QNAP Turbo NAS

Software User Manual

(Version: 4.0)

This manual is applicable to the following Turbo NAS models: TS-110, TS-112, TS-119P II, TS-120, TS-121, TS-210, TS-212, TS-219P II, TS-220, TS-221, TS-259 Pro+, TS-269L, TS-410, TS-410U, TS-412, TS-412U, TS-419P II, TS-419U II, TS-420, TS-420U, TS-421, TS-421U, TS-459 Pro II, TS-459 Pro+, TS-469 Pro, TS-469L, TS-509 Pro, TS-569L, TS-669L, TS-809 Pro, TS-869L, SS-439 Pro and SS-839 Pro.

For user manuals of other Turbo NAS models and firmware versions, please visit http://docs.qnap.com

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1. Notice

1.1 Legal Notice and Disclaimer

Thank you for choosing QNAP products! This user manual provides detailed instructions of using the Turbo NAS (network-attached storage). Please read carefully and start to enjoy the powerful functions of the Turbo NAS!

- The Turbo NAS is hereafter referred to as the NAS.
- This manual provides the description of all the functions of the Turbo NAS. The product you purchased may not support certain functions dedicated to specific models.

Legal Notices

All the features, functionality, and other product specifications are subject to change without prior notice or obligation. Information contained herein is subject to change without notice.
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Further, the ® or ™ symbols are not used in the text.

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QNAP products are not intended for use in medical, life saving, life sustaining, critical control or safety systems, or in nuclear facility applications.

In no event shall QNAP Systems, Inc. (QNAP) liability exceed the price paid for the product from direct, indirect, special, incidental, or consequential damages resulting from the use of the product, its accompanying software, or its documentation. QNAP makes no warranty or representation, expressed, implied, or statutory, with respect to its products or the contents or use of this documentation and all accompanying software, and specifically disclaims its quality, performance, merchantability, or fitness for any particular purpose. QNAP reserves the right to revise or update its products, software, or documentation without obligation to notify any individual or entity.

Back up the system periodically to avoid any potential data loss. QNAP disclaims any responsibility of all sorts of data loss or recovery.

Should you return any components of the NAS package for refund or maintenance, make sure they are carefully packed for shipping. Any form of damages due to improper packaging will not be compensated.

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1.2 Regulatory Notice

FCC Notice

QNAP NAS comply with different FCC compliance classes. Please refer the Appendix for details. Once the class of the device is determined, refer to the following corresponding statement.

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FCC Class A Notice

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Modifications: Any modifications made to this device that are not approved by QNAP Systems, Inc. may void the authority granted to the user by the FCC to operate this equipment.

FCC Class B Notice

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits 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 in accordance with 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 can be determined 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 and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

Modifications: Any modifications made to this device that are not approved by QNAP Systems, Inc. may void the authority granted to the user by the FCC to operate this equipment.

CE NOTICE

QNAP Turbo NAS models comply with different CE compliance classes. Please refer to the table below for details.

NAS Models	**FCC**	**CE**
TS-EC1679U-RP	Class A	Class A
TS-EC1279U-RP	Class A	Class A
TS-EC879U-RP	Class A	Class A
TS-1679U-RP	Class A	Class A
TS-1279U-RP	Class A	Class A
TS-879U-RP	Class A	Class A
TS-1270U-RP	Class A	Class A
TS-879U-RP	Class A	Class A
TS-1269U-RP	Class A	Class A
TS-869U-RP	Class A	Class A
TS-469U-RP/SP	Class A	Class A
TS-419U II	Class A	Class A
TS-412U	Class A	Class A
TS-420U	Class A	Class A
TS-421U	Class A	Class A
TS-1079 Pro	Class A	Class A
TS-879 Pro	Class A	Class A
TS-869 Pro	Class B	Class B
TS-669 Pro	Class B	Class B
TS-569 Pro	Class B	Class B
TS-469 Pro	Class B	Class B
TS-269 Pro	Class B	Class B

TS-869L	Class B	Class B
TS-669L	Class B	Class B
TS-569L	Class B	Class B
TS-469L	Class B	Class B
TS-269L	Class B	Class B
TS-419P II	Class B	Class B
TS-219P II	Class B	Class B
TS-119P II	Class B	Class B
TS-412	Class B	Class B
TS-212	Class B	Class B
TS-112	Class B	Class B
TS-120	Class B	Class B
TS-220	Class B	Class B
TS-420	Class B	Class B
TS-121	Class B	Class B
TS-221	Class B	Class B
TS-421	Class B	Class B

1.3 Symbols in this Document

⚠ Warning	This icon indicates the instructions must be strictly followed. Failure to do so could result in injury to human body or death.
❗ Caution	This icon indicates the action may lead to disk clearance or loss OR failure to follow the instructions could result in data damage, disk damage, or product damage.
ℹ Important	This icon indicates the information provided is important or related to legal regulations.

1.4 Safety Information and Precautions

1. The NAS can operate normally in the temperature of 0ºC–40ºC and relative humidity of 0%–95%. Please make sure the environment is well-ventilated.
2. The power cord and devices connected to the NAS must provide correct supply voltage (100W, 90–264V).
3. Do not place the NAS in direct sunlight or near chemicals. Make sure the temperature and humidity of the environment are in optimized level.
4. Unplug the power cord and all the connected cables before cleaning. Wipe the NAS with a dry towel. Do not use chemical or aerosol to clean the NAS.
5. Do not place any objects on the NAS during normal system operations and to avoid overheat.
6. Use the flat head screws in the product package to lock the hard disk drives in the NAS when installing the hard drives for proper operation.
7. Do not place the NAS near any liquid.
8. Do not place the NAS on any uneven surface to avoid falling off and damage.
9. Make sure the voltage is correct in your location when using the NAS. If unsure, please contact the distributor or the local power supply company.
10. Do not place any object on the power cord.
11. Do not attempt to repair the NAS in any occasions. Improper disassembly of the product may expose you to electric shock or other risks. For any enquiries, please contact the distributor.
12. The chassis (also known as rack mount) NAS models should only be installed in the server room and maintained by the authorized server manager or IT administrator. The server room is locked by key or keycard access and only certified staff is allowed to enter the server room.

Warning:

- Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer’s instructions.
- Do NOT touch the fan inside the system to avoid serious injuries.

2. Getting Started

New NAS users are advised to follow the steps below one by one to complete their NAS installation. For users who already own a QNAP NAS and would like to move the data to a new QNAP NAS, please refer to Migrating from Old NAS 62 for detailed instructions.

For New NAS Users:

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Getting Utilities 45
Connecting to the Shared Folders 48
Connecting to the NAS by Web Browser 60

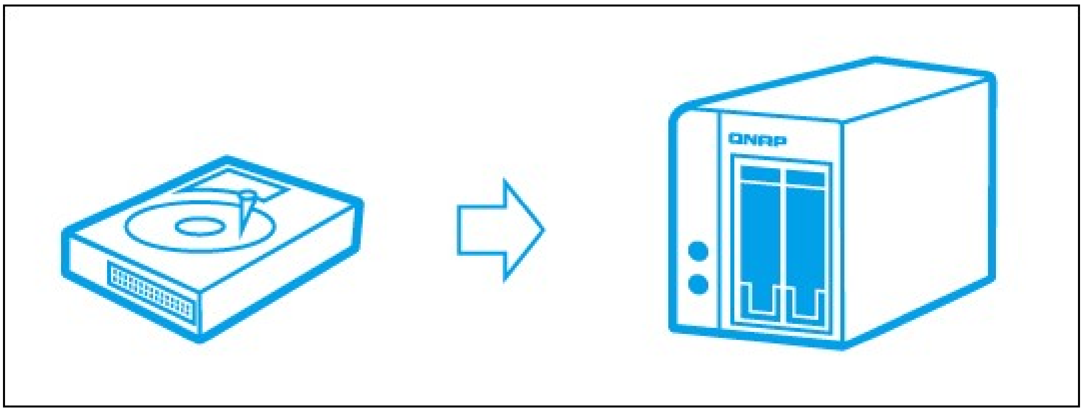
For Existing NAS Users:

Migrating from Old NAS 62

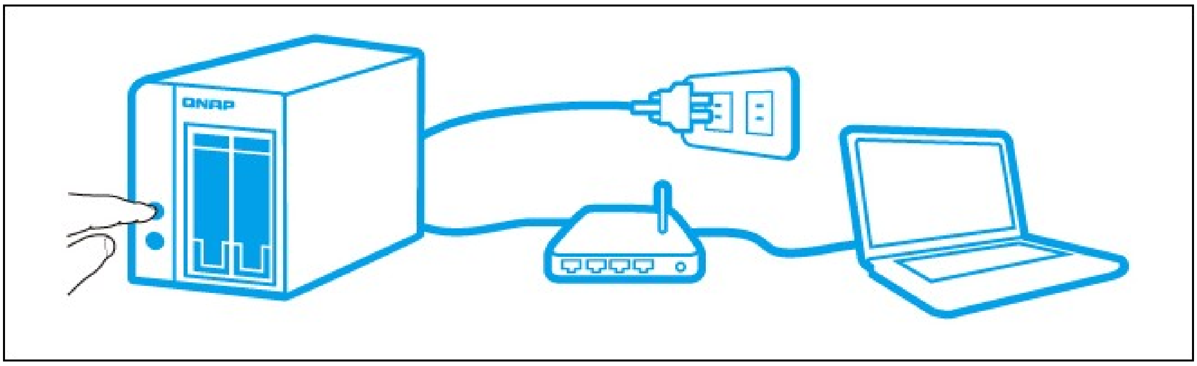
2.1 Hardware Installation

After unpacking the NAS from the package, please first follow the instructions below to install your hardware:

1. Install the hard drives. Please also make sure that the hard drives (HDDs) that you use are compatible with the NAS. Go to the Hard Disk Drive Compatibility List 16 section for more details.



2. Connect the QNAP NAS to the same network as your PC and power it on. During your installation process, please pay attention to LEDs and alarm buzzers to make sure that the NAS functions properly. Go to the Checking System Status 17 section for details.



Note: The steps above are also illustrated in the Quick Installation Guide (QIG) that can be found in the product package or QNAP website (http://start.qnap.com).

2.1.1 Hard Disk Drive Compatibility List

Hard Disk Drive Compatibility List

This product works with 2.5-inch and 3.5-inch SATA hard disk drives and/or solid-state drives (SSD) from major hard drive brands. For the compatible hard disks, please check the compatibility list on QNAP website (http://www.qnap.com/compatibility).

Important: QNAP disclaims any responsibility for product damage/malfunction or data loss/recovery due to misuse or improper installation of hard disks in any occasions for any reasons.

Caution: Note that if you install a hard drive (new or used) which has never been installed on the NAS before, the hard drive will be formatted and partitioned automatically and all the disk data will be cleared.

2.1.2 Checking System Status

LED Display & System Status Overview

LED	Colour	LED Status	Description
System Status	Red/ Green	Flashes green and red alternately every 0.5 sec	1)The hard disk drive on the NAS is being formatted. 2)The NAS is being initialized. 3)The system firmware is being updated. 4)RAID rebuilding is in process. 5)Online RAID capacity expansion is in process. 6)Online RAID level migration is in process.
		Red	1)The hard disk drive is invalid. 2)The disk volume has reached its full capacity. 3)The disk volume is going to be full. 4)The system fan is out of function (TS-119 does not support smart fan). 5)An error occurs when accessing (read/ write) the disk data. 6)A bad sector is detected on the hard disk drive. 7)The NAS is in degraded read-only mode (2 member hard drives fail in a RAID 5 or RAID 6 configuration, the disk data can still be read). 8)(Hardware self-test error).
		Flashes red every 0.5 sec	The NAS is in degraded mode (one member hard drive fails in RAID 1, RAID 5 or RAID 6 configuration).
		Flashes green every 0.5 sec	1)The NAS is starting up. 2)The NAS is not configured. 3)The hard disk drive is not formatted.
		Green	The NAS is ready.

LED	Colour	LED Status	Description
		Off	All the hard disk drives on the NAS are in standby mode.
LAN	Orange	Orange	The disk data is being accessed from the network and a read/write error occurs during the process.
		Flashes orange	The NAS is connected to the network.
10 GbE*	Green	Green	The 10GbE network expansion card is installed.
		Off	No 10GbE network expansion card is installed.
HDD	Red/ Green	Flashes red	The NAS is being accessed from the network.
		Red	A hard drive read/write error occurs.
		Flashes green	The disk data is being accessed.
		Green	The hard drive can be accessed.
USB	Blue	Flashes blue every 0.5 sec	1)A USB device (connected to front USB port) is being detected. 2)A USB device (connected to front USB port) is being removed from the NAS. 3)The USB device (connected to the front USB port) is being accessed. 4)The data is being copied to or from the external USB or eSATA device.
		Blue	A front USB device is detected (after the device is mounted).
		Off	1)No USB device is detected. 2)The NAS has finished copying the data to or from the USB device connected to the front USB port of the NAS.
eSATA**	Orange	Flashes	The eSATA device is being accessed.
		Off	No eSATA device can be detected.

*The 10 GbE network expansion function is only supported by the TS-470 Pro, TS-670

Pro, TS-870 Pro, TS-870U-RP, TS-879 Pro, TS-1079 Pro, TS-879U-RP, TS-1270U-RP, TS-1279U-RP, TS-EC879U-RP, and TS-EC1279U-RP.
**TS-210, TS-212, TS-219, TS-439U-SP/RP, TS-809 Pro, TS-809U-RP do not support eSATA port.

Alarm Buzzer

The alarm buzzer can be disabled in "Control Panel" > "System Settings" > "Hardware" > "Buzzer".

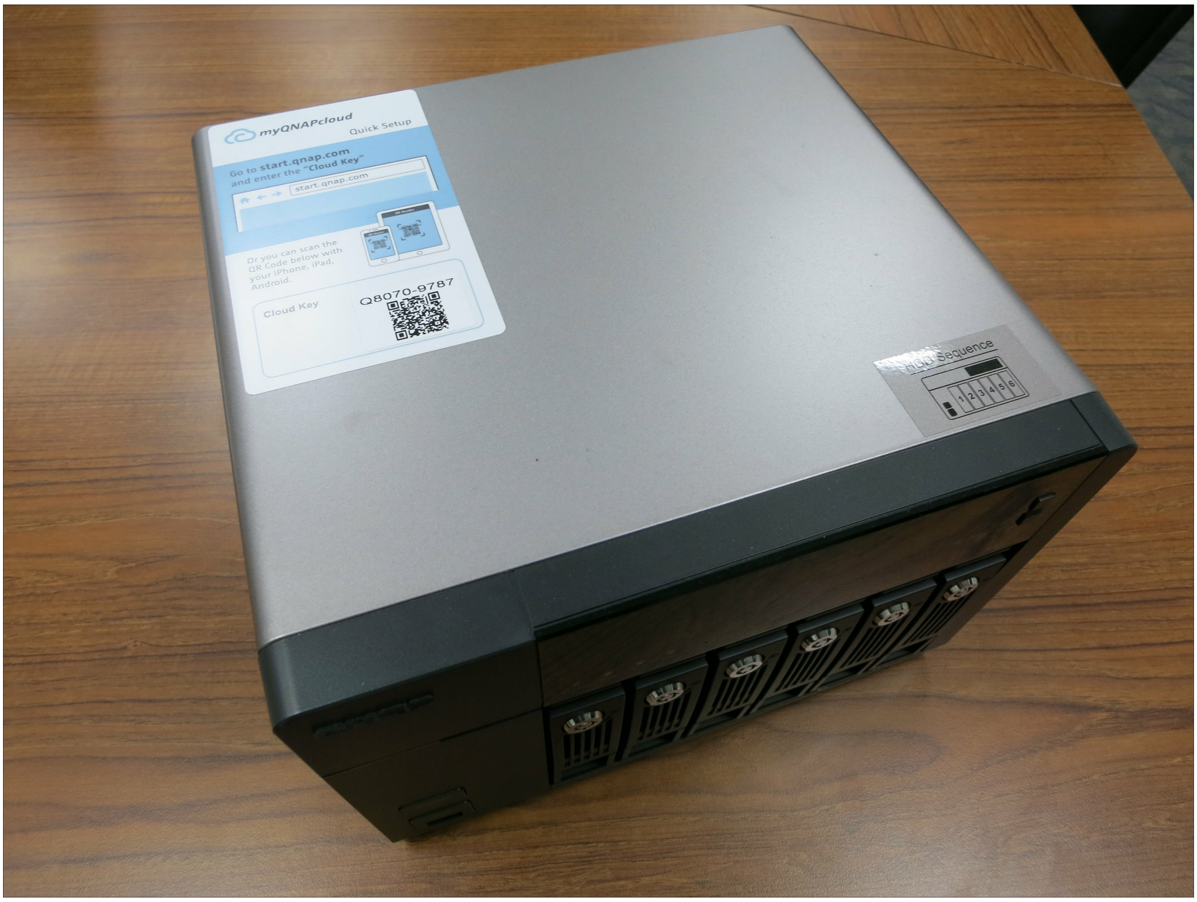
Beep sound	No. of Times	Description
Short beep (0.5 sec)	1	1)The NAS is starting up. 2)The NAS is being shut down (software shutdown). 3)The user presses the reset button to reset the NAS. 4)The system firmware has been updated.
Short beep (0.5 sec)	3	The NAS data cannot be copied to the external storage device from the front USB port.
Short beep (0.5 sec), long beep (1.5 sec)	3, every 5 min	The system fan is out of function (TS-119 does not support smart fan).
Long beep (1.5 sec)	2	1)The disk volume is going to be full. 2)The disk volume has reached its full capacity. 3)The hard disk drives on the NAS are in degraded mode. 4)The user starts hard drive rebuilding.
	1	1)The NAS is turned off by force shutdown (hardware shutdown). 2)The NAS has been turned on and is ready.

2.2 Software Installation

After installing the NAS hardware, proceed to software installation. There are three approaches for software installation:

1. Online Installation 22
2. Cloud Installation 35
3. CD Installation 44

Online installation is available for all home and SOHO models, and cloud installation is only for selected home and SOHO models. CD installation is designed only for SMB models. To verify if your NAS supports cloud installation, please check if there is a sticker on the NAS, as shown in the figure below:

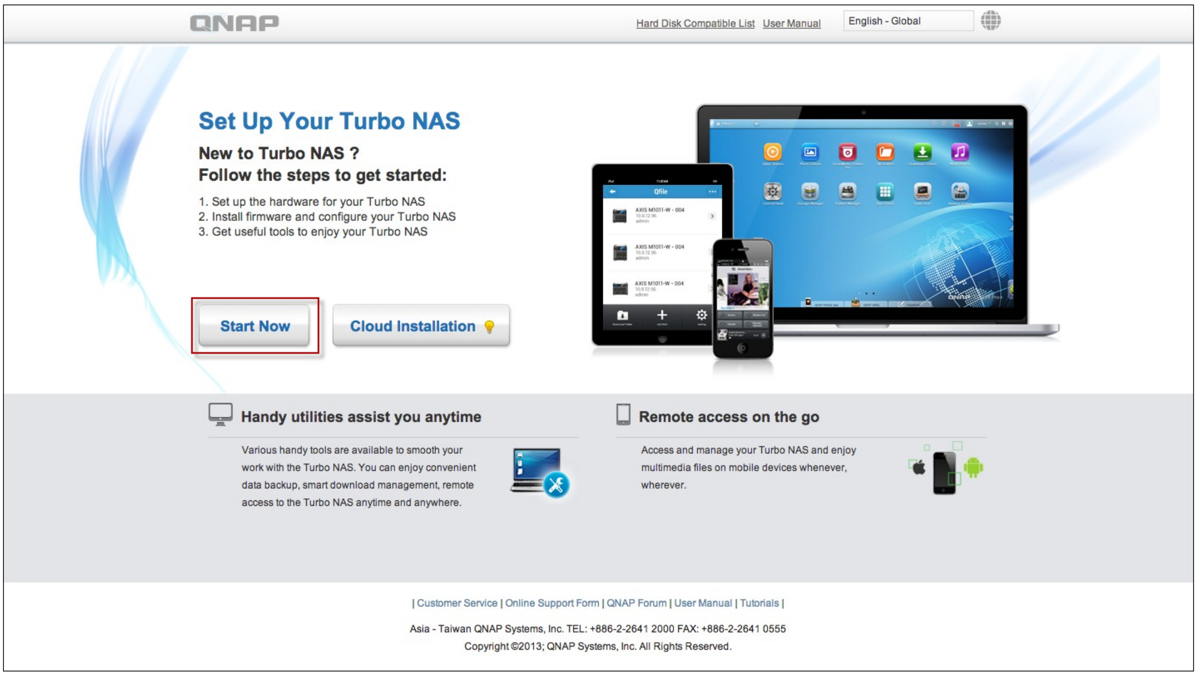

myQNAPcloud
Quick Setup
Go to start.qnap.com and enter the "Cloud Key"
start.qnap.com
Or you can scan the QR Code below with your iPhone, iPad, Android.
Cloud Key
Q8070-9787
HDD Sequence

To confirm if your NAS is a home and SOHO model or SMB model, please check the QNAP website (go to http://www.qnap.com/ > Products > Storage.) All home and SOHO users are encouraged to use cloud and online installation. For all problems encountered in the installation process, please contact our technical support department (go to http://www.qnap.com/ > Support > Customer Service.)

2.2.1 *Online Installation*

Follow the steps in this section to complete online installation for your NAS.

1. Go to http://start.qnap.com and click "Start Now".



Set Up Your Turbo NAS

New to Turbo NAS ?

Follow the steps to get started:

1. Set up the hardware for your Turbo NAS
2. Install firmware and configure your Turbo NAS
3. Get useful tools to enjoy your Turbo NAS

Handy utilities assist you anytime

Various handy tools are available to smooth your work with the Turbo NAS. You can enjoy convenient data backup, smart download management, remote access to the Turbo NAS anytime and anywhere.

Remote access on the go

Access and manage your Turbo NAS and enjoy multimedia files on mobile devices whenever, wherever.

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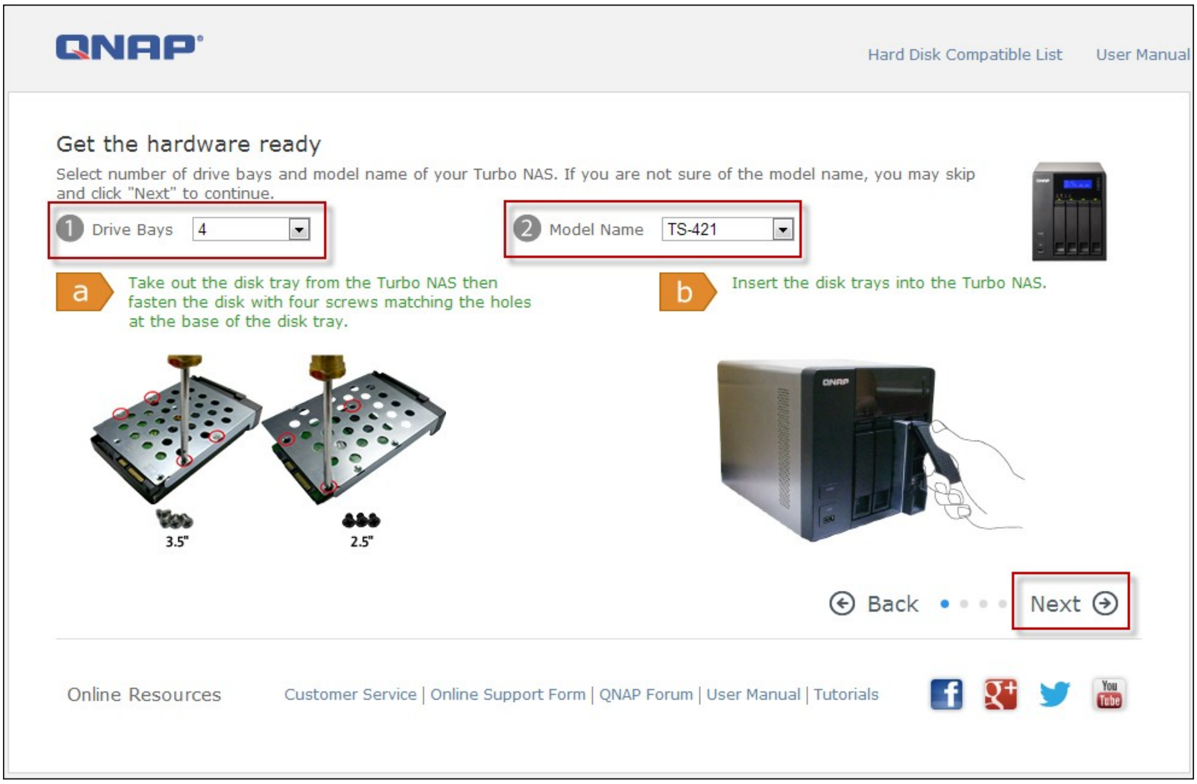
2. Choose the number of HDD bays and the model of your NAS and click "Next".



Get the hardware ready

Select number of drive bays and model name of your Turbo NAS. If you are not sure of the model name, you may skip and click "Next" to continue.

1 Drive Bays 4

2 Model Name TS-421

a Take out the disk tray from the Turbo NAS then fasten the disk with four screws matching the holes at the base of the disk tray.

b Insert the disk trays into the Turbo NAS.

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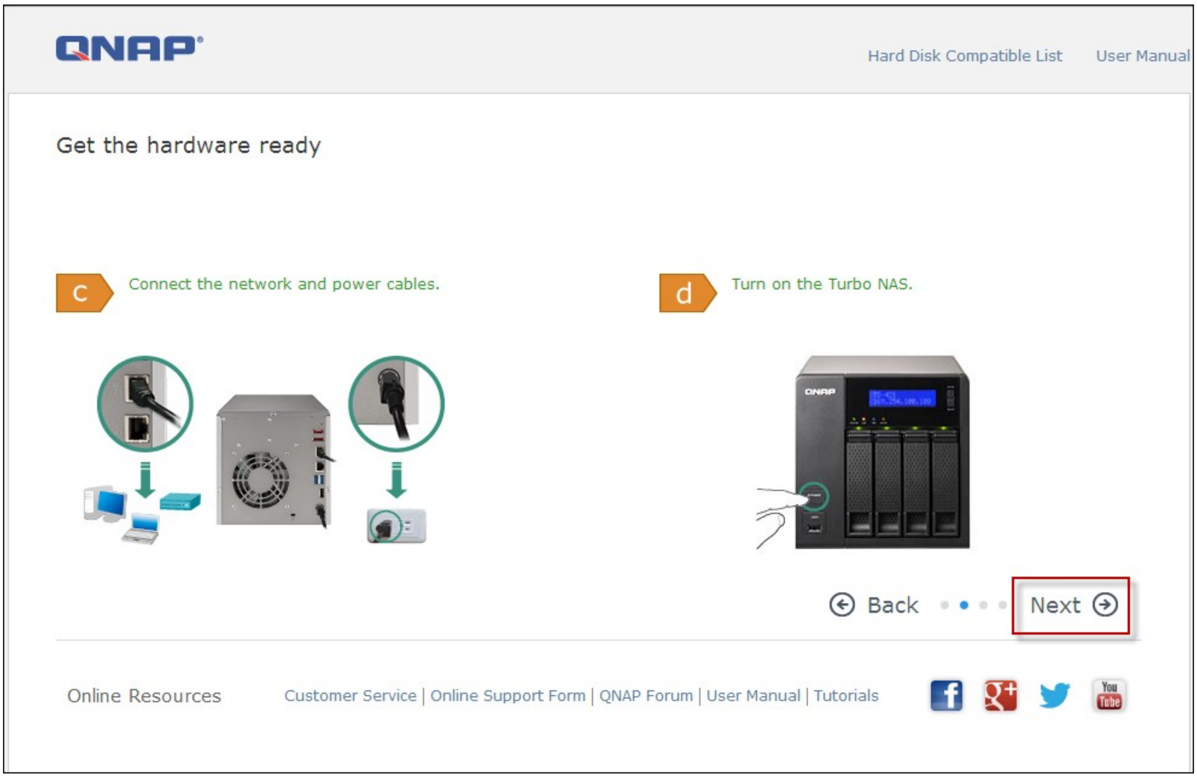
3. Connect the network and power cables of your NAS, turn on the Turbo NAS and click “Next”.



QNAP
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User Manual

Get the hardware ready

Connect the network and power cables.

Turn on the Turbo NAS.

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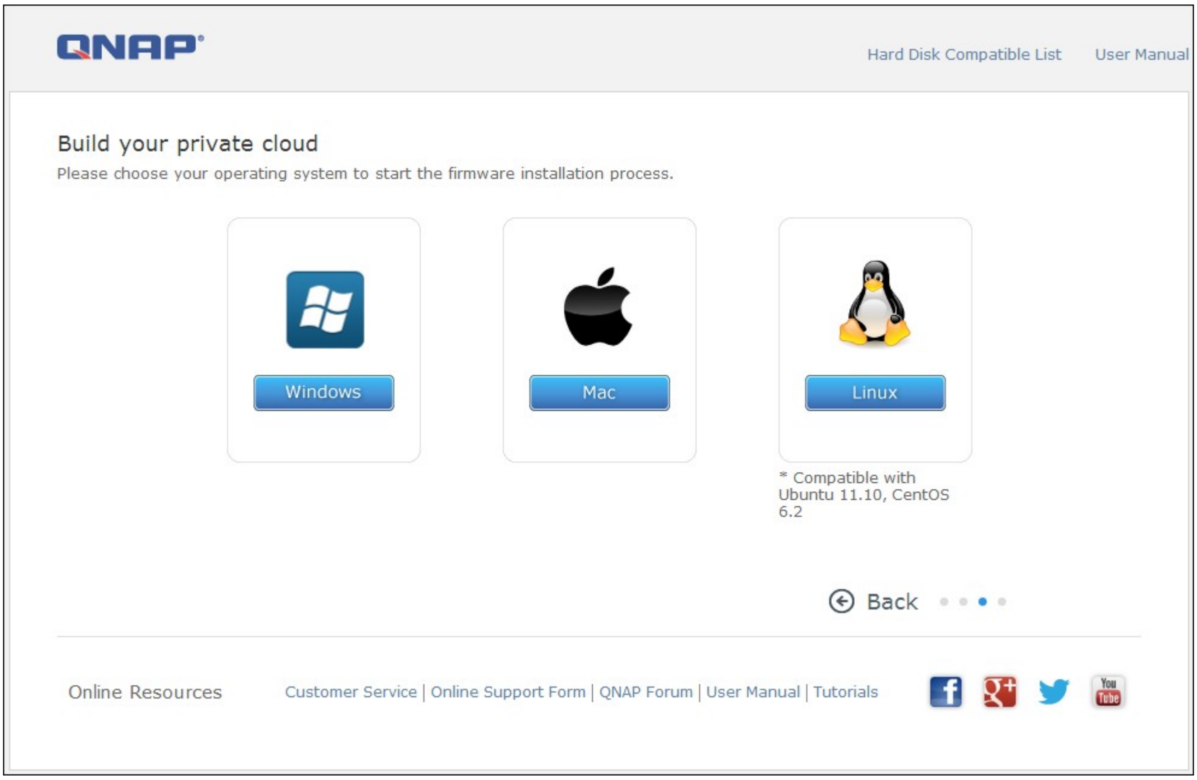
4. Click the operating system your computer is running on.



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Build your private cloud

Please choose your operating system to start the firmware installation process.

* Compatible with Ubuntu 11.10, CentOS 6.2

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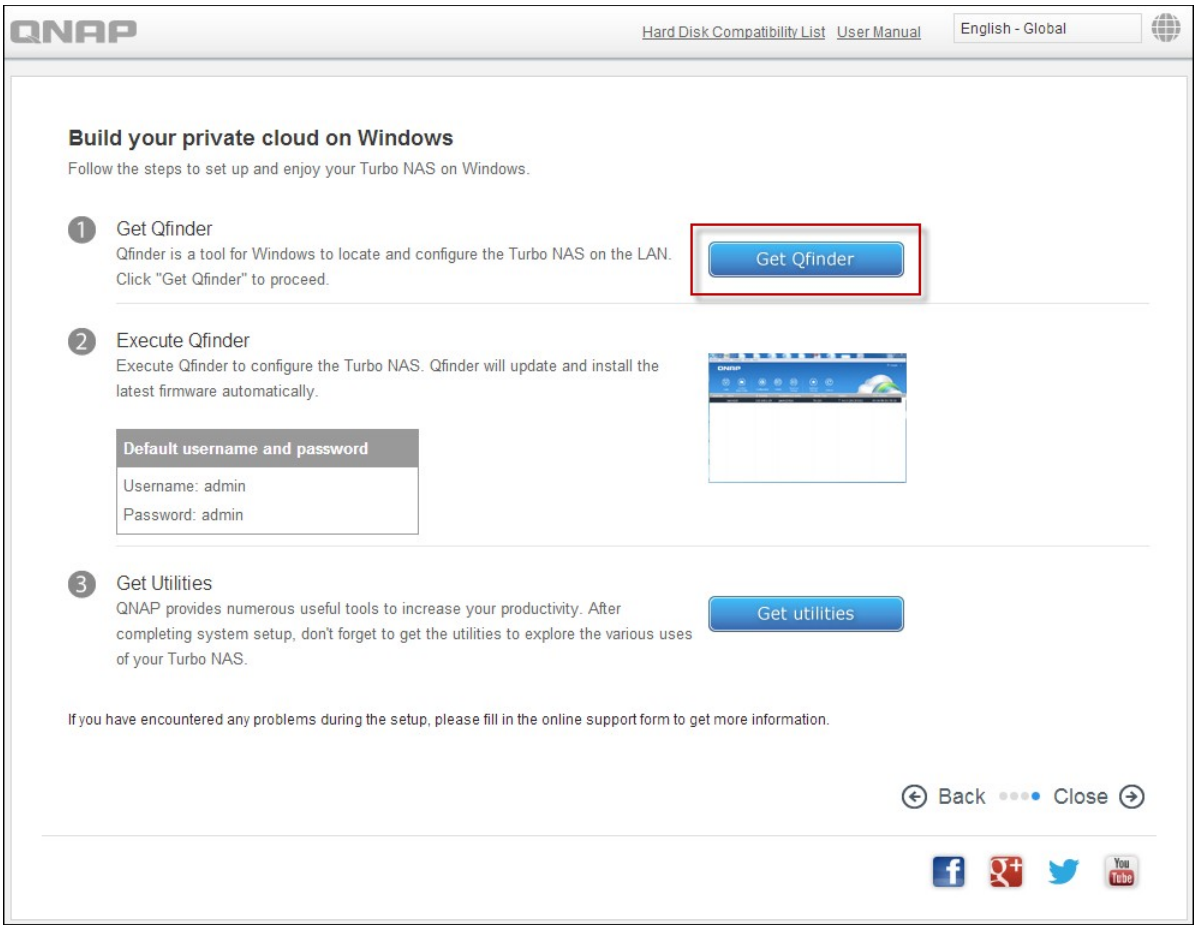
5. Click "Get Qfinder" to download the QNAP Qfinder utility (For Mac users, please skip to Step 19 31.)



Build your private cloud on Windows

Follow the steps to set up and enjoy your Turbo NAS on Windows.

1 Get Qfinder

Qfinder is a tool for Windows to locate and configure the Turbo NAS on the LAN. Click "Get Qfinder" to proceed.

2 Execute Qfinder

Execute Qfinder to configure the Turbo NAS. Qfinder will update and install the latest firmware automatically.

Default username and password

Username: admin

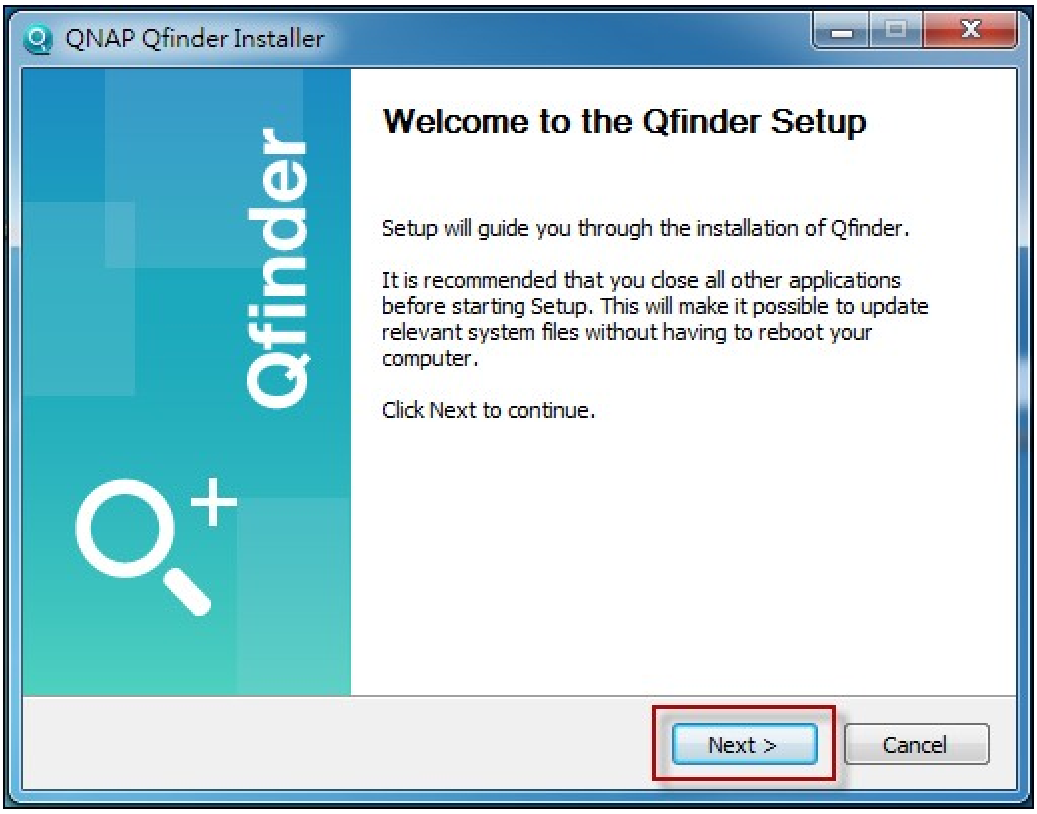
Password: admin

3 Get Utilities

QNAP provides numerous useful tools to increase your productivity. After completing system setup, don't forget to get the utilities to explore the various uses of your Turbo NAS.

If you have encountered any problems during the setup, please fill in the online support form to get more information.

6. Launch the QNAP Qfinder installer from your computer and click "Next".



QNAP Qfinder Installer

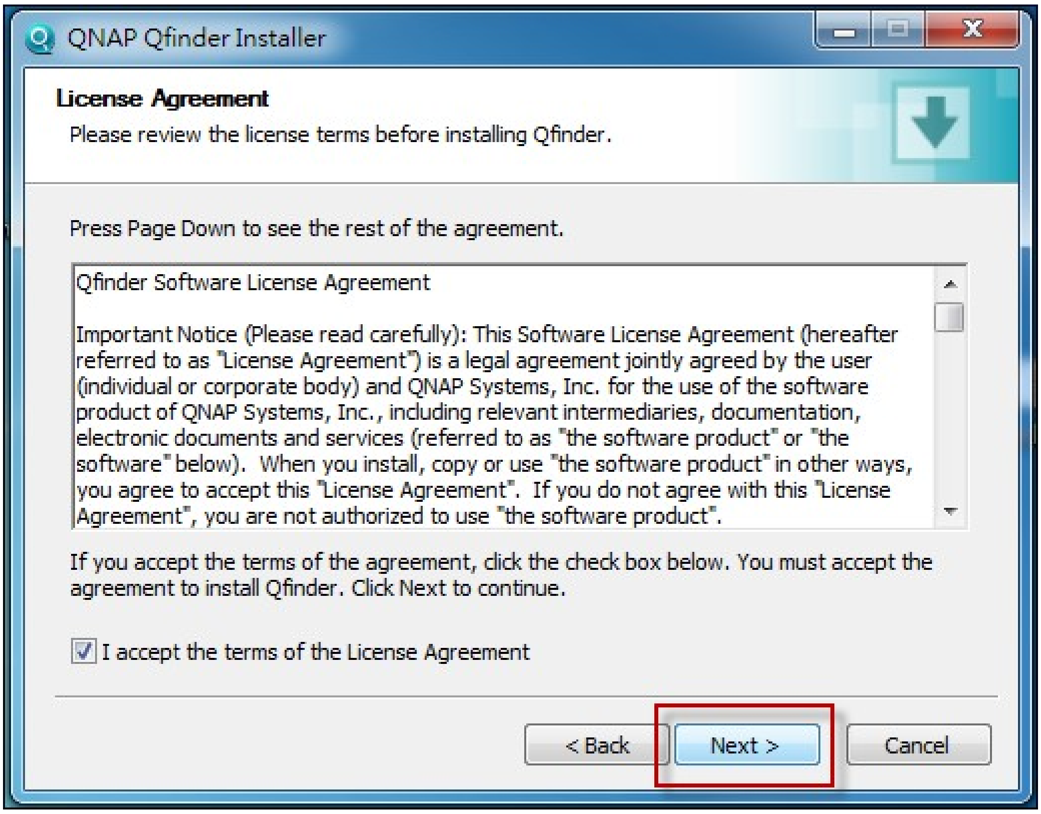
Welcome to the Qfinder Setup

Setup will guide you through the installation of Qfinder.

It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer.

Click Next to continue.

7. Read the license agreement, check "I accept the terms of the License Agreement," and click "Next".



QNAP Qfinder Installer

License Agreement

Please review the license terms before installing Qfinder.

Press Page Down to see the rest of the agreement.

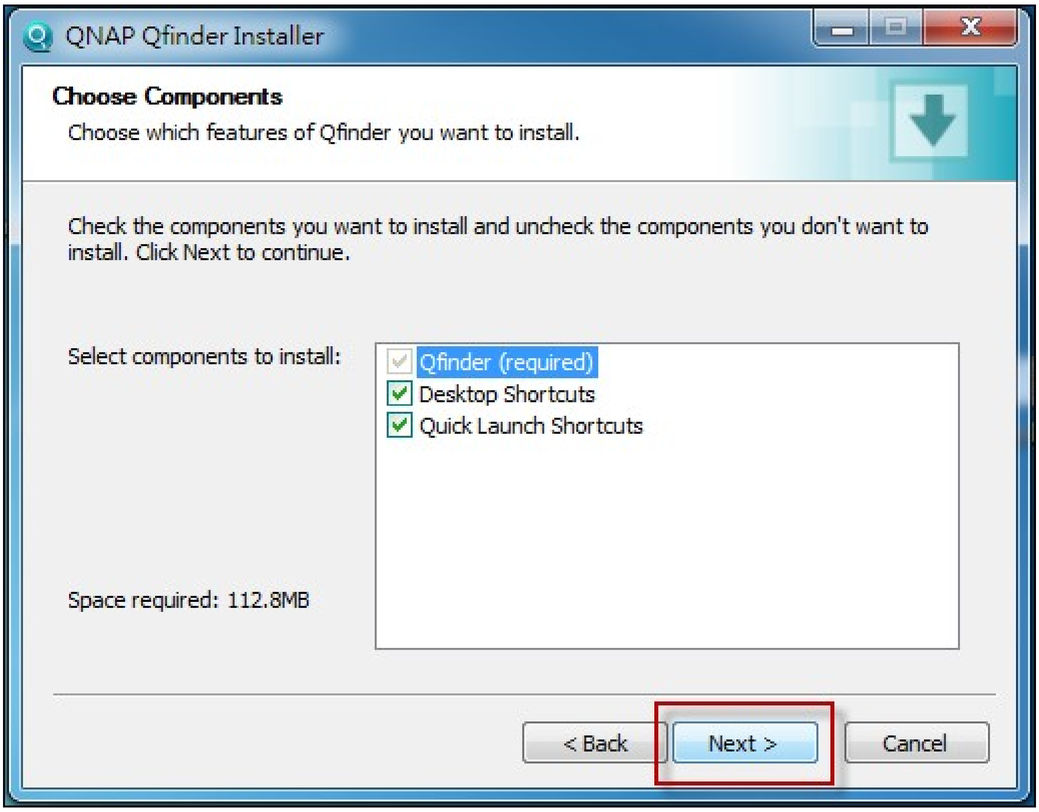
Qfinder Software License Agreement

Important Notice (Please read carefully): This Software License Agreement (hereafter referred to as "License Agreement") is a legal agreement jointly agreed by the user (individual or corporate body) and QNAP Systems, Inc. for the use of the software product of QNAP Systems, Inc., including relevant intermediaries, documentation, electronic documents and services (referred to as "the software product" or "the software" below). When you install, copy or use "the software product" in other ways, you agree to accept this "License Agreement". If you do not agree with this "License Agreement", you are not authorized to use "the software product".

If you accept the terms of the agreement, click the check box below. You must accept the agreement to install Qfinder. Click Next to continue.

☑ I accept the terms of the License Agreement

8. Click "Next".



QNAP Qfinder Installer

Choose Components

Choose which features of Qfinder you want to install.

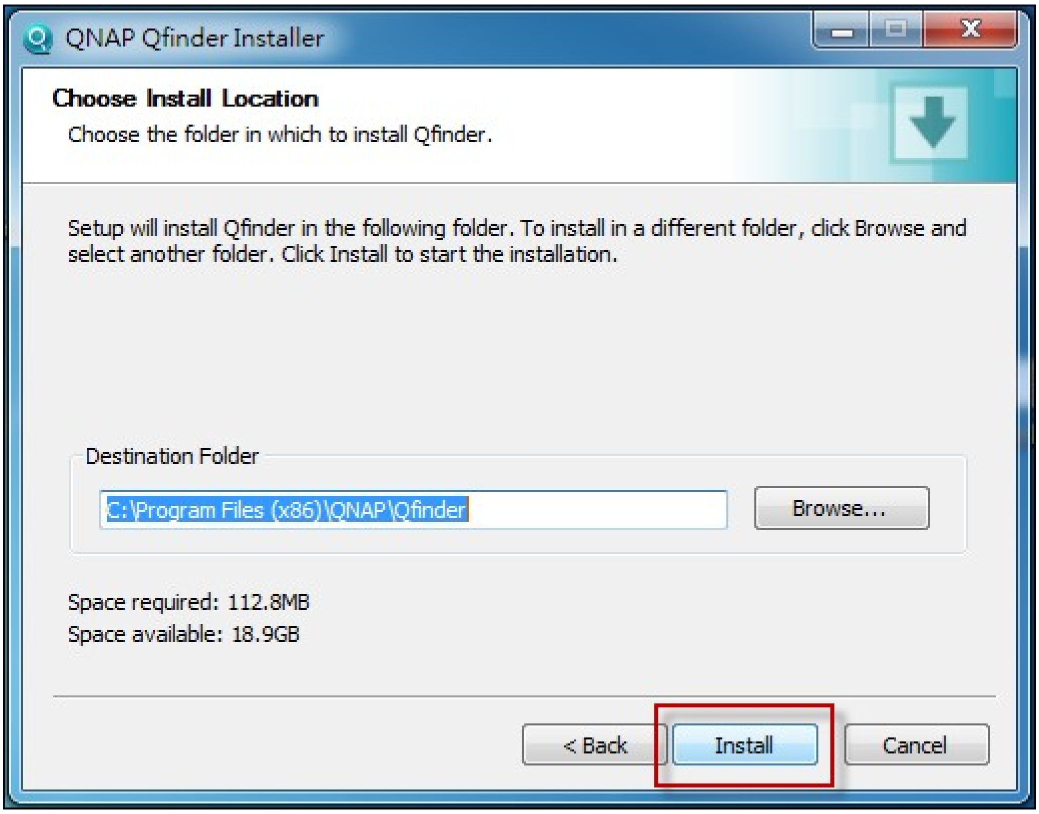
Check the components you want to install and uncheck the components you don't want to install. Click Next to continue.

Select components to install:

☑ Qfinder (required)
☑ Desktop Shortcuts
☑ Quick Launch Shortcuts

Space required: 112.8MB

9. Click "Install".



QNAP Qfinder Installer

Choose Install Location

Choose the folder in which to install Qfinder.

Setup will install Qfinder in the following folder. To install in a different folder, click Browse and select another folder. Click Install to start the installation.

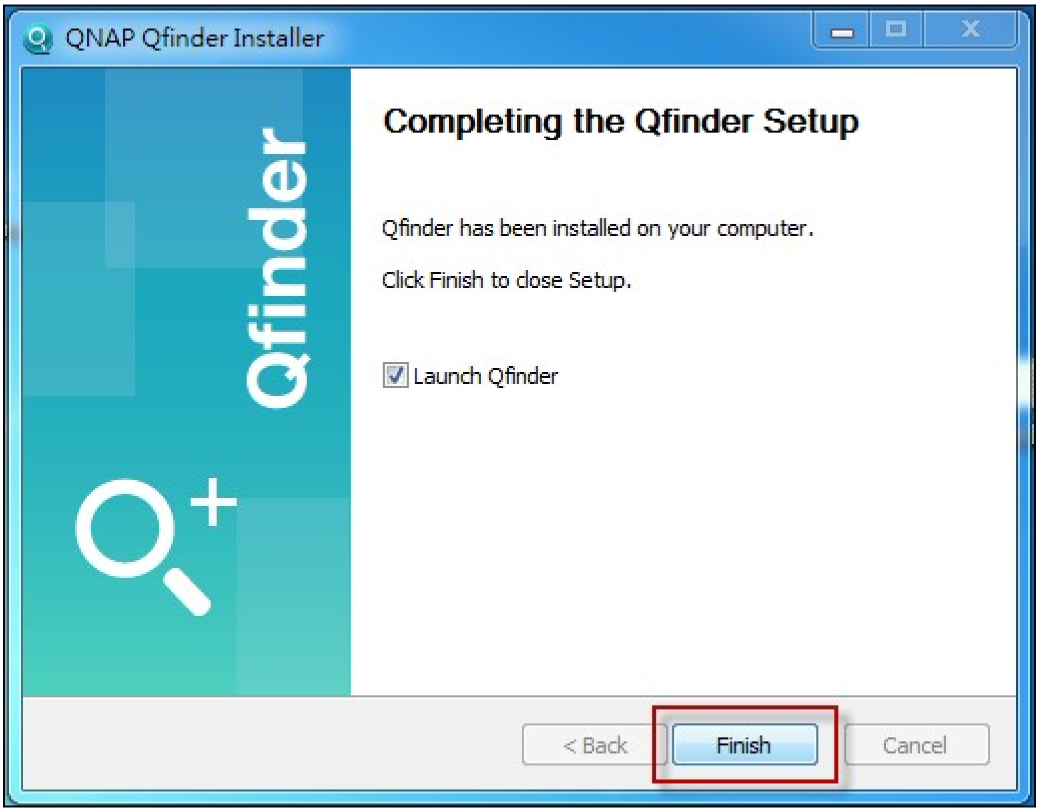
Destination Folder

C:\Program Files (x86)\QNAP\Qfinder

Space required: 112.8MB

Space available: 18.9GB

10. Click “Finish”.



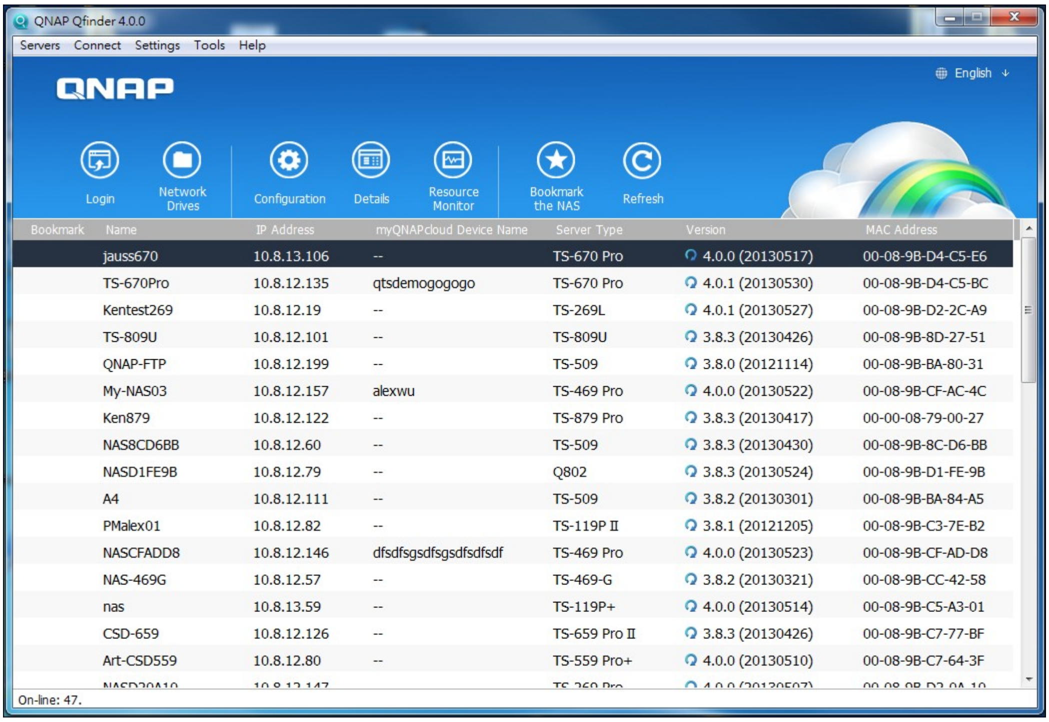
Completing the Qfinder Setup

Qfinder has been installed on your computer.

Click Finish to close Setup.

☑ Launch Qfinder

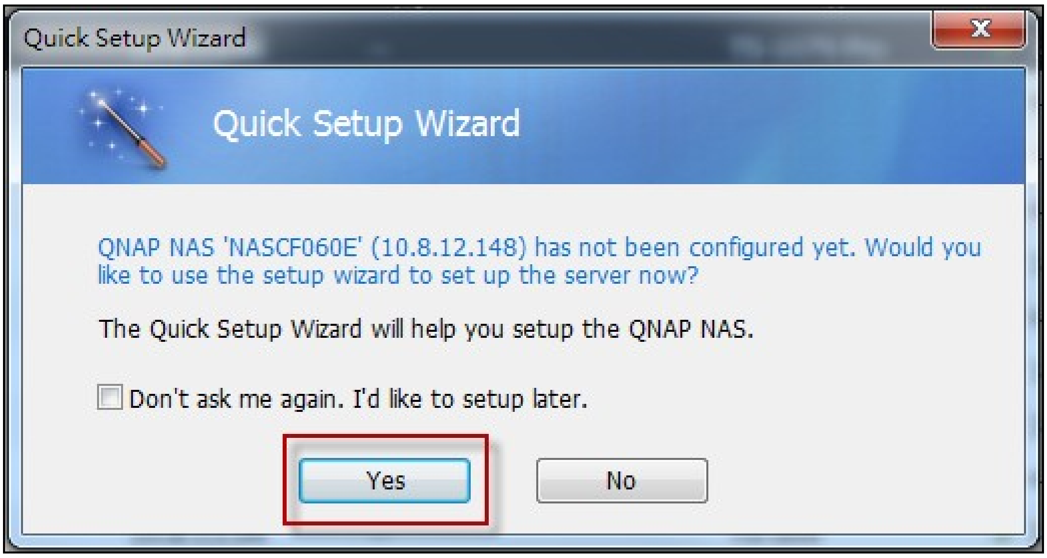
11. Launch the QNAP Qfinder from your desktop.



Bookmark	Name	IP Address	myQNAPcloud Device Name	Server Type	Version	MAC Address
	jauss670	10.8.13.106	--	TS-670 Pro	4.0.0 (20130517)	00-08-9B-D4-C5-E6
	TS-670Pro	10.8.12.135	qtsdemogogogo	TS-670 Pro	4.0.1 (20130530)	00-08-9B-D4-C5-BC
	Kentest269	10.8.12.19	--	TS-269L	4.0.1 (20130527)	00-08-9B-D2-2C-A9
	TS-809U	10.8.12.101	--	TS-809U	3.8.3 (20130426)	00-08-9B-8D-27-51
	QNAP-FTP	10.8.12.199	--	TS-509	3.8.0 (20121114)	00-08-9B-BA-80-31
	My-NAS03	10.8.12.157	alexwu	TS-469 Pro	4.0.0 (20130522)	00-08-9B-CF-AC-4C
	Ken879	10.8.12.122	--	TS-879 Pro	3.8.3 (20130417)	00-00-08-79-00-27
	NAS8CD6BB	10.8.12.60	--	TS-509	3.8.3 (20130430)	00-08-9B-8C-D6-BB
	NASD1FE9B	10.8.12.79	--	Q802	3.8.3 (20130524)	00-08-9B-D1-FE-9B
	A4	10.8.12.111	--	TS-509	3.8.2 (20130301)	00-08-9B-BA-84-A5
	PMalex01	10.8.12.82	--	TS-119P II	3.8.1 (20121205)	00-08-9B-C3-7E-B2
	NASCFADD8	10.8.12.146	dfsdfsgsdfsgsdfsdfsdf	TS-469 Pro	4.0.0 (20130523)	00-08-9B-CF-AD-D8
	NAS-469G	10.8.12.57	--	TS-469-G	3.8.2 (20130321)	00-08-9B-CC-42-58
	nas	10.8.13.59	--	TS-119P+	4.0.0 (20130514)	00-08-9B-C5-A3-01
	CSD-659	10.8.12.126	--	TS-659 Pro II	3.8.3 (20130426)	00-08-9B-C7-77-BF
	Art-CSD559	10.8.12.80	--	TS-559 Pro+	4.0.0 (20130510)	00-08-9B-C7-64-3F
	NASD20A10	10.8.12.147		TS-269 Pro	4.0.0 (20130507)	00-08-9B-D2-0A-10

On-line: 47.

