** screen, indicating the active download period.

Download Service

Download service allows you to download files from the Internet directly to the NAS.

Enable Download Service Enable Download Notify

Add Preferences Refresh Select Files Delete Pause Resume Task Info

Note : Download Service is not active. It will be active between 23:30 - 09:00.

Active (1) Inactive (0) Completed (0) Error (0)

| Status | Name | Complete(%) |
|--------|------|-------------|
|--------|------|-------------|

Click **Applications > Download Service > Preferences > P2P download** to open the following screen. Enter the information below and then click **Apply**.

Preferences

General Settings P2P download

Port Number: 9090

DHT: Enable Disable

Max. Download Rate: 0 KB/s (0=No Limit)

Max. Upload Rate: 0 KB/s (0=No Limit)

Maximum Number of Active Torrents: 10

Maximum Number of Seeding Jobs: 10

Maximum Number of Active Connections: 300

Keep Sharing While:

Upload/Download Ratio is ≤ 0 % (Enter -1 for unlimited ratio. Enter 0 to ignore ratio.)

Or Seeding Time is ≤ 60 minutes (Enter -1 for unlimited seeding time. Enter 0 to ignore se)

Email notifications:

Send an email notice when download starts: Enable Disable

Send an email notice when seeding starts: Enable Disable

Send an email notice when download finishes: Enable Disable

Apply Reset Cancel

Here is a list of P2P download settings you want to configure for your NAS:

- Limit the maximum upload rate to 20 KB/s.
Enter this value in the **Max. upload rate** field.
- Actively download three torrent files but only upload one at a time.
Enter 3 in the **Maximum Number of Active Torrents** field and enter 1 in the **Maximum Number of Seeding Jobs** field.
- Keep sharing until the NAS has shared equal or greater amount of the downloaded files.
Select the check box and enter 100 in the **Upload/Download Ratio** field.
- Scroll down and click **Edit IP Filter**. Use an online IP filter table from <http://www.bluetack.co.uk/config/level1.gz> for example to protect P2P downloads.
Enter the URL in the **Update IP Filter from the Internet Every Week** field.

Edit IP Filter

Enable IP Filter (Last Update Time : N/A)

Update IP Filter Table File from the Internet Every Week
URL:

Upload IP Filter Table
Browse... No file selected. Upload

Download Current IP Filter Table

Note:
Please upload your list(*.txt, *.dat, *.gz, *.tgz or *.tar.gz) here. It saved as /admin/download/ipfilter.dat.

Apply Cancel

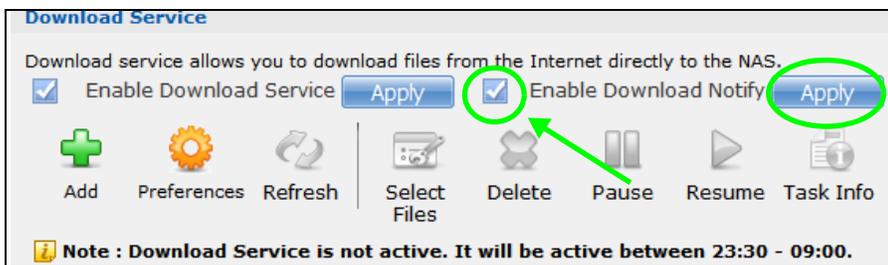
14.7.3 Using Download Service Notification

Use an RSS feed reader on your computer to keep track of files the NAS has downloaded. The following examples show how to subscribe to the NAS's download service notifications. See [Section 17.11.3 on page 236](#) for more on download service notifications.

Some RSS readers may not support the NAS's download service notifications. For example, Google Reader cannot support this feature if the NAS has a private IP address.

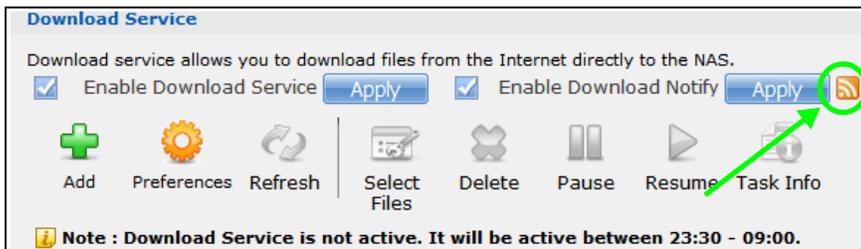
Note: It is recommended to subscribe to the download service notifications using the built-in reader in Internet Explorer 7 or higher, or Firefox.

You have to activate this feature in the **Download Service** screen. Click **Applications > Download Service** to open the following screen. Select **Enable Download Notify** and click **Apply**.

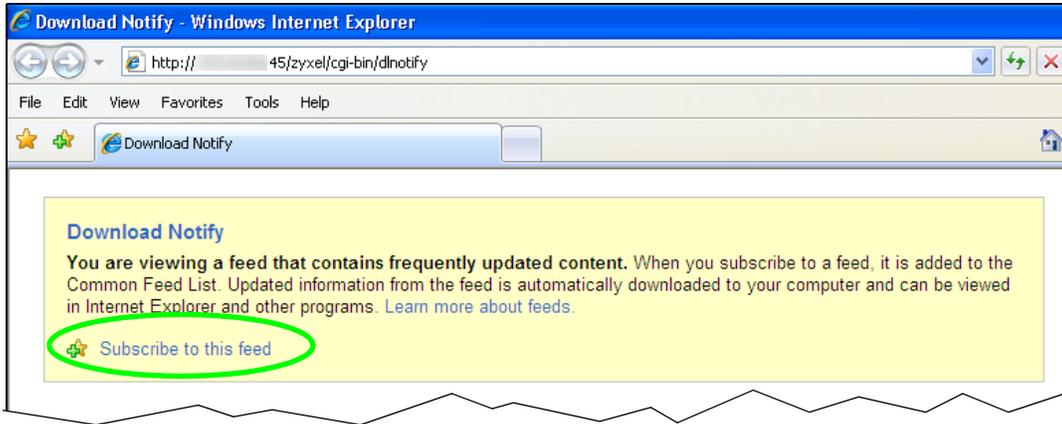


Internet Explorer 7 Example

- 1 After you activate download service notification, click the **RSS** feed icon.



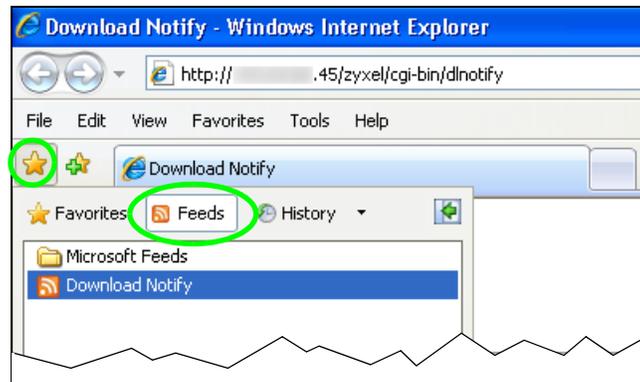
- 2 The following screen displays. Select **Subscribe to this feed**.



- 3 The following screen displays. Click **Subscribe**.

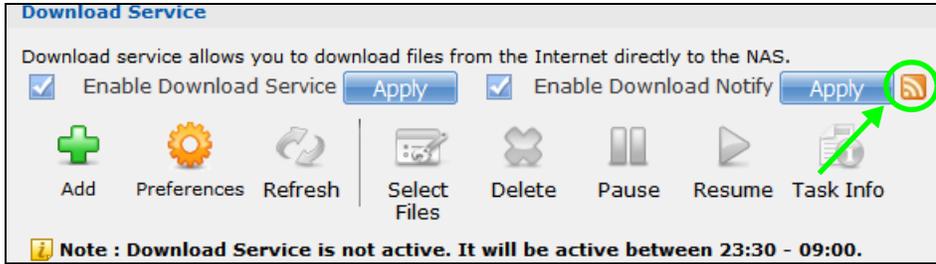


- 4 Click the **Favorite** icon on your browser and select the **Feeds** tab to check the updates of your NAS's download list.

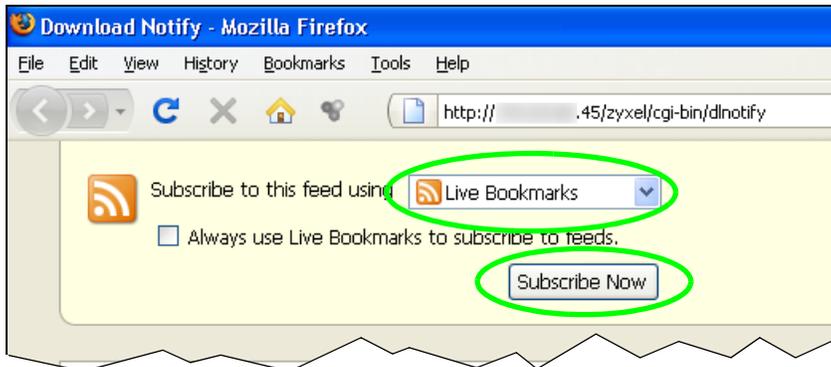


Firefox Example

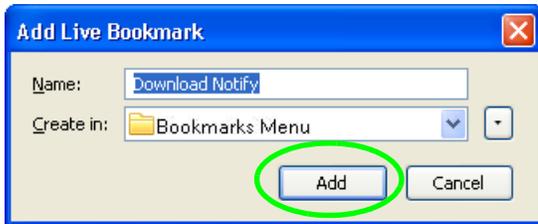
- 1 After you activate download service notification, click the **RSS** feed icon.



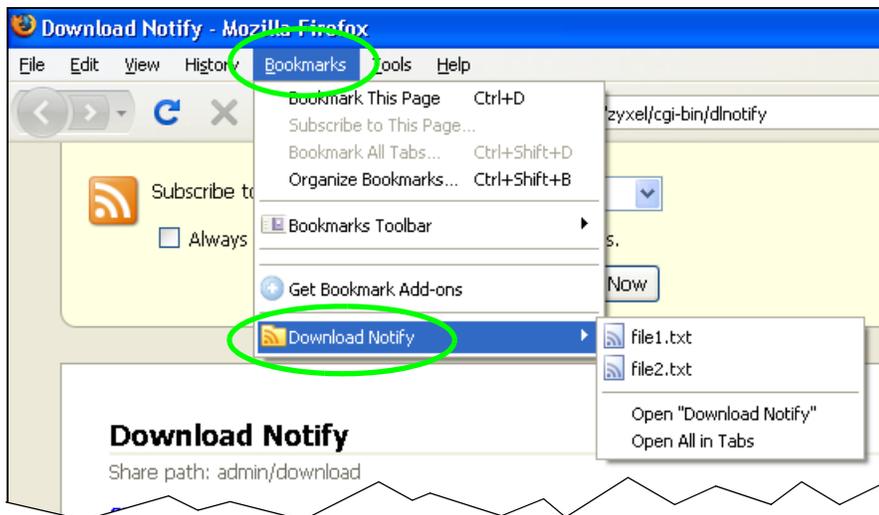
- 2 The following screen displays. Select **Live Bookmarks** from the drop-down list and click **Subscribe Now**.



- 3 The following screen displays. Select **Bookmarks Menu** and click **Add**.



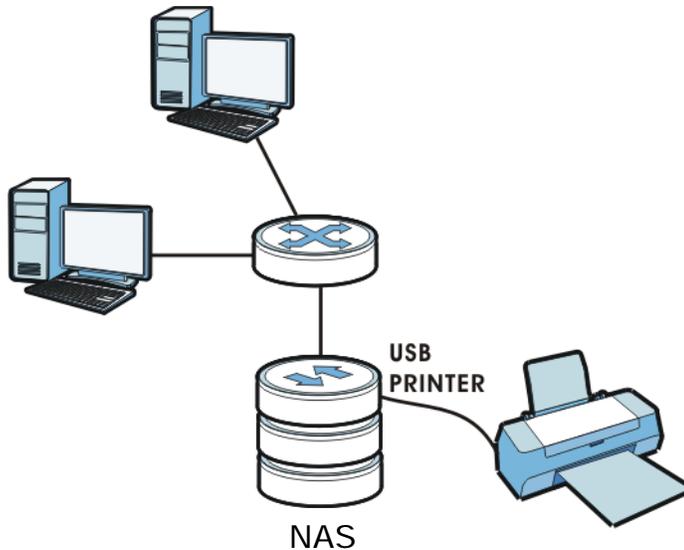
- 4 From the Firefox's **Bookmarks Menu**, select **Download Notify** to check the updates of your NAS's download list.



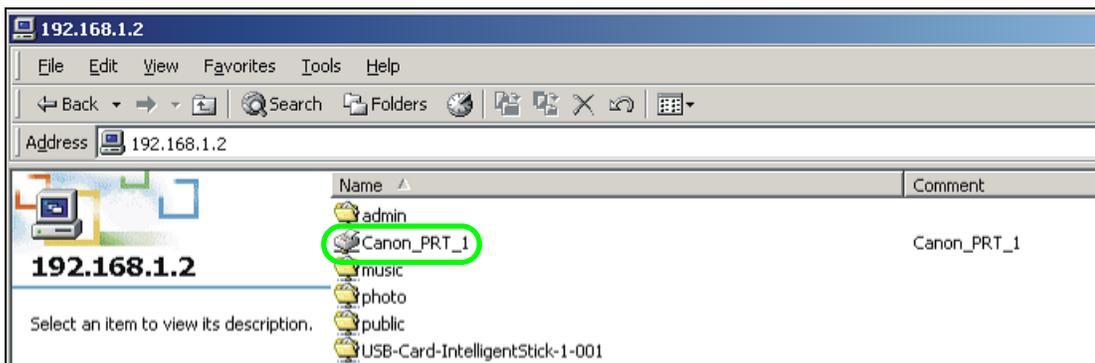
14.8 Printer Server Tutorial

Do the following to have the NAS let computers on your network share a printer. See www.zyxel.com for a list of compatible printers.

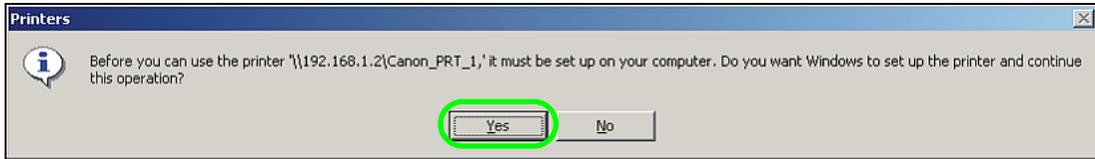
- 1 Make sure the NAS is on and the **SYS** light is on steady (not blinking).
- 2 Use a USB cable to connect the printer's USB port to one of the NAS's USB ports. Make sure the printer is also connected to an appropriate power source.



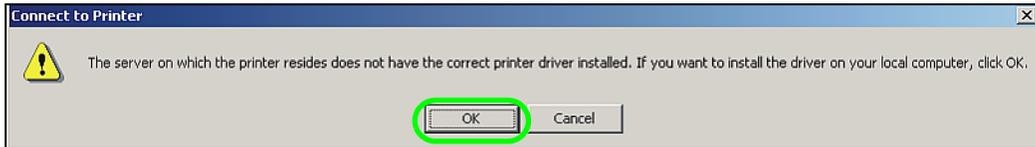
- 3 Turn on the printer.
- 4 The NAS detects the printer after a few moments.
- 5 On your computer, open your CIFS file sharing program (Windows Explorer for example) and browse to the NAS. Double-click the printer's icon.



- 6 If you get a warning screen, click the option that lets you continue (**Yes** in this example).

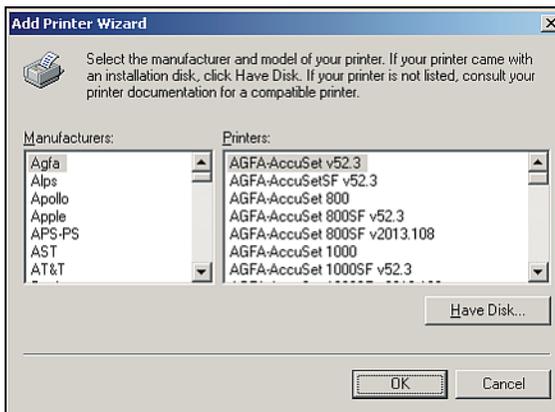


- 7 If your computer does not already have the printer's driver installed, you will need to install it. In this example, click **OK**.

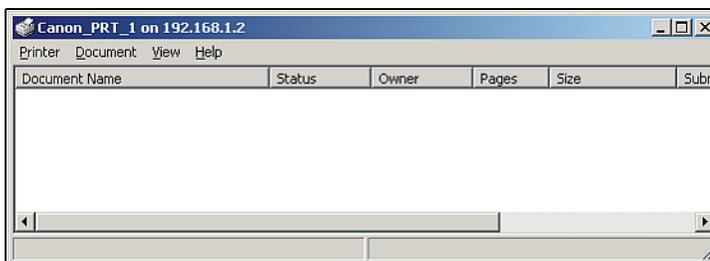


- 8 Use the wizard screens to install the printer driver on the computer. You may need to get the file from the printer's CD or the printer manufacturer's website (the driver is not installed on the NAS).

Note: You must install the printer driver on each computer that will use the printer.



After the driver installation finishes, the computer is ready to use the printer. Select the printer in an application to use it to print. Browse to the NAS using a CIFS program (like Windows Explorer) and double-click the printer's icon to open the printer's queue of print jobs.



Note: Repeat steps 5 to 8 on your other computers so they can also use the printer.

14.9 Copy and Flickr Auto Upload Tutorial

Amy received some photos taken during her best friend's wedding and saved the files on a USB disk. She wants to save a copy of the photos in the NAS and upload the photos to her Flickr account.

Amy has to activate the NAS's auto upload feature. See [Section 19.4 on page 262](#) for more details on setting up a Flickr account for auto upload. In this example Amy select the NAS's photo share for auto upload.

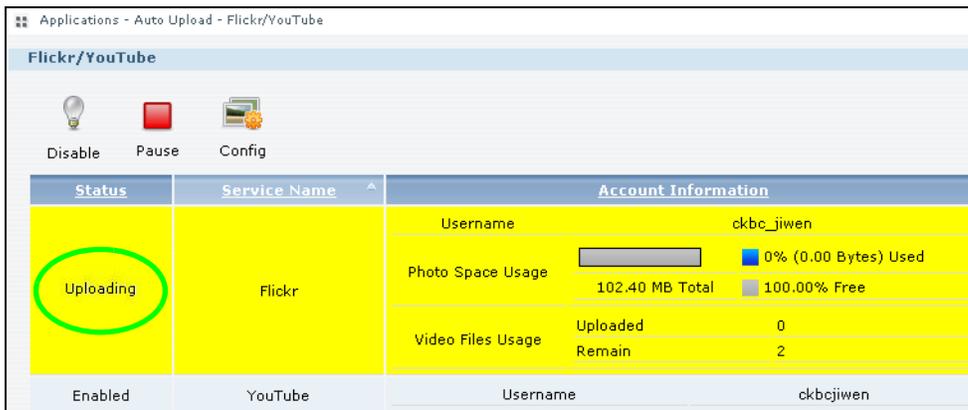
This is how Amy would transfer the files from her USB disk to the NAS.

- 1 Click **Applications > Copy/Sync Button** in the navigation panel to open the screen.
- 2 Configure the copy settings as shown and click **Apply**.

- 3 Press and release the **COPY/SYNC** button on the NAS's front panel to start copying files.
- 4 The copied files can be found in a new folder in the photo share. The name of this folder is the date (yyyy-mm-dd) and time (hh-mm-ss) when the folder is created.

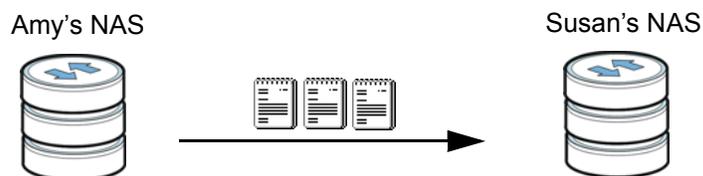


- 5 The NAS also automatically uploads the copied files to Flickr.



14.10 FTP Upload Tutorial

FTP Uploadr can automatically upload files saved on the NAS to a remote FTP server. Amy wants to share files on her NAS with Susan. They each have an NAS at home, so Susan has to set her NAS as an FTP server for Amy to automatically send files using FTP Uploadr.



To set the NAS as an FTP server, click **Applications** > **FTP** to open the **FTP** screen. Select **Enable FTP** and click **Apply**.

Susan also has to create a user account and share on her NAS for Amy to upload files. The share is used for files uploaded from Amy's NAS. Amy will then use the following information to configure FTP Uploadr on her NAS.

Table 61 FTP Uploadr Tutorial: FTP Server Information

| | |
|-------------------------------|--------------|
| FTP Domain Name or IP Address | example2.com |
| FTP User Name | Amy |
| FTP Password | xxxxx |
| Share (Remote Path) | Amy |

This is how Amy would set up the NAS's FTP Uploadr.

- 1 Click **Applications > Auto Upload > FTP Uploadr** to open the **FTP Uploadr** screen. Select **Enable FTP Uploadr** and click **Apply** to turn on FTP Uploadr.

- 2 Click **Add Server**.

- 3 Enter the information as describe in [Table 61 on page 175](#). Click **Apply** to add the server.

Add Server

Domain Name/IP Address: example2.com

Account Name: Amy

Password:

Port Number: 21

Remote Path: /Amy

Description: Send to Susan

Test Connection

Apply Cancel

- 4 In the **FTP Uploadr** screen, click **Preferences** to configure the auto upload settings.

FTP Uploadr

Enable FTP Uploadr Apply

| Domain Name/IP Address | Port Number | Remote Path | Account Name |
|------------------------|-------------|-------------|--------------|
| example2.com | 21 | /Amy | Amy |

- 5 Amy wants to share video files with Susan. In the **Preferences** screen, click the **Add** button and select **video** from the **Shares** drop-down list box, enter a forward slash in the **Path** field and click **Apply** to add the share to the **Folder Watch List**.

Folder Watch List

| Status | Share Name | Path | Action |
|---|------------|------|--------|
| There are currently no folders on the watch list. | | | |

Add Watch Folder

Share: video

Path: / Browse ...

Apply Cancel

Settings

Grace Period
The time the system will wait before a newly added file is saved in a watched folder.
Grace Period: 15 minutes

Bandwidth Limit
Max. Upload Rate: 0 KB/s (0-No Limit)

Apply

Reset Close

- 6 Amy also set the **Bandwidth Limit** to 20 KB/s so that the upload doesn't slow down her Internet connection.

| Status | Share Name | Path | Action |
|--------|------------|------|--------|
| | video | / | |

Add

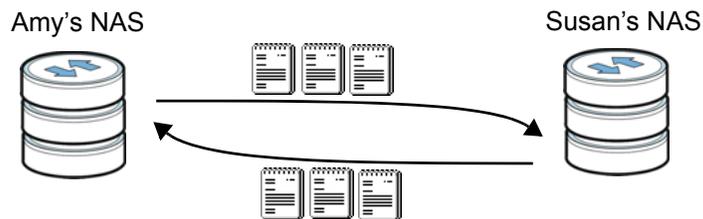
Settings

Grace Period
The time the system will wait before a newly added file is saved in a watched folder.
Grace Period minutes

Bandwidth Limit
Max. Upload Rate KB/s (0=No Limit)

Now Amy has set up FTP Uploadr to send files to Susan's NAS. Every time Amy adds new files or renames files in the **video** share, these new or modified files will be uploaded automatically to the **Amy** share on Susan's NAS.

Similarly, Susan can go through the steps described above to configure FTP Uploadr on her NAS. Once Susan completes the setup, Amy can also receive files from Susan's NAS.



14.11 Web Configurator's Security Sessions

These tutorials show you how to configure security for the NAS's Web Configurator sessions. You will customize the NAS's self-signed SSL certificate and distribute it to your users.

14.11.1 Customizing the NAS's Certificate

- 1 Click **Maintenance > SSL** and then select **Edit a self-signed CA certificate** and click **Edit**.

Maintenance - SSL

Install System CA

This action will install the system CA in your browser's trusted CA list.

Step1 Download the CA file

Step2 Double click on the CA file to install it into your browser

Modify the Existing Certificate

Edit a self-signed CA certificate

Step1 Edit the Self-signed Certificate

Step2 Download the self-signed CA file

Step3 Double click on the CA file to install it into your browser

Create a Certificate To Be Authorized By My Own Certificate Authority

Caution:
Modifications of TLS/SSL certificate settings will restart network services.

- 2 Next, let's modify the certificate by changing the **Common Name** to this NAS's host name of "nsa", the **Organization** to "ZyXEL" and the **Key Length** to **2048**.

Edit the Self-signed Certificate

Common Name

Host IP Address

Host Domain Name

Organizational Unit(Optional) Max length: 64 characters

Organization(Optional) Max length: 64 characters

Country(Optional) Country code only, such as TW, US, JP, etc,...

Key Type

Key Length

Note:
If you choose a large key length, it may take a while to make the certificate file.

- 3 The NAS restarts its network services and returns you to the login screen.

ZyXEL

 **Restarting Network Services ...**

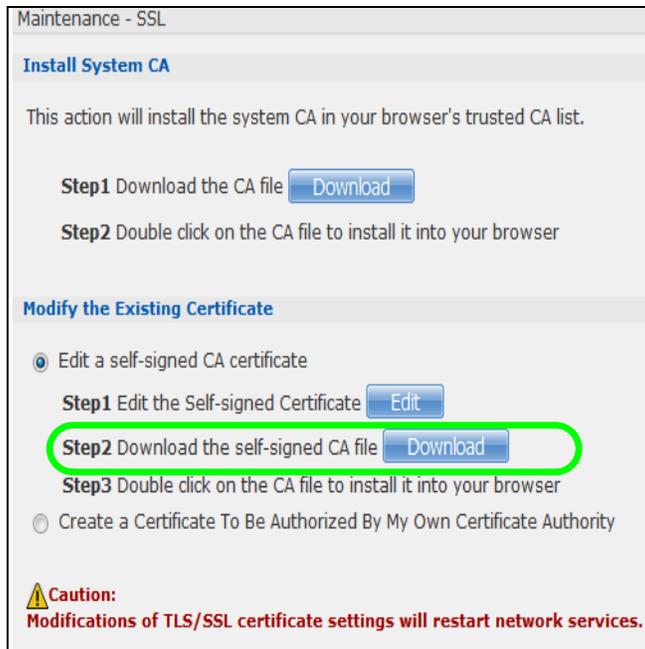
Current Status : Waiting for new network settings to apply...

The NAS will restart network services. After services have been restarted you can begin accessing the system using the new network host settings.

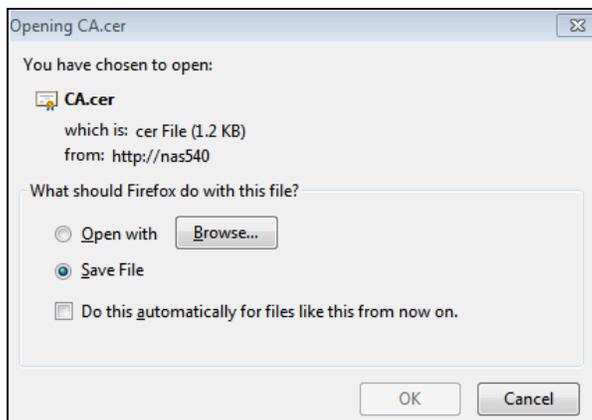
This page will TRY to automatically redirect you to the web configurator using the new network settings when it is available.

14.11.2 Downloading and Installing Customized Certificate

- 1 Log in and return to **Maintenance > SSL**. Under **Modify the Existing Certificate**, click **Download**.



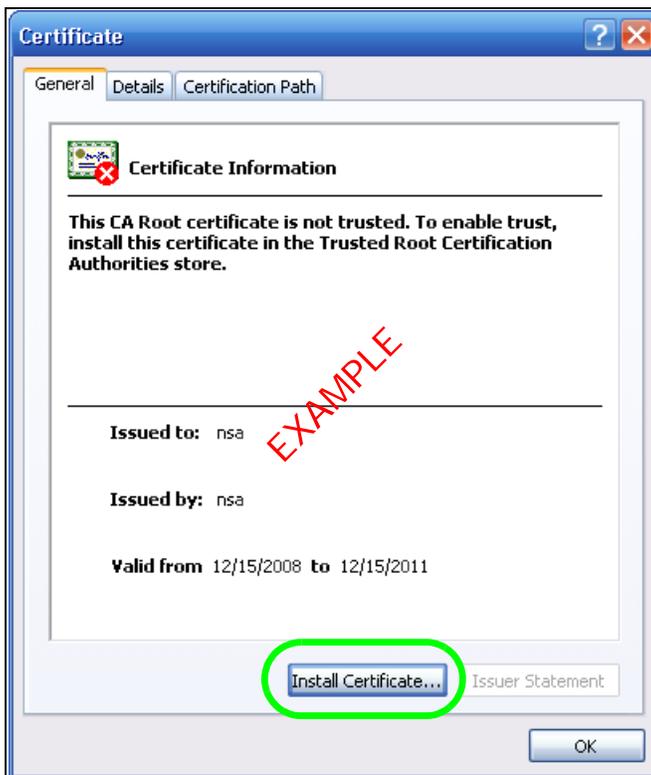
- 2 Save the file to your computer.



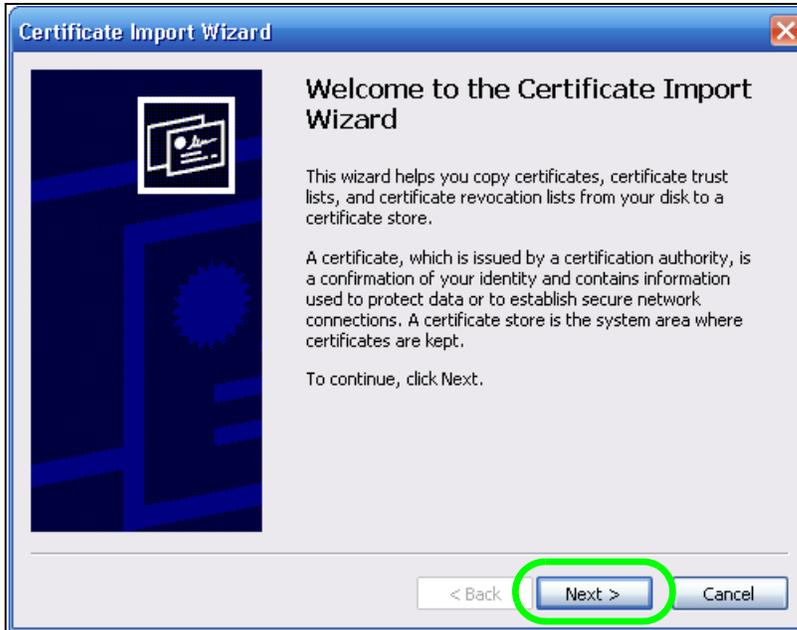
- 3 Find the certificate file on your computer and double-click it.



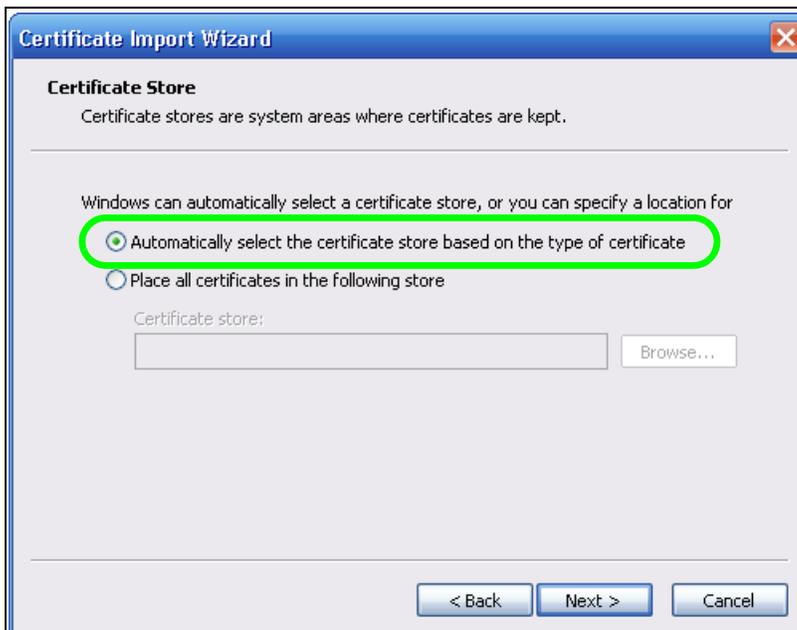
- 4 Install the certificate. The rest of the steps in this section are an example of installing a certificate in Windows. In the **Certificate** dialog box, click **Install Certificate**.



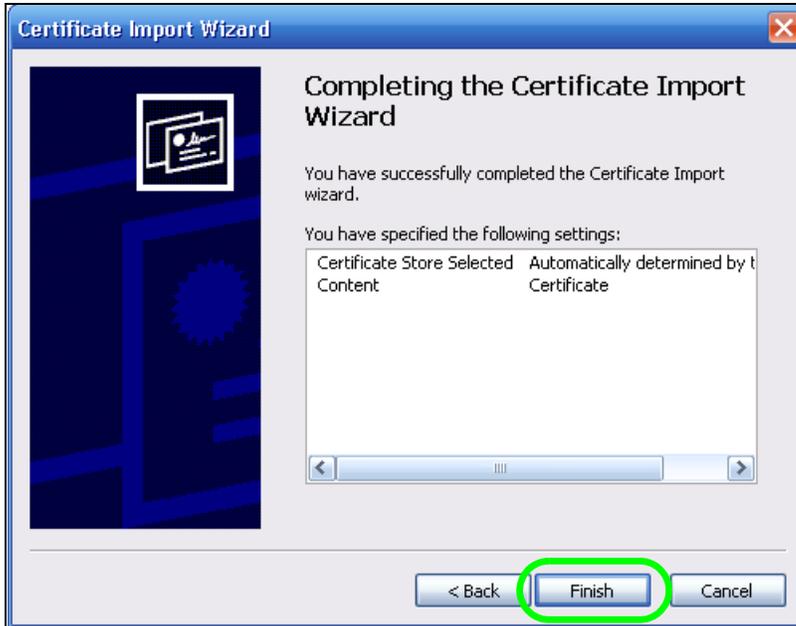
- 5 In the **Certificate Import Wizard**, click **Next**.



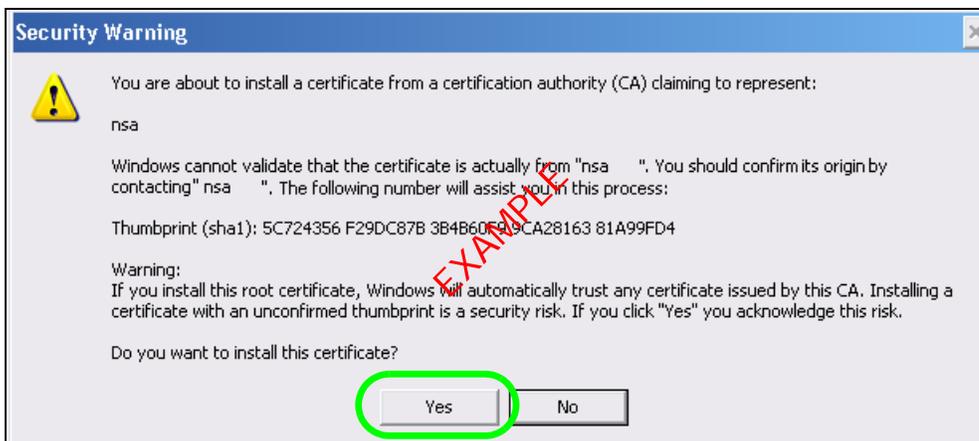
- 6 Leave **Automatically select certificate store based on the type of certificate** selected and click **Next**.



- 7 In the **Completing the Certificate Import Wizard** screen, click **Finish**.



- 8 If you are presented with another **Security Warning**, click **Yes**.



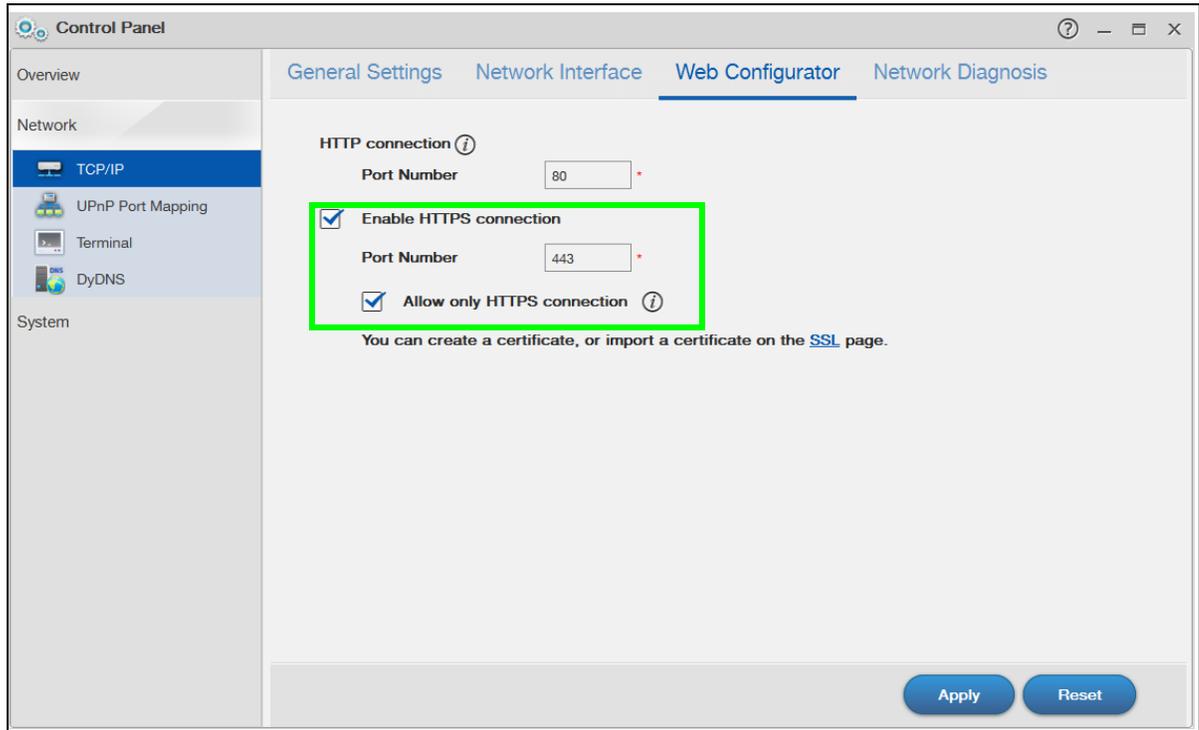
- 9 Finally, click **OK** when presented with the successful certificate installation message.



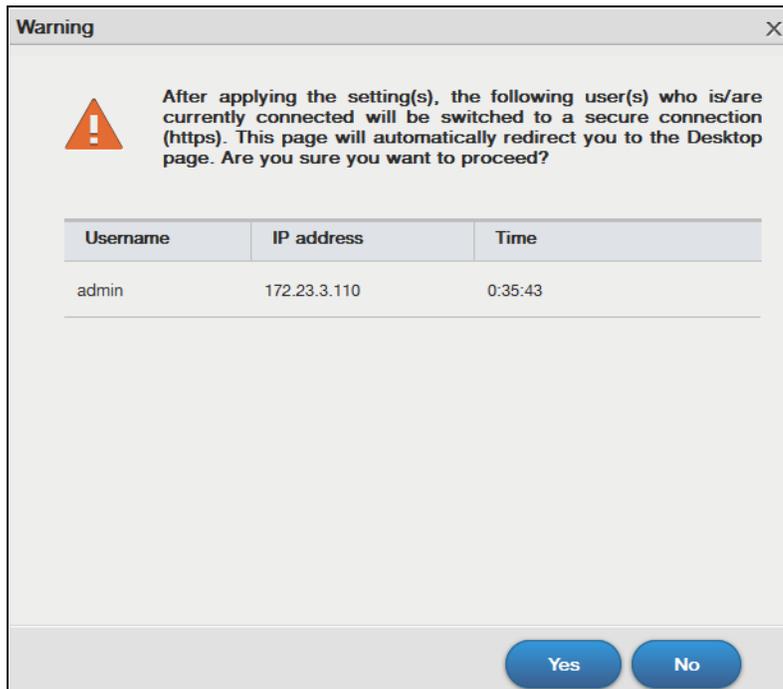
14.11.3 Turn on the NAS's Web Security

Now that you have customized the NAS's certificate and installed it in your computer, you can turn on security for your Web Configurator sessions. This example uses Firefox 3.0.

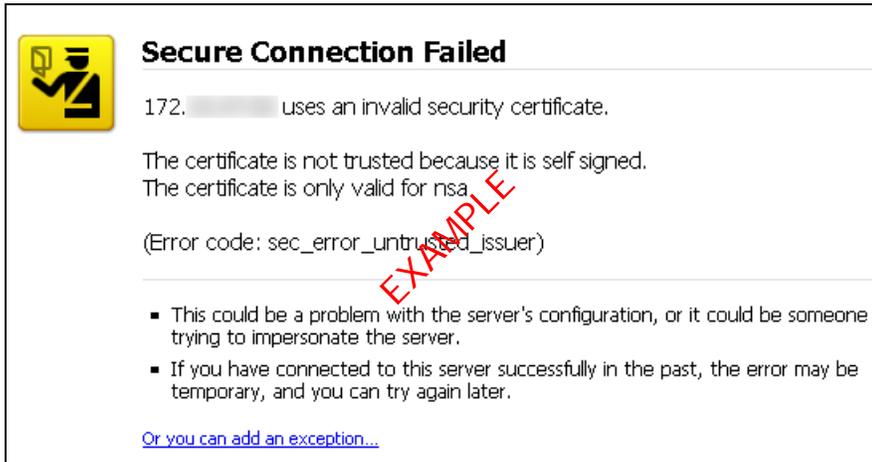
- 1 Close your web browser and open it again to reset its session with the NAS. Log in and click **Control Panel > TCP/IP > Web Configurator**. Select **Enable HTTPS connection** and click **Apply**.



- 2 A warning screen pops up if applying your change may disconnect some users. Click **Yes** to continue.



- The NAS logs you out and automatically redirects your formerly non-secure (HTTP) connection to a secure (HTTPS) connection. Your browser may give you a warning about the device's public key certificate. Add an exception to allow your browser to bypass the warning.



Secure Connection Failed

172. [redacted] uses an invalid security certificate.

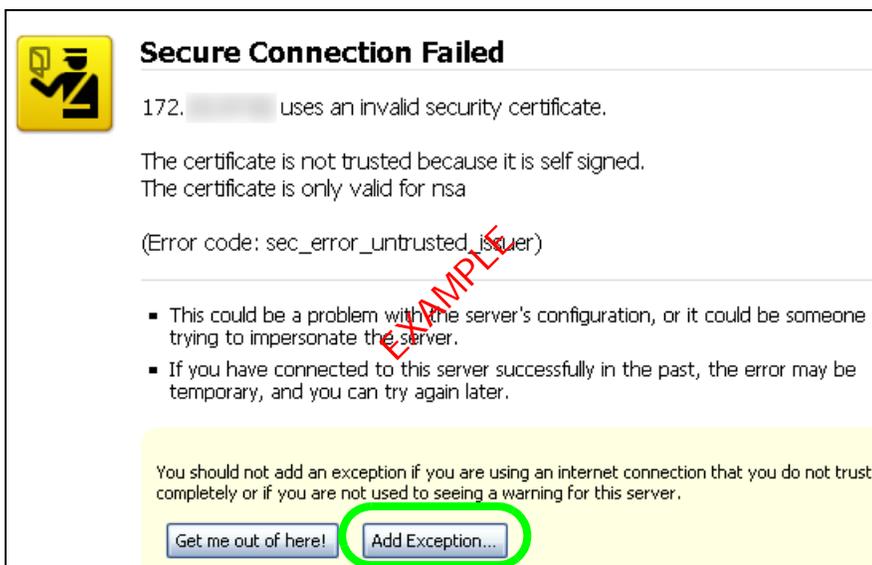
The certificate is not trusted because it is self signed.
The certificate is only valid for nsa

(Error code: sec_error_untrusted_issuer)

- This could be a problem with the server's configuration, or it could be someone trying to impersonate the server.
- If you have connected to this server successfully in the past, the error may be temporary, and you can try again later.

[Or you can add an exception...](#)

- Click **Add Exception**.



Secure Connection Failed

172. [redacted] uses an invalid security certificate.

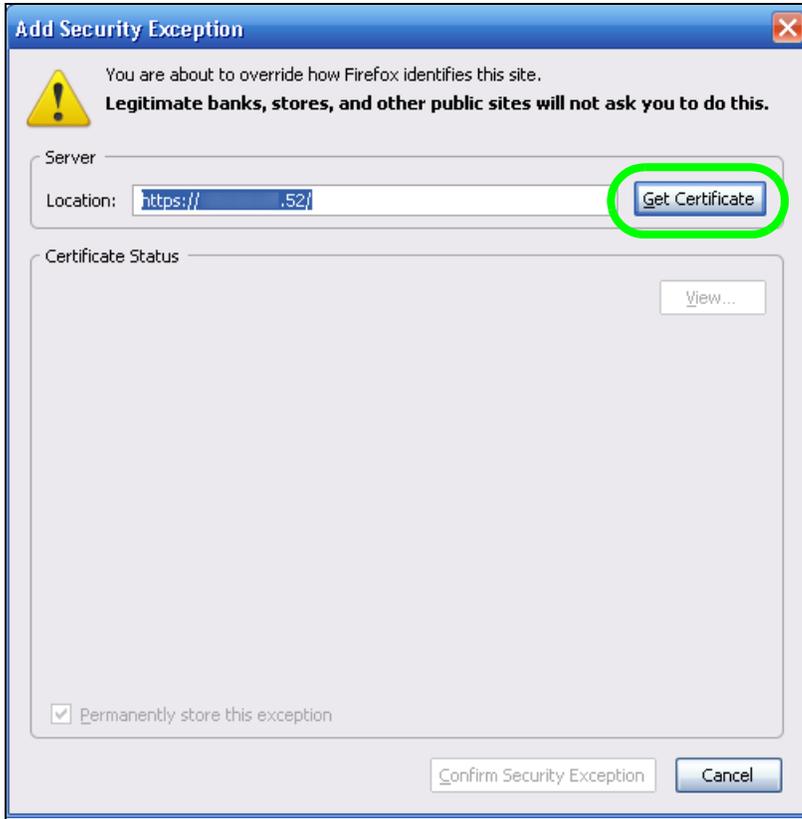
The certificate is not trusted because it is self signed.
The certificate is only valid for nsa

(Error code: sec_error_untrusted_issuer)

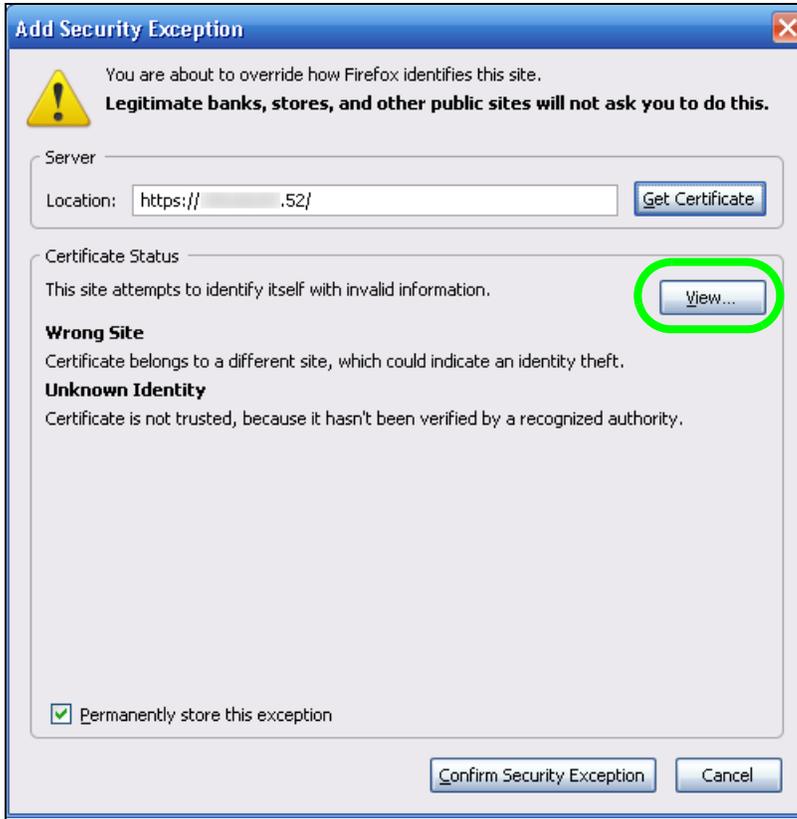
- This could be a problem with the server's configuration, or it could be someone trying to impersonate the server.
- If you have connected to this server successfully in the past, the error may be temporary, and you can try again later.

You should not add an exception if you are using an internet connection that you do not trust completely or if you are not used to seeing a warning for this server.

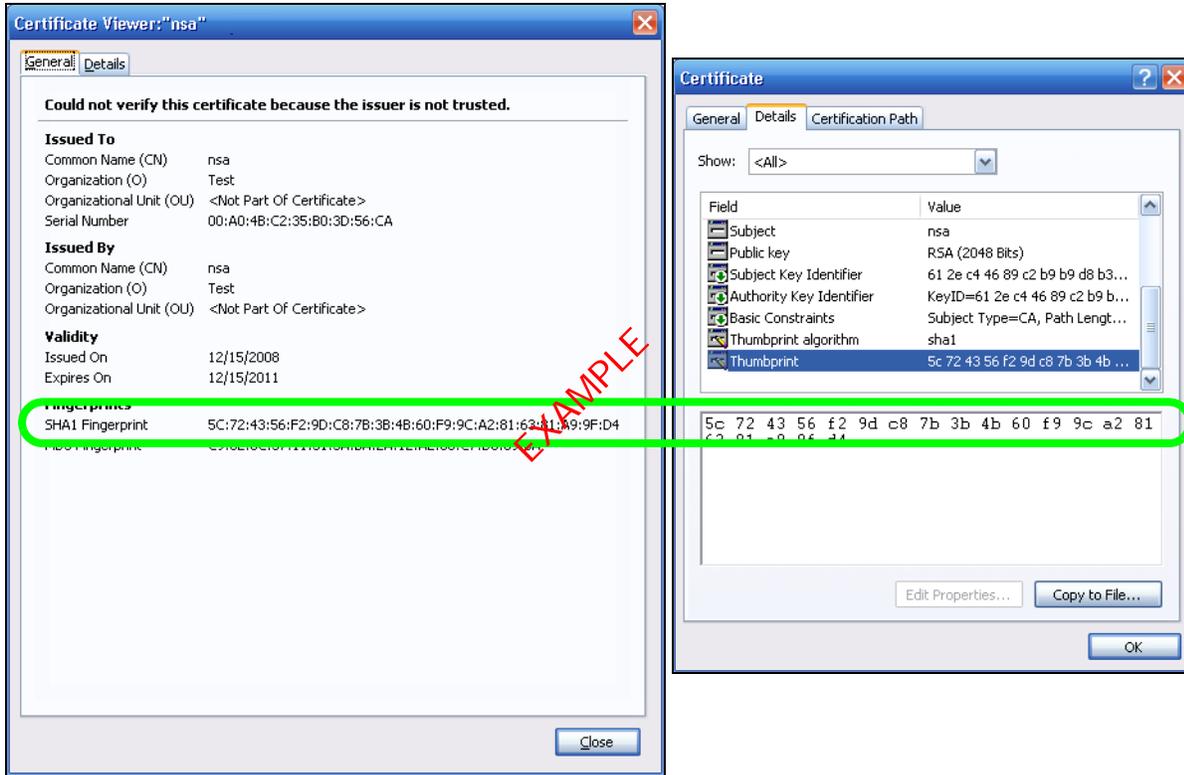
- Click **Get Certificate**.



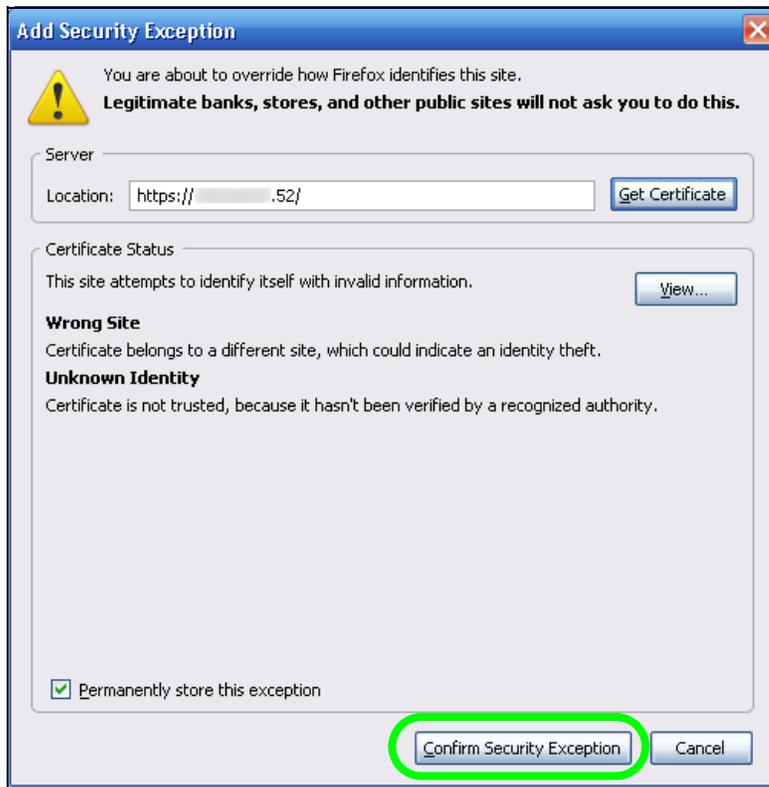
- 6 Before you add an exception, verify that the device to which you are trying to connect is providing the correct certificate. Click **View**.



- 7 The SHA1 fingerprint must match the NAS's certificate you downloaded from the NAS to your computer. (Double-click the NAS's certificate file and then click **Details** and look at the **Thumbprint**). Click **Close**.



- 8 If the certificate fingerprints match, click **Confirm Security Exception**, otherwise click **Cancel**.



- 9 The login screen displays.

The login screen features two input fields: the top one is preceded by a person icon and the bottom one by a key icon. To the right of the bottom field is a blue circular button with a white arrow pointing right. Below the input fields is a checkbox labeled 'Keep me logged in'.

Now, anyone who connects to the NAS's Web Configurator screens will automatically do so by HTTPS. Use a secure method to let your users know the correct fingerprint for the NAS's certificate so they can check it before adding a security exception (as in steps 6 to 7 on pages 185 to 186). See the next section for how to use FTPES with the NAS for secure FTP transfers.

14.12 Using FTPES to Connect to the NAS

This section covers how to use FTP over Explicit TLS/SSL with the NAS for secure FTP transfers. Before you go through this section, read [Section 14.11 on page 177](#) to configure HTTPS. This example uses FileZilla.

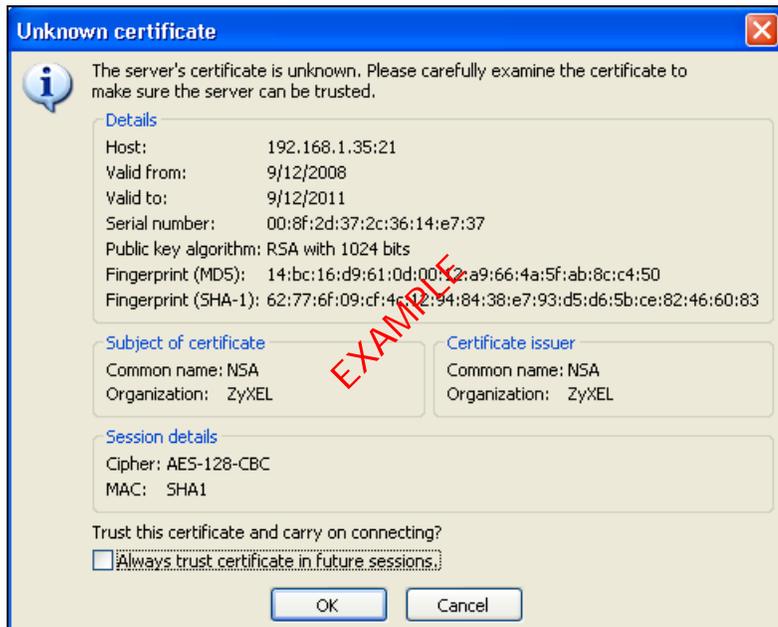
- 1 Open FileZilla and click **File > Site Manager > New Site**.
 - Configure the **Host** field with the NAS's address.
 - Set the **Servertype** to **FTPES - FTP over explicit TLS/SSL**.
 - Configure the account name and password.
 - Click **Connect**.

The screenshot shows the 'Site Manager' dialog box with the 'General' tab selected. On the left, under 'Select Entry:', there is a tree view with 'My Sites' and 'New site'. Below this are buttons for 'New Site', 'New Folder', 'Rename', 'Delete', and 'Copy'. The main configuration area includes:

- Host: 192.168.1.35
- Port: 21
- Servertype: FTPES - FTP over explicit TLS/SSL (dropdown)
- Logontype: Normal (dropdown)
- User: Gonzo
- Password: [masked]
- Account: [empty]
- Comments: [text area]

 At the bottom are 'Connect', 'OK', and 'Discard' buttons.

- 2 A security warning screen displays. The SHA1 fingerprint must match the NAS's certificate you downloaded from the NAS to your computer. (Double-click the NAS's certificate file and then click **Details** and look at the **Thumbprint**). If they match, click **OK**.



The shares and folders to which Gonzo has access display. Now you can use FTP to securely transfer files to or from the NAS. Use a secure method to let your users know the correct fingerprint for the NAS's certificate so they can check it before adding a security exception.

14.13 Using a Mac to Access the NAS

This tutorial shows you how to find the NAS on Mac OS X 10.5 (Leopard).

You can access the NAS in two ways:

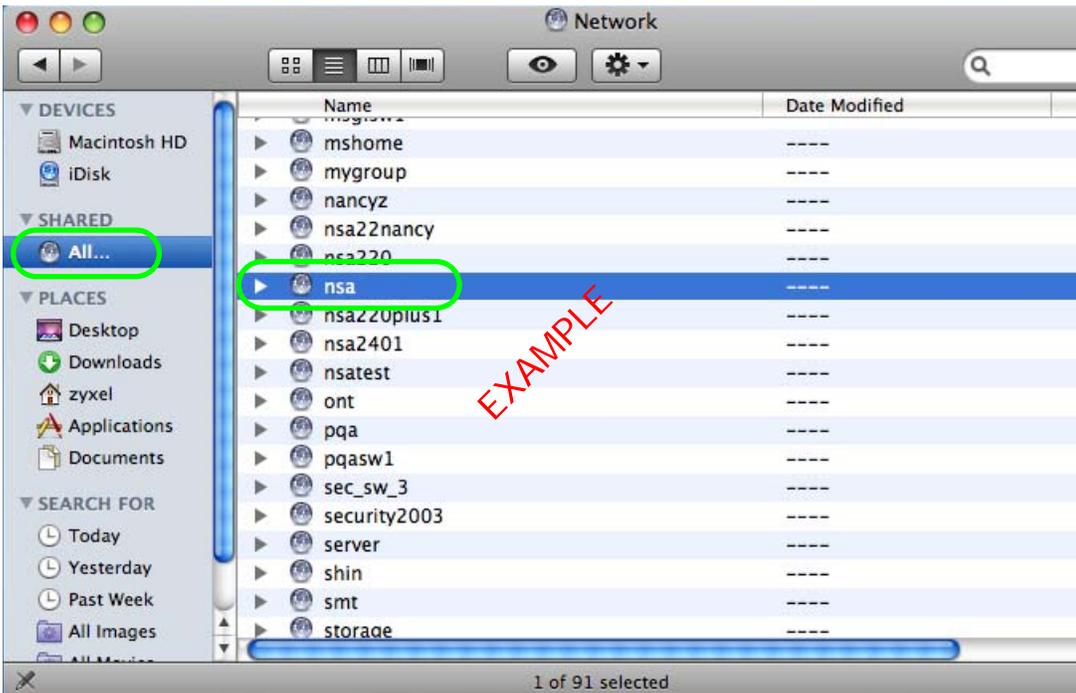
- Use the **Finder** to browse for the NAS, or
- Use the **Finder > Go** option to connect to the NAS.

14.13.1 Finder

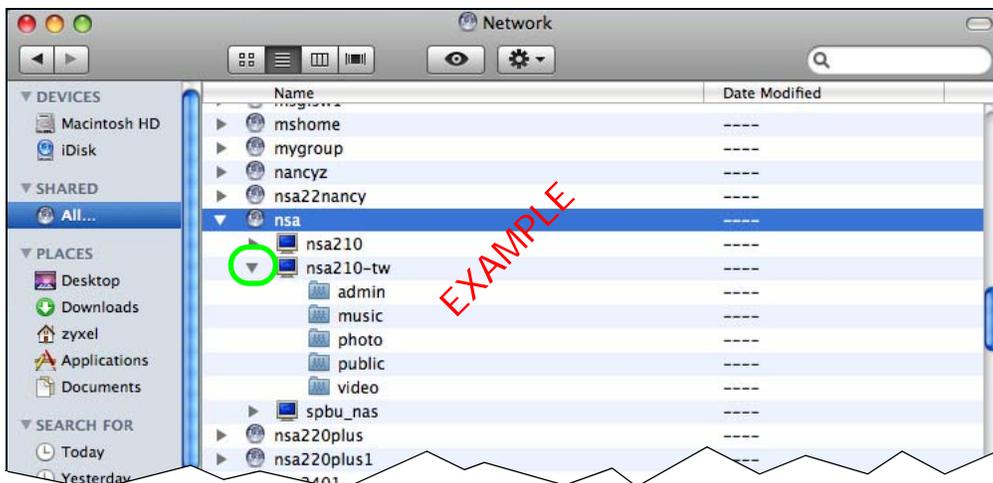
- 1 Open a new **Finder** window.



- 2 Select **All** under the **SHARED** sidebar. Look for the NAS from the **Network** list.

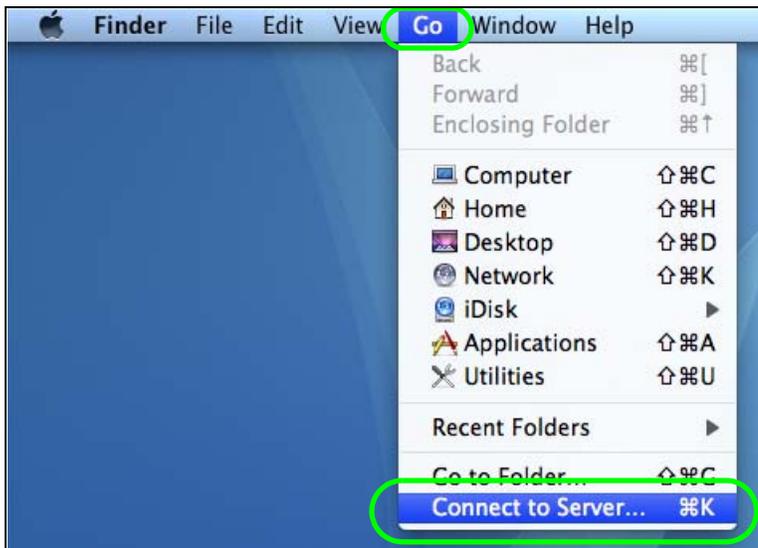


- 3 Expand the NAS to display the shares you may access.

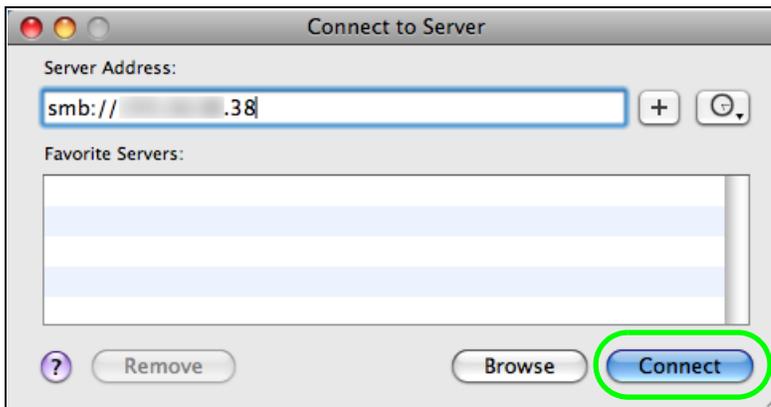


14.13.2 Go Menu

- 4 In the **Finder**, click **Go > Connect to Server**.



- 5 When the **Connect to Server** dialog box opens, enter `smb://` and the NAS's IP address in the **Server Address** field. You may also click **Browse** to have the Mac search for the NAS. Click **Connect**.



- 6 Once you establish the connection, you can access the NAS from the **Finder** or directly from the desktop.

14.14 How to Use the BackupPlanner

Note: The screens and links in this section appear only after you have installed and enabled BackupPlanner. BackupPlanner is an application that you can install using Package Management (see [Chapter 18 on page 246](#).)

Use the NAS's BackupPlanner to have a backup of your files and folders.

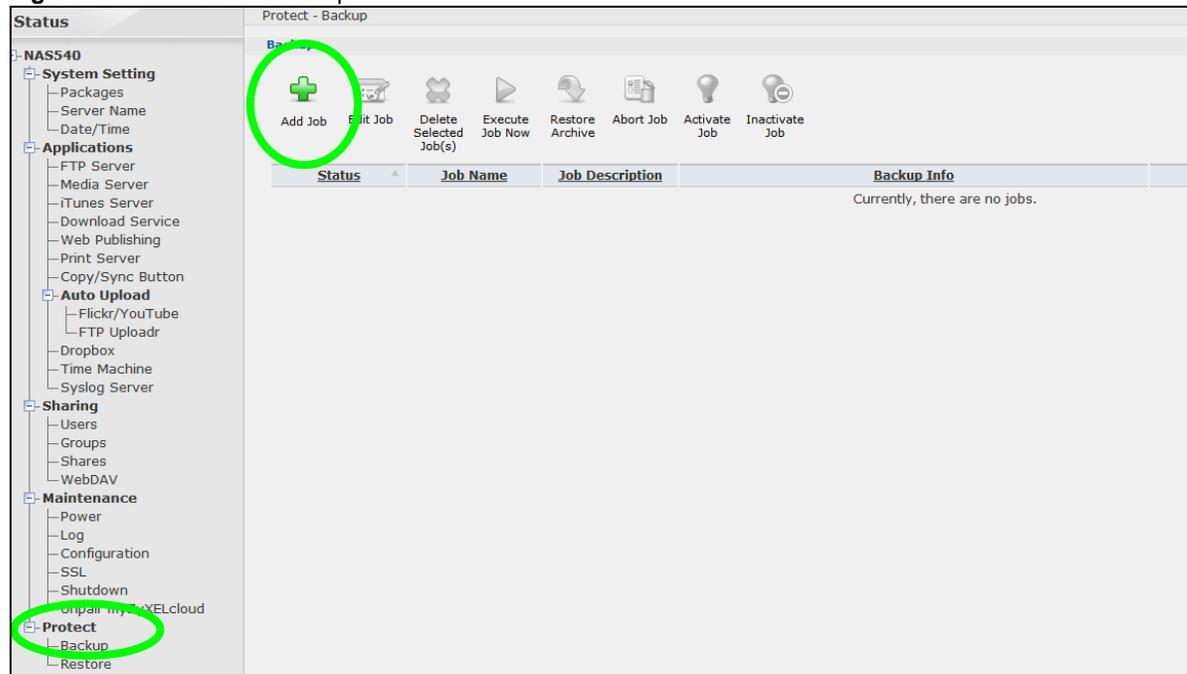
Schedule backups for times when the network is not busy (like at night or on weekends). For example, you might do daily backups of important individual files or folders and a weekly general archive. You can save backups to another location so your files can survive even if the original RAID or NAS fails.

14.14.1 Creating an Archive Backup

To backup the NAS every week to a remote NAS:

- 1 Click **Protect > Backup > Add Job**.

Figure 93 Protect > Backup



- 2 Identify the backup job and select **Archive**.

New files are often added to the shares that you need to back up and existing files are not frequently changed so select **Incremental**. The NAS does a full backup first and later only copies source files that are new and/or modified since the last backup. This example sets the NAS to do another full backup after every four incremental backups.

Figure 94 Protect > Backup > Add Job: Step 1

The screenshot shows the 'Add a new backup Job' form, Step 1. It includes the following fields and options:

- Job Information:** Job Name: Weekly-backup; Job Description: (empty text area)
- Backup Type:**
 - Archive
 - Full
 - Incremental

Perform a full backup job after 4 increments.
 - Synchronization
 - Rsync

- 3 Select the **volume1** check box to select all the folders and files.
 Select **Remote** and enter the other NAS's address, username, password, and share name.
 If you want to make sure the remote NAS is reachable, click **Test Connection**.

Figure 95 Protect > Backup > Add Job: Step 2

Step 2

Backup Source

Volume1

Volume1

video

photo

music

admin

Selected Source Folders

Volume1/

Backup Target

Remote

Remote NSA Address: 192.168.3.2

Username: admin

Password: ****

Share Name: backup

Test Connection

Local

External

Previous Next

- 4 In this example, the target NAS is on the LAN so leave the compression off.
 Security is already configured on the target NAS so you can leave the encryption off, too.
 Have the NAS keep 3 backups.

Figure 96 Protect > Backup > Add Job: Step 3

Step 3

Compression

Yes

No

Encryption

Yes

No

Purge Policy

Keep All Old Backup files

Keep Only the last 3 backup files

Keep Backups For [] day(s)

- 5 Set the frequency to **Weekly**. Schedule the backup for 5:00 every Saturday morning.

Protect > Backup > Add Job: Step 4

Step 4

Scheduler

Backup Frequency: Weekly

Start Time (hh:mm): 5:00

Every how many weeks? 1 (1-52)

on every Sunday Monday Tuesday Wednesday Thursday Friday Saturday

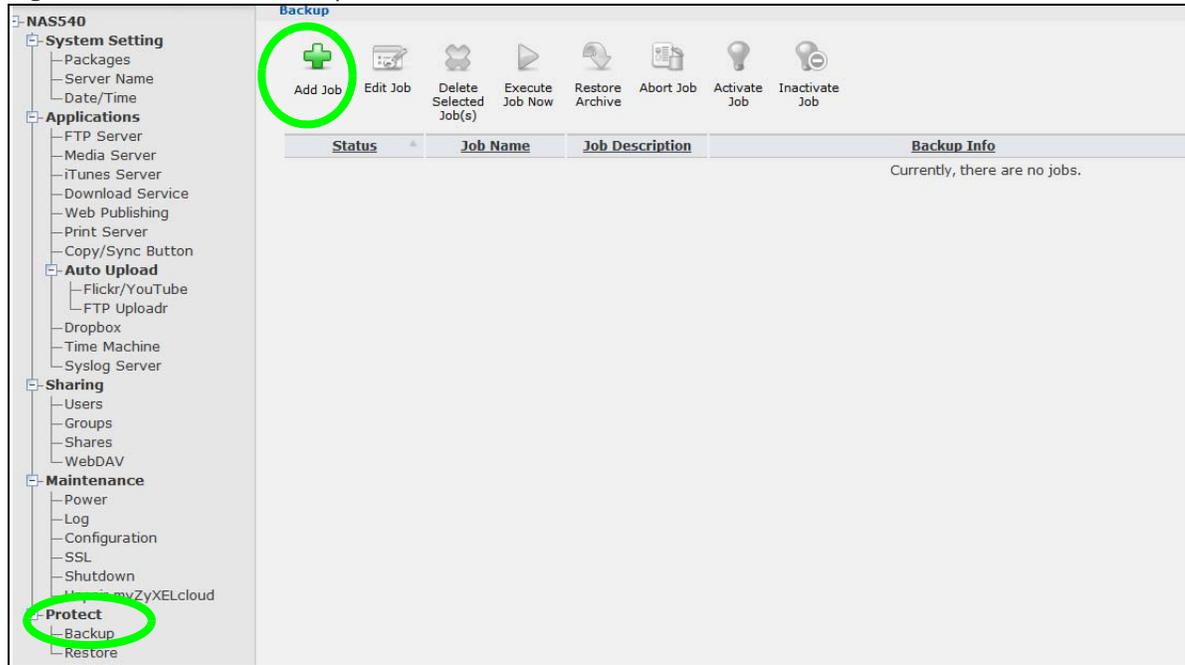
Previous Done

14.14.2 Creating a Synchronization Backup

To create a synchronization backup:

- 1 Click **Protect > Backup > Add Job**.

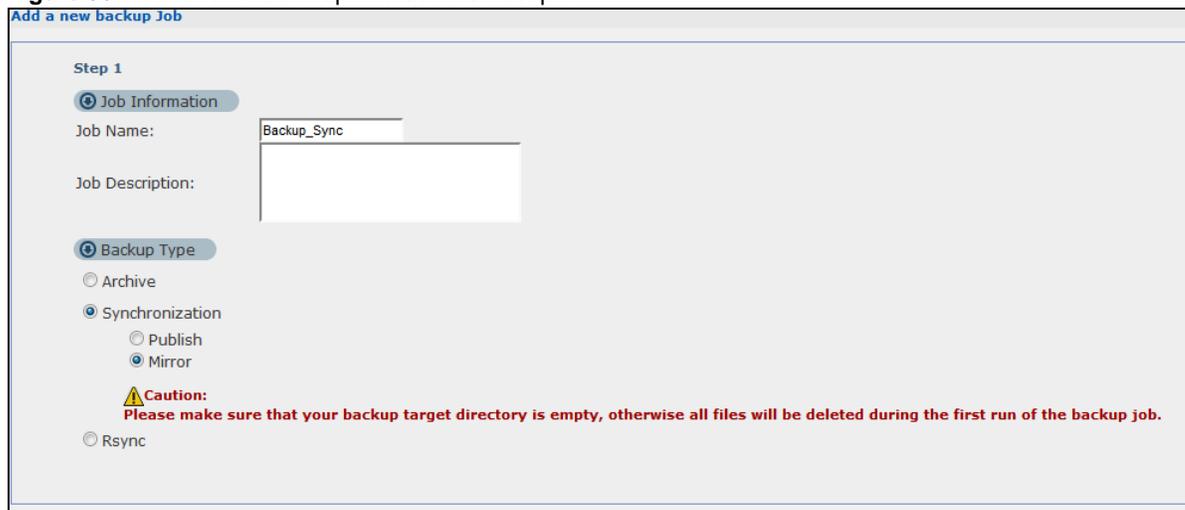
Figure 97 Protect > Backup



Name the backup job and select **Synchronization**.

You want only your current set of files in the Backup Photo folder of your External storage, so you select **Mirror** to make the target folder identical to the source folder. The NAS deletes any other files in the target folder.

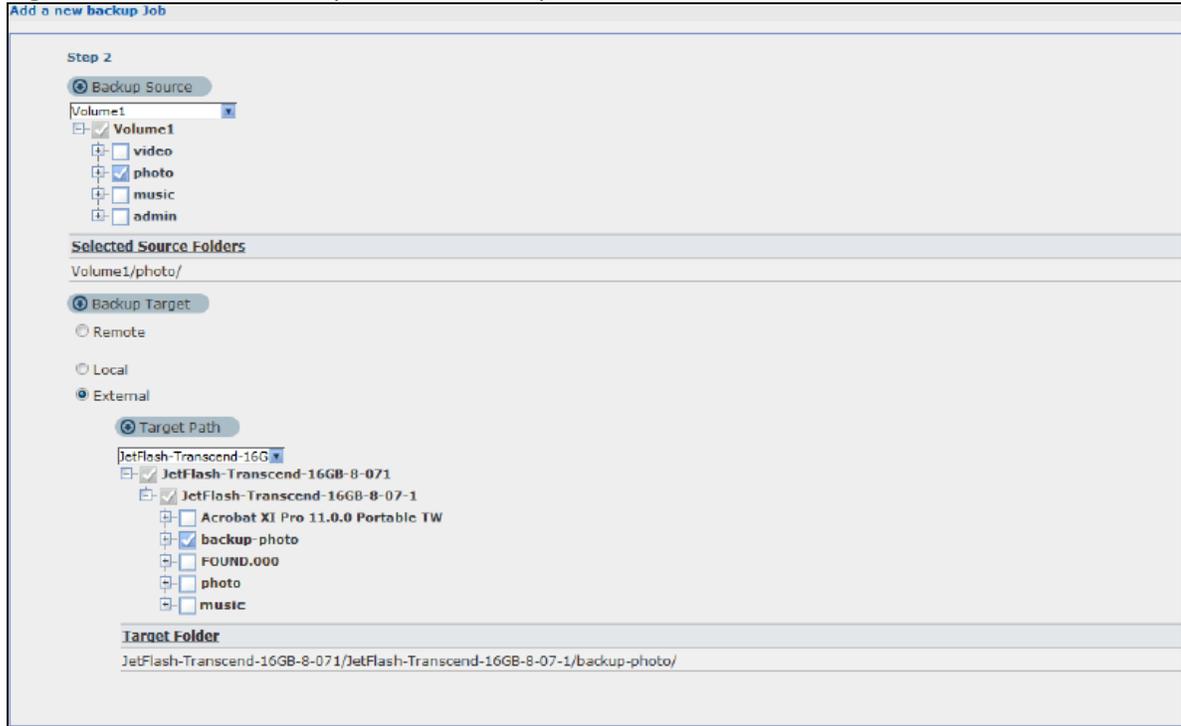
Figure 98 Protect > Backup > Add Job: Step 1



- 2 Select the folder that needs to be mirrored (your **Photo** folder in this example) and **External**.

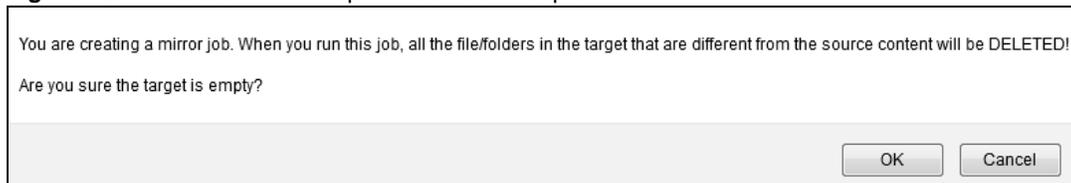
- Select the destination on the External (**Backup Photo** in this example).
- Click **Next**.

Figure 99 Protect > Backup > Add Job: Step 2



- 3 Click **OK** in the warning dialog box.

Figure 100 Protect > Backup > Add Job: Step 3



- 4 For this example, assume not many files need to be backed up so leave the compression off.
 - Turn on the encryption to protect these sensitive files during the transfer. The final files stored on the remote NAS will be unencrypted (usable).
 - Restrict the bandwidth usage to 256 KB/s to stop the archives from using all of your network connection's available bandwidth.
 - You don't have to configure a purge policy for a synchronization backup.
 - Click **Next**.

Figure 101 Protect > Backup > Add Job: Step 3

Step 3

Compression

Yes

No

Encryption

Use Encrypted Connection

Yes

No

Bandwidth

256 KB/s (0 : No Limit)

Purge Policy

Keep All Old Backup files

Keep Only the last backup files(1-30)

Keep Backups For day(s)(1-3650)

Previous Next

- Schedule the backup to occur every morning at 3:00 and click **Done**.

Figure 102 Protect > Backup > Add Job: Step 4

Step 4

Scheduler

Backup Frequency: Daily

Start Time (hh:mm): 3:00

Every how many days? 1

Previous Done

You do not need to use a special restore process to use the files a synchronization backup creates. The copy of files that the NAS creates on the other NAS's Backups share can be used directly by anyone with access to that share.

14.14.3 Restoring Archived Files by Backup Job

If you have backup jobs for which the NAS has already performed backups, you can restore the files based on the backup job. Do the following:

- Click **Protect > Backup** screen, select a backup job and click **Restore Archive**.

Figure 103 Protect > Backup

Backup

Add Job Edit Job Delete Selected Job(s) Execute Job Now **Restore Archive** Abort Job Activate Job Inactivate Job

| Status | Job Name | Job Description | Backup Info |
|---------|---------------|-----------------|---|
| WAITING | Weekly_backup | | Backup Type: Incremental Backup Source: /Volume1/ Backup Target: 192.168.3.2:Backups/ |

- 2 Select which backup to use and click **Next**.

Figure 104 Protect > Backup > Restore Archive: Step 1

Restore

Step 1. Select Restore Point

Job Information

| | |
|------------------------|---------------|
| Job Name: | Weekly_backup |
| Job Description: | |
| Backup Type: | incremental |
| Scheduler Information: | every week |

| | Restored Time |
|----------------------------------|---------------------|
| <input type="radio"/> | 2008-09-08 14:35:45 |
| <input checked="" type="radio"/> | 2008-09-08 14:37:28 |

Next

- 3 Select the files and folders you want to restore and click **Next**.

Figure 105 Protect > Backup > Restore Archive: Step 2

Restore

Step 2. Please select which file(s)/folder(s) to restore.

Folder Chooser

- /
- Gonzo

Selected Folder

| Folder Name |
|-------------|
| / |

Previous **Next**

- 4 Select the original location and click **Done**.

Figure 106 Protect > Backup > Restore Archive: Step 3

Restore

Step 3. Set a restore target and start restoring

Original Location
 Other Location

- The NAS restores the files into the share. When it finishes you can access the files.

Figure 107 Protect > Backup > Restore Archive: Progress

Progress

Job Name : test
 Target Path : original location [Volume: volume1]

Progress

100%

14.14.4 Restoring by Backup Files

If you deleted an archive backup job or the NAS or the RAID array containing the backup job failed you cannot restore archived files by the backup job. In this example, the NAS's RAID array failed. You've replaced the hard drives and re-configured the RAID. To restore by backup files:

- Click **Protect > Restore**. Specify where the archive files are located. In this example, enter "192.168.3.2" as the IP address, "admin" as the account name, "1234" as the password, and "Backups" as the share name. Click **Test Connection**. Click **Next**.

Figure 108 Protect > Restore: Step 1

Restore

Step 1. Select Restored Source

Remote NSA
 Internal or External Volume

IP Address:
 User:
 Password:
 Share Name:

Successfully connected to the Remote NSA.

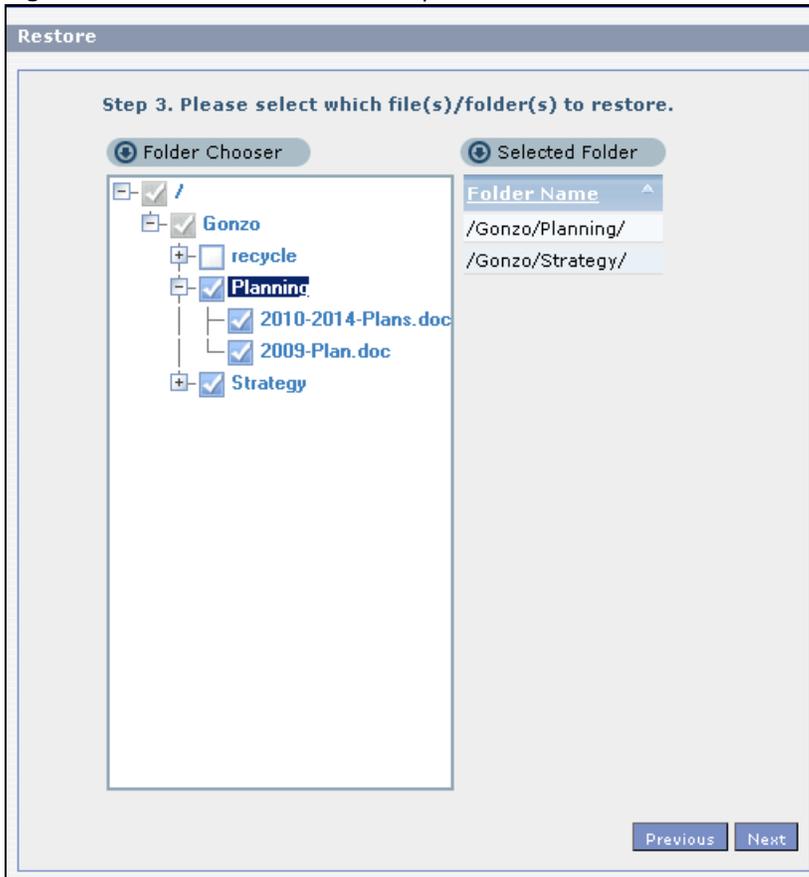
- 2 Select the backup job and backup time and click **Next**.

Figure 109 Protect > Restore: Step 2



- 3 Select everything in the share except the recycle folder. Click **Next**.

Figure 110 Protect > Restore: Step 3



- 4 Browse to the folder where you want to put the files. Click **Done**.

Figure 111 Protect > Restore: Step 4

Restore

Step 4. Set a restore target and start restoring

Path for restoring

[Browse ...](#)

Please input encryption password if you have set to this backup job

[Previous](#) [Done](#)

- 5 The NAS restores the files and you can use them again.

PART II

Technical Reference

Status Screen

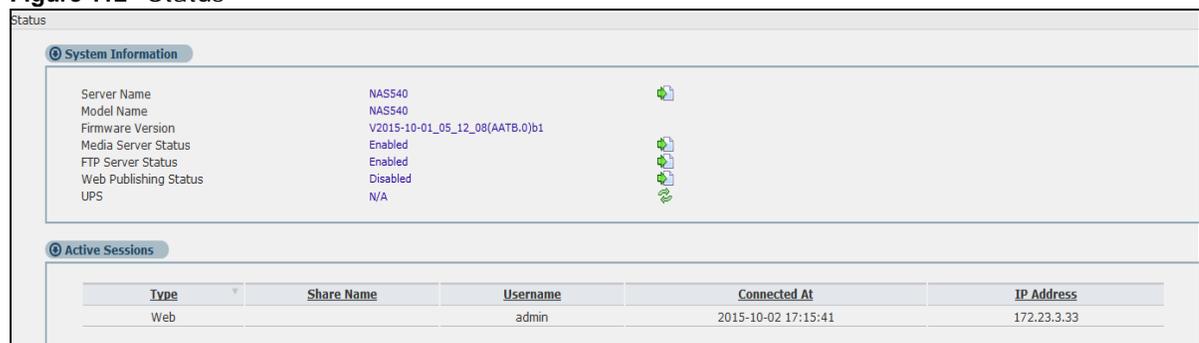
15.1 Overview

This chapter describes the **Status** screen, which is the first advanced administration screen that displays.

15.2 Status Screen

Click the **Administration** button in the **Desktop** screen ([Chapter 12 on page 139](#)) to open the Web Configurator. From within the Web Configurator screens, you can also click **Status** on the top-left of the navigation panel to display the status screen.

Figure 112 Status



The following table describes the labels in this screen.

Table 62 Status

| LABEL | DESCRIPTION |
|---------------------|---|
| Status | Click Status in the navigation panel to refresh the status screen statistics. |
| System Information | |
| Server Name | This displays the name which helps you find the NAS on the network. Click the Edit icon to go to the screen where you can configure this. |
| Model Name | This displays which model this NAS device is. |
| Firmware Version | This is the NAS firmware version. Click the Edit icon to go to the Maintenance > FW Upgrade screen from which you can upload/upgrade new firmware. |
| Media Server Status | This shows whether the media server function is enabled or disabled. It must be enabled for media clients to play content files stored on the NAS. Click the Edit icon to go to the screen where you can configure this. |
| FTP Server Status | This shows whether the FTP server function is enabled or disabled. It must be enabled to use FTP file transfer to/from the NAS. Click the edit icon to go to the screen where you can configure this. |

Table 62 Status (continued)

| LABEL | DESCRIPTION |
|-----------------------|---|
| Web Publishing Status | This shows whether the Web server function is enabled or disabled. It must be enabled to use HTTP to access shares on the NAS. Click the Edit icon to go to the screen where you can configure this. |
| UPS | This shows the Uninterruptible Power Supply (UPS) capacity. Click the Edit icon to go to the screen where you can configure this. |
| Active Sessions | This shows how many users are currently connected to the NAS. |
| Type | This shows whether it's a Windows/CIFS, web (web configurator), or FTP connection to the NAS. |
| Share Name | This displays the shared folder name on the NAS that the user is connected to for CIFS sessions and is blank for FTP and web sessions. |
| Username | This displays the name of the user connected to the NAS if one is defined. ANONYMOUS FTP displays if a username is not defined for the user's connection. |
| Connected At | This displays the date and time the user last connected to the NAS in year, month, day, hour, minute, second format. |
| IP Address | This displays the IP address of the computer connected to the NAS. |

System Setting

16.1 Overview

This chapter gives an overview of the various features included in the system setting screens. Upgrade the NAS firmware. Use package management to add more useful applications in your NAS. Identify your NAS on the network and set the time that the NAS follows for its scheduled tasks/logs.

16.2 What You Can Do

- Use the **Packages** screens ([Section 16.4 on page 207](#)) to upload new firmware and download and install applications from the web.
- Use the **Server Name** screen ([Section 16.5 on page 209](#)) to specify the NAS's server and workgroup names.
- Use the **Date/Time** screen ([Section 16.6 on page 210](#)) to set up date/time and choose a time zone for the NAS.

16.3 What You Need to Know

Package Management

This feature enables you to install and use the following applications.

- **Gallery** - This web-based application allows your NAS to host pictures. You can upload images in your local computer or shares to this application. Use the Gallery administrator account (default username admin, password 1234) to log into the Gallery console. There you can create accounts for other users.
- **NFS** - NFS (Network File System) is a file-sharing protocol most commonly implemented on Unix-like systems.
- **NZBGet** - This news grabber helps download files from UseNet.
- **PHP-MySQL-phpMyAdmin** - This tool can be used to manage MySQL through the web. Enter 'root' as the username and '1234' as the password to log in. This includes MySQL, PHP, and phpMyAdmin.
- **Logitech® Media Server** - This enables you to manage a Logitech's Squeezebox device connected to the NAS.
- **TFTP** - Use this to configure the NAS to accept log files from TFTP clients.
- **Transmission** - This Bit Torrent client supports adding tasks through torrent files and magnet links.

- **WordPress** - This allows you to create and manage a blog. Use the WordPress administrator account (default username admin, password 1234) to log in. You can then create accounts for other users.
- **pyLoad** - Use this to have the NAS manage your downloads including those from one-click hosting sites. One-click hosting sites allow Internet users to easily upload files to the one-click host's server so others can download them.
- **Memopal** - Use this to back up files on the NAS to your Memopal online backup and storage account.
- **ownCloud** - Use this to store, synchronize, and share files, photos, calendars, and more with computers and mobile devices.
- **myZyXELcloud-Agent** - Use this to go to mycloud.zyxel.com to set up a free DDNS hostname for the NAS so you can connect to it easily from the Internet.

The following applications come with their own configuration screens and documentation:

- Gallery
- NZBGet
- PHP-MySQL-phpMyAdmin
- Logitech® Media Server
- Transmission
- WordPress
- myZyXELcloud-Agent
- ownCloud

Windows/CIFS

Common Internet File System (CIFS) is a standard protocol supported by most operating systems in order to share files across the network.

- CIFS is included by default in Windows operating systems.
- You can use Samba with Linux to use CIFS.
- CIFS transfers use security.

Time Lag

Time lag occurs when the time on the NAS falls behind the time on the time server. This may happen if:

- the time server is no longer reachable
- if the NAS is shut down often (the NAS internal battery keeps time when the NAS is shut down and this may cause possible variance)
- power surges occur.

The NAS gives no warning if time lag occurs. You should resynchronize the time after a power surge or after you have shut down the NAS several times.

16.4 Package Management Screen

Use this screen to download and install applications from the web. See [Chapter 18 on page 246](#) for more about the features you can add to the NAS by installing packages.

Click **System Setting > Packages** to open the following screen.

Figure 113 System Setting > Packages

| Status | Package Name | Requires | Version | Description | Management Page |
|----------|------------------------|----------------------|----------------|--|--|
| Enabled | Gallery | PHP-MySQL-phpMyAdmin | 3.0.9zypkg003 | This web-based application allows your NAS to host pictures. Use the NAS administrator credentials to log in. The administrator can then create accounts for other users. | http://172.23.3.100:5000/pka/gallery/ https://172.23.3.100:5001/pka/gallery/ |
| Built-in | GoogleDriveClient | | 0.4.0zypkg002 | This offers service of 2-way synchronization between NAS and Google Drive. | Applications > GoogleDriveClient |
| Enabled | Logitech® Media Server | PHP-MySQL-phpMyAdmin | 7.7.4zypkg004 | This enables you to manage a Logitech's Squeezebox device connected to the NAS. | http://172.23.3.100:9000 |
| Built-in | Memopal | | 2.4.4zypkg004 | Memopal is online backup and online storage software that archives your files in real-time to a remote server. | Applications > Memopal |
| Built-in | NFS | | 1.3.0zypkg003 | NFS (Network File System) is a file-sharing protocol most commonly implemented on Unix-like systems. | Network > NFS |
| Enabled | NZBGet | | 15.0zypkg004 | This package downloads .nzb file from Usenet. Default username:nzbget password:1234 | http://172.23.3.100:6789/ |
| Enabled | PHP-MySQL-phpMyAdmin | | 1.0zypkg004 | This tool can be used to manage MySQL through the web. Enter 'root' as the username and '1234' as the password to log in. | http://172.23.3.100:5000/pka/phpmyadmin/ https://172.23.3.100:5001/pka/phpmyadmin/ |
| Built-in | Tftp | | 0.7zypkg003 | Trivial File Transfer Protocol (TFTP) is an Internet file transfer protocol that uses port number 69. It is similar to FTP but uses UDP (User Datagram Protocol) rather than TCP (Transmission Control Protocol). It cannot list directories nor authenticate users. | Applications > TFTP Server |
| Enabled | Transmission | | 2.84zypkg004 | This package is another P2P download client which supports torrent and magnet. | http://172.23.3.100:9091 |
| Enabled | WordPress | PHP-MySQL-phpMyAdmin | 3.9.1zypkg003 | This allows you to create and manage a blog. Use the NAS administrator credentials to log in. The administrator can then create accounts for other users. | http://172.23.3.100:5000/pka/WordPress/ https://172.23.3.100:5001/pka/WordPress/ |
| Enabled | myZyXELcloud-Agent | | 1.0.0zypkg0821 | myZyXELcloud, your solution for remote application management and securely access to your ZyXEL network devices accessory from anywhere that has an internet connection! | https://mycloud.zyxel.com |
| Enabled | ownCloud | PHP-MySQL-phpMyAdmin | 7.0.2zypkg003 | This allows you to create and manage your private cloud. | http://172.23.3.100:5000/pka/ownCloud/ https://172.23.3.100:5001/pka/ownCloud/ |
| Built-in | pyLoad | | 0.4.9zypkg005 | Have the NAS manage your downloads including those from one-click-hosting sites. | Applications > pyLoad |

The following table describes the labels in this screen.

Table 63 System Setting > Packages

| LABEL | DESCRIPTION |
|-------------------------------|---|
| Package Management | |
| Retrieve List From Internet | Click this to retrieve a list of available packages from the ZyXEL website. |
| Install/Upgrade | Choose the item(s) on the list and click this to install the selected application(s) on your system or upgrade to the latest version if you have previously installed the application. |
| Uninstall/Cancel Installation | Choose the item(s) on the list and click this to uninstall the selected application(s) from your system or cancel their active download(s) or install process/es. This is only available if you have previously installed the package. |
| Enable | This option is only for non built-in packages. Choose the item(s) on the list and click this to enable the application(s) on your system. This is only available if you have previously installed the package. |
| Disable | This option is only for non built-in packages. Choose the item(s) on the list and click this to disable the application on your system. You have to enable the application again in order to use it. This is only available if you have previously installed the package. |
| Package Info | Select an item on the list and click this to display information about the package. See Section 16.4.1 on page 208 for more details. |

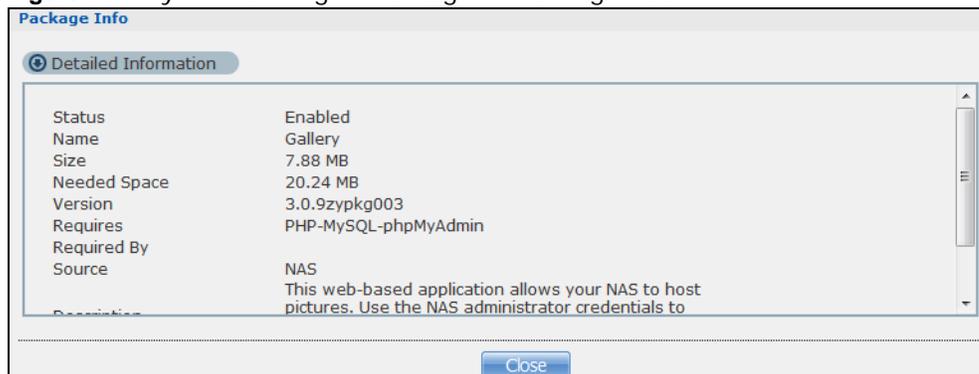
Table 63 System Setting > Packages

| LABEL | DESCRIPTION |
|-----------------|--|
| Status | This is the current status of the application. It shows: <ul style="list-style-type: none"> • Not Installed - This displays for applications that have not been installed by the NAS. • Installing (%) - This displays when the application is being installed. It also shows the percent of the package already installed. • Built-in - This displays for applications installed by the NAS that you can configure in the NAS Web Configurator. • Enabled - This displays for applications installed and enabled by the NAS that have their own web configurators. • Disabled - This displays for applications installed and disabled by the NAS that have their own web configurators. • Unknown - It is possible to get this status if the web location for the application is unavailable. |
| Package Name | This is the name of the application. |
| Requires | This shows the other packages required in order to run this application. Note: A package would be disabled/enabled simultaneously if its prerequisite package(s) has been disabled/enabled. For example, when you enable WordPress, this also enables PHP-MySQL-phpMyAdmin automatically. However when you enable PHP-MySQL-phpMyAdmin, this does not automatically enable WordPress. |
| Version | This is the version number of the item. The  icon indicates that the application has a newer version available. Move your mouse over this icon to see the latest version number. Choose this item and click Install/Upgrade . |
| Description | This shows a brief description of the application. |
| Management Page | This shows the location of the screens or web configurator where you can manage the application (after the package has been installed on the system). |

Note: Once you install an application and enable it, additional links show up in the navigation panel. This applies to **NFS**, **TFTP Server**, **pyLoad**, and **Memopal**. Access the **Gallery**, **NZBGet**, **PHP-MySQL-phpMyAdmin**, **Logitech® Media Server**, **Transmission**, **WordPress**, **OwnCloud**, and **myZyXELcloud-Agent** applications' web configurators through the **Package Management** screen.

16.4.1 Displaying the Package Information

Select an item on the list and click **Package Info**. Use this screen to check detailed information about the application.

Figure 114 System Setting > Packages > Package Info

The following table describes the labels in this screen.

Table 64 System Setting > Packages > Package Info

| LABEL | DESCRIPTION |
|-----------------|--|
| Status | This is the current status of the application. It shows: <ul style="list-style-type: none"> • Not Installed - This displays for applications that have not been installed by the NAS. • Installing (%) - This displays when the application is being installed. It also shows the percent of the package already installed. • Built-in - This displays for applications installed by the NAS that you can configure in the NAS Web Configurator. • Enabled - This displays for applications installed and enabled by the NAS that have their own web configurators. • Disabled - This displays for applications installed and disabled by the NAS that have their own web configurators. |
| Name | This is the name of the application. |
| Size | This is the size of the application at initial download. |
| Needed Space | This is the needed space to complete the installation of the application. |
| Version | This is the version number of the application. |
| Requires | This shows other package/s required to run this application. |
| Required By | This shows which other packages require this application in order to be usable. |
| Management Page | This shows the location of the screens, console or web configurator where you can manage the application (after the package has been installed on the system). |
| Source | This shows the location of the installed files of the application. |
| Description | This shows a brief description of the item. |
| Close | Click this to close the screen. |

16.5 Server Name Screen

Click **System Setting** > **Server Name** to open the following screen. Use this screen to configure your CIFS settings. In this screen you can set your server name and specify if your NAS is a part of a workgroup.

Note: CIFS cannot be disabled on the NAS.

Figure 115 System Setting > Server Name

System Setting - Server Name

Server Identification

Server Name:

Description:

Workgroup Name:

Prevent NAS From Being Master Browser

Note: Prevent NAS from being the Master Browser if computers on your network uses non-ascii character computer names.

The following table describes the labels in these screens.

Table 65 System Setting > Server Name

| LABEL | DESCRIPTION |
|---------------------------------------|---|
| Server Name | Enter a name to identify your NAS on the network in this field. You can enter up to 15 alphanumeric characters with minus signs allowed but not as the last character. The name must begin with an alphabet (a-z) and is NOT case sensitive. |
| Description | Add text here to describe the NAS if the Server Name field is not enough. Use up to 61 characters. You can use all characters except the following: \/: []<>+; ;?=*"~. |
| Workgroup Name | Type your workgroup name in this field. A workgroup is a group of computers on a network that can share files. These user accounts are maintained on the NAS. You can enter up to 15 alphanumeric characters with minus signs allowed but not as the last character. The name must begin with an alphabet (a-z) and is NOT case sensitive. |
| Prevent NAS From Being Master Browser | Select this option if computers in your workgroup are named with non-English characters (such as Chinese and Russian). When you perform a search in the workgroup, this option allows you to locate computers named with non-English characters. |
| Apply | Click this to save your changes. |
| Reset | Click this to restore previously saved settings. |

16.6 Date/Time Screen

Use this screen to select a time zone and a time server from which your NAS can get the time and date. This time is then used in NAS logs and alerts.

Click the **System Setting** link in the navigation panel and then click the **Date/Time** link to access the **Date/Time** screen.

Figure 116 System Setting > Date/Time

System Setting - Date/Time

Current System Date Time Setting

Current Time 13:51:21 +0800
Current Date 2015-8-28

Date Time Setup

Manual

New Date (yyyy-mm-dd) 2015-8-28

New Time (hh:mm:ss) 13 : 50 : 49

Get from Time Server

Time Server Address time.stdtime.gov.tw

Time Zone

Time Zone (GMT+08:00) Krasnoyarsk

Auto Daylight Saving

Manual Daylight Saving

Start Date January First Monday at 12 : 0

End Date January First Monday at 12 : 0

Offset 1 hours

The following table describes the labels in this screen.

Table 66 System Setting > Date/Time

| LABEL | DESCRIPTION |
|----------------------------------|---|
| Current System Date Time Setting | |
| Current Time | This field displays the time used by your NAS for its logs and alerts. |
| Current Date | This field displays the date used by your NAS for its logs and alerts. |
| Date Time Setup | |
| Manual | <p>Select this radio button to enter the time and date manually.</p> <p>When you enter the time settings manually, the NAS uses the new setting once you click Apply.</p> <p>Note: If you enter time settings manually, they revert to their defaults when power is lost.</p> |
| New Date (yyyy-mm-dd) | <p>This field displays the last updated date from the time server or the last date configured manually.</p> <p>When you set Time and Date Setup to Manual, enter the new date in this field and then click Apply.</p> |
| New Time (hh:mm:ss) | <p>This field displays the last updated time from the time server or the last time configured manually.</p> <p>When you set Time and Date Setup to Manual, enter the new time in this field and then click Apply.</p> |
| Get from Time Server | <p>Select this check box to have the NAS get the time and date from the time server you select in the Time Server Address field.</p> |
| Time Server Address | <p>Select a time server from the drop-down list box or select Specify my own time server and enter the time server you wish to use in the field below. Check with your ISP/network administrator if you are unsure of this information.</p> |
| Synchronize Now | <p>Click this for the NAS to retrieve the correct time from the configured time server right away.</p> |
| Time Zone | |
| Time Zone | <p>Choose the time zone of your location. This will set the time difference between your time zone and Greenwich Mean Time (GMT).</p> |
| Manual Daylight Saving | <p>Daylight saving is a period from late spring to fall when many countries set their clocks ahead of normal local time by one hour to give more daytime light in the evening.</p> <p>Select this option to manually enter Daylight Saving Time settings. Clear this option to have the NAS automatically retrieve Daylight Saving Time settings from the Internet. The NAS will download a new daylight saving resource file from the Internet every month.</p> |
| Start Date | <p>Configure the day and time when Daylight Saving Time starts if you selected Enable Daylight Saving. The hour field uses the 24 hour format. Here are a couple of examples:</p> <p>Daylight Saving Time starts in most parts of the United States on the second Sunday of March. Each time zone in the United States starts using Daylight Saving Time at 2 A.M. local time. So in the United States you would use March, Second, Sunday, at 2:00.</p> <p>Daylight Saving Time starts in the European Union on the last Sunday of March. All of the time zones in the European Union start using Daylight Saving Time at the same moment (1 A.M. GMT or UTC). So in the European Union you would select March, Last, Sunday. The time you specify depends on your time zone. In Germany for instance, you would type 2 because Germany's time zone is one hour ahead of GMT or UTC (GMT+1).</p> |

Table 66 System Setting > Date/Time (continued)

| LABEL | DESCRIPTION |
|----------|---|
| End Date | <p>Configure the day and time when Daylight Saving Time ends if you selected Enable Daylight Saving. The o'clock field uses the 24 hour format. Here are a couple of examples:</p> <p>Daylight Saving Time ends in the United States on the first Sunday of November. Each time zone in the United States stops using Daylight Saving Time at 2 A.M. local time. So in the United States you would select November, First, Sunday, at 2:00.</p> <p>Daylight Saving Time ends in the European Union on the last Sunday of October. All of the time zones in the European Union stop using Daylight Saving Time at the same moment (1 A.M. GMT or UTC). So in the European Union you would select October, Last, Sunday. The time you specify depends on your time zone. In Germany for instance, you would type 2 because Germany's time zone is one hour ahead of GMT or UTC (GMT+1).</p> |
| Offset | Specify by how many hours to change the time for Daylight Saving Time. |
| Apply | Click this to save your changes. If you configured a new time and date, Time Zone and Daylight Saving at the same time, all of the settings take affect. |
| Cancel | Click this to restore your previously saved settings. |

Applications

17.1 Overview

This chapter discusses the features in the **Application** screens. The NAS contains various applications for file sharing and downloading.

17.2 What You Can Do

- Use the **FTP Server** screen ([Section 17.4 on page 215](#)) to configure settings for FTP file transfers to/from the NAS.
- Use the **Media Server** screens ([Section 17.5 on page 216](#)) to share files with media clients.
- Use the **iTunes Server** screens ([Section 17.6 on page 218](#)) to share files with iTunes users on your network.
- Use the **Download Service** screen ([Section 17.7 on page 219](#)) to download files from the Internet.
- Use the **Web Publishing** screen ([Section 17.8 on page 230](#)) to publish shares for people to access files using a web browser.
- Use the **Print Server** screen ([Section 17.9 on page 231](#)) to share a printer.
- Use the **Copy/Sync Button** screen ([Section 17.10 on page 232](#)) to transfer files between a USB device and the NAS.
- Use the **Auto Upload** screens ([Chapter 19 on page 262](#)) to upload files in selected shares to your Flickr and/or YouTube accounts.
- Use the **Syslog Server** screen ([Section 17.12 on page 243](#)) to configure the NAS to accept syslog logs from syslog clients.
- Use the **Dropbox** screen ([Chapter 20 on page 274](#)) to log the NAS into your Dropbox account.
- Use the **Time Machine** screen ([Chapter 21 on page 278](#)) to turn Time Machine support on or off, and designate the share for Time Machine backups.

17.3 What You Need to Know

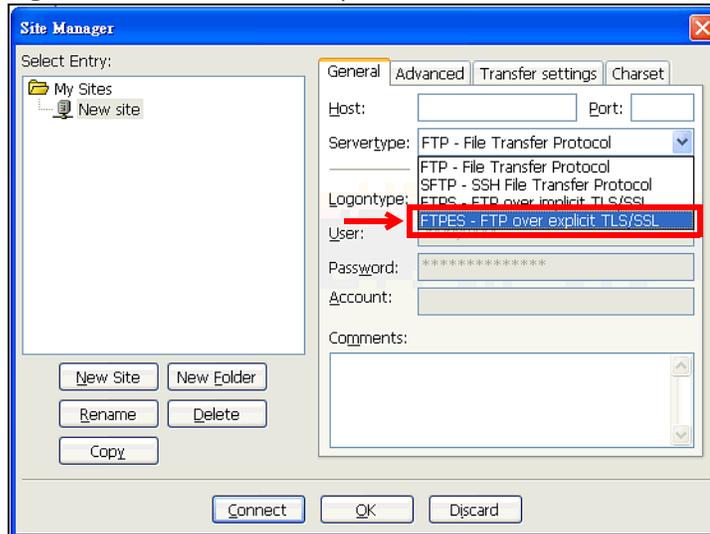
FTP

File Transfer Protocol (FTP) is a file transfer service that operates on the Internet. A system running the FTP server accepts commands from a system running an FTP client. FTP is not a secure protocol. Your file transfers could be subject to snooping.