12. The Quick Setup Wizard will be launched automatically. Please confirm that the IP address shown up on the dialog window matches the Turbo NAS you are trying to configure (please check the MAC address from the QNAP Qfinder and its corresponding IP address.) Click "Yes" to configure your Turbo NAS.



Quick Setup Wizard

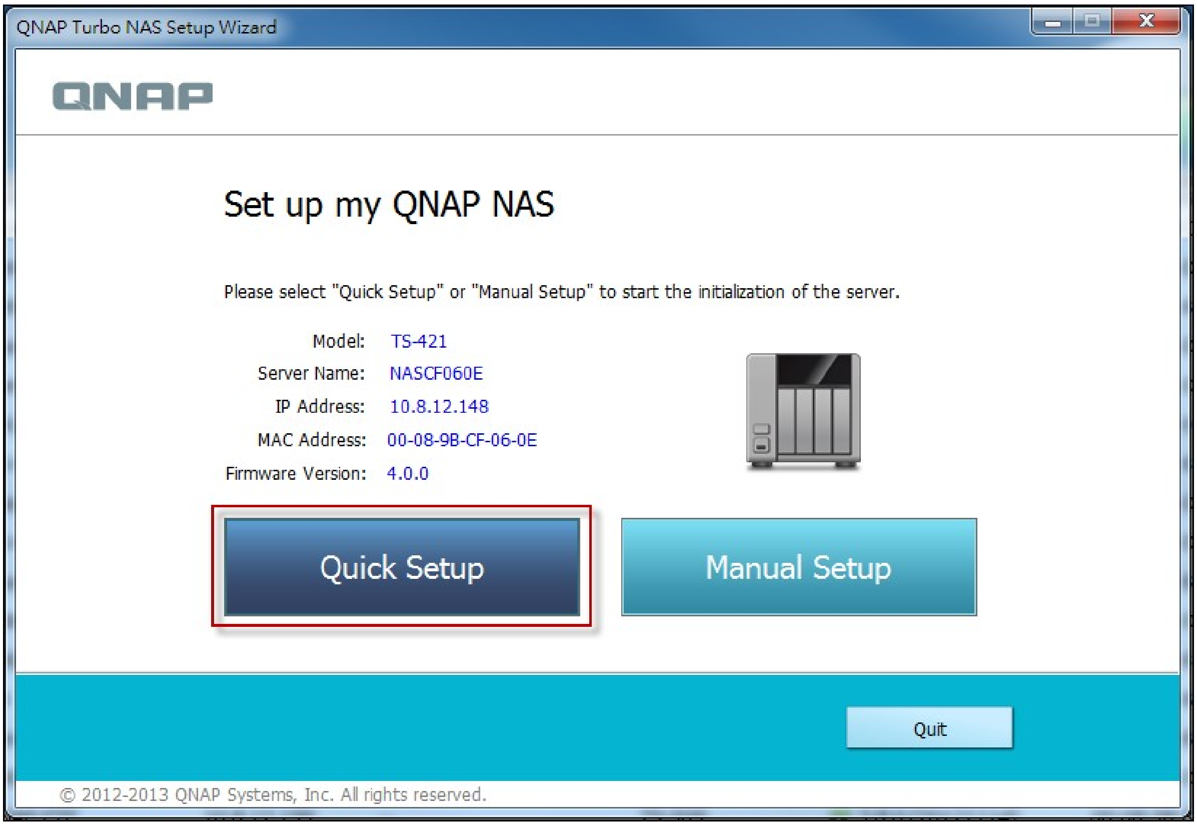
Quick Setup Wizard

QNAP NAS 'NASCF060E' (10.8.12.148) has not been configured yet. Would you like to use the setup wizard to set up the server now?

The Quick Setup Wizard will help you setup the QNAP NAS.

□ Don't ask me again. I'd like to setup later.

13. Click "Quick Setup".



QNAP Turbo NAS Setup Wizard

Set up my QNAP NAS

Please select "Quick Setup" or "Manual Setup" to start the initialization of the server.

Model: TS-421
Server Name: NASCF060E
IP Address: 10.8.12.148
MAC Address: 00-08-9B-CF-06-0E
Firmware Version: 4.0.0

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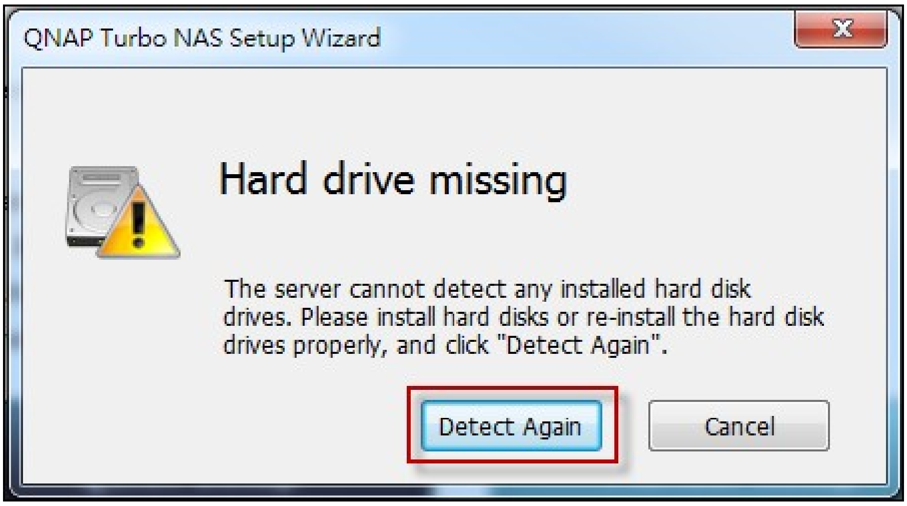
14. Install a hard drive on your Turbo NAS if you have not already done so and click "Detect Again".

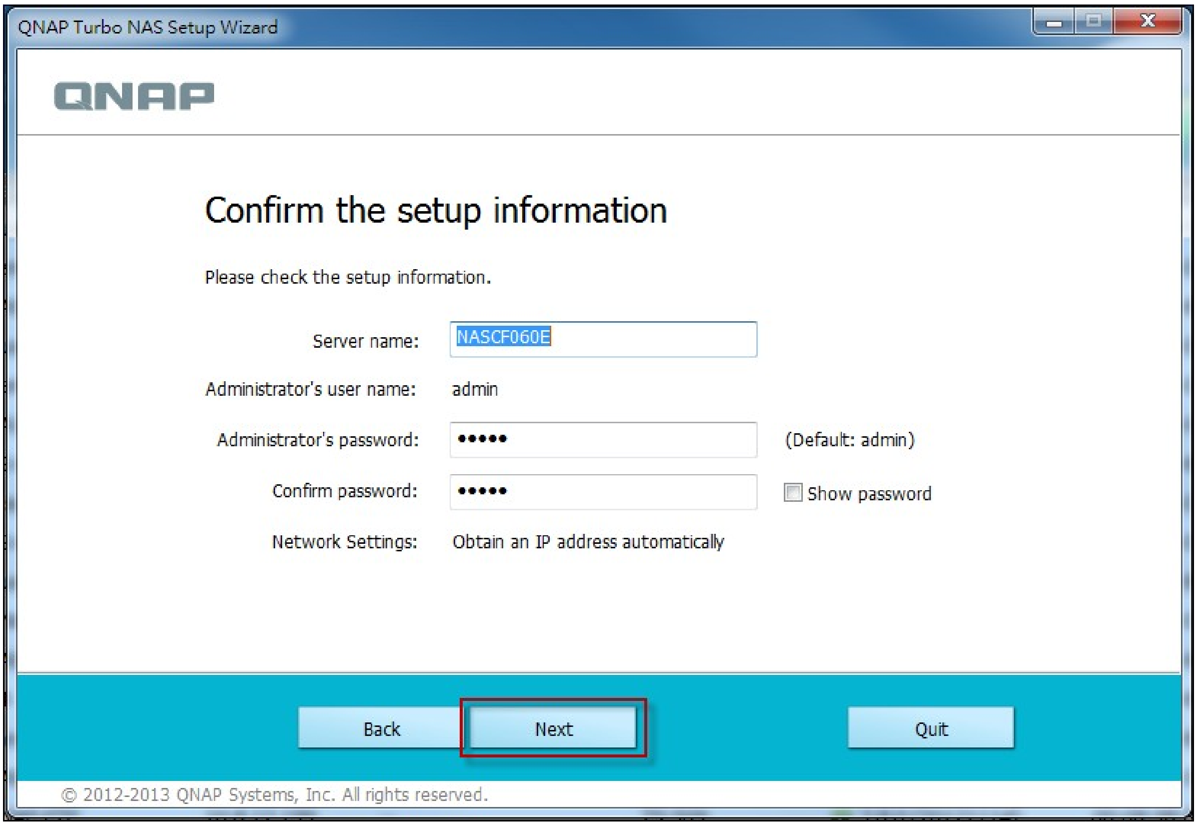


QNAP Turbo NAS Setup Wizard

Hard drive missing

The server cannot detect any installed hard disk drives. Please install hard disks or re-install the hard disk drives properly, and click "Detect Again".

15. Confirm the setup details and click “Next”.



QNAP Turbo NAS Setup Wizard

Confirm the setup information

Please check the setup information.

Server name: NASCF060E

Administrator's user name: admin

Administrator's password: ●●●●● (Default: admin)

Confirm password: ●●●●● □ Show password

Network Settings: Obtain an IP address automatically

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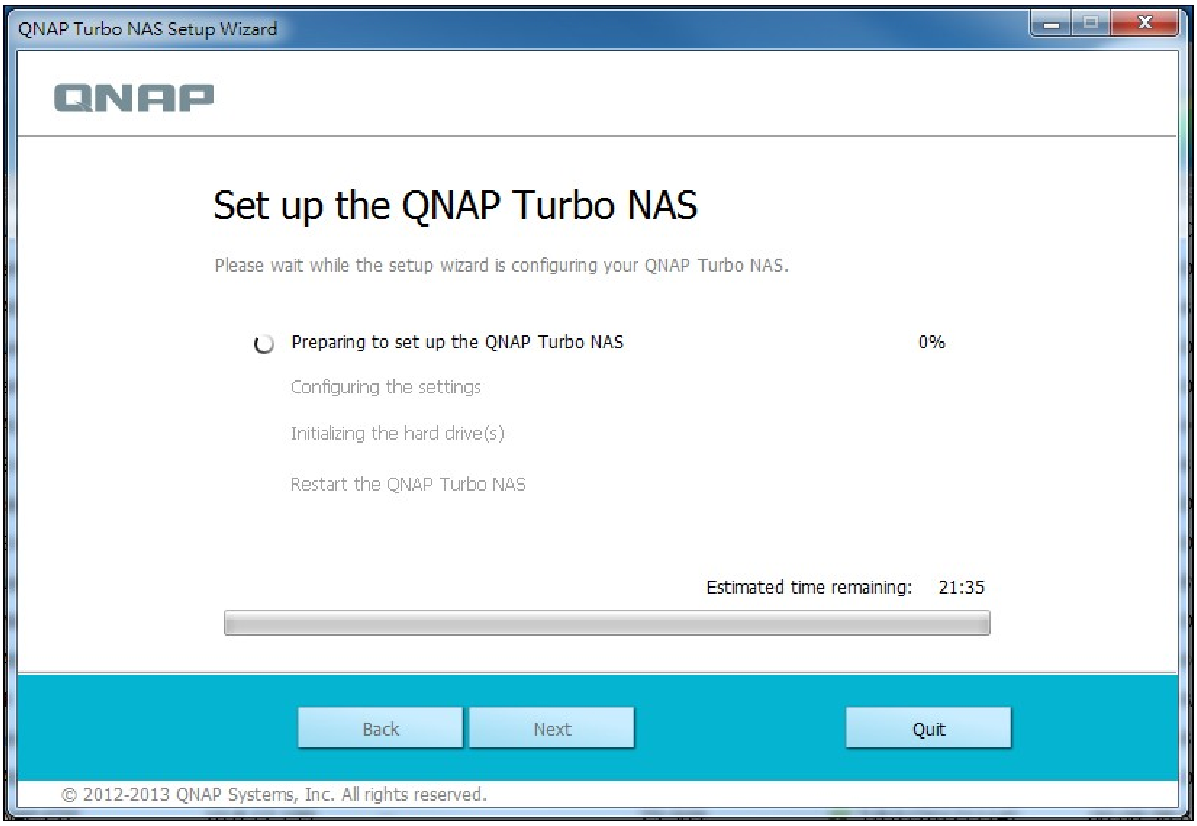
16. The wizard will proceed to finish the installation process.


QNAP Turbo NAS Setup Wizard

Set up the QNAP Turbo NAS

Please wait while the setup wizard is configuring your QNAP Turbo NAS.

○	Preparing to set up the QNAP Turbo NAS	0%
	Configuring the settings	
	Initializing the hard drive(s)	
	Restart the QNAP Turbo NAS	

Estimated time remaining: 21:35

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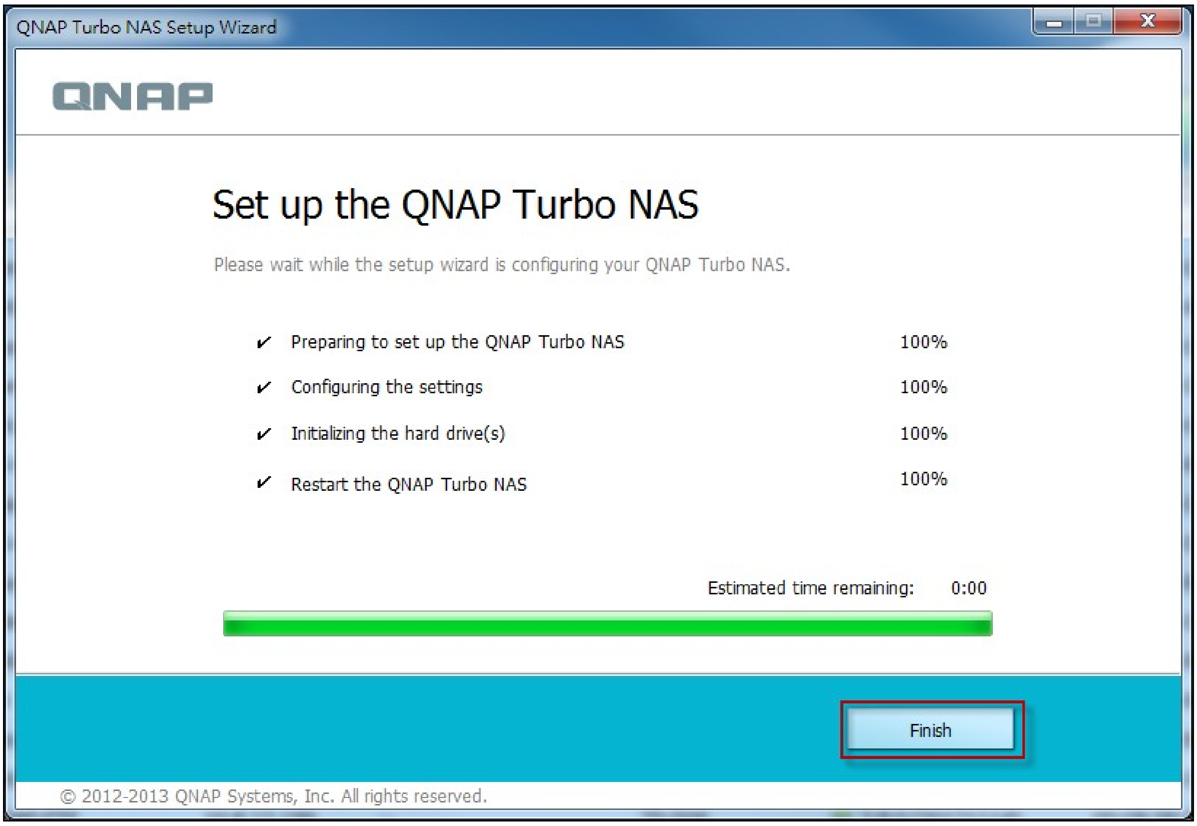
17. Click "Finish" to complete the installation process and open the NAS login page.


QNAP Turbo NAS Setup Wizard

Set up the QNAP Turbo NAS

Please wait while the setup wizard is configuring your QNAP Turbo NAS.

✓	Preparing to set up the QNAP Turbo NAS	100%
✓	Configuring the settings	100%
✓	Initializing the hard drive(s)	100%
✓	Restart the QNAP Turbo NAS	100%

Estimated time remaining: 0:00

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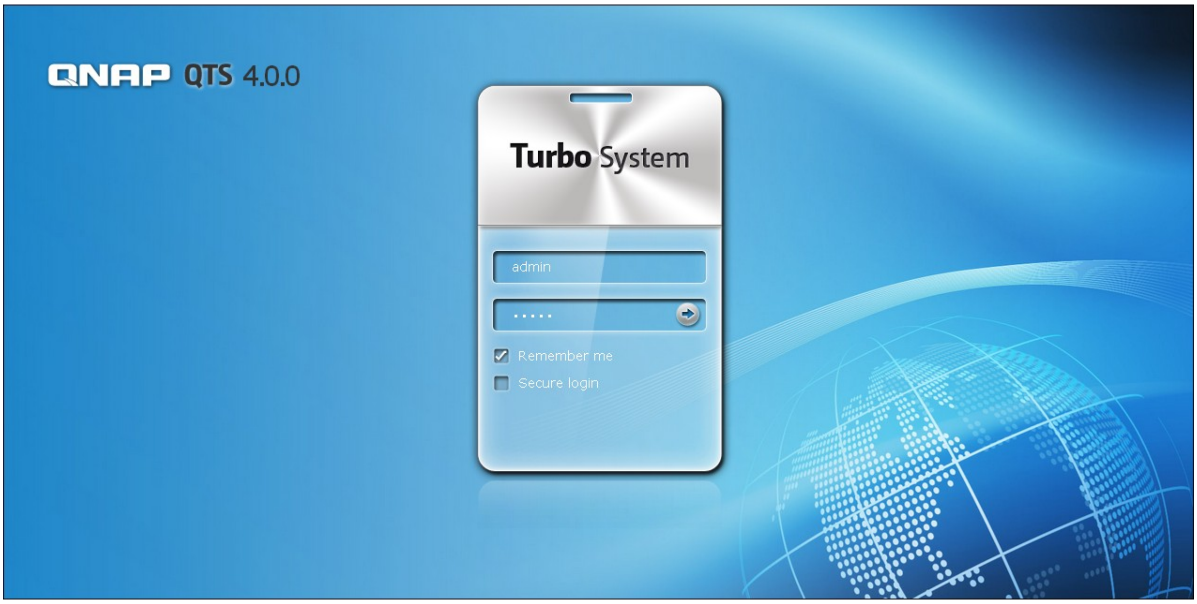
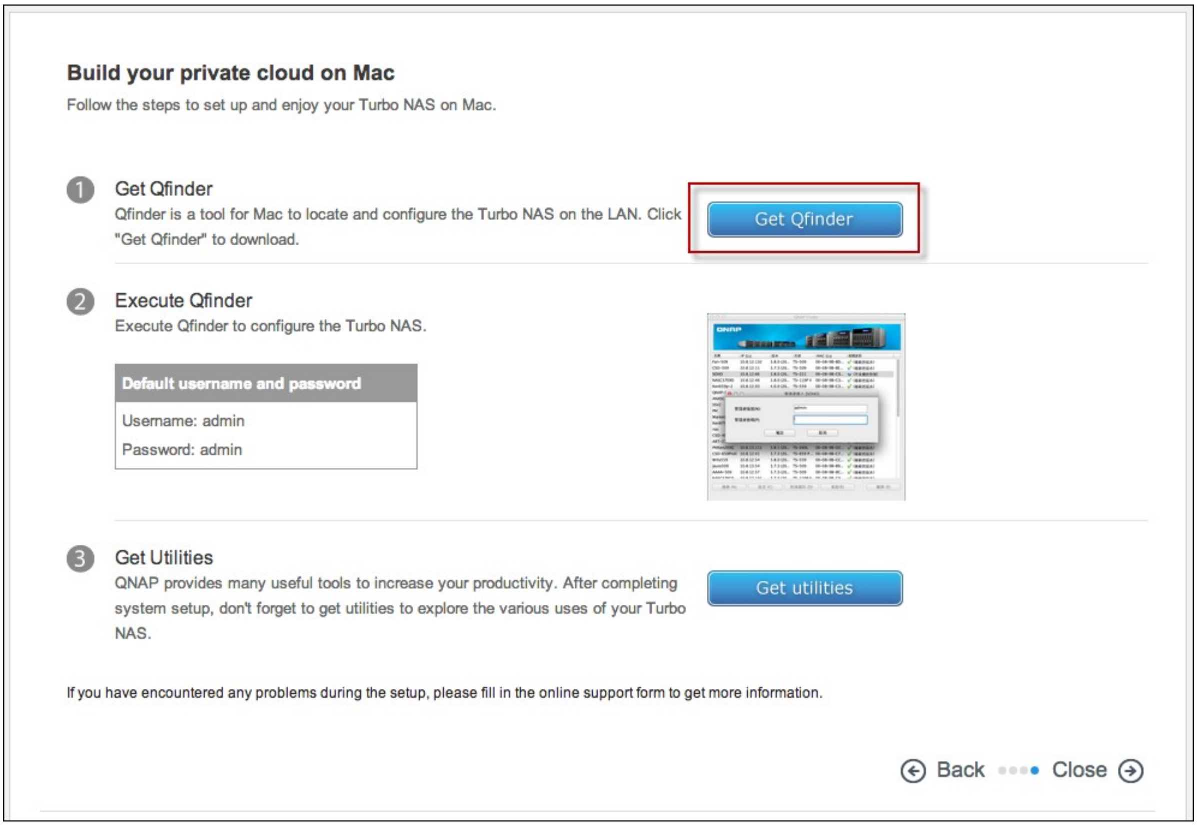
18. Key in the user ID and password entered in the “Confirm the setup information” page.



19. Click “Get Qfinder” to download the QNAP Qfinder utility (Steps 19 to 23 are for Mac users.)



Build your private cloud on Mac

Follow the steps to set up and enjoy your Turbo NAS on Mac.

1 Get Qfinder

Qfinder is a tool for Mac to locate and configure the Turbo NAS on the LAN. Click "Get Qfinder" to download.

2 Execute Qfinder

Execute Qfinder to configure the Turbo NAS.

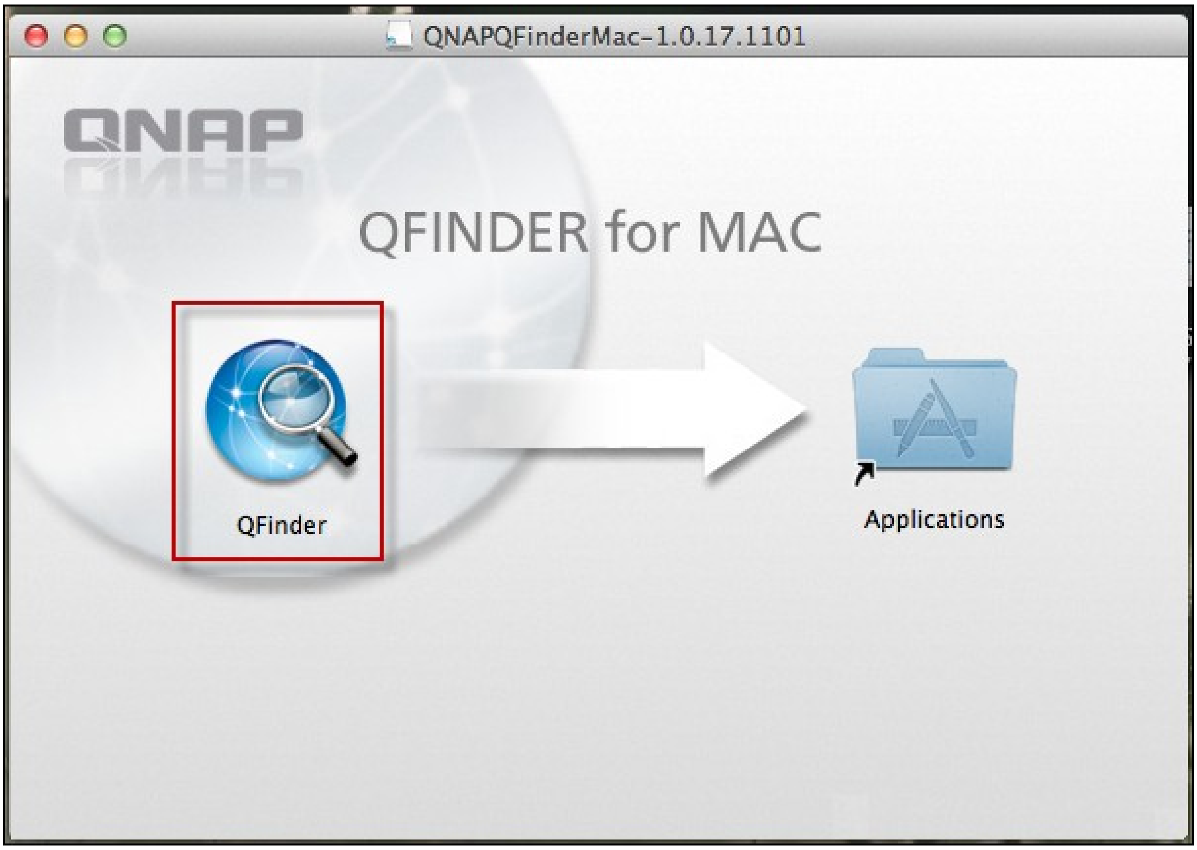
Default username and password
Username: admin
Password: admin

3 Get Utilities

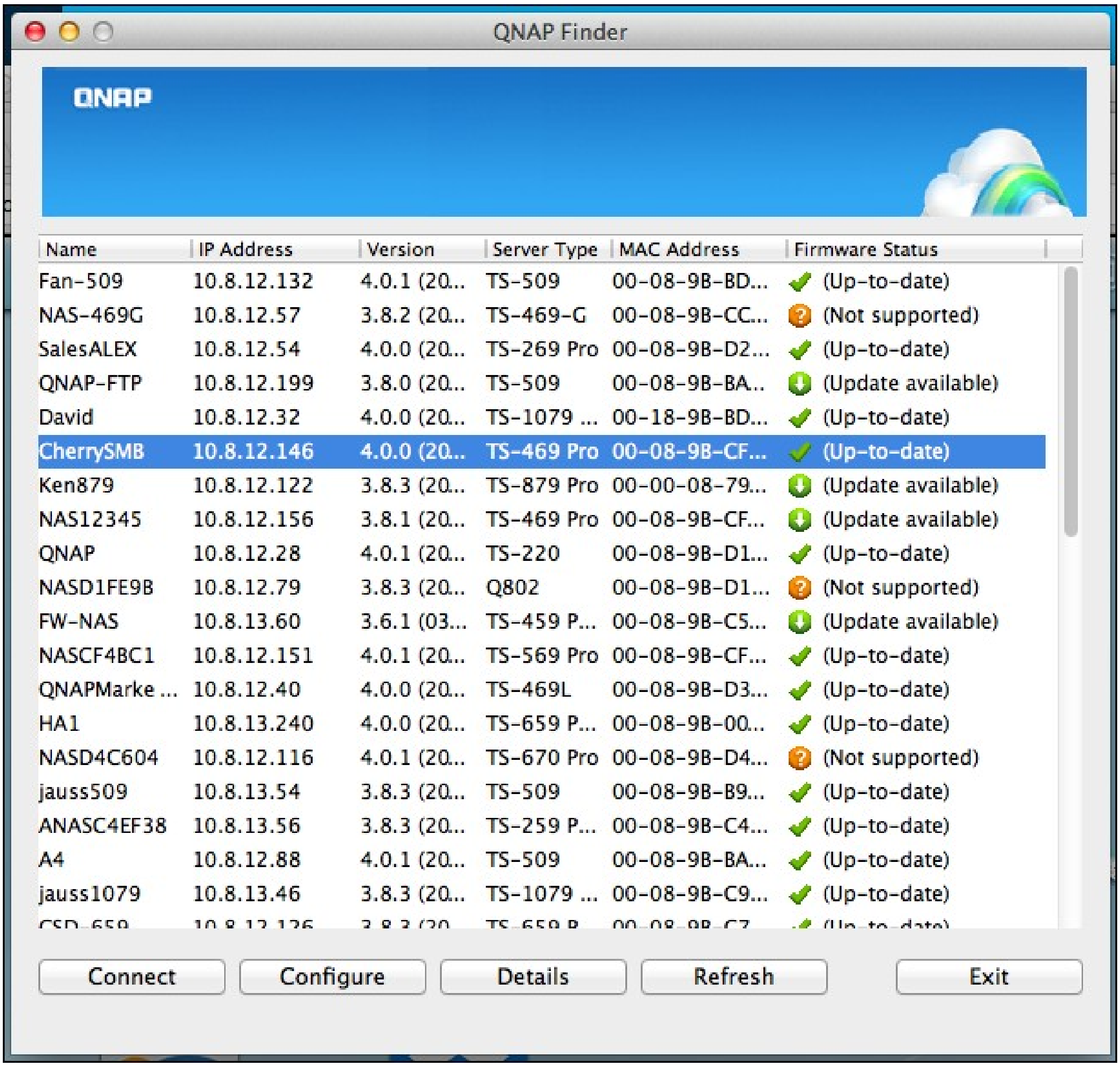
QNAP provides many useful tools to increase your productivity. After completing system setup, don't forget to get utilities to explore the various uses of your Turbo NAS.

If you have encountered any problems during the setup, please fill in the online support form to get more information.

20. Install the QNAP Qfinder.

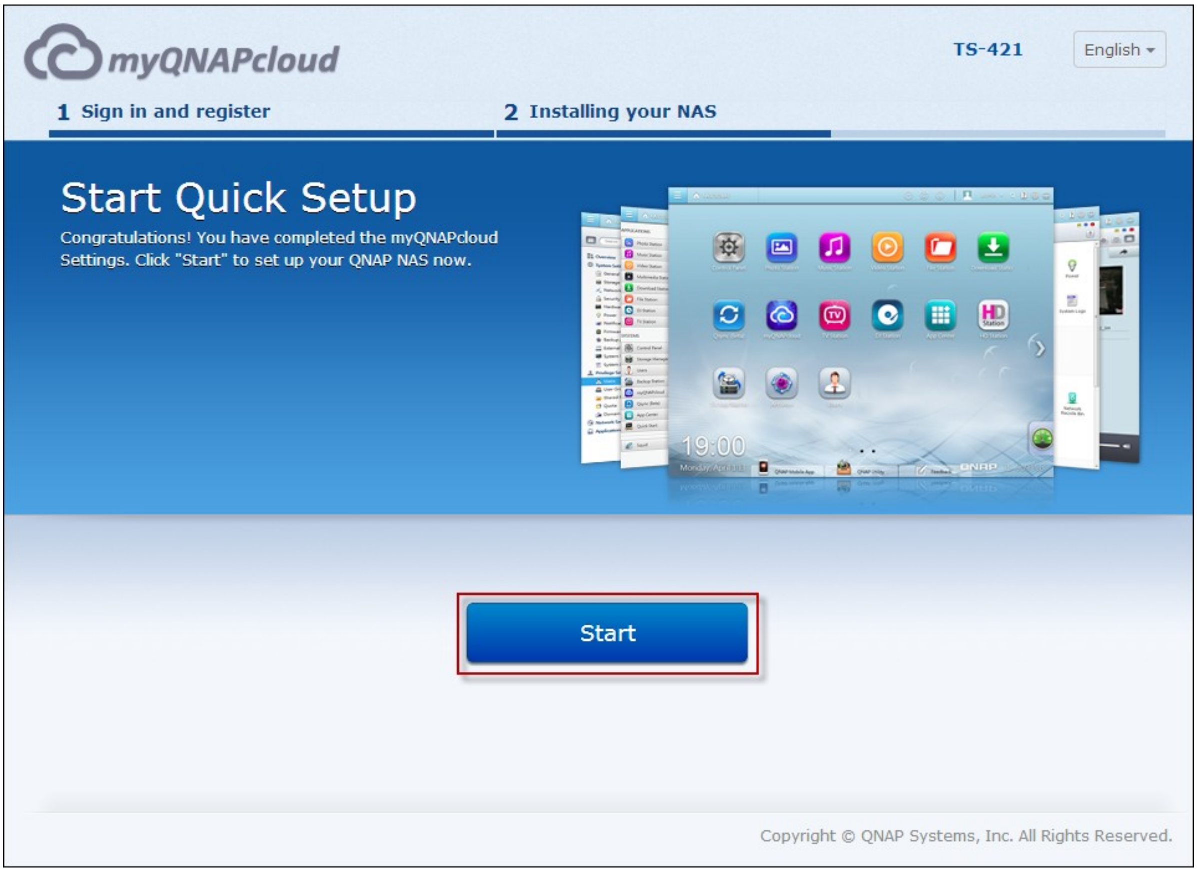


21. Execute the QNAP Qfinder and connect to the NAS.



Name	IP Address	Version	Server Type	MAC Address	Firmware Status
Fan-509	10.8.12.132	4.0.1 (20...	TS-509	00-08-9B-BD...	✓ (Up-to-date)
NAS-469G	10.8.12.57	3.8.2 (20...	TS-469-G	00-08-9B-CC...	? (Not supported)
SalesALEX	10.8.12.54	4.0.0 (20...	TS-269 Pro	00-08-9B-D2...	✓ (Up-to-date)
QNAP-FTP	10.8.12.199	3.8.0 (20...	TS-509	00-08-9B-BA...	⬇ (Update available)
David	10.8.12.32	4.0.0 (20...	TS-1079 ...	00-18-9B-BD...	✓ (Up-to-date)
CherrySMB	10.8.12.146	4.0.0 (20...	TS-469 Pro	00-08-9B-CF...	✓ (Up-to-date)
Ken879	10.8.12.122	3.8.3 (20...	TS-879 Pro	00-00-08-79...	⬇ (Update available)
NAS12345	10.8.12.156	3.8.1 (20...	TS-469 Pro	00-08-9B-CF...	⬇ (Update available)
QNAP	10.8.12.28	4.0.1 (20...	TS-220	00-08-9B-D1...	✓ (Up-to-date)
NASD1FE9B	10.8.12.79	3.8.3 (20...	Q802	00-08-9B-D1...	? (Not supported)
FW-NAS	10.8.13.60	3.6.1 (03...	TS-459 P...	00-08-9B-C5...	⬇ (Update available)
NASCF4BC1	10.8.12.151	4.0.1 (20...	TS-569 Pro	00-08-9B-CF...	✓ (Up-to-date)
QNAPMarke ...	10.8.12.40	4.0.0 (20...	TS-469L	00-08-9B-D3...	✓ (Up-to-date)
HA1	10.8.13.240	4.0.0 (20...	TS-659 P...	00-08-9B-00...	✓ (Up-to-date)
NASD4C604	10.8.12.116	4.0.1 (20...	TS-670 Pro	00-08-9B-D4...	? (Not supported)
jauss509	10.8.13.54	3.8.3 (20...	TS-509	00-08-9B-B9...	✓ (Up-to-date)
ANASC4EF38	10.8.13.56	3.8.3 (20...	TS-259 P...	00-08-9B-C4...	✓ (Up-to-date)
A4	10.8.12.88	4.0.1 (20...	TS-509	00-08-9B-BA...	✓ (Up-to-date)
jauss1079	10.8.13.46	3.8.3 (20...	TS-1079 ...	00-08-9B-C9...	✓ (Up-to-date)
CSD-659	10.8.12.126	3.8.3 (20...	TS-659 P...	00-08-9B-C7...	✓ (Up-to-date)

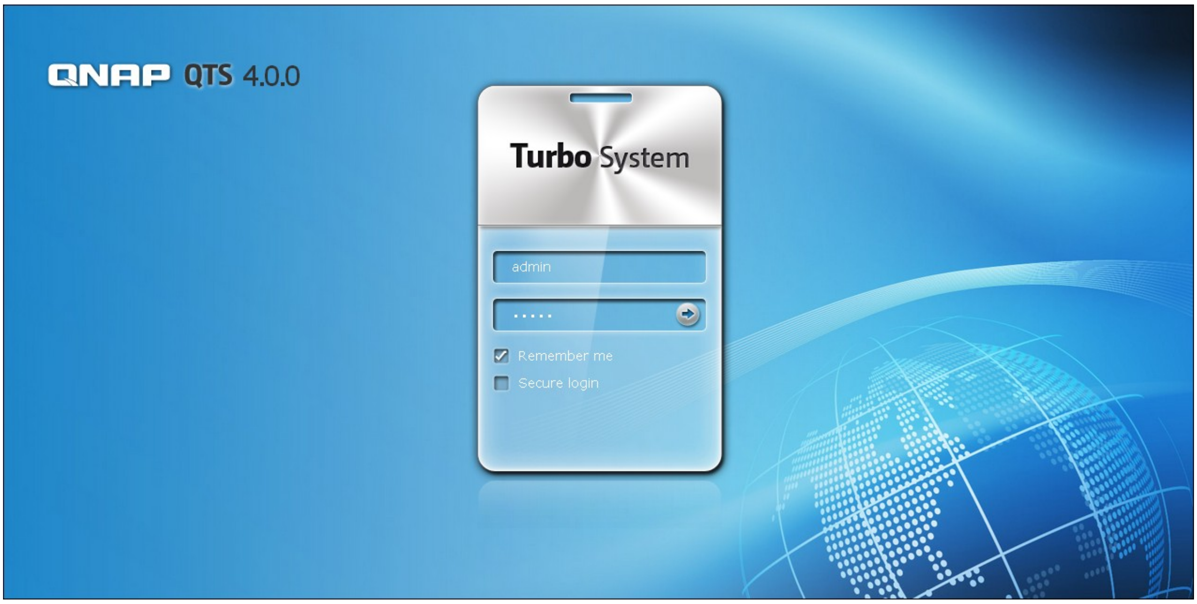
22. Start the Web Installation step.



Start Quick Setup

Congratulations! You have completed the myQNAPcloud Settings. Click "Start" to set up your QNAP NAS now.

23. Key in the user ID and password entered in the "Confirm the setup information" page.



admin

•••••

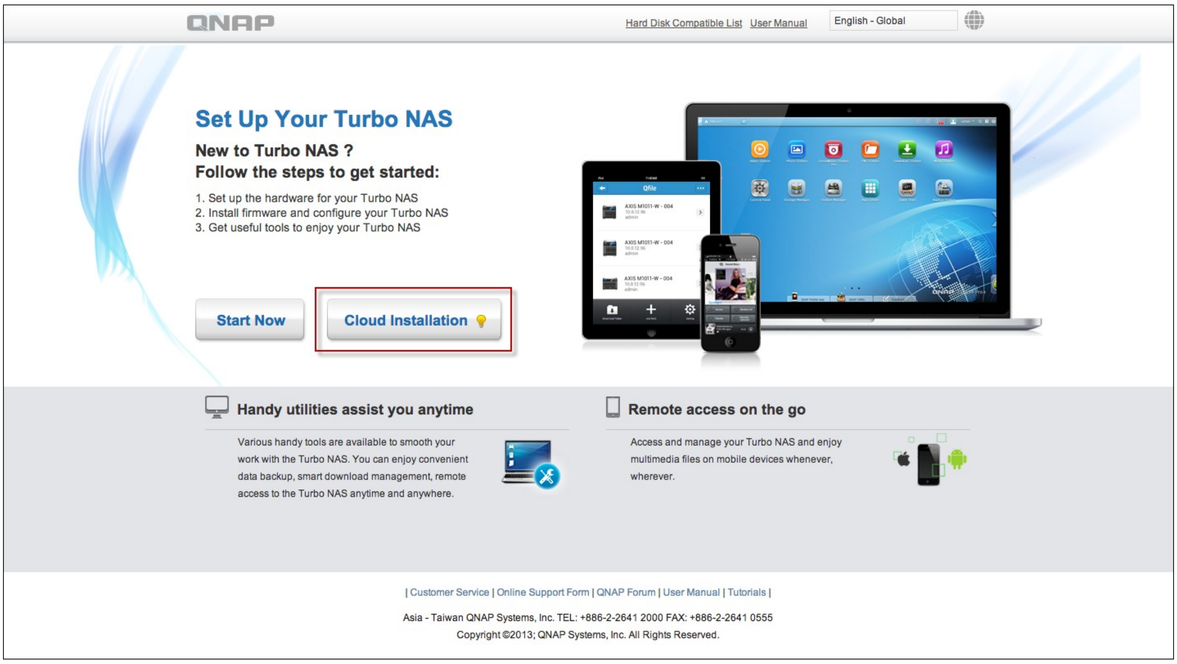
☑ Remember me

□ Secure login

2.2.2 Cloud Installation

Follow the steps in this section to complete cloud installation for your NAS.

1. Connect your NAS to the Internet, and on your PC, go to "start.qnap.com" and click "Cloud Installation".



Set Up Your Turbo NAS

New to Turbo NAS ?
Follow the steps to get started:

1. Set up the hardware for your Turbo NAS
2. Install firmware and configure your Turbo NAS
3. Get useful tools to enjoy your Turbo NAS

Handy utilities assist you anytime

Various handy tools are available to smooth your work with the Turbo NAS. You can enjoy convenient data backup, smart download management, remote access to the Turbo NAS anytime and anywhere.

Remote access on the go

Access and manage your Turbo NAS and enjoy multimedia files on mobile devices whenever, wherever.

| Customer Service | Online Support Form | QNAP Forum | User Manual | Tutorials |

Asia - Taiwan QNAP Systems, Inc. TEL: +886-2-2641 2000 FAX: +886-2-2641 0555
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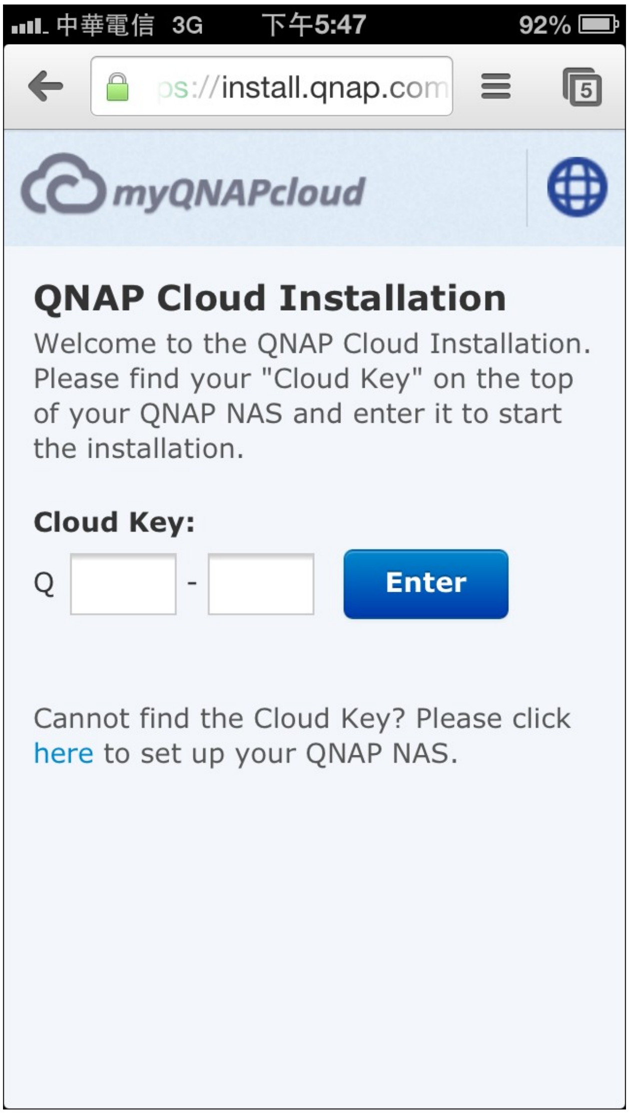
2. Alternatively, you may scan the QR code using your mobile phone to start cloud installation.



QNAP Cloud Installation

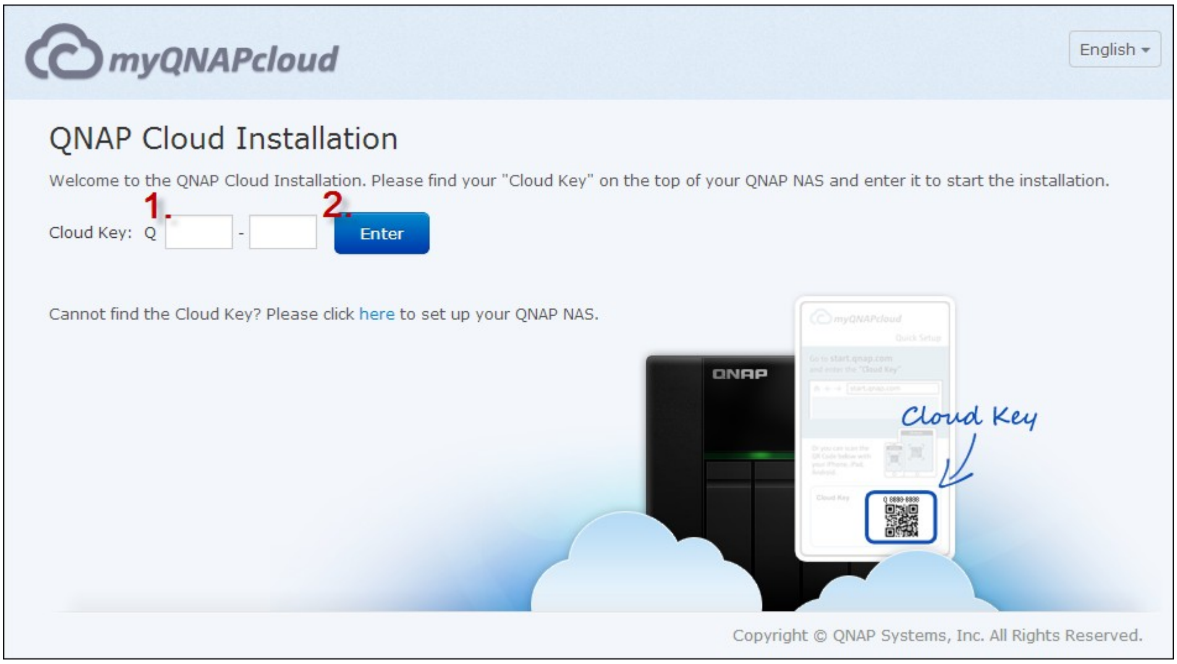
Welcome to the QNAP Cloud Installation. Please find your "Cloud Key" on the top of your QNAP NAS and enter it to start the installation.

Cloud Key:

Q □ - □ Enter

Cannot find the Cloud Key? Please click here to set up your QNAP NAS.

3. Enter the cloud key (cloud key can be found from the sticker on top of your QNAP NAS) and click “Enter”.



QNAP Cloud Installation

Welcome to the QNAP Cloud Installation. Please find your "Cloud Key" on the top of your QNAP NAS and enter it to start the installation.

Cloud Key: Q [ ] - [ ] Enter

Cannot find the Cloud Key? Please click here to set up your QNAP NAS.

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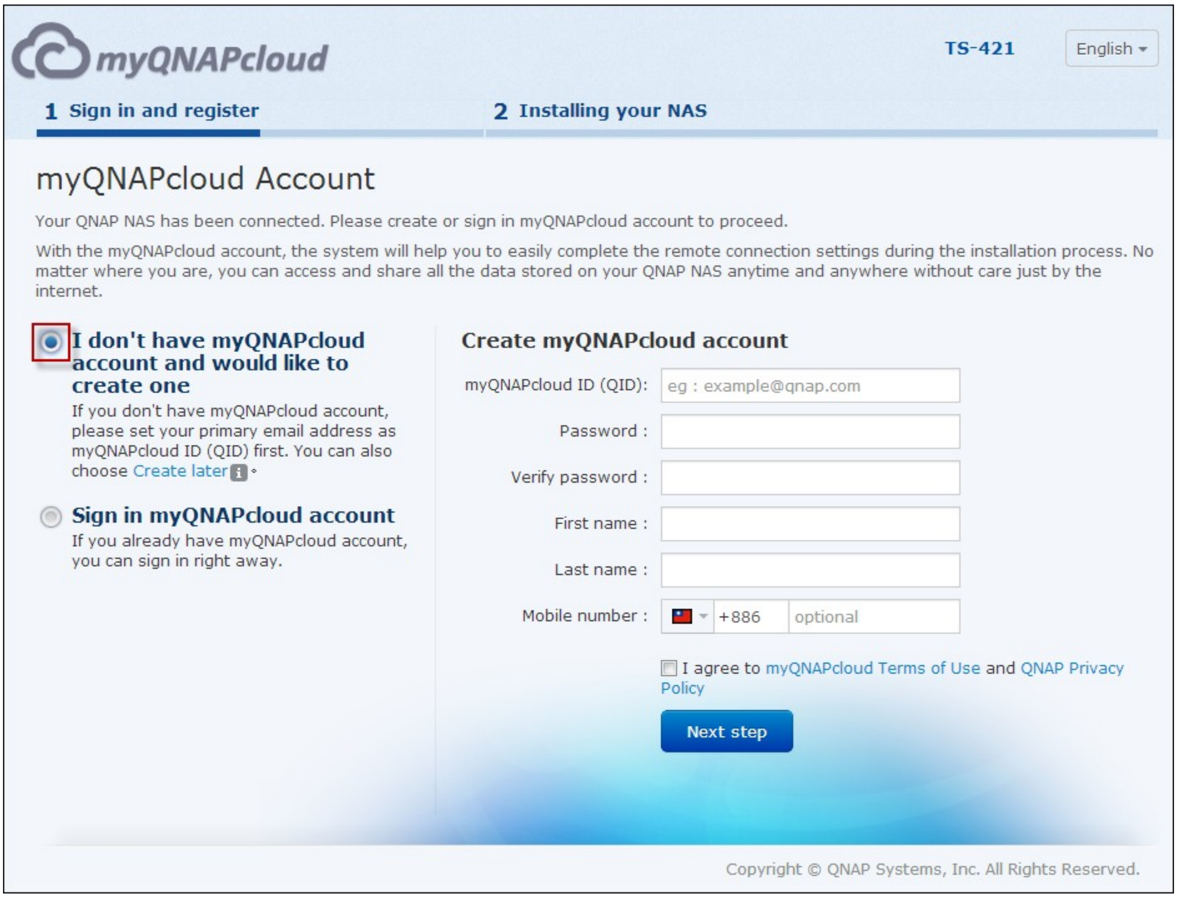
Note: If you encounter the "Device not found" message on screen, please make sure 1) your NAS has been powered on; 2) the network cable is connected to the NAS and the orange and green indicator lights on its LAN port(s) are blinking; and 3) the cloud key is correct.

4. Fill out all fields to register your myQNAPcloud account or sign in your myQNAPcloud account. check "I agree to myQNAPcloud Terms of Use and QNAP Privacy Policy" and click "Next Step".



myQNAPcloud Account

Your QNAP NAS has been connected. Please create or sign in myQNAPcloud account to proceed.

With the myQNAPcloud account, the system will help you to easily complete the remote connection settings during the installation process. No matter where you are, you can access and share all the data stored on your QNAP NAS anytime and anywhere without care just by the internet.

● I don't have myQNAPcloud account and would like to create one
If you don't have myQNAPcloud account, please set your primary email address as myQNAPcloud ID (QID) first. You can also choose Create later.

○ Sign in myQNAPcloud account
If you already have myQNAPcloud account, you can sign in right away.

Create myQNAPcloud account

myQNAPcloud ID (QID): eg : example@qnap.com
Password :
Verify password :
First name :
Last name :
Mobile number : +886 optional

□ I agree to myQNAPcloud Terms of Use and QNAP Privacy Policy

Next step

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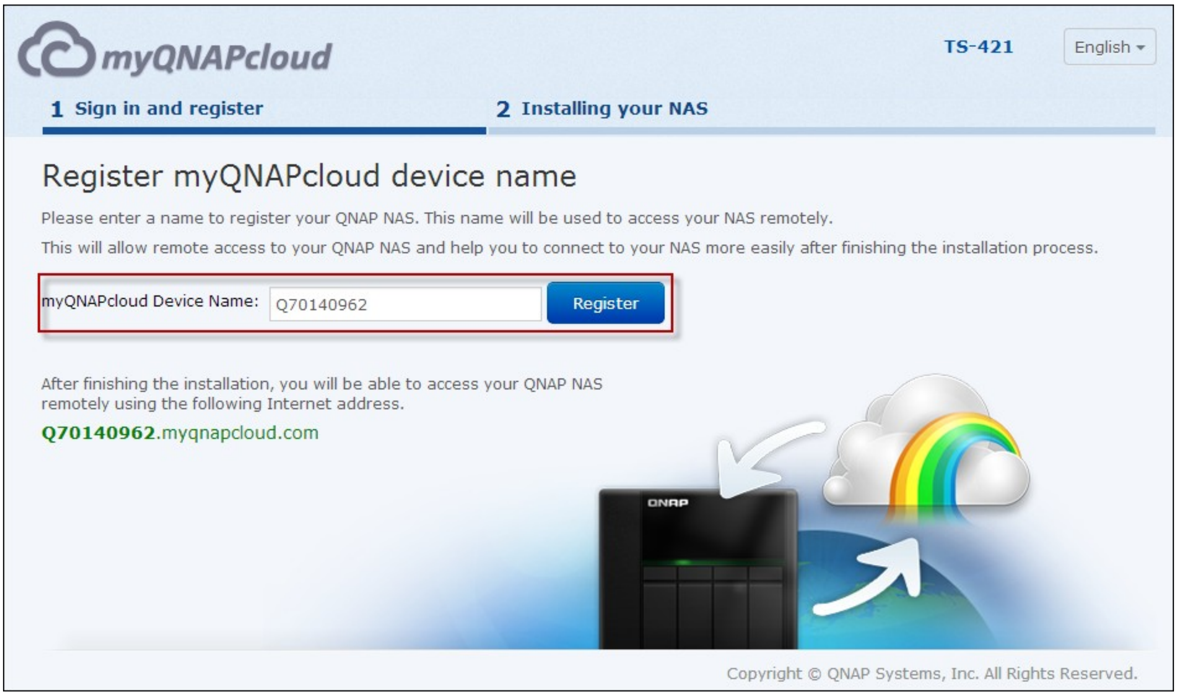
Note: Before proceeding to Step 4, please be sure to activate your myQNAPcloud account after your account registration is confirmed (an email will be sent to the email address provided to create your myQNAPcloud account, and the account activation link will be included in that email.) For details, please refer to the chapter on myQNAPcloud Service 576 in this manual.

If you already have a myQNAPcloud account, please select "Sign in myQNAPcloud account" and login with your account credentials.

5. Type in the name of your Turbo NAS to register it and click "Register".



Register myQNAPcloud device name

Please enter a name to register your QNAP NAS. This name will be used to access your NAS remotely.

This will allow remote access to your QNAP NAS and help you to connect to your NAS more easily after finishing the installation process.

myQNAPcloud Device Name: Q70140962 Register

After finishing the installation, you will be able to access your QNAP NAS remotely using the following Internet address.

Q70140962.myqnapcloud.com

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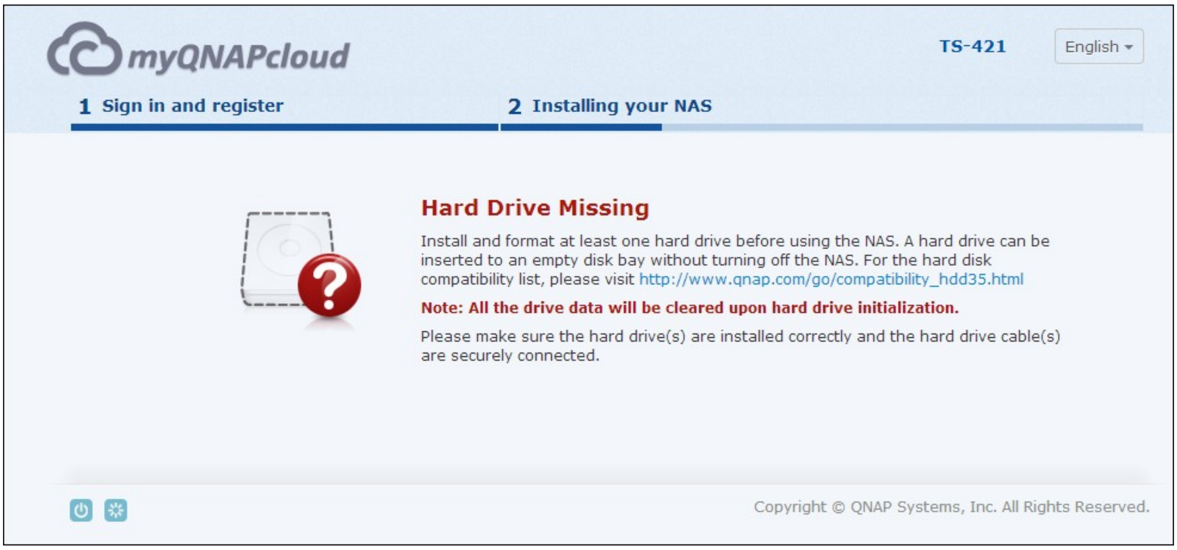
6. Install a hard drive on your Turbo NAS if you have not already done so.



Hard Drive Missing

Install and format at least one hard drive before using the NAS. A hard drive can be inserted to an empty disk bay without turning off the NAS. For the hard disk compatibility list, please visit http://www.qnap.com/go/compatibility_hdd35.html

Note: All the drive data will be cleared upon hard drive initialization.

Please make sure the hard drive(s) are installed correctly and the hard drive cable(s) are securely connected.

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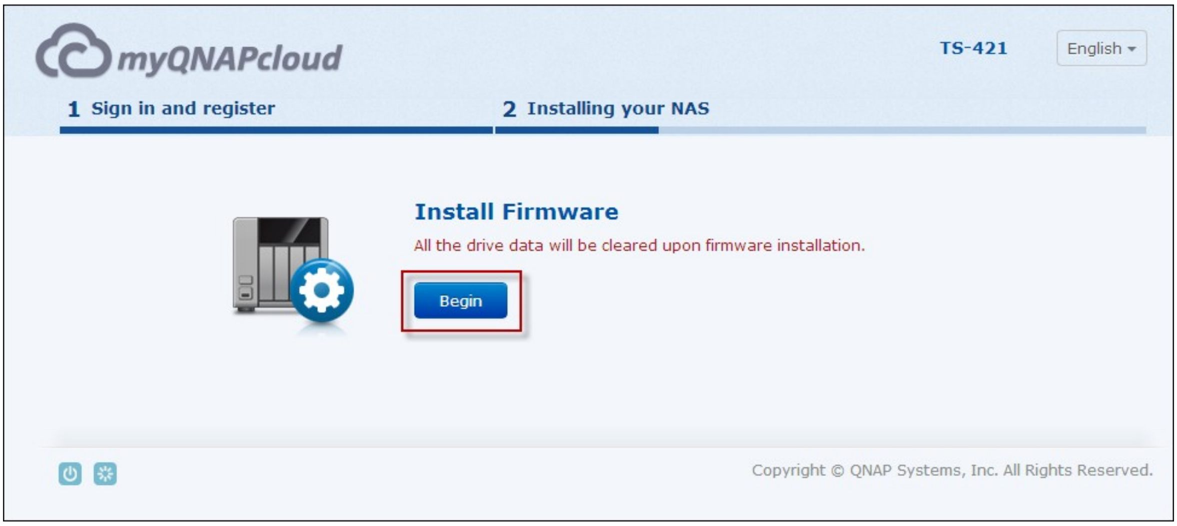
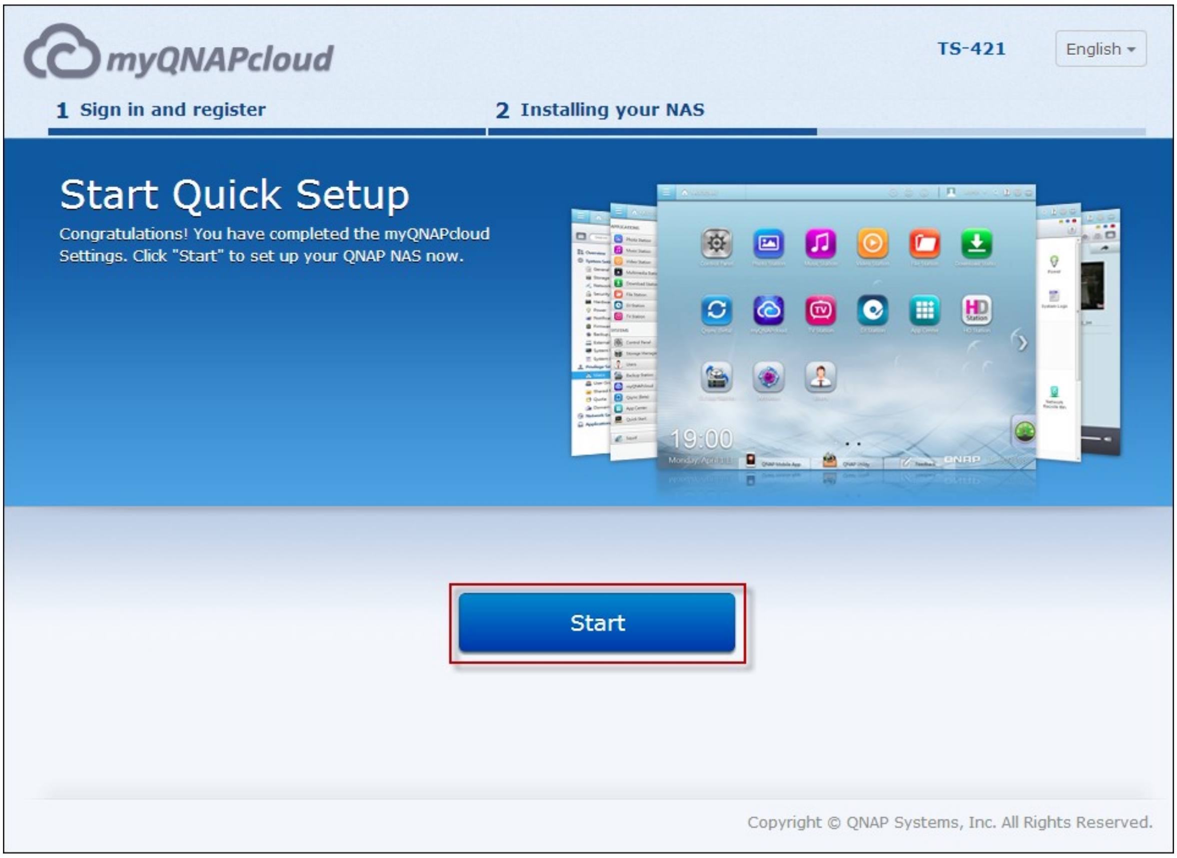
7. Click “Begin” to install firmware on your Turbo NAS.



Install Firmware

All the drive data will be cleared upon firmware installation.

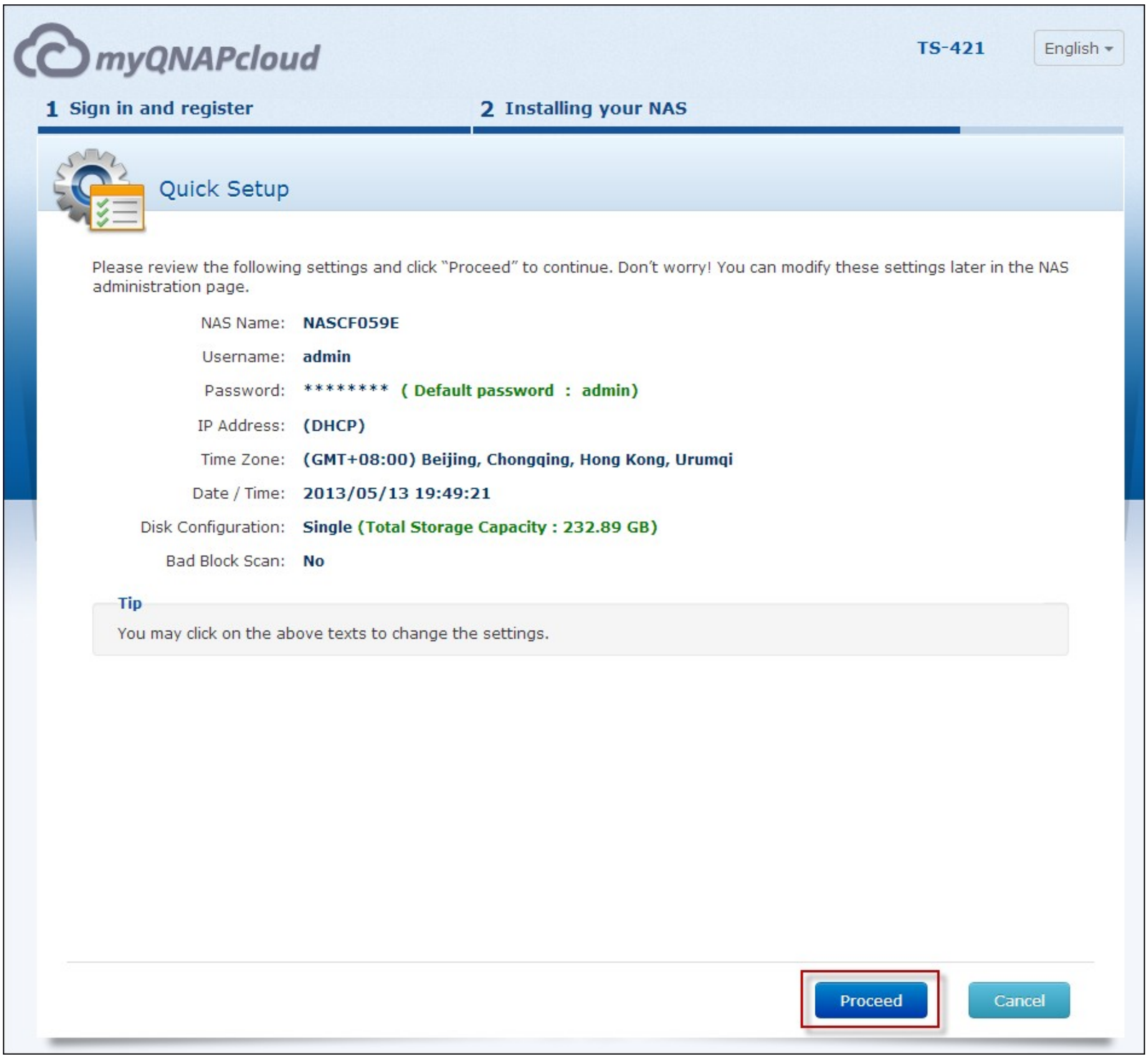
8. Click "Start" to start the quick setup.



Start Quick Setup

Congratulations! You have completed the myQNAPcloud Settings. Click "Start" to set up your QNAP NAS now.

9. Confirm all details and click "Proceed".



Please review the following settings and click "Proceed" to continue. Don't worry! You can modify these settings later in the NAS administration page.

NAS Name: NASCF059E

Username: admin

Password: ******** (Default password : admin)

IP Address: (DHCP)

Time Zone: (GMT+08:00) Beijing, Chongqing, Hong Kong, Urumqi

Date / Time: 2013/05/13 19:49:21

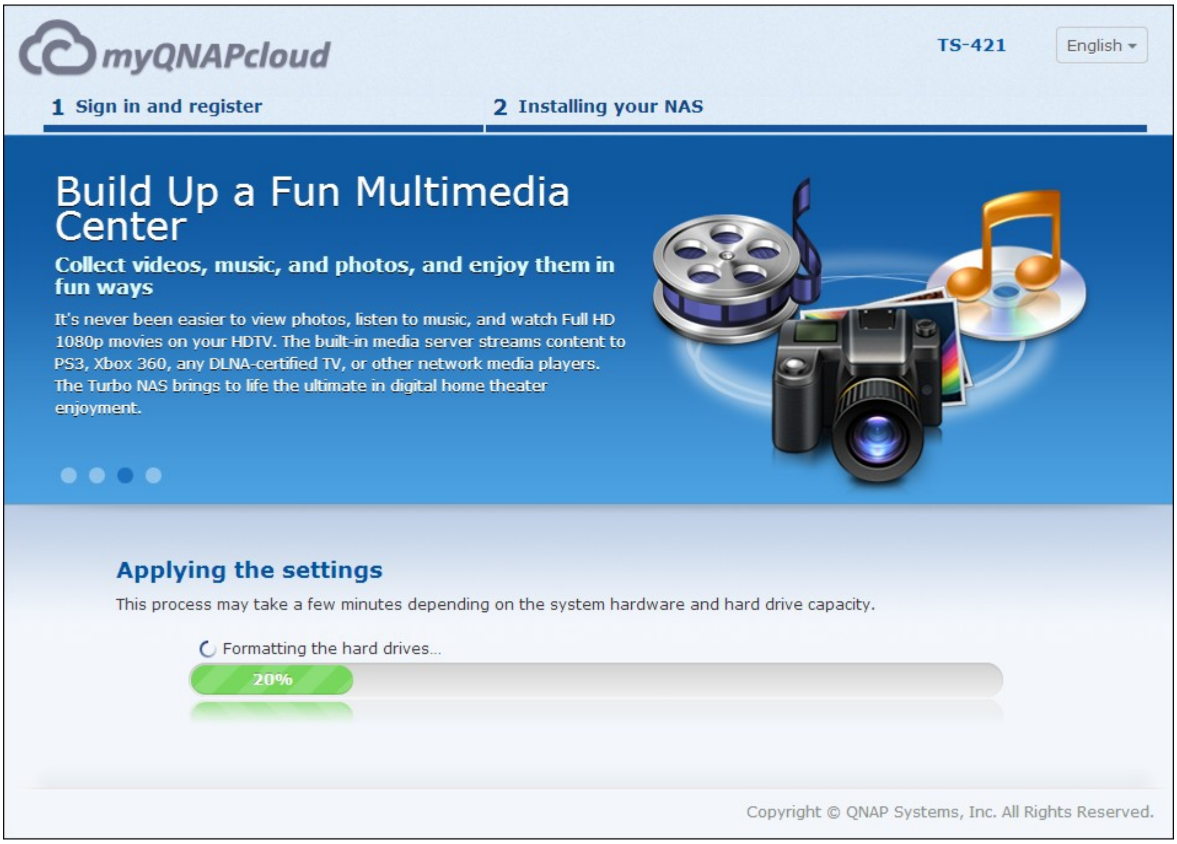
Disk Configuration: Single (Total Storage Capacity : 232.89 GB)

Bad Block Scan: No

Tip

You may click on the above texts to change the settings.

10. Follow the onscreen instructions.



Build Up a Fun Multimedia Center

Collect videos, music, and photos, and enjoy them in fun ways

It's never been easier to view photos, listen to music, and watch Full HD 1080p movies on your HDTV. The built-in media server streams content to PS3, Xbox 360, any DLNA-certified TV, or other network media players. The Turbo NAS brings to life the ultimate in digital home theater enjoyment.

Applying the settings

This process may take a few minutes depending on the system hardware and hard drive capacity.

Formatting the hard drives...

20%

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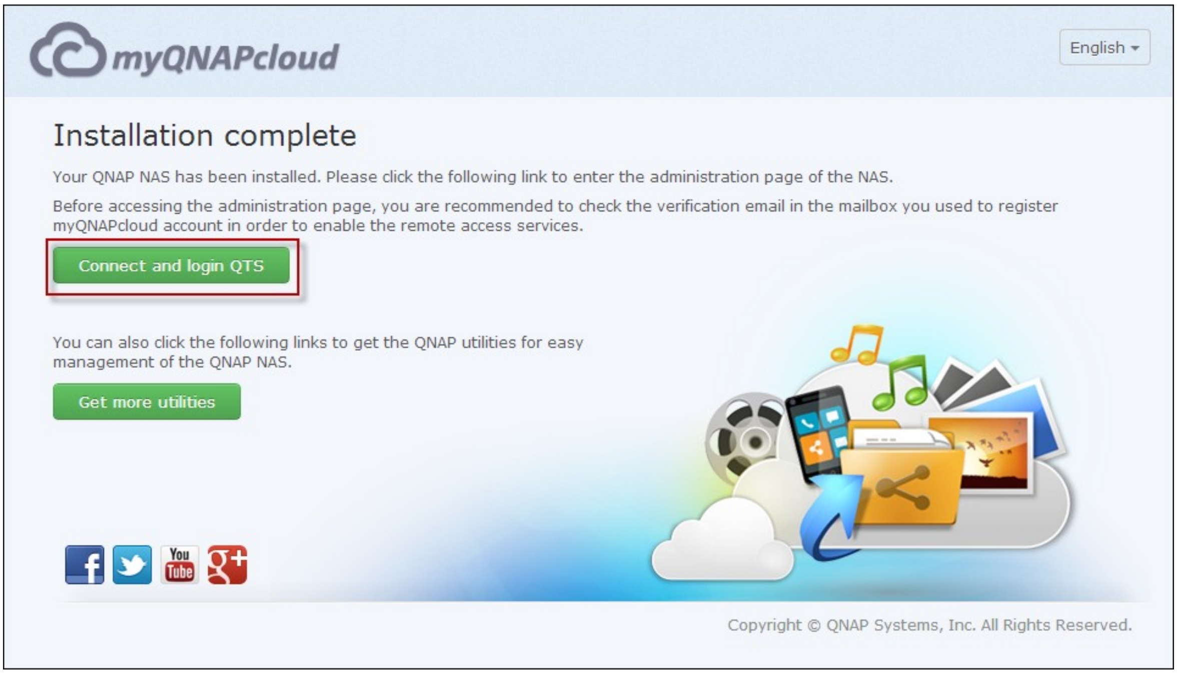
11. Click "Connect and Login QTS".



Installation complete

Your QNAP NAS has been installed. Please click the following link to enter the administration page of the NAS.

Before accessing the administration page, you are recommended to check the verification email in the mailbox you used to register myQNAPcloud account in order to enable the remote access services.

You can also click the following links to get the QNAP utilities for easy management of the QNAP NAS.

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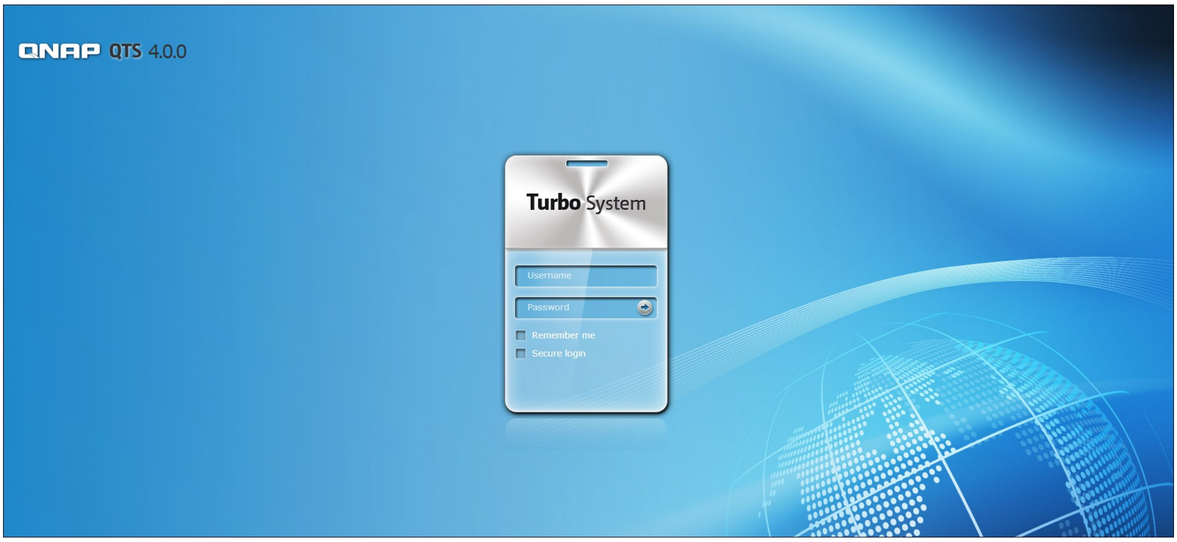
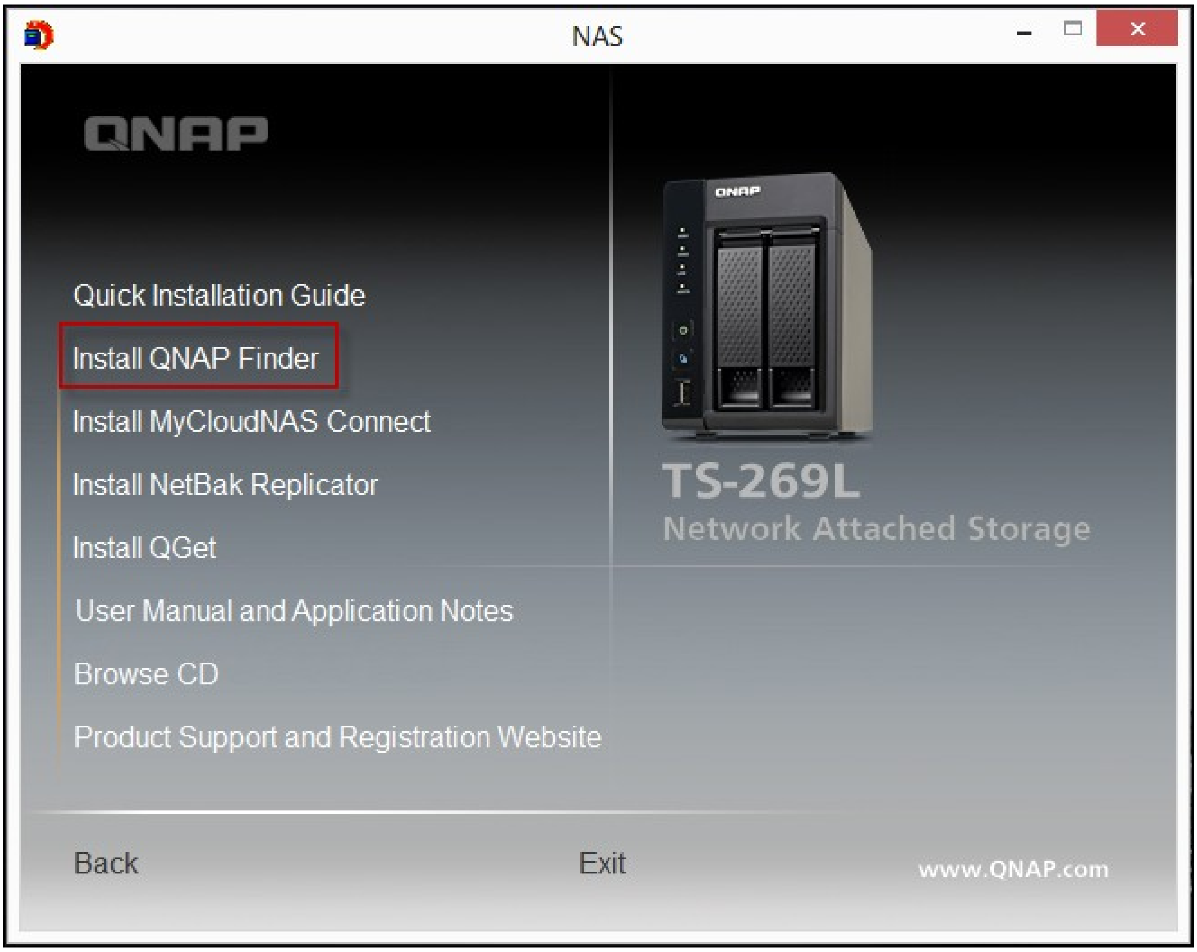
12. Key in the user ID and password to login your Turbo NAS.


QNAP QTS 4.0.0
Turbo System
Username
Password
Remember me
Secure login

2.2.3 CD Installation

Follow the steps in this section to complete CD installation for your NAS.

1. Install the QNAP Qfinder from the product CD-ROM.


NAS
QNAP
Quick Installation Guide
Install QNAP Finder
Install MyCloudNAS Connect
Install NetBak Replicator
Install QGet
User Manual and Application Notes
Browse CD
Product Support and Registration Website
TS-269L
Network Attached Storage
Back
Exit
www.QNAP.com

2. Run the QNAP Qfinder. If the QNAP Qfinder is blocked by your firewall, unblock the utility.

3. Follow the steps outlined in the Online Installation 24 section and finish the installation process.

Note:

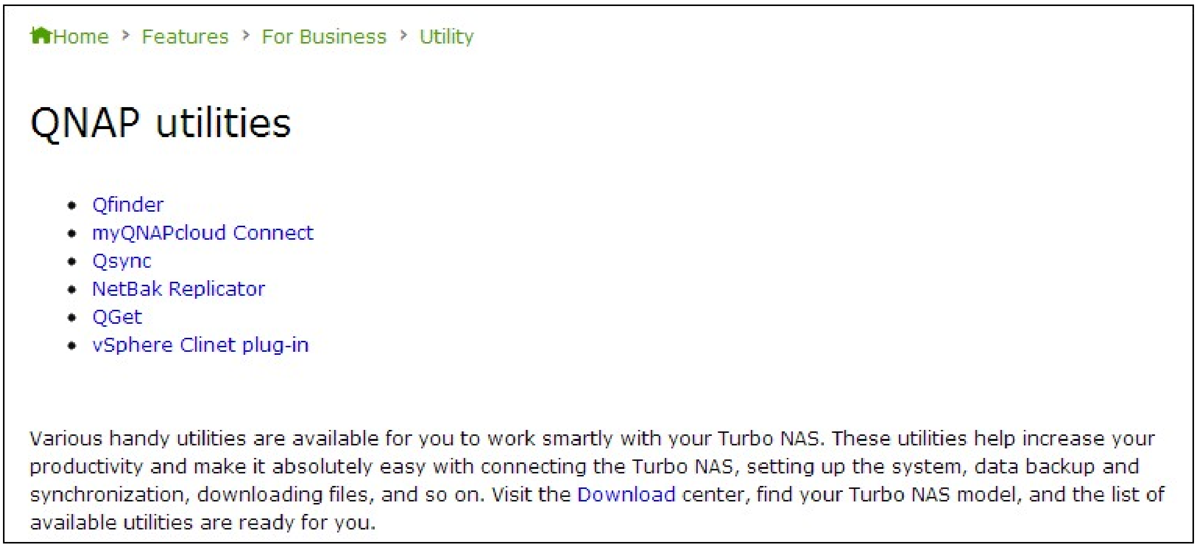
- Some new NAS models, such as TS-x12, TS-x20 and TS-x21, no longer have the installation CD included.
- The default login ID and password of the NAS are both admin.

2.3 Getting Utilities

QNAP has prepared a number of practical and useful utilities to enhance your NAS experiences. After setting up your NAS, please choose from the following two methods to install the utilities.

A. Download from the QNAP website

Type http://www.qnap.com/ in your browser, go to Features > For Home ("For Business" if you are business users). Scroll down to the bottom of the screen and click "Utilities". Choose to download and install utilities on your PC.



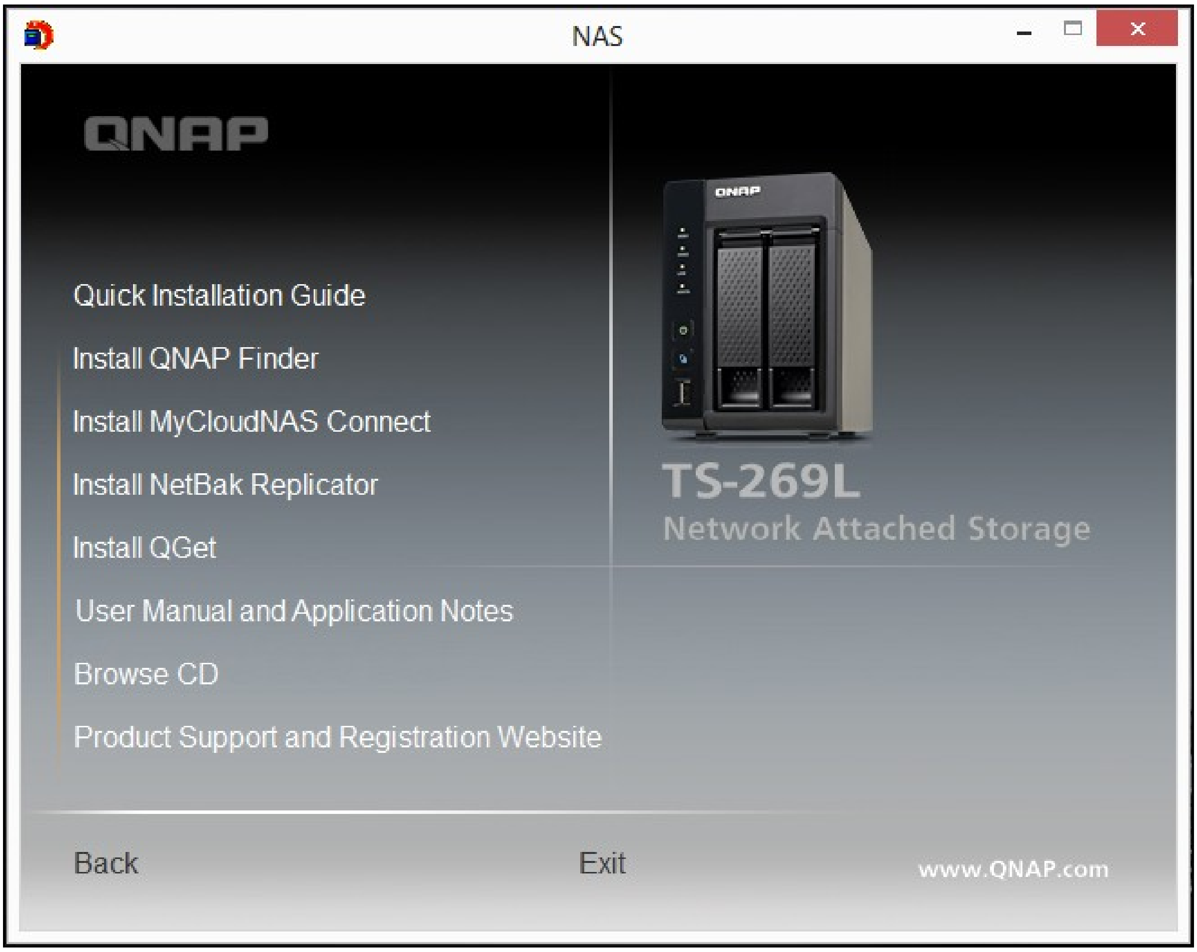
QNAP utilities

- Qfinder
- myQNAPcloud Connect
- Qsync
- NetBak Replicator
- QGet
- vSphere Clinet plug-in

Various handy utilities are available for you to work smartly with your Turbo NAS. These utilities help increase your productivity and make it absolutely easy with connecting the Turbo NAS, setting up the system, data backup and synchronization, downloading files, and so on. Visit the Download center, find your Turbo NAS model, and the list of available utilities are ready for you.

B. Install from the product CD-ROM

The product CD-ROM contains software utilities QNAP Qfinder, myQNAPcloud Connect, NetBak Replicator, and QGet.


NAS
QNAP
Quick Installation Guide
Install QNAP Finder
Install MyCloudNAS Connect
Install NetBak Replicator
Install QGet
User Manual and Application Notes
Browse CD
Product Support and Registration Website
TS-269L
Network Attached Storage
Back
Exit
www.QNAP.com

Browse the CD-ROM and access the following contents:

- Quick Installation Guide: View the hardware installation instructions of the NAS.
- Install QNAP Qfinder: The setup program of the QNAP Qfinder (for Windows OS.)
- Install myQNAPcloud Connect: The setup program of the myQNAPcloud Connect (for Windows OS.)
- Install NetBak Replicator: The setup program of NetBak Replicator (Windows utility for data backup from Windows OS to the QNAP NAS.)
- Install QGet: The setup program of the QGet download utility (for Windows OS.)
- User Manual and Application Notes: Software user manuals, and hardware manual of the Turbo NAS.

2.4 Connecting to NAS Shared Folders

2.4.1 Connecting to NAS shared folders in Windows

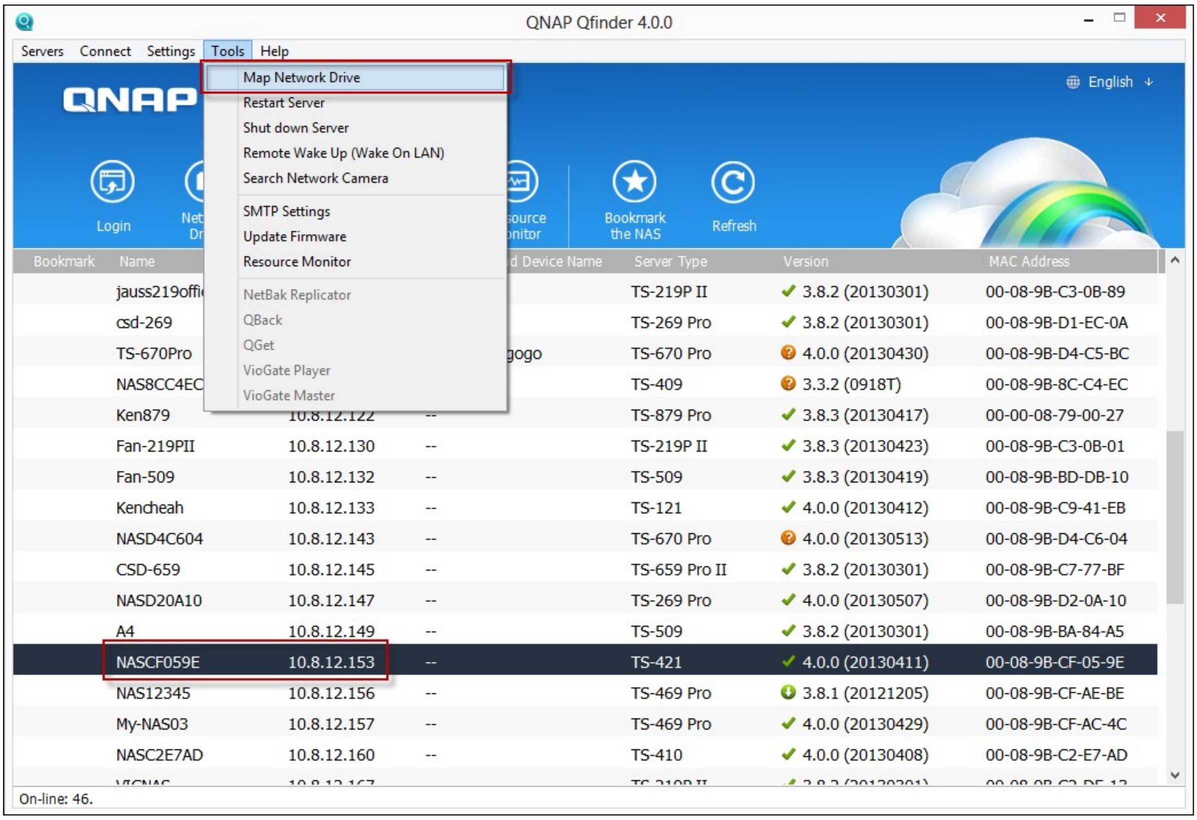
For Windows operating systems, there are two methods to connect to shared folders of the NAS:

A. QNAP Qfinder 49

B. My Network Places or Run 52

A. Connect to the shared folders of the NAS by using the QNAP Qfinder:

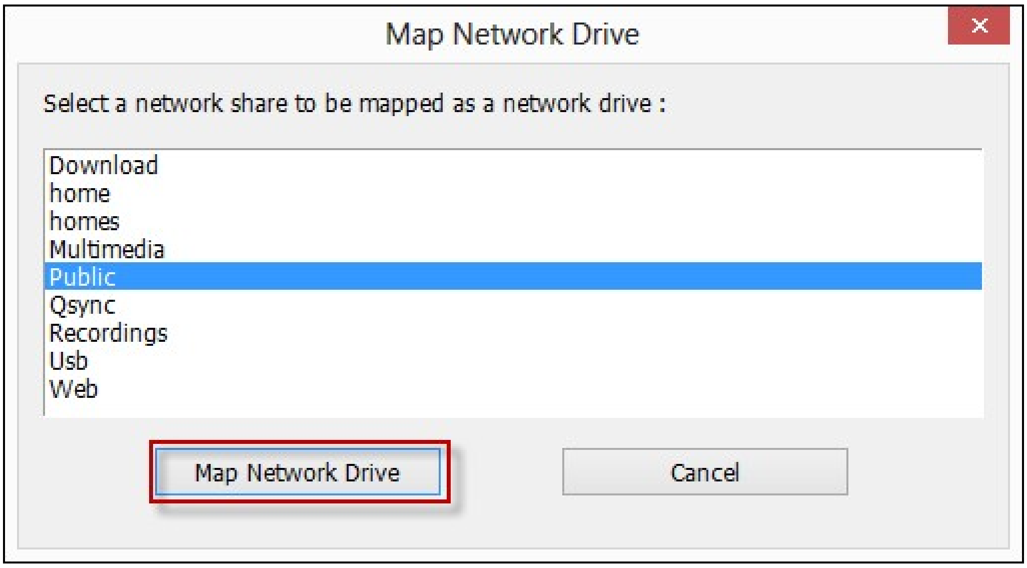
1. Launch the QNAP Qfinder. Select the NAS detected and then click "Map Network Drive".



Bookmark	Name		d Device Name	Server Type	Version	MAC Address
	jauss219offi			TS-219P II	✓ 3.8.2 (20130301)	00-08-9B-C3-0B-89
	csd-269			TS-269 Pro	✓ 3.8.2 (20130301)	00-08-9B-D1-EC-0A
	TS-670Pro		gogo	TS-670 Pro	? 4.0.0 (20130430)	00-08-9B-D4-C5-BC
	NAS8CC4EC			TS-409	? 3.3.2 (0918T)	00-08-9B-8C-C4-EC
	Ken879	10.8.12.122	--	TS-879 Pro	✓ 3.8.3 (20130417)	00-00-08-79-00-27
	Fan-219PII	10.8.12.130	--	TS-219P II	✓ 3.8.3 (20130423)	00-08-9B-C3-0B-01
	Fan-509	10.8.12.132	--	TS-509	✓ 3.8.3 (20130419)	00-08-9B-BD-DB-10
	Kencheah	10.8.12.133	--	TS-121	✓ 4.0.0 (20130412)	00-08-9B-C9-41-EB
	NASD4C604	10.8.12.143	--	TS-670 Pro	? 4.0.0 (20130513)	00-08-9B-D4-C6-04
	CSD-659	10.8.12.145	--	TS-659 Pro II	✓ 3.8.2 (20130301)	00-08-9B-C7-77-BF
	NASD20A10	10.8.12.147	--	TS-269 Pro	✓ 4.0.0 (20130507)	00-08-9B-D2-0A-10
	A4	10.8.12.149	--	TS-509	✓ 3.8.2 (20130301)	00-08-9B-BA-84-A5
	NASCF059E	10.8.12.153	--	TS-421	✓ 4.0.0 (20130411)	00-08-9B-CF-05-9E
	NAS12345	10.8.12.156	--	TS-469 Pro	⬇ 3.8.1 (20121205)	00-08-9B-CF-AE-BE
	My-NAS03	10.8.12.157	--	TS-469 Pro	✓ 4.0.0 (20130429)	00-08-9B-CF-AC-4C
	NASC2E7AD	10.8.12.160	--	TS-410	✓ 4.0.0 (20130408)	00-08-9B-C2-E7-AD

On-line: 46.

2. Select a shared folder on the NAS to be mapped as a network drive and click "Map Network Drive".

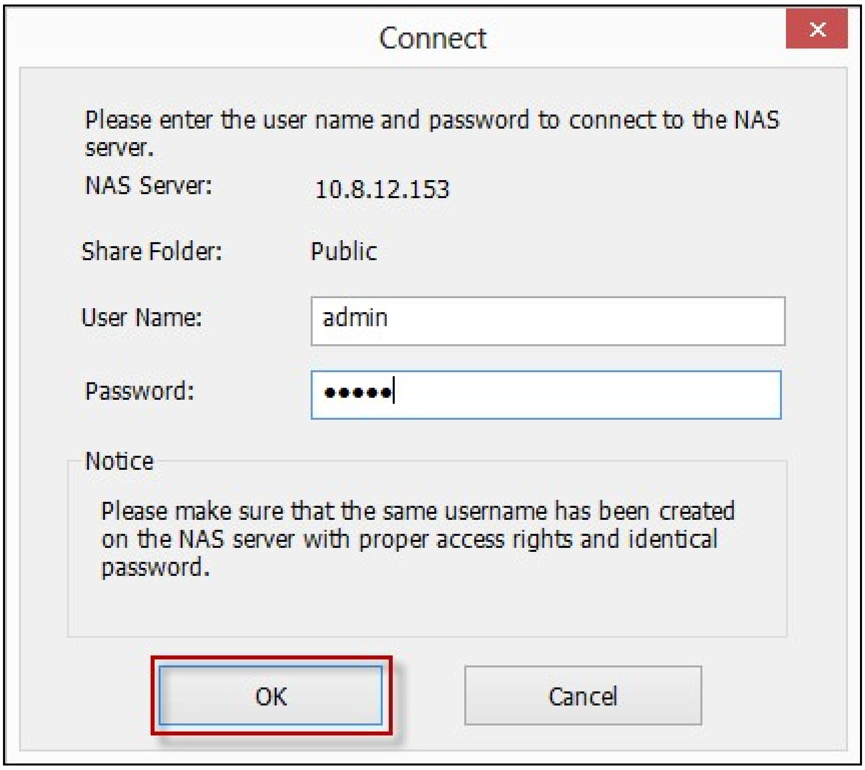


Map Network Drive

Select a network share to be mapped as a network drive :

- Download
- home
- homes
- Multimedia
- Public
- Qsync
- Recordings
- Usb
- Web

3. Enter the username and password to connect to the NAS and click "OK".



Connect

Please enter the user name and password to connect to the NAS server.

NAS Server: 10.8.12.153

Share Folder: Public

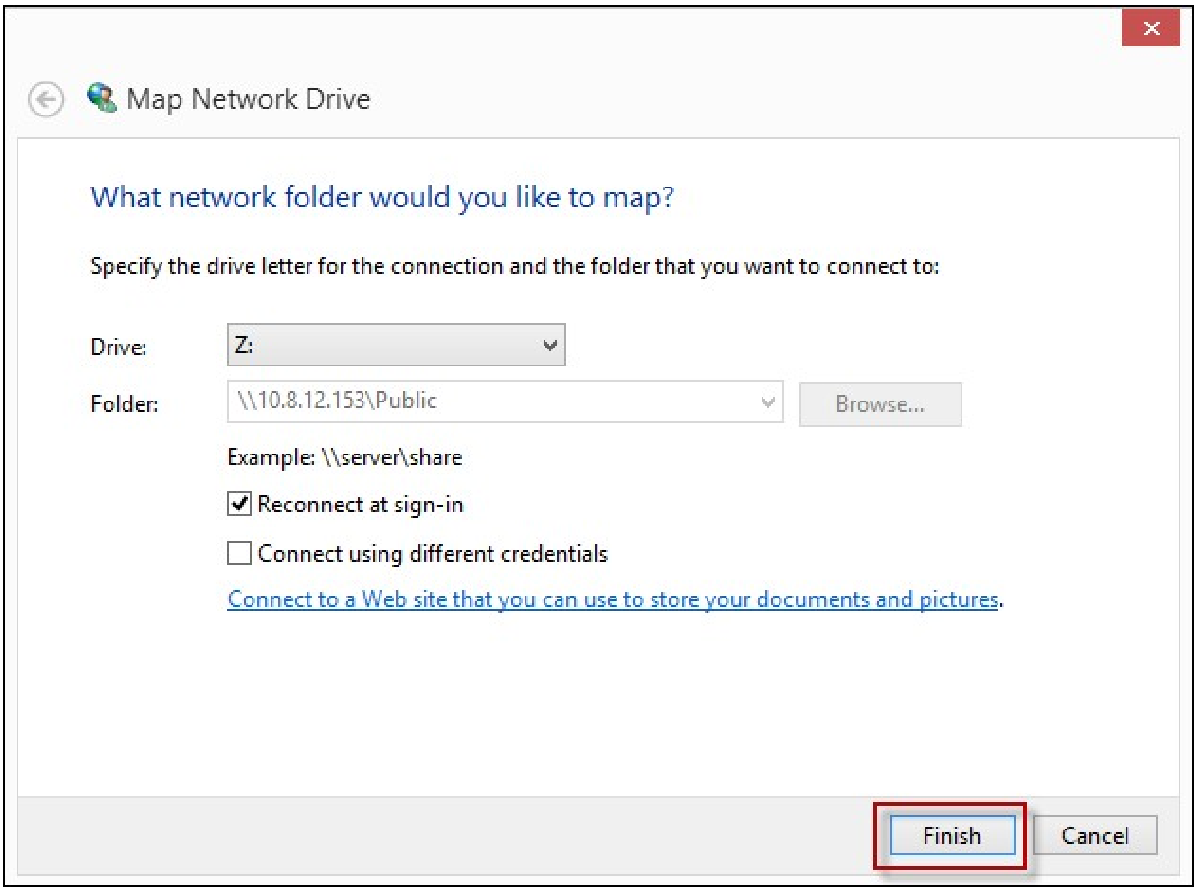
User Name: admin

Password: •••••

Notice

Please make sure that the same username has been created on the NAS server with proper access rights and identical password.

4. Select a drive in the OS to map the folder chosen in Step 2 and click "Finish".


Map Network Drive

What network folder would you like to map?

Specify the drive letter for the connection and the folder that you want to connect to:

Drive: Z:

Folder: \\10.8.12.153\Public

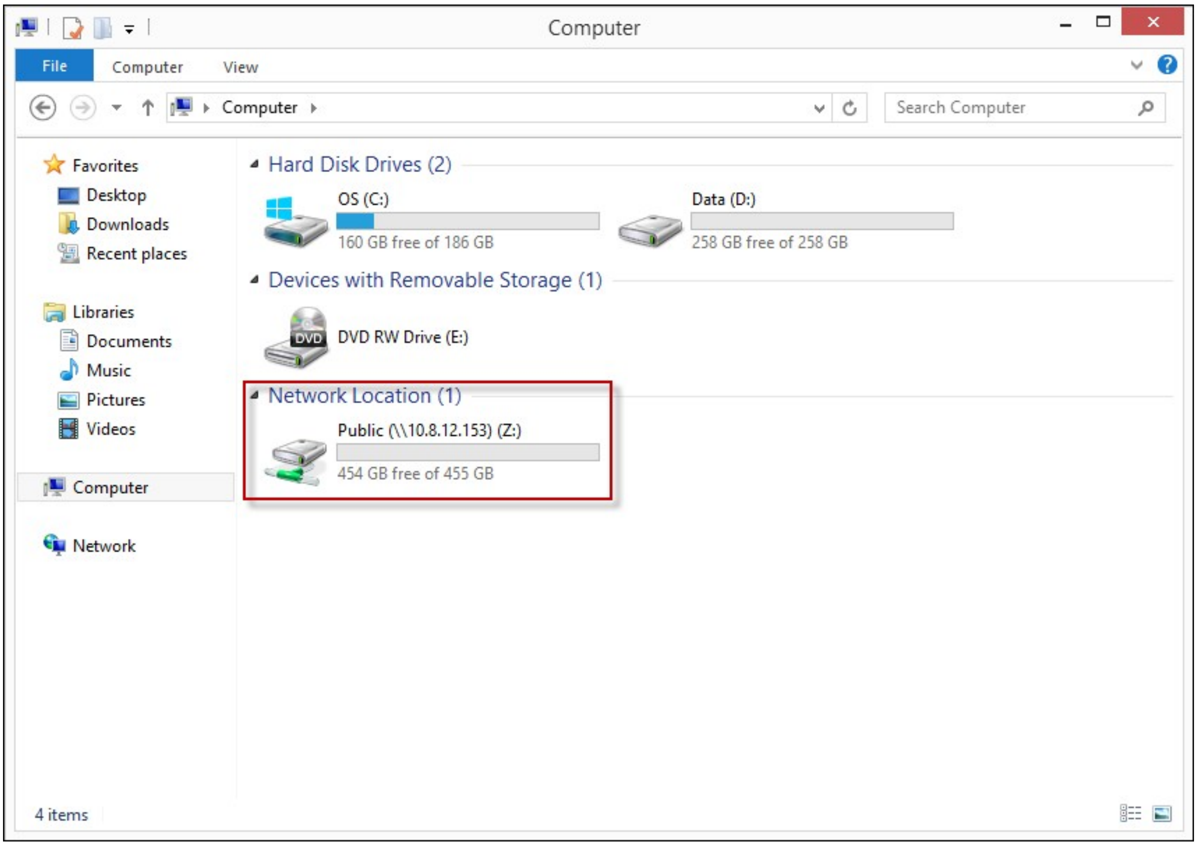
Example: \\server\share

☑ Reconnect at sign-in

□ Connect using different credentials

Connect to a Web site that you can use to store your documents and pictures.

5. The mapped folder will appear when opening the File Explorer.



Hard Disk Drives (2)

OS (C:) 160 GB free of 186 GB

Data (D:) 258 GB free of 258 GB

Devices with Removable Storage (1)

DVD RW Drive (E:)

Network Location (1)

Public (\\10.8.12.153) (Z:) 454 GB free of 455 GB

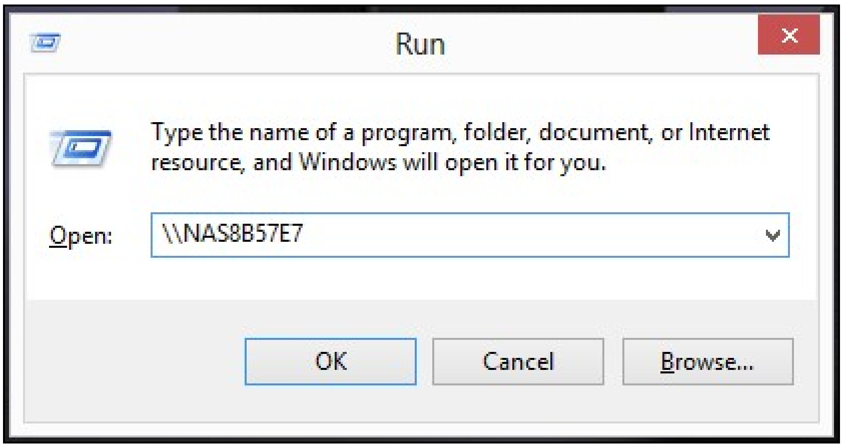
4 items

Note: Alternatively, you can use the Storage Plug & Connect Wizard to connect NAS shared folders. The steps: 1) Launch the QNAP Qfinder; 2) Select Storage Plug & Connect under Connect; 3) Check Login with username and password" and enter username and password; 4) Click a NAS shared folder; and 5) Click "Map the Network Drive" on top of the screen.

B. Connect to the shared folders of the NAS by using My Network Places or Run

1a. Open My Network Places and find the workgroup of the NAS. If the NAS cannot be found, browse the whole network to search for the NAS. Double click the name of the NAS for connection.

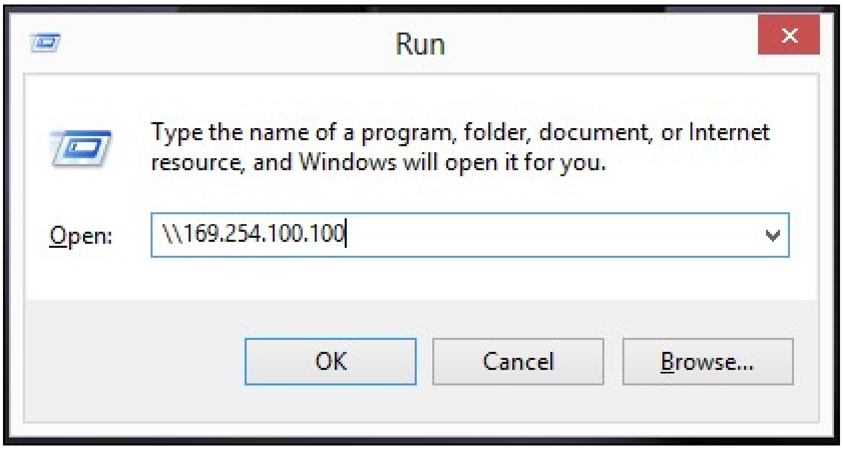
1b. Use the Run function in Windows. Enter \\NAS_name or \\NAS_IP.



Run

Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.

Open: \\NAS8B57E7



Run

Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.

Open: \\169.254.100.100

2. Enter the default administrator name and password.

Default username: admin

Default password: admin

3. You can upload files to the shared folders.

2.4.2 Connecting to NAS shared folders in Mac or Linux

Mac Users

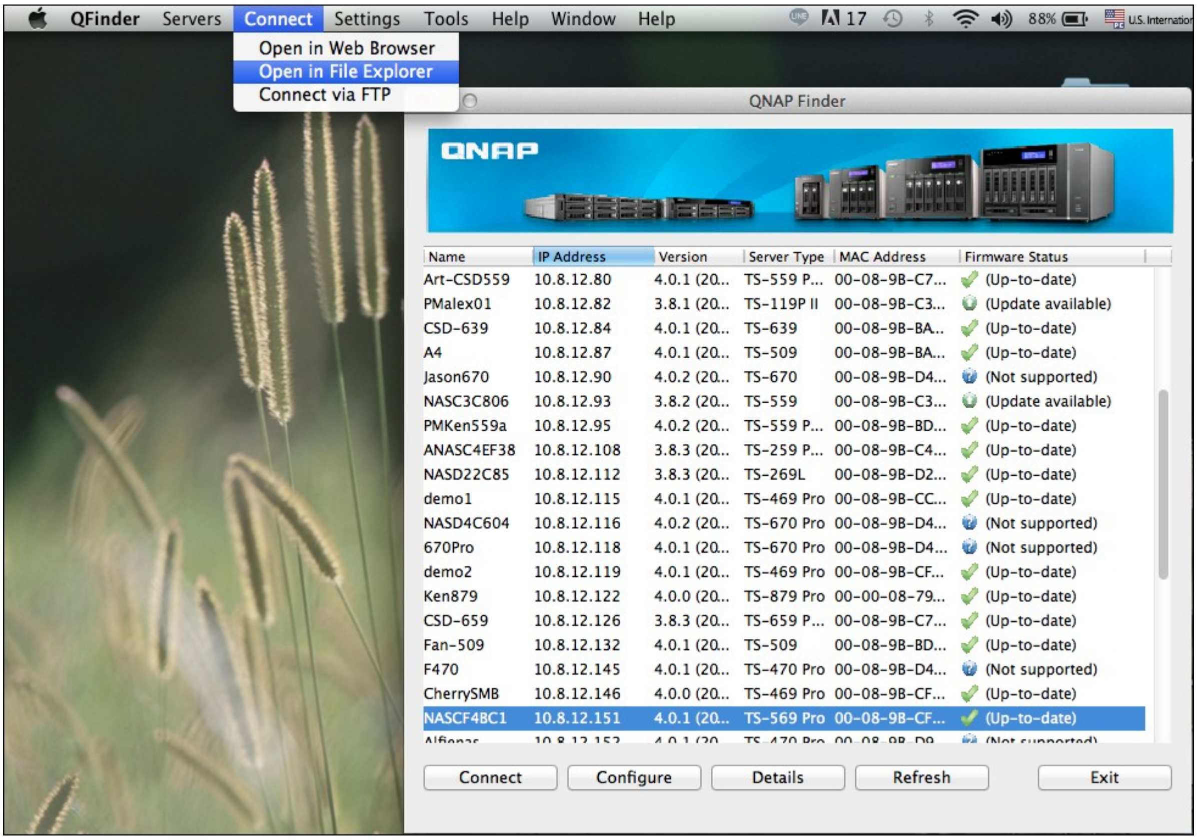
There are two methods to connect shared folders on a NAS:

A. Using QNAP Qfinder 54

B. Connect to Server 56

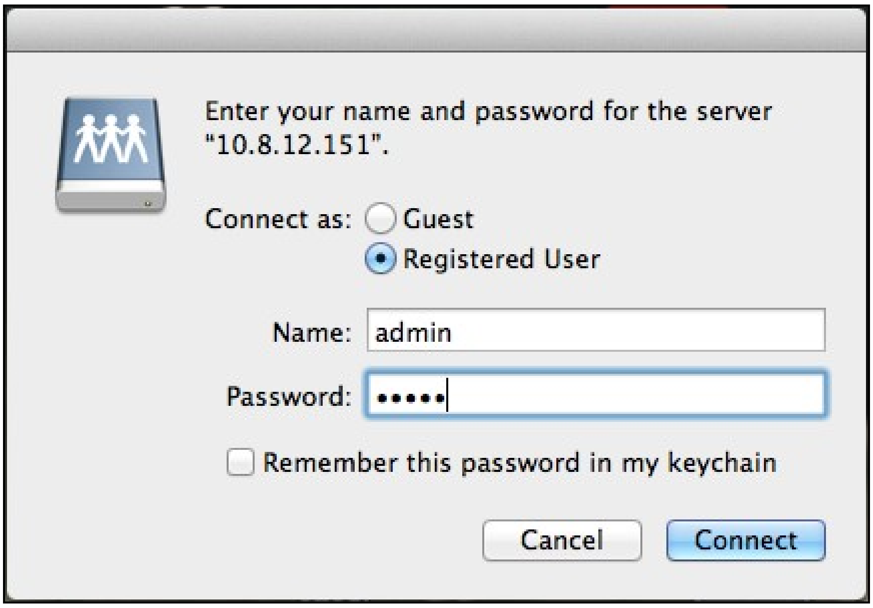
A. Using QNAP Qfinder

1. Launch the QNAP Qfinder, select the NAS you would like to connect to, and go to "Connect" > "Open in File Explorer".



Name	IP Address	Version	Server Type	MAC Address	Firmware Status
Art-CSD559	10.8.12.80	4.0.1 (20...	TS-559 P...	00-08-9B-C7...	✓ (Up-to-date)
PMalex01	10.8.12.82	3.8.1 (20...	TS-119P II	00-08-9B-C3...	(Update available)
CSD-639	10.8.12.84	4.0.1 (20...	TS-639	00-08-9B-BA...	✓ (Up-to-date)
A4	10.8.12.87	4.0.1 (20...	TS-509	00-08-9B-BA...	✓ (Up-to-date)
Jason670	10.8.12.90	4.0.2 (20...	TS-670	00-08-9B-D4...	(Not supported)
NASC3C806	10.8.12.93	3.8.2 (20...	TS-559	00-08-9B-C3...	(Update available)
PMKen559a	10.8.12.95	4.0.2 (20...	TS-559 P...	00-08-9B-BD...	✓ (Up-to-date)
ANASC4EF38	10.8.12.108	3.8.3 (20...	TS-259 P...	00-08-9B-C4...	✓ (Up-to-date)
NASD22C85	10.8.12.112	3.8.3 (20...	TS-269L	00-08-9B-D2...	✓ (Up-to-date)
demo1	10.8.12.115	4.0.1 (20...	TS-469 Pro	00-08-9B-CC...	✓ (Up-to-date)
NASD4C604	10.8.12.116	4.0.2 (20...	TS-670 Pro	00-08-9B-D4...	(Not supported)
670Pro	10.8.12.118	4.0.1 (20...	TS-670 Pro	00-08-9B-D4...	(Not supported)
demo2	10.8.12.119	4.0.1 (20...	TS-469 Pro	00-08-9B-CF...	✓ (Up-to-date)
Ken879	10.8.12.122	4.0.0 (20...	TS-879 Pro	00-00-08-79...	✓ (Up-to-date)
CSD-659	10.8.12.126	3.8.3 (20...	TS-659 P...	00-08-9B-C7...	✓ (Up-to-date)
Fan-509	10.8.12.132	4.0.1 (20...	TS-509	00-08-9B-BD...	✓ (Up-to-date)
F470	10.8.12.145	4.0.1 (20...	TS-470 Pro	00-08-9B-D4...	(Not supported)
CherrySMB	10.8.12.146	4.0.0 (20...	TS-469 Pro	00-08-9B-CF...	✓ (Up-to-date)
NASCF4BC1	10.8.12.151	4.0.1 (20...	TS-569 Pro	00-08-9B-CF...	✓ (Up-to-date)
Alfienas	10.8.12.152	4.0.1 (20...	TS-470 Pro	00-08-9B-D9...	(Not supported)

2. Enter your login ID and password.



Enter your name and password for the server "10.8.12.151".