FTPES (File Transfer Protocol over Explicit TLS/SSL)

File Transfer Protocol over Explicit TLS/SSL (FTPES) is a file transfer service that uses either TLS (Transport Layer Security) or SSL (Secure Sockets Layer) for secure transfers across the Internet. It requests for a mutual method of encryption from the FTP server for its file transfer sessions. Your FTP client must be set to use FTPES as in the following example.

Figure 117 FTP Client Example



Media Server

The media server feature lets anyone on your network play video, music, and photos from the NAS (without having to copy them to another computer). The NAS can function as a DLNA-compliant media server and/or an iTunes server. The NAS streams files to DLNA-compliant media clients or computers using iTunes. The Digital Living Network Alliance (DLNA) is a group of personal computer and electronics companies that works to make products compatible in a home network.

iTunes Server

The NAS iTunes server feature lets you use Apple's iTunes software on a computer to play music and video files stored on the NAS. You can download iTunes from www.apple.com.

Download Service

The NAS's download service downloads files from the Internet directly to the NAS. You do not have to download to your computer and then copy to the NAS. This can free up your computer's system resources.

The NAS can download using these protocols.

- HTTP: The standard protocol for web pages.
- FTP: A standard Internet file transfer service.
- P2P download: Peer-to-peer files sharing protocol.

Web Publishing

Web publishing lets you “publish” shares (containing folders and files) on the NAS so people can access the files using a web browser without having to log into the Web Configurator. This way you can share files with others without them having to know and enter a username and password.

For example, if you want to share photos in a FamilyPhotos share, you could “web publish” it and others could use a web browser to access the photos at <http://my-NAS's-IP-Address/MyWeb/FamilyPhotos>.

RSS

RSS (Really Simple Syndication) is a format for delivering frequently updated digital content. A channel uses a feed to deliver its contents (items). Subscribe the NAS to a feed to be able to download the contents.

17.4 FTP Server Screen

Use FTP or FTPES (FTP over Explicit TTL/SSL) to upload files to the NAS and download files from the NAS. Click **Applications > FTP Server** to open the following screen.

Figure 118 Applications > FTP Server

Applications - FTP Server

FTP

Enable FTP

Connection Limit

Idle Timeout minutes

Port Number

Enable Anonymous FTP Access

Customize the port range for data transfer.

Starting Port *

Ending Port *

Download/Upload Rate For All Users (include admin)

Max. Download Rate KB/s (0=No Limit)

Max. Upload Rate KB/s (0=No Limit)

Download/Upload Rate For Anonymous Users

Max. Download Rate KB/s (0=No Limit)

Max. Upload Rate KB/s (0=No Limit)

Note:
To configure a share to allow anonymous FTP access go to the configure shares page and modify a share's access rights to allow the user 'Anonymous FTP'.

Character Set

▼

Note:
The NAS uses UTF-8 format for FTP by default.
If the NAS's folders or file names do not display correctly in your FTP client, select the appropriate character set here.

The following table describes the labels in this screen.

Table 67 Applications > FTP Server

| LABEL | DESCRIPTION |
|--|--|
| FTP | |
| Enable FTP | You can use FTP to send files to the NAS or get files from the NAS. Select this check box to allow users to connect to the NAS via FTP; otherwise clear the check box. |
| Connection Limit | Enter the maximum number of concurrent FTP connections allowed on the NAS in this field. See your screen for your model's connection limit. |
| Idle Timeout | Enter the length of time that an FTP connection can be idle before timing out. The timeout limit is 300 minutes. |
| Port Number | This is the port number used by the NAS for FTP traffic. |
| Enable Anonymous FTP Access | Select this check box to allow any user to log into the NAS using 'FTP' or 'anonymous' as a username and no password. Any other name is considered a username, so must be valid and have a corresponding correct password. |
| Customize the port range for data transfer | Select this check box to assign a port range for FTP clients to use when downloading files from the NAS using passive mode. The connection limit is restricted to half of the port numbers within the range if this value is smaller than the one configured in the Connection Limit field. For example, you specified a port range from 1024 to 1029 and configured 10 in the Connection Limit field. The FTP connection limit will only be 3 (6 ports in the range divided by 2) because it is the smaller value. |
| Starting Port | Enter the first port number in the range. Choose from 1024 to 65535. |
| Ending Port | Enter the last port number in the range. Choose from 1024 to 65535. |
| Download/Upload Rate For All Users (include admin) | Select this if you want to limit the download/upload bandwidth for all users who are logged into the NAS, including the administrator. <ul style="list-style-type: none"> • Max. Download Rate - Enter the download speed (in kilobytes/s) that the NAS allows for users who are logged into the NAS. • Max. Upload Rate - Enter the upload speed (in kilobytes/s) that the NAS allows for users who are logged into the NAS. |
| Download/Upload Rate For Anonymous Users | Select this if you want to limit the download/upload bandwidth for users who log into the NAS using 'FTP' or 'anonymous' as a username and no password. <ul style="list-style-type: none"> • Max. Download Rate - Enter the download speed (in kilobytes/s) that the NAS allows for users who are logged into the NAS. • Max. Upload Rate - Enter the upload speed (in kilobytes/s) that the NAS allows for users who are logged into the NAS. |
| Character Set | The NAS uses UTF-8 (8-bit UCS/Unicode Transformation Format) format for FTP by default. If the NAS's folders, or file names do not display correctly in your FTP client, select the appropriate language encoding here. This setting applies to all FTP client connections to the NAS. It does not affect your Windows/CIFS connections (it will not correct the character display in Windows Explorer). |
| Apply | Click this to save your changes. |
| Reset | Click this to restore your previously saved settings. |

17.5 Media Server Screens

The media server application allows you to share media files with media clients.

Click **Applications > Media Server** to open the following screen. Use this screen to view the media server's status and rebuild the media server database.

Figure 119 Applications > Media Server > Media Server



The following table describes the labels in this screen.

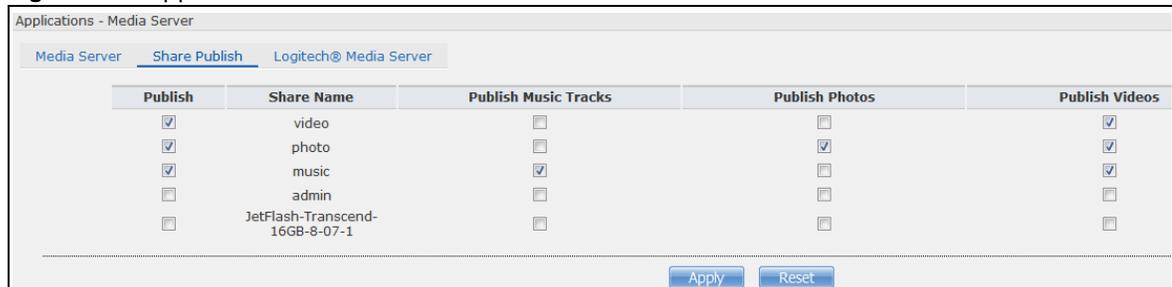
Table 68 Applications > Media Server > Media Server

| LABEL | DESCRIPTION |
|----------------------------|---|
| Enable Twonky Media Server | Select this to have the NAS share the media files in the shares selected in the Share Publish tab. Clear it to stop the NAS from sharing media files through the Playzone screens or media players. Click the hyper link to open the Twonky media server configuration screens to check media server status or modify media server settings. See the help center in the Twonky screens for details. |
| Apply | Click this to save your changes. |
| Reset | Click this to restore your previously saved settings. |

17.5.1 Media Server Share Publish Screen

Click **Applications > Media Server > Share Publish** to open the following screen. Use this screen to select shares to publish (share with media clients like a media player or iTunes).

Figure 120 Applications > Media Server > Share Publish



The following table describes the labels in this screen.

Table 69 Applications > Media Server > Share Publish

| LABEL | DESCRIPTION |
|----------------------|--|
| Publish | Select this to have the media server share a share's media files with media clients. |
| Share Name | This column lists names of shares on the NAS. |
| Publish Music Tracks | Select this to give media clients access to the share's music files. |
| Publish Photos | Select this to give media clients access to the share's photo files. |
| Publish Videos | Select this to give media clients access to the share's video files. |

Table 69 Applications > Media Server > Share Publish

| LABEL | DESCRIPTION |
|-------|---|
| Apply | Click this to save your changes. |
| Reset | Click this to restore your previously saved settings. |

17.5.2 Media Server Logitech® Media Server Screen

Logitech® Media Server enables you to manage a Logitech Squeezebox device connected to the NAS.

Click **Applications > Media Server > Logitech® Media Server** to open the following screen. This screen is available when the Logitech® Media Server application is installed using Package Management (see [Section 17.5.2 on page 218](#)). Use this screen to turn the Logitech® Media Server application on or off.

Figure 121 Applications > Media Server > Logitech® Media Server

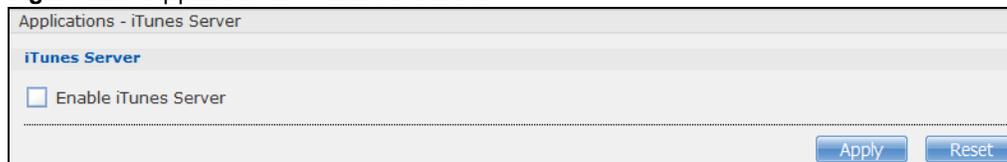
The following table describes the labels in this screen.

Table 70 Applications > Media Server > Logitech® Media Server

| LABEL | DESCRIPTION |
|-------------------------------|---|
| Enable Logitech® Media Server | Check this to enable Logitech® Media Server . Click the hyper link to open the Logitech media server screens where you can play files and change settings See the help center in the Logitech media server screens for details. |
| Apply | Click this to save your changes. |
| Reset | Click this to restore your previously saved settings. |

17.6 iTunes Server Screen

Click **Applications > iTunes Server** to open the following screen. Use this screen to turn the iTunes server on or off.

Figure 122 Applications > iTunes Server

The following table describes the labels in this screen.

Table 71 Applications > iTunes Server

| LABEL | DESCRIPTION |
|----------------------|--|
| Enable iTunes Server | Check this to let anyone on your network use iTunes to play music files in the published shares. |
| Apply | Click this to save your changes. |
| Reset | Click this to restore your previously saved settings. |

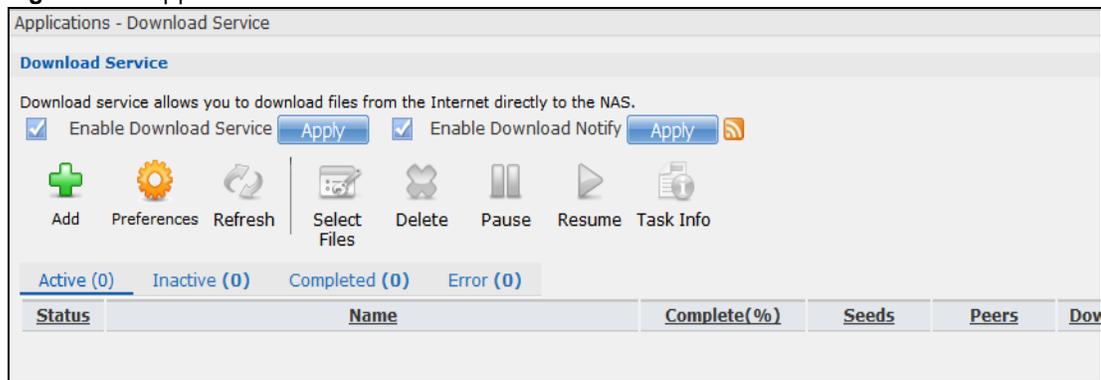
17.7 Download Service Screen

The **Download Service** screen allows you to download files from the Internet.

Click **Applications > Download Service** to open the following screen. Use this screen to manage the NAS's file downloads.

Note: By default, the NAS saves downloads in the **admin** share's **download** folder.

Figure 123 Applications > Download Service



The following table describes the labels in this screen.

Table 72 Applications > Download Service

| LABEL | DESCRIPTION |
|---|---|
| Enable Download Service | Use this option (and click the Apply button) to turn the download service off or on. If you turn off the service, all downloads are paused. Files currently downloading are queued. Turning on the download service resumes downloads (or restarts them if they are not able to resume). |
| Enable Download Notify | Use this option (and click the Apply button) to turn the download service notification off or on. See Section 17.11.3 on page 236 for more details about this feature. |
|  | At the time of writing, the NAS supports RSS 2.0 feeds. Click this to get and subscribe to the NAS channel feed. This enables you to keep track and download the NAS's new contents (items). |
| Add | After you find a file to download, copy the file's URL. Then log into the NAS web configurator and go to the Applications > Download Server screen and click this button. A screen opens where you create a new download task. You can paste the file's URL or use a P2P download file. |

Table 72 Applications > Download Service (continued)

| LABEL | DESCRIPTION |
|--|--|
| Preferences | Click this to open a screen where you can set the default location for saving downloads and configure your P2P download settings. |
| Refresh | Click this to update the information displayed on the screen. |
| Select Files | A single P2P download torrent file is often for multiple files. If you do not need all of the files the torrent file specifies, click this to select which files to download. |
| Delete | <p>To delete download tasks (or manually clear out completed download tasks), select a download task and click this to remove it from the list. A pop-up screen asks you to confirm. Click Apply to delete or Cancel to quit. When you delete a download task, you are given the option to delete the associated files. Selecting this option deletes a downloaded file and in the case of a P2P download task, also deletes the related .torrent file.</p> <p>Use your keyboard's [SHIFT] key to select a range of download tasks. Use the [CTRL] key and click individual download tasks to select multiple individual download tasks.</p> |
| Pause | <p>Select a downloading item and click this to temporarily stop the download. Paused downloads appear in the Download Service screen's Inactive tab.</p> <p>Use your keyboard's [SHIFT] key to select a range of download tasks. Use the [CTRL] key and click individual download tasks to select multiple individual download tasks.</p> |
| Resume | <p>Select a paused item and click this to continue downloading the file.</p> <p>Select a completed item and click this to re-seed a P2P file or download a file again. If you want to re-seed a P2P task, keep the P2P file and the completed file in their original locations.</p> |
| Task Info | <p>Select an item on the list and click this to display information about the download task. See Section 17.7.6 on page 229 for more details.</p> |
| The table lists your downloads. Click a column's heading to sort the entries by that criteria. | |
| Active | <p>Click this to see the list of files the NAS is currently downloading or sharing with other P2P users. The NAS handles a maximum of 10 active tasks at a time (or fewer depending on how much of the NAS's system memory is available). If you add more, they appear in the Inactive tab.</p> <p>P2P downloads may appear in the Inactive tab for a while before showing in the Downloading tab. The NAS automatically moves completed tasks to the Completed tab.</p> |
| Inactive | Click this to see the list of files that are queued (waiting in line) for the NAS to download or the downloads that have been manually paused. |
| Completed | <p>Click this to see the list of files that the NAS has finished downloading.</p> <p>The Location column shows where a downloaded file is saved on the NAS. Click on the location link to open the share browser and access the file.</p> |
| Error | Click this to see the list of files that the NAS was not able to download. The NAS automatically retries unsuccessful download attempts. The download displays in the error tab when the re-attempts are also unsuccessful and the NAS stops trying to download the file. To try the download again, use the Add button to create a new download task. |

Table 72 Applications > Download Service (continued)

| LABEL | DESCRIPTION |
|----------------|--|
| Status | <p>The following icons show the download's status.</p>  <p>Completed: The NAS has downloaded the whole file.</p> <p>Seeding: The download is finished and the NAS is allowing other P2P users to download it.</p> <p>Downloading: The NAS is getting the file.</p> <p>Queued: The download is waiting in line for the NAS to download it.</p> <p>Pause: The download has been manually stopped. Select it and click Resume to continue it.</p> <p>Error: The NAS was not able to complete the download. Select it and click Resume to reattempt the download.</p> |
| Name | This identifies the download file. A "... " indicates an abbreviated name. Hold your cursor over the name to display the full name. |
| Complete (%) | This is the percentage of the file that the NAS has downloaded. |
| Location | <p>This appears in the Completed tab.</p> <p>It displays the path for where the file is saved. Click on the location link to open the share browser and access the file.</p> |
| Seeds | <p>Seeds apply to P2P downloads. This is the number of computers that are sharing the complete file that you are downloading.</p> <p>This value is in the format "Leeches(Seeds)" where Leeches refer to peers that do not have a complete copy of the file yet and are still downloading; Seeds refer to peers that have the complete file.</p> |
| Peers | <p>Peers apply to P2P downloads. This is the number of other computers that are also downloading (and sharing) the file you are downloading.</p> <p>This value is in the format "ConnectedPeers(AllPeers)[Health]" where Connected Peers is the number of computers to which the NAS is connected in order to download the file; AllPeers refer to the total number of computers to which the NAS can connect in order to download the file; Health indicates the availability of the file.</p> |
| Download Speed | <p>This is how fast the NAS is getting the file.</p> <p>It is normal for a P2P download to start out with a slow download speed since it has to set up numerous connections. The speed should increase as the download progresses and decrease near the end of the download.</p> |
| Upload Speed | This is how fast the NAS is sending the file to other P2P users. |
| Time Left | This is how much longer (in hours, minutes, and seconds) it should take to finish the download at the current download speed. |
| Priority | This is the download's priority on the NAS. You can set a currently downloading or queued download to high or automatic priority. You can set a download to high priority to have the NAS try to download it before the other files. However the actual download speed depends more on factors like the speed of you Internet connection, the speed of the download source's Internet connection, how many others are trying to download at the same time, the peers and seeds available and general network conditions. |
| Error Code | <p>This appears in the Error tab.</p> <p>This shows the tag for the error that occurred.</p> |
| Error Message | <p>This appears in the Error tab.</p> <p>This message states what went wrong with the download.</p> |

17.7.1 Adding a Download Task

Click **Applications > Download Service > Add** to open the following screen. Use this screen to specify a file for the NAS to download. [Section 14.7 on page 162](#) provides a tutorial on adding a download task.

Figure 124 Applications > Download Service > Add

The following table describes the labels in this screen.

Table 73 Applications > Download Service > Add

| LABEL | DESCRIPTION |
|--------------|--|
| Source | |
| URL | <p>Paste the URL or magnet link of the file you want to download into this field. The URL can be for an HTTP, FTP, or P2P download. A magnet link is for a P2P download.</p> <p>For a P2P download using a magnet link the NAS automatically downloads the file related to the magnet link.</p> <p>For a P2P download using a .torrent file, you can copy and paste the URL of the .torrent file. The NAS will automatically download the .torrent file and use it. You do not have to manually download the .torrent file or save it to your computer.</p> <p>Note: Make sure the link opens either the file you want or a pop-up window about how to handle the file.</p> <p>It is also OK for the link to open a .torrent file. If you are redirected to a screen that says the download should start in a few seconds, there may be a link to click if the download does not start automatically. See if that link opens the file or the pop-up window.</p> |
| Torrent File | <p>A "torrent" file has information the NAS uses to do a P2P download. A torrent file uses a .torrent extension. If you already have a torrent file saved on your computer, select the Torrent File option and specify its path or click Browse and look for its location.</p> |

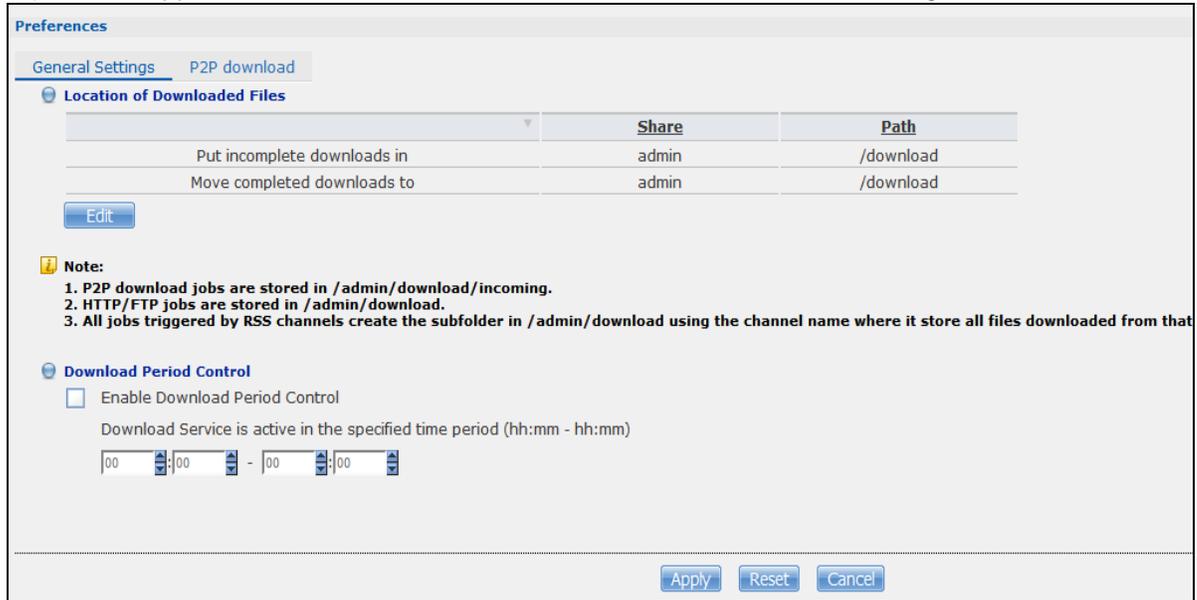
Table 73 Applications > Download Service > Add (continued)

| LABEL | DESCRIPTION | | | | | | | | |
|------------------------------|--|------|------|----|--|---|----------|---|----------|
| Location of Downloaded Files | <p>This shows where the NAS stores new downloads (Put incomplete downloads in) and where the NAS moves completed downloads (Move completed downloads to).</p> <p>The Share column shows the name of the share where the file is downloaded.</p> <p>The Path column points to the location in the share where the NAS will save the downloaded files.</p> <ul style="list-style-type: none"> • P2P download jobs are stored in /*/incoming (where '*' is a folder that you have set.) • HTTP/FTP jobs are stored in /* (where '*' is a folder that you have set.) • All jobs triggered by RSS channels create the subfolder in /* using the channel name where it store all files downloaded from that channel (where '*' is a folder that you have set.) | | | | | | | | |
| Edit | <p>Click this to open the following screen where you can set the default folder location where you "Put incomplete downloads in" and "Move complete downloads to":.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p style="text-align: center; color: #0070C0;">Edit Location of Downloaded Files</p> <p>Put incomplete downloads in</p> <p>Share: <input type="text" value="admin"/> ▼</p> <p>Path: <input type="text" value="/download"/> Browse ...</p> <p>Move completed downloads to</p> <p>Share: <input type="text" value="admin"/> ▼</p> <p>Path: <input type="text" value="/download"/> Browse ...</p> <p>Note : All downloaded files will be stored here.</p> <p style="text-align: center;">Apply Cancel</p> </div> <ul style="list-style-type: none"> • Share - Select the share from the list. • Path - Type the folder location in the share directly or click Browse to open the following screen and navigate to the file's location. <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p style="font-size: small;">Browse ...</p> <p style="font-size: x-small;">Current Location: / Folder Name: </p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="font-size: x-small;">Type</th> <th style="font-size: x-small;">Name</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">..</td> <td></td> </tr> <tr> <td style="text-align: center;">📁</td> <td>download</td> </tr> <tr> <td style="text-align: center;">📁</td> <td>firmware</td> </tr> </tbody> </table> </div> <ul style="list-style-type: none"> • Current Location - This is the location of the selected folder. • Folder Name - Enter a new folder name and click to create it. • Type - This identifies the item as a folder or file. • Name - This is the name of the folder/file. <p>Select a folder. If you don't select a folder, a forward slash (/) displays in the Path field. All contents within the specified share are automatically selected.</p> <p>Click Apply to save your settings and Cancel to close the screen.</p> | Type | Name | .. | | 📁 | download | 📁 | firmware |
| Type | Name | | | | | | | | |
| .. | | | | | | | | | |
| 📁 | download | | | | | | | | |
| 📁 | firmware | | | | | | | | |
| Apply | Click this to save your changes. | | | | | | | | |
| Cancel | Click this to return to the previous screen without saving. | | | | | | | | |

17.7.2 Configuring General Download Settings

Click **Applications > Download Service > Preferences** to open the following screen. Use this screen to set the default location for saving downloads and configure the download period.

Figure 125 Applications > Download Service > Preferences > General Settings

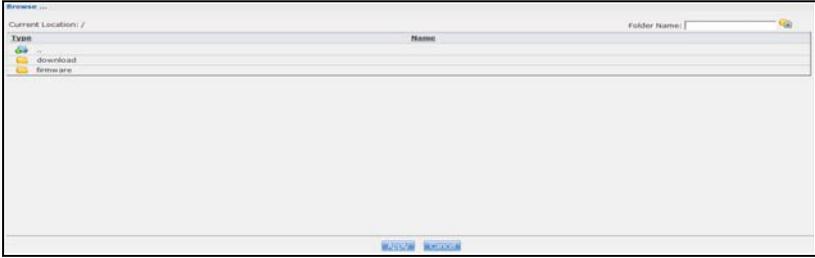


The following table describes the labels in this screen.

Table 74 Applications > Download Service > Preferences > General Settings

| LABEL | DESCRIPTION |
|------------------------------|--|
| Location of Downloaded Files | <p>This shows where the NAS stores new downloads (Put incomplete downloads in) and where the NAS moves completed downloads (Move completed downloads to).</p> <p>The Share column shows the name of the share where the file is downloaded.</p> <p>The Path column points to the location in the share where the NAS will save the downloaded files.</p> <ul style="list-style-type: none"> • P2P download jobs are stored in /*/incoming (where '*' is a folder that you have set.) • HTTP/FTP jobs are stored in /* (where '*' is a folder that you have set.) • All jobs triggered by RSS channels create the subfolder in /* using the channel name where it store all files downloaded from that channel (where '*' is a folder that you have set.) |
| Edit | <p>Click this to open the following screen where you can set the default folder location where you "Put incomplete downloads in" and "Move complete downloads to".:</p> <div style="border: 1px solid gray; padding: 5px; margin: 10px 0;"> <p>Edit Location of Downloaded Files</p> <p>Put incomplete downloads in</p> <p>Share: <input type="text" value="admin"/> <input type="button" value="v"/></p> <p>Path: <input type="text" value="/download"/> <input type="button" value="Browse ..."/></p> <p>Move completed downloads to</p> <p>Share: <input type="text" value="admin"/> <input type="button" value="v"/></p> <p>Path: <input type="text" value="/download"/> <input type="button" value="Browse ..."/></p> <p>Note : All downloaded files will be stored here.</p> <p><input type="button" value="Apply"/> <input type="button" value="Cancel"/></p> </div> <ul style="list-style-type: none"> • Share - Select the share from the list. • Path - Type the folder location in the share directly or click Browse to open the following screen and navigate to the file's location. |

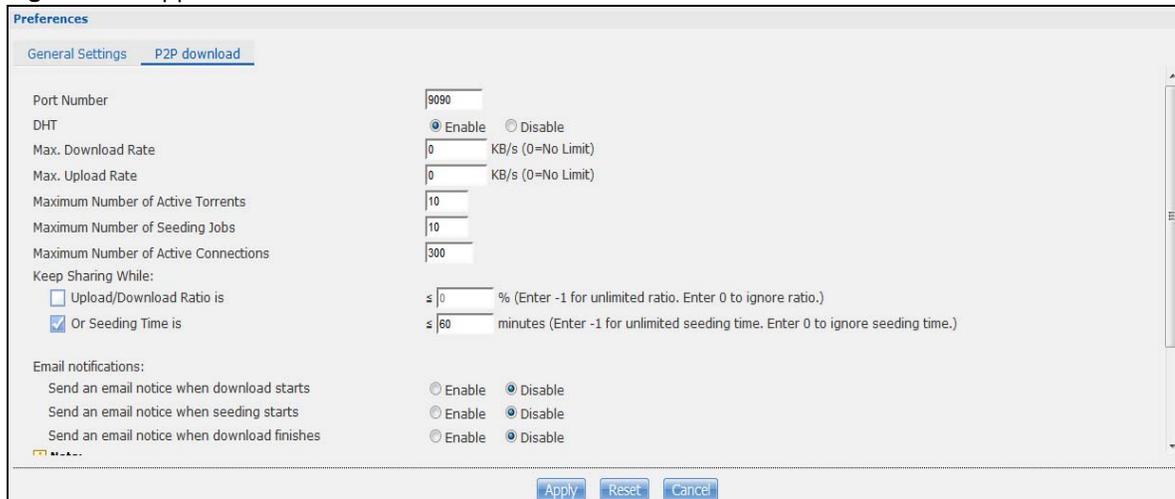
Table 74 Applications > Download Service > Preferences > General Settings (continued)

| LABEL | DESCRIPTION |
|---|--|
| |  <ul style="list-style-type: none"> • Current Location - This is the location of the selected folder. • Folder Name - Enter a new folder name and click  to create it. • Type - This identifies the item as a file or folder. • Name - This is the name of the folder/file. <p>Select a folder. If you don't select a folder, a forward slash (/) displays in the Path field. All contents within the specified share are automatically selected.</p> <p>Click Apply to save your settings and Cancel to close the screen.</p> |
| Download Period Control | This feature sets the NAS to download files only within a specified time period. |
| Enable Download Period Control | Use the check box to turn the download period control on or off. |
| Download Service is active in the time period (hh:mm - hh:mm) | Specify the time period for the NAS to download files. Note: If you also configured the Power On/Off Schedule feature in the Power Management screen, make sure your active download period does not conflict with the power-off period. |
| Apply | Click this to save your changes. |
| Reset | Click this to restore your previously saved settings. |
| Cancel | Click this to return to the previous screen without saving. |

17.7.3 Configuring the P2P Download Settings

Click **Applications > Download Service > Preferences > P2P download** to open the following screen. Use this screen to configure P2P download settings.

Figure 126 Applications > Download Service > Preferences > P2P download



The following table describes the labels in this screen.

Table 75 Applications > Download Service > Preferences > P2P download

| LABEL | DESCRIPTION |
|--------------------------------------|--|
| Port Number | Assign a port number for P2P downloads. You can select a number from 2 to 65536. It is recommended to use a port number greater than 1025. |
| DHT | Select Enable or Disable to use Distributed Hash Table (DHT) or not. Note: When you use DHT, the NAS will also attempt to open a UDP port one number smaller than the P2P download port number. So if the P2P download port number is 9090, the NAS uses UDP port 9089. |
| Max. download rate | You may need to limit the bandwidth the NAS uses for P2P downloads if your network's other Internet applications are not getting enough downstream bandwidth. 0 has the NAS impose no restriction. |
| Max. upload rate | You may need to limit the bandwidth the NAS uses to share files through P2P download if your network's other Internet applications are not getting enough upstream bandwidth. 0 has the NAS impose no restriction. If you do not allow any uploads, (for example, you set a limit of 1 KB/s) you will not have a good standing in the P2P download community. Note: The settings for maximum download/upload rates would not affect peers accessing the NAS from the same LAN. |
| Maximum Number of Active Torrents | Specify how many simultaneous P2P downloads are allowed on the NAS. You can enter a number from 1 to 10. |
| Maximum Number of Seeding Jobs | Specify how many simultaneous seeds are allowed on the NAS. Enter a number from 1 to 10. This value cannot exceed the one you configured in the Maximum Number of Active Torrents field. |
| Maximum Number of Active Connections | Specify how many active connections are allowed on the NAS. Enter a number from 1 to 500. This specifies the number of computers that can connect to the NAS to download files being shared by the NAS. |

Table 75 Applications > Download Service > Preferences > P2P download (continued)

| LABEL | DESCRIPTION |
|---------------------|---|
| Keep Sharing While | <p>With P2P download, the NAS starts sharing a file while you are downloading it. Set how long to continue sharing a file after the NAS finishes the download.</p> <p>Select Upload/Download Ratio to keep sharing a file until the NAS has uploaded a specific percent compared to the download.</p> <p>Select Seeding Time to keep sharing a file for a specific number of minutes after the download finishes.</p> <p>Continuing to share a file helps other P2P download users finish downloading it. Sharing out at least as much as you download helps keep you in good standing in the P2P download community.</p> <p>Enter -1 to share a file indefinitely. Leave both check boxes blank to have the NAS stop sharing the file as soon as the download finishes.</p> <p>If you select both options, the NAS keeps sharing a file until both conditions exceed the values you configure. For example, you entered 150% in the Upload/Download Ratio field and 120 minutes in the Seeding Time field. The NAS keeps sharing a file until it has shared 1.5 times the size of the file and has passed 120 minutes.</p> |
| Email notifications | <p>Select whether or not to send emails to the email address configured for emailing log reports (see Section 26.4.2 on page 308) when the NAS starts downloading the file, seeding the file, and/or finishes downloading the file.</p> |
| Edit IP Filter | <p>Click this to enable or disable IP filtering for P2P downloads.</p> <p>Refer to Section 17.7.4 on page 227 for information about the fields in this screen.</p> |
| Apply | <p>Click this to save your changes.</p> |
| Reset | <p>Click this to restore your previously saved settings.</p> |
| Cancel | <p>Click this to return to the previous screen without saving.</p> |

17.7.4 Edit IP Filter

Use this screen to enable or disable IP filtering for P2P downloads. IP filtering blocks IP addresses known to share fake files. You can either get an IP filter table from a website or use your own table.

Click **Edit IP Filter** in the **Applications > Download Service > Preferences > P2P download** screen.

Figure 127 Applications > Download Service > Preferences > P2P download > Edit IP Filter

The following table describes the labels in this screen.

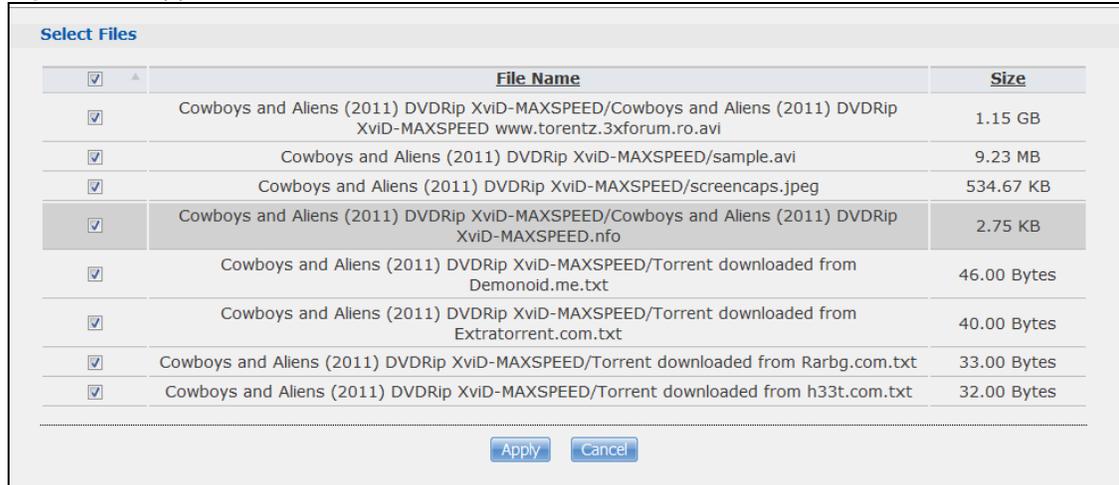
Table 76 Applications > Download Service > Preferences > P2P download > Edit IP Filter

| LABEL | DESCRIPTION |
|--|--|
| Enable IP Filter | Click this to enable or disable IP filtering for P2P downloads. |
| Update IP Filter Table File from the Internet Every Week | Select this option and enter a URL to use an online IP filter table. You can find an online IP filter table in websites such as http://www.bluetack.co.uk/config/level1.gz . When you change the URL of the online IP filter table, the NAS also performs an update after you click Apply . |
| Upload IP Filter Table | Select this option to upload your own IP filter table. Use the Browse button to locate the file and click Upload to save it on the NAS. The NAS supports .txt, .dat, .gz, .tgz, and .tar.gz file extensions. The NAS saves the IP filter table as /admin/download/ipfilter.dat . |
| Download Current IP Filter Table | Click this to save a copy of the IP filter table on your computer. |
| Apply | Click Apply to update the IP filter table from the specified URL. |
| Cancel | Click this to return to the previous screen without saving. |

17.7.5 Selecting Files to Download

Select an item in the **Applications > Download Service** screen's list and click **Select Files** to open the following screen. Use this screen to select which of the torrent's files to download. [Section 14.7 on page 162](#) provides a tutorial on adding a download task.

Figure 128 Applications > Download Service > Select Files



The following table describes the labels in this screen.

Table 77 Applications > Download Service > Select Files

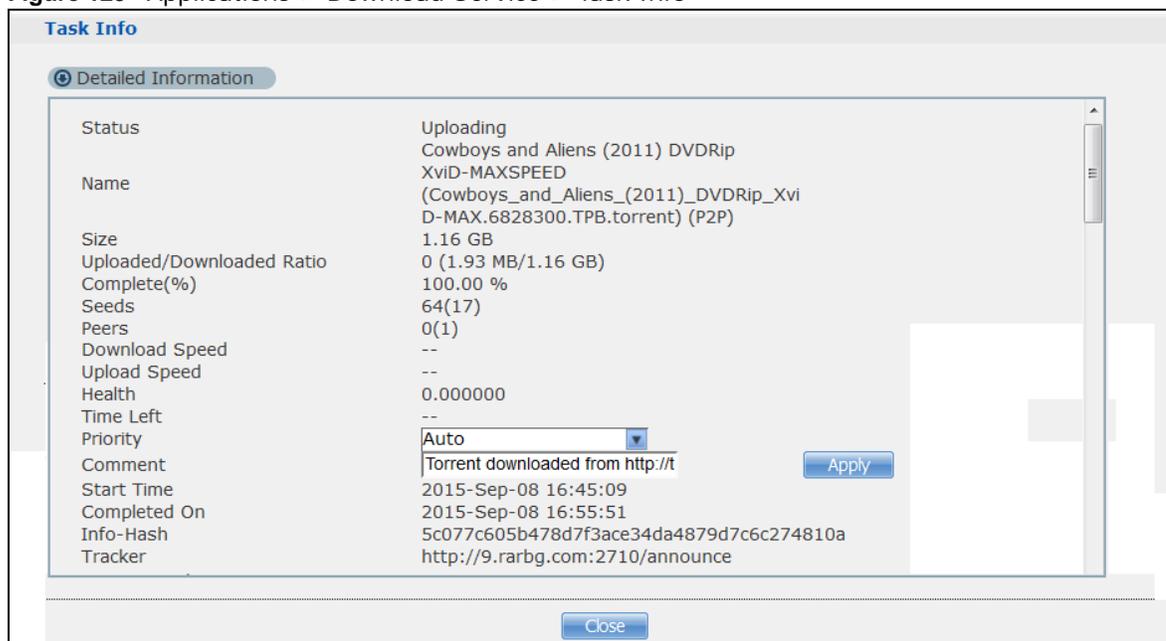
| LABEL | DESCRIPTION |
|--------------|---|
| Select Files | |
| File Name | This is the name of a file specified in the torrent file. Select the check boxes of the files you want to download. |
| Size | This is the size of the file to be downloaded. |

Table 77 Applications > Download Service > Select Files (continued)

| LABEL | DESCRIPTION |
|--------|---|
| Apply | Click this to save your changes. |
| Cancel | Click this to return to the previous screen without saving. |

17.7.6 Displaying the Task Information

Select an item on the list and click **Task Info**. Use this screen to check detailed information about the task.

Figure 129 Applications > Download Service > Task Info

The following table describes the labels in this screen.

Table 78 Applications > Download Service > Task Info

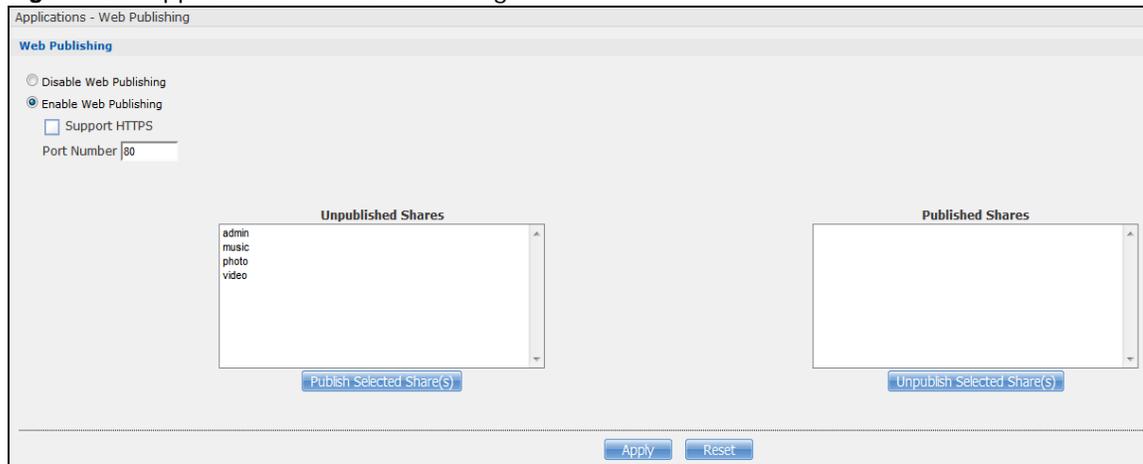
| LABEL | DESCRIPTION |
|-------------------------------|---|
| Status | This is the current status of the task. |
| Name | This is the name of the task. |
| Size | This is the size of the file to be downloaded. |
| Uploaded/ Downloaded Ratio | This is the ratio of total uploaded data to downloaded data. |
| Complete(%) | This field displays how much has been downloaded to the NAS. |
| Seeds | This is the number of computers that are sharing the complete file that you are downloading. |
| Peers | This is the number of other computers that are also downloading (and sharing) the file you are downloading. |
| Download Speed | This field displays how fast the NAS downloads the file. |
| Upload Speed | This field displays how fast the NAS uploads the file. |

Table 78 Applications > Download Service > Task Info (continued)

| LABEL | DESCRIPTION |
|--------------|--|
| Health | This field displays how many full copies of the file are available for this task. The NAS can download a file with a higher health value more efficiently. If the health value is less than 1 (0.65 for example), there is no full copy of the file, and the NAS may not be able to complete downloading the file. |
| Time Left | This is the time remaining to complete the task. |
| Priority | Use this field to set the priority for downloading the task. Select Auto to have the NAS automatically determine the task's priority. Select High to have the NAS download this file before the other files. |
| Comment | Enter a description for this task. Click Apply to save the description. |
| Start Time | This field displays when the NAS started to download files. |
| Completed on | This field displays when the file was successfully downloaded to the NAS. |
| Info-Hash | This information is used to verify the torrent file. |
| Tracker | This field displays the tracker that NAS is currently connected to. A tracker is a server used for finding peers sharing the file. |
| Close | Click this to close the screen. |

17.8 Web Publishing Screen

Use this screen to turn web publishing on or off and select shares to publish. Click **Applications > Web Publishing** to open the following screen.

Figure 130 Applications > Web Publishing

The following table describes the labels in this screen.

Table 79 Applications > Web Publishing

| LABEL | DESCRIPTION |
|---------------------------------|---|
| Web Publishing | |
| Disable / Enable Web Publishing | Turn on web publishing to let people access files in the published shares using a web browser, without having to log into the Web Configurator. |

Table 79 Applications > Web Publishing (continued)

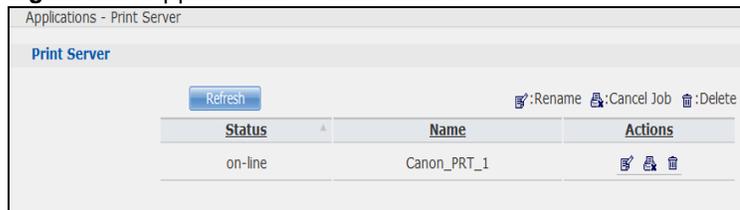
| LABEL | DESCRIPTION |
|-----------------------------|--|
| Support HTTPS | Select this to allow users to use web browser security for connections to the web-published shares. In order to use secured connections users must use "https://" in the NAS's web address and install the NAS's public key certificate. |
| Port Number | Specify a port number for accessing the published share websites hosted on the NAS. If you enter a number other than 80, make sure you include it when telling others how to access the web-published share. For example, say you specified port 8080, the NAS's IP address is 192.168.1.23, and the name of the web-published share is FamilyPhotos. You would have to enter "http://192.168.1.23:8080/MyWeb/FamilyPhotos/" in your browser's address bar to access the share's web page. |
| Unpublished Shares | This list box displays the shares that the NAS does not publish for web browser access. |
| Publish Selected Share(s) | Select shares in the Unpublished Shares box and click this to let people access files in the published shares using a web browser, without logging into the Web Configurator. Use the [SHIFT] key to select a range of entries. Hold down the [CTRL] key to select multiple individual entries. |
| Published Shares | This list box displays the shares people can access using a web browser, without logging into the Web Configurator. |
| Unpublish Selected Share(s) | Select shares in the Published Shares box and click this to not let people access using a web browser without logging into the Web Configurator. Use the [SHIFT] key to select a range of entries. Hold down the [CTRL] key to select multiple individual entries. |
| Apply | Click this to save your changes. |
| Reset | Click this to restore your previously saved settings. |

Note: If you installed **php-MySQL-phpMyAdmin** through the **Package Management** screen ([Section 18.6 on page 251](#)) and enable it, you can use PHP and MySQL in your published web page.

17.9 Print Server Screen

Use the **Print Server** screen to view and manage the NAS's list of printers and print jobs.

Click **Applications > Print Server** to open the following screen.

Figure 131 Applications > Print Server

The following table describes the labels in this screen.

Table 80 Applications > Print Server

| LABEL | DESCRIPTION |
|---------|--|
| Refresh | Click this to update the list of printers and print jobs. |
| | The table lists printers and their queued print jobs. Click a column's heading to sort the entries by that criteria. |
| Status | This fields shows whether the printer is connected and turned on (on-line) or not (off-line). |

Table 80 Applications > Print Server (continued)

| LABEL | DESCRIPTION |
|---------|--|
| Name | This identifies the printer. Each printer connected to the NAS must use a unique name. |
| Actions | <p>Rename: Click this to change the name the NAS uses for the printer.</p> <p>Cancel Job: Click this to remove all print jobs from the NAS queue for a particular printer. However, since the NAS sends print jobs to the printer as soon as it can, this button may only have an effect if there are very large or many print jobs in the queue. To stop a print job that has already started, you may have to turn off the printer.</p> <p>Delete: Click this to remove a printer from the NAS's printer list. To add the printer back into the list, disconnect the printer from the NAS's USB port and reconnect it. If that does not work, disconnect the USB port and turn off the printer's power. Then reconnect the printer and turn it back on.</p> |

17.9.1 Print Server Rename

Click **Applications > Print Server** and a printer's **Rename** icon to open the following screen. Use this screen to change the name the NAS uses for the printer.

Figure 132 Applications > Print Server > Rename

The following table describes the labels in this screen.

Table 81 Applications > Print Server > Rename

| LABEL | DESCRIPTION |
|--------|---|
| Name | Type a new name to identify the printer. The name must be unique from all the other names of printers connected to the NAS. |
| Apply | Click this to save your changes. |
| Cancel | Click this to return to the previous screen without saving. |

17.10 Copy/Sync Button Screen

The **Copy/Sync** button on the front panel allows you to copy or synchronize files between a connected USB or SD device and the NAS.

Click **Applications > Copy/Sync Button** to open the following screen.

Figure 133 Applications > Copy/Sync Button

Applications - Copy/Sync Button

Copy Settings

Press and release the button to copy data between the USB storage and NAS copy target.

NAS Copy Target

USB Volume

Copy Direction

Create a New Folder for Copied Files

Backup Files to be Replaced

Backup Target

Sync Settings

Press and hold the button until you hear a beep to synchronize data between the USB storage and NAS sync target.

NAS Sync Target

USB Volume

Sync Direction

Backup Files to be Replaced or Removed

Backup Target

The following table describes the labels in this screen.

Table 82 Applications > Copy/Sync Button

| LABEL | DESCRIPTION |
|--------------------------------------|---|
| Copy Settings | |
| NAS Copy Target | Select the NAS share to use with the copy function. |
| USB Volume | If your USB or SD device has multiple partitions, select which partition to use with the copy function. |
| Copy Direction | Select USB -> NAS to copy files from your USB or SD device to the NAS. Select NAS -> USB to copy files from the NAS to your USB or SD device. |
| Create a New Folder for Copied Files | Select this option to place the copied files in a new folder. The name of the folder created for the copied files consists of the date and time of the copy in year_month_day_hour_minute_second format. |
| Backup Files to be Replaced | This option is only available if you do not select Create a New Folder for Copied Files . Select this option to save the files that will be replaced by the source files. |
| Backup Target | Select a share in which to save the backup files. Note: The NAS will not create a new folder to store the backup files. It is recommended to create a specific share (such as "backup") for backup purposes. |
| Sync Settings | |
| NAS Sync Target | Select the NAS share to use with the synchronization function. |
| USB Volume | If your USB device has multiple partitions, select which partition to use with the synchronization function. |
| Sync Direction | Select USB -> NAS to synchronize files from your USB or SD device to the NAS. Select NAS -> USB to synchronize files from the NAS to your USB or SD device. Select NAS <-> USB to synchronize files in both directions simultaneously. |

Table 82 Applications > Copy/Sync Button (continued)

| LABEL | DESCRIPTION |
|--|---|
| Backup Files to be Replaced or Removed | Select this option to save the files that will be replaced by the source files. |
| Backup Target | Select a share in which to save the backup files. Note: The NAS will not create a new folder to store the backup files. It is recommended to create a specific share (such as “backup”) for backup purposes. |
| Apply | Click this to save your changes. The configuration file is saved on the USB device. |
| Reset | Click this to restore your previously saved settings. |

17.11 Technical Reference

This section provides technical background information on the topics discussed in this chapter.

17.11.1 Sharing Media Files on Your Network

The media server feature lets anyone on your network play video, music, and photos from the NAS (without having to copy them to another computer). The NAS can function as a DLNA-compliant media server and/or an iTunes server. The NAS streams files to DLNA-compliant media clients or computers using iTunes. The Digital Living Network Alliance (DLNA) is a group of personal computer and electronics companies that works to make products compatible in a home network.

- Publish shares to let others play the contained media files.
- The media server is a convenient way to share files you download.
- Hardware-based media players can also play the files. See [page 354](#) for the supported multimedia file formats.

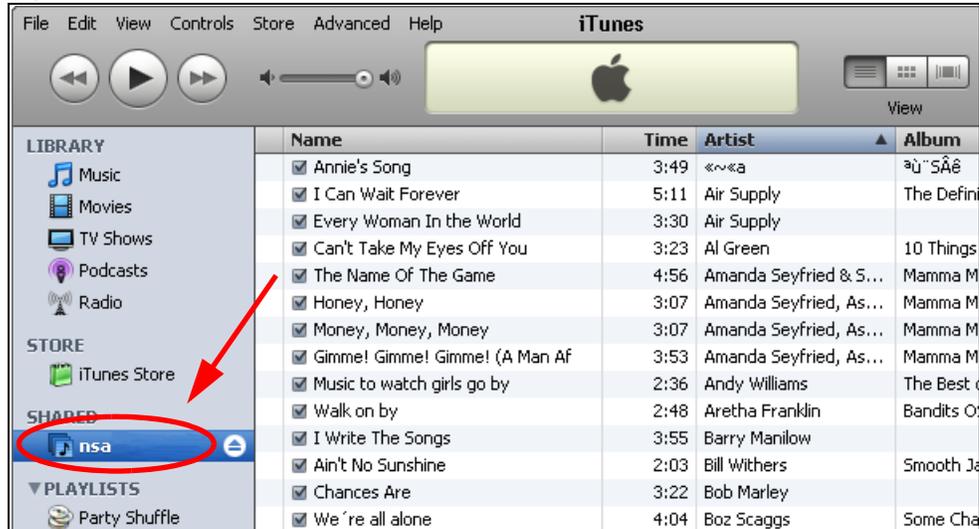
Note: Anyone on your network can play the media files in the published shares. No user name and password or other form of security is used. The media server is enabled by default with the video, photo, and music shares published.

Songs from the iTunes Store

After using iTunes on your computer to download songs from Apple’s iTunes Store, you can copy them to the NAS. Many of these songs have DRM (Digital Rights Management). At the time of writing, you can use your Apple account ID and password to authorize up to a total of five computers to play the files. To authorize a computer, open iTunes and click **Store > Authorize Computer**.

A link for the NAS in iTunes under **SHARED**. Click it to display the NAS’s published media files as shown next.

Figure 134 NAS link in iTunes



17.11.2 Download Service

The NAS's download service downloads files from the Internet directly to the NAS. You do not have to download to your computer and then copy to the NAS. This can free up your computer's system resources.

The NAS can download using these protocols.

- HTTP: The standard protocol for web pages.
- FTP: A standard Internet file transfer service.
- P2P download: Peer-to-peer files sharing protocol.

Note: Do not use the NAS for illegal purposes. Illegal downloading or sharing of files can result in severe civil and criminal penalties. You are subject to the restrictions of copyright laws and any other applicable laws and will bear the consequences of any infringements thereof. ZyXEL bears NO responsibility or liability for your use of the download service feature.

Torrent Files

The NAS needs a ".torrent" file for P2P download to download a file. The torrent file gives the NAS information about the file to be downloaded (and shared) and the tracker(s) (computers) that coordinates the distribution of the file.

When you add a P2P download task in the NAS's web configurator screens, you can copy and paste the URL of the torrent file. The NAS automatically downloads the torrent file and saves it in a **torrent** folder within the folder where the NAS stores downloaded files (the **admin** share's **download** folder by default).

If you already have the torrent file saved on your computer, you can just specify its location when adding a download task through the web configurator. Another method is to use FTP or a CIFS program (Windows Explorer for example) to copy the torrent file into the **torrent** folder. The NAS automatically uses the torrent file.

After your P2P download and sharing are finished, you can go to the **incoming** folder within the destination share or folder and delete the .torrent file if you need to free up hard disk space.

17.11.3 Download Service Notification

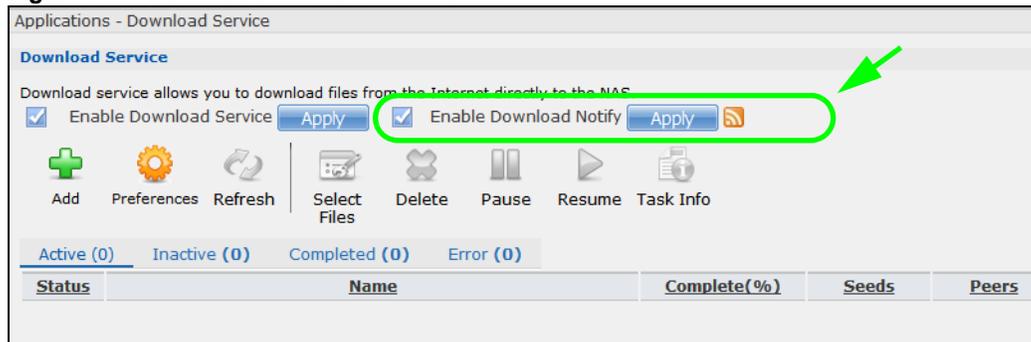
Use the download service notification to keep track of downloaded files on the NAS. You can subscribe to the NAS's download list on your computer. When the NAS finishes downloading new files, your RSS reader displays the information and links for the files. You can also download the files from the RSS reader to your computer.