Connect as: ○ Guest

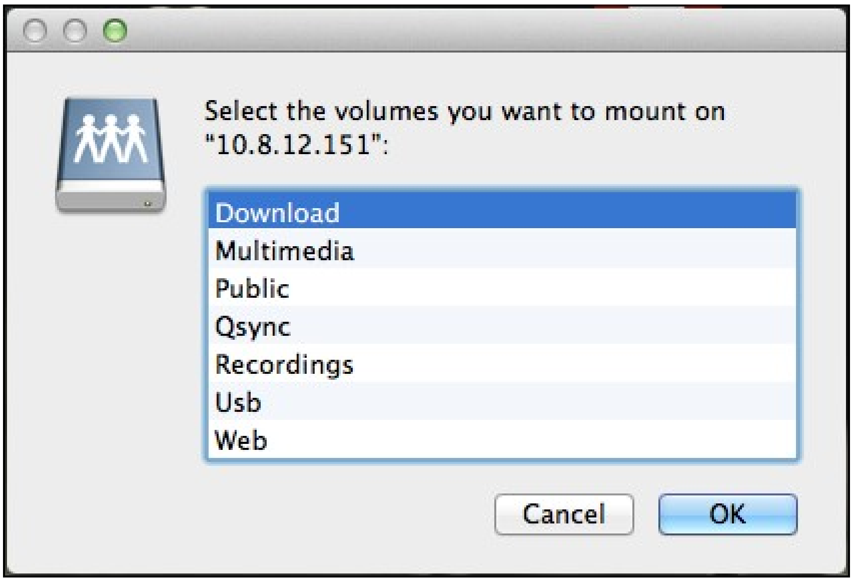
● Registered User

Name: admin

Password: •••••

□ Remember this password in my keychain

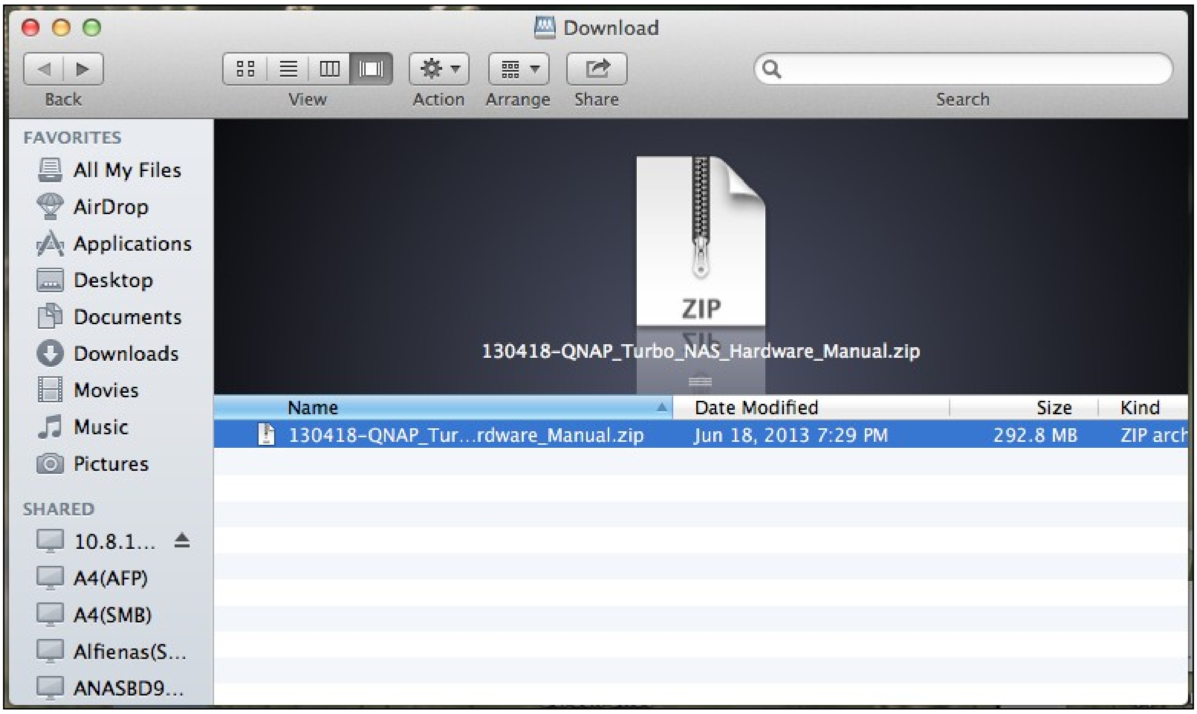
3. Select the folder you want to mount and click "OK".



Select the volumes you want to mount on "10.8.12.151":

- Download
- Multimedia
- Public
- Qsync
- Recordings
- Usb
- Web

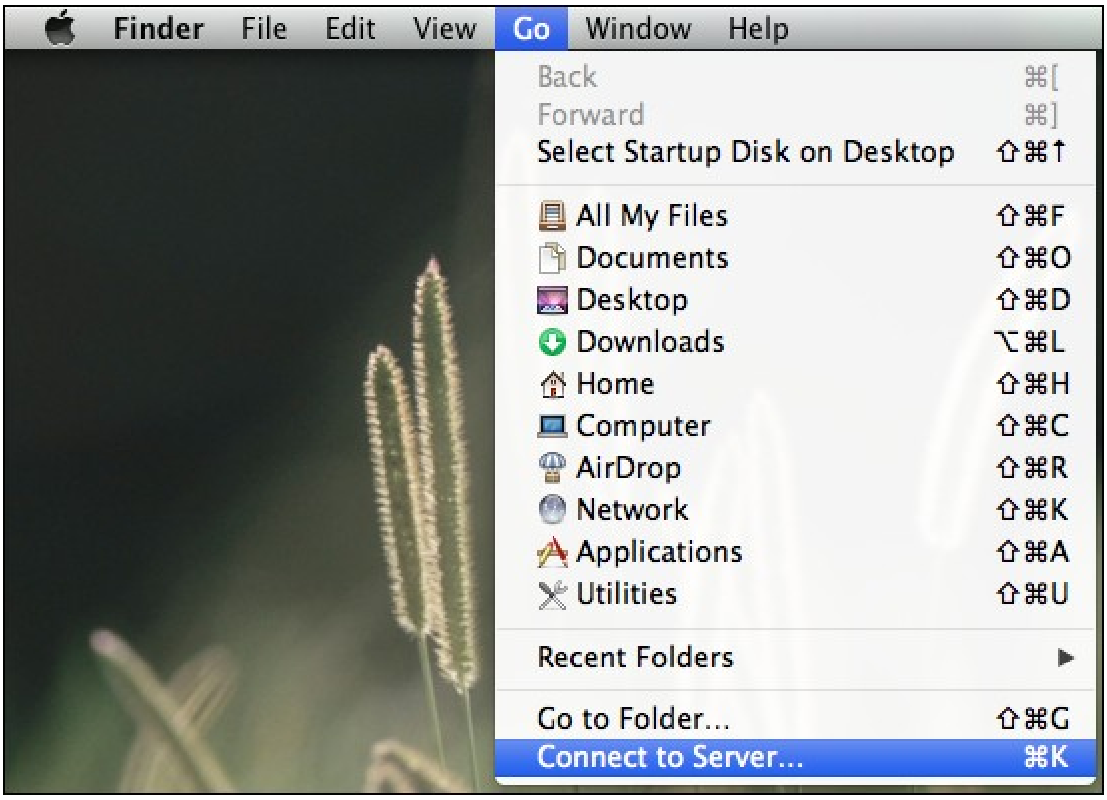
4. The folder is mounted.



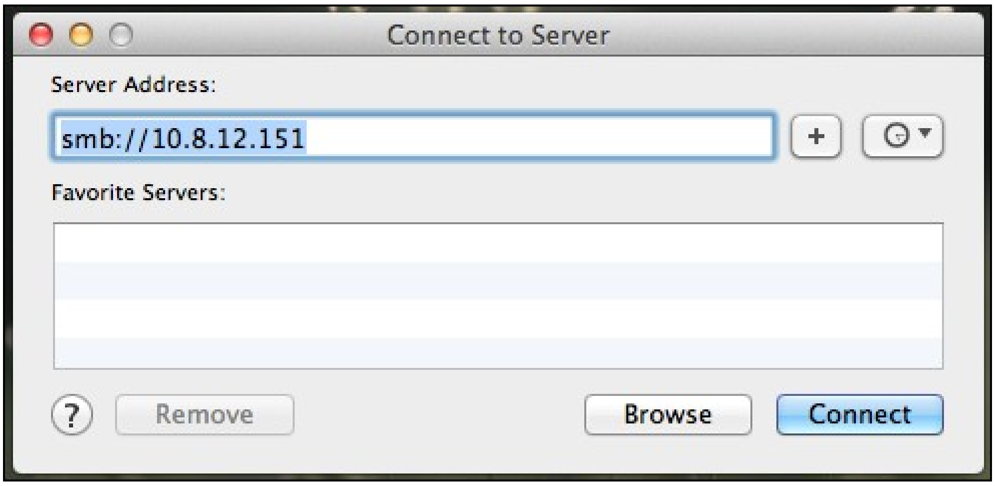
Name	Date Modified	Size	Kind
130418-QNAP_Tur...rdware_Manual.zip	Jun 18, 2013 7:29 PM	292.8 MB	ZIP arch

B. Connect to Server

1. Choose “Go” > “Connect to Server”.



2. Enter the NAS IP address.

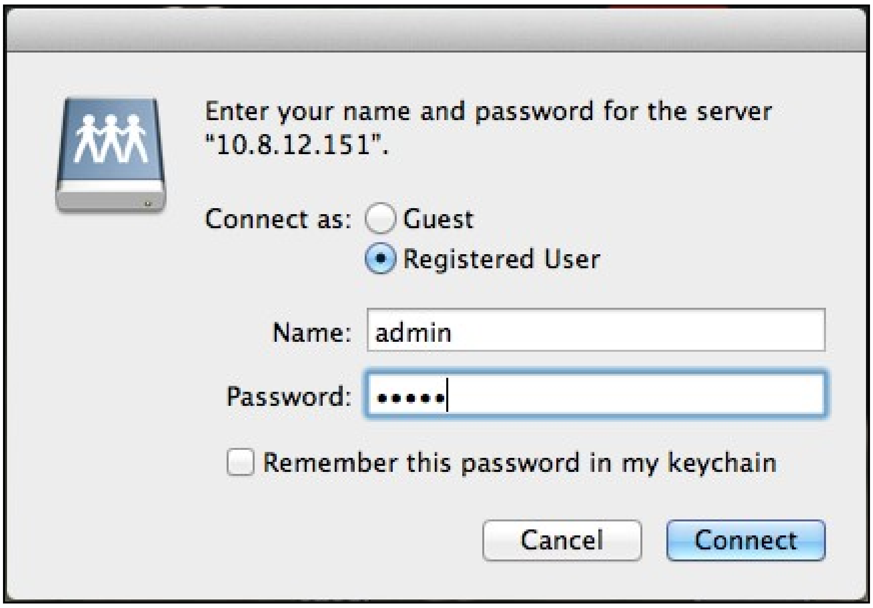


Connect to Server

Server Address: smb://10.8.12.151

Favorite Servers:

3. Enter your login ID and password.



Enter your name and password for the server "10.8.12.151".

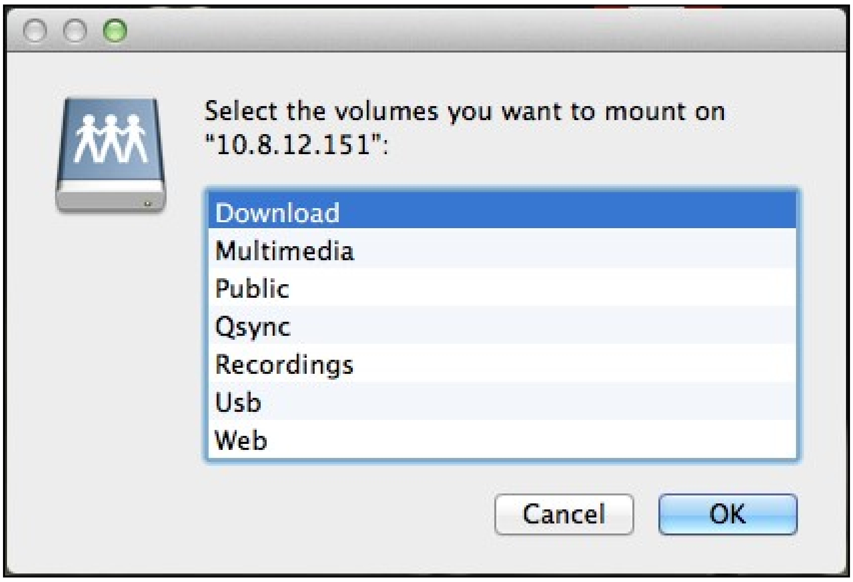
Connect as: ○ Guest
● Registered User

Name: admin

Password: •••••

□ Remember this password in my keychain

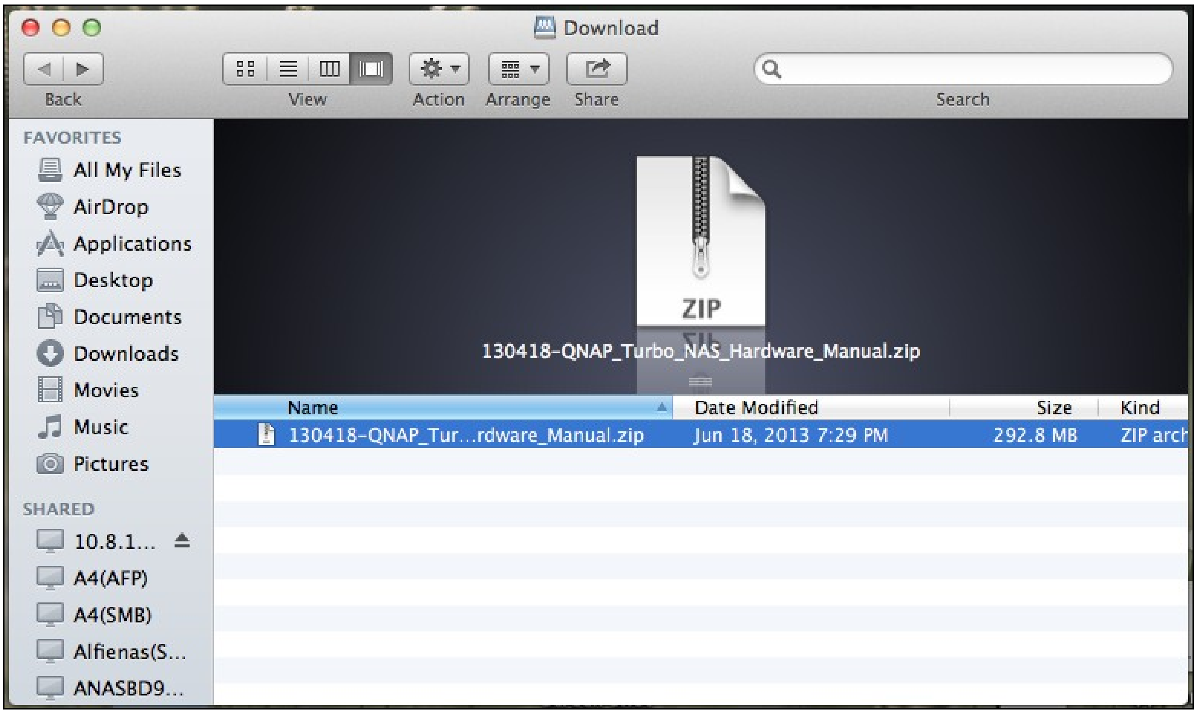
4. Select the folder you want to mount and click "OK".



Select the volumes you want to mount on "10.8.12.151":

Download
Multimedia
Public
Qsync
Recordings
Usb
Web

5. The folder is mounted.



Name	Date Modified	Size	Kind
130418-QNAP_Tur...rdware_Manual.zip	Jun 18, 2013 7:29 PM	292.8 MB	ZIP arch

Linux Users

On Linux, run the following command:

mount -t nfs <NAS IP>:/<Shared Folder Name> <Directory to Mount>

For example, if the IP address of the NAS is 192.168.0.1, to connect to the shared folder "public" under the /mnt/pub directory, use the following command:

mount -t nfs 192.168.0.1:/public /mnt/pub

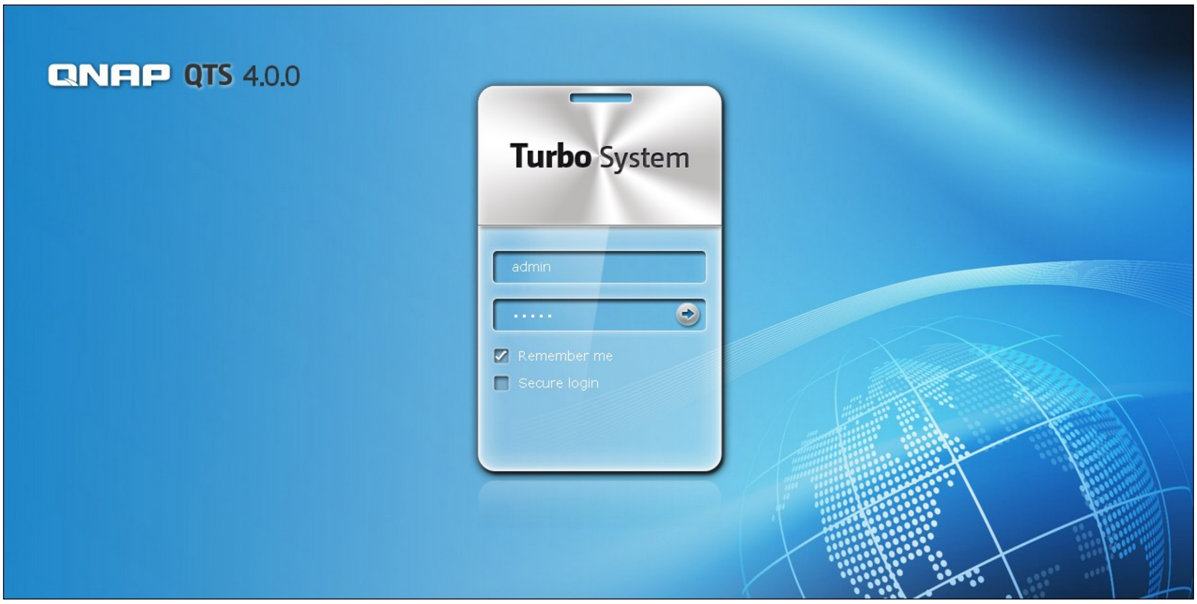
Note: You must login as the "root" user to initiate the above command.

Login the NAS with the specified user ID, use the mounted directory to connect to the shared folders.

2.5 Connecting to NAS by Web Browser

To connect to the NAS by a web browser, follow the steps below:

1. Enter http://NAS IP:8080 or use the QNAP Qfinder to find the NAS. Double click the NAS name, and the NAS login page will open.



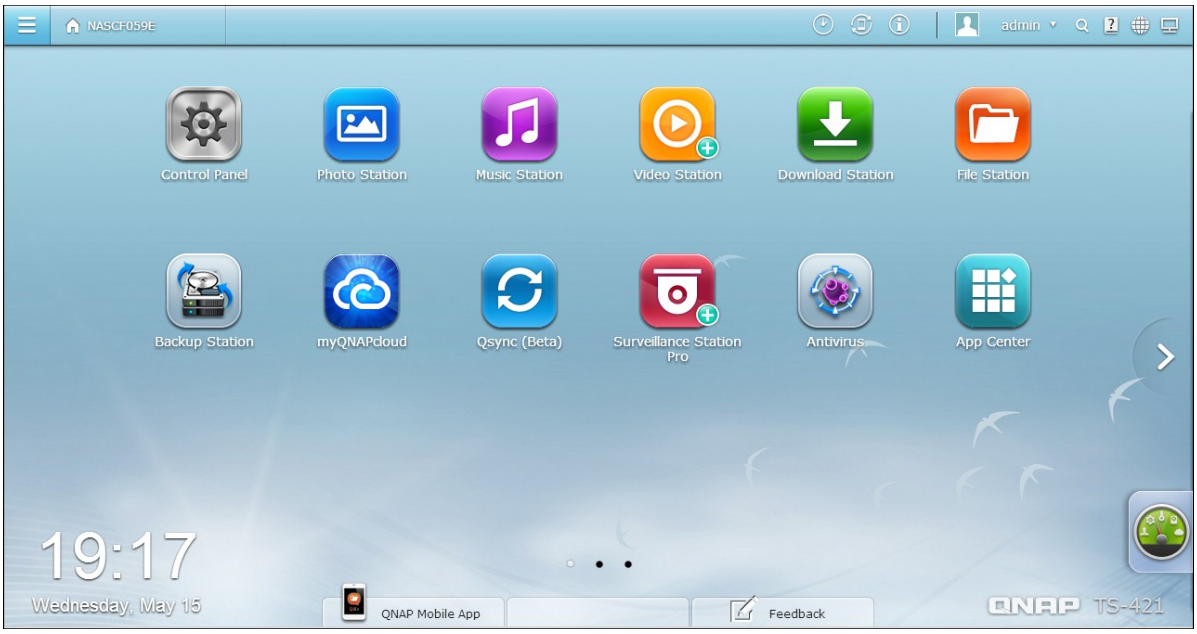
Note: The default NAS IP is 169.254.100.100:8080. If the NAS has been configured to use DHCP, you can use the QNAP Qfinder to check the IP address of the NAS. Make sure the NAS and the computer that runs the QNAP Qfinder are connected to the same subnet. If the NAS cannot be found, connect the NAS to the computer directly and run the QNAP Qfinder again.

2. Enter the administrator name and password. Turn on the option "Secure login" (Secure Sockets Layer login) to allow secure connection to the NAS. If a user without administration right login the NAS, the user can only change the login password.

Default username: admin
Default password: admin

Note: If the NAS is behind an NAT gateway, to connect to the NAS by secure login on the Internet, the port 443 must be opened on the NAT router and forwarded to the LAN IP of the NAS.

3. The NAS Desktop will show up.



2.6 Migrating from Old NAS

Users can migrate their QNAP NAS to another Turbo NAS model with all the data and configuration retained by simply installing the hard drives of the original (source) NAS on the new (destination) NAS according to its original hard drive order and restart the NAS.

Due to different hardware design, the NAS will automatically check if a firmware update is required before system migration. After the migration has finished, all the settings and data will be kept and applied to the new NAS. However, the system settings of the source NAS cannot be imported to the destination NAS via "System Administration" > "Backup/Restore Settings". Configure the NAS again if the settings were lost.

The NAS models which support system migration are listed below.

Source NAS	**Destination NAS**	**Remark**
TS-x10, TS-x12, TS-x19, TS-x20, TS-x21, TS-x39, TS-509, TS-809, SS-x39, SS-469, TS-x59, TS-x69, TS-x70, TS-x79	TS-x10, TS-x12, TS-x19, TS-x20, TS-x21, TS-x39, TS-509, TS-809, SS-x39	Firmware update required.
TS-x10, TS-x12, TS-x19, TS-x20, TS-x21, TS-x39, TS-509, TS-809, SS-x39, TS-x59, TS-x69, TS-x70, TS-x79	TS-x59, TS-x69, TS-x70, TS-x79, SS-469 Pro	Firmware update not required.

Note:

- The destination NAS should contain enough drive bays to house the hard drives of the source NAS.
- SS-x39 and SS-469 Pro series support only 2.5-inch hard disk drives.
- A NAS with ed disk volume cannot be migrated to a NAS which does not support file system encryption. File system encryption is not supported by TS-110, TS-119, TS-210, TS-219, TS-219P, TS-x20, TS-x21, TS-410, TS-419P, TS-410U, TS-419U, TS-119P+, TS-219P+, TS-419P+, TS-112, TS-212, TS-412, TS-419U+, TS-412U, TS-420U and TS-421U.

- The Multimedia Station, Download Station, iTunes Server, and DLNA Media Server features will be removed after migrating the non-TS-x79 models to the TS-x70U/ TS-x79 models. The shared folders Multimedia/Qmultimedia, Download/Qdownload and all the downloaded files will be kept.
- The registered myQNAPcloud name on the source NAS will not be moved to the destination NAS after system migration. To use the same myQNAPcloud name on the destination NAS, change the myQNAPcloud name on the source NAS before system migration and register the same name on the destination NAS after the process. Please contact the QNAP technical support department if you need to keep myQNAPcloud name after system migration.

Destination NAS	**Disk volume supported for system migration**
1-bay NAS	1-drive single disk volume
2-bay NAS	1 to 2-drive single disk volume, JBOD, RAID 0, 2-drive RAID 1.
4-bay NAS	1 to 4-drive single disk volume, JBOD, RAID 0, 2-drive RAID 1, 3 to 4-drive RAID 5, 4-drive RAID 6, 4-drive RAID 10.
5-bay NAS	1 to 5-drive single disk volume, JBOD, RAID 0, 2-drive RAID 1, 3 to 5-drive RAID 5, 4 to 5-drive RAID 6, 4-drive RAID 10.
6-bay NAS	1 to 6-drive single disk volume, JBOD, RAID 0, 2-drive RAID 1, 3 to 6-drive RAID 5, 4 to 6-drive RAID 6, 4-drive or 6-drive RAID 10.
8-bay NAS	1 to 8-drive single disk volume, JBOD, RAID 0, 2-drive RAID 1, 3 to 8-drive RAID 5, 4 to 8-drive RAID 6, 4-drive, 6-drive, or 8-drive RAID 10.

Follow the steps below to perform system migration.

1. Turn off the source NAS and unplug the hard drives.
2. Remove the hard drives from the old trays and install them to the hard drive trays of the new NAS.
3. Plug the hard drives to the destination NAS (new model). Make sure the hard drives are installed in the original order.
4. Follow the instructions of the Quick Installation Guide (QIG) to connect the power supply and network cable(s) of the new NAS.
5. Turn on the new NAS. Login the web administration interface as an administrator (default login: admin; password: admin).
6. If you are informed to update the firmware of the new NAS, follow the instructions to download and install the firmware.
7. Click "Start Migrating". The NAS will restart after system migration. All the data and settings will be retained.

> ! **Caution:** To avoid system damage or serious injuries, the system migration procedure should be performed by an authorized server manager or IT administrator.

Some system settings will be removed after system migration due to a different system design. Configure the following settings again on the new NAS:

- Windows AD
- Some apps need to be resintalled.

3. QTS Basics and Desktop

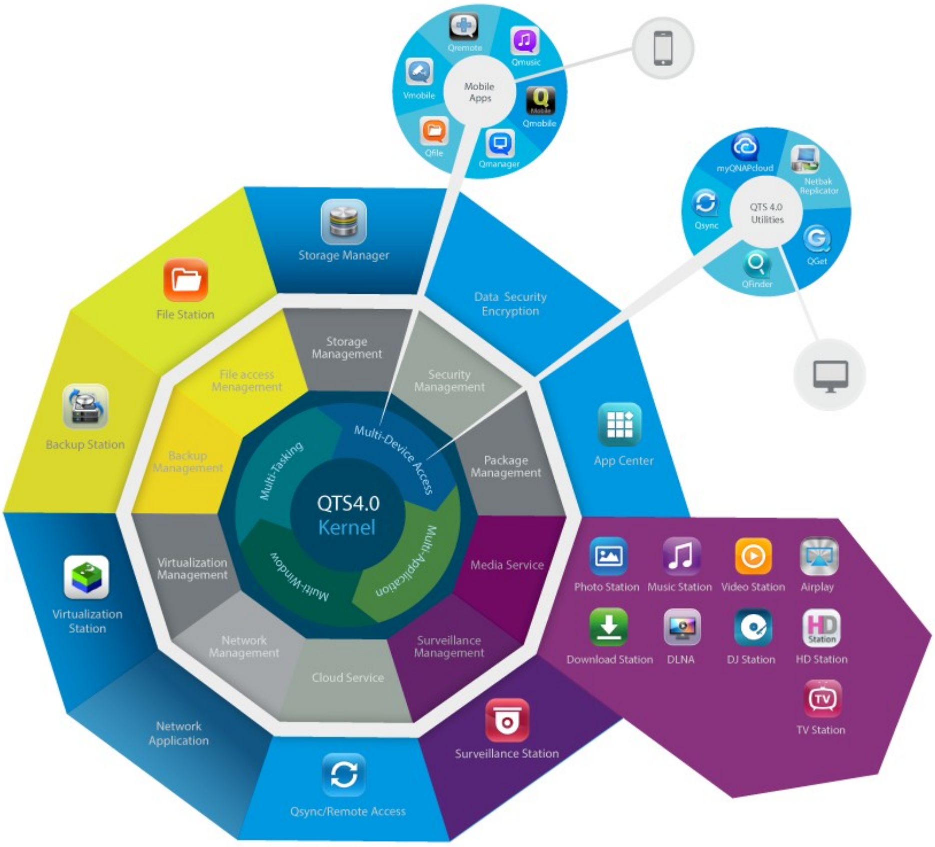
3.1 Introducing QTS

Built on a Linux foundation, QTS 4.0 Turbo NAS operating system is shaped from the optimized kernel to deliver high-performance services satisfying your needs in file storage, management, backup, multimedia applications, and surveillance, and more.

The intuitive, multi-window and multi-tasking QTS 4.0 GUI make it incredibly easy to manage your Turbo NAS, utilize its rich home applications, enjoy multimedia collections with more fun, and install a rich set of applications in the App Center on demand to expand your Turbo NAS experience.

Moreover, QTS 4.0 adds value to business applications with its abundant features, including file sharing, iSCSI and virtualization, backup, privilege settings, and so on, effectively increasing business efficiency.

Coupled with various utilities and smart mobile apps, QTS 4.0 is the ultimate platform for building a personal or private cloud, synchronizing data and sharing files.



*Click the figure above to check for more details.

Turbo NAS for Home - Easily enrich home entertainment and content sharing

Tons of photos, music, videos and documents are often scattered across multiple computers in modern homes. QNAP Turbo NAS lineup of home network storage servers feature plenty of handy applications to let you smartly connect and manage these assets and enjoy a truly digital life in a well-secured home network. No boundaries for multimedia sharing at home, and no boundaries for sharing content with family, and friends. Learn more about the exciting features that QNAP Turbo NAS offers to you:

- Intuitive GUI with Multi-Windows, Multi-Tasking , Multi-Application, Multi-Device access support
- Cross platform data storage, backup and sharing center
- Revolutionary music, photo and home video center
- Personal cloud storage
- Free and large capacity for Dropbox-style data sync
- Over 90 Install-on-demand applications via the App Center
- Energy-efficient & eco-friendly

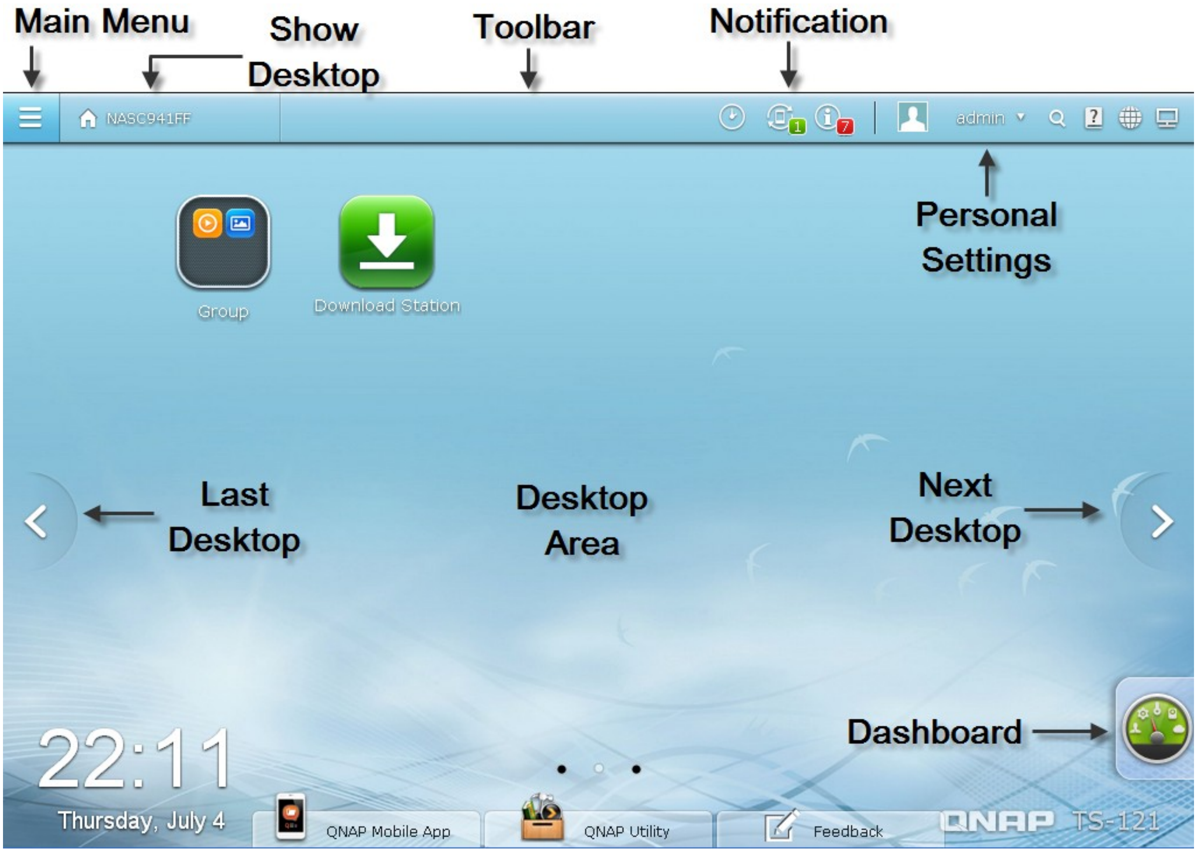
Turbo NAS for Business - Optimize business IT infrastructure with ease and efficiency

IT efficiency, coupled with low total cost of ownership (TCO) is an essential factor for business competitiveness. QNAP Turbo NAS features high performance, business critical applications, and affordability; helping businesses achieve seamless file sharing, easy integration into existing networks, flexible virtualized IT environments, and many other advanced capabilities for keeping businesses running at maximum efficiency. Learn more about the compelling features that QNAP Turbo NAS offers to businesses:

- Large data storage, backup and file sharing center
- Supports both scale-up and scale-out solution for large storage capacity demand
- Advanced storage management with dynamic thin-provisioning, SSD caching and JBOD expansion functions
- Trustworthy data security and data encryption
- The reliable IP SAN storage (iSCSI) as primary and secondary storage for virtualization environment
- Private cloud storage
- Free and large capacity for Dropbox-style data sync
- Over 90 Install-on-demand applications via the App Center
- Development Center for 3rd party partners to build apps on the Turbo NAS

3.2 Using QTS Desktop

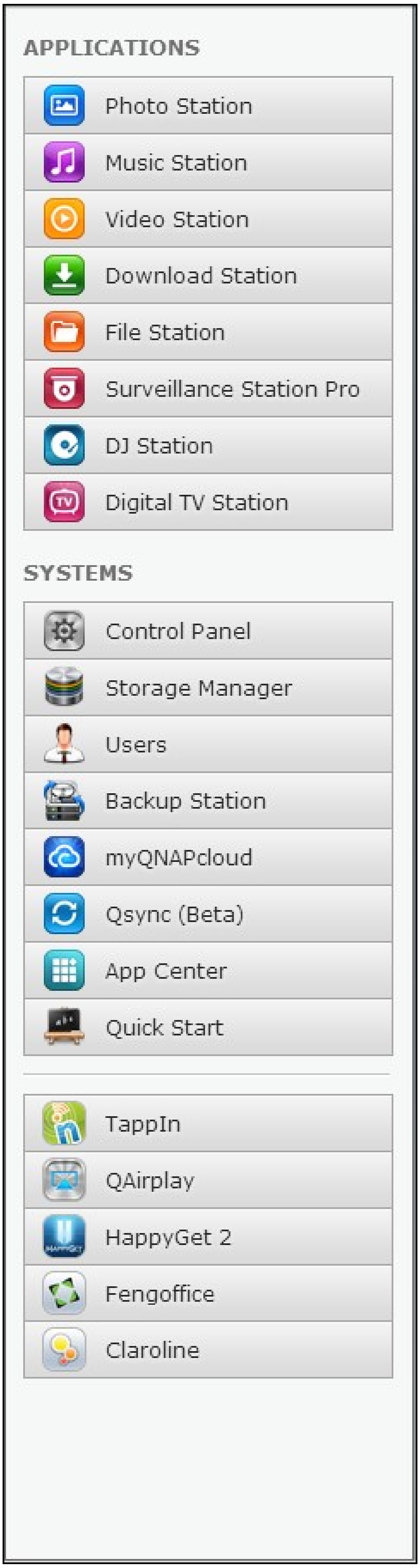
After you finish the basic NAS setup and login to the NAS, the following desktop will appear. Each main desktop feature is introduced in the following sections.



Toolbar

Main Menu

Click ☰ to show the Main Menu. It includes three parts: 1) QNAP applications; 2) system features and settings; and 3) third party applications. Items under " APPLICATIONS" are developed by QNAP to enhance your NAS experience. Items under " SYSTEMS" are key system features designed to manage or optimize your NAS. Items at the bottom section of the menu are applications designed and submitted by independent developers and approved by QNAP. Those applications can add functionalities to the NAS (for their introduction, please refer to their description at the App Center.) Please note that the default Internet browser, instead of a window on the NAS Desktop, will be launched once you click a third party application. Click the icon from the menu to launch the selected application.



APPLICATIONS

- Photo Station
- Music Station
- Video Station
- Download Station
- File Station
- Surveillance Station Pro
- DJ Station
- Digital TV Station

SYSTEMS

- Control Panel
- Storage Manager
- Users
- Backup Station
- myQNAPcloud
- Qsync (Beta)
- App Center
- Quick Start

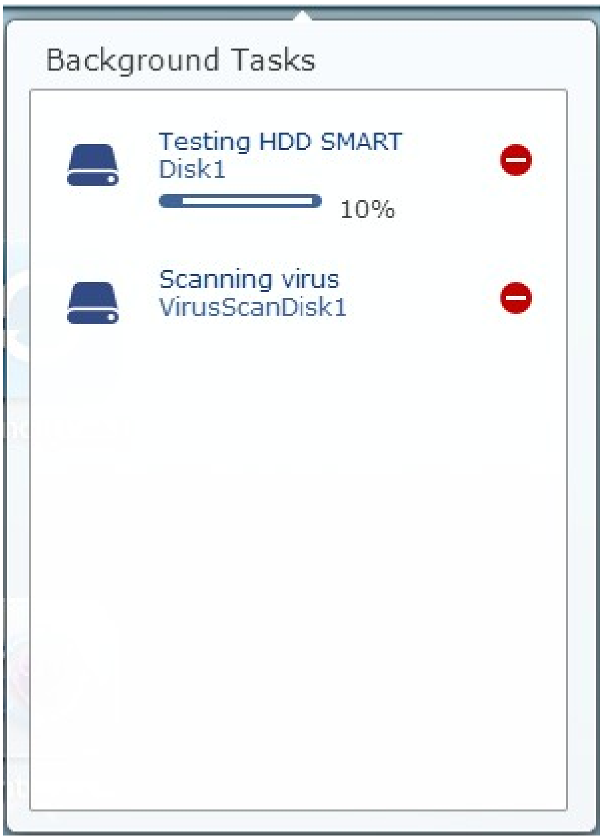
- TappIn
- QAirplay
- HappyGet 2
- Fengoffice
- Claroline

Show Desktop

Click QNAPMarketing to minimize or restore all open windows and show the desktop.

Background Task

Click to review and control all tasks running in the background (such as HDD SMART scanning, antivirus scanning, file backup or multimedia conversion.)



Background Tasks

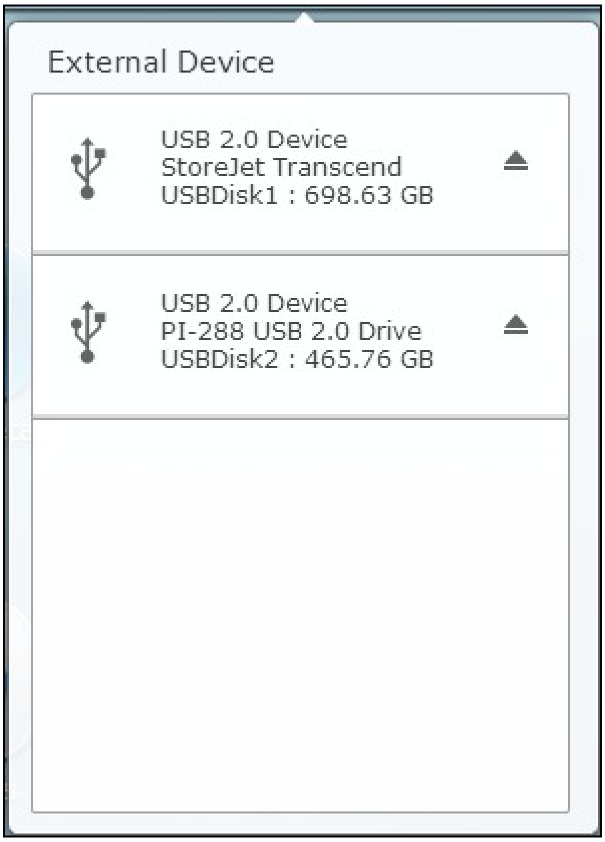
Testing HDD SMART
Disk1
10%

Scanning virus
VirusScanDisk1

External Device

Click to list all external devices that are connected to the NAS via its USB or SATA ports. Click the device listed to open the File Station for that device. Click the "External Device" header to open the External Device page for relevant settings and operations

(for details on the File Station, please refer to the chapter on File Station599.) Click ⏏ to eject the external device.



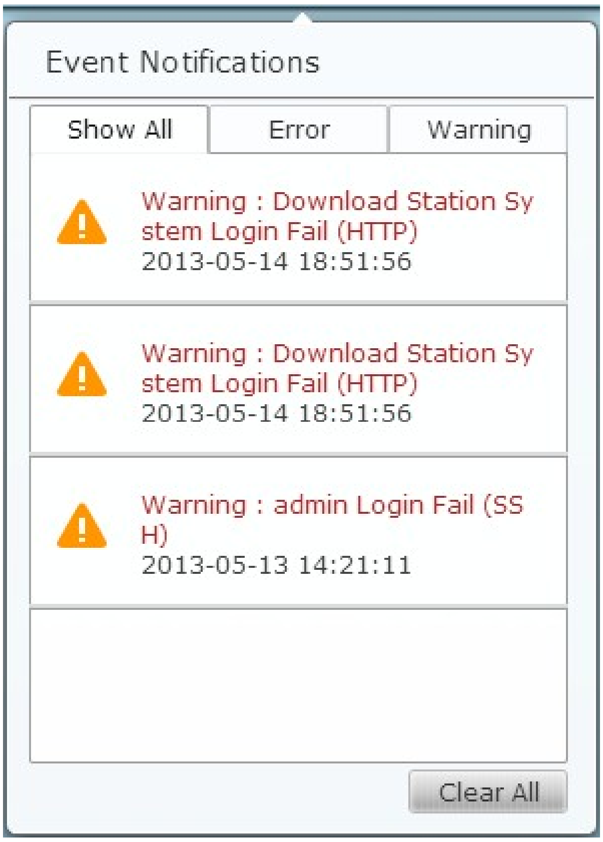
External Device

USB 2.0 Device
StoreJet Transcend
USBDisk1 : 698.63 GB

USB 2.0 Device
PI-288 USB 2.0 Drive
USBDisk2 : 465.76 GB

Notification and Alert

Click ⓘ to check for recent system error and warning notifications. Click "Clear All" to clear all entries from the list. To review all historical event notifications, click the "Event Notifications" header to open the System Logs. For details on System Logs, please refer to the chapter on System Logs[302].



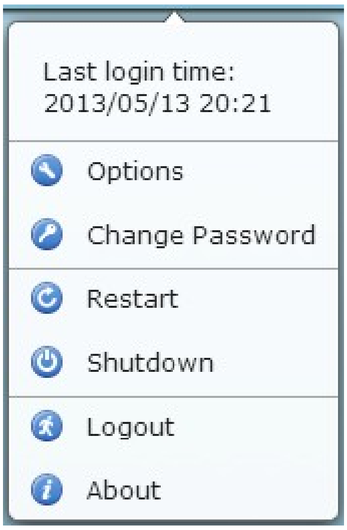
Warning : Download Station System Login Fail (HTTP)
2013-05-14 18:51:56

Warning : Download Station System Login Fail (HTTP)
2013-05-14 18:51:56

Warning : admin Login Fail (SSH)
2013-05-13 14:21:11

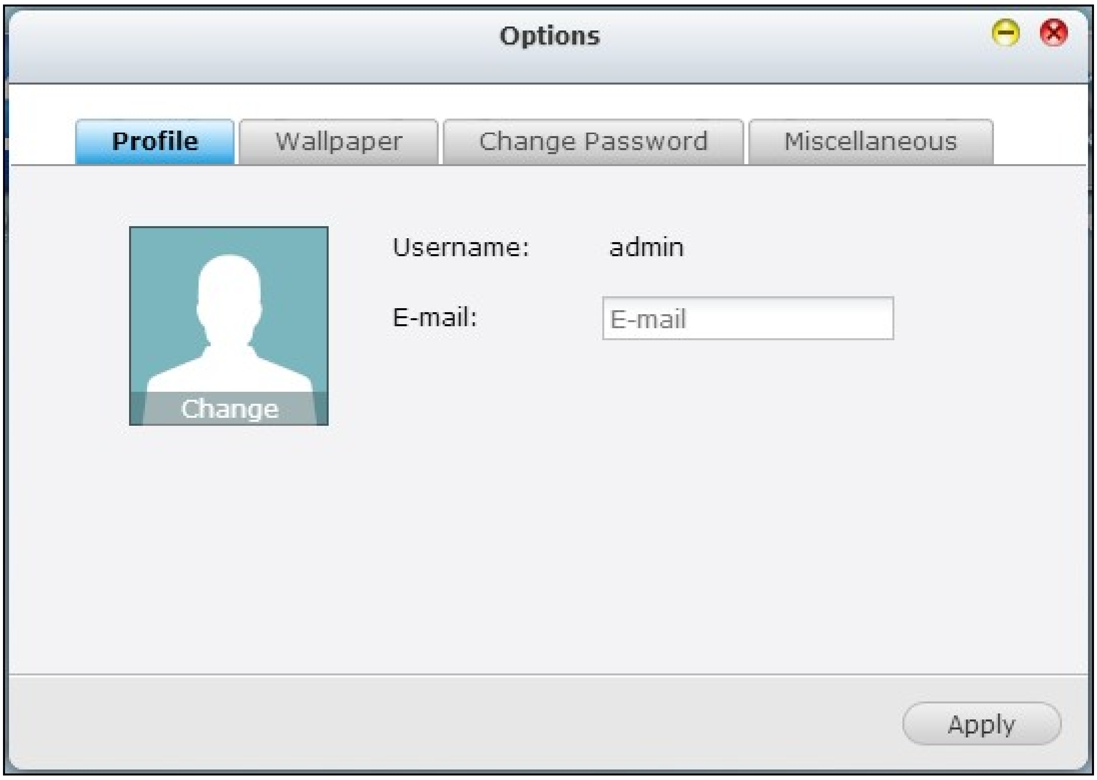
Personal Setting

Admin Control: Click admin to customize your user specific settings, change your user password, restart/shut down the NAS or log out your user account.


Last login time:
2013/05/13 20:21

1) Options:

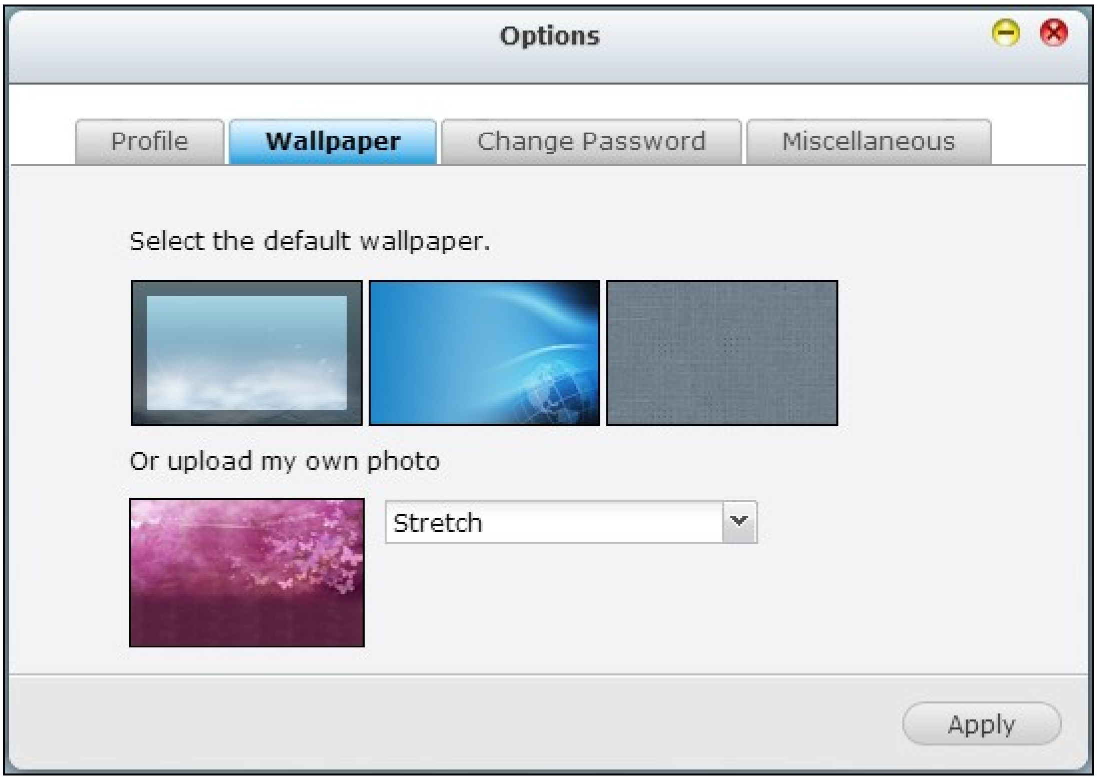
i. Profile: Specify your user email address and change your profile picture.



Username: admin

E-mail: E-mail

ii. Wallpaper: Change the default wallpaper or upload your own wallpaper.

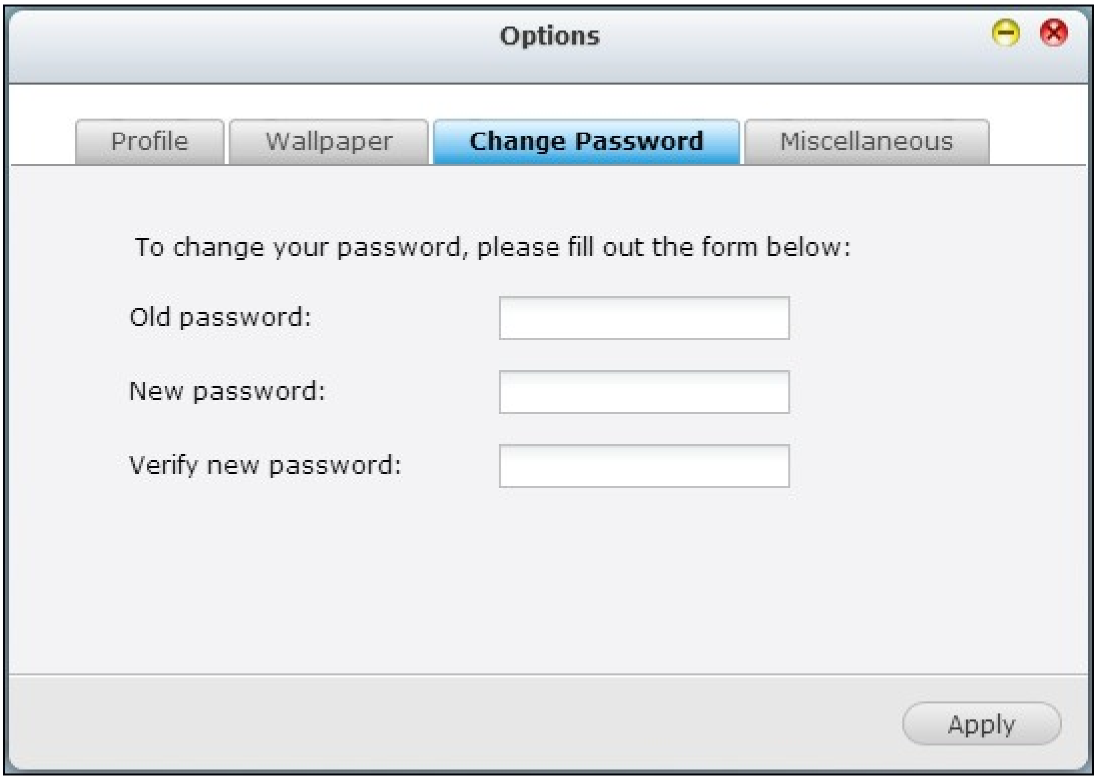


Select the default wallpaper.

Or upload my own photo

Stretch

iii. Change Password: Change your login password.