See [Section 14.7.3 on page 168](#) for a tutorial about using the download service notification.

In the **Download Service** screen, select **Enable Download Notify** and click **Apply**. An RSS feed icon appears. Click the icon to subscribe to the NAS's download list.

Note: The download service notification only keeps track of files downloaded via P2P download.

Figure 135 Download Service Notification



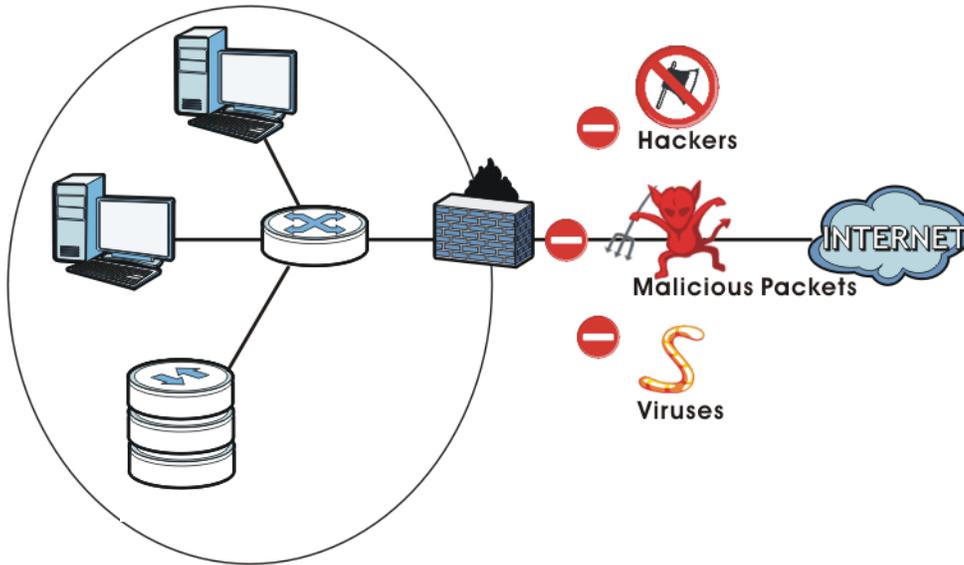
17.11.4 P2P Download Security

When you download using P2P, you reveal your IP address. This increases the risk of hacking attacks, which can be protected against by a good firewall.

Use a Hardware-based Firewall

Place a hardware-based firewall between your network and the Internet (a software-based firewall on your computer would just protect the computer itself, not the NAS since your computer is not between your NAS and the Internet).

Figure 136 Firewall



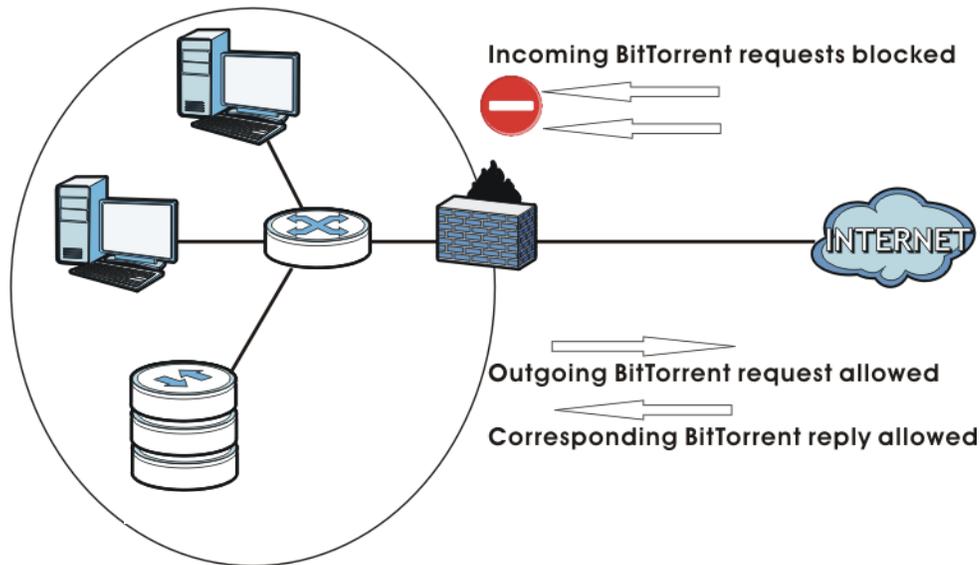
Ideally your firewall should have the following:

- Stateful packet inspection to control access between the Internet and your network and protect your NAS (and computers) from hacking attacks.
- IDP (Intrusion Detection and Prevention) to detect malicious packets within normal network traffic and take immediate action against them.
- Anti-virus to check files you download for computer viruses.

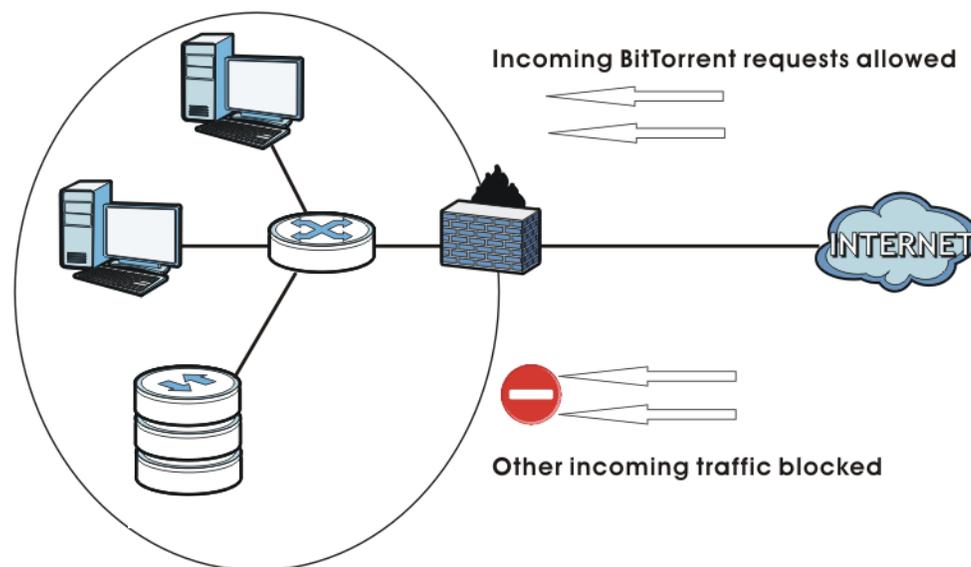
P2P Download and Your Firewall

The anti-virus feature on a firewall probably cannot check P2P downloads for viruses, so use anti-virus software on your computer to scan the NAS for viruses.

When you download using P2P download, many other P2P download users are also trying to download the file from you. The firewall slows this down because by default, it only allows traffic from the Internet in response to a request that originated on the LAN (it lets you get files from the Internet and blocks those on the Internet from getting files from you).

Figure 137 Firewall Blocking Incoming P2P Download Requests

To speed up P2P download file transfers, configure your firewall's port forwarding to send incoming TCP port 9090 and UDP port 9089 connections to the NAS. You probably need to use your firewall's HTML (web-based) configuration interface to set this up (see the firewall's manual for details). You may also have to configure a corresponding firewall rule.

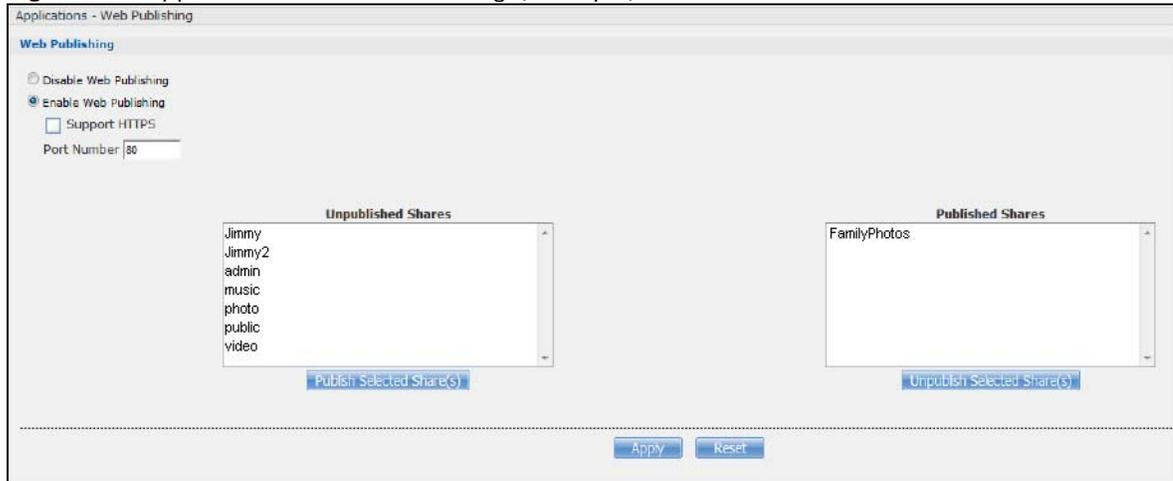
Figure 138 Firewall Configured to Allow Incoming P2P Download Requests

17.11.5 Web Publishing Example

This example covers how to configure the **Web Publishing** screen to let people use a web browser to access a share named FamilyPhotos without logging into the Web Configurator and shows how to access the share through the Internet.

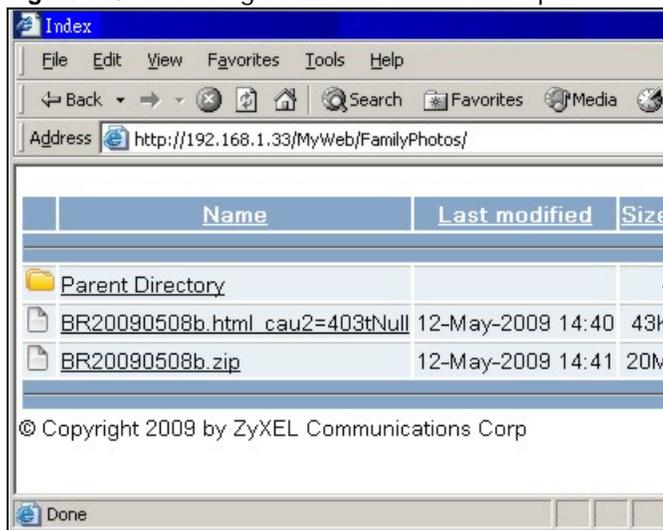
- 1 Click **Applications > Web Publishing** and configure the screen as shown (enable the web publishing and move **FamilyPhotos** over to **Published Shares**) and click **Apply**.

Figure 139 Applications > Web Publishing (Example)



- 2 Now open your web browser and type in the address of the NAS's FamilyPhotos web page. In this example, the NAS's IP address is 192.168.1.33, and the name of the web-published share is FamilyPhotos. So you would enter "http://192.168.1.33/MyWeb/FamilyPhotos/" in your browser's address bar. Then press [ENTER] or click **Go**. A screen displays listing the share's files.

Figure 140 Browsing to an NAS Share Example



- Click a file's link to open the file.
- Right-click a file's link and select **Save Target As..** (in Internet Explorer) to save a copy of the file.
- Click a label in the heading row to sort the files by that criteria.
- To customize how the page looks and works, create an index.html or index.htm file and store it in the share.

17.11.6 Web Publishing

Web publishing lets you “publish” shares (containing folders and files) on the NAS so people can access the files using a web browser without having to log into the Web Configurator. This way you can share files with others without them having to know and enter a user name and password.

For example, if you want to share photos in a FamilyPhotos share, you could “web publish” it and others could use a web browser to access the photos at `http://my-NAS's-IP-Address/MyWeb/FamilyPhotos`.

Note: The NAS does not use any security for the files in the published folders. It is not recommended to publish shares if you do not have the NAS behind a good hardware-based firewall. See [page 236](#) for more on firewalls.

Additionally, you can use HTML editing software (not included) to create an `index.html` or `index.htm` file to define and customize how your website works and looks.

Accessing Web-published Shares from the Internet

You need to use a public address to access the NAS's web-published shares from the Internet. If your NAS uses a private IP address, you may need to use the public IP address of your Internet gateway and configure NAT or port forwarding on your Internet gateway and possibly firewall rules in order to let people access the NAS's web-published shares from the Internet.

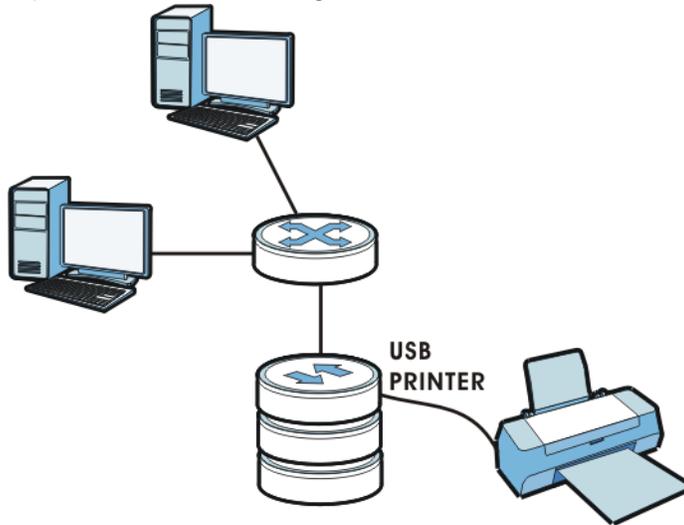
Web Publishing Port Number

If the web-published shares use a port number other than 80 (the normal port for web traffic), users must include it after the NAS's IP address in order to access the NAS's web-published shares. For example, say you specified port 8080, the NAS's IP address is 192.168.1.23, and the name of the web-published share is FamilyPhotos. You would have to enter “`http://192.168.1.23:8080/MyWeb/FamilyPhotos/`” in your browser's address bar to access the share's web page.

The NAS's web configurator uses port 80. To make the web configurator more secure, you can have the web-published shares use another port number. Then you can configure one set of firewall rules and NAT or port forwarding settings on your Internet gateway specifically for allowing access to the web-published shares and another separate set of rules for accessing the NAS's web configurator.

17.11.7 Printer Sharing

The NAS can act as a print server. A print server lets multiple computers share a printer. Connect a printer to the NAS's USB port to let multiple computers on your network use it. See www.zyxel.com for a list of compatible printers.

Figure 141 Printer Sharing

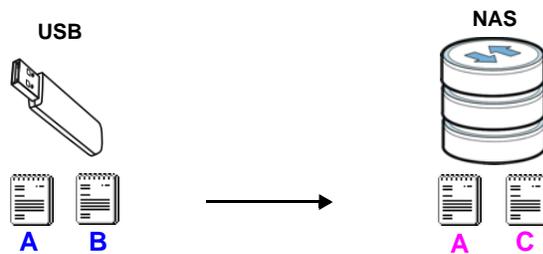
17.11.8 Copying Files

You can copy files from a USB device to the NAS or from the NAS to a USB device. Simply press and release the **COPY/SYNC** button to start copying files. See [Section 17.10 on page 232](#) for details about configuring the copy settings.

The following figure illustrates how copying files works when you copy files from a USB device to the NAS. The same concept applies when you copy files from the NAS to a USB device.

Figure 142 Copying Files Example

Before Copy



After Copy



Both storage devices contain file A.

- A copy of files A and B from the USB device is transferred to the NAS.
- File A from the USB device replaces file A on the NAS.

17.11.9 Synchronizing Files

Synchronization makes the contents on the target device identical to the ones on the source device. You can synchronize files from a USB device to the NAS or from the NAS to a USB device. In addition, you may also synchronize files in both directions simultaneously.

Press and hold the **COPY/SYNC** button until you hear a beep to synchronize files. See [Section 17.10 on page 232](#) for details about configuring the synchronization settings.

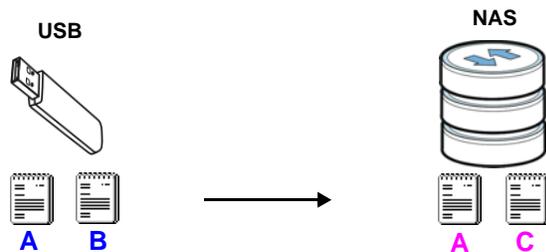
USB -> NAS or USB <- NAS

When you synchronize files in one direction, contents on the source device replace the files on the target device.

The following figure illustrates how synchronization works when you synchronize files from a USB device to the NAS. The same concept applies when you synchronize files from the NAS to a USB device.

Figure 143 Synchronizing Files Example 1

Before Sync



After Sync



Both storage devices contain A.

- A copy of files A and B from the USB device is transferred to the NAS.
- File A from the USB device replaces file A on the NAS.
- File C on the NAS is deleted.

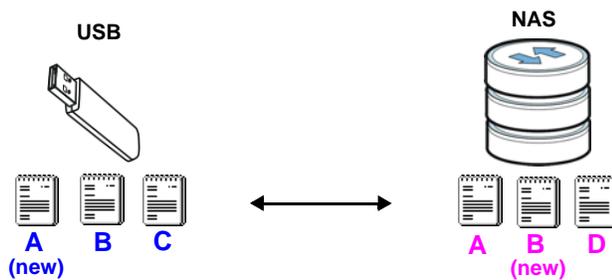
USB <-> NAS

When you synchronize files in both directions simultaneously, both storage devices transfer unique files to one another. Files with the same file name are synchronized according to their modification date/time. The difference in modification time between the two files has to be greater than five minutes. More recently modified files overwrite the older ones during synchronization.

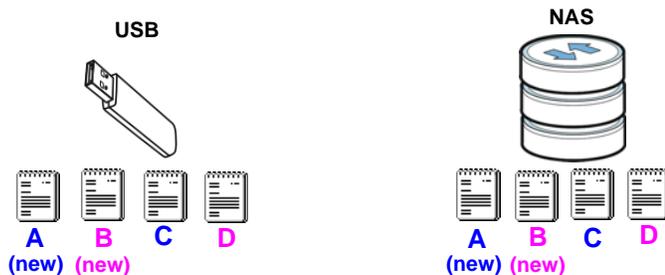
The following figure illustrates how synchronization works when you synchronize files in both directions simultaneously.

Figure 144 Synchronizing Files Example 2

Before Sync



After Sync



A on the USB device and B on the NAS are modified more recently.

- File A from the USB device replaces file A on the NAS.
- File B from the NAS replaces file B on the USB device.
- A copy of file C from the USB device is transferred to the NAS.
- A copy of file D from the NAS is transferred to the USB device.

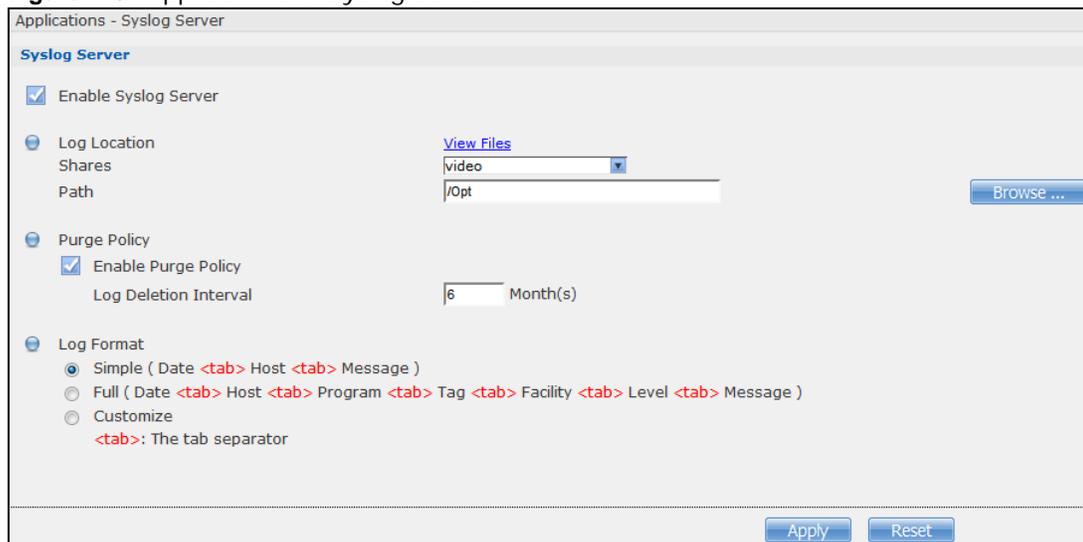
17.12 Syslog Server Screen

Use this screen to configure the NAS to accept syslog logs from syslog clients such as ZyXEL's G-4100 v2.

Note: You may need to configure any firewalls between the NAS and the syslog clients in order to let the syslog traffic go to the NAS.

Click **Applications > Syslog Server** to open the following screen.

Figure 145 Applications > Syslog Server



The following table describes the labels in this screen.

Table 83 Applications > Syslog Server

| LABEL | DESCRIPTION |
|----------------------|---|
| Enable Syslog Server | Select this to have the NAS accept syslog logs from syslog clients. Clear it to stop the NAS from accepting syslog logs from syslog clients. |
| Log Location | Click View Files to browse to where you want to store the syslog logs on the NAS. |
| Shares | Select the share in which to store the syslog logs. |
| Path | <p>Use this if you want to further specify a folder within the share. This field displays the share folder's path. Type the location of the folder using forward slashes as branch separators or use Browse to find or create a folder on the NAS.</p> <div style="border: 1px solid black; padding: 5px;"> </div> <p>After you click Apply in the Syslog Server screen the NAS creates a folder for the current month's logs. The folder's name uses the year and month in YYYYMM format.</p> |
| Purge Policy | <p>Select Enable Purge Policy and set a number of months in the Log Deletion Interval field that displays to have the NAS delete the syslog messages after keeping them for the specified period of time.</p> <p>Regardless of how you set the purge policy, to save hard disk space the NAS archives the syslog logs in a .tgz file on the second day of each month and deletes the original folder and syslog files. The NAS creates a new folder for the syslog logs it receives after that. You can use a zip program such as 7-zip to open the archives.</p> |

Table 83 Applications > Syslog Server (continued)

| LABEL | DESCRIPTION |
|------------|---|
| Log Format | Select the format you want to use for recording the received logs. The Example item below the drop-down list boxes displays how the selected custom format looks. For example, if you select Full Date , the individual log entries would display with something like 2009 May 13 17:15:51 in front of them. |
| Apply | Click this to save your changes. |
| Reset | Click this to restore the screen's last-saved settings. |

Packages

18.1 Overview

This chapter describes screens for features you can add to the NAS by installing packages. See [Section 16.4 on page 207](#) for how to manage packages.

18.2 What You Can Do

- Use the **NFS** screen ([Section 18.3 on page 247](#)) to configure the Network File System (NFS) settings of your NAS.
- Use the **TFTP Server** screen ([Section 18.4 on page 250](#)) to configure the NAS to accept log files from TFTP clients.
- Use the **pyLoad** screen ([Section 18.5 on page 251](#)) to configure the NAS so you can have it manage your downloads including those from one-click hosting sites.
- Use **ownCloud** ([Section 18.6 on page 251](#)) to store, synchronize, and share files, photos, calendars, and more with computers and mobile devices using an ownCloud client.
- Use **Memopal** ([Section 18.7 on page 254](#)) to back up files on the NAS to your Memopal online backup and storage account.
- Use the **GoogleDriveClient** screens ([Section 18.8 on page 256](#)) to synchronize local NAS shares or folders and Google Drive accounts.

Access the following applications' configuration screens through the **Package Management** screen. Refer to the applications' own documentation for further information.

- **Gallery** - This web-based application allows your NAS to host pictures. You can upload images in your local computer or shares to this application. Use the Gallery administrator account (default username admin, password 1234) to log into the Gallery console. There you can create accounts for other users.
- Use **Logitech® Media Server** ([Section 17.5.2 on page 218](#)) to manage a Logitech Squeezebox device connected to the NAS.
- The **NZBGet** news grabber helps download files from UseNet.
- **PHP-MySQL-phpMyAdmin** can be used to manage MySQL through the web. Enter 'root' as the username and '1234' as the password to log in. This includes MySQL, PHP, and phpMyAdmin.
- **Transmission** - This Bit Torrent client supports adding tasks through torrent files and magnet links.
- **WordPress** - This allows you to create and manage a blog. Use the WordPress administrator account (default username admin, password 1234) to log in. You can then create accounts for other users.
- **myZyXELcloud-Agent** - Use this to go to mycloud.zyxel.com to set up a free DDNS hostname for the NAS so you can connect to it easily from the Internet.

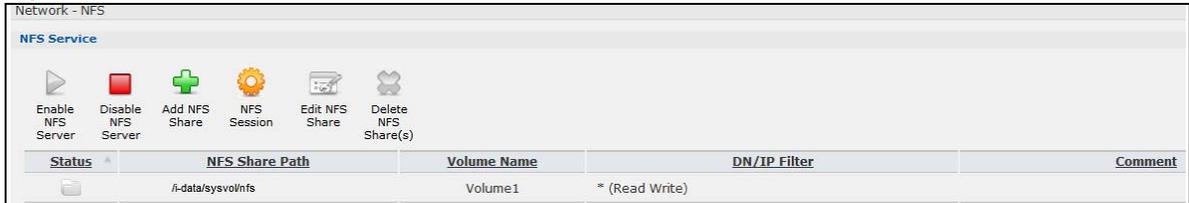
18.3 NFS Screen

Use this screen to enable and configure Network File System (NFS) settings on your NAS.

NFS is a client/server distributed file service that provides transparent file sharing for network environments. This allows shared folders in your NAS to be accessible like a local folder in a user's computer.

Click **Network > NFS** to open the following screen.

Figure 146 Network > NFS



The following table describes the labels in this screen.

Table 84 Network > NFS

| LABEL | DESCRIPTION |
|---|--|
| NFS Service | |
| Enable NFS Server | Click this to employ NFS in your NAS. |
| Disable NFS Server | Click this to stop using NFS. This makes all NFS shares unavailable. |
| Add NFS Share | Click this to add an NFS share. Refer to Section 18.3.1 on page 248 for the Add NFS Share screen. |
| NFS Session | Click this to view active NFS sessions. You can see the list of users who have access to the NFS shares. Refer to Section 18.3.2 on page 249 for the NFS Session screen. |
| Edit NFS Share | Select an NFS share from the list and click this to edit it. Refer to Section 18.3.1 on page 248 for the Edit NFS Share screen. |
| Delete NFS Share (s) | Select an NFS share from the list and click this to delete it. |
| The table lists your NFS shares. Click a column's heading to sort the entries by that criteria. | |
| Status | This shows whether the share is active or not. |
| NFS Share Path | This shows the location of the share in the NAS. |
| Volume Name | This shows the volume where the NFS share is located. |
| DN/IP Filter | This shows which domain name(s) or IP address(es) have read/write access to the NFS shares. Refer to Section 18.3.1 on page 248 for the screen where you can configure this. |
| Comment | This shows a short description of the share. |

You see a warning screen before you delete a volume.

Figure 147 Delete an NFS Share

18.3.1 Add/Edit NFS Share

Use this screen to add or edit an NFS share.

Note: Some attributes of the NFS share cannot be edited.

Click **Add** or **Edit** in the **Network > NFS** screen to open the following:

Figure 148 Network > NFS: Add/Edit

The screenshot shows the "Add NFS Share" form. It has the following fields: "Volume Name" (dropdown menu showing "Volume1 (3.58 TB)"), "NFS Share Name" (text input), "Full Path" (text input), "Comment" (text input), and "DN/IP Filter" (dropdown menu showing "Read Only"). There are red asterisks next to the "NFS Share Name" and "DN/IP Filter" fields. An "Add" button is located to the right of the "DN/IP Filter" field. Below the form, there is a note: "Note: You can input a domain name or IP in the filter. "*" character represent public. Ex: 172.23.26.0/24 or *.zyxel.com.tw". At the bottom, there are "Apply" and "Cancel" buttons.

The following table describes the labels in this screen.

Table 85 Network > NFS: Add/Edit

| LABEL | DESCRIPTION |
|----------------|---|
| Volume Name | Select the volume where the folder you want to add as an NFS share is located. |
| NFS Share Name | Enter the name you want to give to the NFS share. |
| Full Path | This shows the location of the NFS share in the NAS. The NFS server assigns this path to the share folder you input. |
| Comment | Enter a short description for the share. |

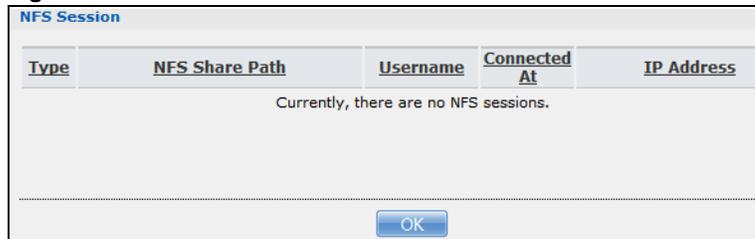
Table 85 Network > NFS: Add/Edit (continued)

| LABEL | DESCRIPTION |
|--------------|--|
| DN/IP Filter | <p>Enter the domain name(s) or IP address(es) that can have access to the NFS share.</p> <p>Enter '*' to make the share available to all users in the network. You can also enter a wildcard, such as '*.domain.com' to indicate that all users within that network have access to the share.</p> <p>Select the access rights you want to grant to each domain name or IP address you enter and click Add.</p> <ul style="list-style-type: none"> • Read Only - Users with this access right can only view and copy files in the NFS share but cannot modify or delete them. • Read/Write - Users with this access right can view, edit or delete files in the NFS share. <p>Note: NFS v4 supports Read/Write only, and NFS v3 supports both Read Only and Read/Write.</p> |
| Apply | Click this to save your changes. |
| Cancel | Click this to return to the previous screen without saving. |

18.3.2 NFS Session

Use this screen to view a list of active NFS sessions. You can see which users are connected the NFS shares.

Click **NFS Session** in the **Network > NFS** screen to open the following.

Figure 149 Network > NFS: NFS Session

The following table describes the labels in this screen.

Table 86 Network > NFS: NFS Session

| LABEL | DESCRIPTION |
|----------------|--|
| Type | This shows if the NFS share is active or not. |
| NFS Share Path | This shows the location of the share in the NAS. |
| Username | This shows the username of the active user connected to the NFS share. |
| Connected At | This displays the date and time the user last connected to the NAS in year, month, day, hour, minute, second format. |
| IP Address | This shows the IP address of the user accessing the NFS share. |
| OK | Click this to close the window. |

18.4 TFTP Server Screen

Trivial File Transfer Protocol (TFTP) is an Internet file transfer protocol similar to FTP and often used for transmitting large numbers of small files. Use this screen to configure the NAS to accept log files from TFTP clients such as ZyXEL's G-4100 v2.

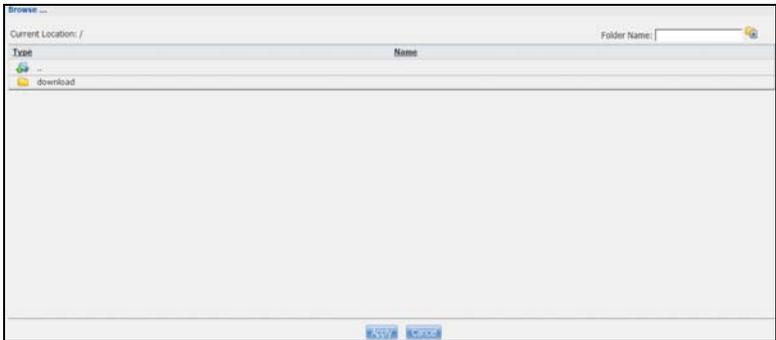
Note: You may need to configure any firewalls between the NAS and the TFTP clients in order to let the log files go to the NAS.

Click **Applications > TFTP Server** to open the following screen.

Figure 150 Applications > TFTP Server

The following table describes the labels in this screen.

Table 87 Applications > TFTP Server

| LABEL | DESCRIPTION |
|-------------------------------------|---|
| Enable TFTP Server | Select this to have the NAS accept log files from TFTP clients. Clear it to stop the NAS from accepting log files from TFTP clients. |
| Upload / Download Directory Setting | Click View Files to browse to where you want to store the log files on the NAS. |
| Shares | Select the share in which to store the log files. |
| Path | Use this if you want to further specify a folder within the share This field displays the share folder's path. Type the location of the folder using forward slashes as branch separators or use Browse to find or create a folder on the NAS.  |
| Apply | Click this to save your changes. |
| Reset | Click this to restore the screen's last-saved settings. |

18.5 pyLoad Screen

Use this screen to configure the NAS so you can use pyLoad to manage your downloads, including those from one-click hosting sites.

Click **Applications > pyLoad** to open the following screen.

Figure 151 Applications > pyLoad

The following table describes the labels in this screen.

Table 88 Applications > pyLoad

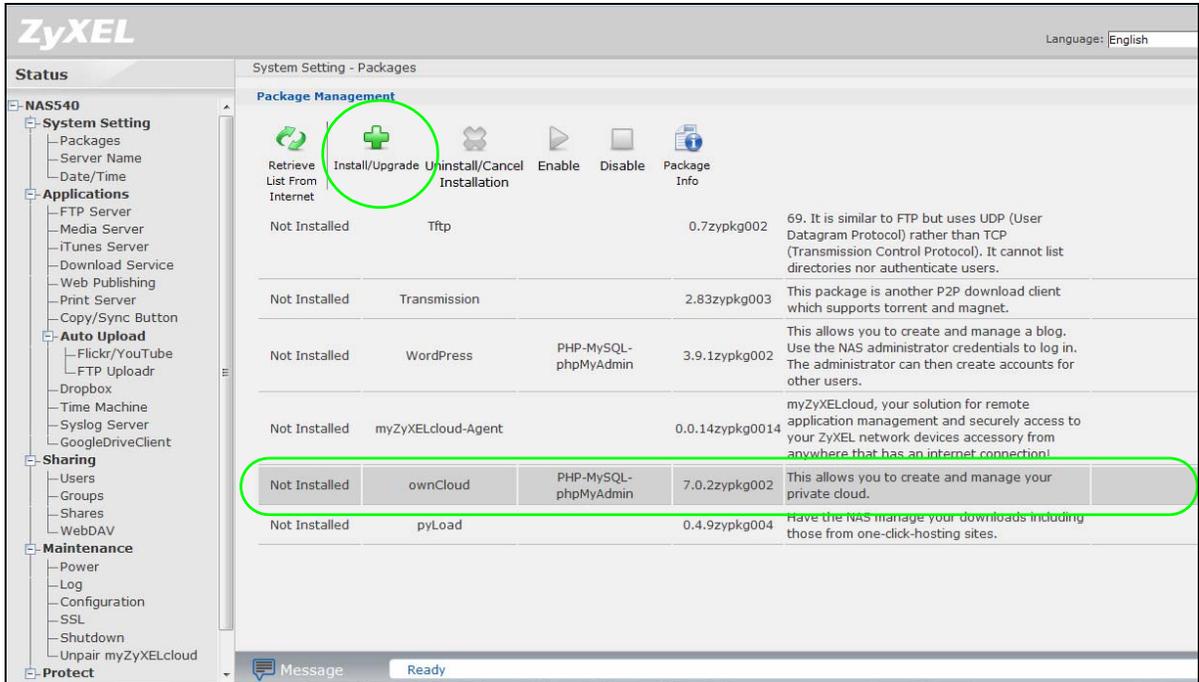
| LABEL | DESCRIPTION |
|--------------------|--|
| Enable pyLoad | Select this to have the NAS manage your downloads. Clear it to turn the feature off. |
| Management Page | This is the IP address and port number of the NAS's pyLoad management login screen. The pyLoad management login screen uses the NAS's IPv4 address and the port number you configure. Click this link to go to it. |
| Username | Only the admin account can log into the pyLoad management screen. |
| Password | You can configure a separate password for using the admin account to access the NAS's pyLoad management screen. |
| Password (Confirm) | Type the same password again to make sure you entered it correctly. |
| Port Number | Set the pyLoad management page's port number. The range of valid port numbers is 1024~65536. Include this port number after the IP address when manually entering the pyLoad management login page's address in your browser's address bar. For example, 192.168.1.2:7272. |
| Apply | Click this to save your changes. |
| Reset | Click this to restore the screen's last-saved settings. |

18.6 ownCloud Setup

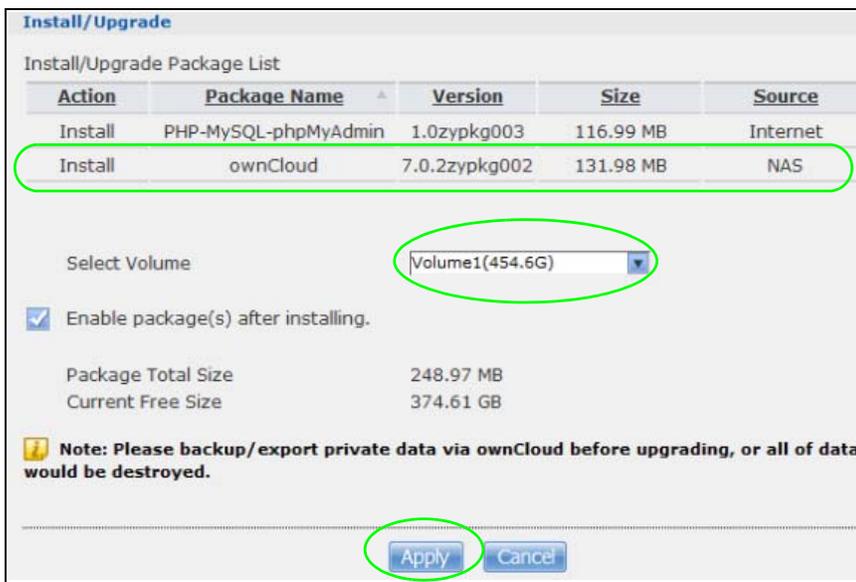
Use the **Package Management** screen to install the ownCloud package. Use ownCloud to store, synchronize, and share files, photos, calendars, and more with computers and mobile devices. Use the following procedure to install the ownCloud package.

- 1 Click **Packages > Package** and select **ownCloud**. Then click the **Install/Upgrade** icon.

Note: If ownCloud does not appear, click the **Retrieve List from Internet** icon to update the list.



- The following confirmation screen appears. Select the volume in which to install ownCloud and store ownCloud data and click **Apply**. The NAS must have a connection to the Internet to download the package.



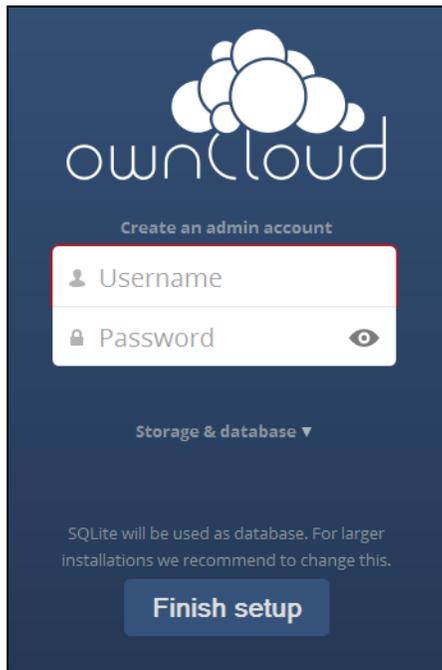
- The installation progress appears in the ownCloud row.



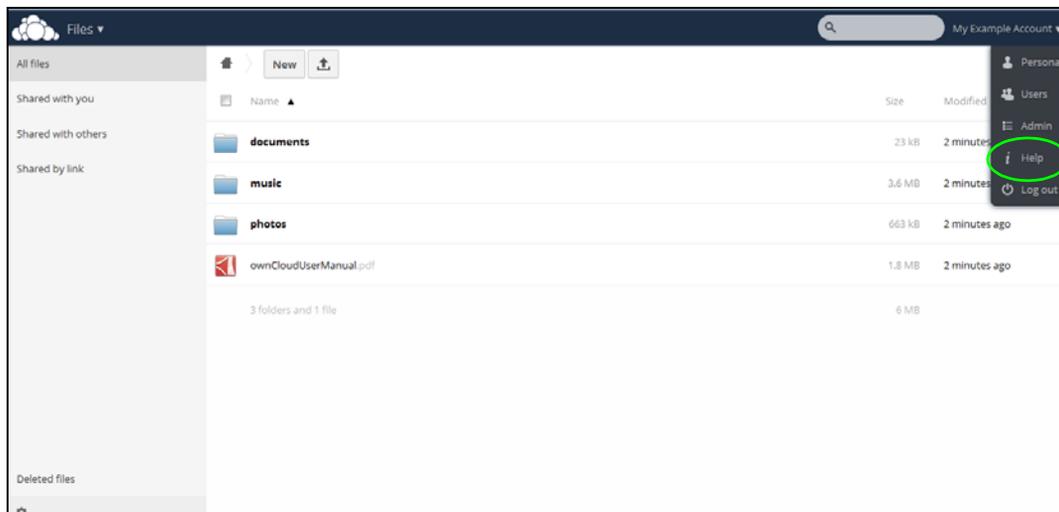
- A link appears in the **Management Page** column after installation finishes. Click this link.



- The ownCloud login screen appears. Create an administrator user name and password and click **Finish Setup**.



- The main ownCloud screen displays. Use this web interface to manage files on the NAS ownCloud server. Click your user name in the upper-right corner to see the help for more information on using ownCloud.



Note: Get ownCloud desktop clients from owncloud.org and ownCloud mobile apps from Google Play or the Apple App Store.

18.7 Memopal

Install the **Memopal** package to back up folders of files on the NAS to your Memopal online backup and storage account.

Note: Deleting files from your Memopal account's online backup set does not delete the files from the NAS, just as deleting a file from the NAS does not delete a backup copy in your Memopal account's online backup set.

Deleting a file or a folder from your Memopal account's online backup set deletes all versions of that file from the online backup set.

Click **Applications > Memopal** to open the following screen.

Figure 152 Applications > Memopal

Applications - Memopal

Status

| | |
|--------------|----------|
| Status | Disabled |
| To Backup | -- |
| Backed up | -- |
| Failures | -- |
| Upload Speed | -- |
| Progress | -- |

Note:
Size limitation of single file is 1GB.

Settings

Enable Memopal

General Setting

Email

Password

Limit File Size MB

Schedule Setting

Enable Schedule

Weekly hours

Daily minutes

Hourly

Backup Folder Setting

| Share Name | Path | Actions |
|------------|------|---------|
| | | |

Share

Path

Note:
You must click "Apply" button to finish Backup Folder Setting.

The following table describes the labels in this screen.

Table 89 Applications > Memopal

| LABEL | DESCRIPTION |
|-----------------|---|
| Status | This shows the status of the Memopal application's interaction with the Memopal server. Disabled: The NAS Memopal application is turned off. Starting: The backup job is initializing and the NAS is getting ready to back up. Running: The backup job is executing. Stopped: The backup job is stopped. This may be due to a network error, remote server error, or other issue. Completed: The backup job finished. |
| To Backup | The number of files remaining to back up. |
| Backed up | The number of files backed up already. |
| Failures | The number of files the NAS failed to back up to the Memopal server. |
| Upload Speed | This is how fast in Bytes per second the NAS is backing up to the Memopal server. |
| Progress | This shows the percentage of the files already backed up from the total files to be backed up. |
| Restart Backup | Re-scan all files and perform a backup. |
| Retry Failures | Only re-scan and back up files the NAS failed to back up. |
| Backup Report | Display back up record details. |
| Enable Memopal | Select this to back up files to your Memopal account. The rest of the configuration fields display. |
| Email | Enter the email address you use for your Memopal account. |
| Password | Enter the password for your Memopal account. |
| Limit File Size | Select this and enter a number of MegaBytes if you want to restrict the size of files the NAS uploads to the Memopal account. You have to enter your password again if you select this. |
| Enable Schedule | Select this to set when the Memopal backups occur. You have to enter your password again if you select this. Clear this to have the NAS back up files in the selected folders to your Memopal account in real-time whenever you add or modify the files. |
| Weekly | Select this to perform a Memopal backup on a weekly basis. The NAS performs the backup job every Sunday at 2:00 AM and continues until the job finishes. |
| Daily | Select this to perform a Memopal backup every day. The NAS performs the backup job every day at 2:00 AM. Use hours to specify for up to how many hours the NAS can perform a Memopal backup. Enter 0 in hours to have the NAS continue the backup job until it finishes (no time limit). |
| Hourly | Select this to perform a Memopal backup every hour. Use minutes to specify for up to how many minutes the NAS can perform a Memopal backup. Enter 0 in minutes to have the NAS continue the backup job until it finishes (no time limit). |
| Share Name | This is the name of the share containing a folder the NAS Memopal application backs up to the Memopal server. |
| Path | This field displays the share folder's path. |
| Actions | Click the Delete icon to remove the folder from the list of folders the NAS Memopal application backs up to the Memopal server. |
| Share | Select the share containing the folder to back up to the Memopal server. |

Table 89 Applications > Memopal (continued)

| LABEL | DESCRIPTION |
|-------|--|
| Path | Identify the folder to back up to the Memopal server. Use Browse to find or create a folder on the NAS or type the location of the folder using forward slashes as branch separators. Click Add to add the folder to the list of folders the NAS Memopal application backs up to the Memopal server. |
| Apply | Click this to save your changes. |
| Reset | Click this to restore the screen's last-saved settings. |

18.8 GoogleDriveClient

Use GoogleDriveClient to synchronize local NAS user folders and Google Drive cloud storage accounts. This two-way synchronization means changes in the Google Drive account appear in the local sync folder and changes in the local sync folder appear in the Google Drive account.

Note: Do not store your only copy of a document in Google Drive or the local sync folder.

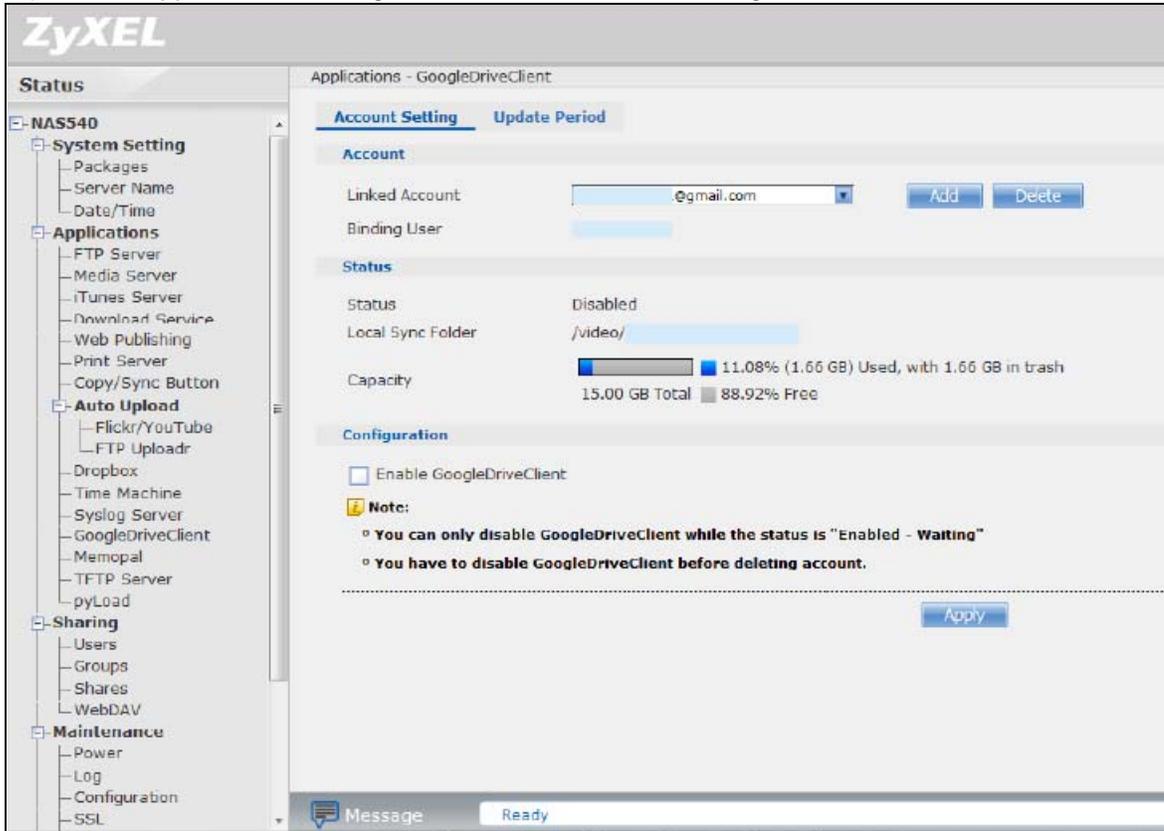
- Modifying or deleting a file or folder at either end modifies or deletes it at the other end.
- Moving a file out of the local sync folder or Google Drive deletes it at the other end.
- Use the **Protect** screens instead of Google Drive for backups (see [Chapter 27 on page 321](#)).
- You can link multiple NAS user accounts to Google accounts.
- You can link an individual NAS user account to multiple Google accounts.
- You can only link each individual Google account to one NAS user account.
- This feature does not currently download Google Documents.

18.8.1 Account Setting Screen

Use the **Account Setting** screen to synchronize local NAS shares or folders and Google Drive accounts.

Click **Applications > GoogleDriveClient** to open the following screen.

Figure 153 Applications > GoogleDriveClient > Account Setting



The following table describes the labels in this screen.

Table 90 Applications > GoogleDriveClient > Account Setting

| LABEL | DESCRIPTION |
|----------------|--|
| Linked Account | <p>Select a Google account linked to an NAS user account.</p> <p>Click Add to open a screen where you can link an NAS user account and a Google account.</p> <p>Click Delete to remove the NAS's link to the selected Google account. You must disable the Google Drive feature for the account before you can do this. A screen pops up to let you decide what to do with the data in the NAS's linked local sync folder.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p style="text-align: center;">Do you want to delete data in "/public/LOCAL SYNC"?</p> <hr style="width: 80%; margin: 0 auto;"/> <p style="text-align: center;"> <input type="button" value="Yes"/> <input type="button" value="No"/> <input type="button" value="Cancel"/> </p> </div> <p>Click Yes to delete all data in the local sync folder. Click No to remove the link to the selected Google account but keep the data in the local sync folder. Click Cancel to do nothing (keep the account link and data).</p> |
| Binding User | The NAS user account linked to the selected Google account. |

Table 90 Applications > GoogleDriveClient > Account Setting (continued)

| LABEL | DESCRIPTION |
|--------------------|--|
| Status | The current status of the GoogleDrive feature for the selected Google account. <ul style="list-style-type: none"> • Disabled - The GoogleDrive feature is turned off. During this state you can use the other sections of this screen to add or delete linked accounts or enable Google Drive. • Enabled - Waiting - The GoogleDrive feature is configured, enabled, and waiting to perform the next Google Drive update. During this state you can use the other sections of this screen to add or delete linked accounts or disable Google Drive. • Enabled - Synchronizing - The GoogleDrive feature is synchronizing the local sync folder and the Google account. During this state you can use the other sections of this screen to add linked accounts during this state. |
| Local Sync Folder | The NAS folder or share the NAS synchronizes with the linked Google account. |
| Capacity | The Google account's used, available, and total online Google Drive storage space. |
| Enable GoogleDrive | Select this to have the NAS periodically synchronize the selected linked account's local sync folder and Google Drive storage. You can enable synchronizing with Google Drive for individual accounts and disable it for other accounts. Clear this option to disable synchronizing the selected linked account's local sync folder and Google Drive storage. |
| Apply | Click this to save your changes. |

18.8.2 Account Setting Add Screen

Use the **Account Setting Add** screen to link an NAS user account and a Google account. Click **Applications > GoogleDriveClient > Add** to open the following screen.

Note: The user has to log into the Google account on the same computer to allow the NAS to link to it.

Figure 154 Applications > GoogleDriveClient > Account Setting > Add

The screenshot shows a multi-step configuration interface for linking a Google account to the NAS. It is divided into three main sections:

- Step 1 - Set A Local Sync Folder:** Contains a table with columns 'Share Name' and 'Path'. Below the table, it states 'There is currently no local sync folder.' and includes an 'Edit' button.
- Step 2 - Select A User To Bind With Google Account:** Features a dropdown menu with 'admin' selected. Below it is a 'Note' icon and text: 'Please make sure that the user has enough quota.'
- Step 3 - Authorization:** Contains three sub-steps:
 - Step 3-1:** A link: 'Click here to get the authorization code from Google'.
 - Step 3-2:** The instruction 'Enter the authorization code below' followed by a text input field with a red asterisk on the right.
 - Step 3-3:** The instruction 'Press Apply and authorization is done'.

At the bottom of the screen are 'Apply' and 'Cancel' buttons.

The following table describes the labels in this screen.

Table 91 Applications > GoogleDriveClient > Account Setting > Add

| LABEL | DESCRIPTION |
|------------|---|
| Step 1 | Specify the folder on the NAS to synchronize with Google Drive for the local user. |
| Share Name | The name of a share on the NAS containing the folder the NAS synchronizes with Google Drive. |
| Path | The location of the folder the NAS synchronizes with Google Drive. |
| Edit | <p>Click this to open the following screen where you can specify the share or folder to synchronize with Google Drive. The NAS's sharing configuration must allow the user access. The user must also have a large enough quota on both the NAS and Google Drive to hold whatever files go in the local sync folder and in the Google Drive account (since they both end up containing everything you put in either).</p> <div> </div> <ul style="list-style-type: none"> • Share - Select the share from the list. • Path - Type the folder location in the share or click Browse to navigate to the folder. Use a "/" to synchronize the entire share. |
| Step 2 | Select the local NAS user account to link with Google Drive. |

Table 91 Applications > GoogleDriveClient > Account Setting > Add (continued)

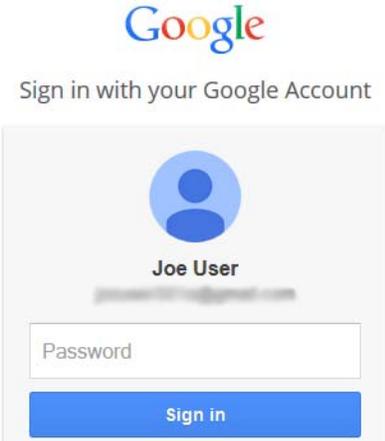
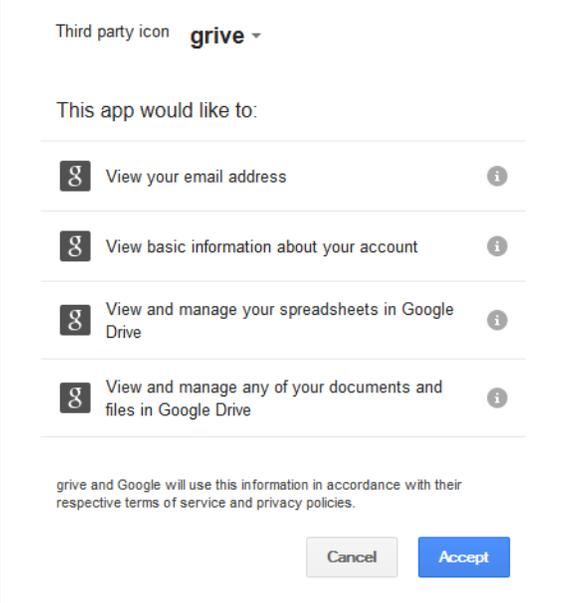
| LABEL | DESCRIPTION |
|--------|--|
| Step 3 | <p>Click the link to get the authorization code from Google. The user must sign into the Google account. You may need to sign out of Google's services first if another user account is already signed in.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: fit-content;">  <p>The image shows a Google sign-in interface. At the top is the Google logo. Below it, the text reads "Sign in with your Google Account". There is a blue circular profile icon with a person silhouette, labeled "Joe User" and "joe.user@gmail.com". Below the name is a "Password" input field and a blue "Sign in" button.</p> </div> <p>The NAS GoogleDriveClient feature uses the Grive app. Review what the Grive app wants to use and click Accept if you agree.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: fit-content;">  <p>The image shows a third-party app authorization screen for "grive". It lists permissions: "View your email address", "View basic information about your account", "View and manage your spreadsheets in Google Drive", and "View and manage any of your documents and files in Google Drive". Each permission has a small "i" icon. At the bottom, there are "Cancel" and "Accept" buttons.</p> </div> <p>Copy the code and paste it into the field in the Web Configurator screen.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p>Please copy this code, switch to your application and paste it there: 4/PWAf8R6gGdiI4V54G7c_2UqaMB8.0jWhoTq2Li</p> </div> <p>Click Apply to have the NAS connect to Google and complete the authorization. In the Account Setting screen, select the Enable Google Drive option and click Apply to start synchronizing your files with Google Drive.</p> |

Table 91 Applications > GoogleDriveClient > Account Setting > Add (continued)

| LABEL | DESCRIPTION |
|--------|---|
| Apply | Click this to save your changes and complete the authorization. |
| Cancel | Click this to return to the previous screen without saving. |

18.8.3 Update Period Screen

Use the **Update Period** screen to set how often the NAS synchronizes with Google Drive. The NAS initiates the connections, thus you do not have to configure rules on a firewall located in front of the NAS to allow access.

Click **Applications > GoogleDriveClient > Update Period** to open the following screen.

Figure 155 Applications > GoogleDriveClient > Update Period

The following table describes the labels in this screen.

Table 92 Applications > GoogleDriveClient > Update Period

| LABEL | DESCRIPTION |
|---------------|---|
| Update Period | Specify how frequently the NAS synchronizes the local sync folders and the linked Google Drive accounts. The range is 1 to 4320 minutes (3 days). |
| Apply | Click this to save your changes. |

Auto Upload

19.1 Overview

This chapter discusses the features in the **Auto Upload** screens.

The auto upload feature uploads media files stored in the NAS to the Flickr and/or YouTube sharing websites. Besides web publishing and media server, auto upload is another convenient way to share media files with your friends and family. You can link the NAS to your Flickr and/or YouTube account and select shares for the NAS to upload. The NAS uploads the media files stored in the specified shares to your Flickr and/or YouTube account. When you add new files to the specified shares, the NAS also automatically uploads the new files to your Flickr and/or YouTube account.

19.2 What You Can Do

- Use the **Flickr/YouTube** screen ([Section 19.4 on page 262](#)) to upload photos and videos to your Flickr and YouTube accounts.
- Use the **FTP Uploadr** screen ([Section 19.5 on page 270](#)) to upload files to FTP servers.

19.3 What You Need to Know

FTP

File Transfer Protocol (FTP) is a file transfer service that operates on the Internet. A system running the FTP server accepts commands from a system running an FTP client. FTP is not a secure protocol. Your file transfers could be subject to snooping.

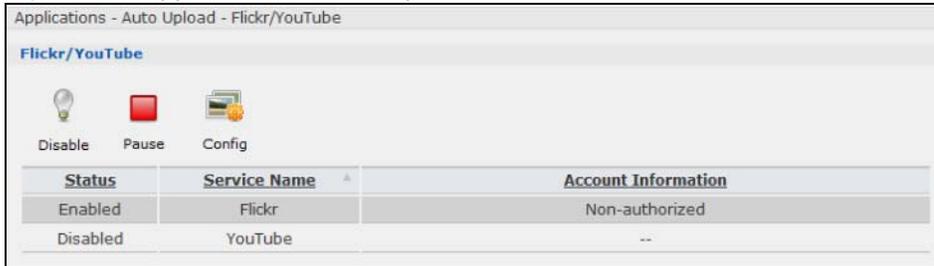
FTPES (File Transfer Protocol over Explicit TLS/SSL)

File Transfer Protocol over Explicit TLS/SSL (FTPES) is a file transfer service that uses TLS (Transport Layer Security) or Secure Socket Layer (SSL) for secure transfers across the Internet.

19.4 Flickr/YouTube Screen

Use this screen to upload photos and videos to your Flickr and YouTube accounts.

Click **Applications > Auto Upload > Flickr/YouTube** to open the following screen.

Figure 156 Applications > Auto Upload > Flickr/YouTube

The following table describes the labels in this screen.

Table 93 Applications > Auto Upload > Flickr/YouTube

| LABEL | DESCRIPTION |
|---------------------|---|
| Flickr/YouTube | |
| Disable/Enable | Select a service from the list and click this to turn the service on or off. If you disable the service and add more files to the watch folder(s), the NAS will not auto upload these files. However, the NAS still uploads any files added before you turned off the service. |
| Pause/Resume | Select a service from the list and click this to pause or resume the auto upload feature. |
| Config | Select a service from the list and click this to manage the service's settings. |
| Status | This field displays the service's status. The service may be Enabled, Disabled, Uploading or Paused . |
| Service Name | This field displays the name of a sharing website to which the NAS can automatically upload files. |
| Account Information | This field displays the username and related information of the account to use with the auto upload feature. |

19.4.1 Configuring the Flickr Settings

In the **Applications > Auto Upload > Flickr/YouTube** screen, select **Flickr** from the list and then click the **Config** button.

The following screen displays if you have not authorized the NAS to use a Flickr account. Click **OK** to continue the authorization process.

Figure 157 Linking NAS to Flickr

The web browser opens the Yahoo! Flickr login page. Enter your Yahoo account's information and click **Sign In**.

Figure 158 Yahoo! Flickr Login Page

YAHOO! flickr Yahoo! - Help

Welcome to Yahoo!

Enjoy all the benefits of Yahoo! Flickr.

- **Access** all your digital images in one place.
- **Show off** your favorite photos to the world.
- **Share photos** with your friends and family - it's easy!

Get all the best with one Yahoo! ID.

Your Yahoo! ID gives you access to powerful communications tools like mail and instant messaging, security features like email AntiVirus and Pop-Up Blocker, and favorites like online photos and music — **all for free.**

Sign in to Yahoo!

 **Are you protected?**
Create your sign-in seal.
(Why?)

Yahoo! ID:

(e.g. free2rhyme@yahoo.com)

Password:

Keep me signed in
 for 2 weeks unless I sign out. [Info](#)
[Uncheck if on a shared computer]

[Forget your ID or password? | Help](#)

Don't have a Yahoo! ID?
 Signing up is easy. [Sign Up](#)

Copyright © 2008 Yahoo! Inc. All rights reserved. Copyright/IP Policy | Terms of Service | Guide to Online Security
 NOTICE: We collect personal information on this site.
 To learn more about how we use your information, see our Privacy Policy

The following page displays asking for your authorization. Click **OK, I'LL ALLOW IT** to establish a link between the NAS and your Flickr account.

Figure 159 Flickr Authorization

flickr Signed in as pink

Home You Organize Contacts Groups Explore

 **ZyXEL NSA wants to link to your Flickr account.**
 You should not authorize **ZyXEL NSA** unless you trust them with access to your account.

By authorizing this link, you'll allow the ZyXEL NSA service to provide:

- **Access** to your photostream (including private stuff)
- **Editing** of your photo or video information via ZyXEL NSA
- **Uploads** to your Flickr account via ZyXEL NSA

What's going on here?
 Flickr encourages other developers to build cool tools for you to play with, but you must authorize these third parties to access your account.

Want to know more?
 A wealth of information lies within the [Flickr Services](#) page.

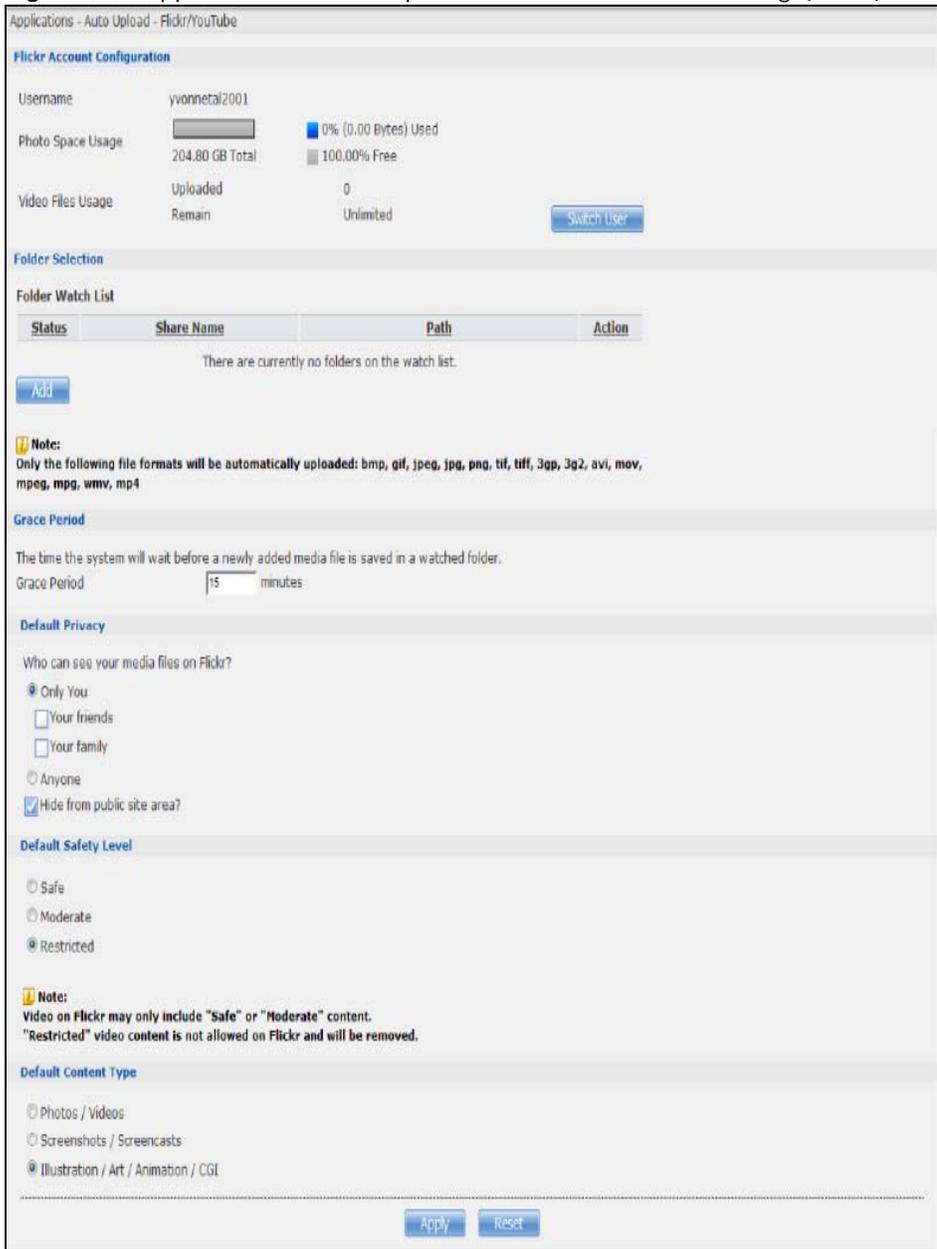
A confirmation page displays indicating successful authorization. Return to the NAS web configurator. Click **Get Ready** in the following screen to complete the authorization process.

Figure 160 Confirming Flickr Authorization



Once the NAS is associated with your Flickr account, you can configure auto upload settings in the following screen.

Figure 161 Applications > Auto Upload > Flickr/YouTube > Config (Flickr)



The following table describes the labels in this screen.

Table 94 Applications > Auto Upload > Flickr/YouTube > Config (Flickr)

| LABEL | DESCRIPTION |
|------------------------------|--|
| Flickr Account Configuration | |
| Username | This field displays the Flickr account authorized for the auto upload feature. |
| Photo Space Usage | This shows how much storage space for photos (in size and percentage) you have used and how much space is still available on your Flickr account. |
| Video Files Usage | This shows how many videos you have uploaded and how many videos you can still upload to your Flickr account. |
| Switch User | Click this to use a different Flickr account for the auto upload feature. |
| Folder Selection | |
| Folder Watch List | This table displays a list of shares and folders selected for auto upload. Files stored in these locations are uploaded to your Flickr account. |
| Status | <p>This indicates whether the folder or share is available.</p> <p> represents a valid folder. The folder is available for auto upload.</p> <p> represents a missing folder. The share may be deleted from the NAS, or the hard disk was removed from the NAS.</p> |
| Share Name | This is the share selected for auto upload. |
| Path | This is the path of a folder selected for auto upload. The NAS only uploads files stored in the specified share or folder to your Flickr account. |
| Action | Use the Remove icon to remove a folder from the Folder Watch List . |
| Add | <p>Click this to open the following screen where you can set a folder that contains files you want the NAS to automatically upload.</p> <div> </div> <ul style="list-style-type: none"> • Share - Select the share from the list. • Path - Type the folder location in the share directly or click Browse to open the following screen and navigate to the folder's location. <div> </div> <ul style="list-style-type: none"> • Current Location - This is the location of the selected folder. • Folder Name - Enter a new folder name and click  to create it. • Type - This is the type of the folder/file. • Name - This is the name of the folder/file. <p>Select a folder. If you don't select a folder, a forward slash (/) displays in the Path field. All contents within the specified share are automatically selected.</p> <p>Click Apply to save your settings and Cancel to close the screen.</p> |
| Grace Period | |

Table 94 Applications > Auto Upload > Flickr/YouTube > Config (Flickr) (continued)

| LABEL | DESCRIPTION |
|---|--|
| Grace Period N minutes | Specify how long the NAS should wait when you add a new file for auto upload. For example, if you set the grace period to 5 minutes, the NAS uploads a new file after it has been in a watched folder for 5 minutes. You can choose from a range of 1 to 10080 minutes (up to one week). |
| Default Privacy | |
| Who can see your media files on Flickr? | Determine who has the right to see files uploaded to your Flickr account. Select Only You if you do not want anyone else to see your files. You may also restrict the access to Your friends and/or Your family . You can set up a friend/family list in your Flickr account. Select Anyone to allow everyone to see your files. |
| Hide from public site area | Check this option to prevent others from finding your files when they perform a search in the Flickr website. |
| Default Safety Level | Assign a safety level to your files. Select Safe if the contents of your files are suitable for the general public. Select Moderate if the contents of your files may be offensive to some people. Select Restricted if the contents of your files are not suitable for certain people, such as children or your colleagues. |
| Default Content Type | Select a content type for your files. You can choose Photo/Video , Screenshots/Screencasts , or Illustration/Art/Animation/CGI . |
| Apply | Click this to save your changes. |
| Reset | Click this to restore previously saved settings. |

19.4.2 Configuring the YouTube Settings

In the **Applications > Auto Upload > Flickr/YouTube** screen, select YouTube from the list and then click the **Config** button.

Note: Your YouTube account must be associated with a Google account.

Get a Google account and use it to log into YouTube. You can then merge the existing YouTube account to your Google account.

If you have not authorized a YouTube account on the NAS, the following screen displays. Enter your Google account's e-mail address and password in the fields and click **OK** to authorize the service.

Figure 162 YouTube Account Settings

YouTube Account Settings

Email *

Password *

Note:
To use this feature you must use a Google account that is linked to your YouTube account. Please create a Google account if you do not have one. Log into YouTube using your Google account and then link your existing YouTube account or create a new YouTube account.

OK Cancel

Once the NAS is associated with your YouTube account, you can configure auto upload settings in the following screen.

Figure 163 Applications > Auto Upload > Flickr/YouTube > Config (YouTube)

Applications - Auto Upload - Flickr/YouTube

YouTube Account Configuration

Account

Folder Selection

Folder Watch List

| Status | Share Name | Path | Action |
|---|------------|------|--------|
| There are currently no folders on the watch list. | | | |

Note:

- Only the following file formats will be automatically uploaded: 3gp, asf, asx, avi, dif, dl, dv, flv, gl, mkv, mov, movie, m4v, mp4, mpe, mpeg, mpg, ogv, qt, wm, wmv, wmx, wvx
- YouTube limits the file size allowed for an uploaded video. Files exceeding the file size limit may not be uploaded successfully.

Grace Period

The time the system will wait before a newly added media file is saved in a watched folder.

Grace Period minutes

Video Category

Please select a category.

Film & Animation Autos & Vehicles
 Music Pets & Animals
 Sports Travel & Events
 Comedy People & Blogs
 News & Politics Entertainment
 Education Howto & Style
 Nonprofits & Activism Science & Technology

Default Privacy

Who can see your media files on YouTube?

Only You
 Anyone

The following table describes the labels in this screen.

Table 95 Applications > Auto Upload > Config (YouTube)

| LABEL | DESCRIPTION |
|-------------------------------|--|
| YouTube Account Configuration | |
| Username | This field displays the Youtube account authorized for the auto upload feature. |
| Switch User | Click this to use a different YouTube account for the auto upload feature. |
| Folder Selection | |
| Folder Watch List | This table displays a list of shares and folders selected for auto upload. Files stored in these locations are uploaded to your YouTube account. |

Table 95 Applications > Auto Upload > Config (YouTube) (continued)

| LABEL | DESCRIPTION | | | | | | | | |
|--|--|------|------|--|--|--|--|--|--|
| Status | <p>This field indicates whether the share or folder is available.</p> <p> represents a valid folder. The folder is available for auto upload.</p> <p> represents a missing folder. The share may be deleted from the NAS, or the hard disk was removed from the NAS.</p> | | | | | | | | |
| Share Name | This field displays the share selected for auto upload. | | | | | | | | |
| Path | This field displays the path of a folder selected for auto upload. The NAS only uploads the files stored in the specified share or folder to your YouTube account. | | | | | | | | |
| Action | Use the Remove icon to delete a folder from the Folder Watch List . | | | | | | | | |
| Add | <p>Click this to open the following screen where you can set a folder that contains files you want the NAS to automatically upload.</p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>Add Watch Folder</p> <p>Share <input type="text" value="video"/></p> <p>Path <input type="text" value=""/> <input type="button" value="Browse ..."/></p> <p><input type="button" value="Apply"/> <input type="button" value="Cancel"/></p> </div> <ul style="list-style-type: none"> • Share - Select the share from the list. • Path - Type the folder location in the share directly or click Browse to open the following screen and navigate to the folder's location. <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>Browse ...</p> <p>Current Location: /</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Type</th> <th style="text-align: left;">Name</th> </tr> </thead> <tbody> <tr> <td> ..</td> <td></td> </tr> <tr> <td> download</td> <td></td> </tr> <tr> <td> firmware</td> <td></td> </tr> </tbody> </table> </div> <ul style="list-style-type: none"> • Current Location - This is the location of the selected folder. • Folder Name - Enter a new folder name and click  to create it. • Type - This is the type of the folder/file. • Name - This is the name of the folder/file. <p>Select a folder. If you don't select a folder, a forward slash (/) displays in the Path field. All contents within the specified share are automatically selected.</p> <p>Click Apply to save your settings and Cancel to close the screen.</p> | Type | Name |  .. | |  download | |  firmware | |
| Type | Name | | | | | | | | |
|  .. | | | | | | | | | |
|  download | | | | | | | | | |
|  firmware | | | | | | | | | |
| Grace Period | | | | | | | | | |
| Grace Period N minutes | Specify how long the NAS should wait when you add a new file for auto upload. For example, if you set the grace period to 5 minutes, the NAS uploads a new file after it has been in a watched folder for 5 minutes. You can choose from a range of 1 to 10080 minutes (up to one week). | | | | | | | | |
| Video Category | Select the category that best describes the media files you want to upload. | | | | | | | | |
| Default Privacy | | | | | | | | | |
| Who can see your media files on YouTube? | <p>Determine who has the right to see files uploaded to your YouTube account.</p> <p>Select Only You if you do not want anyone else to see your files.</p> <p>Select Anyone to allow everyone to see your files.</p> | | | | | | | | |
| Apply | Click this to save your changes. | | | | | | | | |
| Reset | Click this to restore your previously stored settings. | | | | | | | | |

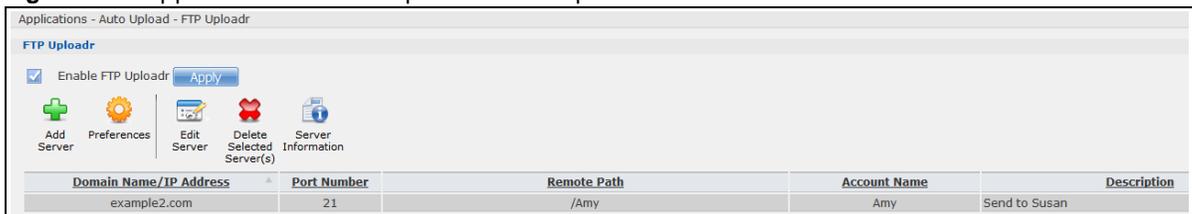
19.5 FTP Uploadr Screen

The FTP Uploadr feature uploads files stored in the NAS to FTP servers. Besides web publishing and media server, auto upload is another convenient way to share media files with your friends and family. You can link the NAS to the FTP server or the FTP server on another NAS and select shares or folders for the NAS to upload. The NAS uploads the files stored in the specified shares to the FTP server. When you add new files to the specified shares, the NAS also automatically uploads the new files to the FTP server.

Use this screen to configure the FTP Uploadr.

Click **Applications > Auto Upload > FTP Uploadr** to open the screen shown next.

Figure 164 Applications > Auto Upload > FTP Uploadr



The following table describes the labels in this screen.

Table 96 Applications > Auto Upload > FTP Uploadr

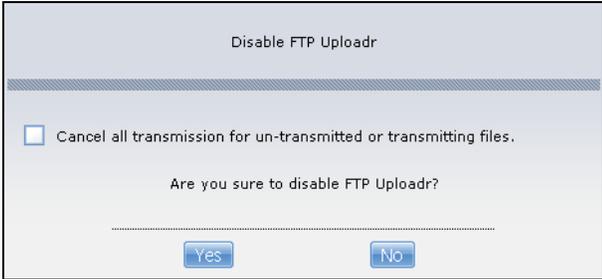
| LABEL | DESCRIPTION |
|--------------------|---|
| Enable FTP Uploadr | <p>Use the check box to enable or disable the FTP Uploadr. Click Apply to save your changes.</p> <p>When you disable the FTP Uploadr, a screen opens requesting confirmation. Select the check box to stop any current or queued uploads. If you do not select the check box, the FTP Uploadr will finish uploading the files that are already in the queue list. Clicking Yes will disable the FTP Uploadr.</p>  |
| Add Server | Click this to add a target FTP server entry. See Section 19.5.1 on page 271 for more details. |
| Preferences | Click this to manage the settings of the FTP Uploadr. |
| Edit Server | Select a server from the list and click this to edit the FTP server entry. |

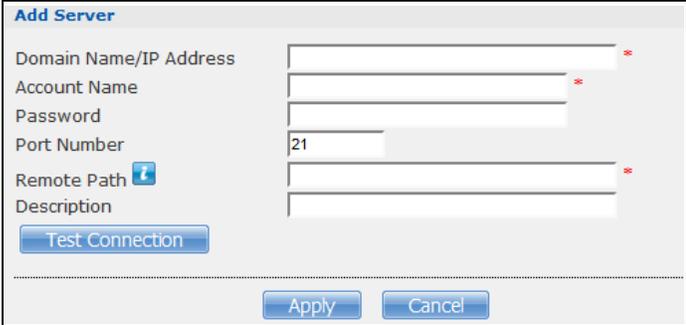
Table 96 Applications > Auto Upload > FTP Uploadr (continued)

| LABEL | DESCRIPTION |
|---------------------------|--|
| Delete Selected Server(s) | Select a server from the list and click this to remove the FTP server entry.  |
| Server Information | Select a server from the list and click this to display the status and settings about the FTP server. |
| Domain Name/IP Address | This is the domain name or IP address of the FTP server. |
| Port Number | This is the port number used by the FTP server. |
| Remote Path | The NAS automatically uploads files to this location of the FTP server. |
| Account Name | This is the login account for the FTP server. |
| Description | This is the information related to the FTP server. |

19.5.1 Adding or Editing an FTP Server Entry

Use this screen to add or edit an FTP server entry for auto upload.

In the **FTP Uploadr** screen, click the **Add Server** or **Edit Server** button to open the following screen.

Figure 165 Applications > Auto Upload > FTP Uploadr > Add or Edit a Server


The following table describes the labels in this screen.

Table 97 Applications > Auto Upload > FTP Uploadr > Add or Edit a Server

| LABEL | DESCRIPTION |
|------------------------|--|
| Domain Name/IP Address | Enter the domain name or IP address of the FTP server. |
| Account Name | Enter the account name used to access the FTP server. |

Table 97 Applications > Auto Upload > FTP Uploadr > Add or Edit a Server (continued)

| LABEL | DESCRIPTION |
|-----------------|---|
| Password | Enter the password associated with the account name. |
| Port Number | Enter the port number for the FTP server. |
| Remote Path | Enter the path of the FTP server where the NAS automatically uploads files. |
| Description | Enter additional information about this FTP server. |
| Test Connection | Click this to test your settings and check whether you can use the settings to connect to the FTP server. |
| Apply | Click this to save your changes. |
| Cancel | Click this to return to the previous screen without saving. |

19.5.2 FTP Uploadr Preferences Screen

Use this screen to configure the general settings for the FTP Uploadr.

In the **FTP Uploadr** screen, click the **Preferences** icon to open the following screen.

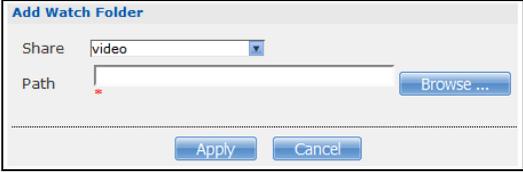
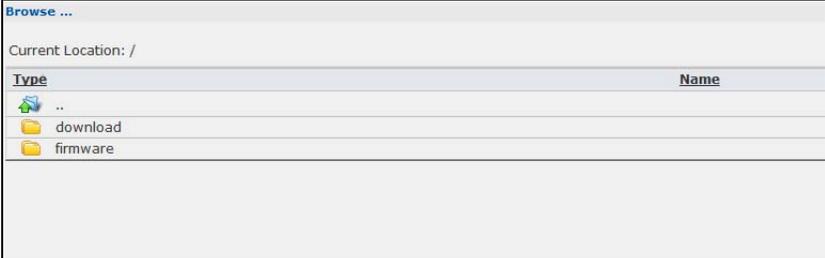
Figure 166 Applications > Auto Upload > FTP Uploadr > Preferences

The following table describes the labels in this screen.

Table 98 Applications > Auto Upload > FTP Uploadr > Preferences

| LABEL | DESCRIPTION |
|-------------------|---|
| Folder Watch List | |
| Status | This field indicates whether the share or folder is available.  represents a valid folder. The folder is available for auto upload.  represents a missing folder. The share may be deleted from the NAS, or the hard disk was removed from the NAS. |
| Share Name | This is the share selected for auto upload. |
| Path | This is the path of a folder selected for auto upload. The NAS only uploads files stored in the specified share or folder to your FTP server. |
| Action | Use the Remove icon to delete a folder from the Folder Watch List . |

Table 98 Applications > Auto Upload > FTP Uploadr > Preferences (continued)

| LABEL | DESCRIPTION |
|-----------------|--|
| Add | <p>Click this to open the following screen where you can set a folder that contains files you want the NAS to automatically upload.</p>  <ul style="list-style-type: none"> • Share - Select the share from the list. • Path - Type the folder location in the share directly or click Browse to open the following screen and navigate to the folder's location.  <ul style="list-style-type: none"> • Current Location - This is the location of the selected folder. • Folder Name - Enter a new folder name and click  to create it. • Type - This is the type of the folder/file. • Name - This is the name of the folder/file. <p>Select a folder. If you don't select a folder, a forward slash (/) displays in the Path field. All contents within the specified share are automatically selected.</p> <p>Click Apply to save your settings and Cancel to close the screen.</p> |
| Settings | |
| Grace Period | Specify how long the NAS should wait when you add a new file for auto upload. For example, if you set the grace period to 5 minutes, the NAS uploads a new file after it has been in a watched folder for 5 minutes. You can choose from a range of 1 to 10080 minutes (up to one week). |
| Bandwidth Limit | <p>Enter the maximum upload rate for auto upload. You can choose from a range of 0 to 100,000 KB/s. Enter 0 if you do not want to set any limit.</p> <p>Use this to leave bandwidth on your network connection for other traffic, especially if your Internet connection has restricted upload speed.</p> |
| Apply | Click this to save your changes in this section. |
| Reset | Click this to restore previously saved settings. |
| Close | Click this to return to the previous screen without saving. |

20.1 Overview

The Dropbox Web-based file hosting service uses cloud computing to let you use file synchronization to store and share files and folders with others across the Internet. Use your Dropbox account to easily move files to your NAS and have the NAS download *.torrent files.

20.2 Dropbox Screen

Use the **Dropbox** screen to log the NAS into your Dropbox account. This creates Drop2NAS and zDownload folders in your Dropbox account. See [Section 20.3 on page 276](#) for how to use the folders to move files to your NAS and have the NAS download *.torrent files. The NAS checks the Dropbox account's Drop2NAS and zDownload folders every three minutes.

Click **Applications > Dropbox** to open the following screen.

Figure 167 Applications > Dropbox

Applications - Dropbox

Status

| | |
|--------|-------|
| Status | Ready |
| Name | N/A |
| Email | N/A |

Capacity 0% (0.00 Bytes) Used
0.00 Bytes Total 100.00% Free

Configuration

Enable Dropbox

Note:
The default directory is in admin/Dropbox/FromDropbox.

Logout

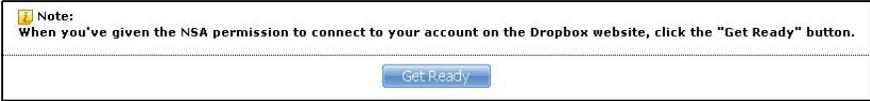
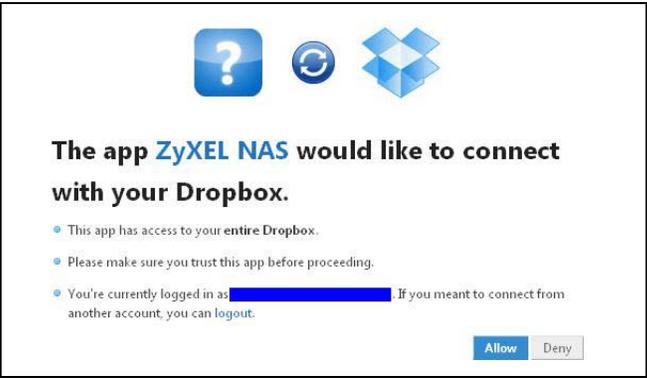
Apply

The following table describes the labels in this screen.

Table 99 Applications > Dropbox

| LABEL | DESCRIPTION |
|----------|--|
| Status | <p>This shows the status of the NAS Dropbox application's interaction with the Dropbox server.</p> <p>Disable: The NAS Dropbox application is turned off.</p> <p>Ready: The NAS Dropbox application has authenticated with the Dropbox server and is ready to use.</p> <p>Authenticating with Dropbox. Please wait.: The NAS Dropbox application is logging into the Dropbox server.</p> <p>Failed to negotiate link with Dropbox. Please contact your vendor.: The NAS cannot find the Dropbox server at the normal address.</p> <p>Receiving file/folder from Dropbox tunnel.: The NAS is getting a file from your Dropbox account.</p> <p>Dropbox account has been already used on other NAS.: One Dropbox account can only work with one NAS at a time. Log the other NAS out of your Dropbox account to be able to use the account with this NAS.</p> |
| Name | This is the owner of the Dropbox account the NAS is configured to use. |
| Email | This is the e-mail address of the owner of the Dropbox account the NAS is configured to use. |
| Logout | <p>This displays after the NAS connects to Dropbox. Click Logout to stop syncing your files with Dropbox and have the NAS log out from your Dropbox account. Use this to be able to use the NAS with another Dropbox account. If you only want to stop syncing your files with Dropbox, you can just clear the Enable Dropbox option and click Apply.</p> |
| Capacity | This shows how much total storage space is available on the NAS to use for Dropbox as well as the amounts already in use and still available. |

Table 99 Applications > Dropbox (continued)

| LABEL | DESCRIPTION |
|----------------|---|
| Enable Dropbox | <p>Select this to synchronize and back up your Dropbox account. The first time you do this a Dropbox screen prompts you to log into your Dropbox account.</p>  <p>Then a NAS pop-up opens. Click Get Ready.</p>  <p>Click Allow when the Dropbox screen notifies you of the NAS's DropNAS application trying to connect to your Dropbox account.</p>  <p>After the NAS connects to Dropbox, clear the Enable Dropbox option and click Apply to stop syncing your files with Dropbox without logging out from your Dropbox account. Click Logout instead to be able to use the NAS with another Dropbox account.</p> |
| Apply | Click this to save your changes. |

20.3 How to Use Dropbox with the NAS

Here is how to use the Drop2NAS and zDownload folders the NAS creates in your Dropbox account.

Using the Drop2NAS Folder

The NAS connects to Dropbox and copies files in the Drop2NAS folder to the NAS's admin\Dropbox\FromDropbox folder and empties the Drop2NAS folder. The NAS initiates connections to the Dropbox server so you do not need to configure rules on a firewall in front of the NAS to allow access to the NAS. Dropbox is not connecting to the NAS. When you upload files of the same name to the Drop2NAS folder, the NAS adds a number to the names of the files in the NAS's

admin\Dropbox\FromDropbox folder in the format of “filename(n).extension”. Here is an example of the Drop2NAS folder.

Note: Do not delete the NAS token file as it is needed for your NAS to work with the Dropbox account.

Figure 168 Dropbox\Drop2NAS



Using the zDownload Folder

The NAS copies *.torrent files in the zDownload folder to the NAS's admin\download\torrents folder and automatically starts downloading them. The NAS adds a suffix to the name of each torrent file in the Dropbox account's zDownload folder and keeps updating it to show the job's state (downloading, queued, paused, canceled, uploading, finished, error, or retrying). The NAS does not take any action for folders nor other types of files in the zDownload folder. Here is an example of torrent files in the zDownload folder.

Figure 169 Dropbox\zDownload

The screenshot shows a Windows Explorer window titled '\Dropbox\zDownload' displaying a list of files in a table format. The columns are '名稱' (Name), '大小' (Size), '類型' (Type), and '修改日期' (Modification Date).

| 名稱 | 大小 | 類型 | 修改日期 |
|-------------------------------------|--------|--------------|------------------|
| Readme_zDownload.pdf | 3 KB | Adobe Acr... | 2011/08/05 10:52 |
| test_Torrent(3).torrent.downloading | 220 KB | DOWNLO... | 2009/04/24 17:48 |
| test_Torrent(6).torrent.downloading | 64 KB | DOWNLO... | 2009/04/24 17:45 |
| test_Torrent(7).torrent.downloading | 56 KB | DOWNLO... | 2009/04/24 17:47 |
| test_Torrent.torrent.downloading | 221 KB | DOWNLO... | 2009/04/23 17:00 |
| test_Torrent(5).torrent.error | 14 KB | ERROR ... | 2009/04/23 16:59 |
| test_Torrent(2).torrent.queue | 28 KB | QUEUE ... | 2009/04/23 16:58 |
| test_Torrent(4).torrent.uploading | 14 KB | UPLOADI... | 2009/04/23 16:59 |

Using Time Machine with the NAS

21.1 Overview

Time Machine is a backup system provided by Mac OS X. It automatically backs up everything on your Mac, including pictures, music, videos, documents, applications, and settings. This chapter helps you to enable Time Machine in OS X to use your NAS as a backup volume.

21.2 Time Machine Screen

Use the **Time Machine** screen to turn Time Machine support on or off, and designate the share for Time Machine backups.

Click **Applications > Time Machine** to open the following screen.

Figure 170 Applications > Time Machine



The following table describes the labels in this screen.

Table 100 Applications > Time Machine

| LABEL | DESCRIPTION |
|---------------------|---|
| Enable Time Machine | Select this to allow Macs to use Time Machine to back up to the NAS. Clear it to turn off Time Machine support. |
| Share | Select the share the NAS uses to store Time Machine backups. |
| Apply | Click this to save your changes. |
| Reset | Click this to restore the screen's last-saved settings. |

21.3 Using Time Machine

After enabling Time Machine on the NSA, follow the steps below to set up Time Machine on your Mac to use your NAS for backup.

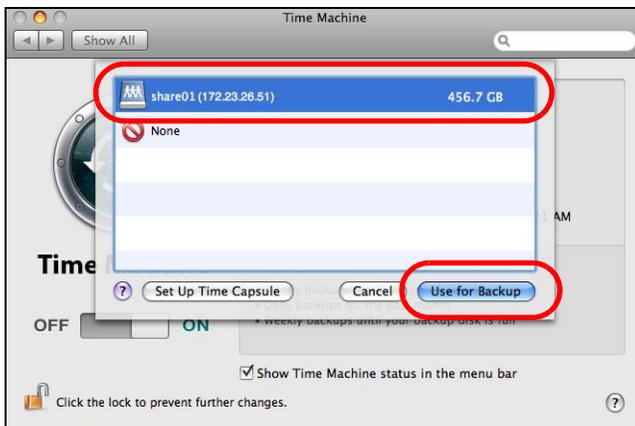
- 1 Click **Apple > System Preferences**. Then go to **System** and select **Time Machine**.



- 2 Turn Time Machine **ON**. Then click **Change Disk**.



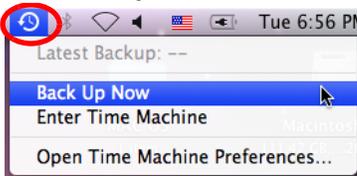
- 3 Select **share01** as the backup disk. Then click **Use for Backup**.



- 4 When prompted for the username and password of **share01**, enter the login information for an existing user account with write access permission on **share01** (for information on configuring user accounts and shares see [Section 14.6 on page 155](#)). In this example **user1/12345** is used. Then click **Connect**.



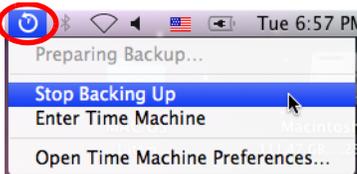
- 5 Time Machine starts backing up files to **share01** after 120 seconds. If you want to backup immediately, click Time Machine icon and select **Back Up Now**.



- 6 The screen shows the status of the backup once the process begins.



- 7 To stop the backup process, click the Time Machine icon and select **Stop Backing Up**. Then turn Time Machine **OFF**.



22.1 Overview

This chapter introduces the **Users** screens of the NAS. Use the **Users** screens to create and manage administrator and user accounts.

Administrators can:

- Configure and manage the NAS.
- Create volumes, shares, and user accounts.
- Assign individual users specific access rights for specific shares.

Users are people who have access rights to the NAS and can store files there for later retrieval. A user can:

- Manage shares that he owns.
- Change his own password.
- Access the contents of other shares to which he is given access rights.

22.2 What You Can Do

- Use the main **Users** screen ([Section 22.3 on page 281](#)) to display a list of user accounts created on the NAS.
- Use the **Add User** screen ([Section 22.3.2 on page 283](#)) to create new user accounts.
- Use the **Edit User** screen ([Section 22.3.2 on page 283](#)) to edit the properties of an existing account.
- Use the **User Info** screen ([Section 22.4 on page 285](#)) to display the amount of volume space used by a selected account and the account's membership in any groups.

22.3 Users Screen

Click **Sharing > Users** to display the screen shown next.

Use this screen to create and manage accounts for users who can store files on the NAS.

Figure 171 Sharing > Users



The following table describes the labels in this screen.

Table 101 Sharing > Users

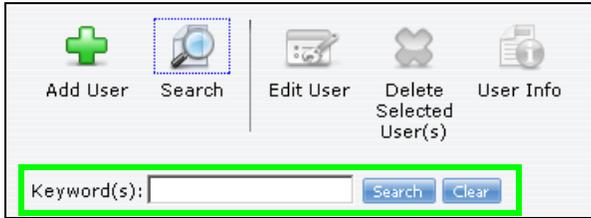
| LABEL | DESCRIPTION |
|-----------------------|---|
| Add User | Click this to open a screen where you can configure a new user account. Refer to Section 22.3.2 on page 283 to see the screen. |
| Search | Click this to display a search field. Type in the name of an account and then click Search to look up the account you specified. Click Clear to close the search function.  |
| Edit User | Select an account and click this to open a screen where you can edit the properties of the account. Refer to Section 22.3.2 on page 283 to see the screen. |
| Delete Selected Users | Select an account and click this to open a screen where you can delete the user account.  |
| User Info | Select an account and click this to open a screen displaying the amount of storage space used by the account. You can also check the account's membership in any groups. Refer to Section 22.4 on page 285 to see the screen. |
| Display Number | Click the drop-down menu to set how many accounts you want to display in one screen. |
| Go to Page | Click the drop-down menu to display and access more user accounts. |

Table 101 Sharing > Users (continued)

| LABEL | DESCRIPTION |
|-----------|--|
| User Type | This field displays whether the account is an administrator account or a user account. |
| Username | This field displays the username of each account. |

22.3.1 User Icons

The following table describes the user icons.

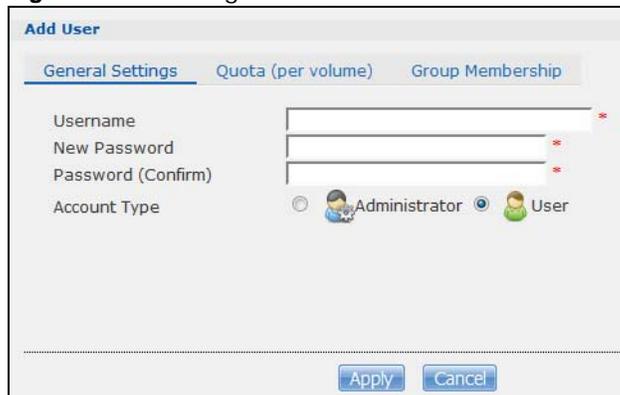
Table 102 User Icons

| ICON | DESCRIPTION |
|---|--|
|  | The blue icon is for an administrator account. |
|  | The green icon is for a user account. |

22.3.2 Adding or Editing an Account

Use this screen to create or edit a NAS user account with NAS access password.

Click the **Add User** button in the **Users** screen to open the following screens. Click the **Edit User** button in the screen shown previously to edit an existing account.

Figure 172 Sharing > Users > Add or Edit a User: General Settings


Add User

General Settings Quota (per volume) Group Membership

Username

New Password

Password (Confirm)

Account Type Administrator User

Apply Cancel

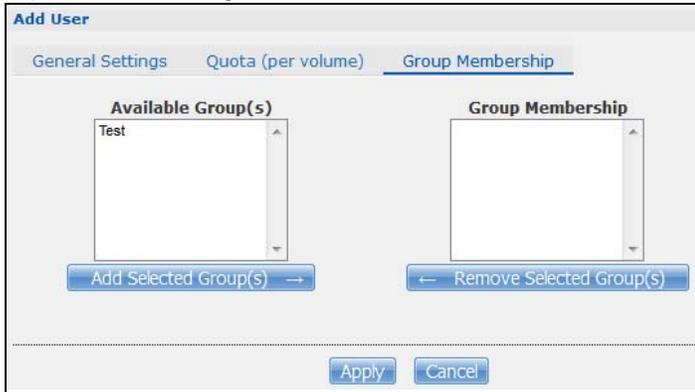
Figure 173 Sharing > Users > Add or Edit a User: Quota (per volume)


Add User

General Settings Quota (per volume) Group Membership

| Volume Name | Quota (per volume) |
|---------------------|--------------------------|
| Volume1 (3.58 TB) | 0 MB (0 means unlimited) |

Apply Cancel

Figure 174 Sharing > Users > Add or Edit a User: General Settings

The following table describes the labels in these screens.

Table 103 Users > Add or Edit a User

| LABEL | DESCRIPTION |
|--------------------------|---|
| General Settings | Click this to configure the user's user name and password. |
| Username | Type a name from 1 to 32 single-byte (no Chinese characters allowed for example) ASCII characters. See Section 22.3.3 on page 284 for more details on usernames. |
| New Password | Create a password associated with this user. You can type from one to 14 single-byte (no Chinese characters allowed for example) ASCII characters. |
| Password (Confirm) | You must type the exact same password that you just typed in the above field. |
| Account Type | Select Administrator to give the account full configuration and management access to the NAS. Select User to give the account basic access rights to the NAS and allow the user to manage his own shares, change his own password, and access the contents of other shares to which he is given access rights. |
| Quota (per volume) | Click this to configure which volume the user can use and the allowed storage space. |
| Volume Name | Select the volume in which you want the user's files to be stored. |
| Quota (per volume) | Enter how much space (in megabytes) you want to allow for the user to store files. |
| Group Membership | Click this to configure to which groups on the NAS the user belongs. |
| Available Group(s) | This field lists the groups created on the NAS to which the selected account does not belong. |
| Group Membership | This field lists the groups that the selected account belongs to. |
| Add Selected Group(s) | Select a group from the Available Groups list and click this to add the account to that group. |
| Remove Selected Group(s) | Select a group from the Group Membership list and click this to remove the account from that group. |
| Apply | Click this to save your changes. |
| Cancel | Click this to return to the previous screen without saving. |

22.3.3 Usernames

Enter a username from one to 32 characters. The first character must be alphabetical (case insensitive, [A-Z a-z]); numeric characters are not allowed as the first character.

The username can only contain the following characters:

- Alphanumeric A-z 0-9. Unicode usernames are supported with CIFS logins, but not FTP or web configurator logins.
- Spaces
- _ [underscores]
- . [periods]
- - [dashes]

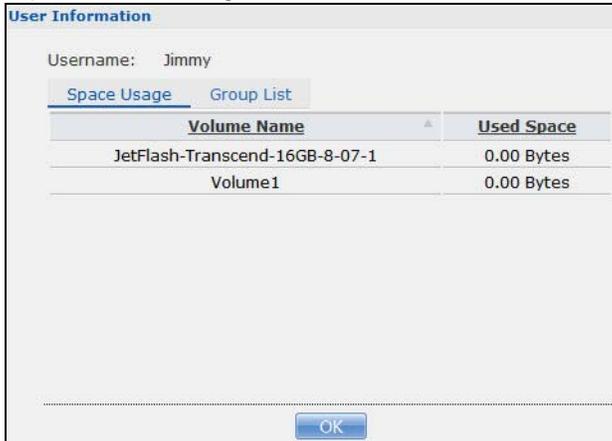
Other limitations on usernames are:

- All leading and trailing spaces are removed automatically.
- Multiple spaces within names are converted to a single space.
- Usernames are case insensitive. The username cannot be the same (no matter the letter case) as an existing user. For example, if a user exists with the name 'BOB', you cannot create a user named 'bob'. If you enter a user 'bob' but use 'BOB' when connecting via CIFS or FTP, it will use the account settings used for 'bob'.
- The username cannot be the same as a system username such as **ANONYMOUS-FTP** nor be the same as an existing user. Other reserved usernames that are not allowed are:
 - bin
 - daemon
 - ftp
 - anonymous-ftp
 - anonymous
 - nobody
 - root
 - pc-guest
 - admin
 - password

22.4 Displaying User Info

Use this screen to display a user's information.

In the **Users** screen, select an account and click **User Info** to open the following screen.

Figure 175 Sharing > Users > User Info

The following table describes the labels in this screen.

Table 104 Sharing > Users > User Info

| LABEL | DESCRIPTION |
|-------------|--|
| Username | This field displays the selected username. |
| Space Usage | Click this to display the amount of volume space used by the selected account. |
| Group List | Click this to display the selected user's group membership. |
| Volume Name | This field displays the volume(s) created on the NAS. |
| Used Space | This field displays how much storage space the selected account is currently using. This only applies for files that the user saved onto the NAS while logged in with that username. |
| Group Name | This shows when you click the Group List tab. This displays the list of groups to which the selected user belongs. |
| OK | Click this to close the current screen. |

23.1 Overview

This chapter introduces the **Groups** screens. Use the **Groups** screens to create and manage groups. You can assign users to groups and grant individual groups access rights to specific shares.

23.2 What You Can Do

- Use the main **Groups** screen (Section 23.3 on page 287) to display and manage a list of groups created on the NAS.
- Use the **Add Group** screen (Section 23.3.1 on page 288) to create new groups.
- Use the **Edit Group** screen (Section 23.3.1 on page 288) to edit the properties of an existing group.

23.3 Groups Screen

Use this screen to create and manage groups.

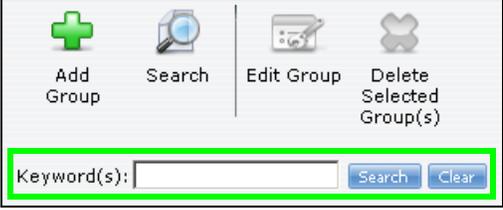
Click **Sharing** > **Groups** to display the screen shown next.

Figure 176 Sharing > Groups



The following table describes the labels in this screen.

Table 105 Sharing > Groups

| LABEL | DESCRIPTION |
|--------------------------|--|
| Add Group | Click this to open a screen where you can configure a new group. |
| Search | <p>Click this to display a search field. Type the name of a group and then click Search to look up the group you specified. Click Clear to close the search function.</p>  |
| Edit Group | Select a group and click this to open a screen where you can edit the properties of the selected group. |
| Delete Selected Group(s) | <p>Select a group and click this to open a screen where you can delete the group.</p>  |
| Display Number | Click the drop-down menu to set how many groups you want to display in one screen. |
| Go to Page | Click the drop-down menu to select a page number. Jump to a different page to display and access more groups. |
| Status |  This field displays the group icon. |
| Group Name | This field displays the group names created on the NAS. |

23.3.1 Adding or Editing a Group

Use this screen to create or edit a NAS group.

Click the **Add Group** button in the **Groups** screen to open the following screen. Click the **Edit Group** button in the screen shown previously to edit an existing group.

Figure 177 Sharing > Groups > Add or Edit a Group

The following table describes the labels in this screen.

Table 106 Sharing > Groups > Add or Edit a Group

| LABEL | DESCRIPTION |
|-------------------------|--|
| Group Name | Type a name from 1 to 32 single-byte (no Chinese characters allowed for example) ASCII characters. See Section 23.3.2 on page 289 for more details on group names. |
| Group Membership | Use this field to assign group membership to individual users. |
| Available User(s) | This field lists the user accounts created on the NAS that are not members of the current group. |
| Group Membership | This field lists the user accounts added to the group. |
| Add Selected User(s) | Select a user account from the Available Users list and click this to add the account to the group. |
| Remove Selected User(s) | Select a user account from the Group Membership list and click this to remove the account from the group. |
| Apply | Click this to save your changes. |
| Cancel | Click this to return to the previous screen without saving. |

23.3.2 Group Names

Enter a group name from 1 to 32 characters. The first character must be alphabetical (case insensitive, [A-Z a-z]); numeric characters are not allowed as the first character.

The group name can only contain the following characters:

- Alphanumeric A-z 0-9. Unicode usernames are supported with CIFS logins, but not FTP or web configurator logins.
- Spaces
- _ [underscores]
- . [periods]
- - [dashes]

Other limitations on group names are:

- All leading and trailing spaces are removed automatically.
- Multiple spaces within names are converted to a single space.

- Group names are case insensitive. The group name cannot be the same (no matter the letter case) as an existing group. For example, if a group exists with the name 'FAMILY', you cannot create a group named 'family'.
- The group name cannot be the same as a system group name such as **EVERYONE** nor be the same as an existing group. Other reserved groups names that are not allowed are:
 - nobody
 - root
 - everyone

24.1 Overview

A share is a set of access permissions mapped to a specific folder on a volume. It is equivalent to the Windows concept of a shared folder. You can map a share to a network drive for easy and familiar file transfer for Windows users.

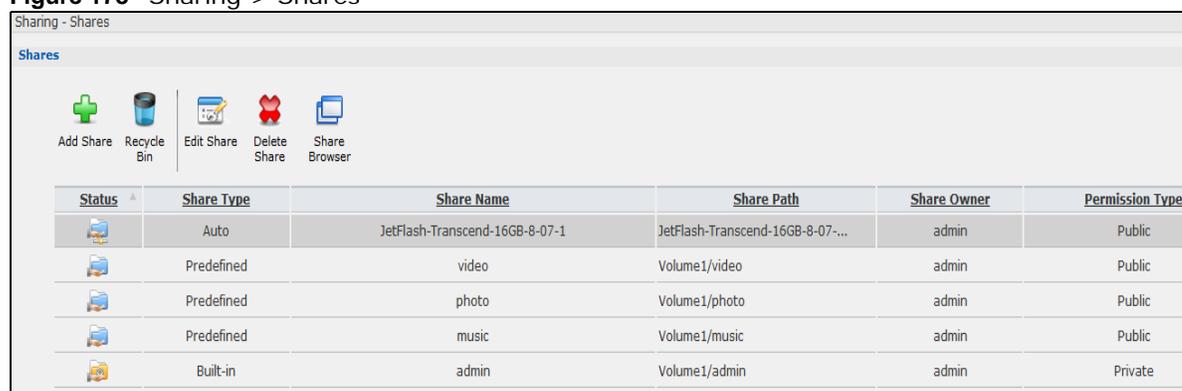
24.2 What You Can Do

- Use the **Shares** screen ([Section 24.3 on page 291](#)) to navigate a list of shares created on the NAS.
- Use the **Add Shares** screen ([Section 24.3.1 on page 293](#)) to create additional shares on the NAS.
- Use the **Recycle Bin** screen ([Section 24.4 on page 295](#)) to configure and clean up the recycle bins.
- Use the **Edit Share** screen ([Section 24.3.1 on page 293](#)) to edit a share's properties.
- Use the **Share Browser** screen ([Section 24.5 on page 296](#)) to navigate, add and edit the contents in a share.