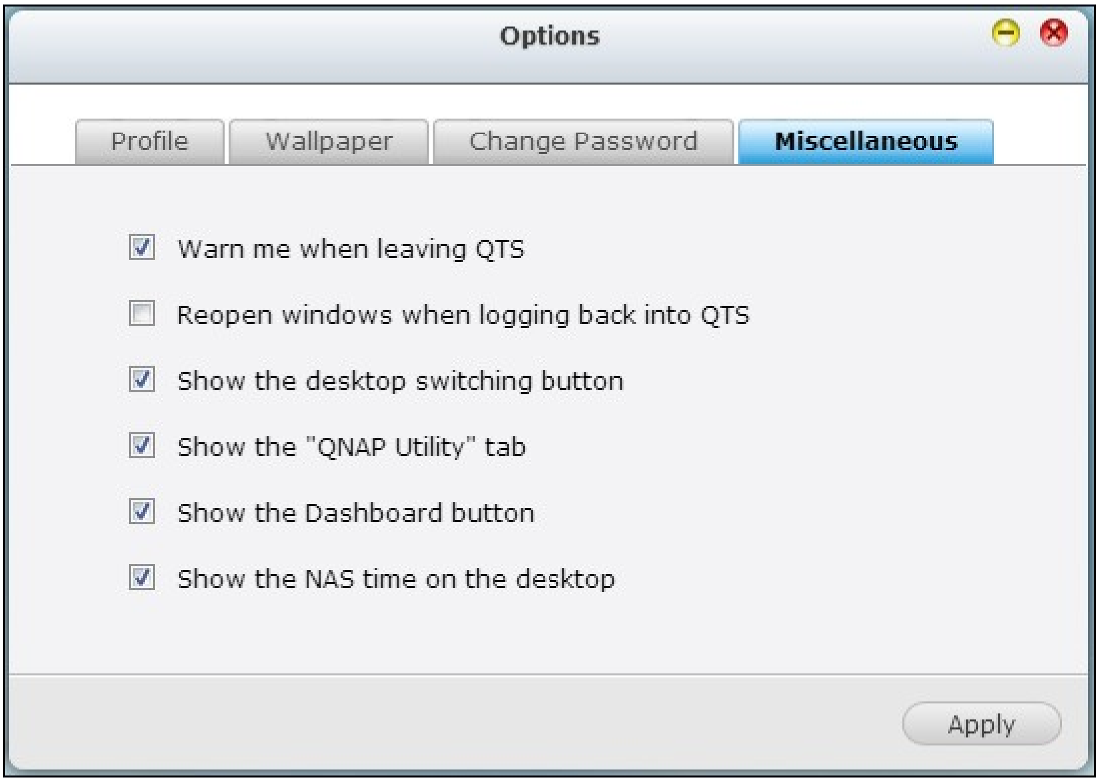
To change your password, please fill out the form below:

Old password:

New password:

Verify new password:

iv. Miscellaneous:



☑ Warn me when leaving QTS

☐ Reopen windows when logging back into QTS

☑ Show the desktop switching button

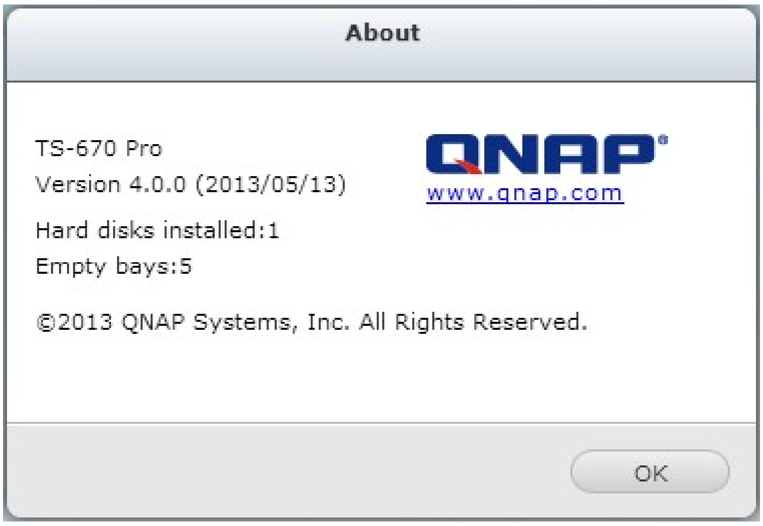
☑ Show the "QNAP Utility" tab

☑ Show the Dashboard button

☑ Show the NAS time on the desktop

- Warn me when leaving QTS: Check this option, and users will be prompted for confirmation each time they leave the QTS Desktop (such as clicking the back icon (←) in the browser or close the browser (×). It is advised to check this option.
- Reopen windows when logging back into QTS: Check this option, and all the current desktop settings (such as the "windows opened before your logout") will be kept after you login the NAS the next time.
- Show the desktop switching button: Check this option to hide the next desktop button (<) and last desktop button (>) and only display them when you move your mouse cursor close to the buttons.
- Show the "QNAP Utility" tab: Check this option to show the "QNAP Mobile App", " QNAP Utility" and "Feedback" tabs at the bottom of the Desktop.
- Show the Dashboard button: If you would like to hide the Dashboard button ( ) at the bottom right side of the NAS Desktop, uncheck this option.
- Show the NAS time on the desktop: If you prefer not to show the NAS time at bottom left side of the desktop, uncheck this option.
- Change Password: Click this button to change your login password.

2) Restart: Click this button to restart your NAS.
3) Shutdown: Click this button to shut down your NAS.
4) Logout: Click this button to log yourself out.
5) About: Click this button to check for the NAS model, firmware version, HDDs already installed and available (empty) bays.



TS-670 Pro
Version 4.0.0 (2013/05/13)
Hard disks installed:1
Empty bays:5
www.qnap.com
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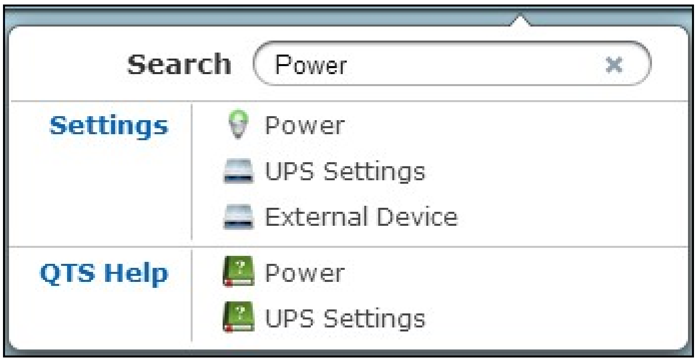
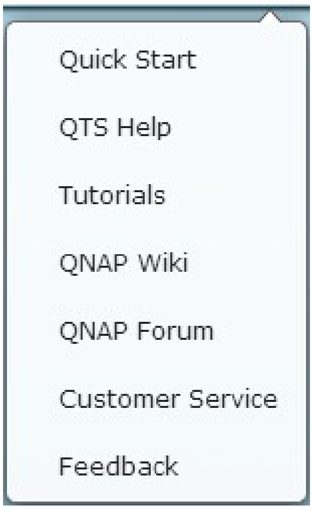
Search

Click 🔍 and enter a feature specific keyword in the search box to search for the desired function and its corresponding online help. Click the result in the search box to launch the function or open its online QTS help.



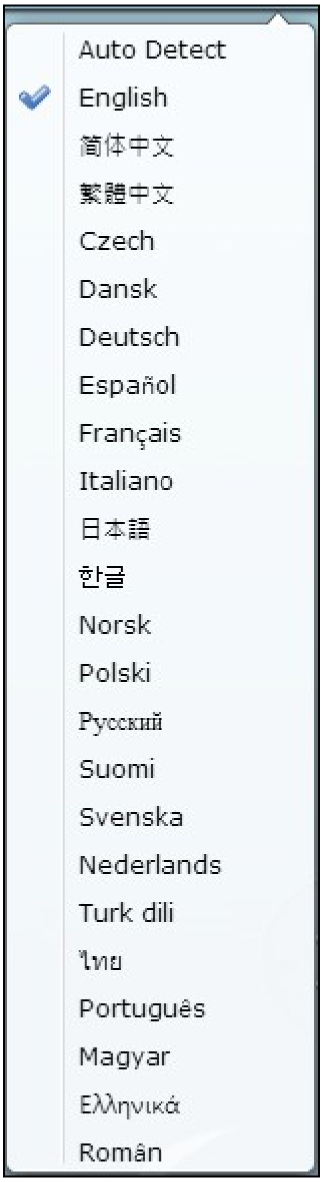
Online Resource

Click to display a list of online references, including the Quick Start Guide, QTS Help, Tutorials, QNAP Wiki and QNAP Forum, and customer support such as Customer Service (live support) and Feedback (feature request / bug report) are available here.



Language

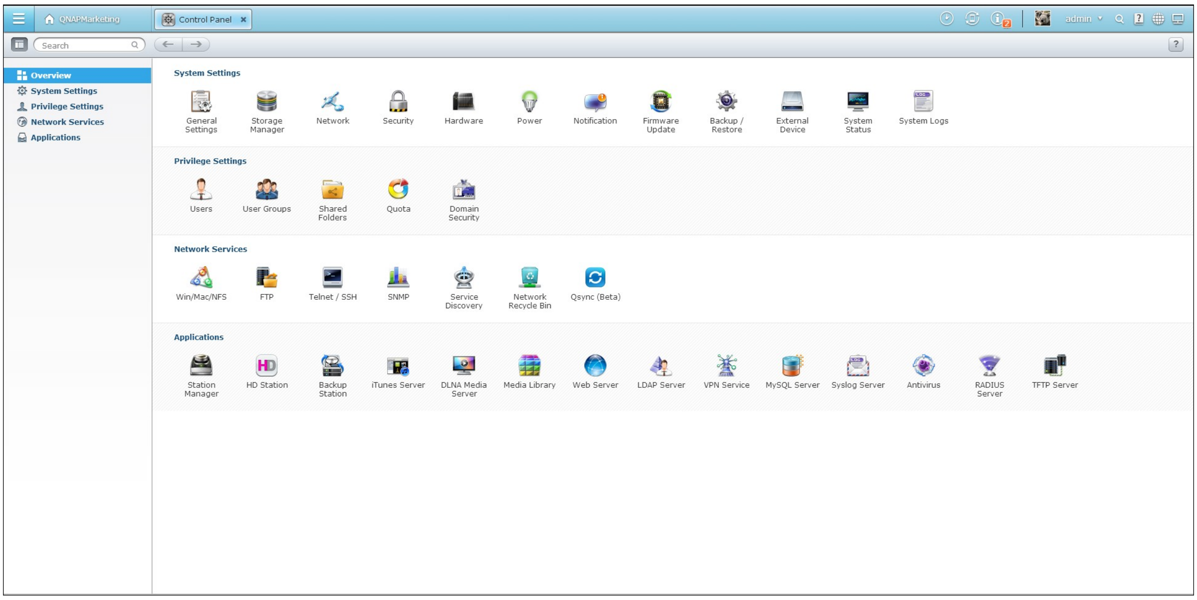
Click to choose your preferred language for the UI.



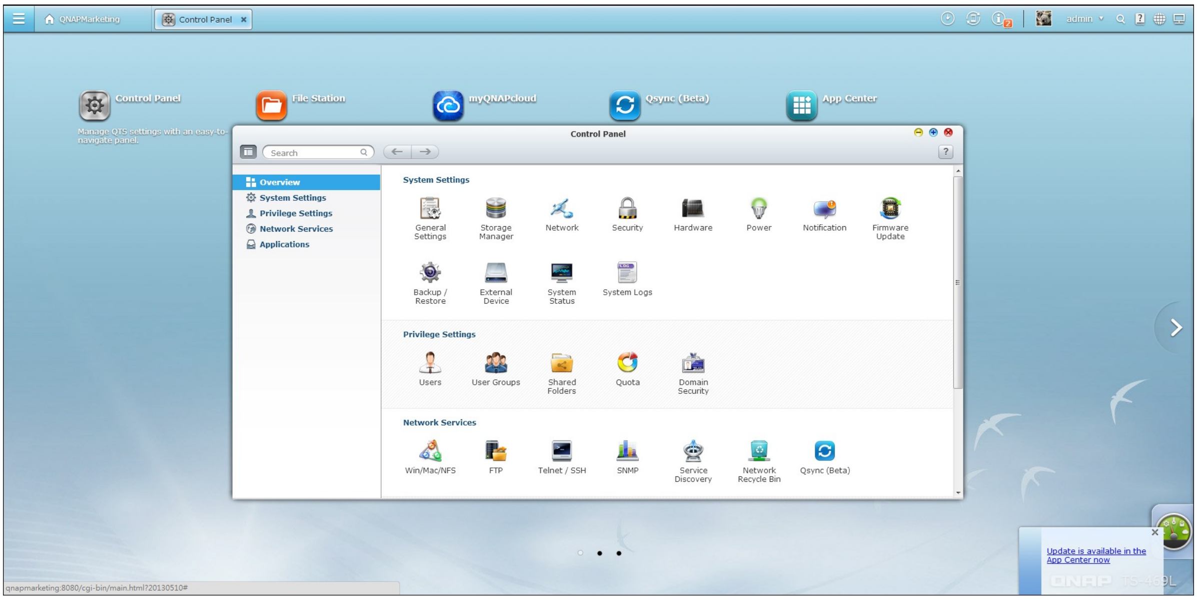
Desktop Preference

Click to choose the application icon displaying style and select your preferred application opening mode on the desktop. Application icons can be switched between small thumbnails () and detailed thumbnails () and applications can be opened in the tab mode or the window mode.

For the tab mode, the window will be opened to fit the entire NAS Desktop and only one application window can be displayed at once, while in the window mode, the application window can be resized and reshaped to a desirable style. Please note that if you login the NAS using a mobile device, only the tab mode is available.



Tab Mode



Window mode

Desktop Area

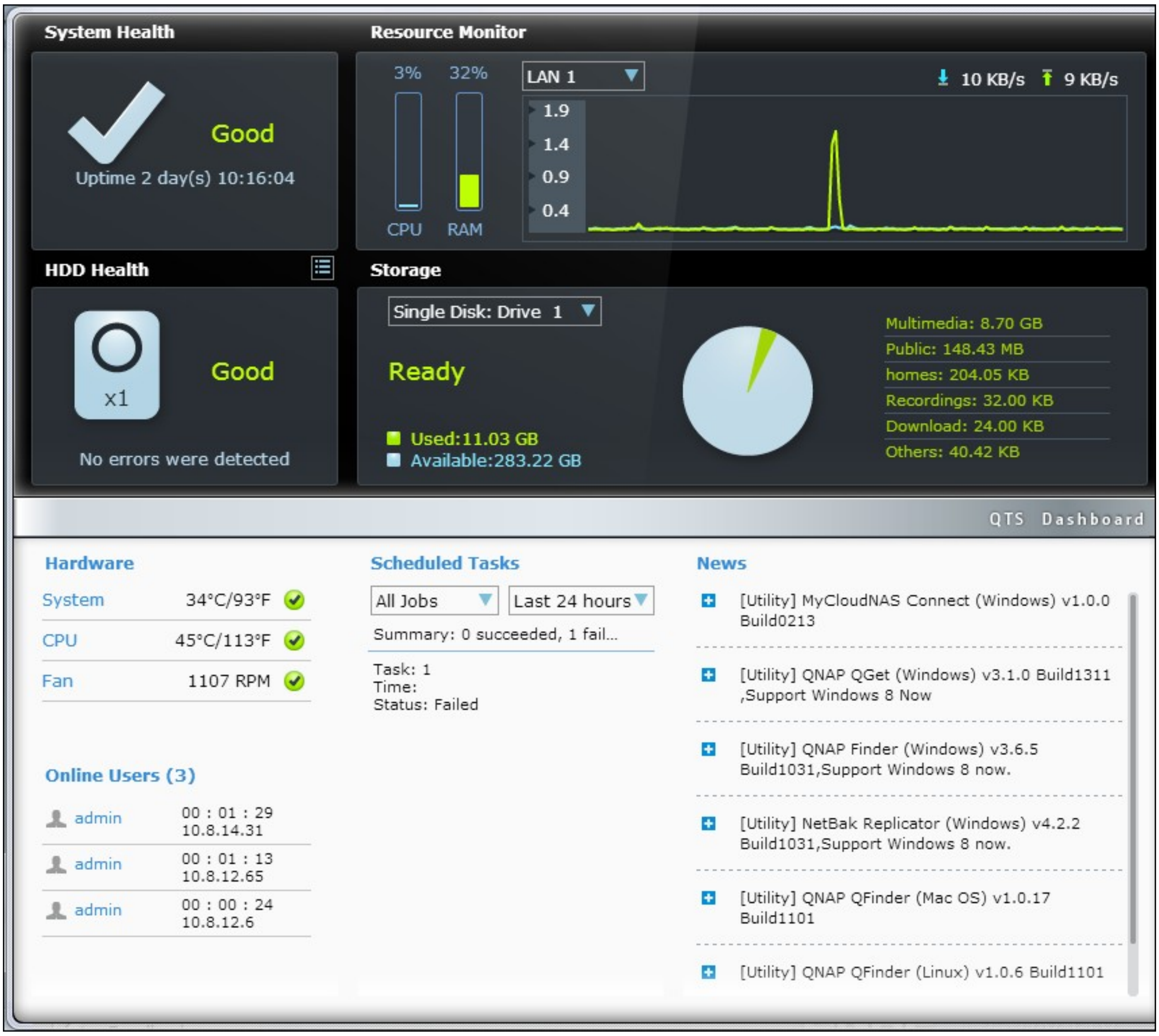
Remove or arrange all applications on the desktop, or drag one application icon over the top of another to put them in the same folder ().

Next Desktop and Last Desktop

Click the next desktop button (<) (right side of the current desktop) or the last desktop button (>) (left side of the current desktop) to switch between desktops. The position of the desktop is indicated by the three dots at bottom of the desktop (○ ● ●).

Dashboard

All important system and HDD statistics can be reviewed in the QTS Dashboard.



Good

Uptime 2 day(s) 10:16:04

3% 32%

LAN 1 ▼ 10 KB/s 9 KB/s

x1 Good

No errors were detected

Single Disk: Drive 1 ▼

Ready

🟩 Used:11.03 GB

🟦 Available:283.22 GB

Multimedia: 8.70 GB
Public: 148.43 MB
homes: 204.05 KB
Recordings: 32.00 KB
Download: 24.00 KB
Others: 40.42 KB

Hardware

System	34°C/93°F	✓
CPU	45°C/113°F	✓
Fan	1107 RPM	✓

Online Users (3)

admin	00 : 01 : 29 10.8.14.31
admin	00 : 01 : 13 10.8.12.65
admin	00 : 00 : 24 10.8.12.6

Scheduled Tasks

All Jobs ▼ Last 24 hours ▼

Summary: 0 succeeded, 1 fail...

Task: 1
Time:
Status: Failed

News

- [Utility] MyCloudNAS Connect (Windows) v1.0.0 Build0213
- [Utility] QNAP QGet (Windows) v3.1.0 Build1311 ,Support Windows 8 Now
- [Utility] QNAP Finder (Windows) v3.6.5 Build1031,Support Windows 8 now.
- [Utility] NetBak Replicator (Windows) v4.2.2 Build1031,Support Windows 8 now.
- [Utility] QNAP QFinder (Mac OS) v1.0.17 Build1101
- [Utility] QNAP QFinder (Linux) v1.0.6 Build1101

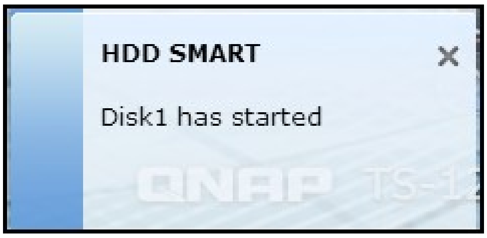
- System Health: The status of the NAS system is indicated in this section. Click the header to open the "System Status" page.
- HDD Health: The status of the HDDs currently installed in the NAS will be shown in here. X1 means that only one HDD is currently installed in the NAS. For multiple HDDs installed in the NAS, the status indicated is only for the HDD with the worst condition. Click the "HDD Health" header to open the "HDD SMART" page in Storage Manager and review the status of each HDD. For details on the Storage Manager, please refer to the chapter on Storage Manager 95. Click the icon to switch between the "HDD Summary" page and the HDD status indicator. Please note that the color of the HDD symbol will change based on HDD health.

- Resource Monitor: The CPU, RAM and bandwidth usages are displayed here. Click the "Resource Monitor" header to open the corresponding page in System Status for details. Please note that if the port trunking feature is activated, the bandwidth statistic is the combined usage of all NICs.
- Storage: The shared folder (top five largest folders), volume and storage statistics are summarized here. Click the "Storage" header to open the corresponding page in System Status for details.
- Hardware: The system and HDD temperatures, fan speeds and hardware usages are summarized here. Please note that the statistics listed here vary based on the NAS model purchased. Click the "Hardware" header to open the corresponding page in "System Status" for details.
- Online Users: All users currently connected to the NAS are listed here. To disconnect or block a user or IP, right click the user and choose the desired actions. Click the "Online Users" header to open the corresponding page in "System Logs" for details.
- Scheduled Tasks: Tasks scheduled are listed here. Click the task dropdown list to list only the chosen category and the time drop down list to specify the time range for tasks to be listed.
- News: NAS related news from QNAP will be listed here. Click the news link to visit the corresponding webpage on the QNAP website.

Tip:

- All widgets within the Dashboard can be dragged onto the desktop for monitoring specific details.
- The Dashboard will be presented differently on different screen resolutions.
- The color of the Dashboard button will change based on the status of system health for quick recognition ().

- QNAP Mobile App: Click this tab to check and download the latest and available QNAP mobile applications.
- QNAP Utility: Click this tab to check and download the latest and available NAS utilities.
- Feedback: Click this tab to file a feature request and bug report.
- Slide-in window: System-related news will be displayed on the window at bottom right side of the desktop. Click the update to check for relevant details.



HDD SMART

Disk1 has started

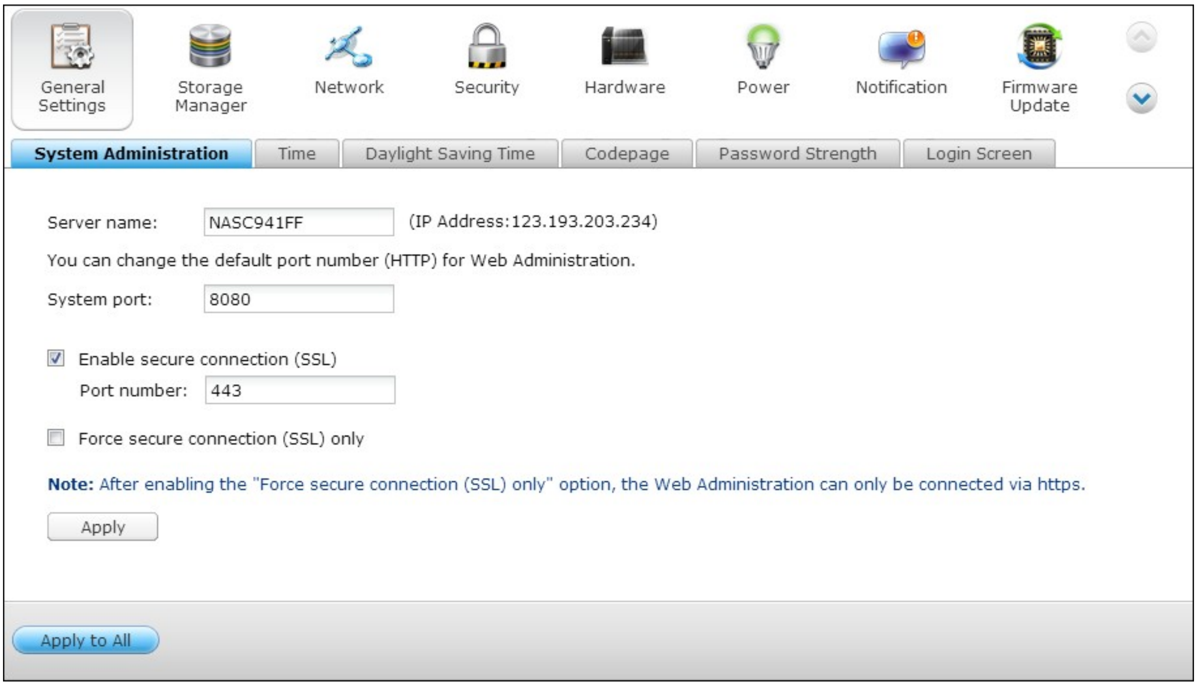
Note: If you would like to use your home NAS model as a business NAS model, please first install business applications from the App Center 723 and drag the corresponding item from the Main Menu and drop it to the QTS Desktop.

4. System Settings

4.1 General Settings

System Administration

Enter the name of the NAS. The NAS name supports maximum 14 characters and can be a combination of the alphabets (a-z, A-Z), numbers (0-9), and dash (-). Space ( ), period (.), or pure number are not allowed.



Server name: NASC941FF (IP Address:123.193.203.234)

You can change the default port number (HTTP) for Web Administration.

System port: 8080

☑ Enable secure connection (SSL)

Port number: 443

□ Force secure connection (SSL) only

Note: After enabling the "Force secure connection (SSL) only" option, the Web Administration can only be connected via https.

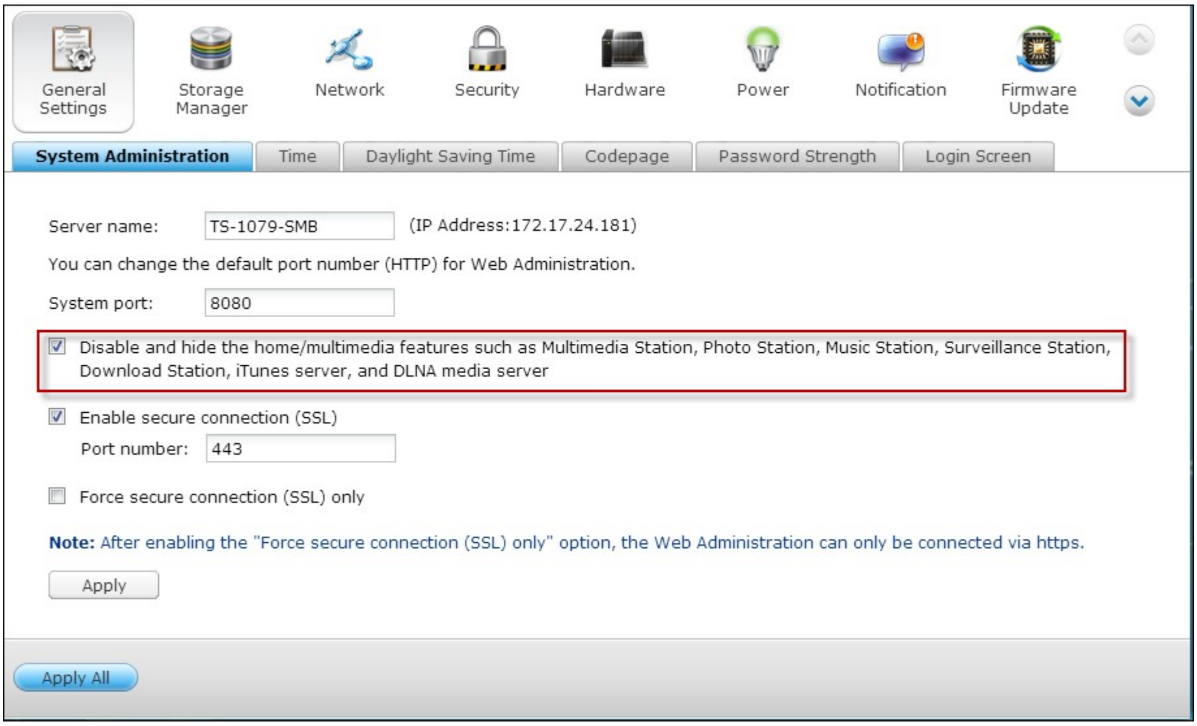
Enter a port number for the system management. The default port is 8080. The services which use this port include: System Management, File Station, Multimedia Station, and Download Station. If you are not sure about this setting, use the default port number.

Enable Secure Connection (SSL)

To allow the users to connect the NAS by HTTPS, turn on secure connection (SSL) and enter the port number. If the option “Force secure connection (SSL) only” is turned on, the users can only connect to the web administration page by HTTPS connection.

Disable and hide the home/multimedia features such as Multimedia Station, Photo Station, Music Station, Surveillance Station, Download Station, iTunes server, and DLNA media server

The multimedia features, including the Multimedia Station, Photo Station, Music Station, Surveillance Station, Download Station, iTunes server, Media Library and DLNA media server, may be hidden or disabled by default on the following SMB models: x70U, x79 Pro, x79U. To enable the multimedia features for those models, please uncheck this option.



Server name: TS-1079-SMB (IP Address:172.17.24.181)

You can change the default port number (HTTP) for Web Administration.

System port: 8080

☑ Disable and hide the home/multimedia features such as Multimedia Station, Photo Station, Music Station, Surveillance Station, Download Station, iTunes server, and DLNA media server

☑ Enable secure connection (SSL)

Port number: 443

☐ Force secure connection (SSL) only

Note: After enabling the "Force secure connection (SSL) only" option, the Web Administration can only be connected via https.

Time

Adjust the date, time, and time zone according to the location of the NAS. If the settings are incorrect, the following problems may occur:

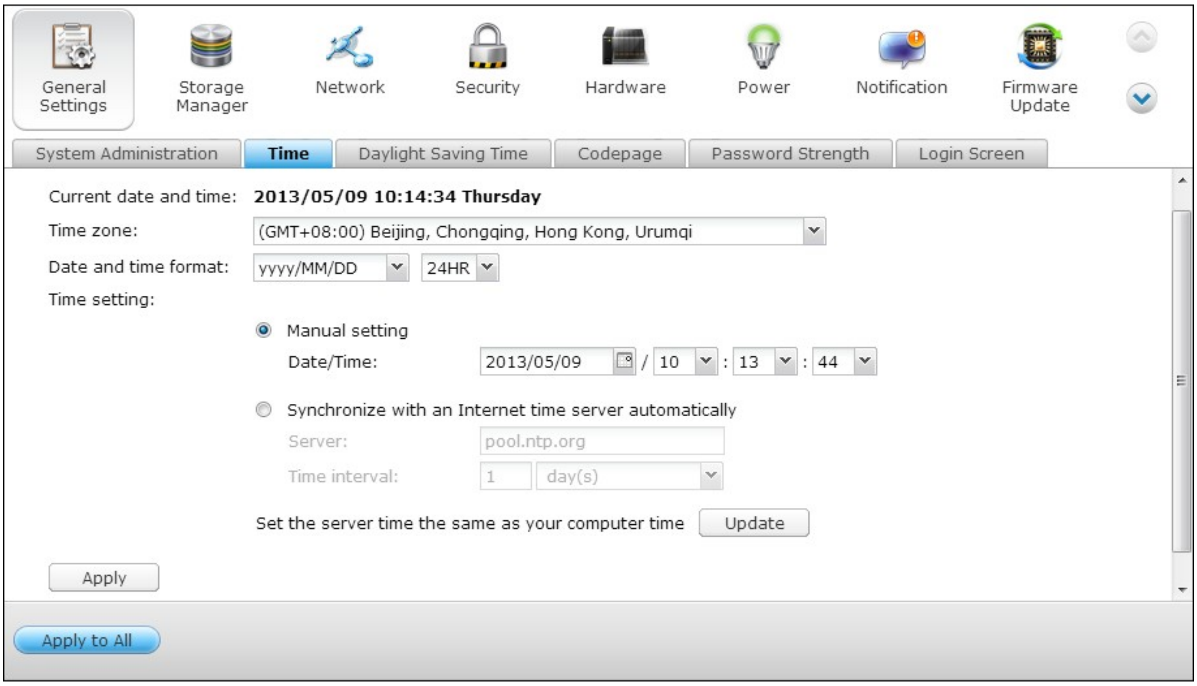
- When using a web browser to connect to the NAS or save a file, the display time of the action will be incorrect.
- The time of the event log displayed will be inconsistent with the actual time when an action occurs.

Set the server time the same as your computer time

To synchronize the time of the NAS with the computer time, click "Update now" next to this option.

Synchronize with an Internet time server automatically

Turn on this option to synchronize the date and time of the NAS automatically with an NTP (Network Time Protocol) server. Enter the IP address or domain name of the NTP server, for example, time.nist.gov, time.windows.com. Then enter the time interval for synchronization. This option can be used only when the NAS is connected to the Internet.



Current date and time: 2013/05/09 10:14:34 Thursday

Time zone: (GMT+08:00) Beijing, Chongqing, Hong Kong, Urumqi

Date and time format: yyyy/MM/DD 24HR

Time setting:

● Manual setting

Date/Time: 2013/05/09 / 10 : 13 : 44

○ Synchronize with an Internet time server automatically

Server: pool.ntp.org

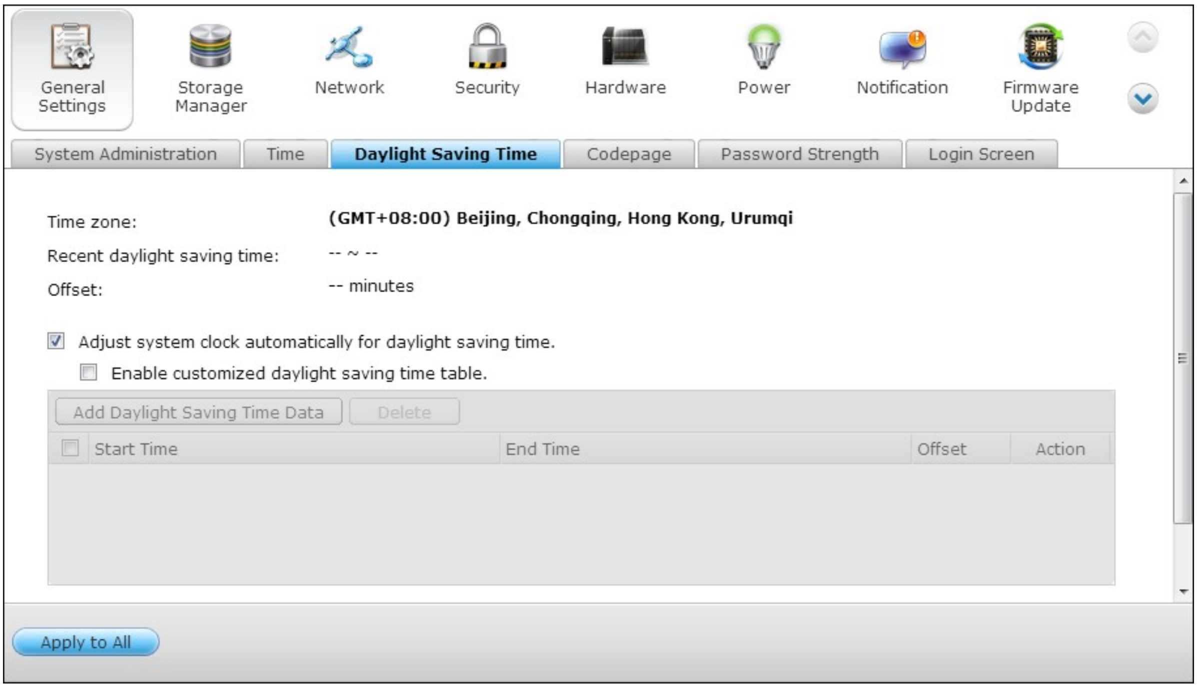
Time interval: 1 day(s)

Set the server time the same as your computer time Update

Note: The first time synchronization may take several minutes to complete.

Daylight Saving Time

If your region adopts daylight saving time (DST), turn on the option "Adjust system clock automatically for daylight saving time". Click "Apply". The latest DST schedule of the time zone specified in the "Time" section will be shown. The system time will be adjusted automatically according to the DST.



Time zone: (GMT+08:00) Beijing, Chongqing, Hong Kong, Urumqi

Recent daylight saving time: -- ~ --

Offset: -- minutes

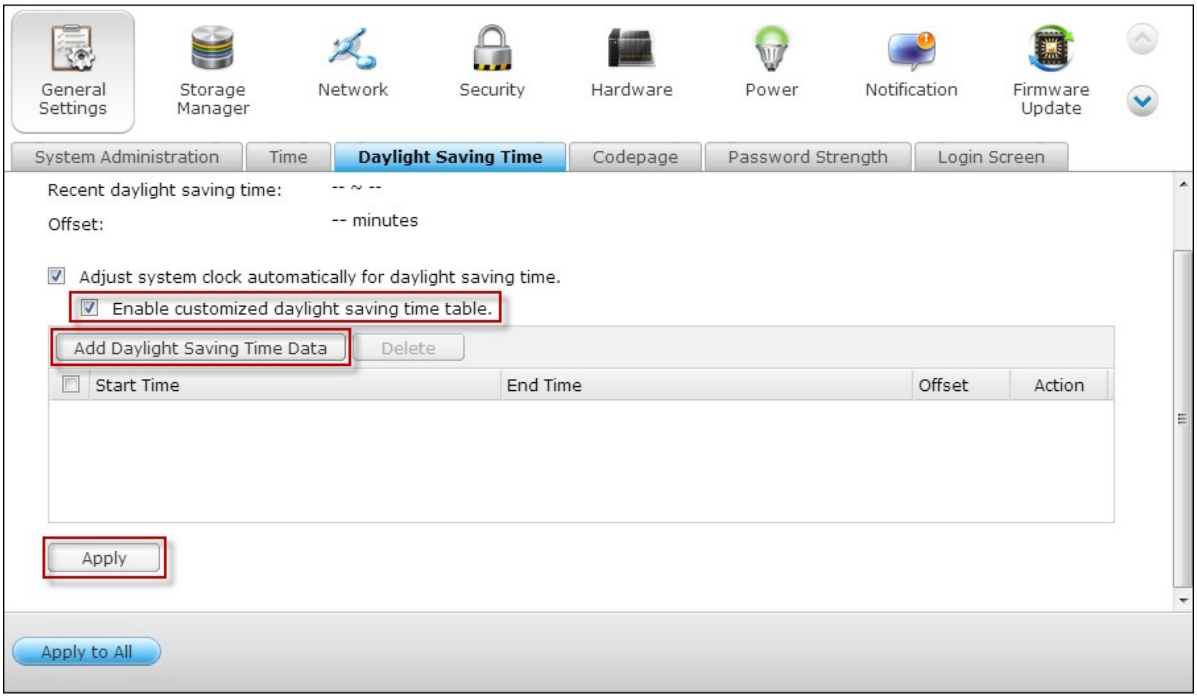
☑ Adjust system clock automatically for daylight saving time.

□ Enable customized daylight saving time table.

□	Start Time	End Time	Offset	Action

Note that if your region does not adopt DST, the options on this page will not be available.

To enter the daylight saving time table manually, select the option "Enable customized daylight saving time table". Click "Add Daylight Saving Time Data" and enter the daylight saving time schedule. Then click "Apply" to save the settings.



Recent daylight saving time: -- ~ --

Offset: -- minutes

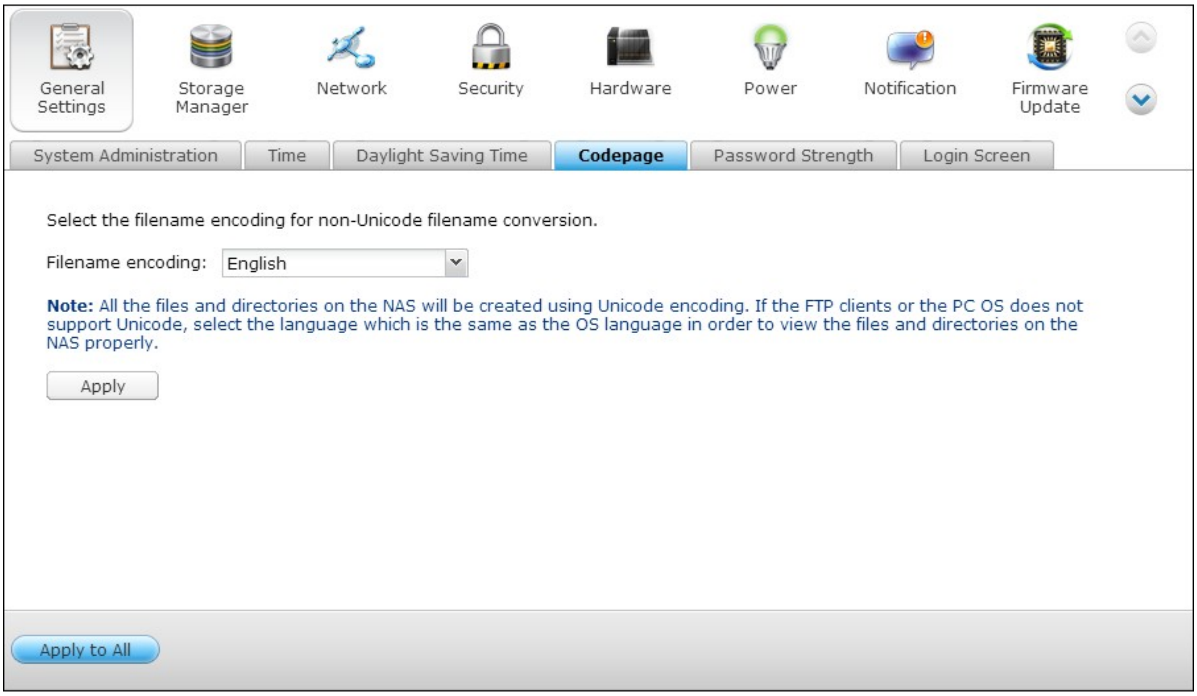
☑ Adjust system clock automatically for daylight saving time.

☑ Enable customized daylight saving time table.

□	Start Time	End Time	Offset	Action

Codepage

Select the language the NAS uses to display the files and directories.



Select the filename encoding for non-Unicode filename conversion.

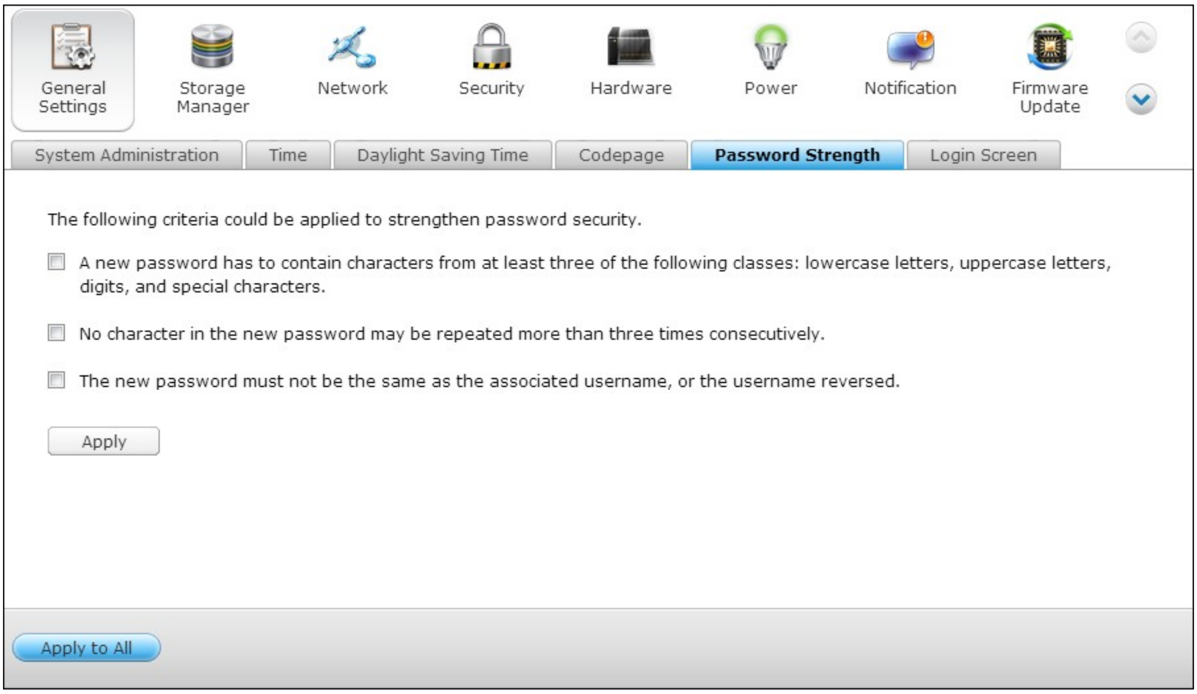
Filename encoding: English

Note: All the files and directories on the NAS will be created using Unicode encoding. If the FTP clients or the PC OS does not support Unicode, select the language which is the same as the OS language in order to view the files and directories on the NAS properly.

Note: All the files and directories on the NAS will be created using Unicode encoding. If the FTP clients or the PC OS does not support Unicode, select the language which is the same as the OS language in order to view the files and directories on the NAS properly.

Password Strength

Specify the password rules. After applying the setting, the NAS will automatically check the validity of the password.



The following criteria could be applied to strengthen password security.

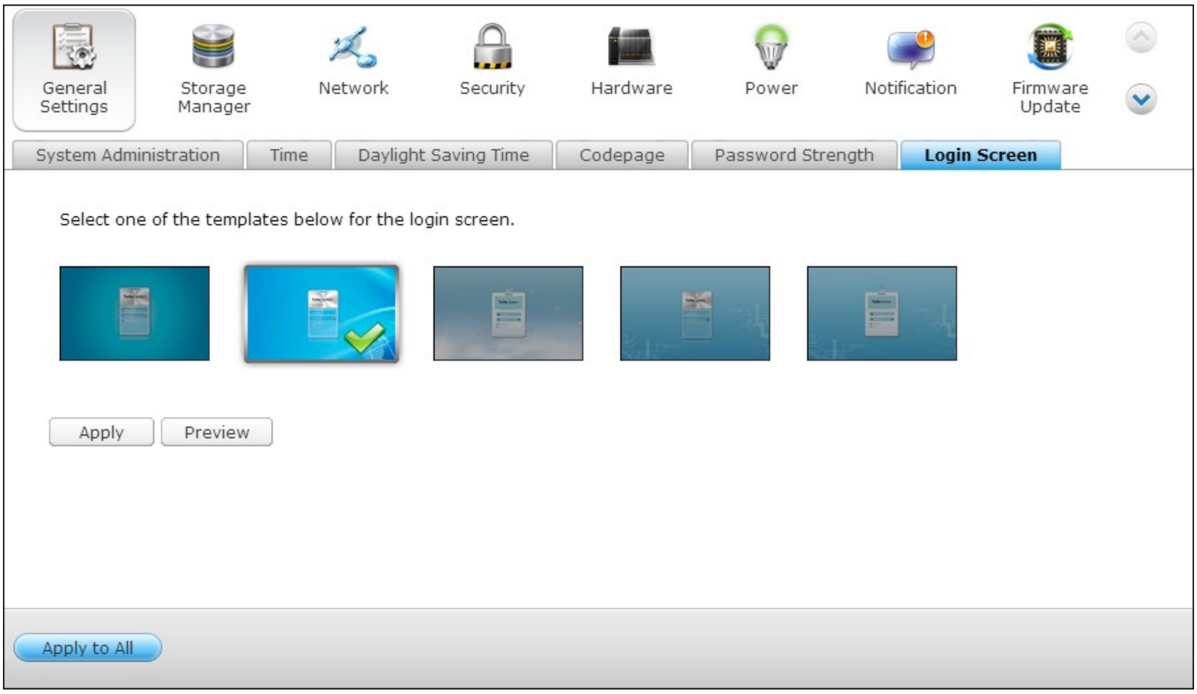
□ A new password has to contain characters from at least three of the following classes: lowercase letters, uppercase letters, digits, and special characters.

□ No character in the new password may be repeated more than three times consecutively.

□ The new password must not be the same as the associated username, or the username reversed.

Login Screen

Set the login screen style. First click the desired template and then click "Preview" to preview the chosen template or "Apply" to apply the chosen login screen.



Select one of the templates below for the login screen.

4.2 Storage Manager

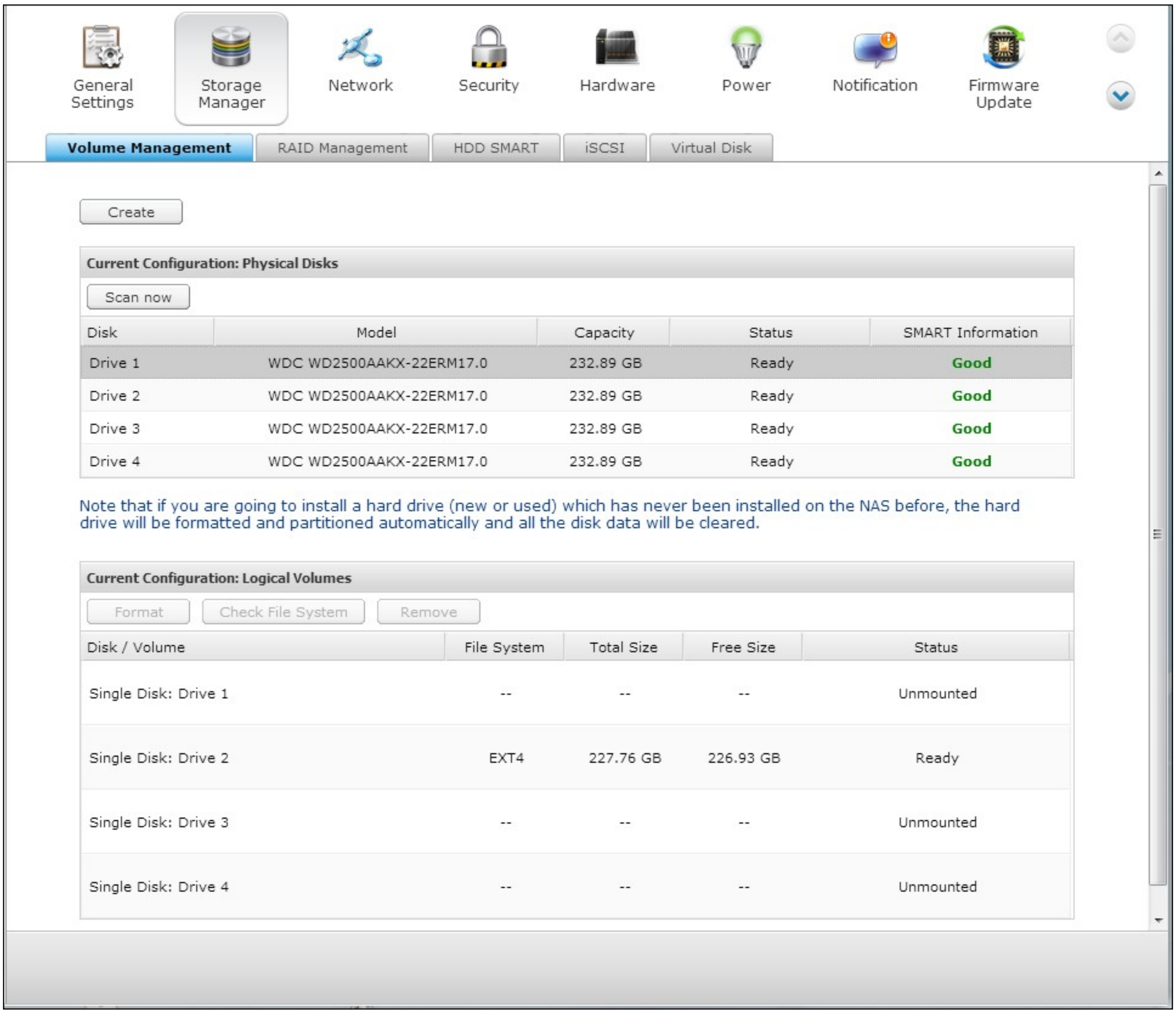
4.2.1 Volume Management

This page shows the model, size, and current status of the hard drives on the NAS. You can format and check the hard drives, and scan the bad blocks on the hard drives. When the hard drives have been formatted, the NAS will create the following default share folders:

- Public: The default shared folder for file sharing by everyone.
- Qdownload/Download*: The shared folder for Download Station.
- Qmultimedia/Multimedia*: The shared folder for Multimedia Station.
- Qusb/Usb*: The shared folder for data copy function using the USB ports.
- Qweb/Web*: The shared folder for Web Server.
- Qrecordings/Recordings*: The shared folder for Surveillance Station.

*The default shared folders of the TS-x59 and TS-x69 Turbo NAS series are Public, Download, Multimedia, Usb, Web, and Recordings.

Note: The default shared folders of the NAS are created on the first disk volume and the directory cannot be changed.



Current Configuration: Physical Disks

Disk	Model	Capacity	Status	SMART Information
Drive 1	WDC WD2500AAKX-22ERM17.0	232.89 GB	Ready	Good
Drive 2	WDC WD2500AAKX-22ERM17.0	232.89 GB	Ready	Good
Drive 3	WDC WD2500AAKX-22ERM17.0	232.89 GB	Ready	Good
Drive 4	WDC WD2500AAKX-22ERM17.0	232.89 GB	Ready	Good

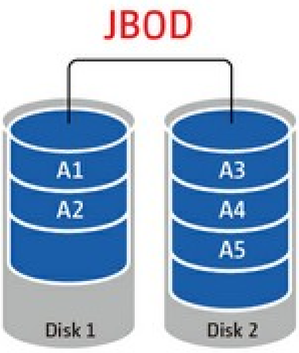
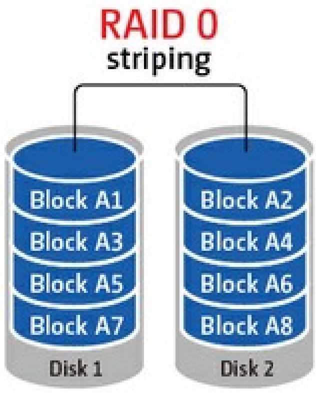
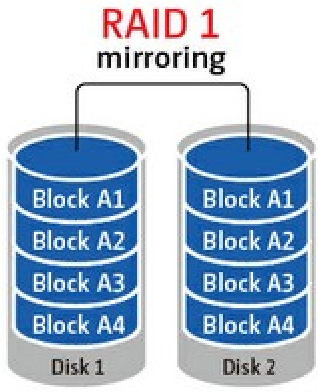
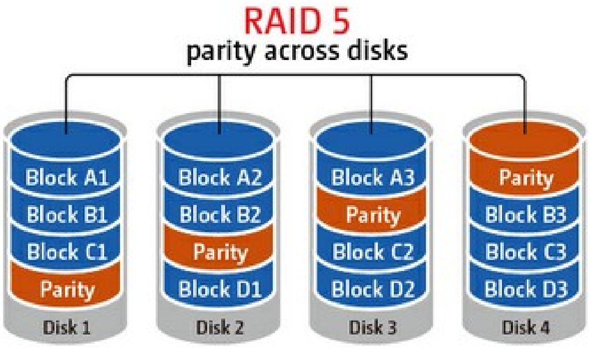
Note that if you are going to install a hard drive (new or used) which has never been installed on the NAS before, the hard drive will be formatted and partitioned automatically and all the disk data will be cleared.

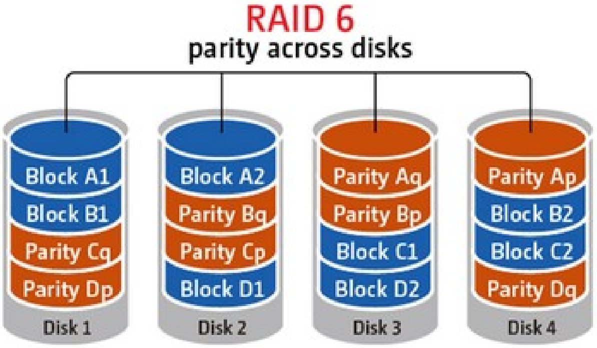
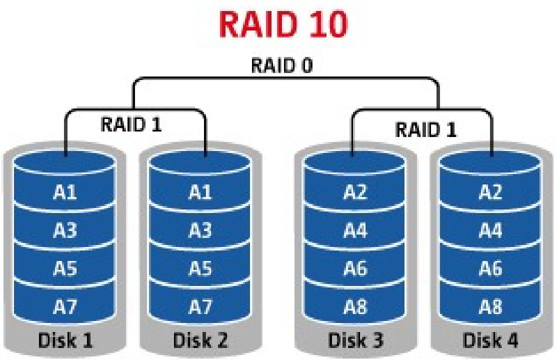
Current Configuration: Logical Volumes

Disk / Volume	File System	Total Size	Free Size	Status
Single Disk: Drive 1	--	--	--	Unmounted
Single Disk: Drive 2	EXT4	227.76 GB	226.93 GB	Ready
Single Disk: Drive 3	--	--	--	Unmounted
Single Disk: Drive 4	--	--	--	Unmounted

Disk Configuration	**Applied NAS Models**
Single disk volume	All models
RAID 1, JBOD (just a bunch of disks)	2-drive models or above
RAID 5, RAID 6, RAID 5+hot spare	4-drive models or above
RAID 6+hot spare	5-drive models or above
RAID 10	4-drive models or above
RAID 10+hot spare	5-drive models or above

Single Disk Volume Each hard drive is used as a standalone disk. If a hard drive is damaged, all the data will be lost.	

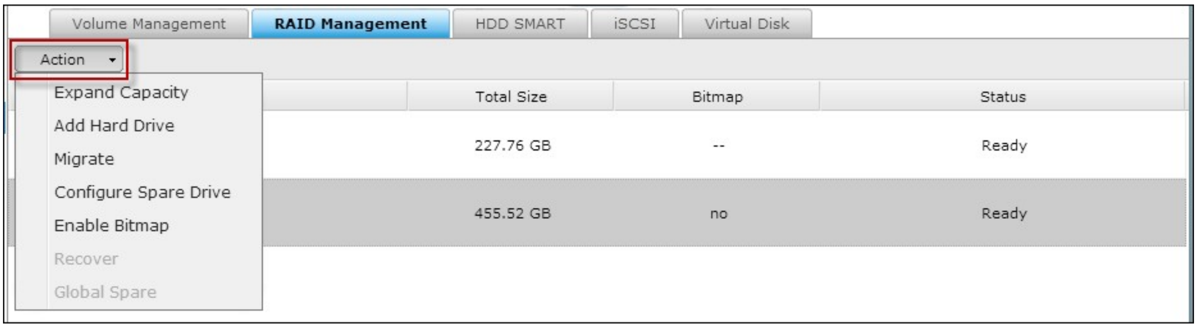
JBOD (Just a bunch of disks) JBOD is a collection of hard drives that does not offer any RAID protection. The data are written to the physical disks sequentially. The total storage capacity is equal to the sum of the capacity of all member hard drives.	
RAID 0 Striping Disk Volume RAID 0 (striping disk) combines 2 or more hard drives into one larger volume. The data is written to the hard drive without any parity information and no redundancy is offered. The total storage capacity of a RAID 0 disk volume is equal to the sum of the capacity of all member hard drives.	 RAID 0 striping Block A1 Block A3 Block A5 Block A7 Disk 1 Block A2 Block A4 Block A6 Block A8 Disk 2
RAID 1 Mirroring Disk Volume RAID 1 duplicates the data between two hard drives to provide disk mirroring. To create a RAID 1 array, a minimum of 2 hard drives are required. The storage capacity of a RAID 1 disk volume is equal to the size of the smallest hard drive.	 RAID 1 mirroring Block A1 Block A2 Block A3 Block A4 Disk 1 Block A1 Block A2 Block A3 Block A4 Disk 2
RAID 5 Disk Volume The data are striped across all the hard drives in a RAID 5 array. The parity information is distributed and stored across each hard drive. If a member hard drive fails, the array enters degraded mode. After installing a new hard drive to replace the failed one, the data can be rebuilt from other member drives that contain the parity	 RAID 5 parity across disks Block A1 Block B1 Block C1 Parity Disk 1 Block A2 Block B2 Parity Block D1 Disk 2 Block A3 Parity Block C2 Block D2 Disk 3 Parity Block B3 Block C3 Block D3 Disk 4

information. To create a RAID 5 disk volume, a minimum of 3 hard drives are required. The storage capacity of a RAID 5 array is equal to (N-1) * (size of smallest hard drive). N is the number of hard drives in the array.	
RAID 6 Disk Volume The data are striped across all the hard drives in a RAID 6 array. RAID 6 differs from RAID 5 that a second set of parity information is stored across the member drives in the array. It tolerates failure of two hard drives. To create a RAID 6 disk volume, a minimum of 4 hard drives are required. The storage capacity of a RAID 6 array is equal to (N-2) * (size of smallest hard drive). N is the number of hard drives in the array.	 RAID 6 parity across disks Block A1 Block B1 Parity Cq Parity Dp Disk 1 Block A2 Parity Bq Parity Cp Block D1 Disk 2 Parity Aq Parity Bp Block C1 Block D2 Disk 3 Parity Ap Block B2 Block C2 Parity Dq Disk 4
RAID 10 Disk Volume RAID 10 combines four or more disks in a way that protects data against loss of non-adjacent disks. It provides security by mirroring all data on a secondary set of disks while using striping across each set of disks to speed up data transfers. RAID 10 requires an even number of hard drives (minimum 4 hard drives). The storage capacity of RAID 10 disk volume is equal to (size of the smallest capacity disk in the array) * N/2. N is the number of hard drives in the volume.	 RAID 10 RAID 0 RAID 1 RAID 1 A1 A3 A5 A7 Disk 1 A1 A3 A5 A7 Disk 2 A2 A4 A6 A8 Disk 3 A2 A4 A6 A8 Disk 4

4.2.2 RAID Management

*Online RAID capacity expansion, online RAID level migration, and RAID recovery are not supported by one-bay NAS models, TS-210, and TS-212.

You can perform online RAID capacity expansion (RAID 1, 5, 6, 10) and online RAID level migration (single disk, RAID 1, 5, 10), add a hard drive member to a RAID 5, 6, or 10 configuration, configure a spare hard drive (RAID 5, 6, 10) with the data retained, enable Bitmap, recover a RAID configuration, and set a global spare on this page.



Total Size	Bitmap	Status
227.76 GB	--	Ready
455.52 GB	no	Ready

To expand the storage capacity of a RAID 10 volume, you can perform online RAID capacity expansion or add an even number of hard disk drives to the volume.

Expand Capacity (Online RAID Capacity Expansion)

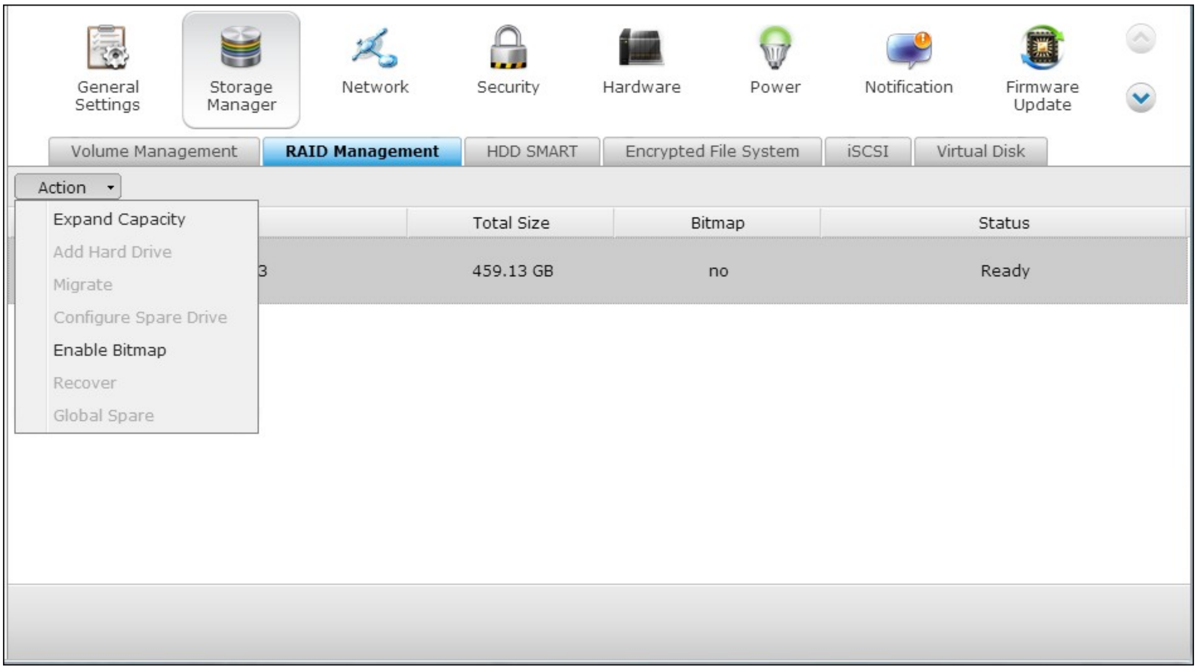
Scenario

You bought three 250GB hard drives for initial setup of a TS-509 Pro NAS and configured RAID 5 disk configuration with the three hard drives.

A half year later, the data size of the department has largely increased to 1.5TB. In other words, the storage capacity of the NAS is running out of use. At the same time, the price of 1TB hard drives has dropped to a large extent.

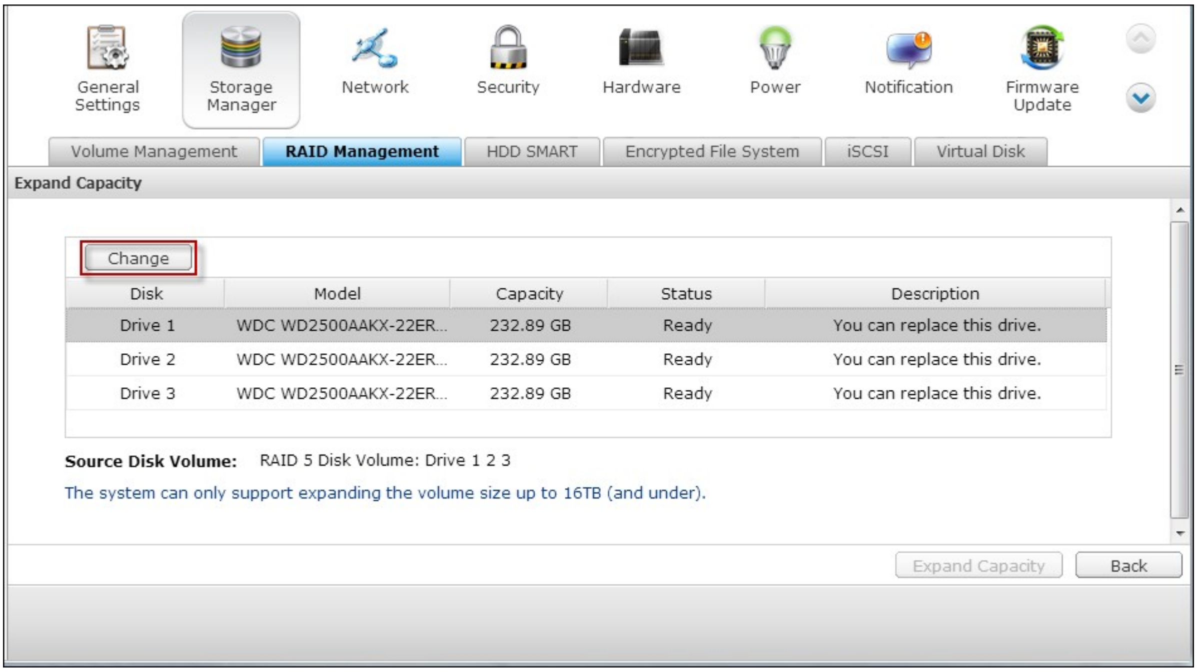
Operation procedure

In "Storage Manager" > "RAID Management", select the disk volume for expansion and click "Expand Capacity".



	Total Size	Bitmap	Status
3	459.13 GB	no	Ready

Click "Change" for the first hard drive to be replaced. Follow the instructions to proceed.



Disk	Model	Capacity	Status	Description
Drive 1	WDC WD2500AAKX-22ER...	232.89 GB	Ready	You can replace this drive.
Drive 2	WDC WD2500AAKX-22ER...	232.89 GB	Ready	You can replace this drive.
Drive 3	WDC WD2500AAKX-22ER...	232.89 GB	Ready	You can replace this drive.

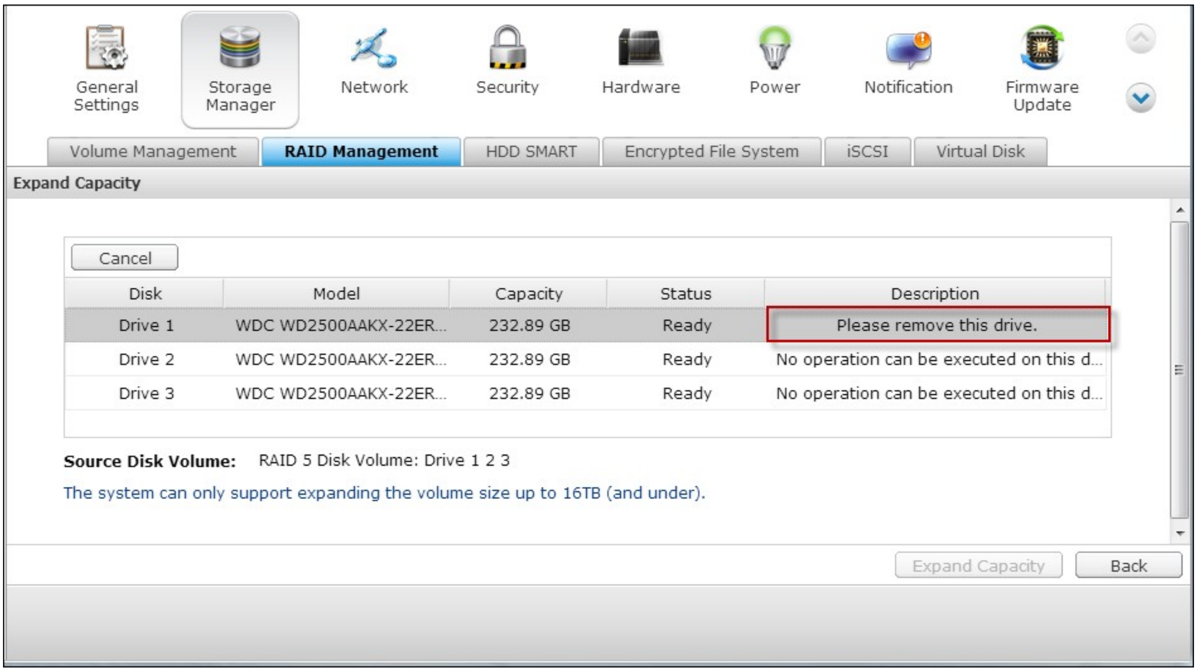
Source Disk Volume: RAID 5 Disk Volume: Drive 1 2 3

The system can only support expanding the volume size up to 16TB (and under).

Tip: After replacing the hard drive, the description field shows "You can replace this drive". This means you can replace the hard drive to a larger one or skip this step if the hard drives have been replaced already.

Caution: When the hard drive synchronization is in process, do NOT turn off the NAS or plug in or unplug the hard disk drives.

When the description displays “Please remove this drive”, remove the hard drive from the NAS. Wait for the NAS to beep twice after removing the hard drive.

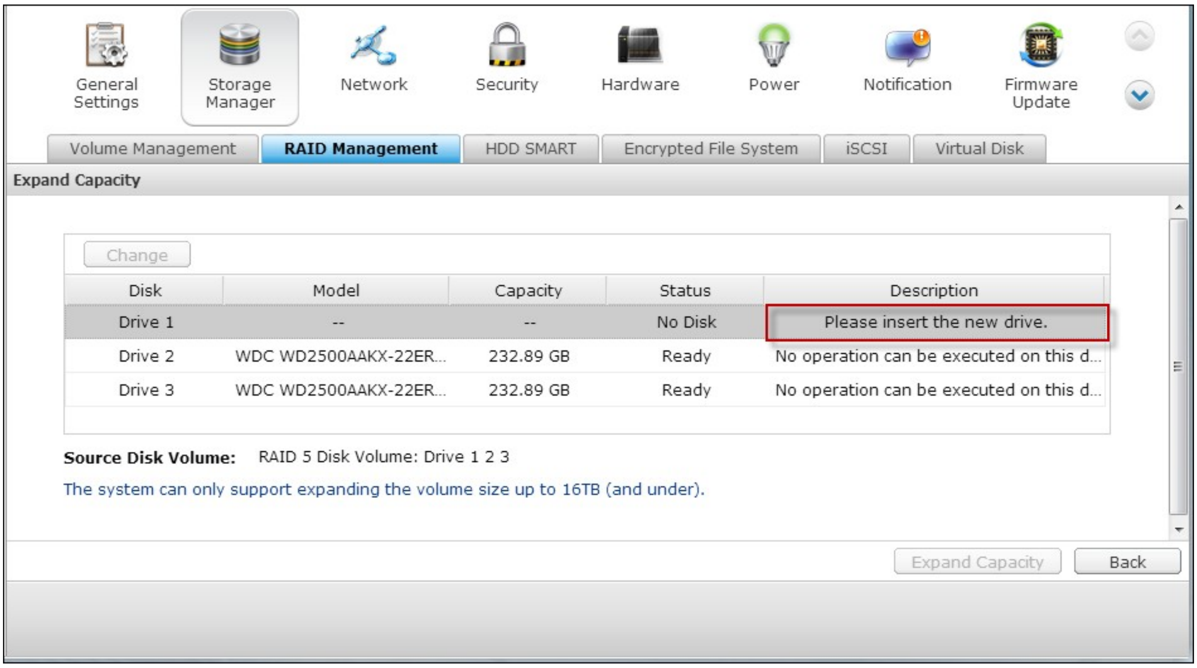


Disk	Model	Capacity	Status	Description
Drive 1	WDC WD2500AAKX-22ER...	232.89 GB	Ready	Please remove this drive.
Drive 2	WDC WD2500AAKX-22ER...	232.89 GB	Ready	No operation can be executed on this d...
Drive 3	WDC WD2500AAKX-22ER...	232.89 GB	Ready	No operation can be executed on this d...

Source Disk Volume: RAID 5 Disk Volume: Drive 1 2 3

The system can only support expanding the volume size up to 16TB (and under).

When the description displays “Please insert the new drive”, plug in the new hard drive to the drive slot.

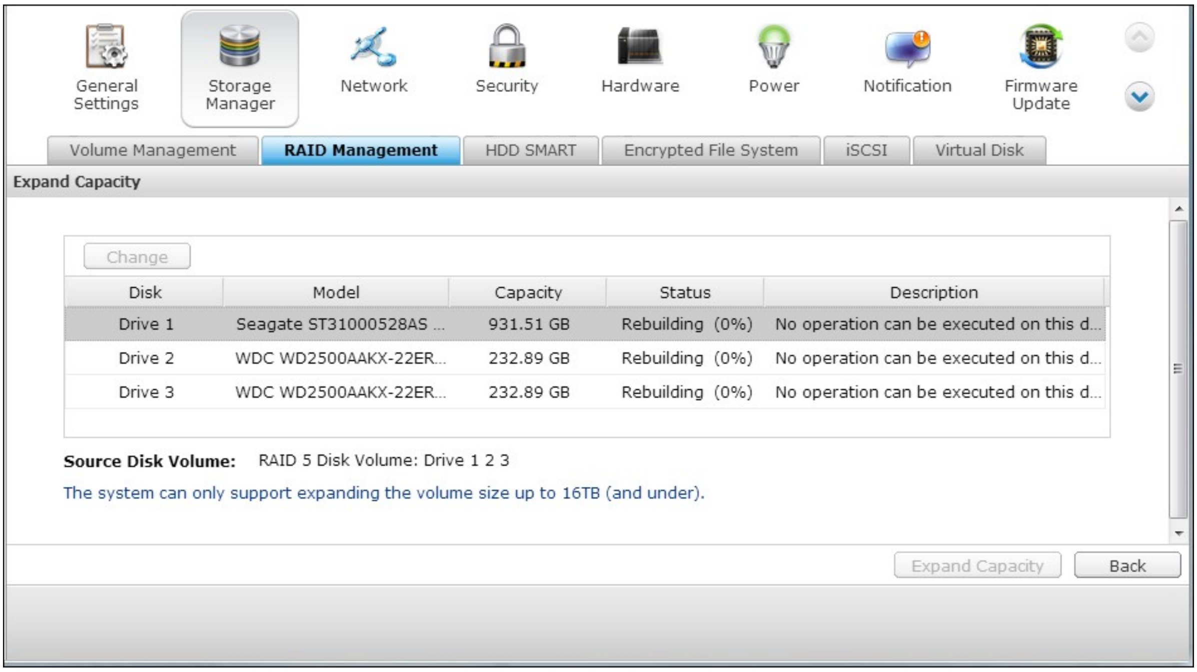


Disk	Model	Capacity	Status	Description
Drive 1	--	--	No Disk	Please insert the new drive.
Drive 2	WDC WD2500AAKX-22ER...	232.89 GB	Ready	No operation can be executed on this d...
Drive 3	WDC WD2500AAKX-22ER...	232.89 GB	Ready	No operation can be executed on this d...

Source Disk Volume: RAID 5 Disk Volume: Drive 1 2 3

The system can only support expanding the volume size up to 16TB (and under).

After plugging in the hard drive, wait for the NAS to beep. The system will start rebuilding.



Expand Capacity

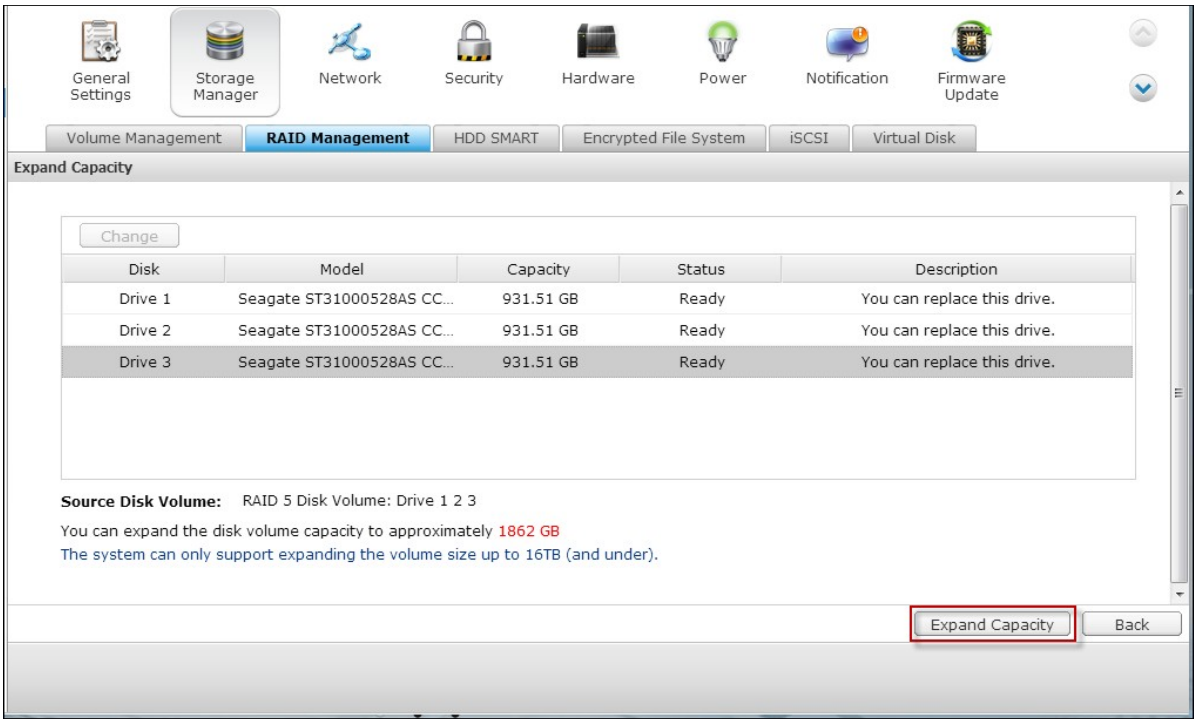
Disk	Model	Capacity	Status	Description
Drive 1	Seagate ST31000528AS ...	931.51 GB	Rebuilding (0%)	No operation can be executed on this d...
Drive 2	WDC WD2500AAKX-22ER...	232.89 GB	Rebuilding (0%)	No operation can be executed on this d...
Drive 3	WDC WD2500AAKX-22ER...	232.89 GB	Rebuilding (0%)	No operation can be executed on this d...

Source Disk Volume: RAID 5 Disk Volume: Drive 1 2 3

The system can only support expanding the volume size up to 16TB (and under).

After rebuilding has completed, repeat the steps above to replace other hard drives.

After changing the hard drives and disk rebuilding has completed, click "Expand Capacity" to execute RAID capacity expansion.



Expand Capacity

Disk	Model	Capacity	Status	Description
Drive 1	Seagate ST31000528AS CC...	931.51 GB	Ready	You can replace this drive.
Drive 2	Seagate ST31000528AS CC...	931.51 GB	Ready	You can replace this drive.
Drive 3	Seagate ST31000528AS CC...	931.51 GB	Ready	You can replace this drive.

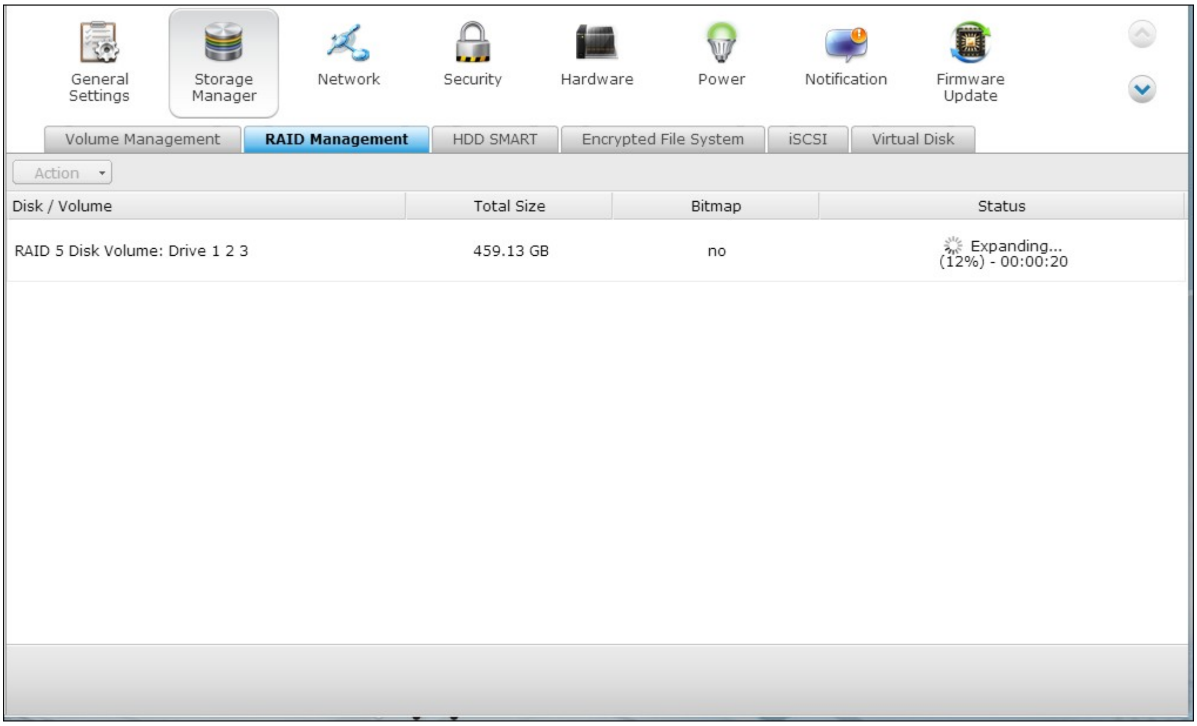
Source Disk Volume: RAID 5 Disk Volume: Drive 1 2 3

You can expand the disk volume capacity to approximately 1862 GB

The system can only support expanding the volume size up to 16TB (and under).

Click "OK" to proceed.

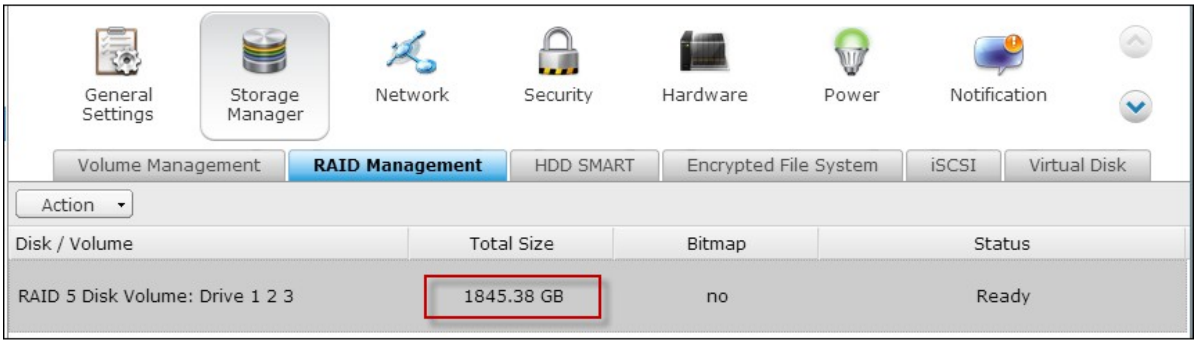
The NAS beeps and starts to expand the capacity.



Disk / Volume	Total Size	Bitmap	Status
RAID 5 Disk Volume: Drive 1 2 3	459.13 GB	no	Expanding... (12%) - 00:00:20

The process may take from hours to tens of hours to finish depending on the drive size. Please wait patiently for the process to finish. Do NOT turn off the power of the NAS.

After RAID capacity expansion has finished, the new capacity is shown and the status is "Ready". You can start to use the NAS. (In the example you have 1.8TB logical volume.)



Disk / Volume	Total Size	Bitmap	Status
RAID 5 Disk Volume: Drive 1 2 3	1845.38 GB	no	Ready

Tip: If the description still shows "You can replace this hard drive" and the status of the drive volume says "Ready", it means the RAID volume is still expandable.

Migrate (Online RAID Level Migration)

During the initial setup of the TS-509 Pro, you bought a 250GB hard drive and configured it as single disk. The TS-509 Pro is used as a file server for data sharing among the departments.

After a half year, more and more important data are saved on the TS-509 Pro. There is a rising concern for hard drive damage and data loss. Therefore, you planned to upgrade the disk configuration to RAID 5.

You can install one hard drive for setting up the TS-509 Pro and upgrade the RAID level of the NAS with online RAID level migration in the future. The migration process can be done without turning off the NAS. All the data will be retained.

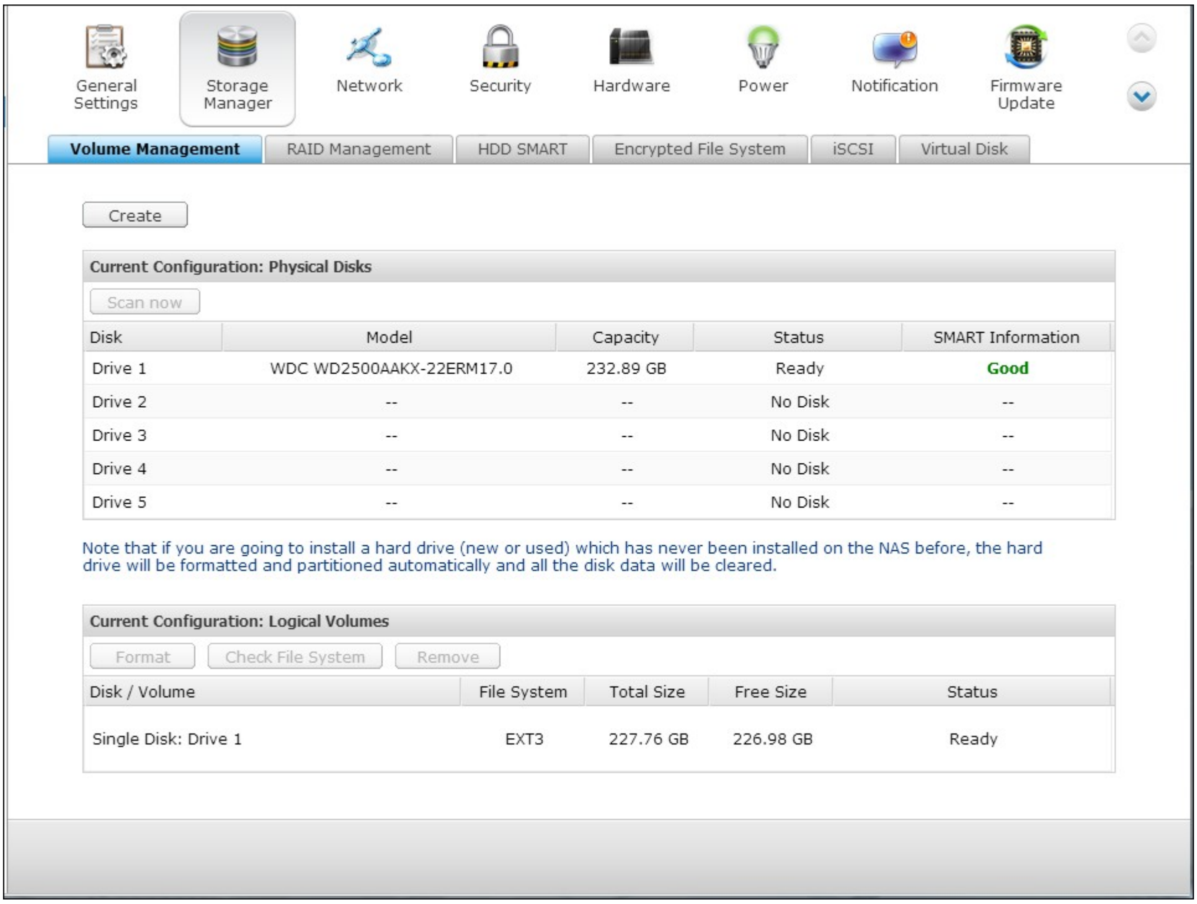
You can do the following with online RAID level migration:

- Migrate the system from single disk to RAID 1, RAID 5, RAID 6 or RAID 10
- Migrate the system from RAID 1 to RAID 5, RAID 6 or RAID 10
- Migrate the system from RAID 5 with 3 hard drives to RAID 6

You need to:

- Prepare a hard drive of the same or larger capacity as an existing drive in the RAID configuration.
- Execute RAID level migration (migrate the system from single disk mode to RAID 5 with 4 hard drives).

Go to "Storage Manager" > "Volume Management". The current disk volume configuration displayed on the page is single disk (the capacity is 250GB).



Current Configuration: Physical Disks

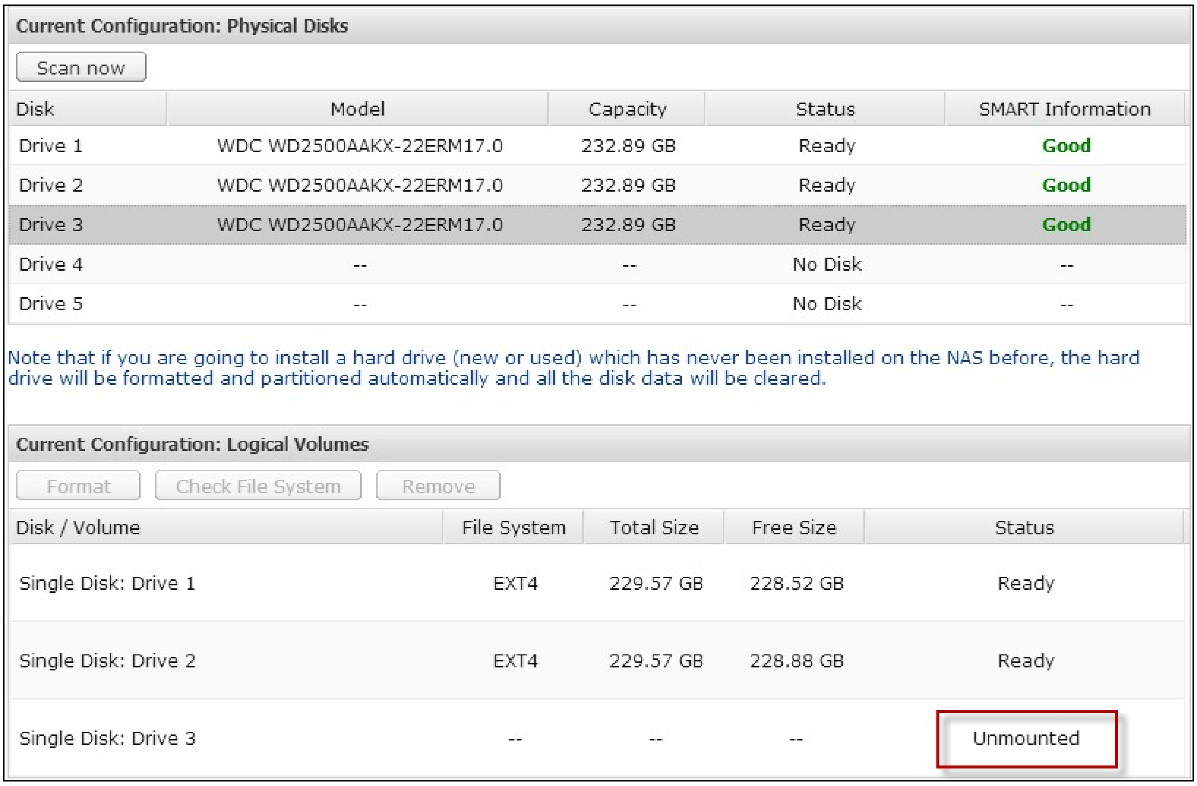
Disk	Model	Capacity	Status	SMART Information
Drive 1	WDC WD2500AAKX-22ERM17.0	232.89 GB	Ready	Good
Drive 2	--	--	No Disk	--
Drive 3	--	--	No Disk	--
Drive 4	--	--	No Disk	--
Drive 5	--	--	No Disk	--

Note that if you are going to install a hard drive (new or used) which has never been installed on the NAS before, the hard drive will be formatted and partitioned automatically and all the disk data will be cleared.

Current Configuration: Logical Volumes

Disk / Volume	File System	Total Size	Free Size	Status
Single Disk: Drive 1	EXT3	227.76 GB	226.98 GB	Ready

Plug in the new 250GB hard drives to drive slots 2 and 3 of NAS. The NAS will detect the new hard drives. The status of the new hard drives is “Unmounted”.



Current Configuration: Physical Disks

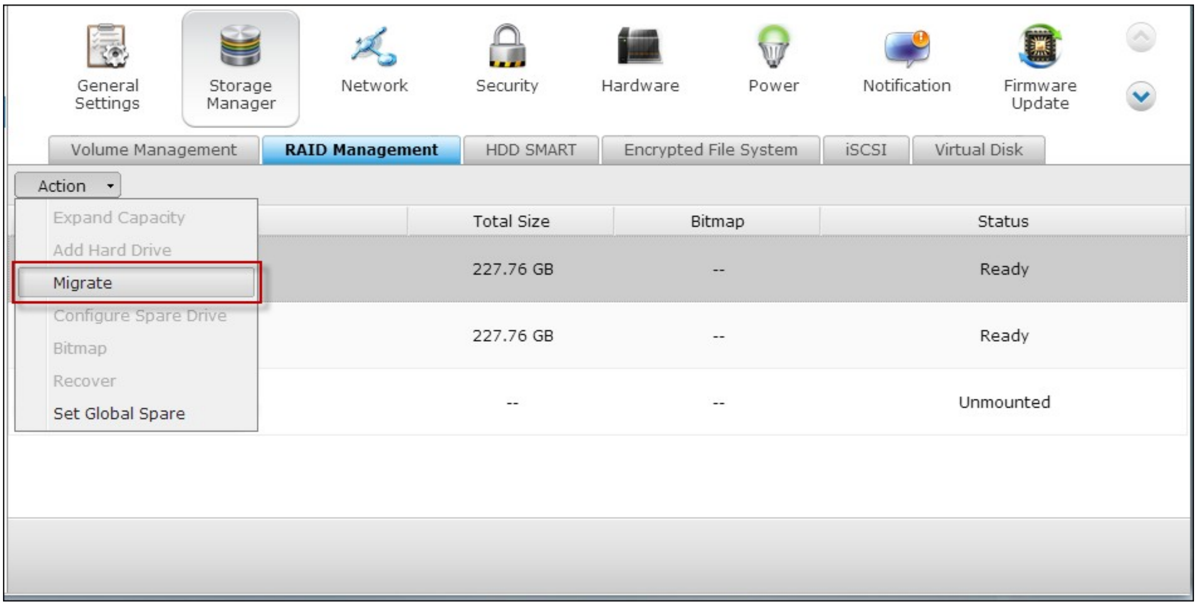
Disk	Model	Capacity	Status	SMART Information
Drive 1	WDC WD2500AAKX-22ERM17.0	232.89 GB	Ready	Good
Drive 2	WDC WD2500AAKX-22ERM17.0	232.89 GB	Ready	Good
Drive 3	WDC WD2500AAKX-22ERM17.0	232.89 GB	Ready	Good
Drive 4	--	--	No Disk	--
Drive 5	--	--	No Disk	--

Note that if you are going to install a hard drive (new or used) which has never been installed on the NAS before, the hard drive will be formatted and partitioned automatically and all the disk data will be cleared.

Current Configuration: Logical Volumes

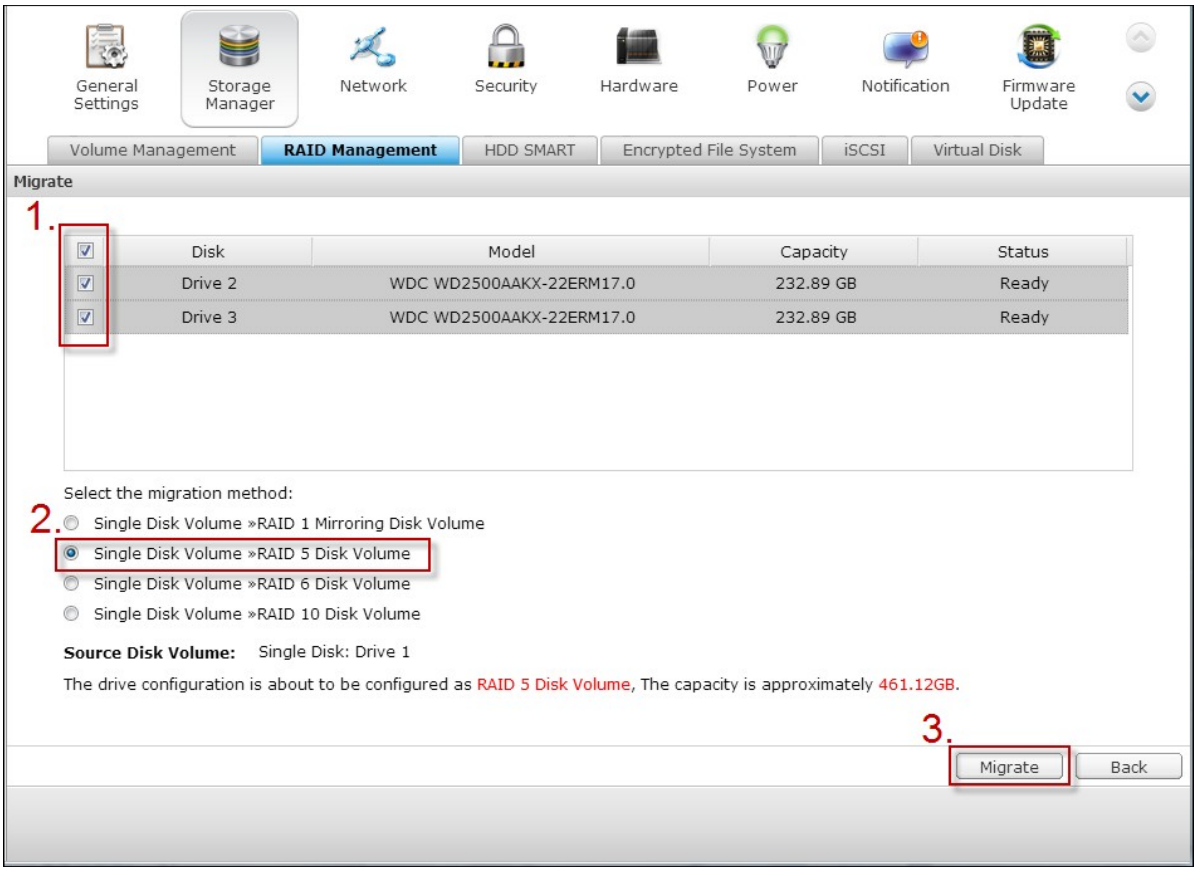
Disk / Volume	File System	Total Size	Free Size	Status
Single Disk: Drive 1	EXT4	229.57 GB	228.52 GB	Ready
Single Disk: Drive 2	EXT4	229.57 GB	228.88 GB	Ready
Single Disk: Drive 3	--	--	--	Unmounted

Go to “Storage Manager” > “RAID Management”, click “Migrate” from the “Action.”



Total Size	Bitmap	Status
227.76 GB	--	Ready
227.76 GB	--	Ready
--	--	Unmounted

Select one or more available drives and the migration method. The drive capacity after migration is shown. Click “Migrate”.



☑	Disk	Model	Capacity	Status
☑	Drive 2	WDC WD2500AAKX-22ERM17.0	232.89 GB	Ready
☑	Drive 3	WDC WD2500AAKX-22ERM17.0	232.89 GB	Ready

Select the migration method:

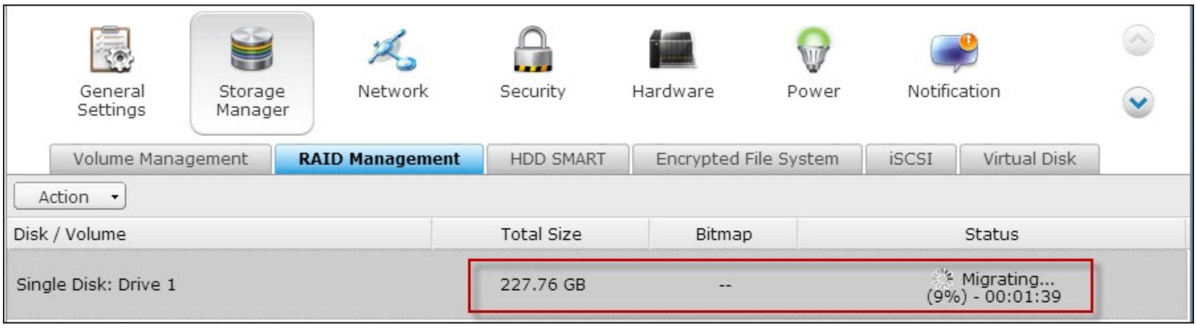
- ○ Single Disk Volume »RAID 1 Mirroring Disk Volume
- ● Single Disk Volume »RAID 5 Disk Volume
- ○ Single Disk Volume »RAID 6 Disk Volume
- ○ Single Disk Volume »RAID 10 Disk Volume

Source Disk Volume: Single Disk: Drive 1

The drive configuration is about to be configured as RAID 5 Disk Volume, The capacity is approximately 461.12GB.

Note that all the data on the selected hard drive will be cleared. Click “OK” to confirm.

When migration is in process, the required time and total drive capacity after migration are shown in the description field.



Disk / Volume	Total Size	Bitmap	Status
Single Disk: Drive 1	227.76 GB	--	Migrating... (9%) - 00:01:39

The NAS will enter “Read only” mode when migration is in process during 11%–49% to assure the data of the RAID configuration will be consistent after RAID migration completes.

After migration completes, the new drive configuration (RAID 5) is shown and the status is Ready. You can start to use the new drive configuration.

The process may take from hours to tens of hours to finish depending on the hard drive size. You can connect to the web page of the NAS to check the status later.

Use Online RAID Capacity Expansion and Online RAID Level Migration

Scenario

You had a tight schedule to set up a file server and an FTP server. However, you had only one 250GB hard drive. Therefore, you set up the TS-509 Pro with the single disk configuration.

The original plan was to set up a 3TB RAID 5 network data center with the TS-509 Pro. You now plan to upgrade the disk configuration of the TS-509 Pro to RAID 5 and expand the total storage capacity to 3TB with all the original data retained after the hard drives are purchased.

Execute online RAID level migration to migrate the system from single disk to RAID 5. The total storage capacity will be 750GB, RAID 5 (with one 250GB hard drive and three 1TB hard drives, the disk usage will be 250GB*4 for RAID 5). You can refer to the previous step for the operation procedure.

Execute online RAID capacity expansion to replace the 250GB hard drive with a new 1TB hard drive, and then expand the logical volume from 750GB to 3TB of RAID 5. You can refer to the previous step for the operation procedure.

Add a hard drive

Follow the steps below to add a hard drive member to a RAID 5 or RAID 6 disk configuration.

1. Make sure the status of the RAID 5 or RAID 6 configuration is "Ready".
2. Install a hard drive on the NAS. If you have a hard drive which has already been formatted as single disk volume on the NAS, you can add this hard drive to the RAID 5 or RAID 6 configuration. You are recommended to use hard disk drives of the same storage capacity for the RAID configuration.
3. Select the RAID 5 or RAID 6 configuration on the "RAID Management" page and click "Add Hard Drive".
4. Select the new hard drive member. The total drive capacity after adding the drive will be shown. Click "Add Hard Drive."
5. All the data on the new hard drive member will be deleted during this process. The data on the original RAID 5 or RAID 6 configuration will be retained. Click "OK". The NAS will beep twice.

To add hard drives member to a RAID 10 disk volume, repeat the above steps. Note that you need to add an even number of hard disk drives to a RAID 10 volume. The storage capacity of the RAID 10 volume will increase upon successful configuration.

This process may take a few hours to tens of hours to complete depending on the number and the size of the hard drive. Please wait patiently for the process to finish. Do NOT turn off the NAS during this process. You can use a RAID configuration of larger capacity after the process.

Configure Spare Drive

You can add a spare drive to or remove a spare drive from a RAID 5, 6, or 10 configuration.

Follow the steps below to use this feature.

1. Make sure the status of the RAID 5, 6, 10 configuration is “Ready”.
2. Install a hard drive on the NAS. If you have a hard drive which has already been formatted as single disk volume on the NAS, you can configure this hard drive as the spare drive. You are recommended to use hard disk drives of the same storage capacity for the RAID configuration.
3. Select the RAID volume and click “Configure Spare Drive.”
4. To add a spare drive to the selected configuration, select the hard drive and click “Configure Spare Drive.” To remove a spare drive, unselect the spare drive and click “Configure Spare Drive.”
5. All the data on the selected hard drive will be deleted. Click “OK” to proceed.

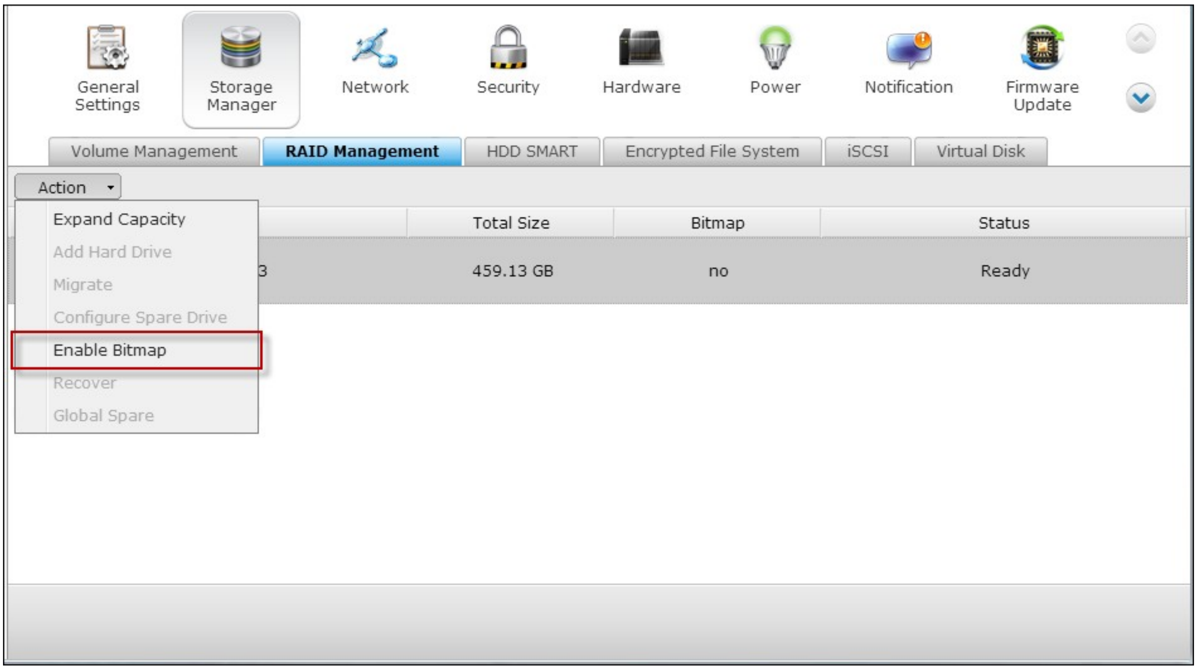
The original data on the RAID 5, 6, or 10 disk volume will be retained. After the configuration completes, the status of the disk volume will become “Ready”.

Note: A hot spare drive must be removed from the disk volume before executing the following action:

- Online RAID capacity expansion
- Online RAID level migration
- Adding a hard drive member to a RAID 5, RAID 6 or RAID 10 volume

Bitmap

Bitmap improves the time for RAID rebuilding after an unexpected error, or removing or re-adding a member hard drive of the RAID configuration. If an array has a bitmap, the member hard drive can be removed and re-added and only blocks changes since the removal (as recorded in the bitmap) will be re-synchronized. To use this feature, select a RAID volume and click "Enable Bitmap".



	Total Size	Bitmap	Status
3	459.13 GB	no	Ready

Note: Bitmap support is only available for RAID 1, 5, 6, and 10.

Recover (RAID Recovery)

RAID Recovery: When the NAS is configured as RAID 1, RAID 5, or RAID 6 and any number of hard drives is unplugged from the NAS accidentally, you can plug in the same hard drives into the same drive slots and click "Recover" to recover the volume status from "Not active" to "Degraded mode".

If the disk volume is configured as RAID 0 or JBOD and one or more of the hard drive members are disconnected or unplugged, you can plug in the same hard drives into the same drive slots and use this function to recover the volume status from "Not active" to "Normal". The disk volume can be used normally after successful recovery.

Disk volume	Supports RAID recovery	Maximum number of disk removal allowed
Single	No	-
JBOD	Yes	1 or more
RAID 0	Yes	1 or more
RAID 1	Yes	1 or 2
RAID 5	Yes	2 or more
RAID 6	Yes	3 or more
RAID 10	No	-

Note:

- After recovering a RAID 1, RAID 5 or RAID 6 disk volume from not active to degraded mode by the RAID recovery, you can read or write the volume normally. The volume status will be recovered to normal after synchronization.
- If the disconnected drive member is damaged, the RAID recovery function will not work.

	Standard RAID 5	QNAP RAID 5	Standard RAID 6	QNAP RAID 6
Degraded mode	N-1	N-1	N-1 & N-2	N-1 & N-2

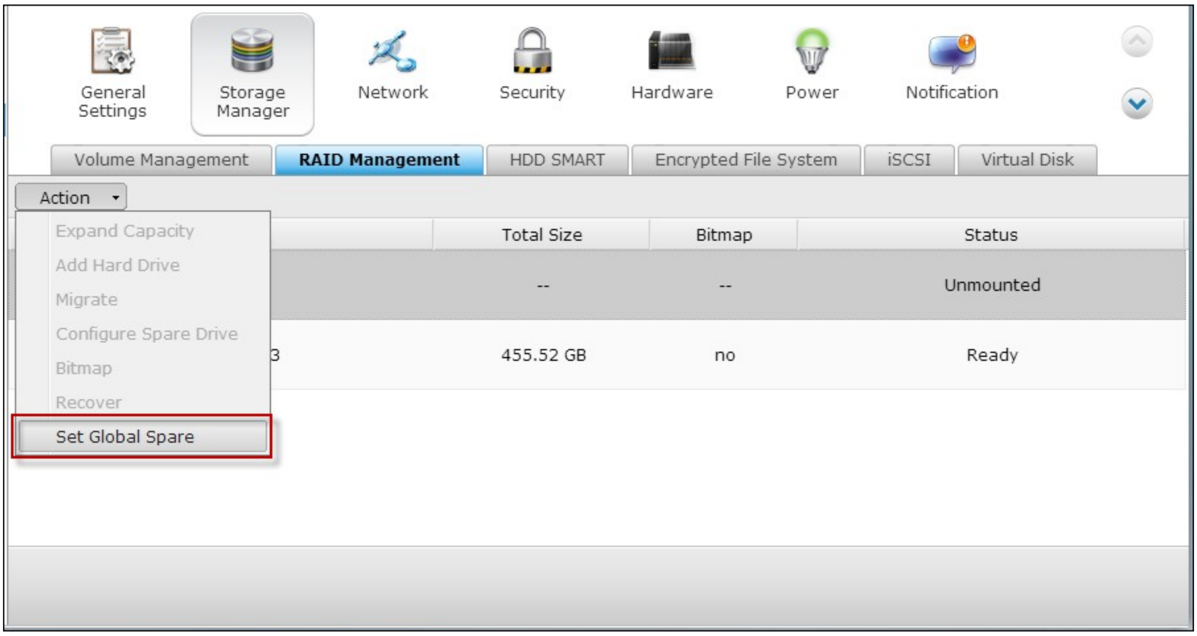
Read Only Protection (for immediate data backup & hard drive replacement)	N/A	N-1, bad blocks found in the surviving hard drives of the array.	N/A	N-2, bad blocks found in the surviving hard drives of the array.
RAID Recovery (RAID Status: Not Active)	N/A	If re-plugging in all original hard drive to the NAS and they can be spun up, identified, accessed, and the hard drive superblock is not damaged.	N/A	If re- plugging in all original hard drives to the NAS and they can be spun up, identified, accessed, and the hard drive superblock is not damaged).
RAID Crash	N-2	N-2 failed hard drives and any of the remaining hard drives cannot be spun up/identified/accessed.	N-3	N-3 and any of the remaining hard drives cannot be spun up/identified/accessed.