24.3 Shares Screen

Click **Sharing > Shares** in the navigation panel to open the following screen. This screen lists all shares created on the NAS.

Figure 178 Sharing > Shares



| Status | Share Type | Share Name | Share Path | Share Owner | Permission Type |
|--------|------------|--------------------------------|----------------------------------|-------------|-----------------|
| | Auto | JetFlash-Transcend-16GB-8-07-1 | JetFlash-Transcend-16GB-8-07-... | admin | Public |
| | Predefined | video | Volume1/video | admin | Public |
| | Predefined | photo | Volume1/photo | admin | Public |
| | Predefined | music | Volume1/music | admin | Public |
| | Built-in | admin | Volume1/admin | admin | Private |

The following table describes the labels in this screen.

Table 107 Sharing > Shares

| LABEL | DESCRIPTION |
|---------------|--|
| Add Share | Click this to create a new share. |
| Recycle Bin | Click this to configure recycle bins. |
| Edit Share | Select a share and click this to edit the share. |
| Delete Share | <p>Select a share and click this to remove or restrict access to the share.</p>  |
| Share Browser | Select a share and click this to browse the share's contents. |
| Status | <p>This field displays the share icons.</p> <ul style="list-style-type: none">  represents a Built-in share on a volume on the internal hard drives.  represents a Predefined or User-Created share on a volume on the internal hard drives.  represents an Auto or User-Created share on a volume on the external (USB) devices.  represents a disabled share that no user can access.  represents a missing share. The NAS cannot find the hard disk associated with the share (the disk may be removed from the NAS for example). You may install the disk back to the NAS to recover the share, or you may delete the share from the NAS. |
| Share Type | <p>This field displays Built-in for the admin share. If you delete the volume containing this share, the NAS automatically creates an admin share in the next volume by alphabetical order.</p> <p>This field displays Predefined for default shares. Default shares, including music, video, and photo, always exist as long as there is a volume. If you delete the volume containing these default shares, the NAS automatically creates these shares in the next volume by alphabetical order.</p> <p>This field displays User-created for shares that an administrator has created. You can delete these shares.</p> <p>This field displays Auto for shares that are automatically created on an external (USB) device when a user plugs in the device.</p> |
| Share Name | This field displays the share's names. |
| Share Path | This field displays the share's file path, for example, volume1/music. |

Table 107 Sharing > Shares (continued)

| LABEL | DESCRIPTION |
|-----------------|---|
| Share Owner | This is the name of the user account to which this share belongs. |
| Permission Type | This field displays the access permission of a share. Everyone on the network can access a Public share. Only the share owner can access a Private share. An Advanced share allows you to assign specific access rights (read-only for example) to individual users/groups. |

24.3.1 Adding or Editing Share

Click **Add Share** to create a new share. In the **Shares** screen, select a share and click **Edit Share** to open the following screen. Use this screen to create or edit a share.

Figure 179 Shares > Add Share (or Edit Share)

The following table describes the labels in this screen.

Table 108 Shares > Add Share (or Edit Share)

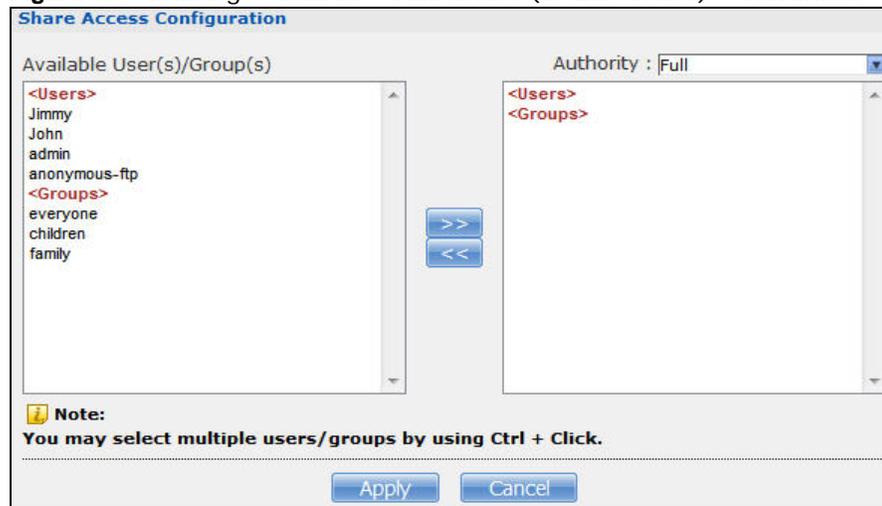
| LABEL | DESCRIPTION |
|------------------------------------|---|
| Share Name | Type a share name from 1 to 239 single-byte (no Chinese characters allowed for example) ASCII characters. The name cannot be the same as another existing share. See Section 11.2.2 on page 128 for more information on share names. |
| Volume | You should have already created volumes (a single accessible storage area with a single file system) on the NAS. Select the one that contains the folder that you want to share out. You cannot modify this when editing a share. |
| Make this share owned by | Select the administrator or user account that can own (manage) this share. The share owner controls access rights to the share. |
| Enable this share | Click this to allow access to this share. |
| Enable Recycle Bin | Click this to activate the recycle bin. When you delete a file from this share, a recycle folder is created to store the deleted item. |
| Publish this share to Media Server | This option is available only when you enable the Media Server (Section 17.5 on page 216). Select this option to have the NAS make media files in this share available to media clients and through the Playzone screens. When you publish a share, you can also select whether or not to publish music tracks, photos, and videos. The media clients do not have to use a password to play the shares you publish. |

Table 108 Shares > Add Share (or Edit Share) (continued)

| LABEL | DESCRIPTION |
|---------------------------|---|
| Publish this share to Web | This option is available when you enable the Web Publish (Section 17.8 on page 230). Select this option to let people use a web browser to access this share's files without logging into the Web Configurator. |
| Share Access | Assign access rights (full, read only or deny) to users or groups. If you publish the share to the media server or the web, all users will have at least read-only access to the share, regardless of what you configure here. Keep it private to owner means only the share owner (selected above) can access the share. Make it Public means every user (including people who do not have accounts on the NAS) can access the share. Advanced allows you to assign specific access rights (full, read only or deny) to individual users/groups. |
| Edit | This button is available only when you select Advanced share access. Click this to configure advanced share access rights. |
| Apply | Click this to save your changes. |
| Cancel | Click this to return to the previous screen without saving. |

24.3.2 Configuring Advanced Share Access

In the **Sharing > Shares > Add Share** or **Edit Share** screen, select **Advanced** from the **Share Access** drop-down list. Click **Edit** to open the following screen. Use this screen to configure share access rights for individual users and groups.

Figure 180 Sharing > Shares > Add Share (or Edit Share) > Advanced

The following table describes the labels in this screen.

Table 109 Sharing > Shares > Add Share (or Edit Share) > Advanced

| LABEL | DESCRIPTION |
|---|---|
| Available Users/Groups | This field lists the users/groups to which you can assign access rights. |
| Authority | Use this field to assign access rights to users/groups. Full Control gives users/groups full access (read, write and execute) to all files contained within this share. Read-Only gives users/groups read-only access (they cannot modify nor execute) to all files contained within this share. Deny blocks access (users/groups cannot read, modify, nor execute) to all files contained within this share. Among all access rights, Deny has the highest priority. For example, User A belongs to Group 1. You assign User A full access rights to the Music share but deny access rights to Group 1. Then User A cannot access the Music share. Note: If you deny access to all users, no-one can use the share, not even the administrator. |
|   | Click an arrow button to move users/groups between the left and right fields. Use the arrow buttons to assign access rights to users/groups. |
| Apply | Click this to save your changes. |
| Cancel | Click this to return to the previous screen without saving. |

24.3.3 Public and ANONYMOUS Share Access Rights

If you make a share public, users do not need to log in.

With **ANONYMOUS FTP**, you must enter either 'anonymous' or 'ftp' as the username. Any other name is considered a username, so must be valid and have a corresponding correct password.

24.4 Recycle Bin Configuration Screen

Use this screen to periodically clean up items in all recycle bins.

24.4.1 Recycle Bins

Recycle bins in the NAS help users recover accidentally deleted files or folders in the shares. When you delete an item, a recycle folder is created within the share to hold the deleted item.

Every share can have its own recycle folder. You must enable the recycle-bin function to recycle deleted items. You can configure this setting when you add or edit a share. See [Section 24.4.2 on page 296](#) for details on activating the recycle bin in a share.

Later if you want to retrieve a deleted item, you can locate the item in the recycle folder. You may move or copy the deleted item to another share.

24.4.2 Configuring Recycle Bins

In the **Sharing > Shares** screen, click **Recycle Bin** to open the following screen.

Figure 181 Sharing > Shares > Recycle Bin

Recycle Bin Configuration

Clean Recycle Bin every day(s) (0 means not clean it automatically.)

[Empty ALL Recycle Bins Now](#)

[Apply](#) [Cancel](#)

The following table describes the labels in this screen.

Table 110 Sharing > Shares > Recycle Bin

| LABEL | DESCRIPTION |
|--------------------------------|--|
| Clean Recycle Bin every N days | Specify how often you want to clear the contents in all recycle bins. The specified days correspond to how long a file has been stored in a recycle bin. For example, if you set the interval to be 3 days, recycle bins will clean up items deleted or not accessed for 3 days. Note: Cleaning up recycle bins permanently removes the files from the NAS. |
| Empty All Recycle Bins Now | Click this to immediately remove contents from all recycle bins. |
| Apply | Click this to save your changes. |
| Cancel | Click this to return to the previous screen without saving. |

24.5 Share Browser Screen

Use this screen to create folders, upload files, and edit files within the share.

Figure 182 Sharing > Shares > Share Browser

Share Browsing

Create Folder Upload Rename Delete Move Copy

Current Location: /music

| Type | Name | Size | Modified Date |
|----------|---|---------|---------------------|
| .. | .. | | |
| Bon Jovi | Bon Jovi | | 2015-08-26 10:03:06 |
| ▶ | When you believe.mp3 | 4.18 MB | 2015-08-26 09:05:48 |
| ▶ | Up Where We Belong.mp3 | 3.53 MB | 2015-08-26 09:05:43 |
| ▶ | The Calling - Our Lives.mp3 | 5.30 MB | 2015-08-26 08:59:19 |
| ▶ | Somewhere Out There.mp3 | 3.63 MB | 2015-08-26 09:05:57 |
| ▶ | Olivia Ong--If I Ain't Got You.mp3 | 5.24 MB | 2015-08-26 09:04:36 |
| ▶ | Olivia Ong - The Rose.mp3 | 8.79 MB | 2015-08-26 09:04:31 |
| ▶ | Olivia Ong - I Feel The Earth Move.MP3 | 3.59 MB | 2015-08-26 09:04:26 |
| ▶ | Olivia Ong - Fall In Love With - 12.Only With You.mp3 | 8.35 MB | 2015-08-26 09:04:22 |
| ▶ | Olivia Ong - Fall In Love With - 04.Sometimes When We Touch.mp3 | 9.43 MB | 2015-08-26 09:04:17 |
| ▶ | Miley Cyrus - When I Look At You.mp3 | 5.73 MB | 2015-08-26 08:59:14 |
| ▶ | MAKING LOVE OUT OF NOTHING AT ALL.mp3 | 5.25 MB | 2015-08-26 09:09:04 |

[Close](#)

The following table describes the labels in this screen.

Table 111 Sharing > Shares > Share Browser

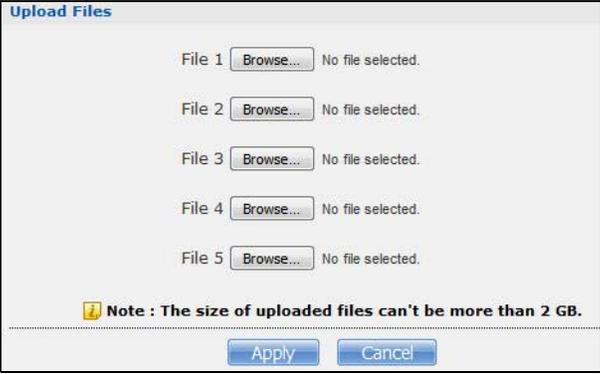
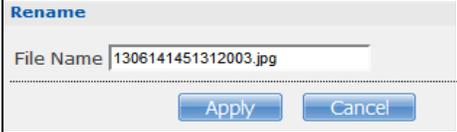
| LABEL | DESCRIPTION |
|------------------|--|
| Create Folder | Type a folder name and click Apply to make a new folder. The name can be 1 to 239 single-byte (no Chinese characters allowed for example) ASCII characters. The name cannot be the same as another existing folder in the same path. See Section 11.2.2 on page 128 for more information on folder names. |
| Upload | <p>Click this to add files to the share. Use Browse to locate a file and click Apply to upload the file. Note that the size of each file should be less than 2 GB.</p>  |
| Rename | <p>Select a folder or file and click this to open a screen. Enter the name you want and click OK to make the changes.</p> <p>Note: When you change a file name, make sure you keep the file extension</p>  |
| Delete | <p>Select a file/folder from the list and click this to open a warning screen. Click Yes to delete the file/folder, or click No to close the screen.</p>  |
| Move | Select a file/folder from the list and click this to relocate the file/folder to another share. |
| Copy | Select a file/folder from the list and click this to make a duplicate of the file/folder to another share. |
| Current location | This is the name of the share and folder path that you are in. |
| Type | <p>The icon in this column identifies the entry as a folder or a file. Click a music or video file's play icon to play the file.</p> <p>The folder with an arrow pointing up is for the link that takes you to the next higher layer in the share's folder tree.</p> |

Table 111 Sharing > Shares > Share Browser (continued)

| LABEL | DESCRIPTION |
|---------------|---|
| Name | This section lists the share's existing folders or files. Click to the right of the file/folder name to select the file/folder. You can also click the folder's name to navigate to a sub-folder within the folder. |
| Size | This field displays size of the file. |
| Modified Date | This field displays a file's latest modification date. |
| Close | Click this to close the screen. |

24.5.1 Moving or Copying Files

Use this screen to move or copy files to another share.

In the **Share Browser** screen, select a file or folder and click **Move** or **Copy** to open the following screen.

Figure 183 Sharing > Shares > Share Browser > Move (or Copy)

The following table describes the labels in this screen.

Table 112 Sharing > Shares > Share Browser > Move (or Copy)

| LABEL | DESCRIPTION |
|--------|--|
| Shares | Select the destination share from the drop-down list. |
| Path | This field displays the share folder's path. You can use Browse to find or create a folder on the NAS or type the location of the folder using forward slashes as branch separators. |
| Browse | <p>Click this to open the following screen and navigate to the location of the file/folder.</p> <ul style="list-style-type: none"> • Current Location - This is the location of the selected folder. • Folder Name - Enter a new folder name and click to create it. • Type - This identifies the item as a folder or file. • Name - This is the name of the folder/file. <p>Select a folder. If you don't select a folder, a forward slash (/) displays in the Path field. All contents within the specified share are automatically selected.</p> <p>Click Apply to save your settings and Cancel to close the screen.</p> |

Table 112 Sharing > Shares > Share Browser > Move (or Copy) (continued)

| LABEL | DESCRIPTION |
|-------|---|
| Yes | Click this to move or copy the file/folder to the designated share. |
| Close | Click this to return to the Share Browser screen. |

25.1 Overview

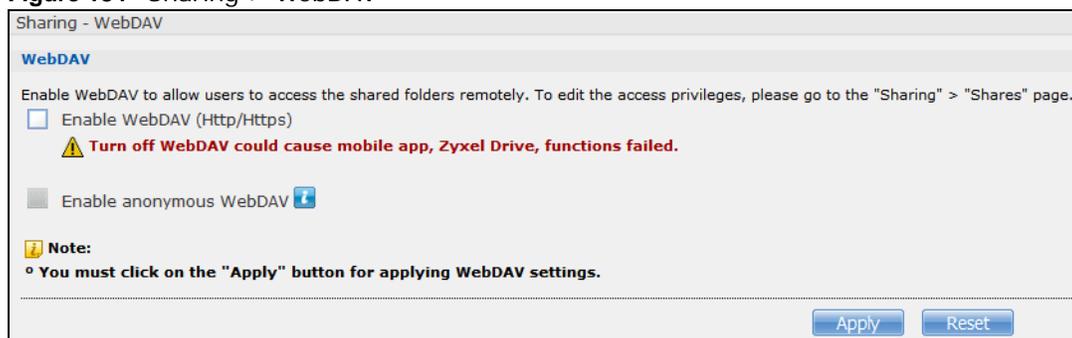
The WebDAV HTTP extension lets users edit and manage files stored on remote servers. The NAS's WebDAV service allows client programs that support WebDAV, such as NetDrive and BitKinex on Windows, Mac OS Finder, and Linux file browsers remotely edit and manage files stored on the NAS.

25.2 WebDAV Screen

Use the **WebDAV** screen to allow remote users to use client programs that support WebDAV to edit and manage files stored on the NAS.

Click **Sharing > WebDAV** to open the following screen.

Figure 184 Sharing > WebDAV



The following table describes the labels in this screen.

Table 113 Sharing > WebDAV

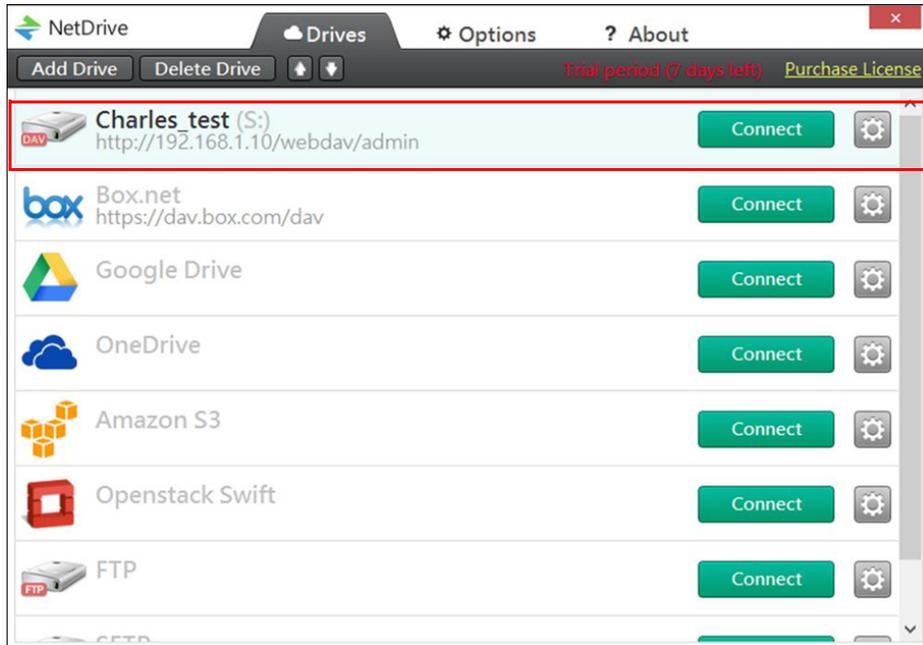
| LABEL | DESCRIPTION |
|----------------------------|---|
| Enable WebDAV (http/Https) | Select this to allow remote users to work with files stored on the NAS. Edit the access privileges in Sharing > Shares . Https is for secure WebDAV connections to the NAS. |
| Example | When you enable WebDAV the screen displays an example of the URL users would use to use WebDAV to connect to the NAS where "sharename" represents a share that the user can access. Use HTTPS for secure WebDAV connections to the NAS. |
| Enable anonymous WebDAV | Select this to allow remote users to use WebDAV to access all shares on the NAS without a login name or password. |
| Apply | Click this to save your changes. |
| Reset | Click this to discard any unsaved changes and restore previously saved settings. |

25.3 How to Use NetDrive with the NAS

Here is an example of how to use the NetDrive WebDAV client with the NAS.

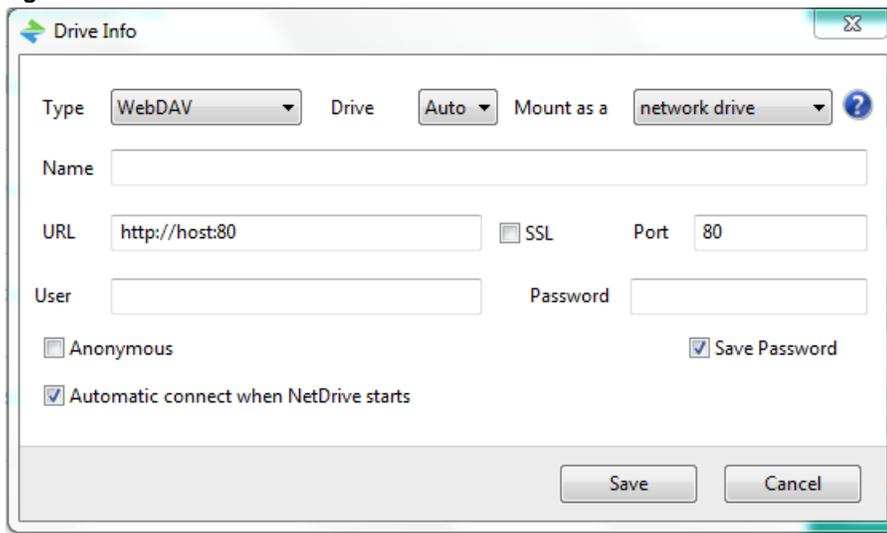
- 1 Download and install NetDrive.
- 2 Click **Add Drive** and use the URL for WebDAV connections to the NAS to add a drive entry for accessing the NAS.

Figure 185 NetDrive Example



- 3 Name the drive and specify the URL of the share to access. Select **SSL** if the NAS forces HTTPs use. Specify your user name and password for accessing the share on the NAS.

Figure 186 NetDrive Add Drive



Maintenance Screens

26.1 Overview

This chapter discusses the **Maintenance** screens. The **Maintenance** screens allow you to manage system configurations.

26.2 What You Can Do

- Use the **Power** screen ([Section 26.3 on page 302](#)) to configure power settings for the NAS, including power saving, UPS, power on/off after power failure, power on/off schedule, and Wake on LAN.
- Use the **Log** screen ([Section 26.4 on page 306](#)) to check the system's logs.
- Use the **Configuration** screen ([Section 26.5 on page 310](#)) to backup or restore the NAS configuration file.
- Use the **SSL** screen ([Section 26.6 on page 311](#)) to configure HTTPS and the NAS's SSL certificate.
- Use the **Shutdown** screen ([Section 26.7 on page 313](#)) to restart or shut down your NAS.
- Use the **Unpair myZyXELcloud** screen ([Section 26.8 on page 314](#)) to remove the pairing between the NAS and the myZyXELcloud account.

26.3 Power Screen

Use this screen to manage power settings for the NAS.

Click **Maintenance** > **Power** to display the following screen.

Figure 187 Maintenance > Power

The following table describes the labels in this screen.

Table 114 Maintenance > Power

| LABEL | DESCRIPTION |
|----------------------------------|--|
| Power Management | |
| Turn off hard disk(s) | Enter the number of minutes to wait when the NAS is idle before spinning the hard disks down to sleep (hibernation). The default time is 15 minutes. |
| Enable Sleeping HDD LED Blinking | Select this to have the HDD LED blink slowly when the hard disk is sleeping (hibernating). Clear this to have the HDD LED stay on when the hard disk is sleeping. |
| Minimum UPS Capacity | |
| Minimum UPS Capacity | When you use an APC Uninterruptible Power Supply (UPS) with a USB connection to the NAS, the NAS shuts itself down if the APC UPS's battery charge gets down to the percentage you specify in this field. This allows the NAS to shut down properly and avoid data loss caused by a power failure when the UPS stops supplying power. A setting around 50% is recommended. A setting close to 100% is not recommended since it would cause the NAS to shut down whenever the UPS is charging. A setting close to 0 is also not recommended since the UPS would not have enough power to allow the NAS to shutdown properly. |
| Power On After Power Failure | Select an option to set whether or not the NAS restarts when the power is restored after a power failure. Note: |
| Keep Former Status | Select this option to have the NAS automatically restart only if it was operating when the power failed. The NAS remains off if it was already off when the power failed. |
| Always Power On | Select this option to keep the NAS operating as much of the time as possible. The NAS restarts automatically even if it was turned off when the power failed. |

Table 114 Maintenance > Power (continued)

| LABEL | DESCRIPTION |
|-------------------------------|--|
| Always Power Off | Select this option to keep the NAS from automatically restarting when the power is restored after a power failure. This is a computer's "traditional" behavior. Select this if you have other servers such as a domain controller or DNS server that you want to start or check after a power failure before the NAS turns on. |
| Power On/Off Schedule | |
| Enable Power Control Schedule | <p>Select this option to have the NAS turn itself off and on or reboot according to the schedules you configured.</p> <p>Click Edit to go to the screen where you can configure the power control schedules.</p> <p>Refer to Section 26.3.1 on page 304 for this screen.</p> <p>Note:</p> |
| Enable Wake On LAN | <p>Enable Wake On LAN to be able to turn on the NAS through its wired Ethernet connection.</p> <p>You must have a computer or router on your LAN that supports sending Wake On LAN "magic packets" to turn on the NAS.</p> <p>To use Wake On LAN from a computer on your LAN, install a program such as Wake On LAN EX or another Wake On LAN program that supports sending magic packets.</p> <p>You can use Wake On LAN from a remote location if the router in front of the NAS supports sending magic packets.</p> <p>Use the NAS's power button or the Web Configurator's Maintenance > Shutdown menu to turn off the NAS.</p> |
| Apply | Click this to save your changes. |
| Reset | Click this to restore previously saved settings. |

26.3.1 Editing the Power Control Schedule Screen

Click **Maintenance > Power Management > Edit** to open this screen. Use this screen to configure power control schedules to have the NAS turn on, turn off, or reboot at specified times.

Figure 188 Maintenance > Power Management > Edit

Power Control Schedule List

| Type | Frequency | Execute Time | Actions |
|----------|-----------------------|--------------|---|
| Power On | Monthly : FirstMonday | 00:00 |  |

Note:
You must click on the "Apply" button for your power control schedule settings to apply.

Add Power Control Schedule

Type:

Frequency:

Execute Time (hh:mm): :

Please select the day of the month: * Day

First

The following table describes the labels in this screen.

Table 115 Maintenance > Power Management > Edit

| LABEL | DESCRIPTION |
|-----------------------------|---|
| Power Control Schedule List | This table lists the power on, power off, and reboot schedules. For example, you could have one schedule to turn the NAS on every morning, at 8:00, another schedule to turn it off every evening at 18:00, and a third schedule to have it reboot every Friday at 14:00. Click a column's heading cell to sort the schedules by that column's criteria. Click the heading cell again to reverse the sort order. |
| Type | This field displays whether the power control schedule has the NAS turn on, turn off, or reboot. |
| Frequency | This field shows how often (monthly, weekly, or daily) the NAS is to apply this power control schedule. |
| Execute Time | This field shows when the NAS is to use this power control schedule (when the NAS is to turn on, turn off, or reboot). |
| Actions | Click the Delete icon to remove a power control schedule from the list. |
| Add Power Control Schedule | Use this part of the screen to configure power on, power off, and reboot times. |
| Type | Select whether this power control schedule has the NAS turn on, turn off, or reboot. |
| Frequency | Select whether the NAS is to apply this power control schedule entry on a monthly, weekly, or daily basis. |

Table 115 Maintenance > Power Management > Edit (continued)

| LABEL | DESCRIPTION |
|---|--|
| Execute Time (hh:mm) | <p>Enter the time, day, and/or day of the month as appropriate for this power control schedule entry. Leave more than 10 minutes between the execution times of the entries.</p> <p>If the NAS turns off or restarts while a user is transferring files to or from the NAS, the transfer fails. The user will need to restart the transfer.</p> <p>The NAS skips a scheduled restart or power off if the execution time comes while the NAS is doing any of the following:</p> <ul style="list-style-type: none"> • Resynchronizing a RAID • Upgrading firmware • Replacing the configuration file <p>If the NAS is turned off at the time when a restart or power off is scheduled, the NAS does not perform the restart or power off.</p> <p>If the NAS is turned on at the time when a power on is scheduled, the NAS does not perform the power on.</p> |
| Use this part of the screen to configure power on, power off, and reboot times. | |
| Please select the day of the month | <p>This is only available if you set the Frequency to Monthly.</p> <p>Choose the day of each month for the power control schedule entry.</p> |
| Every how many weeks? | <p>This is only available if you set the Frequency to Weekly.</p> <p>Enter the interval between weeks and choose the day of the week for the power control schedule entry.</p> |
| Every how many days? | <p>This is only available if you set the Frequency to Daily.</p> <p>Enter the interval between days for the power control schedule entry.</p> |
| Add | Click this to add the power control schedule to the list. |
| Apply | Click this to save your changes. |
| Cancel | Click this to return to the previous screen without saving. |

26.4 Log Screen

Click **Maintenance > Log** to open the following screen.

Use this screen to display all NAS logs. There are at most 512 entries in the log. Older logs are removed by the system. You cannot download the log file via FTP or CIFS.

Figure 189 Maintenance > Log

| # | Time | Class | Severity | Message |
|----|---------------------|------------------|----------|--|
| 1 | 2015-08-31 08:50:40 | user | notice | Add new group family. |
| 2 | 2015-08-31 08:50:31 | user | notice | Add new group children. |
| 3 | 2015-08-31 08:50:14 | user | notice | Delete group Test. |
| 4 | 2015-08-31 08:44:46 | user | info | User admin has logged in from Web! |
| 5 | 2015-08-31 04:47:16 | system | info | NTP fails to update from time.stdtime.gov.tw |
| 6 | 2015-08-31 04:47:02 | built-in-service | info | Auto daylight saving setting: SUCCESS |
| 7 | 2015-08-30 16:47:17 | system | info | NTP fails to update from time.stdtime.gov.tw |
| 8 | 2015-08-30 16:47:03 | built-in-service | info | Auto daylight saving setting: SUCCESS |
| 9 | 2015-08-30 04:47:16 | system | info | NTP fails to update from time.stdtime.gov.tw |
| 10 | 2015-08-30 04:47:02 | built-in-service | info | Auto daylight saving setting: SUCCESS |
| 11 | 2015-08-29 16:47:17 | system | info | NTP fails to update from time.stdtime.gov.tw |
| 12 | 2015-08-29 16:47:03 | built-in-service | info | Auto daylight saving setting: SUCCESS |
| 13 | 2015-08-29 04:47:16 | system | info | NTP fails to update from time.stdtime.gov.tw |

The following table describes the labels in this screen.

Table 116 Maintenance > Log

| LABEL | DESCRIPTION |
|----------------|---|
| Refresh | Click this to update the log display. |
| Purge all Logs | Click this to erase all logs from the NAS. |
| Report Config | Click this to open a screen where you can configure email alerts for logs. Refer to Section 26.4.1 on page 307 to see the screens for this. |
| Display | The screen always shows all logs by default. Choose a specific log category to view logs for just that category. |
| # | This is the log entry's number in the list according to the currently selected sort order. |
| Time | This shows the date and time the log was created. Click the top of the column to sort by oldest or newest. |
| Class | This displays the log category; see Table 124 on page 314 for details. |
| Severity | This displays how serious the log is rated by the NAS. See Table 125 on page 315 for more information. |
| Message | This displays a description of the log. Click the top of the column to sort by alphabetical or reverse alphabetical order. |

26.4.1 Report Config Screen

In the **Log** screen, click **Report Config** to do the following:

- Use the **Email Setting** screen ([Section 26.4.2 on page 308](#)) to enable and configure e-mail alerts from the NAS.
- Use the **Report Setting** screen ([Section 26.4.3 on page 308](#)) to select the type of alerts you want to receive through e-mail and schedule when the NAS e-mails the alerts.
- Use the **Syslog Server Setting** screen ([Section 26.4.4 on page 309](#)) to enable the syslog server and select the categories to include in the log report.

26.4.2 Email Setting

You can enable and configure e-mail alerts from the NAS. In the **Report Config** screen, click the **Email Setting** tab to open the following screen.

Figure 190 Maintenance > Log > Report Config: Email Setting

The following table describes the labels in this screen.

Table 117 Maintenance > Log > Report Config: Email Setting

| LABEL | DESCRIPTION |
|---|---|
| Enable Log Email | Click this to have the NAS e-mail log alerts to your e-mail account. |
| Email To | Enter the e-mail address where you want to receive the log alerts. |
| Email From | Enter the e-mail address the NAS uses in the From field of the e-mail header for its log alerts. |
| Email Server | Enter the e-mail server address the NAS uses to send e-mail alerts, |
| Email Format | Select the e-mail format you want the NAS to use in its e-mail alerts. |
| Use SMTP Authentication | Click this if the e-mail server you want the NAS to use for its e-mail alerts requires a username and password. |
| User | Enter the username for the e-mail server. |
| Password | Enter the password for the e-mail server. |
| Password (Confirm) | Re-enter the password to confirm it. |
| After apply settings, send a test email | Click this to have the NAS send a test e-mail to the settings you have entered. |
| Apply | Click this to save your changes. |
| Cancel | Click this to return to the previous screen without saving. |

26.4.3 Report Setting

You can have the NAS email you alerts and reports. In the **Report Config** screen, click the **Report Setting** tab to open the following screen.

Figure 191 Maintenance > Log > Report Config: Report Setting

Log Report Configuration

Email Setting **Report Setting** **Syslog Server Setting**

Email Alert

Enable Email Log

Email Report

Report Time Weekly Sunday at 0 hours 0 minutes

Enable Email Log

Apply Cancel

The following table describes the labels in this screen.

Table 118 Maintenance > Log > Report Config: Report Setting

| LABEL | DESCRIPTION |
|------------------|---|
| Email Alert | Select the Enable Email Log check box to have the NAS send an alert email to the configured email address whenever the NAS generates a critical severity log. |
| Report Time | Select how often (Weekly , Daily or Hourly), the day of the week (for weekly reports), and the time (hour:minutes) the NAS sends a report email. |
| Enable Email Log | Select the check box to have the NAS email reports of all logs the NAS generates to the configured email address. |
| Apply | Click this to save your changes. |
| Cancel | Click this to return to the previous screen without saving. |

26.4.4 Syslog Server Setting

You can enable the syslog server and select the categories to include in the log report. In the **Report Config** screen, click the **Syslog Server Setting** tab to open the following screen.

Figure 192 Maintenance > Log > Report Config: Syslog Server Setting

The following table describes the labels in this screen.

Table 119 Maintenance > Log > Report Config: Syslog Server Setting

| LABEL | DESCRIPTION |
|--|---|
| Enable Syslog Server | Check this to enable syslog server. |
| Server Address | Enter the syslog server address you want the NAS to use for its log alerts. |
| In the table below, check the type of log alerts you want to receive in your e-mail. Select All Log to include all types of log alerts. | |
| Apply | Click this to save your changes. |
| Cancel | Click this to return to the previous screen without saving. |

26.5 Configuration Screen

Click **Maintenance > Configuration** to open the following screen. Use this screen to backup or restore the NAS configuration settings.

Figure 193 Maintenance > Configuration

The following table describes the labels in this screen.

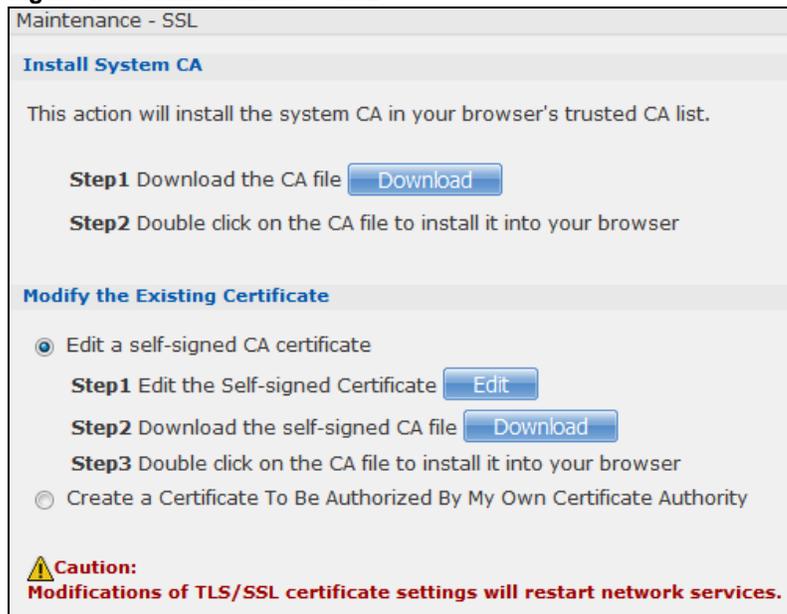
Table 120 Maintenance > Configuration

| LABEL | DESCRIPTION |
|---------------------------------------|---|
| Backup Current Configuration Settings | |
| Backup | Click this to save the current configuration of the NAS to your computer. A pop-up screen appears asking you to confirm. Click OK to continue or Cancel to quit. |
| Restore Configuration | When you restore a file configuration, the NAS checks the volumes/share paths on the NAS and the configuration file. If the volume exists but the share path is missing in the NAS, the NAS automatically creates this share path. If the volume does not exist on the NAS, the Status of the share will show "missing share icon" in Shares screen (see Table 107 on page 292). |
| Browse | Click this to locate a previously-saved configuration file. |
| Restore | Click this to load the previously-saved configuration file to the NAS. This replaces your current NAS configuration settings with the settings in the previously-saved configuration file. A pop-up screen appears asking you to confirm. Click OK to continue or Cancel to quit. |

26.6 SSL Certification

Click **Maintenance > SSL** to open this screen, where you can turn on HTTPS, create a public key certificate, or upload a public key certificate that was issued by a known certificate authority.

Figure 194 Maintenance > SSL



The following table describes the labels in this screen.

Table 121 Maintenance > SSL

| LABEL | DESCRIPTION |
|---------------------------------|---|
| Install System Default CA | Click Download button to save a copy of the NAS's public key certificate to your local computer. This is useful for installing the certificate without having to connect to the NAS, or for sending by email to other users for them to install prior to logging into the NAS for the first time. After saving the certificate to your computer, double-click it to install it. Note: Each web browser handles certificate installation differently. |
| Modify the Existing Certificate | Select Edit a self-signed CA certificate , then follow the on-screen instructions for creating a public key certificate signed by the NAS as the local certificate authority. Note: Use certificates created and signed by the NAS if the device is not open to external access. Select Create a certificate authorized by other CA , then follow the on-screen instructions to install a certificate that has been authorized by a third-party certificate authority. Note: Use this method if the device is open to external access, such as allowing users to connect through the Internet using FTP over TLS or HTTPs. |

26.6.1 Modifying or Creating a Certificate

When you select the **Edit a self-signed CA certificate** option, then click the **Edit** button, a screen opens to allow you to make adjustments to the NAS's public key certificate.

The screen is also the same for the **Create a certificate authorized by other CA** option.

Figure 195 Maintenance > SSL > Create or Edit a Certificate

Edit the Self-signed Certificate

Common Name

Host IP Address

Host Domain Name

Organizational Unit(Optional) Max length: 64 characters

Organization(Optional) Max length: 64 characters

Country(Optional) Country code only, such as TW, US, JP, etc,...

Key Type

Key Length

Note:
If you choose a large key length, it may take a while to make the certificate file.

The following table describes the labels in this screen.

Table 122 Maintenance > SSL > Create or Edit a Certificate

| LABEL | DESCRIPTION |
|--------------------------------|---|
| Common Name | This name describes the certificate's origin, either in the form of an IP address or a domain name. |
| Host IP Address | Select this option and enter the NAS's IP address if you want to use this for the common name. |
| Host Domain Name | Select this option and enter the NAS's domain name if you want to use this for the common name. |
| Organizational Unit (Optional) | Enter this name of the organizational unit which owns or maintains the NAS. This is an optional field. |
| Organization (Optional) | Enter this name of the organization or company which owns or maintains the NAS. This is an optional field. |
| Country (Optional) | Enter this name of the country in which the NAS is located. This is an optional field. |
| Key Type | Select the certificate's key type, either RSA or DSA . RSA is a public-key encryption and digital signature algorithm, while DSA is only a digital signature algorithm. |
| Key Length | Select the encryption key length. The longer the key, the better the encryption security. The only drawback to having a long key is that the file encrypted with it swells in size as well. |
| Apply | Click this to save your changes. |
| Cancel | Click this to discard changes and close the window. |

26.7 Shutdown Screen

Use this screen to turn off the NAS or perform a software restart. A software restart is faster than turning the NAS off and then turning it on again. Before shutting down or restarting, check the **System Status > Active Sessions** screen to make sure that no one is logged into the NAS or transferring files to or from the NAS.

Click **Maintenance > Shutdown** to open the following screen.

Figure 196 Maintenance > Shutdown



The following table describes the labels in this screen.

Table 123 Maintenance > Shutdown

| LABEL | DESCRIPTION |
|----------|--|
| Restart | Click this to have the device perform a software restart. |
| Shutdown | Click this to shut down the system and restart it again later. |

When you click the **Restart** button a pop-up screen will appear asking you to confirm. Click **OK** to continue or **Cancel** to quit the restart.

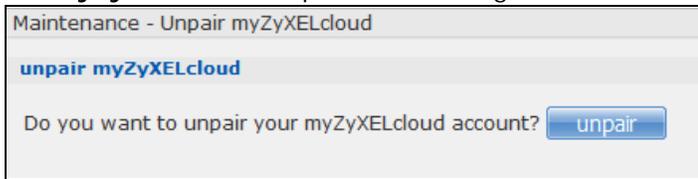
Figure 197 Maintenance > Shutdown > Confirm Restart

When you click the **Shutdown** button a pop-up screen will appear asking you to confirm. Click **OK** to continue or **Cancel** to quit the shutdown.

Figure 198 Maintenance > Shutdown > Confirm Shutdown

26.8 Unpair myZyXELcloud Screen

Figure 199 Use this screen to remove the pairing between the NAS and the myZyXELcloud account if you want to pair the NAS with a different myZyXELcloud account. You have to pair the NAS and your myZyXELcloud account before performing the unpair. Click **Maintenance > Unpair myZyXELcloud** to open the following screen, and click **Unpair**.



26.9 Technical Reference

This section provides technical background information on the topics discussed in this chapter.

26.9.1 Log Classes

The following table shows information on log classes.

Table 124 Log Classes

| LOG CATEGORY | DESCRIPTION |
|--------------|---|
| Users | This log class shows information on user access to the NAS. |
| Shares | This log class shows information on shares being created or deleted. |
| Services | This log class shows information on the operation of the NAS's built-in services. |
| System | This log class shows all other system related messages. |
| Network | This log class shows information on network configuration, setting changes and so on. |
| Storage | This log class shows information on the NAS's internal and external storage activities. |
| Backup | This log class shows information on all backup-related activities. |
| Auto Upload | This log class shows information on automatic uploads done by the NAS. |

26.9.2 Log Severity Levels

The following table shows information on log severity levels. Levels range from 0 to 6 with 0 being the most severe level log and 6 being an informational log only. Log levels are not displayed in the logs and are for your reference only.

Table 125 Log Severity Levels

| LEVEL | DESCRIPTION |
|-------|-------------|
| 0 | Emergency |
| 1 | Alert |
| 2 | Critical |
| 3 | Error |
| 4 | Warning |
| 5 | Notice |
| 6 | Info |

26.9.3 Log Messages

Here are some example log messages.

Table 126 Log Messages

| CLASS | SEVERITY | MESSAGE |
|------------------|----------|--|
| Auto upload | INFO | %s is queued. |
| Auto upload | INFO | %s uploaded (Flickr or YouTube Upload). |
| Auto upload | WARNING | error uploading "%s" (%s): %s |
| Auto upload | INFO | %s will not be uploaded to %s for there is already a duplicate file. |
| Auto upload | INFO | Failed to upload %s to %s (FTP Upload) : %s |
| Auto upload | INFO | Successfully upload %s to %s (FTP Upload) |
| Copy/Sync Button | ERROR | [USB %s] Backup Folder Does Not Exist. |
| Copy/Sync Button | ERROR | [USB %s] Target Folder Does Not Exist. |
| Copy/Sync Button | ERROR | [USB Sync] Failed at %s: It is a Folder in Internal Volume. But It is not a Folder in USB. |
| Copy/Sync Button | ERROR | [USB Sync] Failed at %s: It is a Folder in USB. But It is not a Folder in Internal Volume. |
| Copy/Sync Button | ERROR | [USB Sync] Failed at File %s. |
| Copy/Sync Button | ERROR | [USB Sync] Sync Failed at Folder %s. |
| Copy/Sync Button | ERROR | Modify COPY/SYNC Button Configuration: %s |
| Copy/Sync Button | ERROR | Please Change Your Folder Name. Invalid Path: %s |
| Copy/Sync Button | INFO | [USB Sync] Copying %s from Internal Volume to Backup Folder. |
| Copy/Sync Button | INFO | [USB Sync] Copying %s from Internal Volume to USB. |
| Copy/Sync Button | INFO | [USB Sync] Copying %s from USB to Backup Folder. |
| Copy/Sync Button | INFO | [USB Sync] Copying %s from USB to Internal Volume. |
| Copy/Sync Button | INFO | [USB Sync] Deleting %s from Internal Volume. |
| Copy/Sync Button | INFO | [USB Sync] Deleting %s from USB. |
| Copy/Sync Button | INFO | [USB Sync] Deleting %s from USB Recursively. |

Table 126 Log Messages (continued)

| CLASS | SEVERITY | MESSAGE |
|------------------|----------|--|
| Copy/Sync Button | INFO | [USB Sync] Finished. Elapsed Time %s Seconds. |
| Copy/Sync Button | INFO | [USB Sync] Moving %s from Internal Volume to Backup Folder. |
| Copy/Sync Button | INFO | [USB Sync] Moving %s from USB to Backup Folder |
| Copy/Sync Button | INFO | [USB Sync] Skip %s: File not Exist |
| Copy/Sync Button | INFO | [USB Sync] Skip %s: Not a Regular File. |
| Copy/Sync Button | INFO | [USB Sync] Start Pre-Processing: Generating File Lists. |
| Copy/Sync Button | NOTICE | [USB Sync] Start Copying Files. |
| Download Service | ERROR | Download service cannot find a volume |
| Download Service | ERROR | Download service failed to find ipfilter.dat |
| Download Service | INFO | Download service add a URL download job %s |
| Download Service | INFO | Download service delete %s by user |
| Download Service | INFO | Download service download %s error (0x%08x) |
| Download Service | INFO | Download service download %s finished in %s |
| Download Service | INFO | Download service found a new torrent file %s |
| Download Service | INFO | Download service initialized |
| Download Service | INFO | Download service pause %s by user |
| Download Service | INFO | Download service set %s to %s priority by user |
| Download Service | INFO | Download service set default download location to %s |
| Download Service | INFO | Download service set max P2P download rate to %d KB/s by user |
| Download Service | INFO | Download service set max P2P upload rate to %d KB/s by user |
| Download Service | INFO | Download service set max download slot to %d |
| Download Service | INFO | Download service set seeding time to %d minutes |
| Download Service | INFO | Download service set TCP port to %d and UDP port to %d |
| Download Service | INFO | Download service set torrent monitor location to %s |
| Download Service | INFO | Download service start to download %s |
| Download Service | INFO | Download service stopped |
| Download Service | INFO | Download service suspend %s because of no data income detected or to limit max download slot |
| Download Service | INFO | Download service add comment %s to %s by user |
| Download Service | INFO | Download service set min upload/download ratio to %d% |
| Download Service | INFO | Download service set max seed slot to %d |
| Download Service | INFO | Download service start loading ipfilter.dat |
| Download Service | INFO | Download service clear all ipfilter rules |
| Download Service | INFO | Download service blocked peer removed from peer list |
| Download Service | INFO | Download service disconnected blocked peer |
| Download Service | INFO | Download service incoming connection blocked by IP filter |
| Download Service | INFO | Download service peer from tracker blocked by IP filter |
| Download Service | INFO | Download service abort loading ipfilter.dat |
| Download Service | INFO | Download service will update ipfilter.dat from %s after %d day(s) |
| Download Service | INFO | Download service added %d rules from ipfilter.dat |
| Download Service | INFO | Download service detected invalid ip range %s in ipfilter.dat |

Table 126 Log Messages (continued)

| CLASS | SEVERITY | MESSAGE |
|------------------|----------|--|
| Download Service | WARNING | Download service default location does not exist. Load default |
| Download Service | WARNING | Download service default torrent location does not exist. Load default |
| Groups | NOTICE | Add new group %s. |
| Groups | NOTICE | Delete group %s. |
| Network | INFO | DyDNS: Start Success |
| Network | INFO | DyDNS: Stop Success |
| Network | NOTICE | %s is active because of changing Port Group. Enable DHCP client. |
| Network | NOTICE | %s is inactive because of changing Port Group. Disable DHCP client. |
| Network | NOTICE | %s MTU > (%s MTU - 8), %s may not work correctly. |
| Network | NOTICE | (%s MTU - 8) < %s MTU, %s may not work correctly. |
| Network | NOTICE | Add interface %s. |
| Network | NOTICE | Because %s link down. Default route will not apply until %s link up. |
| Network | NOTICE | Because base interface %s will be disabled. Interface %s is disabled now., base_ud_iface |
| Network | NOTICE | Network Config setting is changed |
| Network | NOTICE | Interface %s was disabled. |
| Network | NOTICE | Interface %s was enabled. |
| Network | NOTICE | Port Group on %s is changed. Renew DHCP client. |
| Network | NOTICE | Account pppoe was changed |
| Network | NOTICE | Add account pppoe |
| Network | NOTICE | ADD interface ppp0 |
| Network | NOTICE | Interface ppp0 will reapply because Device-Ha become active status. |
| Network | NOTICE | Interface ppp0 will reapply because Device-Ha is not running. |
| Network | NOTICE | Network port is disabled |
| Network | NOTICE | Network port is enabled |
| Network | ERROR | DyDNS: Start Error |
| Network | ERROR | DyDNS: Stop Error |
| Services | INFO | HTTP management port has changed to %s |
| Services | INFO | Clock timezone is set to GMT%s |
| Services | INFO | Clock timezone is set to default |
| Services | INFO | Clock daylight saving is enabled |
| Services | INFO | Clock daylight saving is disabled |
| Services | INFO | Clock has disable daylight saving |
| Services | INFO | MyClock has enable daylight saving |
| Services | INFO | MyClock has set timezone to %s |
| Services | INFO | MyClock has set timezone to default |
| Services | INFO | The date and time are updated from NTP server. |
| Services | INFO | The date and time are updated manually. |
| Services | INFO | The time is updated manually. |
| Services | NOTICE | FTP server stops |
| Services | NOTICE | FTP server starts |

Table 126 Log Messages (continued)

| CLASS | SEVERITY | MESSAGE |
|----------|----------|--|
| Services | NOTICE | MyClock has changed daylight saving interval |
| Services | NOTICE | MyClock has disabled daylight saving interval |
| Services | NOTICE | NTP server has set to '%s' |
| Services | NOTICE | NTP server has set to null |
| Services | NOTICE | The NTP service is disabled. |
| Services | NOTICE | The NTP service is enabled. |
| Services | WARNING | Reaching Maximum Allowed Rules |
| Services | WARNING | Rule is empty |
| Services | WARNING | The Rule Does Not Exist |
| Shares | INFO | Expire recycle-bin finish for share %s, process time: %s seconds, remove %s file (%s bytes) |
| Shares | NOTICE | Add new disabled share %s for unshared folder: %s in volume: %s. |
| Shares | NOTICE | Add new share %s. |
| Shares | NOTICE | Delete share %s. |
| Shares | NOTICE | Purge all files in recycle-bin folder in share: %s. |
| Shares | NOTICE | Recycle-bin disabled. Remove recycle-bin folder in share: %s. |
| Storage | ERROR | Eject External Disk (%s): FAILED |
| Storage | INFO | Eject External Disk (%s): SUCCESS |
| Storage | ERROR | Cancel External Volume Scan: FAILED |
| Storage | ERROR | Cannot Unmount Volume and RAID. System Busy Using Volume and RAID: Please Reboot and Try Again |
| Storage | ERROR | Create External Normal Volume [%s] (%s): FAILED |
| Storage | ERROR | Rename External Volume to [%s]: FAILED |
| Storage | ERROR | Scan External Volume: FAILED |
| Storage | INFO | Cancel External Volume Scan: SUCCESS |
| Storage | INFO | Create External Normal Volume [%s] (%s): SUCCESS |
| Storage | INFO | Rename External Volume to [%s]: SUCCESS |
| Storage | INFO | Scan External Volume: SUCCESS |
| storage | Info | Create raidType [Volume1]: SUCCESS |
| storage | error | Create raidType [Volume1]: FAILED |
| storage | Info | Create raidType [Disk group 1]: SUCCESS |
| storage | error | Create raidType [Disk group 1]: FAILED |
| storage | Info | Create Internal Volume [Volume1] (Size=512MB): SUCCESS |
| storage | error | Create Internal Volume [Volume1] (Size=512MB): FAILED |
| storage | Info | Delete Volume [Volume1] SUCCESS |
| storage | error | Delete Volume [Volume1] FAILED |
| storage | Info | Delete Disk Group [Disk Group 1] SUCCESS |
| storage | error | Delete Disk Group [Disk Group 1] FAILED |
| storage | Info | initialize Repair Degraded Raid [Volume1]: SUCCESS |
| storage | error | initialize Repair Degraded Raid [Volume1]: FAILED |
| storage | Info | initialize Repair Degraded Raid [Disk Group 1]: SUCCESS |
| storage | error | initialize Repair Degraded Raid [Disk Group 1]: FAILED |

Table 126 Log Messages (continued)

| CLASS | SEVERITY | MESSAGE |
|---------|----------|---|
| storage | Info | Add disk1 to Volume1: SUCCESS |
| storage | error | Add disk1 to Volume1: FAILED |
| storage | Info | Add disk1 to Disk Group 1: SUCCESS |
| storage | error | Add disk1 to Disk Group 1: FAILED |
| storage | Info | Change Volume1 Raid type to raid5: SUCCESS |
| storage | error | Change Volume1 Raid type to raid5: FAILED |
| storage | Info | Change Disk Group 1 Raid type to raid5: SUCCESS |
| storage | error | Change Disk Group 1 Raid type to raid5: FAILED |
| storage | Info | Add Hot-Spare disk1 to Raid [Volume1]: SUCCESS |
| storage | error | Add Hot-Spare disk1 to Raid [Volume1]: FAILED |
| storage | Info | Add Hot-Spare disk1 to Raid [Disk Group 1]: SUCCESS |
| storage | error | Add Hot-Spare disk1 to Raid [Disk Group 1]: FAILED |
| storage | Info | Remove Hot-Spare disk1 from Raid [Volume1]: FAILED |
| storage | error | Remove Hot-Spare disk1 from Raid [Volume1]: SUCCESS |
| storage | Info | Remove Hot-Spare disk1 from Raid [Disk Group1]: FAILED |
| storage | error | Remove Hot-Spare disk1 from Raid [Disk Group1]: SUCCESS |
| storage | Info | Expand Volume [Volume1] : SUCCESS |
| storage | error | Expand Volume [Volume1] : FAILED |
| storage | Info | Expand Disk Group [Disk Group 1] SUCCESS |
| storage | error | Expand Disk Group [Disk Group 1] FAILED |
| System | INFO | NTP update failed |
| System | INFO | NTP updates successfully from %s |
| System | INFO | NTP fails to update from %s |
| System | INFO | Device is rebooted by administrator! |
| System | INFO | Device is shutdown by administrator! |
| System | NOTICE | DNS server is changed. |
| System | NOTICE | Hostname is cleared. |
| System | NOTICE | Hostname is set to '%s'. |
| System | NOTICE | System description is changed. |
| System | NOTICE | System description is empty now. |
| System | NOTICE | DNS server setting is changed |
| System | NOTICE | DNS server address is changed to be given from DHCP server |
| System | NOTICE | DNS server address is changed to be assigned by user |
| System | NOTICE | Name server is changed. |
| USB | NOTICE | An external APC UPS device is plugged/unplugged. |
| USB | NOTICE | An external Mass Storage device is plugged/unplugged. |
| USB | NOTICE | An external Printer device is plugged/unplugged. |
| USB | NOTICE | An external USB hub device is plugged/unplugged. |
| Users | ALERT | Failed %s login attempt (incorrect password or inexistent username) |
| Users | ALERT | Failed %s login attempt (incorrect password or inexistent username) |
| Users | INFO | User %s has logged in from %s! |

Table 126 Log Messages (continued)

| CLASS | SEVERITY | MESSAGE |
|------------------|----------|--|
| Users | INFO | User %s has logged out from %s! |
| Users | INFO | User %s from %s has been logged out (re-auth timeout)! |
| Users | INFO | User %s from %s has been logged out (lease timeout)! |
| Users | NOTICE | Add new user %s by %s from %s. |
| Users | NOTICE | User %s password has been changed. |
| Users | NOTICE | Delete user %s by %s from %s. |
| Users | NOTICE | The user %s from %s has attempted to change the user %s password but old password verification fail. |
| Users | NOTICE | User %s on %u.%u.%u.%u has been denied access from %s |
| Users | NOTICE | User %s password has been changed by %s from %s. |
| Backup/Restore | ERROR | When query remote target [%s]: %s |
| Backup/Restore | INFO | Backup job [%s] successfully |
| Backup/Restore | ERROR | When backup [%s]: %s |
| Backup/Restore | ERROR | When backup [%s], error happens: %s |
| Backup/Restore | INFO | Start to restore backup job [%s]. |
| Backup/Restore | INFO | Restore backup job [%s] successfully. |
| Backup/Restore | ERROR | Restore backup job [%s] failed: %s |
| Backup/Restore | INFO | Start to restore backup job [%s] from [%s]. |
| Backup/Restore | INFO | Restore from [%s] successfully. |
| Backup/Restore | ERROR | Restore from [%s] failed: %s |
| Backup/Restore | ERROR | When restore [%s]: %s |
| Backup/Restore | ERROR | When restore job [%s], error happens: %s |
| Power Management | INFO | Job [%s] is triggered by schedule |
| Power Management | INFO | Job [%s] is triggered by user |
| Power Management | ERROR | Job [%s] is resulted as failed |
| Power Management | INFO | Job [%s] is finished successfully |
| Power Management | INFO | Job [%s] is pending because other job is running |
| Power Management | INFO | Job [%s] is canceled by user |
| Power Management | INFO | Restore job [%s] is triggered by user |
| Power Management | INFO | [Power On] schedule is triggered. |
| Power Management | INFO | [Power Off] schedule is triggered. |
| Power Management | INFO | [Reboot] schedule is triggered. |

27.1 Overview

This chapter introduces different ways of protecting data on the NAS and covers the **Protect** screens.