N = Number of hard disk drives in the array

Set/Cancel Global Spare

A global spare drive replaces a failed hard drive in any RAID 1, 5, 6, 10 disk volumes on the NAS automatically. When the same global spare drive is shared by multiple RAID volumes on the NAS, the spare drive will replace the first failed drive in a RAID volume.

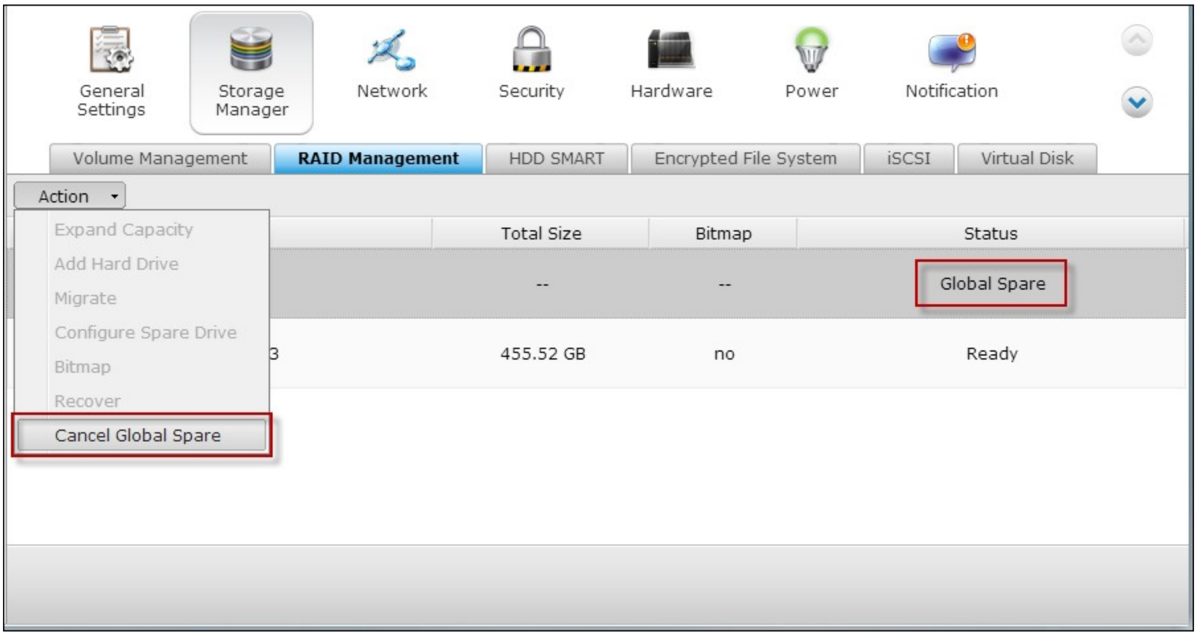
To set a disk drive as a global spare drive, select the single disk volume and click "Set Global Spare". **All the disk data will be cleared on the hard drive.**



	Total Size	Bitmap	Status
	--	--	Unmounted
3	455.52 GB	no	Ready

Note: The capacity of the global spare drive must be equal to or larger than that of a member drive of a RAID disk volume.

To cancel a global spare drive, select the drive and click "Cancel Spare Drive".



	Total Size	Bitmap	Status
	--	--	Global Spare
3	455.52 GB	no	Ready

Further information about RAID management of the NAS:

The NAS supports the following actions according to the number of hard disk drives and disk configurations supported. Please refer to the following table for the details.

Original Disk Configuration * No. of Hard Disk Drives	**No. of New Hard Disk Drives**	**Action**	**New Disk Configuration * No. of Hard Disk Drives**
RAID 5 * 3	1	Add hard drive member	RAID 5 * 4
RAID 5 * 3	2	Add hard drive member	RAID 5 * 5
RAID 5 * 3	3	Add hard drive member	RAID 5 * 6
RAID 5 * 3	4	Add hard drive member	RAID 5 * 7
RAID 5 * 3	5	Add hard drive member	RAID 5 * 8
RAID 5 * 4	1	Add hard drive member	RAID 5 * 5
RAID 5 * 4	2	Add hard drive member	RAID 5 * 6
RAID 5 * 4	3	Add hard drive member	RAID 5 * 7
RAID 5 * 4	4	Add hard drive member	RAID 5 * 8
RAID 5 * 5	1	Add hard drive member	RAID 5 * 6
RAID 5 * 5	2	Add hard drive member	RAID 5 * 7
RAID 5 * 5	3	Add hard drive member	RAID 5 * 8

RAID 5 * 6	1	Add hard drive member	RAID 5 * 7
RAID 5 * 6	2	Add hard drive member	RAID 5 * 8
RAID 5 * 7	1	Add hard drive member	RAID 5 * 8
RAID 6 * 4	1	Add hard drive member	RAID 6 * 5
RAID 6 * 4	2	Add hard drive member	RAID 6 * 6
RAID 6 * 4	3	Add hard drive member	RAID 6 * 7
RAID 6 * 4	4	Add hard drive member	RAID 6 * 8
RAID 6 * 5	1	Add hard drive member	RAID 6 * 6
RAID 6 * 5	2	Add hard drive member	RAID 6 * 7
RAID 6 * 5	3	Add hard drive member	RAID 6 * 8
RAID 6 * 6	1	Add hard drive member	RAID 6 * 7
RAID 6 * 6	2	Add hard drive member	RAID 6 * 8
RAID 6 * 7	1	Add hard drive member	RAID 6 * 8
RAID 10 * 4	2	Add hard drive member	RAID 10 * 6
RAID 10 * 4	4	Add hard drive member	RAID 10 * 8
RAID 10 * 6	2	Add hard drive member	RAID 10 * 8

RAID 1 * 2	1	Online RAID capacity expansion	RAID 1 * 2
RAID 5 * 3	1	Online RAID capacity expansion	RAID 5 * 3
RAID 5 * 4	1	Online RAID capacity expansion	RAID 5 * 4
RAID 5 * 5	1	Online RAID capacity expansion	RAID 5 * 5
RAID 5 * 6	1	Online RAID capacity expansion	RAID 5 * 6
RAID 5 * 7	1	Online RAID capacity expansion	RAID 5 * 7
RAID 5 * 8	1	Online RAID capacity expansion	RAID 5 * 8
RAID 6 * 4	1	Online RAID capacity expansion	RAID 6 * 4
RAID 6 * 5	1	Online RAID capacity expansion	RAID 6 * 5
RAID 6 * 6	1	Online RAID capacity expansion	RAID 6 * 6
RAID 6 * 7	1	Online RAID capacity expansion	RAID 6 * 7
RAID 6 * 8	1	Online RAID capacity expansion	RAID 6 * 8
RAID 10 * 4	1	Online RAID capacity expansion	RAID 10 * 4
RAID 10 * 6	1	Online RAID capacity expansion	RAID 10 * 6
RAID 10 * 8	1	Online RAID capacity expansion	RAID 10 * 8
Single * 1	1	Online RAID level migration	RAID 1 * 2

Single * 1	2	Online RAID level migration	RAID 5 * 3
Single * 1	3	Online RAID level migration	RAID 5 * 4
Single * 1	4	Online RAID level migration	RAID 5 * 5
Single * 1	5	Online RAID level migration	RAID 5 * 6
Single * 1	6	Online RAID level migration	RAID 5 * 7
Single * 1	7	Online RAID level migration	RAID 5 * 8
Single * 1	3	Online RAID level migration	RAID 6 * 4
Single * 1	4	Online RAID level migration	RAID 6 * 5
Single * 1	5	Online RAID level migration	RAID 6 * 6
Single * 1	6	Online RAID level migration	RAID 6 * 7
Single * 1	7	Online RAID level migration	RAID 6 * 8
Single * 1	3	Online RAID level migration	RAID 10 * 4
Single * 1	5	Online RAID level migration	RAID 10 * 6
Single * 1	7	Online RAID level migration	RAID 10 * 8
RAID 1 * 2	1	Online RAID level migration	RAID 5 * 3
RAID 1 * 2	2	Online RAID level migration	RAID 5 * 4

RAID 1 * 2	3	Online RAID level migration	RAID 5 * 5
RAID 1 * 2	4	Online RAID level migration	RAID 5 * 6
RAID 1 * 2	5	Online RAID level migration	RAID 5 * 7
RAID 1 * 2	6	Online RAID level migration	RAID 5 * 8
RAID 1 * 2	2	Online RAID level migration	RAID 6 * 4
RAID 1 * 2	3	Online RAID level migration	RAID 6 * 5
RAID 1 * 2	4	Online RAID level migration	RAID 6 * 6
RAID 1 * 2	5	Online RAID level migration	RAID 6 * 7
RAID 1 * 2	6	Online RAID level migration	RAID 6 * 8
RAID 1 * 2	2	Online RAID level migration	RAID 10 * 4
RAID 1 * 2	4	Online RAID level migration	RAID 10 * 6
RAID 1 * 2	6	Online RAID level migration	RAID 10 * 8
RAID 5 * 3	1	Online RAID level migration	RAID 6 * 4
RAID 5 * 3	2	Online RAID level migration	RAID 6 * 5
RAID 5 * 3	3	Online RAID level migration	RAID 6 * 6
RAID 5 * 3	4	Online RAID level migration	RAID 6 * 7

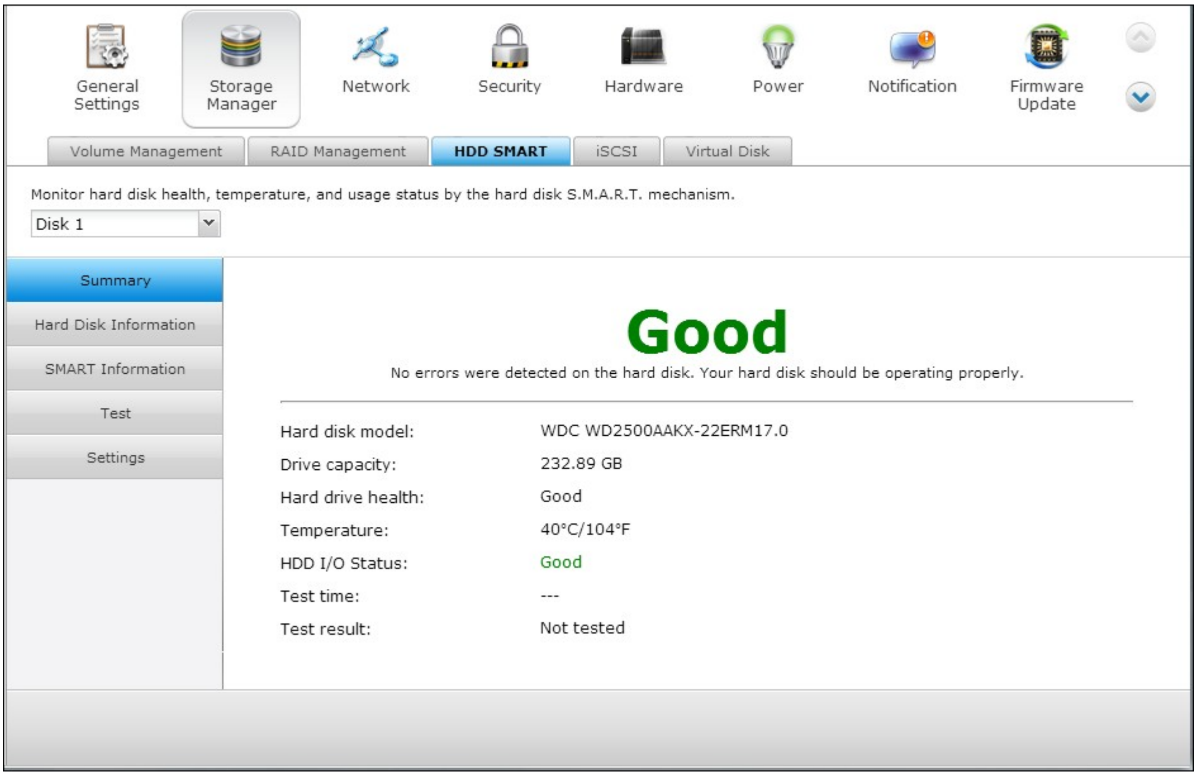
RAID 5 * 3	5	Online RAID level migration	RAID 6 * 8

4.2.3 Hard Disk S.M.A.R.T

Monitor the hard disk drives (HDD) health, temperature, and the usage status by HDD S. M.A.R.T. (Self-Monitoring Analysis and Reporting Technology).

The following information of each hard drive on the NAS is available.

Field	**Description**
Summary	Display the hard drive S.M.A.R.T. summary and the latest test result.
Hard disk information	Display the hard drive details, for example, model, serial number, HDD capacity.
SMART information	Display the hard drive S.M.A.R.T. information. Any items that the values are lower than the threshold are regarded as abnormal.
Test	Perform quick or complete hard drive S.M.A.R.T. test.
Settings	Configure temperature alarm. When the hard drive temperature is over the preset values, the NAS records the error logs. You can also set the quick and complete test schedule. The latest test result is shown on the Summary page.



Monitor hard disk health, temperature, and usage status by the hard disk S.M.A.R.T. mechanism.

Good

No errors were detected on the hard disk. Your hard disk should be operating properly.

Hard disk model: WDC WD2500AAKX-22ERM17.0
Drive capacity: 232.89 GB
Hard drive health: Good
Temperature: 40°C/104°F
HDD I/O Status: Good
Test time: ---
Test result: Not tested

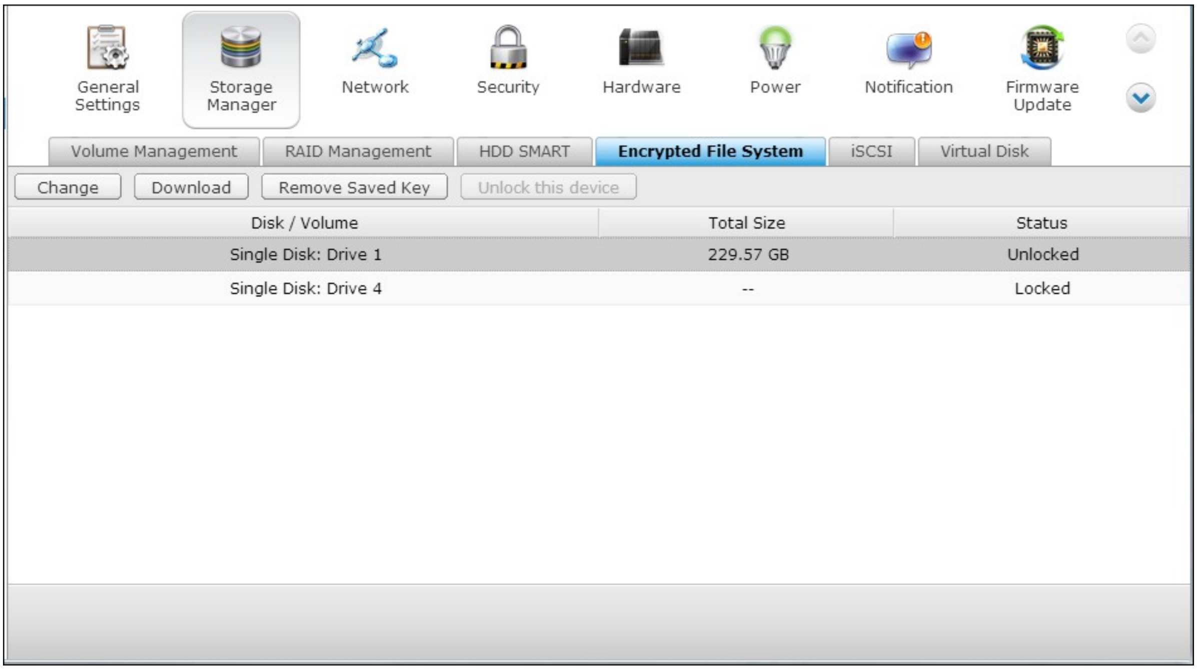
4.2.4 Encrypted File System

This feature is not supported by TS-110, TS-119, TS-210, TS-219, TS-219P, TS-410, TS-419P, TS-410U, TS-419U, TS-119P+, TS-219P+, TS-419P+, TS-112, TS-212, TS-412, TS-419U+, TS-412U and ARM-Based models.

You can manage the encrypted disk volumes on the NAS on this page. Each encrypted disk volume is locked by a particular key. The encrypted volume can be unlocked by the following methods:

- Encryption Password: Enter the encryption password to unlock the disk volume. The default password is "admin". The password must be 8-16 characters long. Symbols (! @ # $ % ^ & * ( )_+ = ?) are supported.
- Encryption Key File: Upload the encryption file to the NAS to unlock the disk volume. The key can be downloaded from "Encryption Key Management" page after the disk volume has been unlocked successfully.

The data encryption functions may not be available in accordance to the legislative restrictions of some countries.



Disk / Volume	Total Size	Status
Single Disk: Drive 1	229.57 GB	Unlocked
Single Disk: Drive 4	--	Locked

How to use the data encryption feature on QNAP Turbo NAS

The disk volumes on the NAS can be encrypted with 256-bit AES encryption for data breach protection. The encrypted disk volumes can only be mounted for normal read/ write access with the authorized password. The encryption feature protects the confidential data from unauthorized access even if the hard drives or the entire NAS were stolen.

About AES encryption:

In cryptography, the Advanced Encryption Standard (AES) is an encryption standard adopted by the U.S. government. The standard comprises three block ciphers, AES-128, AES-192 and AES-256 […]. Each AES cipher has a 128-bit block size, with key sizes of 128, 192 and 256 bits, respectively. The AES ciphers have been analyzed extensively and are now used worldwide. (Source: http://en.wikipedia.org/wiki/ Advanced_Encryption_Standard)

The AES volume-based encryption is applicable only to specific QNAP NAS models. Please refer to the comparison table at: http://www.qnap.com/images/products/ comparison/Comparison_NAS.html

Before you start

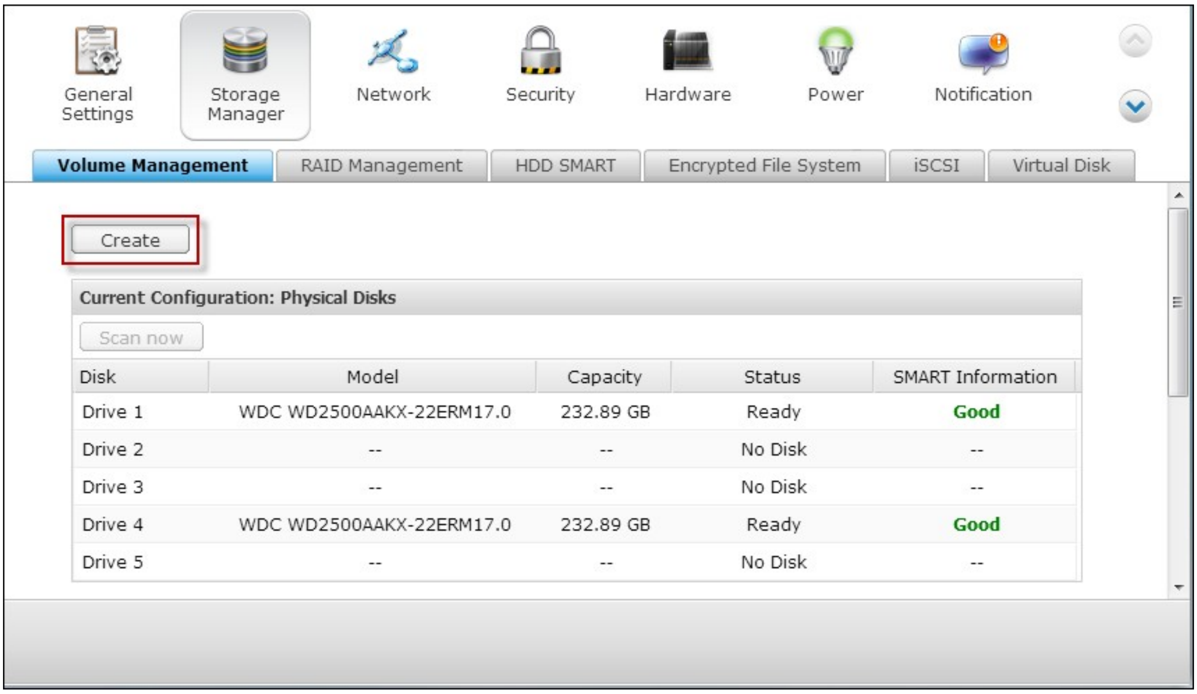
Please beware of the following before using the data encryption feature of the NAS.

- The encryption feature of the NAS is volume-based. A volume can be a single disk, a JBOD configuration, or a RAID array.
- Select whether or not to encrypt a disk volume before it is created on the NAS. In other words, you will not be able to encrypt a volume after it has been created unless the disk volume is initialized. Note that initializing a disk volume will clear all the disk data.
- The encryption on the disk volume cannot be removed without initialization. To remove the encryption on the disk volume, you have to initialize the disk volume and all the data will be cleared.
- Keep the encryption password or key safe. If you forgot the password or lost the encryption key, the data cannot be accessed anymore.
- Before you start, read the instructions carefully and strictly adhere to the instructions.

Create a new encrypted disk volume with new hard drives

If the NAS has been installed, to create a new encrypted disk volume by installing new hard drives on the NAS, follow the steps below:

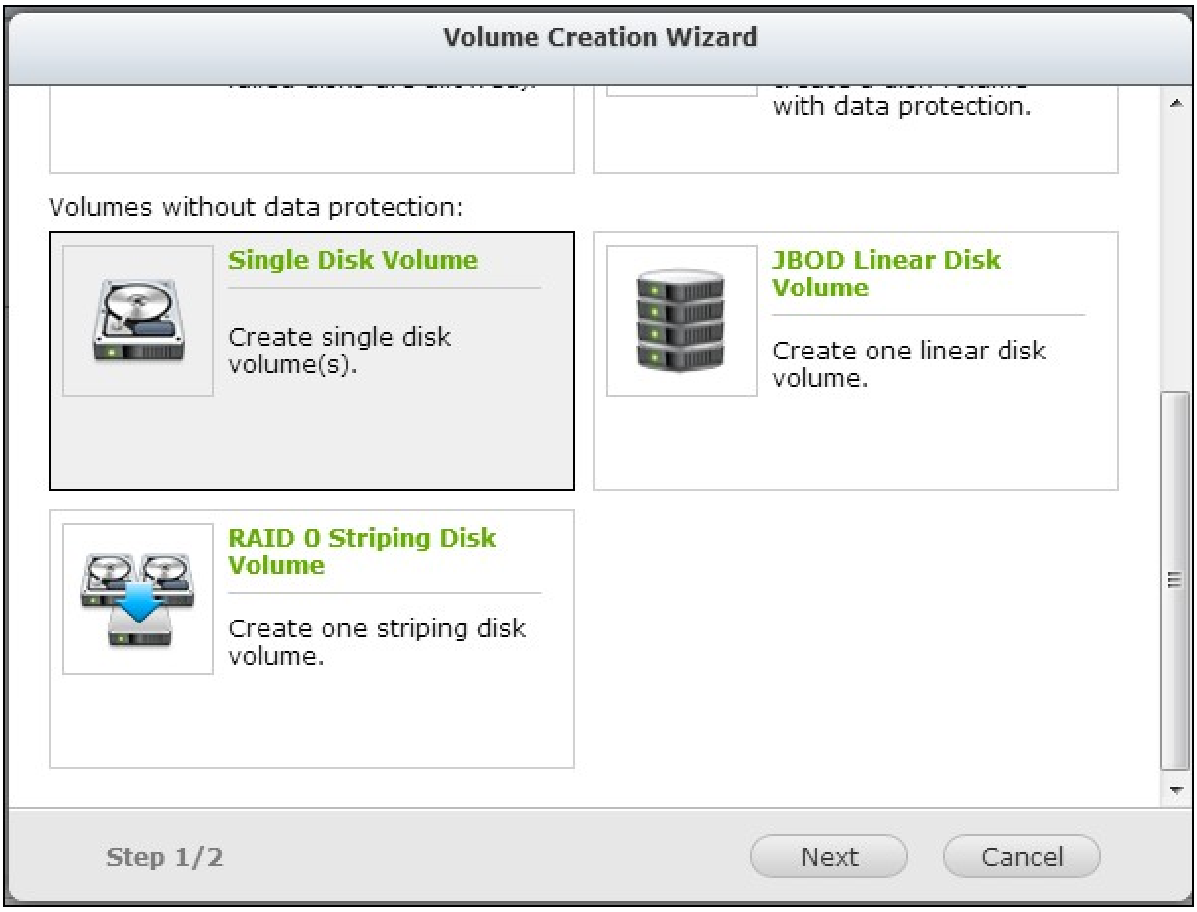
1. Install the new hard drive(s) on the NAS.
2. Login the NAS as an administrator. Go to Storage Manager" > "Volume Management".
3. Click "Create".



Current Configuration: Physical Disks

Disk	Model	Capacity	Status	SMART Information
Drive 1	WDC WD2500AAKX-22ERM17.0	232.89 GB	Ready	Good
Drive 2	--	--	No Disk	--
Drive 3	--	--	No Disk	--
Drive 4	WDC WD2500AAKX-22ERM17.0	232.89 GB	Ready	Good
Drive 5	--	--	No Disk	--

1. Select the disk volume you want to configure according to the number of new hard drives installed.



Volume Creation Wizard

with data protection.

Volumes without data protection:

Single Disk Volume

Create single disk volume(s).

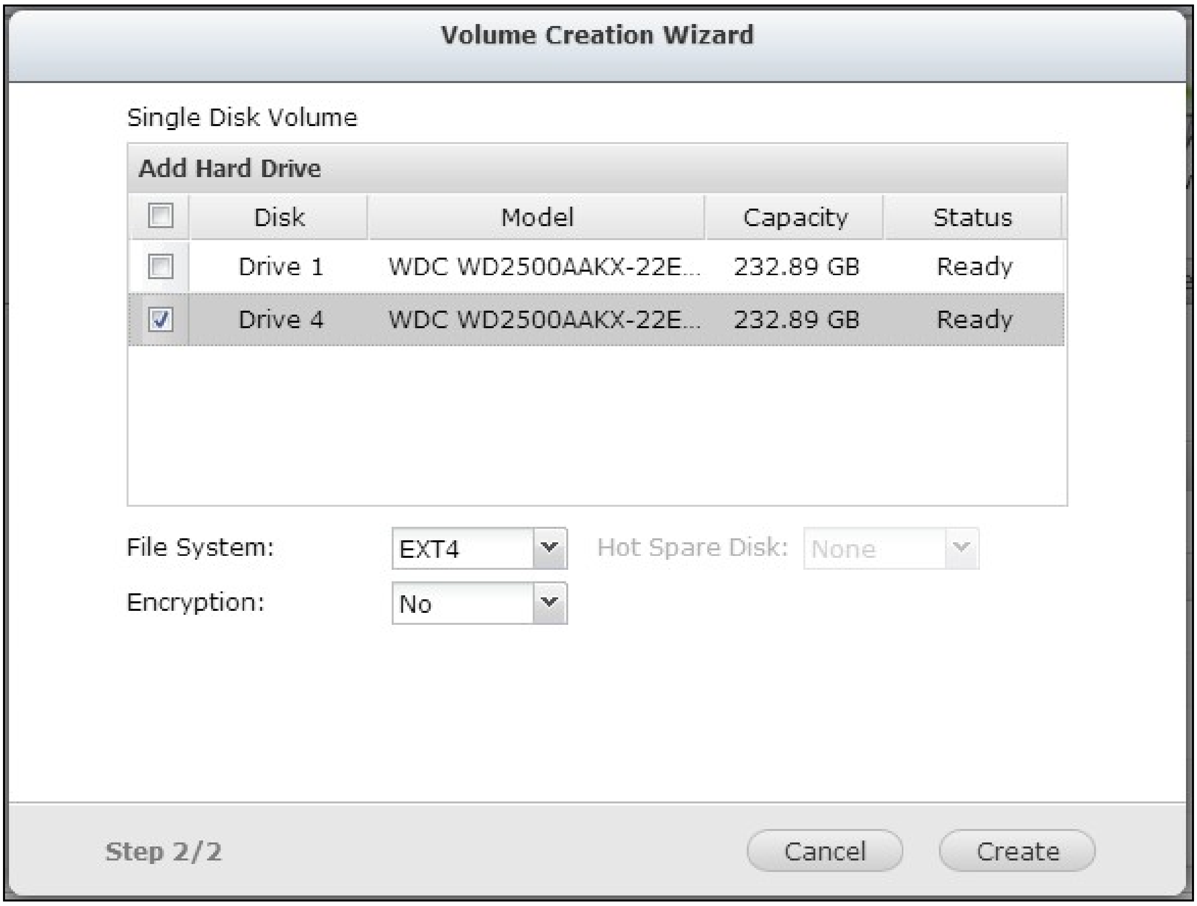
JBOD Linear Disk Volume

Create one linear disk volume.

RAID 0 Striping Disk Volume

Create one striping disk volume.

2. Check the drive for the intended volume.



Volume Creation Wizard

Single Disk Volume

Add Hard Drive

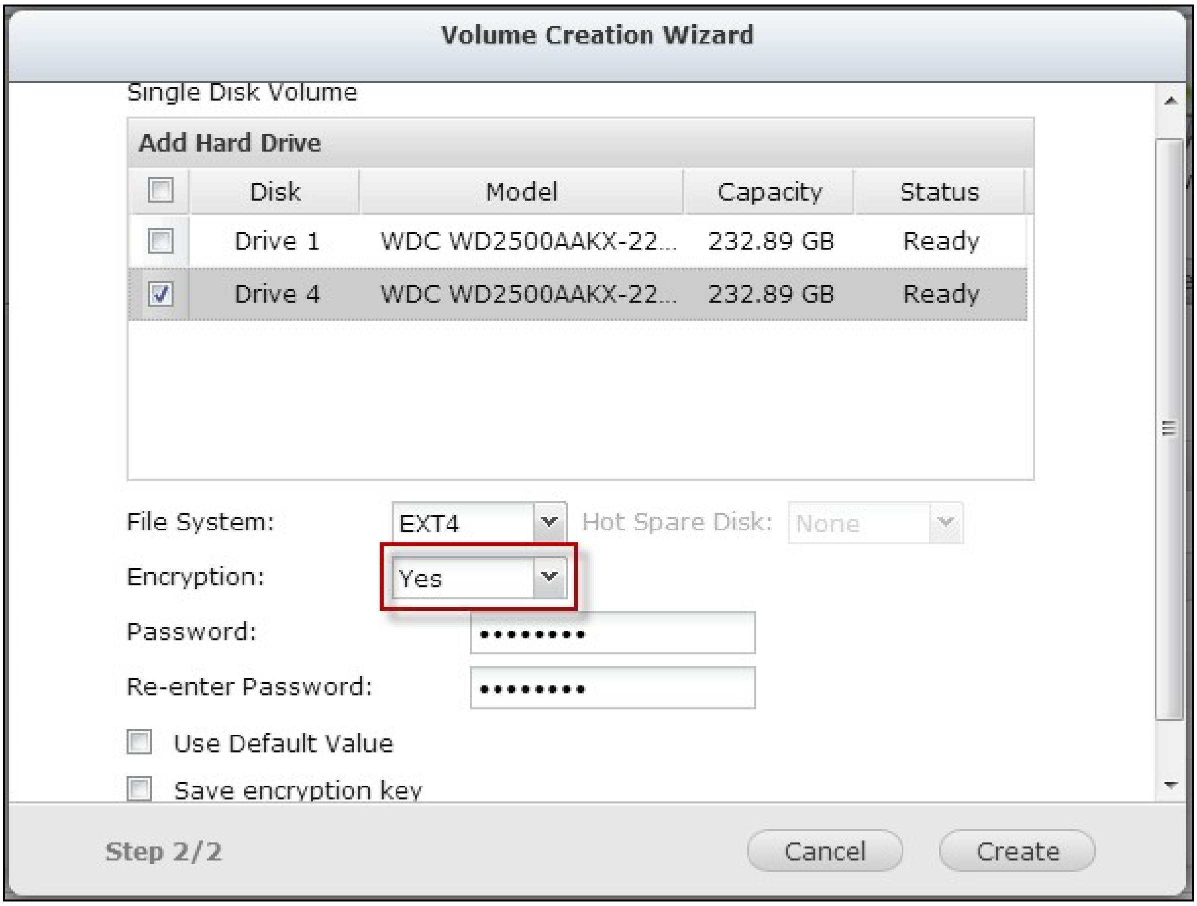
☐	Disk	Model	Capacity	Status
☐	Drive 1	WDC WD2500AAKX-22E...	232.89 GB	Ready
☑	Drive 4	WDC WD2500AAKX-22E...	232.89 GB	Ready

File System: EXT4

Hot Spare Disk: None

Encryption: No

3. Select "Yes" for the "Encryption" option and enter the encryption settings. Then click "Create" to create the new encrypted volume.



Volume Creation Wizard

Single Disk Volume

Add Hard Drive

□	Disk	Model	Capacity	Status
□	Drive 1	WDC WD2500AAKX-22...	232.89 GB	Ready
☑	Drive 4	WDC WD2500AAKX-22...	232.89 GB	Ready

File System: EXT4 Hot Spare Disk: None

Encryption: Yes

Password: ••••••••

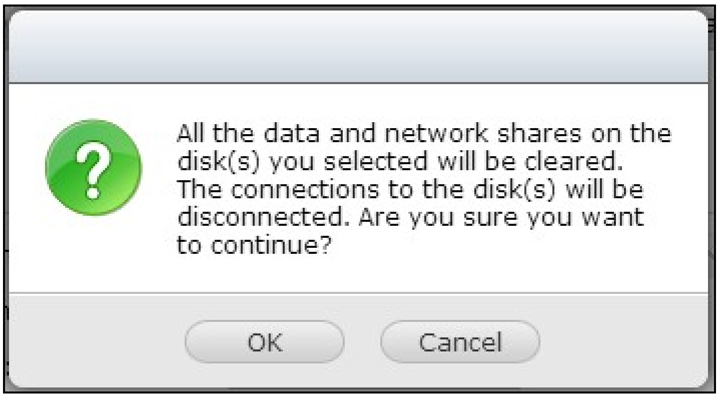
Re-enter Password: ••••••••

□ Use Default Value

□ Save encryption key

Step 2/2

Note that all the data on the selected drives will be DELETED! Please back up the data before creating the encrypted volume.



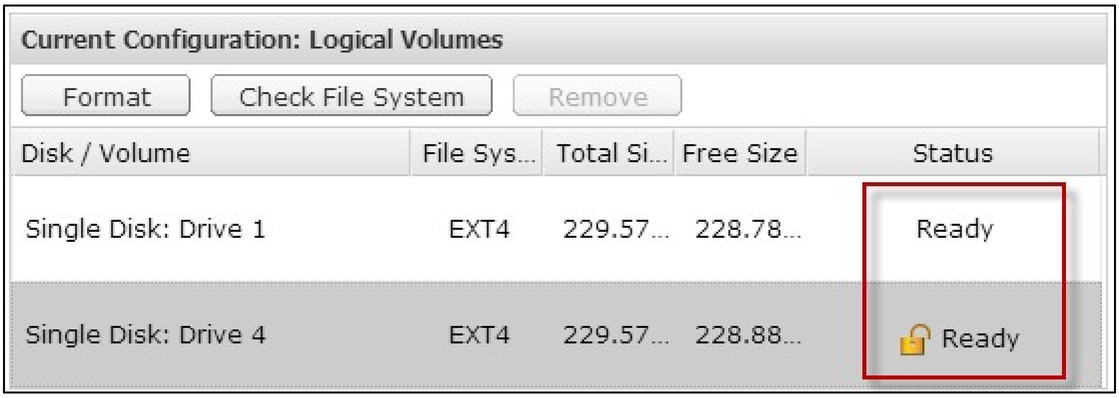
All the data and network shares on the disk(s) you selected will be cleared. The connections to the disk(s) will be disconnected. Are you sure you want to continue?

You have created an encrypted disk volume on the NAS.

Verify that disk volume is encrypted

To verify the disk volume is encrypted, login the NAS as an administrator. Go to "Storage Manager" > "Volume Management"..

You will be able to see the encrypted disk volume, with a lock icon in the Status column. The lock will be open if the encrypted volume has been unlocked. A disk volume without the lock icon in the Status column is not encrypted.



Disk / Volume	File Sys...	Total Si...	Free Size	Status
Single Disk: Drive 1	EXT4	229.57...	228.78...	Ready
Single Disk: Drive 4	EXT4	229.57...	228.88...	🔓 Ready

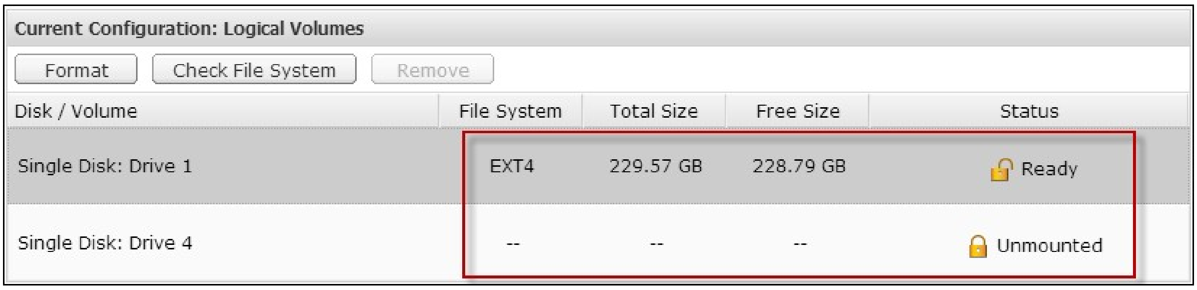
Behavior of an encrypted volume upon system reboot

In this example, we have two encrypted disk volumes on the NAS.

The first volume (Single Disk Drive 1) has been created with the option "Save Encryption Key" enabled.

The second volume (Single Disk Drive 4) has been created with the option "Save Encryption Key" disabled.

After restarting the NAS, check the volume status. The first drive has been unlocked and mounted but the second drive is locked. Since the encryption key is not saved on the second disk volume, you have to manually enter the encryption password to unlock it.



Disk / Volume	File System	Total Size	Free Size	Status
Single Disk: Drive 1	EXT4	229.57 GB	228.79 GB	🔓 Ready
Single Disk: Drive 4	--	--	--	🔒 Unmounted

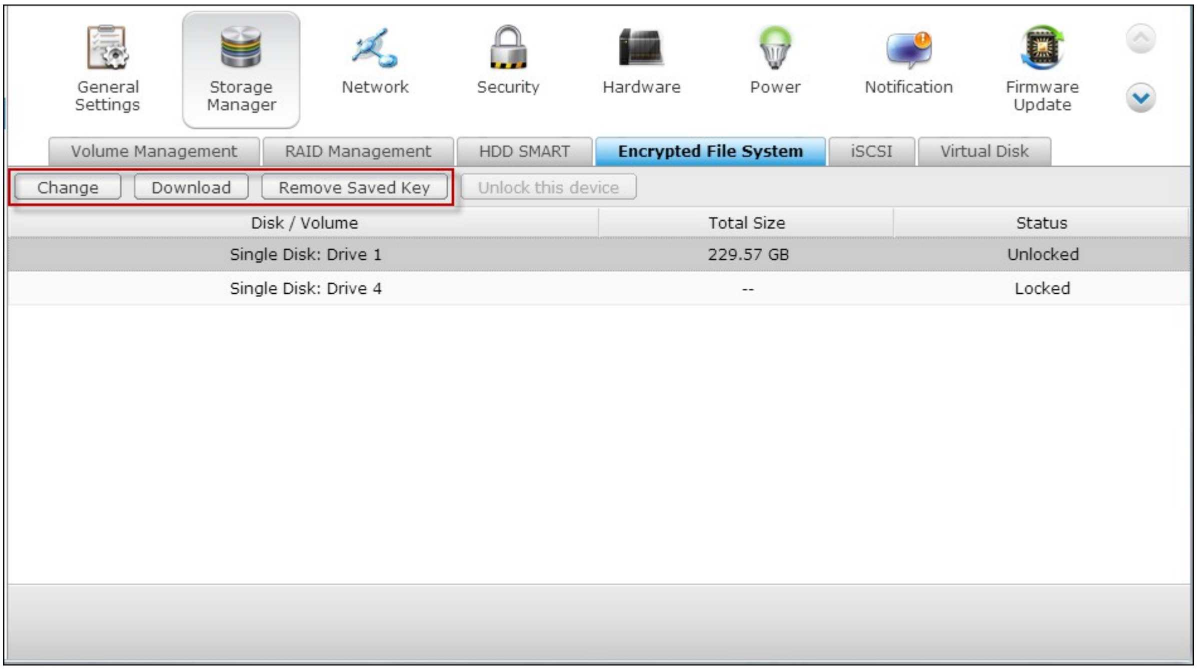
- Saving the key on the NAS will protect you only if your hard drives are stolen. However, there is a risk of data breach if the entire NAS is stolen as the data is accessible after restarting the NAS.
- If you select not to save the encryption key on the NAS, your NAS will be protected against data breach even if the entire NAS were stolen. The disadvantage is that you have to unlock the disk volume manually on each system restart.

Encryption key management:

To manage the encryption key settings, login the NAS as an administrator and go to Storage Manager" > "Encrypted File System".

There are four options to manage the encryption key:

- Change the encryption key
- Download the encryption key file
- Remove the saved key
- Save the encryption key on the NAS



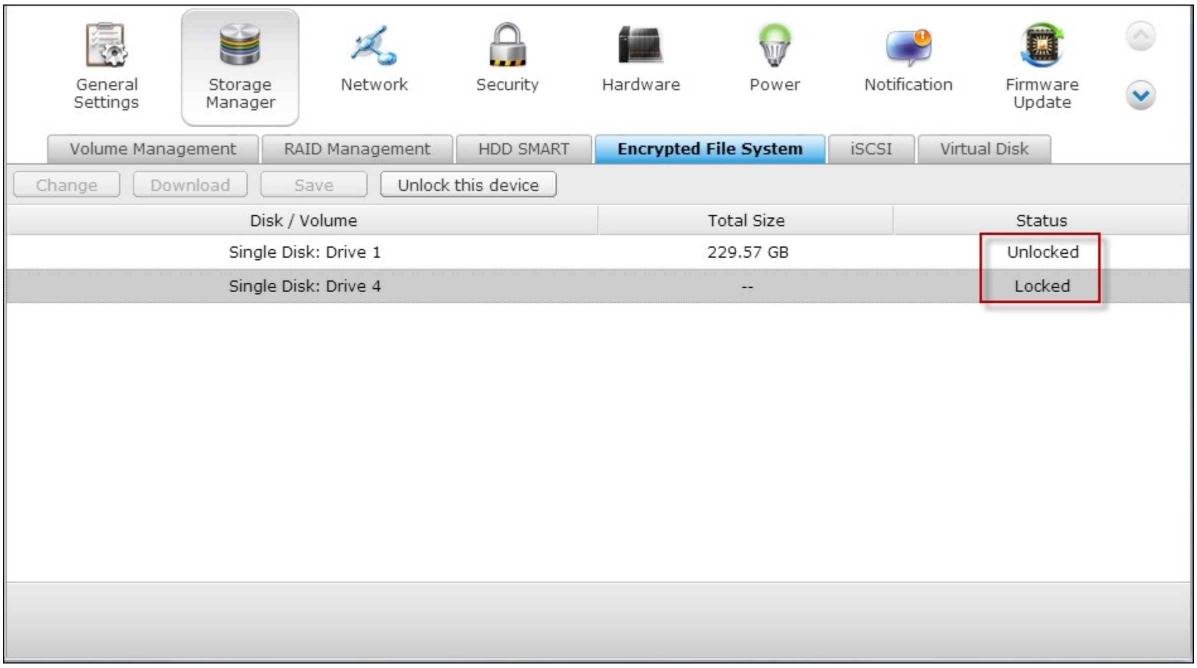
Disk / Volume	Total Size	Status
Single Disk: Drive 1	229.57 GB	Unlocked
Single Disk: Drive 4	--	Locked

- Change the encryption key: Input your old encryption password and input the new password. (Note that after the password is changed, any previously exported keys will not be working anymore. You have to download the new encryption key if necessary, see below).
- Download Encryption Key File: Input the encryption password to download the encryption key file. Downloading the encryption key file will allow you to save the encryption key in a file. The file is also encrypted and can be used to unlock a volume, without knowing the real password (see "unlock a disk volume manually" below). Please save the encryption key file in a secure place!
- Remove Saved Key: Remove saved keys with this option.
- Save Encryption Key: Save the encryption key on the NAS for automatic unlocking and mounting the encrypted disk volume when the NAS restarts.

Unlock a disk volume manually

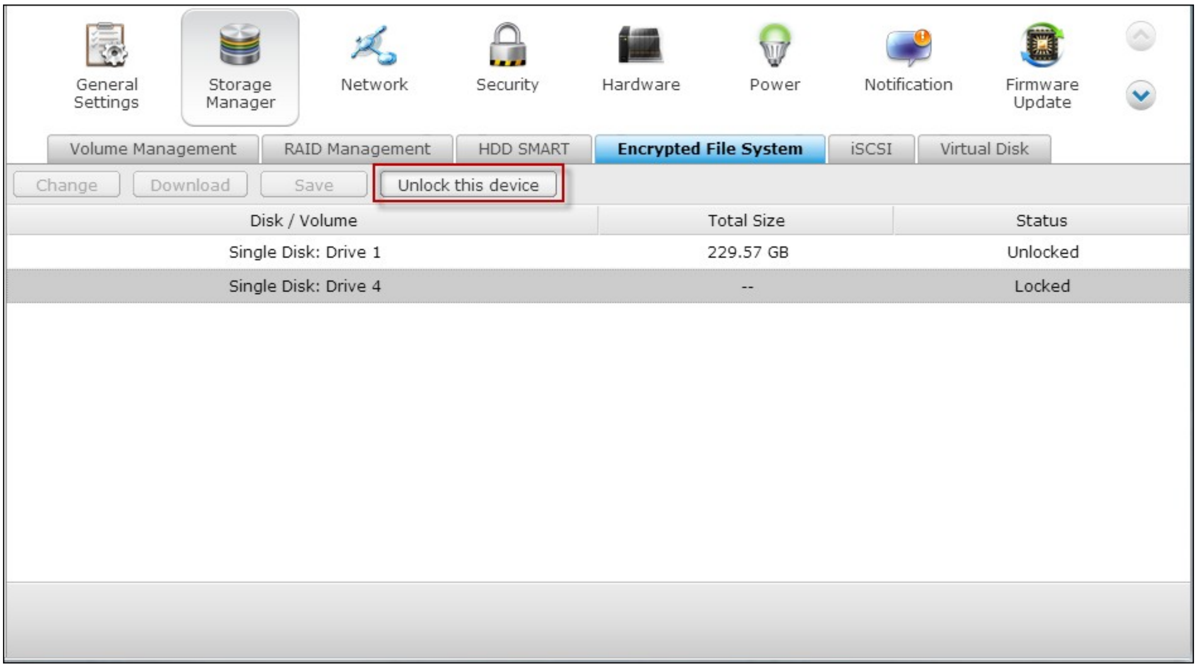
To unlock a volume, login the NAS as an administrator. Go to "Storage Manager" > "Encrypted File System".

You will be able to see your encrypted volumes and their status: locked or unlocked.



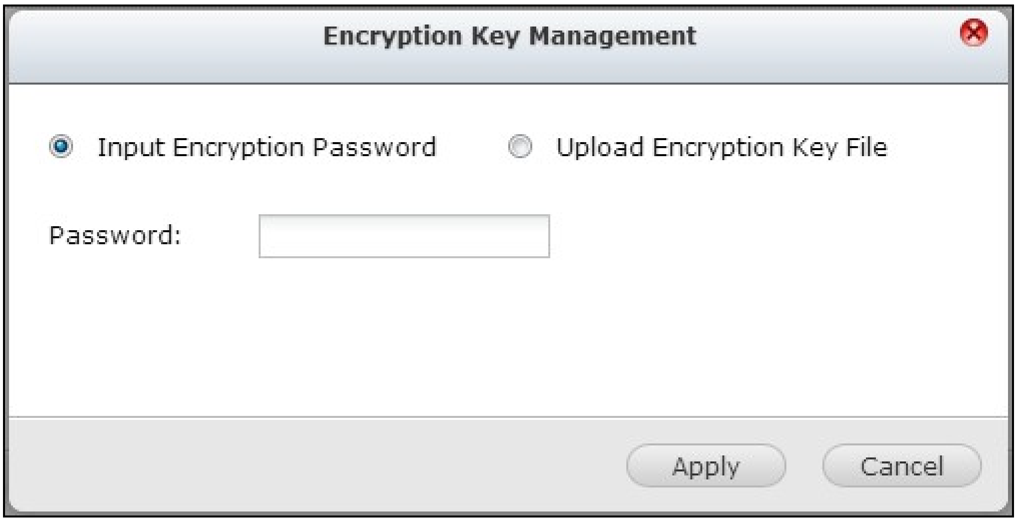
Disk / Volume	Total Size	Status
Single Disk: Drive 1	229.57 GB	Unlocked
Single Disk: Drive 4	--	Locked

To unlock your volume, first click "Unlock this device".



Disk / Volume	Total Size	Status
Single Disk: Drive 1	229.57 GB	Unlocked
Single Disk: Drive 4	--	Locked

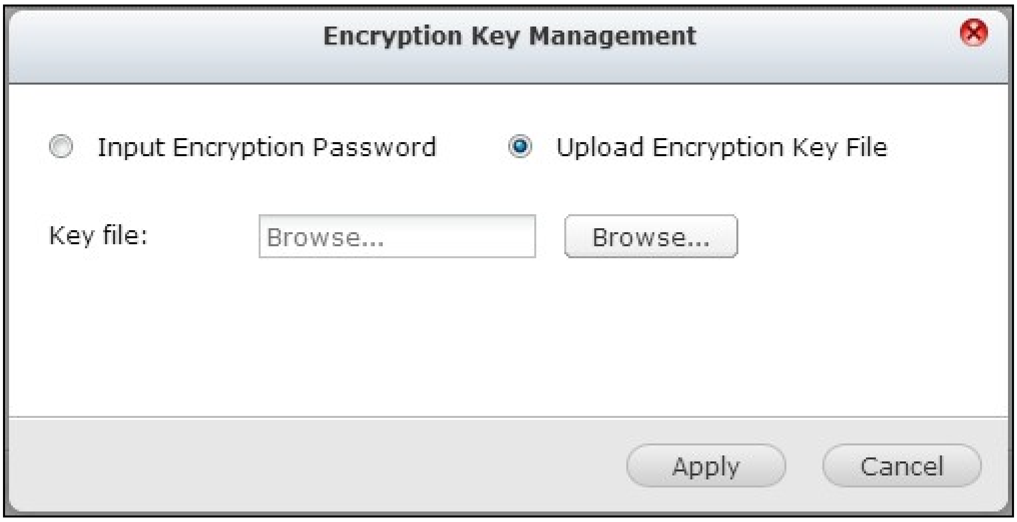
Choose to either input the encryption password, or use the encryption key file that has been exported previously.



Encryption Key Management

● Input Encryption Password ○ Upload Encryption Key File

Password:

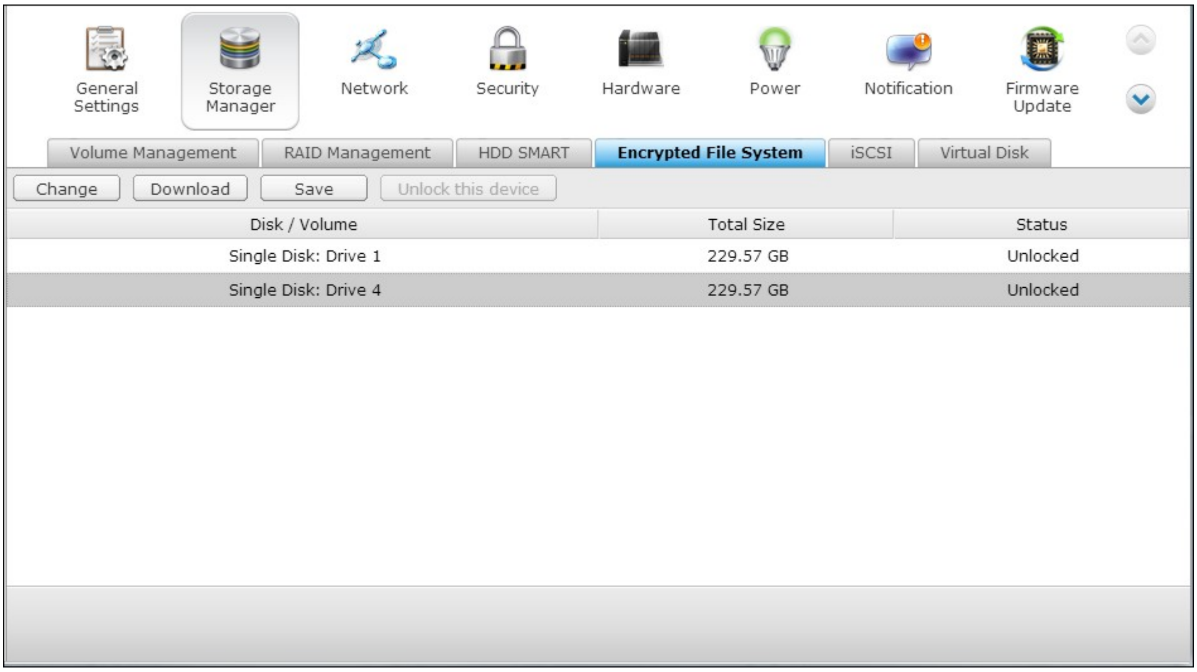


Encryption Key Management

○ Input Encryption Password ● Upload Encryption Key File

Key file: Browse...

If the encryption password or the key file is correct, the volume will be unlocked and become available.



Disk / Volume	Total Size	Status
Single Disk: Drive 1	229.57 GB	Unlocked
Single Disk: Drive 4	229.57 GB	Unlocked

4.2.5 iSCSI

4.2.5.1 Portal Management

The NAS supports built-in iSCSI (Internet Small Computer System Interface) service for server clustering and virtualized environments.

iSCSI Configuration

The NAS supports built-in iSCSI service. To use this function, follow the steps below:

1. Install an iSCSI initiator on the computer (Windows PC, Mac, or Linux).
2. Enable iSCSI Target Service on the NAS and create an iSCSI target.
3. Run the iSCSI initiator and connect to the iSCSI target (NAS).
4. After successful logon, format the iSCSI target (disk volume). You can start to use the disk volume on the NAS as a virtual drive on the computer.

In between the relationship of your computer and the storage device, the computer is called an initiator because it initiates the connection to the device, which is called a target.

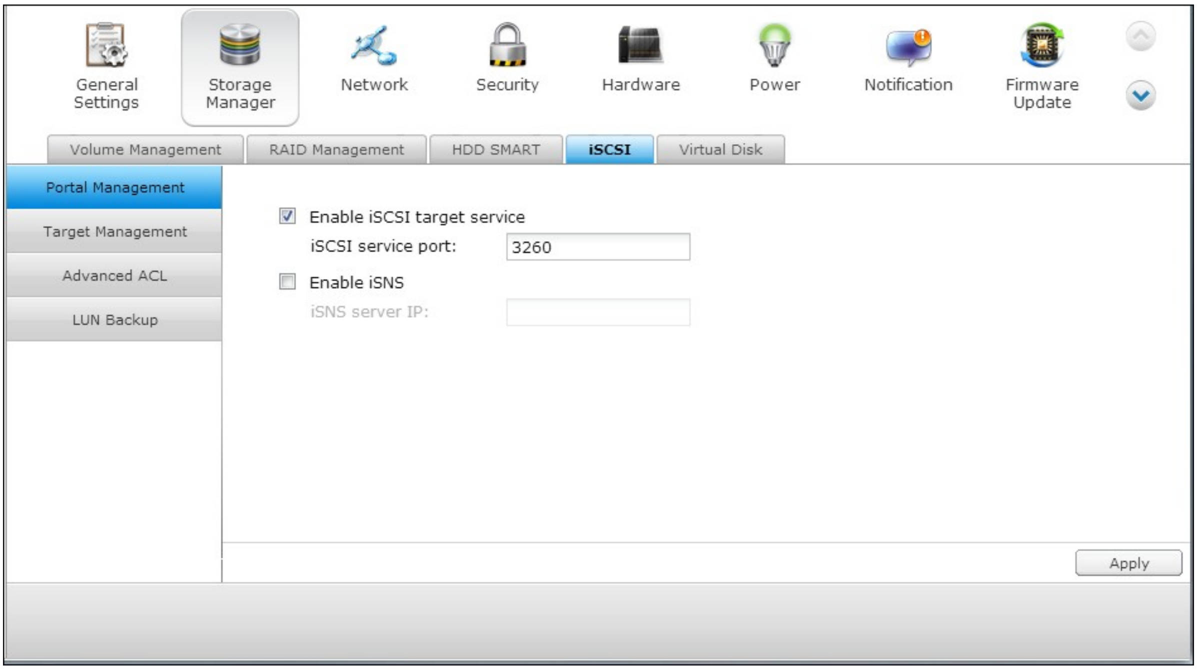
Note: It is suggested NOT to connect to the same iSCSI target with two different clients (iSCSI initiators) at the same time, because this may lead to data damage or disk damage.

iSCSI Quick Configuration Wizard

A maximum of 256 iSCSI targets and LUNs can be created. For example, if you create 100 targets on the NAS, the maximum number of LUNs you can create is 156. Multiple LUNs can be created for each target. However, the maximum number of concurrent connections to the iSCSI targets supported by the NAS varies depending on the network infrastructure and the application performance. Too many concurrent connections may slow down the performance of the NAS.