Table 127 Overview of Protection Methods

| SITUATION | ACTION |
|---|--|
| Unexpected NAS behavior after configuration changes | Back up the NAS configuration file before you make major configuration changes. See Section 27.5 on page 336 . |
| Need to transfer data from your computer to the NAS after volume(s) have been created | Backup your data to a computer or other storage devices. |
| Data infected by virus | Use anti-virus software on your computer to scan files before saving them onto the NAS. Although this may be slow so you may want to schedule it to occur while no one is using the NAS. Use a firewall with anti-virus capability on your network. |
| Hard drive malfunction. | Use RAID. See Section 8.6 on page 98 for more information on RAID. |
| NAS malfunction Network down Natural disaster such as a fire or earthquake occurs where your NAS is located | Back up data to another NAS or external USB hard drive. See Section 14.14 on page 191 for an example of how to back up the NAS to another NAS. |

27.2 What You Can Do

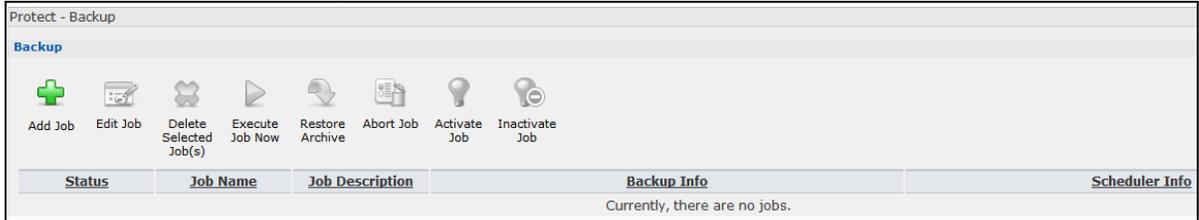
- Use the **Backup** screens ([Section 27.3 on page 321](#)) to create and customize backup jobs.
- Use the **Restore** screens ([Section 27.4 on page 332](#)) to restore previous backups made with the NAS.

27.3 Backup Screens

Use this screen to create and customize scheduled backup jobs for your files.

You can have several backup jobs for specific folders and time periods.

Click **Protect > Backup** to open the following screen.

Figure 200 Protect > Backup

The following table describes the labels in this screen.

Table 128 Protect > Backup

| LABEL | DESCRIPTION |
|------------------------|--|
| Backup | |
| Add Job | Click this to create and customize a backup job. |
| Edit Job | Select a backup job in the list and click this to make some changes to it. |
| Delete Selected Job(s) | Select a backup job in the list and click this to delete it. |
| Execute Job Now | Select a backup job in the list and click this to run the backup job immediately. |
| Restore Archive | Select a backup job in the list and click this to restore the file(s) included in that backup job to the NAS. This applies to Archive backups only. Refer to Section 27.3.8 on page 330 to see the screens. |
| Abort Job | Select a backup job in the list and click this to stop the process if the backup job is currently active. |
| Activate Job | Enable the selected backup job. |
| Inactivate Job | Disable the selected backup job. |
| Status | This shows the current state of the backup job. <ul style="list-style-type: none"> • Waiting means the backup job is not active but is scheduled to run at some time. • Running indicates that the NAS is currently doing the backup job. When the backup job is running, you can also see a progress bar. |
| Job Name | This identifies the backup job. |
| Job Description | This is a short description of the backup job. |
| Backup Info | This lists down the backup job details: type, source and target. Refer to Section 27.3.1 on page 322 and Section 27.3.2 on page 323 . |
| Scheduler Info | This shows the backup schedule, including the frequency, the time it was last run in (and whether or not it succeeded), and when it is scheduled to run again. The times use yyyy-mm-dd hh:mm:ss format. Refer to Section 27.3.4 on page 326 . |

27.3.1 Backup: Step 1

Use this screen to specify the job information and back up type.

Click **Add Job** in the **Protect > Backup** screen to open the following:

Figure 201 Protect > Backup: Step 1

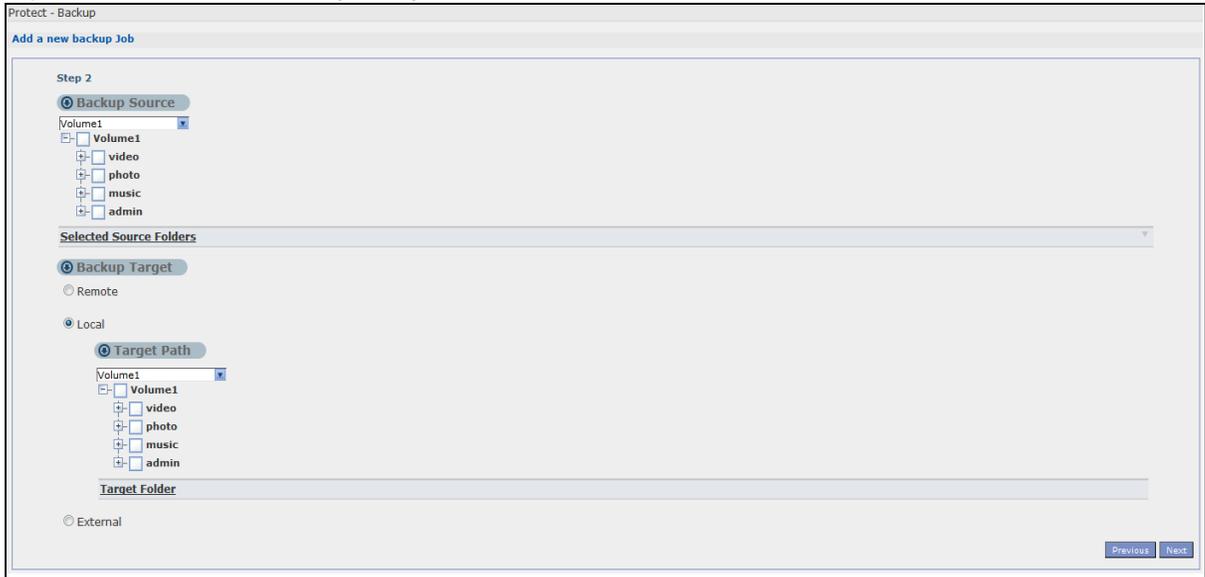
The following table describes the labels in this screen.

Table 129 Protect > Backup: Step 1

| LABEL | DESCRIPTION |
|-----------------|--|
| Job Information | |
| Job Name | Enter a name to identify the backup job. |
| Job Description | Enter a short description (up to 100 keyboard characters) for the backup job. |
| Backup Type | <p>Choose the backup type the NAS implements for the backup job.</p> <p>Archive - This is a backup of the source folder in an archive format. Once you backup your files in the target folder, you cannot access the files individually unless you have the extracting tool used by the NAS. If there are existing files in the target folder prior to the NAS's backup job, the files remain undisturbed. You can also choose between the following types of archive:</p> <ul style="list-style-type: none"> • Full - The NAS does a fresh backup each time. This provides the most protection but also requires the most storage space. • Incremental - The NAS backs up new or modified files from the source folder since the last backup. The first backup is a full backup. You can also do a full backup after several incremental backups. Enter how many incremental backups the NAS runs before it performs a full backup of the source folder. You must keep the latest full backup to be able to restore the files later. <p>Synchronization - This does a backup of individual files. If you use this type, you cannot use the Restore feature of the NAS. You can also choose between the following types of synchronization:</p> <ul style="list-style-type: none"> • Mirror - The NAS deletes all data in the target folder before running the backup. It makes the target folder identical to the source folder. • Publish - The NAS does a backup of individual files to the target folder without overwriting existing files in that folder. It makes a copy of the source files. <p>Rsync - This synchronizes individual files to another device that supports rsync. Rsync is open source and provides incremental file transfers. It only sends the differences in the files through the connection so it brings the remote files into sync very quickly.</p> <ul style="list-style-type: none"> • The NAS deletes all data in the target folder before running the backup. It makes the target folder identical to the source folder. • If you use this type, you cannot use the Restore feature of the NAS. |
| Next | Click this to go to the next step. |

27.3.2 Backup: Step 2

Use this screen to specify where the files you want to backup are located and set where you want the backup to be stored.

Figure 202 Protect > Backup: Step 2

The following table describes the labels in this screen.

Table 130 Protect > Backup: Step 2

| LABEL | DESCRIPTION |
|-------------------------|---|
| Backup Source | <p>Select an (internal) volume and the folders and files to back up using this tree interface.</p> <p>Click <input type="checkbox"/> to browse through folders, sub-folders and files.</p> <p>Click <input type="checkbox"/> to close a folder in the tree. This is useful if there are many folders or files that you wish to hide from view.</p> <p>Click <input type="checkbox"/> to select a folder or file to back up. This also selects all sub-folders and files.</p> <p>Click <input checked="" type="checkbox"/> to deselect the folder or file. This also deselects all sub-folders and files.</p> <p>More ... ▲ and More ... ▼ appear when there are too many folders/files to display. Click the arrows to scroll up or down through the folders/files.</p> <p><input checked="" type="checkbox"/> for a folder means all sub-folders and files and new folders/files added later will be backed up.</p> <p><input checked="" type="checkbox"/> for a file means the file will be backed up.</p> <p><input checked="" type="checkbox"/> (a grayed out check box) for a folder means that only some sub-folders and files under the folder will be backed up. Newly added folders/files will NOT be backed up.</p> <p><input type="checkbox"/> means the file structure is still loading. Please wait for the folders/files to display.</p> <p>Note: If you select to back up an entire folder <input checked="" type="checkbox"/> and then de-select a sub-folder or file within that folder, the main folder icon will turn <input checked="" type="checkbox"/> and any new sub-folders and files added to this main folder after the initial backup configuration will NOT be backed up.</p> <p>A list of your select folders and files displays below the selection fields.</p> |
| Selected Source Folders | This shows the path of the backup source folder you selected. |
| Backup Target | Select the target folder where you want to place your backup. |

Table 130 Protect > Backup: Step 2 (continued)

| LABEL | DESCRIPTION |
|----------|---|
| Remote | <p>Select this to back up to another device.</p> <p>For Archives:</p> <p>The remote device can be another NAS in the network. Fill in the following fields in order to be able to access it.</p> <ul style="list-style-type: none"> • Remote NAS Address • Username • Password • Share Name <p>Click Test Connection to see if your NAS can communicate with the remote device.</p> <p>For Synchronization:</p> <p>The remote device must be another NAS compatible with the NAS's synchronization feature. Fill in the following fields in order to be able to access it.</p> <ul style="list-style-type: none"> • Remote NAS Address • Username (always "admin") • Remote Admin's Password <p>Click Show target content to connect to the remote NAS so you can select the target share for the backup.</p> <p>For Rsync:</p> <p>The remote device must be a NAS that supports rsync or a computer running the rsync utility. Fill in the following fields in order to be able to access it.</p> <ul style="list-style-type: none"> • Remote NAS Address • Username (always "admin") • Remote Admin's Password <p>Click Show target content to connect to the remote NAS or computer so you can select the target folder for the backup.</p> |
| Local | Select this if you want to place your backup in another volume in the NAS. Select the folder where you want to place the backup. |
| External | Select this if you have a USB hard disk connected to the NAS that you want to use for your backup. Select the folder where you want to place the backup. |
| Previous | Click this to go back to the previous screen. |
| Next | Click this to go to the next screen. |

27.3.3 Backup: Step 3

Use this screen to specify compression, encryption and purge policies for the backup job. This step is only available if you are doing an archive backup or a synchronization backup to a remote target.

Figure 203 Protect > Backup: Step 3

The following table describes the labels in this screen.

Table 131 Protect > Backup: Step 3

| LABEL | DESCRIPTION |
|--------------|---|
| Compression | <p>Select Yes if you want NAS to compress the files for your backup. Otherwise, choose No.</p> <p>In an Archive backup, compression is a method of packing computing files in a way that saves hard disk space.</p> <p>For a Synchronization backup (to a remote target), the source data will be compressed before the transmission to reduce the transmission time. It is used in slow networks only.</p> |
| Encryption | <p>Select Yes if you want NAS to encrypt the files for your backup. Otherwise, choose No.</p> <p>In an Archive backup, this means using a password to secure files.</p> <p>For a Synchronization backup (to a remote target), this means securing the file transfer session. However the final file stored on the remote NAS is unencrypted. This takes a long time. Make sure you really need this feature before enabling it.</p> |
| Bandwidth | <p>Restrict the bandwidth of synchronization backups to help stop them from using all of your network connection's available bandwidth. This is more important when backing up to a remote NAS or computer through the Internet.</p> |
| Purge Policy | <p>The NAS maintains the files that have been included in your backups. However to save hard disk space, you can choose to delete files that have been included in previous backups.</p> <ul style="list-style-type: none"> Select Keep All Old Backup files to store all files that have been included in previous backups. If you want to store a certain number of backup files, select Keep Only the last n backup files (1-30). Enter a value (n) from 1 to 30 to specify how many backups the NAS stores. All backup files older than the last one are deleted. You will not be able to recover files that existed (only) in those previous backups. Select this if backup space is limited and recovery of old files is not important. If you want to store all backups for a certain time period, select Keep Backups for n day(s) (1-3650). Enter a value (n) from 1 to 3650 to specify how many days the NAS stores all backup files. After this day has expired, all backup files will be deleted. |
| Previous | Click this to go back to the previous screen. |
| Next | Click this to go to the next screen. |

27.3.4 Backup: Step 4

Click this to specify the schedule for the backup job. The backup job automatically runs according to the schedule that you set in this screen.

Figure 204 Protect > Backup: Step 4

The following table describes the labels in this screen.

Table 132 Protect > Backup: Step 4

| LABEL | DESCRIPTION |
|--|--|
| Scheduler | |
| Backup Frequency | Select from Hourly , Daily , Weekly and Monthly backup intervals. The screen changes depending on the item you select. |
| Every how many hours? | This is only available if you selected Hourly as your backup frequency. Select every how many hours the NAS performs the backup job. |
| On which minute of the hour? | This is only available if you selected Hourly as your backup frequency. Select the minute (from 0 to 59) in an hour when the NAS performs the backup job. |
| Start Time (hh:mm) | This is available if you selected Daily , Weekly or Monthly as your backup frequency. Select the time in hour:minute format when you want the NAS to perform the backup job. |
| Every how many days? | This is only available if you selected Daily as your backup frequency. Enter the interval between days when the NAS performs the backup job. |
| Every how many weeks? | This is only available if you selected Weekly as your backup frequency. Enter the interval between weeks when NAS performs the backup job. |
| Step 1: Please select the month(s) of a year | This is only available if you selected Monthly as your backup frequency. Select the month(s) when you want the NAS to perform the backup job. |
| Step 2: Please select the day of the month | This is only available if you selected Monthly as your backup frequency. Select the day in a month when you want the NAS to perform the backup job. |
| Previous | Click this to go back to the previous screen. |
| Done | Click this to close the screen. |

27.3.5 Edit Job Screen

Use this screen to edit an existing backup job. Some attributes of the backup job cannot be changed, such as the name, backup type, source folder and so on.

27.3.6 Edit Job: Step 1

Click **Protect > Backup**. Select a backup job from the list and click **Edit Job** to open the **Edit Job** screen.

Figure 205 Protect > Backup > Edit: Step 1

The following table describes the labels in this screen.

Table 133 Protect > Backup > Edit: Step 1

| LABEL | DESCRIPTION |
|--------------------------|---|
| Job Settings | |
| Job Name | This field is read-only and shows the name of the backup job. |
| Job Description | Enter a short description for the backup job. |
| Backup Type | This field is read-only and shows the backup type. |
| Source folder(s)/file(s) | This is read-only and shows the path of the source folder for backup. |
| Backup Target | This field is read-only and shows on which volume (whether internal or external) the backup files are stored. If the target location is a remote NAS, this shows the remote IP address. |
| Target Path | This field is read-only and shows the target folder for the backup files. |
| Compression | This field is read-only and shows whether the backup employs compression. Compression reduces the size of the file that you want to back up. Backup is then faster, but restoring may be slower, so if backup space is not a concern and recovery speed is, then turn off compression. |
| Encryption | This field is read-only and shows whether the backup employs encryption. You can have the NAS use a password to encrypt the backup files. |
| Bandwidth | For backups to a remote NAS, you can restrict the bandwidth to help prevent the backups from using all of your network connection's available bandwidth. This is more important when backing up to a remote NAS or computer through the Internet. |

Table 133 Protect > Backup > Edit: Step 1 (continued)

| LABEL | DESCRIPTION |
|--------------|---|
| Purge Policy | <p>The NAS maintains the files that have been included in your backups. However to save hard disk space, you can choose to delete files that have been included in previous backups.</p> <ul style="list-style-type: none"> Select Keep All Old Backup files to store all files that have been included in previous backups. If you want to store a certain number of backup files, select Keep Only the last n backup files (1-30). Enter a value (n) from 1 to 30 to specify how many backups the NAS stores. All backup files older than the last one are deleted. You will not be able to recover files that existed (only) in those previous backups. Select this if backup space is limited and recovery of old files is not important. If you want to store all backups for a certain time period, select Keep Backups for n day(s) (1-3650). Enter a value (n) from 1 to 3650 to specify how many days the NAS stores all backup files. After this day has expired, all backup files will be deleted. |
| Next | Click this to go to the next screen. |

27.3.7 Edit Job: Step 2

Use this screen to edit the schedule for the backup job.

Figure 206 Protect > Backup > Edit: Step 2

The following table describes the labels in this screen.

Table 134 Protect > Backup > Edit: Step 2

| LABEL | DESCRIPTION |
|------------------------------|--|
| Scheduler Settings | |
| Backup Frequency | Edit this by selecting from Hourly , Daily , Weekly and Monthly backup intervals. The screen changes depending on the item you select. |
| Every how many hours? | This is only available if you selected Hourly as your backup frequency. Select every how many hours the NAS performs the backup job. |
| On which minute of the hour? | This is only available if you selected Hourly as your backup frequency. Select the minute (from 0 to 59) in an hour when the NAS performs the backup job. |
| Start Time (hh:mm) | This is available if you selected Daily , Weekly or Monthly as your backup frequency. Select the time in hour:minute format when you want the NAS to perform the backup job. |
| Every how many days? | This is only available if you selected Daily as your backup frequency. Enter the interval between days when the NAS performs the backup job. |

Table 134 Protect > Backup > Edit: Step 2 (continued)

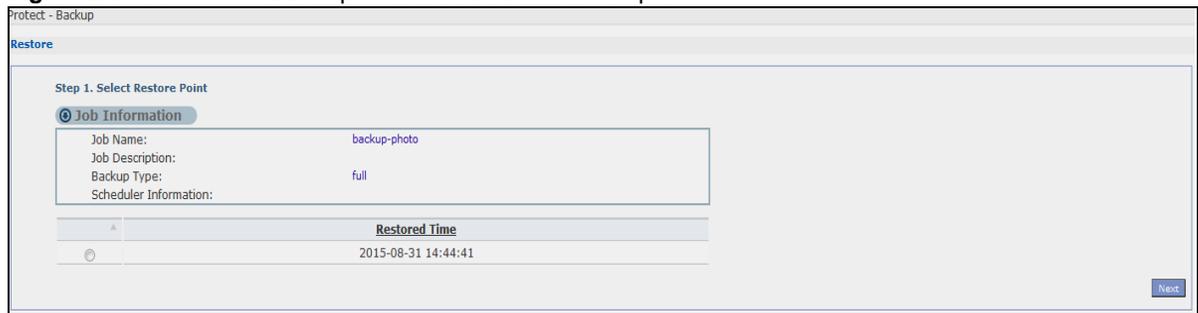
| LABEL | DESCRIPTION |
|--|---|
| Every how many weeks? | This is only available if you selected Weekly as your backup frequency. Enter the interval between weeks when NAS performs the backup job. |
| Step 1: Please select the month(s) of a year | This is only available if you selected Monthly as your backup frequency. Select the month(s) when you want the NAS to perform the backup job. |
| Step 2: Please select the day of the month | This is only available if you selected Monthly as your backup frequency. Select the day in a month when you want the NAS to perform the backup job. |
| Previous | Click this to go back to the previous screen. |
| Done | Click this to close the screen. |

27.3.8 Restore Archive Screen

Use this screen to restore previous backups made with the NAS.

27.3.9 Restore Archive: Step 1

Click **Protect > Backup** screen ([Section 27.3 on page 321](#)). You can restore a previous backup job by selecting a backup job from the list and clicking **Restore Archive**.

Figure 207 Protect > Backup > Restore Archive: Step 1

The following table describes the labels in this screen.

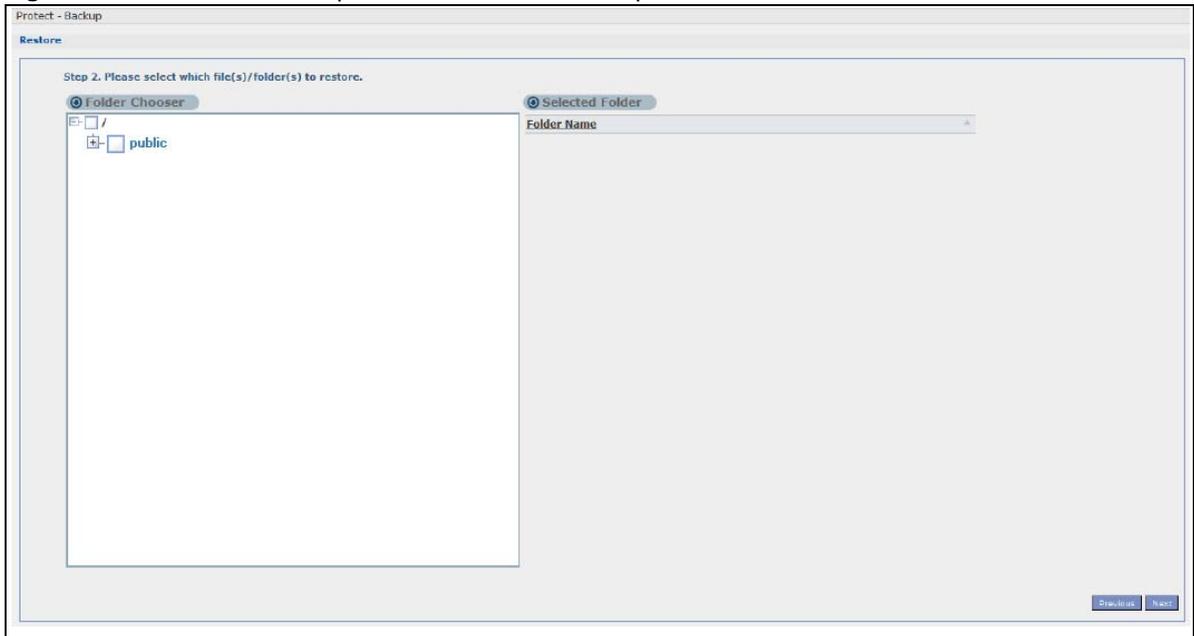
Table 135 Protect > Backup > Restore Archive: Step 1

| LABEL | DESCRIPTION |
|-------------------------------|---|
| Step 1. Select Restore Source | Select a previous archive backup that you want to restore to the NAS. |
| Job Information | |
| Job Name | This is the name to identify the backup job. |
| Job Description | This is a short description (up to 100 keyboard characters) for the backup job. |
| Backup Type | This is the type of backup implemented for the backup job. |
| Scheduler Information | This field displays the backup's frequency. |
| Restored Time | Select a previous backup in the list that you want to restore to your NAS. |
| Next | Click this to go to the next screen. |

27.3.10 Restore Archive: Step 2

Use this screen to select the folder where the archive you want to restore is located.

Figure 208 Protect > Backup > Restore Archive: Step 2



The following table describes the labels in this screen.

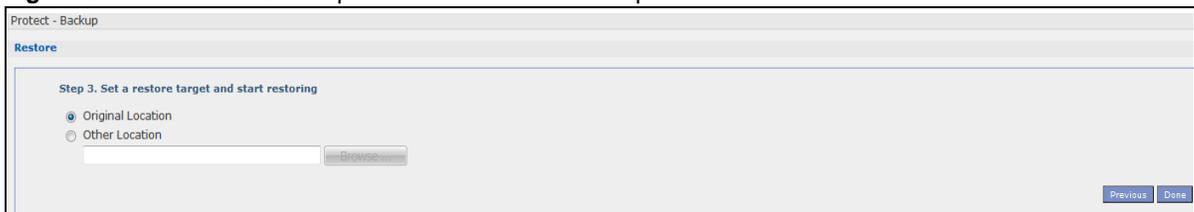
Table 136 Protect > Backup > Restore Archive: Step 2

| LABEL | DESCRIPTION |
|---|--|
| Step 2. Please select which file(s)/folder(s) to restore. | |
| Folder Chooser | Select the folder where the backup you want to restore is located. |
| Selected Folder | This shows the path of the folder you selected. |
| Previous | Click this to go back to the previous screen. |
| Next | Click this to go to the next screen. |

27.3.11 Restore Archive: Step 3

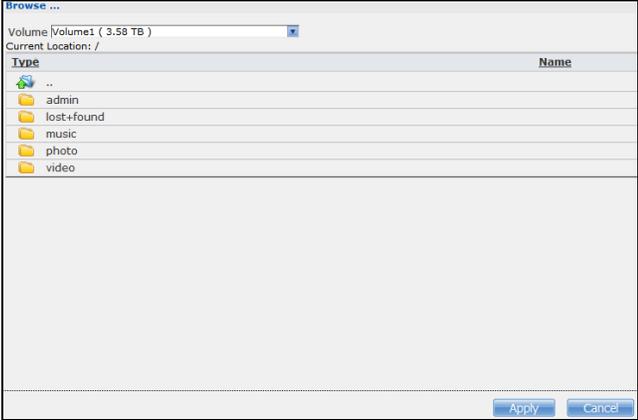
Use this screen to select the location in the NAS where you want to restore your backup.

Figure 209 Protect > Backup > Restore Archive: Step 3



The following table describes the labels in this screen.

Table 137 Protect > Backup > Restore Archive: Step 3

| LABEL | DESCRIPTION |
|--|--|
| Step 3. Set a restore target and start restoring | |
| Original Location | Select this to restore the files to their original location in the NAS. |
| Other Location | <p>Click this to select a folder where you want to place the restored files. Click Browse to open the following screen.</p>  <ul style="list-style-type: none"> • Volume - Select a volume from the list. • Current Location - This is the location of the selected folder. • Type - This identifies the item as a file or folder. • Name - This is the name of the folder/file. <p>Click Apply to save your settings and Cancel to close the screen.</p> |
| Previous | Click this to go back to the previous screen. |
| Done | Click this to run the restore process and go back to the Backup screen. |

27.4 Restore Screen

Use this screen to restore previous backups made with the NAS, including archives and folders from internal, external or remote NASs to the NAS.

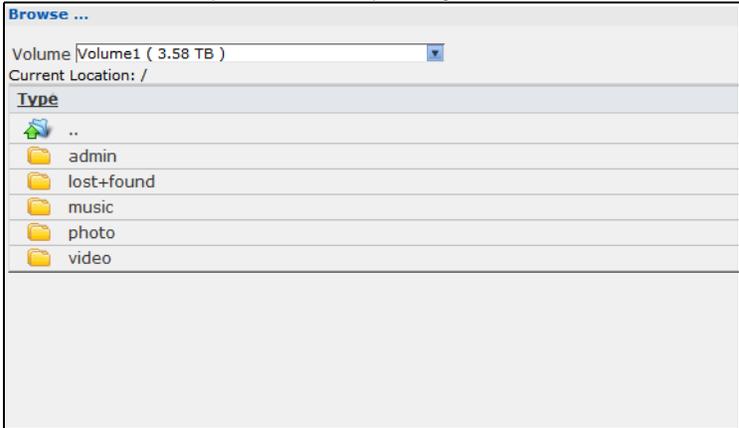
27.4.1 Restore: Step 1

You can access this screen by clicking **Protect > Restore**.

Figure 210 Protect > Restore: Step 1

The following table describes the labels in this screen.

Table 138 Protect > Restore: Step 1

| LABEL | DESCRIPTION |
|-------------------------------|---|
| Step 1. Select Restore Source | Select a previous archive backup that you want to restore to the NAS. Select Remote NAS if the file is in another NAS in the network that you used for your backup. Fill in the fields below when you choose this option. Select Internal or External Volume if you want to use another volume in the NAS or an attached USB hard disk for your backup. Click Browse to select the backup file. |
| IP Address | Enter the address of the NAS you want to use. |
| User | Enter the username you use to access the NAS. |
| Password | Enter the password of your NAS account. |
| Share Name | Enter the name of the share you want to use. |
| Test Connection | Click this to test your connection to the remote NAS that you have specified in the fields above. |
| Browse | Click this to select where the previous backup that you want to restore is located.  <ul style="list-style-type: none"> • Volume - Select a volume from the list. • Current Location - This is the location of the selected folder. • Type - This identifies the item as a file or folder. • Name - This is the name of the folder/file. Click Apply to save your settings and Cancel to close the screen. |
| Next | Click this to go to the next screen. |

27.4.2 Restore: Step 2

Select a previous archive backup that you want to restore to the NAS.

Figure 211 Protect > Restore: Step 2

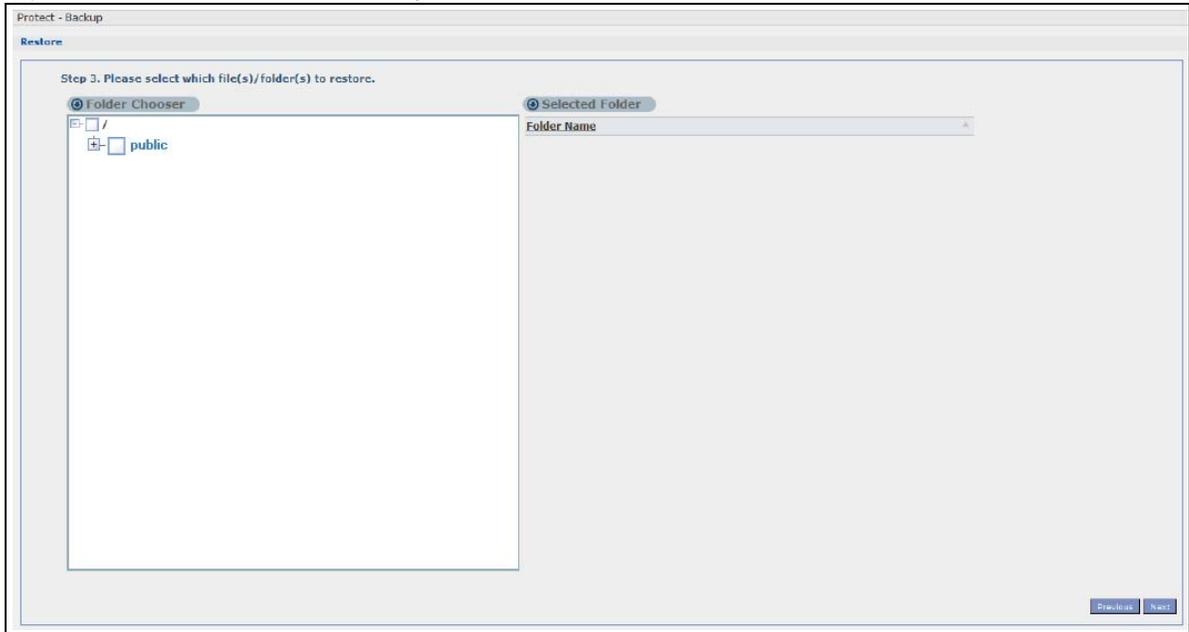
The following table describes the labels in this screen.

Table 139 Protect > Restore: Step 2

| LABEL | DESCRIPTION |
|------------------------------|--|
| Step 2. Select Restore Point | If you selected Remote NAS for the backup you want to restore, you can see a list of all the backups you performed in the Job Name table. If you selected Internal or External Volume for the backup you want to restore, you can see a list of restore times for the backups you performed in the Restored Time table. |
| Job Name | Select a previous backup job in the list that you want to restore to your NAS. Once you choose a job name, all available restore times for that backup job shows in the Restored Time table. |
| Restored Time | Select a previous backup job in the list that you want to restore to your NAS. |
| Previous | Click this to go back to the previous screen. |
| Next | Click this to go to the next screen. |

27.4.3 Restore: Step 3

Use this screen to select the folder where the archive you want to restore is located.

Figure 212 Protect > Restore: Step 3

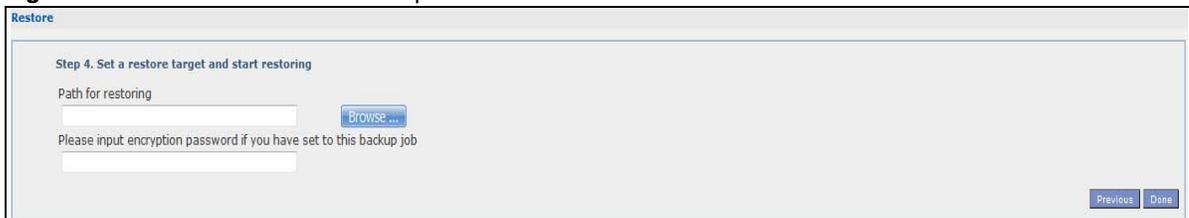
The following table describes the labels in this screen.

Table 140 Protect > Restore: Step 3

| LABEL | DESCRIPTION |
|---|--|
| Step 3. Please select which file(s)/folder(s) to restore. | |
| Folder Chooser | Select the folder where the backup you want to restore is located. |
| Selected Folder | This shows the path of the folder you selected. |
| Previous | Click this to go back to the previous screen. |
| Next | Click this to go to the next screen. |

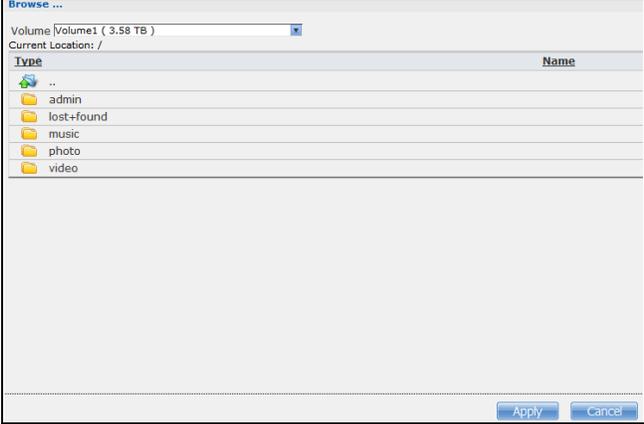
27.4.4 Restore: Step 4

Use this screen to select the location in the NAS where you want to restore your backup.

Figure 213 Protect > Restore: Step 4

The following table describes the labels in this screen.

Table 141 Protect > Restore: Step 4

| LABEL | DESCRIPTION |
|--|--|
| Step 3. Set a restore target and start restoring | |
| Browse | <p>Click this to select a folder where you want to place the restored files.</p>  <ul style="list-style-type: none"> • Volume - Select a volume from the list. • Current Location - This is the location of the selected folder. • Type - This identifies the item as a file or folder. • Name - This is the name of the folder/file. <p>Click Apply to save your settings and Cancel to close the screen.</p> |
| Previous | Click this to go back to the previous screen. |
| Done | Click this to run the restore process and go back to the Backup screen. |

27.5 Configuration File Backup and Restoration

Use the **Maintenance > Configuration** menus to create a file of your NAS configurations such as passwords, shares and volumes created, network settings and so on. If you're going to do some major configuration changes, then it is advisable to create a configuration backup file. If things go wrong after you make the configuration changes, you can always go back to the previous configuration by restoring an earlier configuration file.

If you forgot the NAS password, then use the **RESET** button (see [Section 1.7 on page 17](#)) to return the NAS to the factory default configuration.

Note: Configuration File Backup and Restoration does not affect data (your files and folders), volumes on the NAS.

Troubleshooting

28.1 Troubleshooting Overview

This chapter offers some suggestions to solve problems you might encounter. The potential problems are divided into the following categories.

- [Power, Hardware, Connections, and LEDs](#)
- [NAS Starter Utility](#)
- [NAS Login and Access](#)
- [I Cannot Access The NAS](#)
- [Users Cannot Access the NAS](#)
- [External USB Drives](#)
- [Storage](#)
- [Firmware](#)
- [File Transfer](#)
- [Networking](#)
- [Some Features' Screens Do Not Display](#)
- [Media Server Functions](#)
- [Download Service Functions](#)
- [Web Publishing](#)
- [Auto Upload](#)
- [Package Management](#)
- [Backups](#)
- [Google Drive](#)

28.2 Power, Hardware, Connections, and LEDs

The NAS **PWR** LED does not turn on (no LEDs are on).

- Make sure the NAS is turned on.
- Make sure you are using the power adaptor or cord included with the NAS.
- Make sure the power adaptor or cord is connected to the NAS and plugged in to an appropriate power source. Make sure the power source is turned on.

- Turn the NAS off and on.
- If the problem continues, contact the vendor.

An HDD LED is off.

The **HDD** LED is off when the NAS cannot detect a hard drive in the drive bay. Replace or install a hard drive. See [Installing or replacing a hard disk](#).

An HDD LED is red.

Red means that the NAS detected an error on the hard drive (like a bad sector for example). The NAS automatically tries to recover a bad sector, but the LED stays red until the NAS restarts. Even if the hard drive still functions, it is recommended that you replace it since errors are a sign that the hard drive may fail soon. See [Installing or replacing a hard disk](#).

Installing or replacing a hard disk.

Do not remove or install a hard disk while the NAS is turned on. The NAS must be turned off before you remove or install the hard disk.

- 1 Turn the NAS off, remove the front panel and make sure:
 - there is a SATA I or SATA II (3.0 Gbit/s) compatible hard disk installed.
 - the hard disk is installed correctly in the disk bay. Push the disk back into the NAS disk bay until the hard disk is fitted snugly inside the NAS (see the NAS Quick Start Guide).
 - the hard disk could be faulty. Try a different hard drive or test the original hard disk in a different NAS or computer.
- 2 If you had to replace the drive, turn on the NAS and go to the **Storage** screen.
 - If you have a RAID 1 volume click the **Repair** icon next to the new drive.
 - If you are using RAID 0 you will need to recreate the whole volume. All of your data is lost.
 - If you are using a single-disk JBOD volume, you need to create a new volume on the new drive.
 - If you are using a two-disk JBOD volume, you need to create a whole new volume on both drives.

The LAN LED (by the LAN port) is off.

- Make sure the Ethernet cable is connected properly to the NAS and connected to another (Ethernet) device. Make sure the other device is turned on. If it's connected directly to a computer, make sure that the computer network card is working (ping 127.0.0.1 on the computer).
- Use another Ethernet cable. If you're connecting to a Gigabit Ethernet, make sure you're using an 8-wire Ethernet cable.
- If the problem continues, contact the vendor.

See [Table 1 on page 15](#) for a description of NAS LEDs.

The NAS turns off or reboots by itself.

Check the **Power Management** screen. This is where you configure power settings for the NAS, including power saving, UPS, power on/off during power failure and power on/off schedule. The NAS may be set to turn off under certain conditions.

A power failure occurred while the NAS was downloading files.

- If power failure occurs during the active download period, the NAS will verify whether the downloaded files were damaged.
- If a file is corrupted, the NAS will download the file again.
- If the file is intact but not completely downloaded, the NAS will resume the download task after it restarts.

28.3 NAS Starter Utility

The NAS Starter Utility cannot discover my NAS.

- Close the NAS Starter Utility and reopen it.
- Check your hardware connections and make sure they are set up correctly.
- Only one instance of the NAS Starter Utility can run on your computer. Make sure you close any duplicate windows for this application.
- Wait for the **SYS** LED to stop blinking before clicking **Discover**.
- Confirm that the computer running the NAS Starter Utility has a network connection. See the section on the NAS's LAN connection for related information.
- The computer running the NAS Starter Utility can only discover NASs in the same subnet. NASs connected to the same switch or router as your NAS Starter Utility computer are usually in the same subnet unless the router is doing subnetting or the switch is implementing VLAN.

The NAS Starter Utility discovered my NAS but the status is always unreachable, even though I can access it.

You may need to add the NAS Starter Utility to your software firewall's allow list or lower your software firewall or anti-virus scanner's security level. Alternatively you may have to configure your software firewall or other security software to allow UDP port 50127 traffic from the NAS. If there is a hardware firewall between you and the NAS, configure it to allow UDP port 50127 traffic from the NAS.

I have at least two NASs in my network, how do I identify which one I want to configure in the NAS Starter Utility screens.

If you have several NASs connected to your computer/network, give each a unique name. You may have to disconnect all but one and use the NAS Starter Utility to rename it. Then connect another NAS and rename it and continue to connect and rename the NASs one-by-one until they are all connected and each has a unique name.

Alternatively, if you have a DHCP server on your network and you can access it's list of assigned IP addresses, you could see which IP address belongs to which NAS. You can check the MAC address of your NAS by checking the attached sticker in the device housing.

28.4 NAS Login and Access

I forgot the server name of the NAS.

- The default server name is 'NAS' followed by the number of your model ('**NAS540**' for example).
- Use the NAS Starter Utility to discover your NAS. If you have admin privileges, you can directly change the IP address of the NAS using the NAS Starter Utility.
- If the server name has changed and you don't have the NAS Starter Utility, see [Section 1.7 on page 17](#) to use the **RESET** button to return to the default setting.

I cannot get to the NAS login screen.

- Use the NAS Starter Utility to discover your NAS. If you have admin privileges, you can directly change the IP address of the NAS using the NAS Starter Utility.
- Make sure you have used the NAS Starter Utility to initialize your NAS.
- If you used the **RESET** button, the NAS may have a new IP address. Close and reopen the NAS Starter Utility to discover the NAS.
- Make sure the NAS is turned on.

- If you are trying to login directly by typing the server name into your web browser's address field, make sure you are using the correct server name as the web site address.
 - The default server name is 'NAS' followed by the number of your model ('**NAS540**' for example). If you have changed the server name, use the new one.
 - If the server name has been changed and you do not know the new server name, see the troubleshooting suggestions for [I forgot the server name of the NAS](#).
 - If it still doesn't work, try using the NAS Starter Utility.
- Check the hardware connections, and make sure the LEDs are behaving as expected. See the Quick Start Guide and [Table 1 on page 15](#).
- By default, the NAS gets an IP address automatically. The NAS assigns itself an IP address if no device assigns one. If your computer is also set to get an IP address automatically, the computer and the NAS can both assign themselves IP addresses and communicate. See [Section 10.4 on page 107](#) if you need to configure the NAS with a static IP address.
- If you are connecting to the NAS by its IP address, make sure you use the correct one. If the NAS has a wired Ethernet connection and a wireless connection through an attached USB wireless dongle, the NAS has a different IP address for each connection. To connect through the wired Ethernet connection, use the wired Ethernet connection's IP address. To connect through the wireless connection, use the wireless connection's IP address.
- Make sure your computer's IP address is in the same subnet as the NAS's IP address. You can use the NAS Starter Utility to find the NAS's IP address. Skip this if you know that there are routers between your computer and the NAS.
- Ping the NAS from your computer. Make sure your computer's Ethernet adapter is installed and functioning properly. In a (Windows) computer, click **Start, (All) Programs, Accessories** and then **Command Prompt**. In the **Command Prompt** window, type "ping" followed by the NAS's IP address (use the NAS Starter Utility to find the NAS's IP address if you don't know it) and then press [ENTER].
- Make sure you are using Internet Explorer 6.0 (and later) or Firefox 1.07 (and later).
- Make sure your Internet browser does not block pop-up windows and has JavaScript and Java enabled. With Internet Explorer 6, you may also have to enable scripting of safe ActiveX controls. See [Section 28.4.1 on page 341](#).

[I forgot the password.](#)

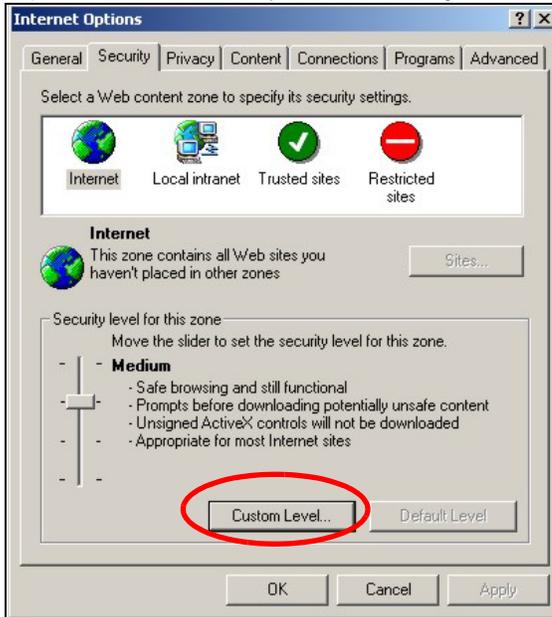
- The default password is **1234**.
- If you have changed the password and forgotten it, you will have to reset the NAS.

28.4.1 Enabling Scripting of Safe ActiveX Controls

If pages of the web configurator do not display properly in Internet Explorer, check that scripting of safe ActiveX controls is enabled.

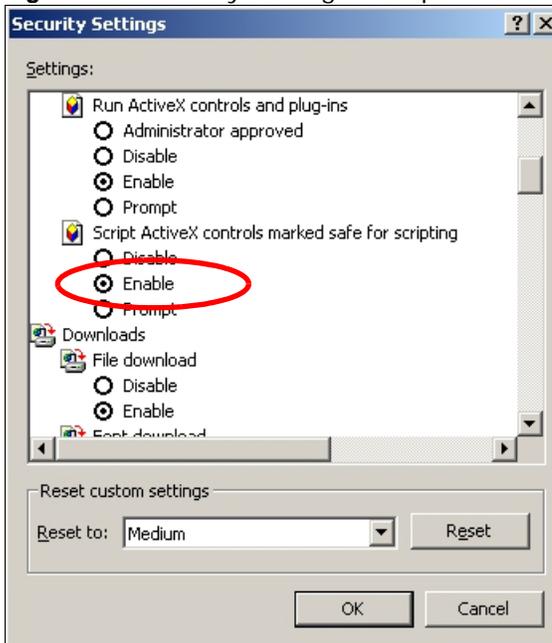
- 1 In Internet Explorer, click **Tools, Internet Options** and then the **Security** tab.

Figure 214 Internet Options: Security



- 2 Click the **Custom Level...** button.
- 3 Under **Script ActiveX controls marked safe for scripting**, make sure that **Enable** is selected (the default).
- 4 Click **OK** to close the window.

Figure 215 Security Settings - Script Safe ActiveX Controls



I can see the login screen, but I cannot log in to the NAS.

- Make sure you have entered the username and password correctly. The default username is **admin**, and the default password is **1234**. These fields are case-sensitive, so make sure [Caps Lock] is not on.
- Turn the NAS off and on.
- If this does not work, see [Section 1.7 on page 17](#) to reset the device.

I cannot see the multi-language web configurator screens while using Internet Explorer.

Use [Section 28.4.1 on page 341](#) to enable the scripting of safe ActiveX controls.

The Web Configurator logs out by itself.

The web configurator management session automatically times out if it is left idle for 15 minutes. Simply log back into the NAS if this happens to you.

28.5 I Cannot Access The NAS

I cannot access a share.

- Check that the NAS is turned on and connected to the network. Try to ping the NAS or use the NAS Starter Utility to discover it.
- Make sure you have used the NAS Starter Utility to initialize your NAS. See [Chapter 2 on page 19](#) for more information.
- Check that you entered your login name and password correctly.
- Check that the share exists and check its access settings.
- Check if the shared folder is a subfolder of another (parent) share. Check that the parent share's access rights do not conflict with the subfolder share. It is recommended that you do not create subfolder shares.
- Check if there are any existing mapped network drives to the NAS. You may need to disconnect existing mapped network drives as a new mapped network drive connection may use (different) previously-saved login information. To do this, open Windows Explorer and click **Tools > Disconnect Mapped Network Drives**.
- Check that the volume in which the share resides, exists and is not down or degraded. If it is down or degraded, see [Section 28.2 on page 337](#).
- Make sure you have the client for Microsoft networks installed and enabled in your network connection's properties.
 - In Windows XP or 2000, click **Start > Settings > Control Panel > Network Connections (Network and Dial-up Connections in Windows 2000/NT) > Local Area Connection > Properties**.

- Check that **Client for Microsoft Networks** is in the list of components and has its check box selected.

28.6 Users Cannot Access the NAS

A local user cannot access a share

- Check that the NAS is turned on and connected to the network. The local user should try to ping the NAS or use the NAS Starter Utility to discover it.
- The local user should check that he entered his login name and password correctly.
- Check if the share exists and has the correct access settings for this user.
- Check the Access Control List (ACL) of read/write permissions associated with specific files and/or folders. Account names added to the list are linked to the files and folders that they are allowed to access, along with what kinds of actions they are allowed to perform with those files and folders (delete, move, rename, and so on).
- The user's computer may already be connected to another of the NAS's shares using a different user name and/or password. This can happen without the user realizing it if the user's computer automatically connects to a share at logon. Right-click any other connected shares and click **Disconnect**. Then re-attempt to connect to the desired share.
- Check if the share has an ANONYMOUS or EVERYONE access right. If the user is already logged into a share using her username and password, she will NOT be able to access a share that has ANONYMOUS FTP only access rights (as these require 'no login'). In this case she should log out and try to access the share again without logging in. See [Section 17.4 on page 215](#) for more details.
- Check if the shared folder is a subfolder of another (parent) share. Check that the parent share's access rights do not conflict with the subfolder share. It is recommended that you do not create subfolder shares.
- Check if the user belongs to a group with conflicting access rights. **DENY** always takes precedence. If you allow a user **FULL** access to a share but set his group to **DENY**, then he will NOT be able to access the share.
- The local user should check if there are any existing mapped network drives to the NAS. He may need to disconnect existing CIFS connections as new CIFS connection may use previously-saved login information that may be different to NAS login.
- Check that the array in which the share resides, exists and is not down or degraded. If the array is down or degraded, see [Section 28.2 on page 337](#).
- If the user is using DFS links, then he can only access the NAS using CIFS and not FTP.
- Check that the share has not been disabled.

I cannot import domain user or user group information even though testing of the connection to the domain controller is OK.

- Check the NAS's DNS setting. The DNS server the NAS is using must be able to resolve the domain controller's address. If the domain controller uses a private IP address, the NAS needs to use a private DNS server. If the domain controller uses a public IP address, the NAS needs to use a public DNS server.
- Leave the domain and re-join it.

A domain user can't access a share.

In addition to the checks listed previously for local users, check that the domain controller is turned on and connected to the network.

A user can access a share but cannot access individual folders or files within the share.

- Check the Access Control List (ACL) of read/write permissions associated with the share's specific files and/or folders. Account names added to the list are linked to the files and folders that they are allowed to access, along with what kinds of actions they are allowed to perform with those files and folders (delete, move, rename, and so on).

28.7 External USB Drives

The COPY LED is red.

Copying files to or from a USB device or SD card failed. The USB device or SD card may not be compatible with the NAS. Try to save the files onto a computer and then from the computer to the NAS (through the network connection).

28.8 Storage

Migrating from RAID 1 to RAID 5 did not expand the storage capacity.

The NAS normally expands the storage capacity by itself after rebuilding the RAID but may not if the NAS rebooted during the RAID re-build.

After the re-build finishes, go to the **Storage** screens and select the volume or disk group and click **Manage** and use **Expand the volume with unallocated disk space**.

Replacing smaller disks in a RAID 1, RAID 5, or RAID 6 with larger capacity hard disks did not expand the storage capacity.

The NAS normally expands the storage capacity by itself after rebuilding the RAID but may not if the NAS rebooted during the RAID re-build.

After the re-build finishes, go to the **Storage** screens and select the volume or disk group and click **Manage** and use **Expand the volume with unallocated disk space**.

28.9 Firmware

I want to know the firmware version on the NAS.

Go to the **Status** screen. The **Firmware** field shows you the current firmware version running.

28.10 File Transfer

I want to transfer my file(s) from my local computer or storage device to the NAS.

- After you initialize your hard disk, you can directly access the folders in your NAS and transfer files in the same way you transfer files in your local computer:
- 1 On your Windows computer, click **Start > Run** or open a web browser.
 - 2 Enter **\\nas** followed by the number of your model (**540** for example) or the **Server Name** you assigned the NAS. This shows you the folders in the NAS.
 - 3 Use drag-and-drop or copy-and-paste to transfer files over to your NAS.
 - Use the **COPY/SYNC** button to transfer files from an external (USB) storage device to the NAS.

I want to transfer my file(s) from the NAS to my local computer or storage device.

- After you initialize your hard disk, you can directly access the folders in your NAS and transfer files in the same way you transfer files in your local computer:
- 1 On your Windows computer, click **Start > Run** or open a web browser.

- 2 Enter `\\nas` followed by the number of your model (**540** for example) or the **Server Name** you assigned the NAS. This shows you the folders in the NAS.
- 3 Use drag-and-drop or copy-and-paste to transfer files from your NAS to your local computer's folder or your storage device.
 - You can download the files from your NAS. Just click on the file(s) in the **Share Browsing** screen ([Section 11.2 on page 124](#)). Your computer will prompt you for the location where you want to save the file.

28.11 Networking

I want to control who can access my folder(s)/file(s).

- If you are an administrator, you can configure a user's access rights. Use the **Shares** screen ([Section 24.3 on page 291](#)) to do this.
- If you enabled **Web Publishing** for a folder, anyone on your network can play the media files in the published shares. No user name and password or other form of security is used. The media server is enabled by default with the video, photo, and music shares published.

One of the computers in my network cannot use the printer I connected to the NAS.

- You must install the printer driver on each computer that will use the printer.
- Check [Section 28.4 on page 340](#) and check for related connectivity issues.

28.12 Some Features' Screens Do Not Display

Many NAS features require a valid internal volume.

Features like the print server, download service, FTP and Windows/CIFS access will not work without a valid internal volume. Make sure you have a volume on an internal disk and that the volume is in the healthy state.

- Install an internal disk if one is not installed yet or has failed. See the Quick Start Guide for how to install an internal disk.
- Create a new volume if you do not have one on the internal disk yet.
- Make sure the volume on the installed internal disk is in a healthy state.

I cannot use some applications in the Web Configurator.

- The firmware installed in your NAS includes the features mentioned in [Section 10.8 on page 122](#). This does not include the applications you can install using the **Package Management** screen.
- You can use the **Package Management** screen ([Chapter 18 on page 246](#)) to install more applications from a web location (specified in the firmware) to your NAS.
- If you have installed the application and can see the application's configuration screen but still cannot use it, check that you have **Enabled** the application.

28.13 Media Server Functions

I set the media server function to publish a folder, but some of the files in the folder do not display in the list on the media client.

Files with formats that are not supported on the media server may not display in the list. See [page 354](#) for the file formats that the media server supports.

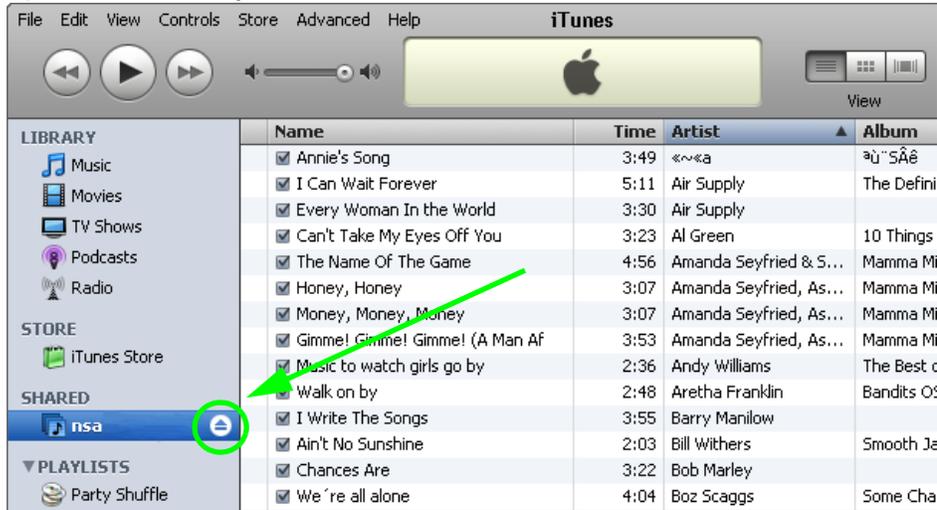
I published a folder with the media server function, but the media client does not play some of the files (or does not play them properly).

- 1 Files with formats that are not supported on the media server may not display in the list. See [page 354](#) for the file formats that the media server supports.
- 2 If you are using media client software, you may need to install codecs on your computer. Since the media client software uses your computer's installed codecs, files do not play if the required codec is not installed on your computer.
- 3 The media client may not support the file's format.

iTunes does not display the names of all the music files I just put on the NAS.

- 1 Make sure the files are a format supported by iTunes. See [page 354](#).
- 2 Go to **Applications > Media Server**. Make sure the share containing the music files is published and the iTunes server option is enabled.
- 3 If an iTunes client is connected, the NAS's iTunes server function scans the published media server folders for files every three minutes. Leave iTunes connected to the NAS for three minutes. Then use the NAS's eject button (as shown next) to disconnect.

Figure 216 iTunes Eject Button



- 4 Then click the NAS's link to reconnect.

Figure 217 iTunes Reconnected



- 5 Another way to get the NAS's iTunes server function to scan the published media server folders for files is to go to **Applications > Media Server** and disable and re-enable the iTunes server option. If you uploaded many files, it may take awhile for the NAS to find and list all of them. Then try reconnecting your iTunes client.

I cannot use iTunes to play files located on my NAS.

- 1 Make sure the files are a format supported by iTunes. See [page 354](#).
- 2 If you have files from the iTunes Store that use DRM, you need to use your Apple account ID and password to authorize other computers to play the files. Apple permits you to authorize up to five computers at a time. To authorize a computer, open iTunes and click **Store > Authorize Computer**.

- 3 If you are connecting through a NAT router, make sure that TCP port 3689 and UDP port 5353 are open for traffic on both the server and the client and all points in between (especially the NAT router). If your router includes a firewall, make sure it also allows TCP port 3689 and UDP port 5353 traffic.

28.14 Download Service Functions

The download list items are missing after I removed a hard drive.

The NAS's download list is stored on the system volume. If you have two JBOD volumes, it is possible to remove one and still use the other. However if you remove the system volume, you may lose the download list. With two JBOD volumes, the hard disk that was installed first is usually the system volume.

I cannot find the download files.

By default, the **Download Service** feature stores downloaded files as follows:

- P2P download jobs are stored in /*/incoming (where '*' is a folder that you have set.)
- HTTP/FTP jobs are stored in /* (where '*' is a folder that you have set.)
- All jobs triggered by RSS channels create the subfolder in /* using the channel name where it store all files downloaded from that channel (where '*' is a folder that you have set.)

Check your **Preferences** in the **Download Service** (Section 17.7 on page 219) screens to know or configure where downloaded files are stored.

28.15 Web Publishing

A web-published share cannot be accessed by web browser from the Internet.

- Make sure the person trying to access the share is using the correct web address (and port number if the NAS's web publishing feature is not using port 80). See page 240 for details.
- Make sure the publishing feature is turned on and the share is in the list of published shares.
- Make sure the person trying to access the share is using Internet Explorer 6.0 (and later) or Firefox 1.07 (and later).
- You need to use a public address to access the NAS's web-published shares from the Internet. If your NAS uses a private IP address, use the public IP address of your Internet gateway (firewall) and configure NAT or port forwarding on your Internet gateway and possibly firewall rules in order to let people access the NAS's web-published shares from the Internet.

- Make sure the firewall's public IP address is static or that the firewall uses a Dynamic Domain Name (DDNS).
- Web publishing uses TCP protocol and the port number you specify. Make sure there is not another service using TCP protocol with the same port number.
- If Firefox access to the share does not work, check that you did not set the Web publishing feature to use one of the following ports. (Firefox blocks these ports by default.)

Table 142 Ports Blocked By Default in Firefox

| PORT | SERVICE |
|------|-------------|
| 1 | tcpmux |
| 7 | echo |
| 9 | discard |
| 11 | systat |
| 13 | daytime |
| 15 | netstat |
| 17 | qotd |
| 19 | chargen |
| 20 | ftp data |
| 21 | ftp control |
| 22 | ssh |
| 23 | telnet |
| 25 | smtp |
| 37 | time |
| 42 | name |
| 43 | nickname |
| 53 | domain |
| 77 | priv-rjs |
| 79 | finger |
| 87 | ttylink |

| PORT | SERVICE |
|------|---------------|
| 95 | supdup |
| 101 | hostrname |
| 102 | iso-tsap |
| 103 | gppitnp |
| 104 | acr-nema |
| 109 | POP2 |
| 110 | POP3 |
| 111 | sunrpc |
| 113 | auth |
| 115 | sftp |
| 117 | uucp-path |
| 119 | NNTP |
| 123 | NTP |
| 135 | loc-srv epmap |
| 139 | netbios |
| 143 | IMAP2 |
| 179 | BGP |
| 389 | LDAP |
| 465 | SMTP+SSL |
| 512 | print exec |

| PORT | SERVICE |
|------|------------|
| 513 | login |
| 514 | shell |
| 515 | printer |
| 526 | tempo |
| 530 | courier |
| 531 | chat |
| 532 | netnews |
| 540 | uucp |
| 556 | remotefs |
| 563 | NNTP+SSL |
| 587 | submission |
| 601 | syslog |
| 636 | LDAP+SSL |
| 993 | IMAP+SSL |
| 995 | POP3+SSL |
| 2049 | nfs |
| 4045 | lockd |
| 6000 | X11 |

- Make sure your ISP allows you to run a server and is not blocking the port number of the NAS's web publishing feature.

28.16 Auto Upload

The NAS does not automatically upload files to Flickr or YouTube.

- 1 Make sure the NAS is connected to the Internet. See [Section 10.4 on page 107](#) for details about testing network connections.
- 2 Click **Maintenance** > **Log** to check the NAS's log for a message about the file.
 - 2a If the log message displays "no such file or directory", the file may have been removed from the NAS. Make sure the file still exists in the watch folder.

- 2b** If the log message displays “filename is queued”, the file may still be waiting for auto upload. Check the grace period setting in the service’s **Configuration** screen. You can set a smaller grace period to shorten the queue time.
- 2c** If you cannot find any log messages about the file:
- Make sure the **Folder Watch List** includes the folder containing the file. You can upload the file to the watch folder again.
 - Make sure the file’s format is supported by Flickr or YouTube. You can find the supported file extensions in the **Folder Watch List**.
- 2d** If the log message displays “not authorized yet”, check if you can enter the NAS’s **Configuration** screen for the service. If you changed the password of your Flickr or YouTube account, you cannot access the service’s **Configuration** screen, and the NAS cannot auto upload files. Make sure you also update the account information in the NAS.
- 3** Make sure the file size does not exceed the limit imposed by the service. At the time of writing, Flickr restricts the file size to 10 MB, and YouTube restricts the file size to 100 MB.
- 4** Make sure you did not exceed the service’s upload quota. Flickr and YouTube have different policies about how much you can upload within a certain period, for example, 100 MB/week.
- 5** The NAS may have temporarily failed to connect to the service. You can upload the file to the watch folder again.

28.17 Package Management

The NAS won’t install the package(s) I selected in the **Package Management** screen.

- The web location of the package may be undergoing maintenance. Try again at a later time. Upgrade the firmware of the NAS.
- If a new firmware is available, do an upgrade and try installing the package(s) again.

I want to know how my hard disk is performing.

Use S.M.A.R.T. (Self Monitoring, Analysis, and Reporting Technology) to monitor hard disks. It detects and reports the reliability of hard disks using standard indicators, enabling administrators to anticipate possible disk failures.

28.18 Backups

I cannot make a backup.

- Check that enough space is available on the external disk. If there isn't you may need to purge older backups or delete other files on the backup USB disk or NAS.
- If you are using the **Backup** screen ([Section 27.3 on page 321](#)):
 - You can look at the **Backup** screen's **Last Run Result** display.
 - If you're backing up to another NAS or a computer, check that it allows the NAS to write files to it. For a synchronization backup, the target must be another NAS or another compatible model.
- Check that the NAS is not performing another backup job. **Scheduler** queues backups when a different backup is already going on at the time a backup is scheduled.

The backup does not run at the time configured.

- Check that the correct time is configured on the NAS.
- Check that the NAS is able to access the time server from which it gets the time; see [Section 16.6 on page 210](#).

28.19 Google Drive

Google Drive stopped syncing.

- 1 Make sure the NAS is connected to the Internet. See [Section 10.4 on page 107](#) for details about testing network connections.
- 2 Check if you have exceeded the Google Drive account's storage quota. You may need to:
 - Delete unneeded files.
 - Empty the Google Drive trash bin. Note, this permanently deletes everything in the bin, even if Google moved it there without telling you (because you moved a file out of the local sync folder for example).
 - Upgrade the account's capacity
- 3 Click **Maintenance** > **Log** to check the NAS's log messages. If a log message says you have exceeded your storage quota on the NAS:
 - Delete unneeded files.
 - Clean out the recycle bin (see [Section 24.4.2 on page 296](#)).
 - Increase the user's quota on the volume containing the local sync folder (see [Section 22.3.2 on page 283](#)).
- 4 Check for any logs about removal of the user account. When you remove a user's NAS account, the NAS also removes the link to the user's Google account. However the NAS keeps the data in the local sync folder. Reconfigure a user account and link it to the Google account to let the user use Google Drive again.

Product Specifications

See also [Chapter 1 on page 14](#) for a general overview of the key features.

Supported Media Server Content Formats

The following describes the details about the files that the NAS media server can publish.

- Audio: LPCM (not supported as a file format), MP3, WMA, M4A, M4B, MP4, 3GP, WAV, OGG, FLAC, AAC, MP2, AC3, MPA, MP1, AIF, ASF, FLV, DSD
- Images: JPEG, PNG, TIF, TIFF, BMP, GIF
- Video: WMV, MPEG2, MP1, MPG, SPTS, MP4, AVI, VOB, DivX, 3GP, VDR, MPE, DVR-MS, Xvid, M1V, M4V, MOV, MPV, MKV, OGG, FLV, MTS

Note: Not all published file types can be viewed by all client applications.

Supported iTunes Server Content Formats

At the time of writing, the NAS supports iTunes publishing audio files of the following formats: mp3, m4a, m4p, wav, and mp4.

Customer Support

In the event of problems that cannot be solved by using this manual, you should contact your vendor. If you cannot contact your vendor, then contact a ZyXEL office for the region in which you bought the device.

See <http://www.zyxel.com/homepage.shtml> and also

http://www.zyxel.com/about_zyxel/zyxel_worldwide.shtml for the latest information.

Please have the following information ready when you contact an office.

Required Information

- Product model and serial number.
- Warranty Information.
- Date that you received your device.
- Brief description of the problem and the steps you took to solve it.

Corporate Headquarters (Worldwide)

Taiwan

- ZyXEL Communications Corporation
- <http://www.zyxel.com>

Asia

China

- ZyXEL Communications (Shanghai) Corp.
- ZyXEL Communications (Beijing) Corp.
- ZyXEL Communications (Tianjin) Corp.
- <http://www.zyxel.cn>

India

- ZyXEL Technology India Pvt Ltd
- <http://www.zyxel.in>

Kazakhstan

- ZyXEL Kazakhstan

- <http://www.zyxel.kz>

Korea

- ZyXEL Korea Corp.
- <http://www.zyxel.kr>

Malaysia

- ZyXEL Malaysia Sdn Bhd.
- <http://www.zyxel.com.my>

Pakistan

- ZyXEL Pakistan (Pvt.) Ltd.
- <http://www.zyxel.com.pk>

Philippines

- ZyXEL Philippines
- <http://www.zyxel.com.ph>

Singapore

- ZyXEL Singapore Pte Ltd.
- <http://www.zyxel.com.sg>

Taiwan

- ZyXEL Communications Corporation
- <http://www.zyxel.com/tw/zh/>

Thailand

- ZyXEL Thailand Co., Ltd
- <http://www.zyxel.co.th>

Vietnam

- ZyXEL Communications Corporation-Vietnam Office
- <http://www.zyxel.com/vn/vi>

Europe

Austria

- ZyXEL Deutschland GmbH
- <http://www.zyxel.de>

Belarus

- ZyXEL BY
- <http://www.zyxel.by>

Belgium

- ZyXEL Communications B.V.
- <http://www.zyxel.com/be/nl/>
- <http://www.zyxel.com/be/fr/>

Bulgaria

- ZyXEL България
- <http://www.zyxel.com/bg/bg/>

Czech Republic

- ZyXEL Communications Czech s.r.o
- <http://www.zyxel.cz>

Denmark

- ZyXEL Communications A/S
- <http://www.zyxel.dk>

Estonia

- ZyXEL Estonia
- <http://www.zyxel.com/ee/et/>

Finland

- ZyXEL Communications
- <http://www.zyxel.fi>

France

- ZyXEL France
- <http://www.zyxel.fr>

Germany

- ZyXEL Deutschland GmbH
- <http://www.zyxel.de>

Hungary

- ZyXEL Hungary & SEE
- <http://www.zyxel.hu>

Italy

- ZyXEL Communications Italy
- <http://www.zyxel.it/>

Latvia

- ZyXEL Latvia
- <http://www.zyxel.com/lv/lv/homepage.shtml>

Lithuania

- ZyXEL Lithuania
- <http://www.zyxel.com/lt/lt/homepage.shtml>

Netherlands

- ZyXEL Benelux
- <http://www.zyxel.nl>

Norway

- ZyXEL Communications
- <http://www.zyxel.no>

Poland

- ZyXEL Communications Poland
- <http://www.zyxel.pl>

Romania

- ZyXEL Romania
- <http://www.zyxel.com/ro/ro>

Russia

- ZyXEL Russia
- <http://www.zyxel.ru>

Slovakia

- ZyXEL Communications Czech s.r.o. organizacna zlozka
- <http://www.zyxel.sk>

Spain

- ZyXEL Communications ES Ltd
- <http://www.zyxel.es>

Sweden

- ZyXEL Communications

- <http://www.zyxel.se>

Switzerland

- Studerus AG
- <http://www.zyxel.ch/>

Turkey

- ZyXEL Turkey A.S.
- <http://www.zyxel.com.tr>

UK

- ZyXEL Communications UK Ltd.
- <http://www.zyxel.co.uk>

Ukraine

- ZyXEL Ukraine
- <http://www.ua.zyxel.com>

Latin America

Argentina

- ZyXEL Communication Corporation
- <http://www.zyxel.com/ec/es/>

Brazil

- ZyXEL Communications Brasil Ltda.
- <https://www.zyxel.com/br/pt/>

Ecuador

- ZyXEL Communication Corporation
- <http://www.zyxel.com/ec/es/>

Middle East

Israel

- ZyXEL Communication Corporation
- <http://il.zyxel.com/homepage.shtml>

Middle East

- ZyXEL Communication Corporation

- <http://www.zyxel.com/me/en/>

North America

USA

- ZyXEL Communications, Inc. - North America Headquarters
- <http://www.zyxel.com/us/en/>

Oceania

Australia

- ZyXEL Communications Corporation
- <http://www.zyxel.com/au/en/>

Africa

South Africa

- Nology (Pty) Ltd.
- <http://www.zyxel.co.za>

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Regulatory Notice and Statement

UNITED STATES of AMERICA



The following information applies if you use the product within USA area.

FCC EMC Statement

- The device complies with Part 15 of FCC rules. Operation is subject to the following two conditions:
 - (1) This device may not cause harmful interference, and
 - (2) this device must accept any interference received, including interference that may cause undesired operation.
- Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
- This product has been tested and complies with the specifications for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used according to the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.
- If this equipment does cause harmful interference to radio or television reception, which is found by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
 - Reorient or relocate the receiving antenna
 - Increase the separation between the equipment or devices
 - Connect the equipment to an outlet other than the receiver's
 - Consult a dealer or an experienced radio/TV technician for assistance

CANADA

The following information applies if you use the product within Canada area

Industry Canada ICES statement

CAN ICES-3 (B)/NMB-3(B)

EUROPEAN UNION



The following information applies if you use the product within the European Union.

List of national codes

| COUNTRY | ISO 3166 2 LETTER CODE | COUNTRY | ISO 3166 2 LETTER CODE |
|----------------|------------------------|----------------|------------------------|
| Austria | AT | Liechtenstein | LI |
| Belgium | BE | Lithuania | LT |
| Bulgaria | BG | Luxembourg | LU |
| Croatia | HR | Malta | MT |
| Cyprus | CY | Netherlands | NL |
| Czech Republic | CZ | Norway | NO |
| Denmark | DK | Poland | PL |
| Estonia | EE | Portugal | PT |
| Finland | FI | Romania | RO |
| France | FR | Serbia | RS |
| Germany | DE | Slovakia | SK |
| Greece | GR | Slovenia | SI |
| Hungary | HU | Spain | ES |
| Iceland | IS | Switzerland | CH |
| Ireland | IE | Sweden | SE |
| Italy | IT | Turkey | TR |
| Latvia | LV | United Kingdom | GB |

Safety Warnings

- DO NOT use this product near water, for example, in a wet basement or near a swimming pool.
- DO NOT expose your device to dampness, dust or corrosive liquids.
- DO NOT store things on the device.
- DO NOT install, use, or service this device during a thunderstorm. There is a remote risk of electric shock from lightning.
- Connect ONLY suitable accessories to the device.
- DO NOT open the device or unit. Opening or removing covers can expose you to dangerous high voltage points or other risks. ONLY qualified service personnel should service or disassemble this device. Please contact your vendor for further information.
- Make sure to connect the cables to the correct ports.
- Place connecting cables carefully so that no one will step on them or stumble over them.
- Always disconnect all cables from this device before servicing or disassembling.
- DO NOT remove the plug and connect it to a power outlet by itself; always attach the plug to the power adaptor first before connecting it to a power outlet.
- DO NOT allow anything to rest on the power adaptor or cord and do NOT place the product where anyone can walk on the power adaptor or cord.
- Please use the provided or designated connection cables/power cables/ adaptors. Connect it to the right supply voltage (for example, 110V AC in North America or 230V AC in Europe). If the power adaptor or cord is damaged, it might cause electrocution. Remove it from the device and the power source, repairing the power adapter or cord is prohibited. Contact your local vendor to order a new one.
- DO NOT use the device outside, and make sure all the connections are indoors. There is a remote risk of electric shock from lightning.
- CAUTION: Risk of explosion if battery is replaced by an incorrect type, dispose of used batteries according to the instruction. Dispose them at the applicable collection point for the recycling of electrical and electronic devices. For detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the store where you purchased the product.
- DO NOT obstruct the device ventilation slots, as insufficient airflow may harm your device.

The following warning statements apply, where the disconnect device is not incorporated in the device or where the plug on the power supply cord is intended to serve as the disconnect device,

- For permanently connected devices, a readily accessible disconnect device shall be incorporated external to the device;
- For pluggable devices, the socket-outlet shall be installed near the device and shall be easily accessible.

Environment Statement

ErP (Energy-related Products)

ZyXEL products put on the EU market in compliance with the requirement of the European Parliament and the Council published Directive 2009/125/EC establishing a framework for the setting of ecodesign requirements for energy-related products (recast), so called as "ErP Directive (Energy-related Products directive) as well as ecodesign requirement laid down in applicable implementing measures, power consumption has satisfied regulation requirements which are:

Network standby power consumption < 12W, and/or

Off mode power consumption < 0.5W, and/or

Standby mode power consumption < 0.5W.

Wireless setting, please refer to "Wireless" chapter for more detail.

European Union - Disposal and Recycling Information

The symbol below means that according to local regulations your product and/or its battery shall be disposed of separately from domestic waste. If this product is end of life, take it to a recycling station designated by local authorities. At the time of disposal, the separate collection of your product and/or its battery will help save natural resources and ensure that the environment is sustainable development.

Die folgende Symbol bedeutet, dass Ihr Produkt und/oder seine Batterie gemäß den örtlichen Bestimmungen getrennt vom Hausmüll entsorgt werden muss. Wenden Sie sich an eine Recyclingstation, wenn dieses Produkt das Ende seiner Lebensdauer erreicht hat. Zum Zeitpunkt der Entsorgung wird die getrennte Sammlung von Produkt und/oder seiner Batterie dazu beitragen, natürliche Ressourcen zu sparen und die Umwelt und die menschliche Gesundheit zu schützen.

El símbolo de abajo indica que según las regulaciones locales, su producto y/o su batería deberán depositarse como basura separada de la doméstica. Cuando este producto alcance el final de su vida útil, llévelo a un punto limpio. Cuando llegue el momento de desechar el producto, la recogida por separado éste y/o su batería ayudará a salvar los recursos naturales y a proteger la salud humana y medioambiental.

Le symbole ci-dessous signifie que selon les réglementations locales votre produit et/ou sa batterie doivent être éliminés séparément des ordures ménagères. Lorsque ce produit atteint sa fin de vie, amenez-le à un centre de recyclage. Au moment de la mise au rebut, la collecte séparée de votre produit et/ou de sa batterie aidera à économiser les ressources naturelles et protéger l'environnement et la santé humaine.

Il simbolo sotto significa che secondo i regolamenti locali il vostro prodotto e/o batteria deve essere smaltito separatamente dai rifiuti domestici. Quando questo prodotto raggiunge la fine della vita di servizio portarlo a una stazione di riciclaggio. Al momento dello smaltimento, la raccolta separata del vostro prodotto e/o della sua batteria aiuta a risparmiare risorse naturali e a proteggere l'ambiente e la salute umana.

Symbolen innebär att enligt lokal lagstiftning ska produkten och/eller dess batteri kastas separat från hushållsavfallet. När den här produkten når slutet av sin livslängd ska du ta den till en återvinningsstation. Vid tiden för kasseringen bidrar du till en bättre miljö och mänsklig hälsa genom att göra dig av med den på ett återvinningsställe.



Environmental Product Declaration

| Български (Bulgarian) | Čeština (Czech) | Dansk (Danish) | Deutsch (German) |
|---|--|--|--|
| <p>Екологична продуктова декларация</p> <p>RoHS Директива 2011/65/EC WEEE Директива 2012/19/EC PPW Директива 94/62/EC REACH REGULATION (EC) n° 1907/2006 EoP Директива 2009/125/EC</p> <p>Име/ титла : Richard Hsu / Quality Management Division Senior Manager Подпис : Дата (dd/mm/yyyy): 01/10/2014</p>   | <p>Environmentální prohlášení o produktu</p> <p>RoHS Směrnice 2011/65/EU WEEE Směrnice 2012/19/EU PPW Směrnice 94/62/EC REACH Nařízení (ES) č. 1907/2006 EoP Směrnice 2009/125/ES</p> <p>Jméno/ titul : Richard Hsu / Quality Management Division Senior Manager Podpis : Datum (dd/mm/yyyy): 01/10/2014</p>   | <p>Miljøvaredeklaration</p> <p>RoHS Direktiv 2011/65/EU WEEE Direktiv 2012/19/EC PPW Direktiv 94/62/EF REACH Forordning (EF) nr. 1907/2006 EoP Direktiv 2009/125/EF</p> <p>Navn/ titel : Richard Hsu / Quality Management Division Senior Manager Underskrift : Dato (dd/mm/åååå): 01/10/2014</p>   | <p>Produkt-Umweltdeklaration</p> <p>RoHS Richtlinie 2011/65/EU WEEE Richtlinie 2012/19/EC PPW Richtlinie 94/62/EG REACH VERORDNUNG (EG) Nr. 1907/2006 EoP Richtlinie 2009/125/EG</p> <p>Name/ titel : Richard Hsu / Quality Management Division Senior Manager Unterschrift : Datum (dd/mm/jj): 2014/10/01</p>   |
| <p>Toote keskkonnadeklaratsioon</p> <p>RoHS Direktiiv 2011/65/EU WEEE Direktiiv 2012/19/EC PPW Direktiiv 94/62/EÜ REACH määrus (EÜ) nr. 1907/2006 EoP Direktiiv 2009/125/EÜ</p> <p>Nimi/ amet : Richard Hsu / Quality Management Division Senior Manager Allkiri : Kuupäev (pp/kk/aaaa): 01/10/2014</p>   | <p>Environmental product declaration</p> <p>RoHS Directive 2011/65/EU WEEE Directive 2012/19/EC PPW Directive 94/62/EC REACH Regulation (EC) No. 1907/2006 EoP Directive 2009/125/EC</p> <p>Name/ title : Richard Hsu / Quality Management Division Senior Manager Signature : Date (dd/mm/yyyy): 01/10/2014</p>   | <p>Declaraciones Ambientales de Producto</p> <p>RoHS Directiva 2011/65/UE WEEE Directiva 2012/19/UE PPW Directiva 94/62/CE REACH Reglamento (CE) n° 1907/2006 EoP Directiva 2009/125/CE</p> <p>Nombre/ título : Richard Hsu / Quality Management Division Senior Manager Firma : Fecha (dd/mm/aaaa): 2014/10/01</p>   | <p>Profil environnemental de produit</p> <p>RoHS Directive 2011/65/UE WEEE Directive 2012/19/UE PPW Directive 94/62/CE REACH REGLEMENTAS (EG) nr 1907/2006 EoP Directive 2009/125/CE</p> <p>Nom/ titre : Richard Hsu / Quality Management Division Senior Manager Signature : Date (dd/mm/aaaa): 2014/10/01</p>   |
| <p>Deklaraciju o zbrinjavanju proizvoda</p> <p>RoHS Direktiva 2011/65/EU WEEE Direktiva 2012/19/EC PPW Direktiva 94/62/EZ REACH Uredba (EZ) br. 1907/2006 EoP Direktiva 2009/125/EZ</p> <p>Ime/ naslov : Richard Hsu / Quality Management Division Senior Manager Podpis : Datum (dd/mm/yyyy): 01/10/2014</p>   | <p>Dichiarazione ambientale di prodotto</p> <p>RoHS Diretiva 2011/65/UE WEEE Diretiva 2012/19/UE PPW Diretiva 94/62/CE REACH REGULAMENTUL (CE) n. 1907/2006 EoP Diretiva 2009/125/CE</p> <p>Nume/ titlu : Richard Hsu / Quality Management Division Senior Manager Firma : Data (dd/mm/aaaa): 2014/10/01</p>   | <p>Produkta vides ietekmējuma deklarācija</p> <p>RoHS Direktīva 2011/65/ES WEEE Direktīva 2012/19/ES PPW Direktīva 94/62/EK REACH Regula (EK) Nr. 1907/2006 EoP Direktīva 2009/125/EK</p> <p>Nosaukums/ tituls : Richard Hsu / Quality Management Division Senior Manager Paraksts : Datums (dd/mm/yyyy): 01/10/2014</p>   | <p>Apinkosaušingų gaminių deklaraciją</p> <p>RoHS Direktyva 2011/65/ES WEEE Direktyva 2012/19/ES PPW Direktyva 94/62/EB REACH REGLAMENTAS (EB) nr 1907/2006 EoP Direktyva 2009/125/EB</p> <p>Vardas/ titulė : Richard Hsu / Quality Management Division Senior Manager Parašas : Data (dd/mm/aaaa): 01/10/2014</p>   |
| <p>Környezetvédelmi terméknyilatkozatot</p> <p>RoHS 2011/65/EU irányelve WEEE 2012/19/EU irányelve PPW 94/62/EK irányelve REACH 1907/2006/EK rendelet EoP 2009/125/EK irányelve</p> <p>Név/ cím : Richard Hsu / Quality Management Division Senior Manager Aláírás : Dátum (dd/mm/yyyy): 2014/10/01</p>   | <p>Dikjarazzjoni Ambientali dwar il-Prodott</p> <p>RoHS Diretiva 2011/65/UE WEEE Diretiva 2012/19/UE PPW Diretiva 94/62/CE REACH REGULAMENTUL (CE) Nr. 1907/2006 EoP Diretiva 2009/125/CE</p> <p>Isim/ titlu : Richard Hsu / Quality Management Division Senior Manager Firma : Data (dd/mm/aaaa): 2014/10/01</p>   | <p>Miljøproductverklaring</p> <p>RoHS Richtlin 2011/65/EU WEEE Richtlin 2012/19/EC PPW Richtlin 94/62/EG REACH Verordning (EG) nr. 1907/2006 EoP Richtlin 2009/125/EG</p> <p>Navn/ titel : Richard Hsu / Quality Management Division Senior Manager Håndskrevet : Datum (dd/mm/år): 01/10/2014</p>   | <p>Deklaracja środowiskowa produktu</p> <p>RoHS Dyrektywa 2011/65/UE WEEE Dyrektywa 2012/19/UE PPW Dyrektywa 94/62/WE REACH Rozporządzenie (WE) nr 1907/2006 EoP Dyrektywa 2009/125/WE</p> <p>Nazwisko/ tytuł : Richard Hsu / Quality Management Division Senior Manager Podpis : Data (dd/mm/aaaa): 2014/10/01</p>   |
| <p>Declaração ambiental do produto</p> <p>RoHS Diretiva 2011/65/UE WEEE Diretiva 2012/19/UE PPW Diretiva 94/62/CE REACH Regulamento (CE) n° 1907/2006 EoP Diretiva 2009/125/CE</p> <p>Nome/ título : Richard Hsu / Quality Management Division Senior Manager Assinatura : Data (dd/mm/aaaa): 01/10/2014</p>   | <p>Declarație de mediu privind produsele</p> <p>RoHS Directiva 2011/65/UE WEEE Directiva 2012/19/UE PPW Directiva 94/62/CE REACH REGULAMENTUL (CE) Nr. 1907/2006 EoP Directiva 2009/125/CE</p> <p>Nume/ titlu : Richard Hsu / Quality Management Division Senior Manager Semnatura : Data (dd/mm/aaaa): 01/10/2014</p>   | <p>Vyhľadanie o environmentálnom výrobku</p> <p>RoHS Smernica 2011/65/EU WEEE Smernica 2012/19/EC PPW Smernica 94/62/ES REACH Nařízení (ES) č. 1907/2006 EoP Smernica 2009/125/ES</p> <p>Menor/ titul : Richard Hsu / Quality Management Division Senior Manager Podpis : Datum (dd/mm/yyyy): 01/10/2014</p>   | <p>Okoljsko deklaracija izdelka</p> <p>RoHS Direktiva 2011/65/UE WEEE Direktiva 2012/19/UE PPW Direktiva 94/62/ES REACH Uredba (ES) br. 1907/2006 EoP Direktiva 2009/125/ES</p> <p>Ime/ nadziv : Richard Hsu / Quality Management Division Senior Manager Podpis : Datum (dd/mm/aaaa): 01/10/2014</p>   |
| <p>Standardin perustava ympäristötuoteseloste</p> <p>RoHS Direktiiv 2011/65/EU WEEE Direktiiv 2012/19/EC PPW Direktiiv 94/62/EY REACH ASETUS (EY) N:o 1907/2006 EoP Direktiiv 2009/125/EY</p> <p>Nimi/ osasto : Richard Hsu / Quality Management Division Senior Manager Alaenkirja : Päivämäärä (pp/kk/vvvv): 01/10/2014</p>   | <p>Miljöproduktdeklaration</p> <p>RoHS Direktiv 2011/65/EU WEEE Direktiv 2012/19/EC PPW Direktiv 94/62/EK REACH Förordning (EG) nr 1907/2006 EoP Direktiv 2009/125/EG</p> <p>Namn/ titel : Richard Hsu / Quality Management Division Senior Manager Namnteckning : Datum (dd/mm/åååå): 01/10/2014</p>   | <p>Περιβαλλοντική δήλωση προϊόντος</p> <p>RoHS Οδηγία 2011/65/ΕΕ WEEE Οδηγία 2012/19/ΕΕ PPW Οδηγία 94/62/ΕΚ REACH Λειτουργία (ΕΚ) αριθ. 1907/2006 EoP Οδηγία 2009/125/ΕΚ</p> <p>Όνομα/ τίτλος : Richard Hsu / Quality Management Division Senior Manager Υπογραφή : Ημερομηνία (gg/mm/aaaa): 01/10/2014</p>   | <p>Miljødeklarasjon</p> <p>RoHS Direktiv 2011/65/UE WEEE Direktiv 2012/19/UE PPW Direktiv 94/62/CE REACH Forordning (EF) nr. 1907/2006 EoP Direktiv 2009/125/EF</p> <p>Navn/ tittel : Richard Hsu / Quality Management Division Senior Manager Signatur : Dato (dd/mm/åååå): 01/10/2014</p>   |

台灣

**安全警告**

為了您的安全，請先閱讀以下警告及指示：

- 請勿將此產品接近水、火焰或放置在高溫的環境。
- 避免設備接觸任何液體。切勿讓設備接觸水、雨水、高濕度、污水腐蝕性的液體或其他水份。
- 灰塵及污物。切勿接觸灰塵、污物、沙土、食物或其他不適合的材料。
- 雷雨天氣時，不要安裝，使用或維修此設備。有遭受電擊的風險。
- 切勿重摔或撞擊設備，並勿使用不正確的電源變壓器。
- 若接上不正確的電源變壓器會有爆炸的風險。
- 請勿隨意更換產品內的電池。
- 如果更換不正確之電池型式，會有爆炸的風險，請依製造商說明書處理使用過之電池。
- 請將廢電池丟棄在適當的電器或電子設備回收處。
- 請勿將設備解體。
- 請勿阻礙設備的散熱孔，空氣對流不足將會造成設備損害。
- 請插在正確的電壓供給插座（如：北美 / 台灣電壓 110V AC，歐洲是 230V AC）。
- 假若電源變壓器或電源變壓器的纜線損壞，請從插座拔除，若您還繼續插電使用，會有觸電死亡的風險。
- 請勿試圖修理電源變壓器或電源變壓器的纜線，若有毀損，請直接聯絡您購買的店家，購買一個新的電源變壓器。
- 請勿將此設備安裝於室外，此設備僅適合放置於室內。
- 請勿隨一般垃圾丟棄。
- 請參閱產品背貼上的設備額定功率。
- 請參考產品型錄或是彩盒上的作業溫度。
- 產品沒有斷電裝置或者採用電源線的插頭視為斷電裝置的一部分，以下警語將適用：
 - 對永久連接之設備，在設備外部須安裝可觸及之斷電裝置；
 - 對插接式之設備，插座必須接近安裝之地點而且是易於觸及的。

Viewing Certifications

Go to <http://www.zyxel.com> to view this product's documentation and certifications.

ZyXEL Limited Warranty

ZyXEL warrants to the original end user (purchaser) that this product is free from any defects in material or workmanship for a specific period (the Warranty Period) from the date of purchase. The Warranty Period varies by region. Check with your vendor and/or the authorized ZyXEL local distributor for details about the Warranty Period of this product. During the warranty period, and upon proof of purchase, should the product have indications of failure due to faulty workmanship and/or materials, ZyXEL will, at its discretion, repair or replace the defective products or components without charge for either parts or labor, and to whatever extent it shall deem necessary to restore the product or components to proper operating condition. Any replacement will consist of a new or re-manufactured functionally equivalent product of equal or higher value, and will be solely at the discretion of ZyXEL. This warranty shall not apply if the product has been modified, misused, tampered with, damaged by an act of God, or subjected to abnormal working conditions.

Note

Repair or replacement, as provided under this warranty, is the exclusive remedy of the purchaser. This warranty is in lieu of all other warranties, express or implied, including any implied warranty of merchantability or fitness for a particular use or purpose. ZyXEL shall in no event be held liable for indirect or consequential damages of any kind to the purchaser.

To obtain the services of this warranty, contact your vendor. You may also refer to the warranty policy for the region in which you bought the device at http://www.zyxel.com/web/support_warranty_info.php.

Registration

Register your product online to receive e-mail notices of firmware upgrades and information at www.zyxel.com for global products, or at www.us.zyxel.com for North American products.

Open Source Licenses

This product contains in part some free software distributed under GPL license terms and/or GPL like licenses. Open source licenses are provided with the firmware package. You can download the latest firmware at www.zyxel.com. To obtain the source code covered under those Licenses, please contact support@zyxel.com.tw to get it.

A

- access rights [127](#)
 - Flickr [267](#)
 - shares [294, 295](#)
 - YouTube [269](#)
- activation
 - download service [219](#)
 - Flickr/YouTube [263](#)
 - FTP [216](#)
 - FTP Uploadr [270](#)
 - recycle bins [127, 293](#)
 - web publishing [230](#)
- adding channels [219](#)
- Amazon Fire TV [30](#)
- ANONYMOUS FTP [344](#)
- anonymous FTP access [216](#)
- Apple TV [30](#)
- applications [213, 262](#)
 - adding channels [219](#)
 - auto upload
 - Flickr/YouTube [262](#)
 - FTP Uploadr [270](#)
 - COPY/SYNC button [232](#)
 - configuration [232](#)
 - example [241](#)
 - synchronization [242](#)
 - download service [214, 235](#)
 - activation [219](#)
 - adding a task [222, 228](#)
 - configuration [219](#)
 - notifications [236](#)
 - P2P download [222, 235](#)
 - preferences [223](#)
 - protection [236, 237](#)
 - status [221](#)
 - URL [222](#)
 - FTP [213, 215, 262](#)
 - activation [216](#)
 - anonymous access [216](#)
 - passive mode transfer [216](#)
 - media server [214, 216](#)
 - configuration [217](#)
 - iTunes server [214, 234](#)
 - print server [240](#)
 - configuration [231](#)
 - name [232](#)
 - web publishing [215, 230, 240](#)
 - activation [230](#)
 - example [238](#)
 - port number [240](#)
- archive [192](#)
- authorization
 - Flickr [263, 264](#)
 - YouTube [267](#)
- auto upload
 - Flickr/YouTube [262](#)
 - activation [263](#)
 - authorization [263, 267](#)
 - configuration [266, 267](#)
 - FTP Uploadr [270](#)
 - activation [270](#)
 - bandwidth limit [273](#)
 - configuration [272](#)
 - server entry [271](#)
 - grace period [267, 269, 273](#)

B

- backup [191, 192, 254, 256](#)
 - archive [192](#)
 - synchronization tutorial [194](#)
 - tutorial [194](#)
- backup files
 - restoring files by [34, 198](#)
- backup job
 - restoring files by [196](#)
- backup settings [310](#)
- bandwidth limit [273](#)

C

certificate [312](#)
 editing [312](#)
 tutorial [177](#)
 verifying [186](#)
 certifications [362](#)
 viewing [365](#)
 Chromecast [30](#)
 CIFS [206](#)
 cloud [251](#)
 cloud storage [254](#), [256](#)
 collaboration [256](#)
 configuration
 COPY/SYNC button [232](#)
 download service [219](#)
 Flickr [266](#)
 FTP Uploadr [272](#)
 print server [231](#)
 recycle bins [296](#)
 YouTube [267](#), [268](#)
 contact information [355](#)
 control panel [106](#)
 COPY/SYNC button [17](#), [232](#)
 configuration [232](#)
 example [241](#)
 synchronization [242](#)
 copying contents [298](#)
 copyright [361](#)
 CPU
 temperature [104](#)
 usage [104](#)
 creating
 groups [288](#), [289](#)
 shares [292](#), [293](#)
 users [282](#), [283](#)
 customer support [355](#)

D

date [210](#)
 desktop [41](#)
 disclaimer [361](#)
 discovery [20](#)
 disk

S.M.A.R.T. attributes [79](#)
 displaying user information [285](#)
 DLNA [214](#), [234](#)
 DNS [106](#), [108](#)
 documentation
 related [2](#)
 Domain Name System, see DNS
 domain user
 troubleshooting [345](#)
 troubleshooting share access [345](#)
 download period control [225](#)
 download service [214](#), [235](#)
 activation [219](#)
 adding a task [222](#), [228](#)
 configuration [219](#)
 download period control [225](#)
 notifications [236](#)
 activation [219](#)
 P2P download
 IP filtering [227](#)
 protection [236](#), [237](#)
 re-seeding [220](#)
 settings [225](#)
 torrent files [222](#), [235](#)
 preferences [223](#)
 status [221](#)
 URL, download service [222](#)
 downloading files [126](#)
 Dropbox [274](#)
 duplexing [98](#)

E

Exchangeable image file format, see Exif
 Exif [130](#)
 explicit TLS/SSL [188](#)

F

fan speed [104](#)
 file
 troubleshooting access [345](#)
 file browser
 configure share [126](#)

file synchronization [256](#)
File Transfer Protocol over Explicit TLS, see FTPES
File Transfer Protocol over TLS, see FTPS
files
 downloading [126](#)
 uploading [126](#)
FileZilla [188](#)
FindMe [19](#)
fingerprint [186](#)
firmware, upgrading [122](#)
Flickr [262](#)
 access rights [267](#)
 activation [263](#)
 authorization [263, 264](#)
 grace period [267](#)
 safety level [267](#)
folder
 troubleshooting access [345](#)
folder creation [125](#)
FTP [188, 213, 215, 262](#)
 activation [216](#)
 anonymous access [216](#)
 over TLS [188](#)
 passive mode transfer [216](#)
FTP Uploadr [270](#)
 activation [270](#)
 bandwidth limit [273](#)
 configuration [272](#)
 grace period [273](#)
 server entry [271](#)
FTPES [214](#)
FTPES - FTP over explicit TLS/SSL [188](#)
FTPS [188, 262](#)

G

global icons [140](#)
GMT [24, 211](#)
Google Chromecast [30](#)
Google Drive [256](#)
Google Maps [131](#)
GPS [131](#)
grace period [267, 269, 273](#)
groups [287](#)

 adding [288, 289](#)
 editing [289](#)
 membership [284, 289](#)
 names [289](#)
 searching [288](#)
Guide
 Quick Start [2](#)

H

hot spare [102](#)
HTTPS [182, 300, 311](#)

I

icons [140, 142](#)
 global [140](#)
 users [283](#)
IP address [106](#)
IP filtering [227](#)
iSCSI [81](#)
iSCSI target [86](#)
iTunes server [214, 218, 234](#)

J

JBOD [98](#)

K

Ken Burns [137](#)

L

lag, time [206](#)
language [137](#)
latitude [131](#)
login [38](#)
Logitech® Media Server [218](#)

logs [306](#)
longitude [131](#)
LUN [82](#)

M

maintenance [302](#)
 backup settings [310](#)
 logs [306](#)
 power management [302](#)
 failure [303](#)
 resume [303](#)
 schedule [304](#)
 UPS [303](#)
 reset [310](#)
 restoring settings [310](#)
 shutdown [313](#)
 upgrading firmware [122](#)
master browser [210](#)
media server [214, 216](#)
 configuration [217](#)
 iTunes server [214, 218, 234](#)
 Logitech® Media Server [218](#)
 rebuild database [216](#)
 share publish [217](#)
 status [216](#)
membership [284](#)
 groups [284, 289](#)
Memopal [254](#)
mirroring [98](#)
moving contents [298](#)
myZyXELCloud [26](#)

N

naming
 server [209](#)
 shares [128](#)
 workgroup [210](#)
NAS Starter Utility [19](#)
navigation panel [140](#)
network [106](#)
 DNS [106, 108](#)
 IP address [106](#)

PPPoE [107, 111, 119](#)
TCP/IP [107](#)
notifications
 download service
 activation [219](#)
notifications, download service [236](#)

O

one-way incremental backup [254](#)
online backup [254](#)
online support information [2](#)
other documentation [2](#)
ownCloud [251](#)

P

P2P download
 IP filtering [227](#)
 protection [236, 237](#)
 re-seeding [220](#)
 settings [225](#)
 torrent files [222, 235](#)
 health [230](#)
 info-hash [230](#)
 trackers [230](#)
parity [98](#)
passive mode transfer [216](#)
personal cloud [251](#)
Play Next [137](#)
port mapping [113](#)
power button [16](#)
power management [302](#)
 failure [303](#)
 resume [303](#)
 schedule [304](#)
 UPS [303](#)
PPPoE [107, 111, 119](#)
preferences, download service [223](#)
print server [240](#)
 configuration [231](#)
 name [232](#)
private cloud [251](#)

- protect [192](#)
 - backup [191](#)
 - backup tutorial [194](#)
 - protection, download service [236, 237](#)
 - public key certificate [312](#)
 - editing [312](#)
 - publishing shares [217](#)
- Q**
- Quick Start Guide [2](#)
- R**
- RAID
 - background information [98](#)
 - data protection [102](#)
 - RAID 0 [99](#)
 - RAID 10 [101](#)
 - RAID 5 [101](#)
 - RAID 5 spare [102](#)
 - rebuild media server database [216](#)
 - recycle bins [295](#)
 - activation [127, 293](#)
 - configuration [292, 296](#)
 - related documentation [2](#)
 - remote access [26](#)
 - reset [17, 310](#)
 - restoring
 - by backup files tutorial [34, 198](#)
 - by backup job tutorial [196](#)
 - files [196](#)
 - restoring settings [310](#)
 - Roku 3 [30](#)
 - RSS [215](#)
 - download service notifications [236](#)
- S**
- S.M.A.R.T.
 - attributes [79](#)
 - safety level, Flickr [267](#)
 - schedule, power management [304](#)
 - scheduling, download service [225](#)
 - secure connections [182](#)
 - server
 - Syslog [243](#)
 - TFTP [250](#)
 - server entry, FTP Uploadr [271](#)
 - server name [209](#)
 - setup
 - COPY/SYNC button [232](#)
 - download service [219](#)
 - Flickr [266](#)
 - FTP Uploadr [272](#)
 - media server [217](#)
 - P2P download [225](#)
 - print server [231](#)
 - YouTube [267, 268](#)
 - share
 - configuration [126](#)
 - troubleshooting local user access [344](#)
 - share publishing [217](#)
 - shares [124, 291](#)
 - access rights [127, 294, 295](#)
 - adding [292, 293](#)
 - copying contents [298](#)
 - downloading files [126](#)
 - editing [293](#)
 - folder creation [125](#)
 - moving contents [298](#)
 - names [128](#)
 - recycle bins [292, 295](#)
 - activation [293](#)
 - configuration [296](#)
 - share browser [292, 296](#)
 - status [292](#)
 - types [292](#)
 - uploading files [126, 297](#)
 - shutdown [313](#)
 - smart TVs [30](#)
 - SSL [188, 311](#)
 - certificate [312](#)
 - editing [312](#)
 - tutorial [177](#)
 - status [139, 203](#)
 - download service [221](#)
 - shares [292](#)
 - volume [97](#)
 - status center [103](#)

storage [47](#)
 status [97](#)
 volumes [95](#)
 streaming [30](#)
 striping [98](#)
 support information [2](#)
 synchronization [232](#), [242](#), [256](#)
 configuration [232](#)
 directions [233](#)
 single direction [242](#)
 tutorial [194](#)
 two directions [243](#)
 Syslog server [243](#)
 system
 date/time [210](#)
 login [38](#)
 master browser [210](#)
 reset [17](#)
 server name [209](#)
 settings [205](#)
 status [203](#)
 time lag [206](#)
 workgroup name [210](#)

T

target [86](#)
 TCP/IP [107](#)
 temperature
 CPU [104](#)
 TFTP server [250](#)
 thumbprint [186](#)
 time [210](#)
 lag [206](#)
 server [211](#)
 zone [24](#), [211](#)
 Time Machine [278](#)
 TLS [188](#), [214](#), [262](#)
 torrent files [222](#), [235](#)
 health [230](#)
 info-hash [230](#)
 trackers [230](#)
 Transport Layer Security, see TLS
 troubleshooting
 domain user [345](#)

 domain user share access [345](#)
 file access [345](#)
 folder access [345](#)
 forgot password [340](#), [341](#)
 LED indicators [337](#)
 LAN [339](#)
 local user share access [344](#)
 login [343](#)
 media files [348](#)
 NAS Starter Utility [339](#)
 overview [337](#)
 user share access [343](#)
 web configurator access [341](#)
 two-way synchronization [256](#)

U

Universal Plug and Play. See UPnP.
 upgrading firmware [122](#)
 uploading files [126](#), [297](#)
 UPnP [113](#)
 port mapping [113](#)
 UPS [303](#)
 URL [222](#)
 User Name [121](#)
 usernames [284](#)
 users [281](#)
 adding an account [282](#), [283](#)
 displaying information [282](#), [285](#)
 editing an account [283](#)
 group membership [284](#), [289](#)
 icons [283](#)
 search [282](#)
 usernames [284](#)

V

video category, YouTube [269](#)
 video playback [137](#)
 volume
 RAID 1 [99](#)
 volumes [95](#)
 status [97](#)

W

- warranty [365](#)
 - note [365](#)
- web configurator [38](#)
 - login [38](#)
 - navigation panel [140](#)
 - status [139](#)
- web publishing [215, 230, 240](#)
 - activation [230](#)
 - example [238](#)
 - port number [240](#)
 - troubleshooting [350](#)
- web security [182](#)
- workgroup name [210](#)

Y

- YouTube [262](#)
 - access rights [269](#)
 - activation [263](#)
 - authorization [267](#)
 - configuration [267, 268](#)
 - grace period [269](#)
 - video category [269](#)

Z

- zCloud [30](#)
- ZyXEL Drive [26](#)