Follow the steps below to configure the iSCSI target service on the NAS.

1. Under the "Portal Management" tab enable iSCSI target service. Apply the settings.



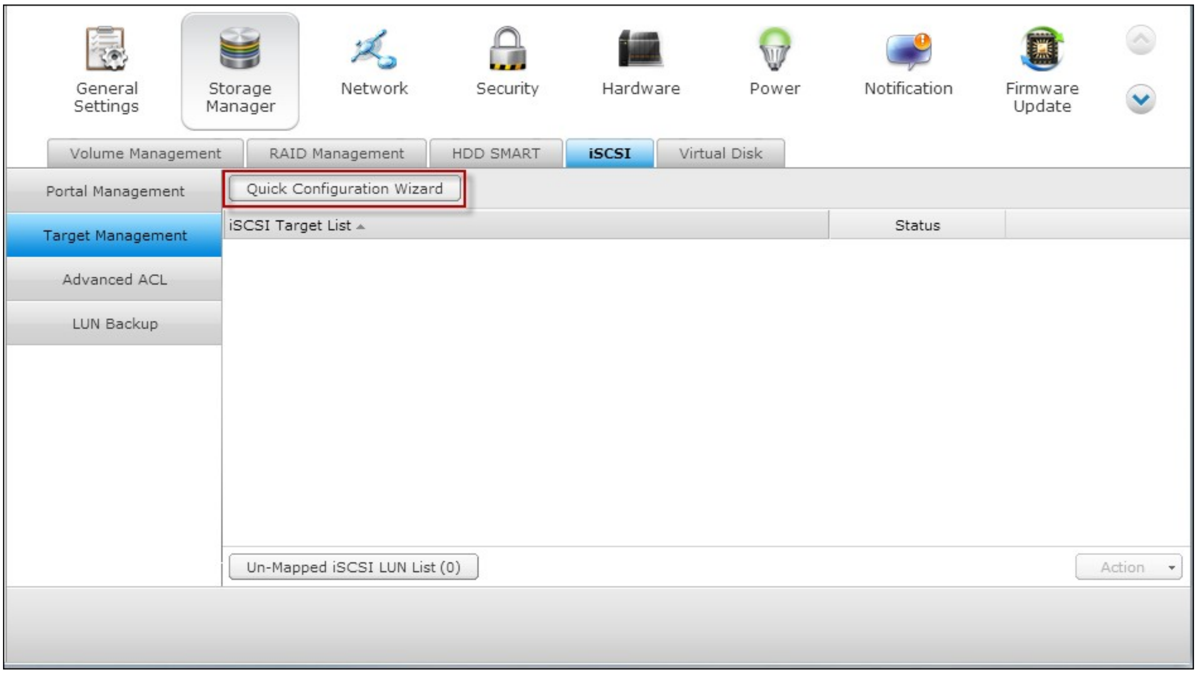
☑ Enable iSCSI target service

iSCSI service port: 3260

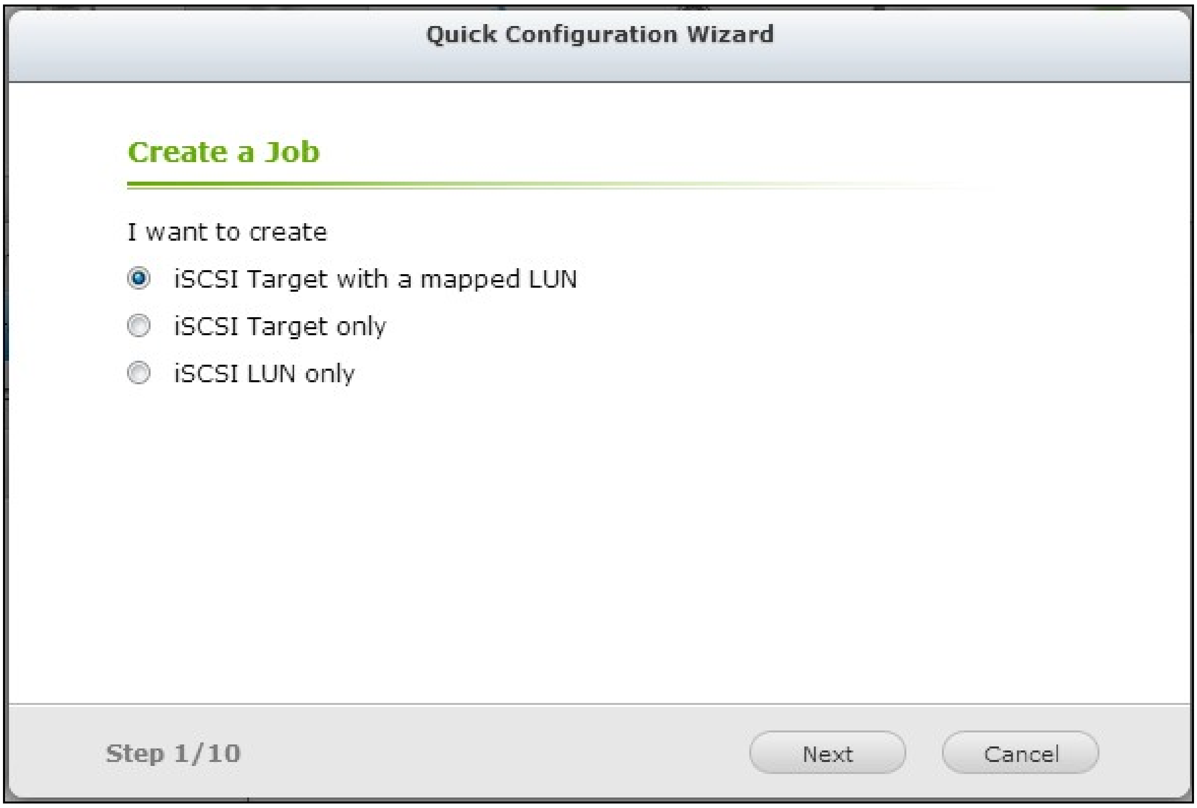
□ Enable iSNS

iSNS server IP:

2. Go to the "Target Management" tab and create iSCSI targets on the NAS. If you have not created any iSCSI targets, the Quick Installation Wizard will automatically be launched and prompt users to create iSCSI targets and LUNs (Logical unit number). Click "OK".



3. Select to create an iSCSI target with a mapped LUN, an iSCSI target only, or an iSCSI LUN only. Click “Next.”


Quick Configuration Wizard

Create a Job

I want to create

● iSCSI Target with a mapped LUN

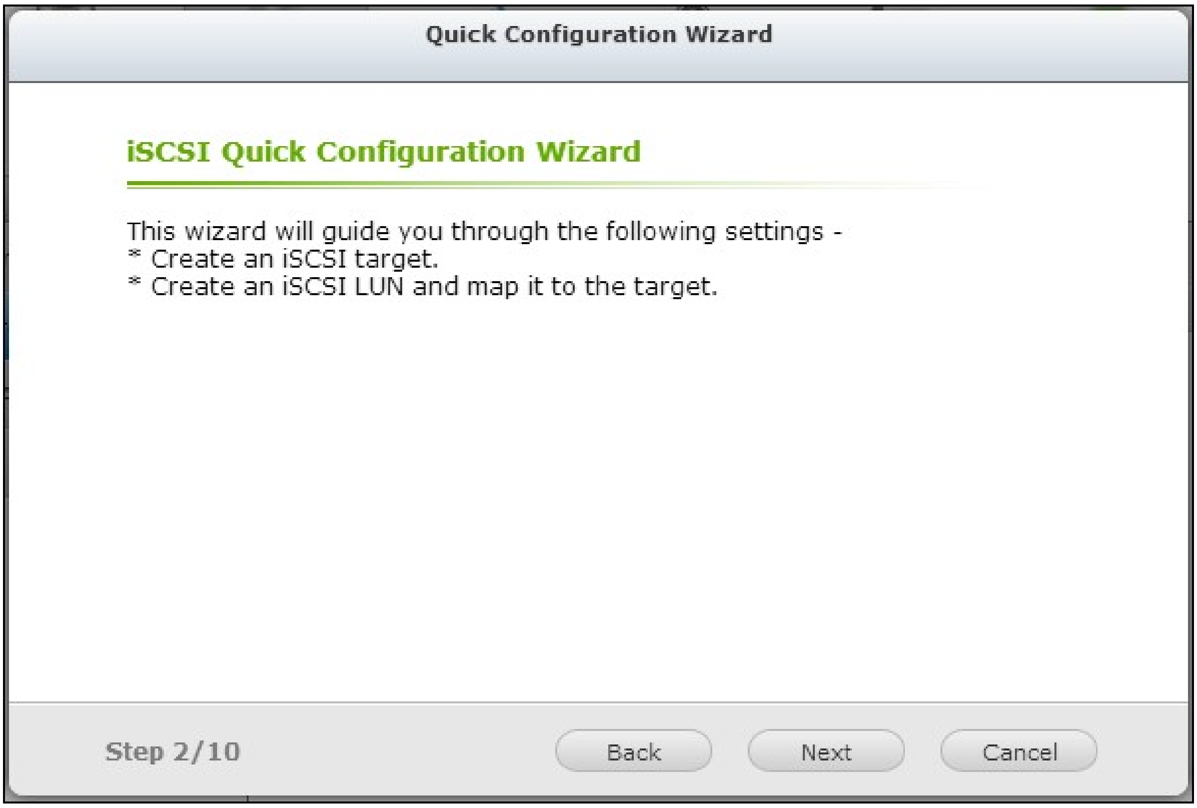
○ iSCSI Target only

○ iSCSI LUN only

Step 1/10

4. Create iSCSI target with a mapped LUN.

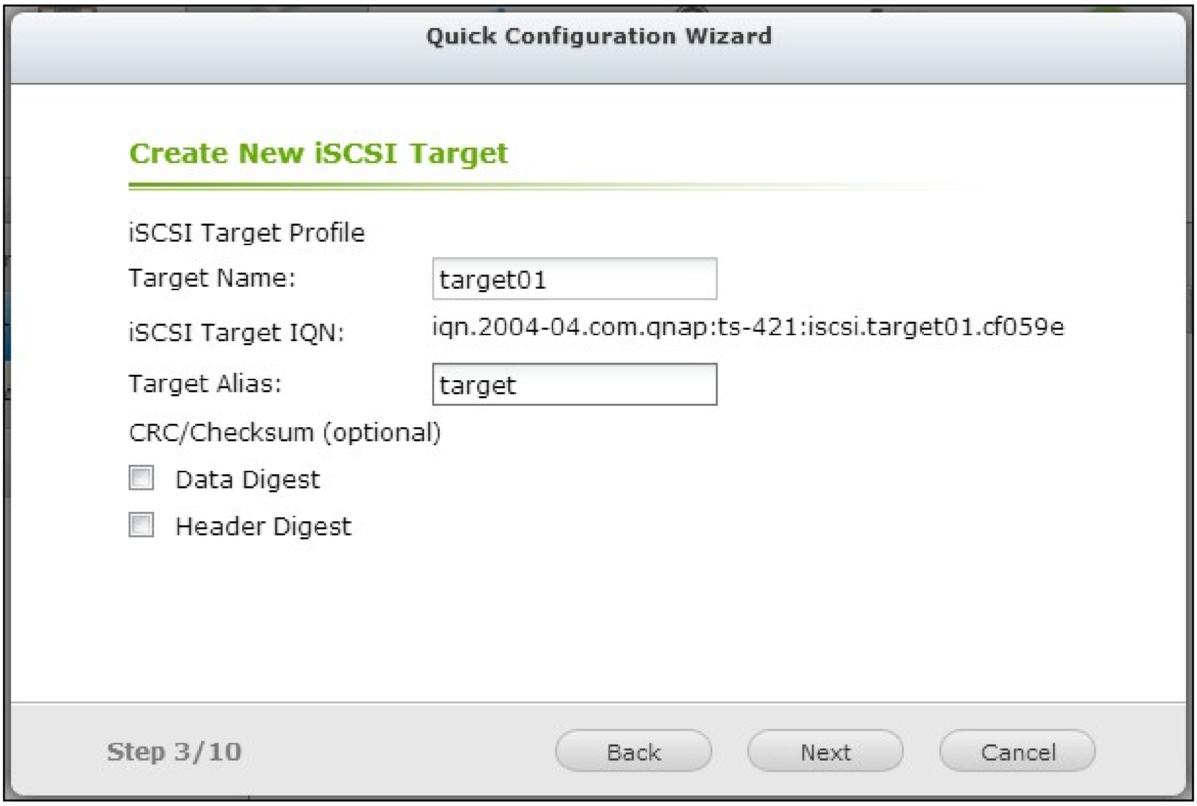
5. Click “Next.”



iSCSI Quick Configuration Wizard

This wizard will guide you through the following settings -
* Create an iSCSI target.
* Create an iSCSI LUN and map it to the target.

6. Enter the target name and target alias. You may check the options "Data Digest" and/or "Header Digest" (optional). These are the parameters that the iSCSI initiator will be verified when it attempts to connect to the iSCSI target.



Create New iSCSI Target

iSCSI Target Profile

Target Name: target01

iSCSI Target IQN: iqn.2004-04.com.qnap:ts-421:iscsi.target01.cf059e

Target Alias: target

CRC/Checksum (optional)

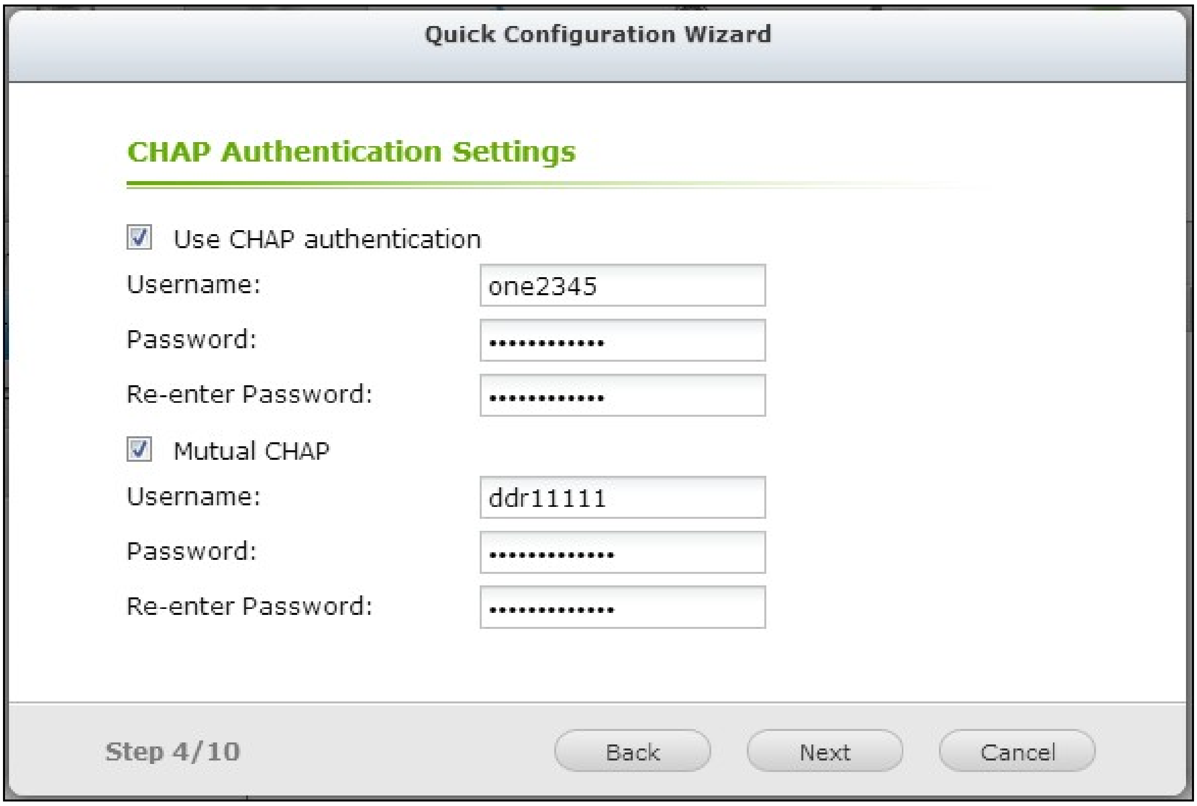
□ Data Digest

□ Header Digest

7. Enter the CHAP authentication settings. If you enter the username and password settings under "Use CHAP authentication" only, only the iSCSI target authenticates the initiator, i.e. the initiators have to enter the username and password settings here to access the target.

Mutual CHAP: Enable this option for two-way authentication between the iSCSI target and the initiator. The target authenticates the initiator using the first set of username and password. The initiator authenticates the target using the "Mutual CHAP" settings.

Field	**Username limitation**	**Password limitation**
Use CHAP authentication	• The only valid characters are 0-9, a-z, A-Z • Maximum length: 256 characters	• The only valid characters are 0-9, a-z, A-Z • Maximum length: 12-16 characters
Mutual CHAP	• The only valid characters are 0-9, a-z, A-Z, : (colon), . (dot), and - (dash) • Maximum length: 12-16 characters	• The only valid characters are 0-9, a-z, A-Z, : (colon), . (dot), and - (dash) • Maximum length: 12-16 characters



Quick Configuration Wizard

CHAP Authentication Settings

☑ Use CHAP authentication

Username: one2345

Password: ••••••••••••

Re-enter Password: ••••••••••••

☑ Mutual CHAP

Username: ddr11111

Password: •••••••••••••

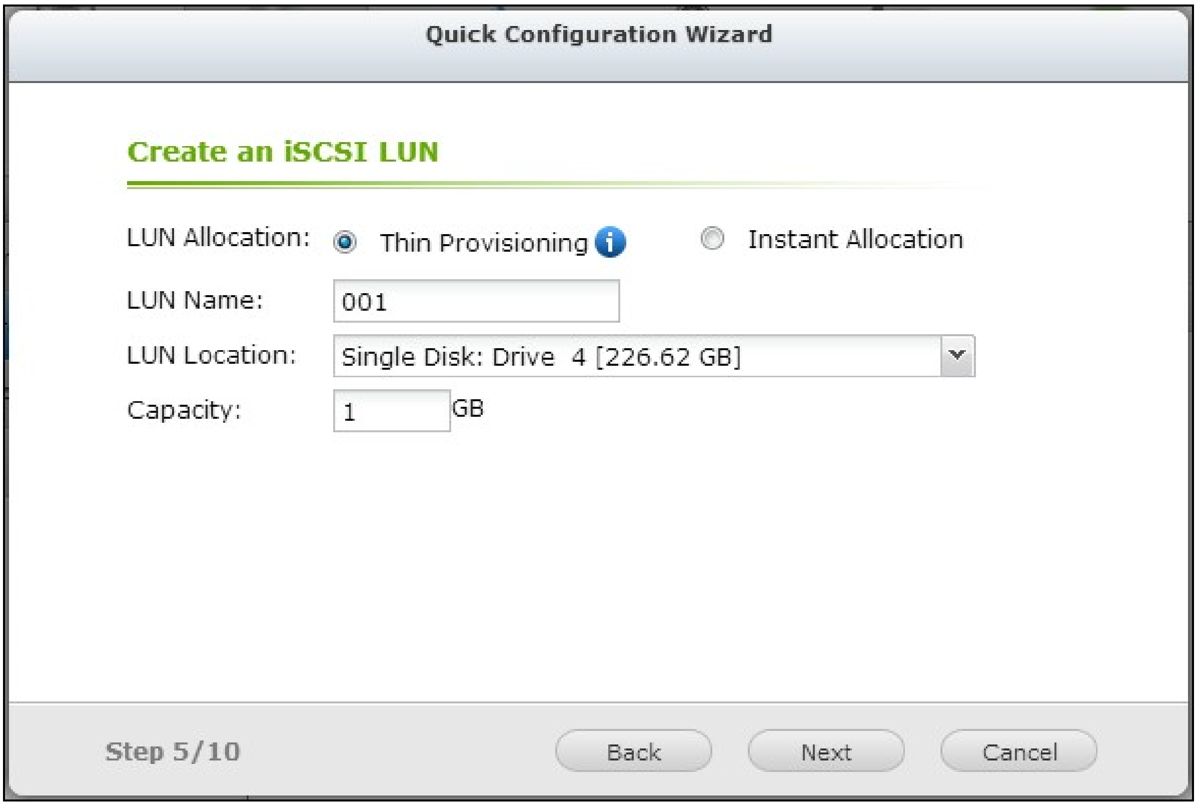
Re-enter Password: •••••••••••••

Create an iSCSI LUN.

An iSCSI LUN is a logical volume mapped to the iSCSI target. Select one of the following modes to allocate the disk space to the LUN:

- Thin Provisioning: Allocate the disk space in a flexible manner. You can allocate the disk space to the target anytime regardless of the current storage capacity available on the NAS. Over-allocation is allowed as the storage capacity of the NAS can be expanded by online RAID capacity expansion.
- Instant Allocation: Allocate the disk space to the LUN instantly. This option guarantees the disk space assigned to the LUN but may take more time to create the LUN.

1. Enter the name of the LUN and specify the LUN location (disk volume on the NAS). Enter the capacity for the LUN. Click "Next".



Quick Configuration Wizard

Create an iSCSI LUN

LUN Allocation: ● Thin Provisioning ○ Instant Allocation

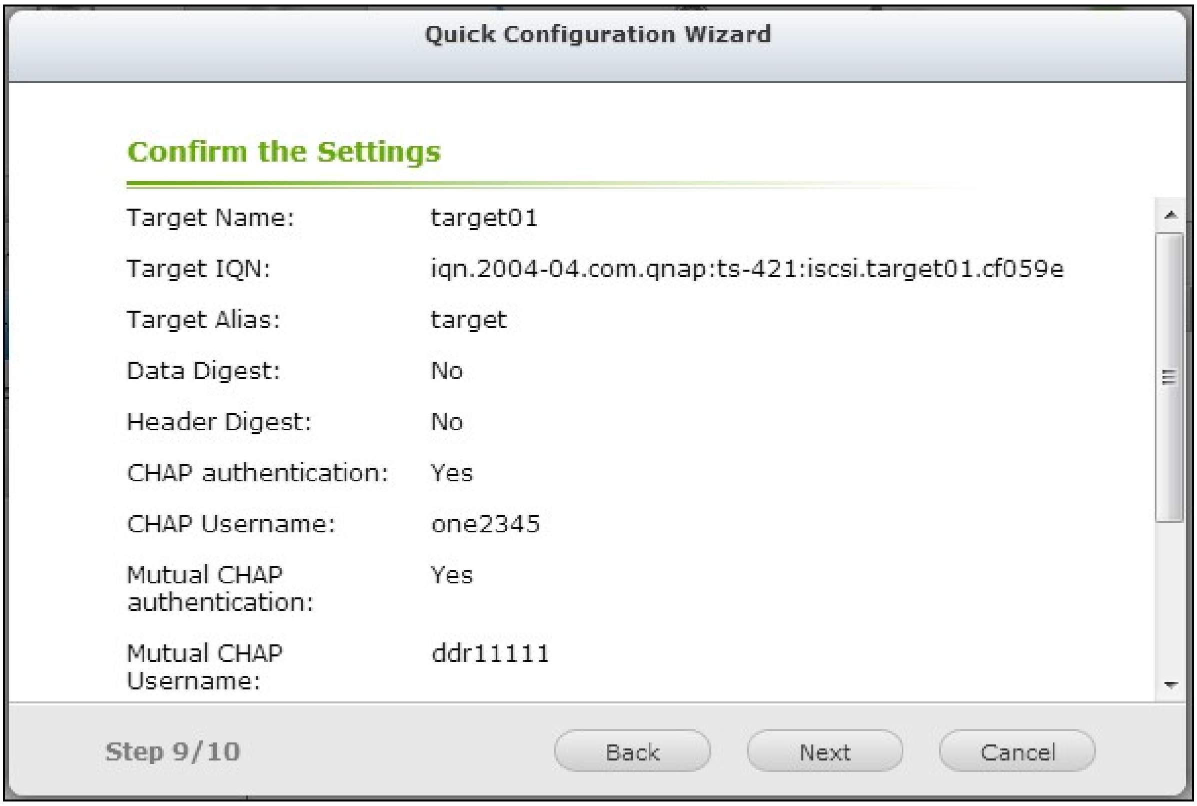
LUN Name: 001

LUN Location: Single Disk: Drive 4 [226.62 GB]

Capacity: 1 GB

Step 5/10

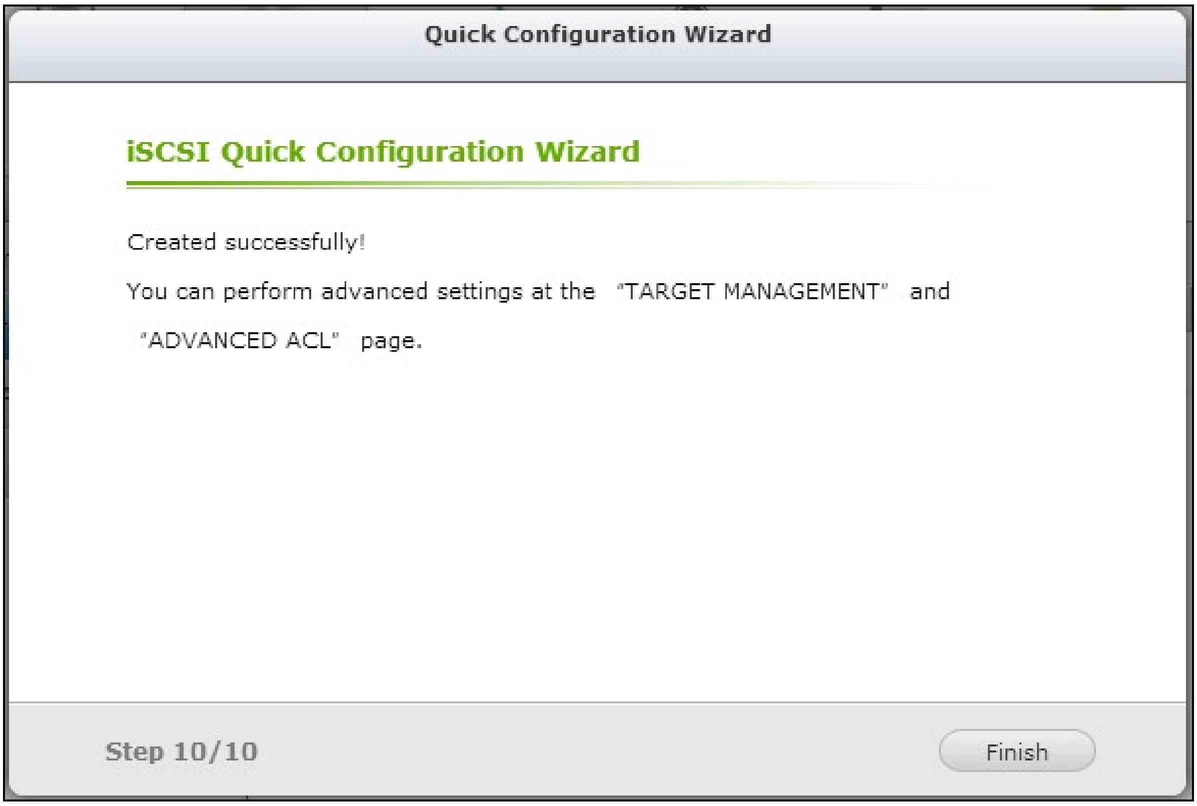
2. Confirm the settings and click "Next".



Confirm the Settings

Target Name:	target01
Target IQN:	iqn.2004-04.com.qnap:ts-421:iscsi.target01.cf059e
Target Alias:	target
Data Digest:	No
Header Digest:	No
CHAP authentication:	Yes
CHAP Username:	one2345
Mutual CHAP authentication:	Yes
Mutual CHAP Username:	ddr11111

3. When the target and the LUN have been created, click “Finish”.

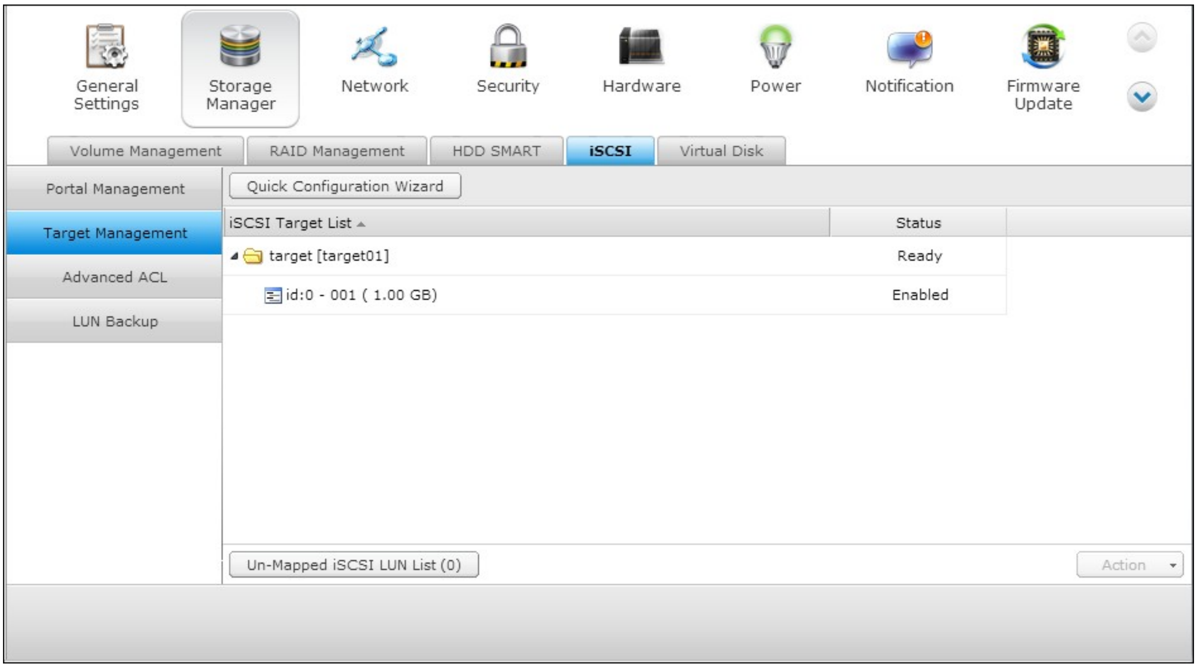


iSCSI Quick Configuration Wizard

Created successfully!

You can perform advanced settings at the "TARGET MANAGEMENT" and "ADVANCED ACL" page.

4. The target and LUN are shown on the list under the “Target Management” tab.



iSCSI Target List	Status
target [target01]	Ready
id:0 - 001 (1.00 GB)	Enabled

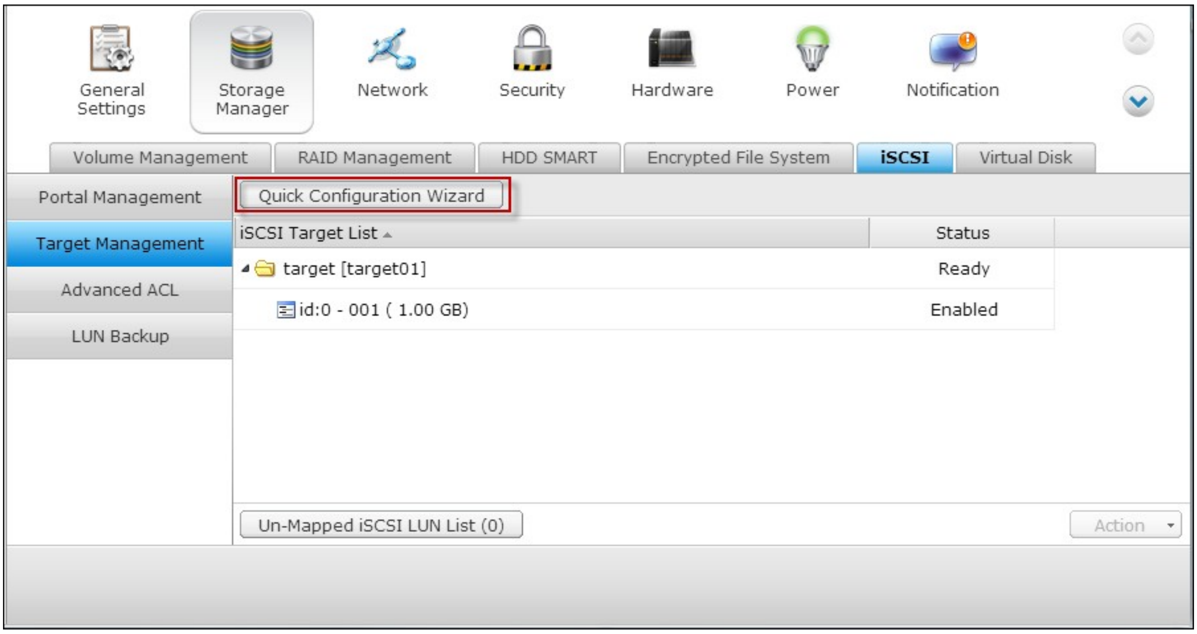
4.2.5.2 Target Management

Create iSCSI targets

The description below applies to non Intel-based NAS models running firmware version 3.3.0 **or later** and Intel-based NAS models running firmware version 3.2.0 **or later** only.

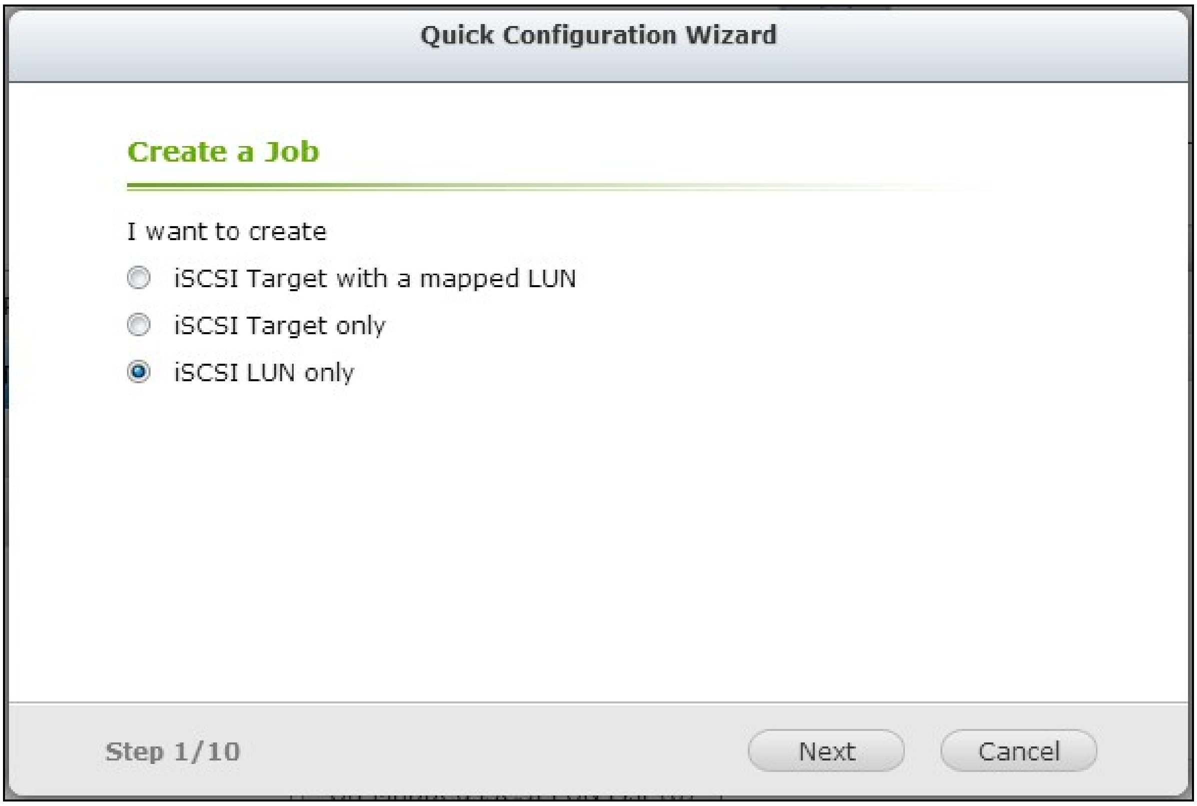
You can create multiple LUNs for an iSCSI target. Follow the steps below to create more LUNs for an iSCSI target.

1. Click "Quick Configuration Wizard" under "Target Management".



iSCSI Target List	Status
target [target01]	Ready
id:0 - 001 (1.00 GB)	Enabled

2. Select "iSCSI LUN only" and click "Next".



Quick Configuration Wizard

Create a Job

I want to create

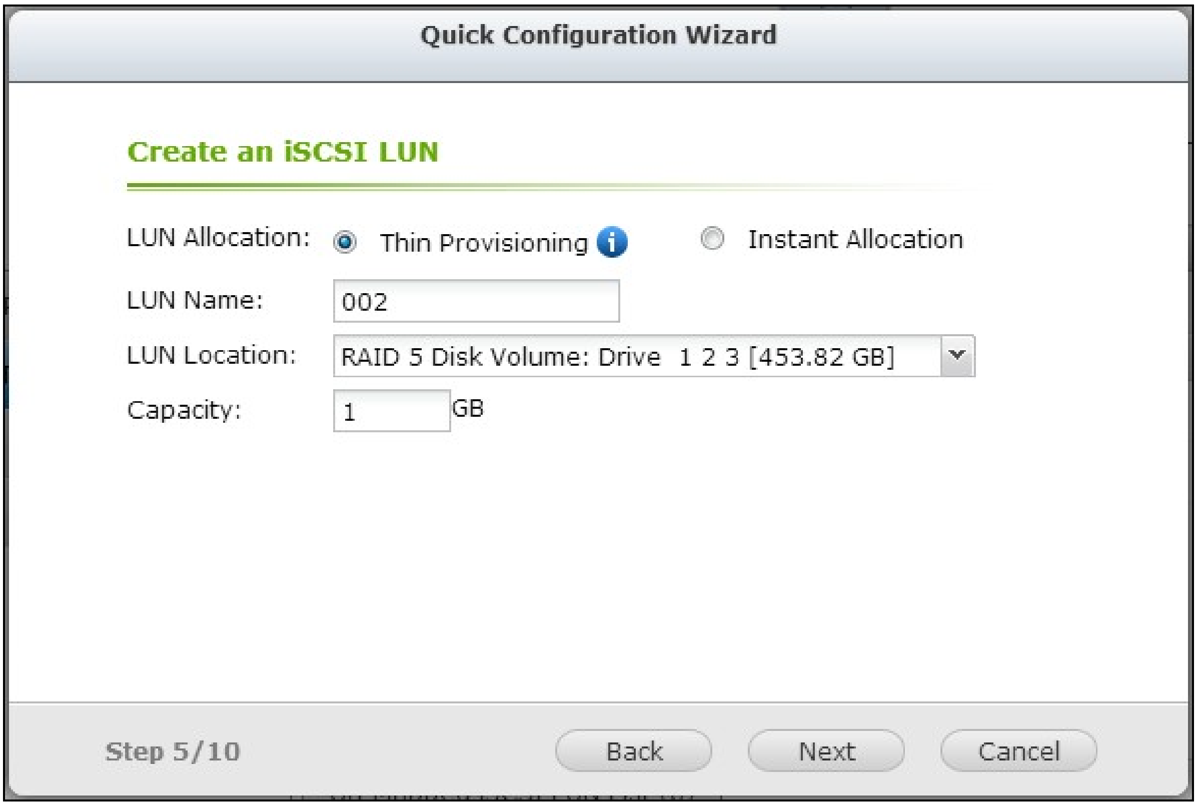
○ iSCSI Target with a mapped LUN

○ iSCSI Target only

● iSCSI LUN only

Step 1/10

3. Select the allocation method. Enter the name of the LUN, select the LUN directory, and specify the capacity for the LUN. Click “Next.”



Quick Configuration Wizard

Create an iSCSI LUN

LUN Allocation: ● Thin Provisioning ○ Instant Allocation

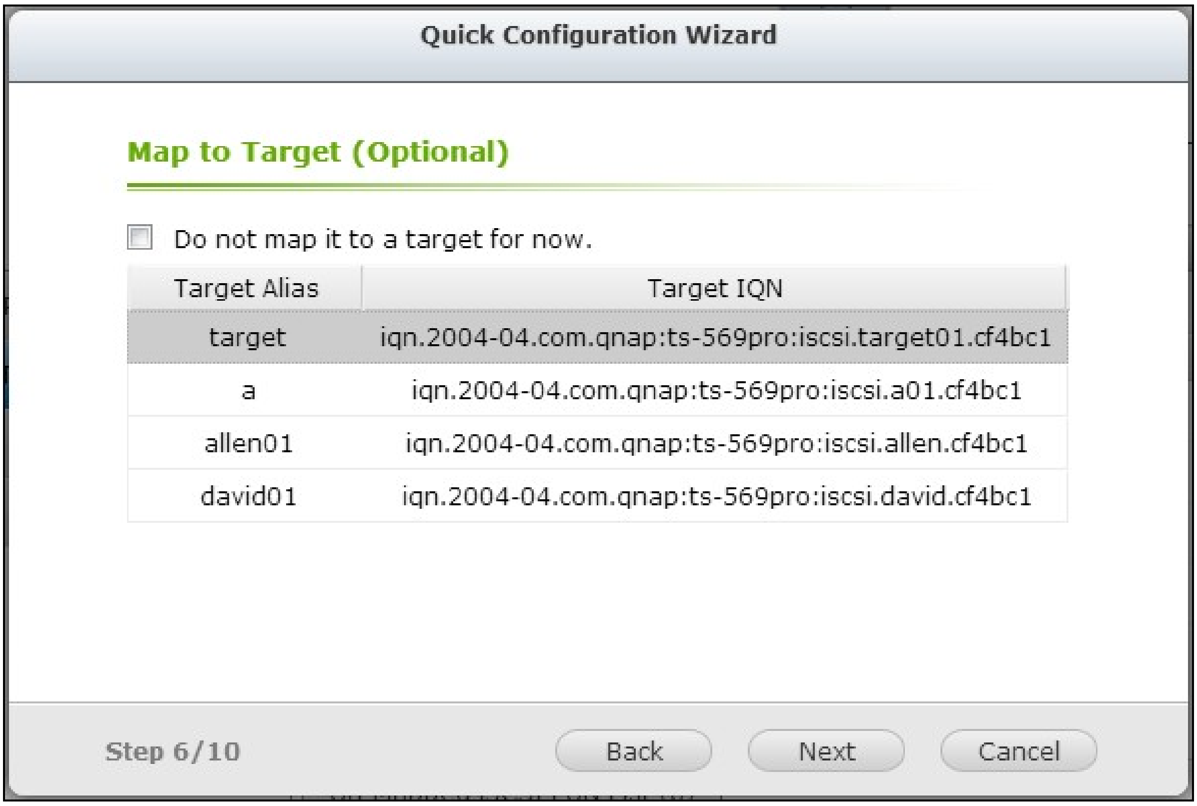
LUN Name: 002

LUN Location: RAID 5 Disk Volume: Drive 1 2 3 [453.82 GB]

Capacity: 1 GB

Step 5/10

4. Select the target to map the LUN to (optional step).



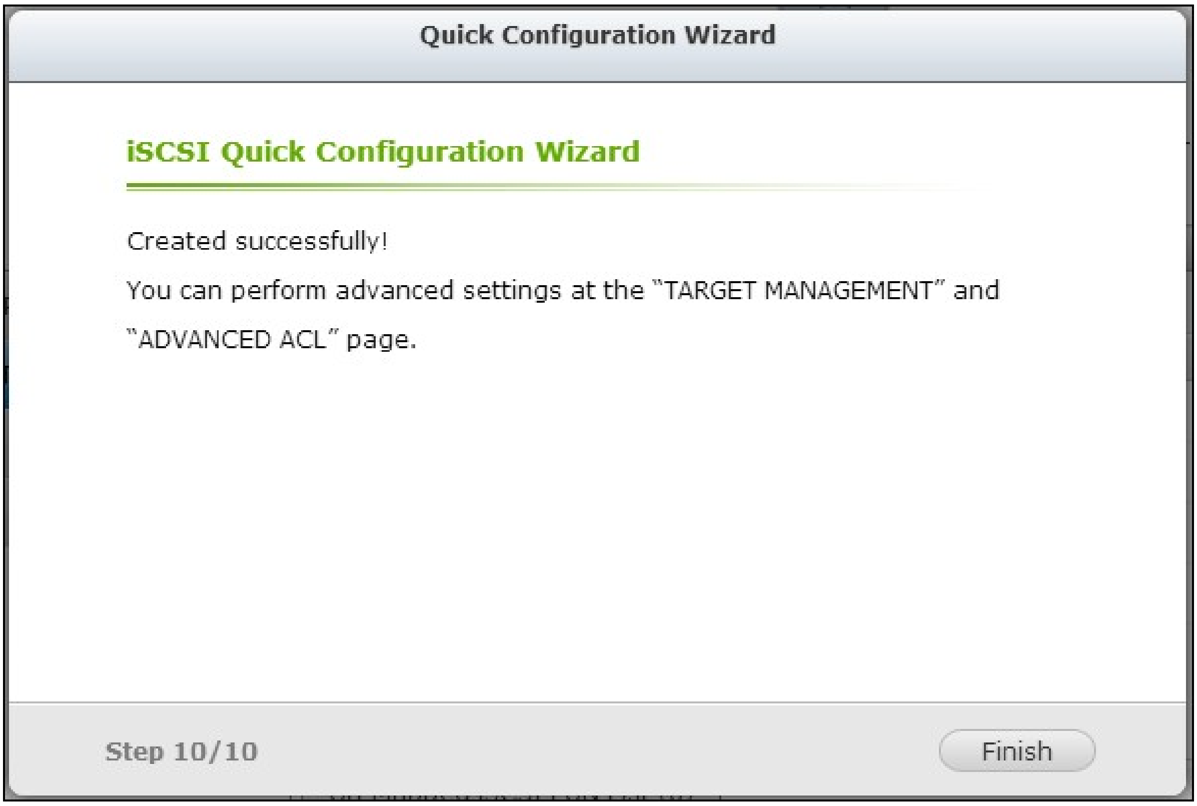
Map to Target (Optional)

□ Do not map it to a target for now.

Target Alias	Target IQN
target	iqn.2004-04.com.qnap:ts-569pro:iscsi.target01.cf4bc1
a	iqn.2004-04.com.qnap:ts-569pro:iscsi.a01.cf4bc1
allen01	iqn.2004-04.com.qnap:ts-569pro:iscsi.allen.cf4bc1
david01	iqn.2004-04.com.qnap:ts-569pro:iscsi.david.cf4bc1

5. Confirm the settings and click "Next."

6. When the LUN has been created, click "Finish" to exit the wizard.



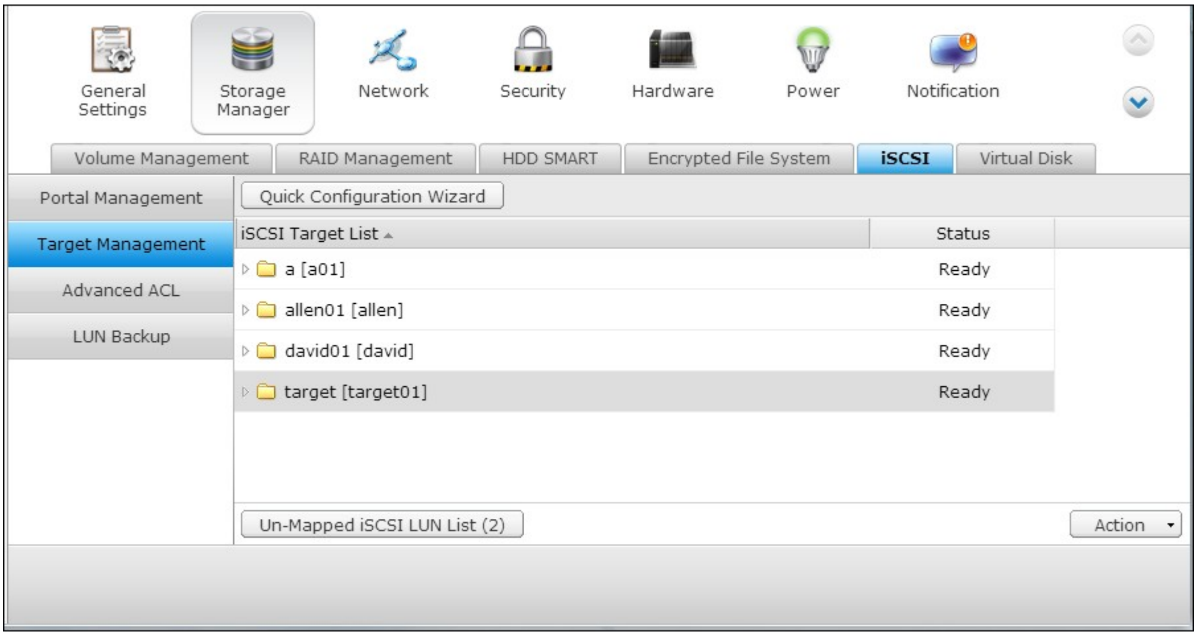
Quick Configuration Wizard

iSCSI Quick Configuration Wizard

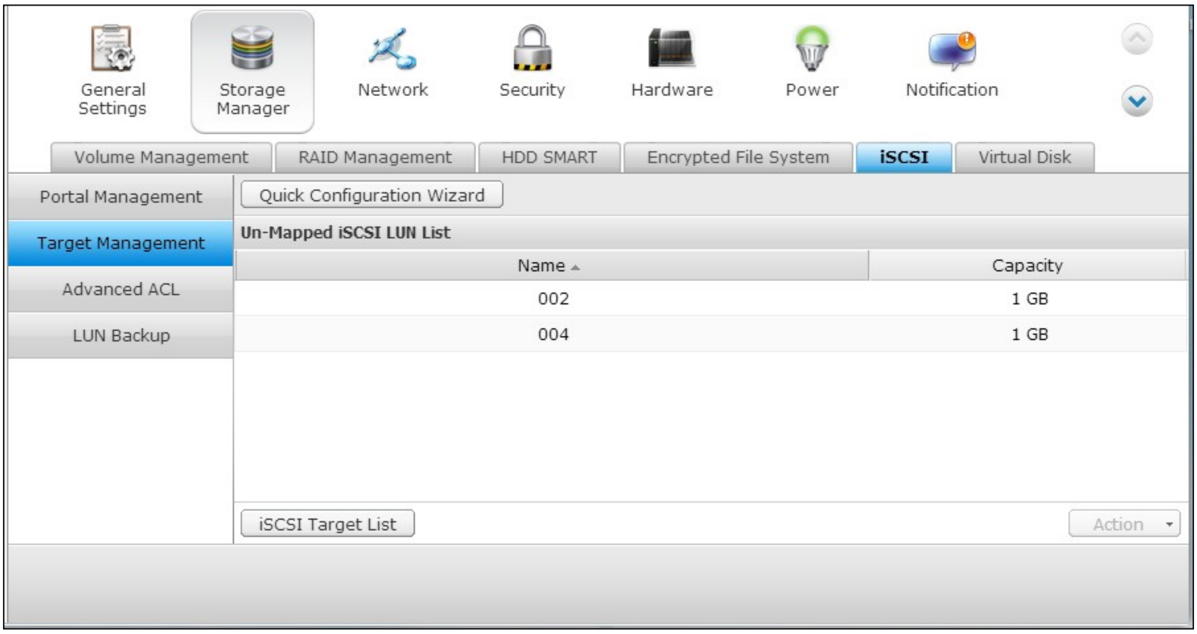
Created successfully!

You can perform advanced settings at the "TARGET MANAGEMENT" and "ADVANCED ACL" page.

7. The LUNs created can be mapped to and unmapped from the iSCSI target anytime. You can also unmap the LUN from a target and map it to another target.



iSCSI Target List	Status
a [a01]	Ready
allen01 [allen]	Ready
david01 [david]	Ready
target [target01]	Ready



Un-Mapped iSCSI LUN List

Name	Capacity
002	1 GB
004	1 GB

Item	**Status**	**Description**
iSCSI target	Ready	The iSCSI target is ready but no initiator has connected to it yet.
	Connected	The iSCSI target has been connected by an initiator.
	Disconnected	The iSCSI target has been disconnected.
	Offline	The iSCSI target has been deactivated and cannot be connected by the initiator.
LUN	Enabled	The LUN is active for connection and is visible to authenticated initiators.
	Disabled	The LUN is inactive and is invisible to the initiators.

Button	**Description**
⏸	Deactivate a ready or connected target. Note that the connection from the initiators will be removed.
▶	Activate an offline target.

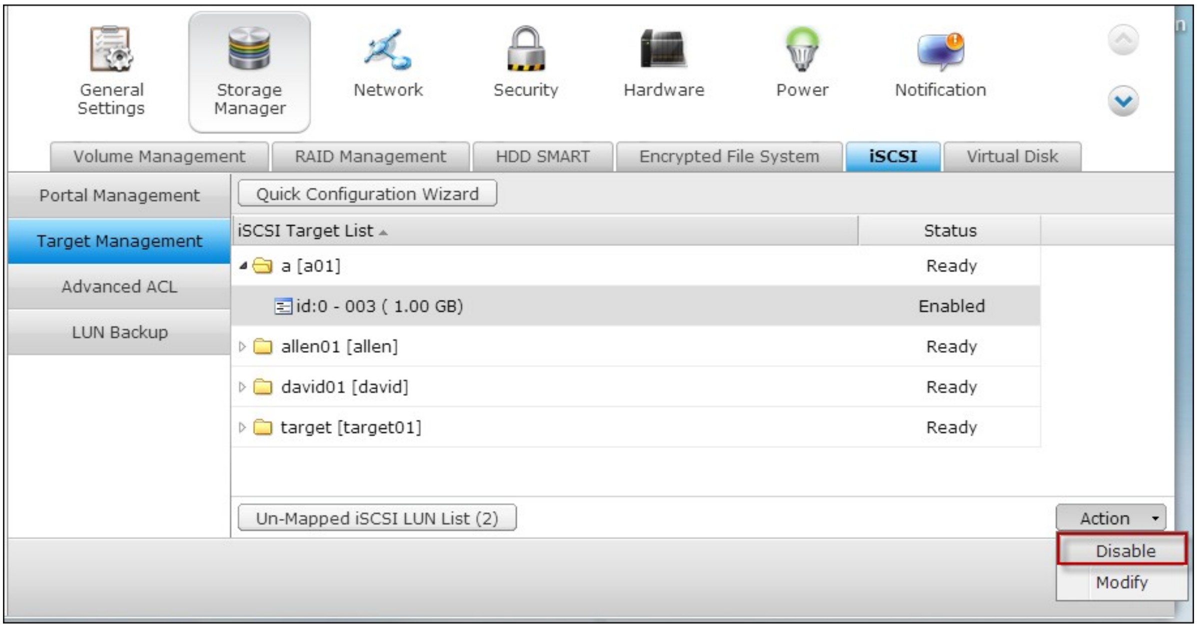
✎	Modify the target settings: target alias, CHAP information, and checksum settings. Modify the LUN settings: LUN allocation, name, disk volume directory, etc.
✖	Delete an iSCSI target. All the connections will be removed.
⊘	Disable an LUN. All the connections will be removed.
⟳	Enable an LUN.
⬇	Unmap the LUN from the target. Note that you must disable the LUN first before unmapping the LUN. When you click this button, the LUN will be moved to “Un-Mapped iSCSI LUN List”.
⬆	Map the LUN to an iSCSI target. This option is only available on the “Un-Mapped iSCSI LUN List”.
🔍	View the connection status of an iSCSI target.

Switch LUN mapping

The description below applies to non Intel-based NAS models running firmware version 3.3.0 or later and Intel-based NAS models running firmware version 3.2.0 or later only.

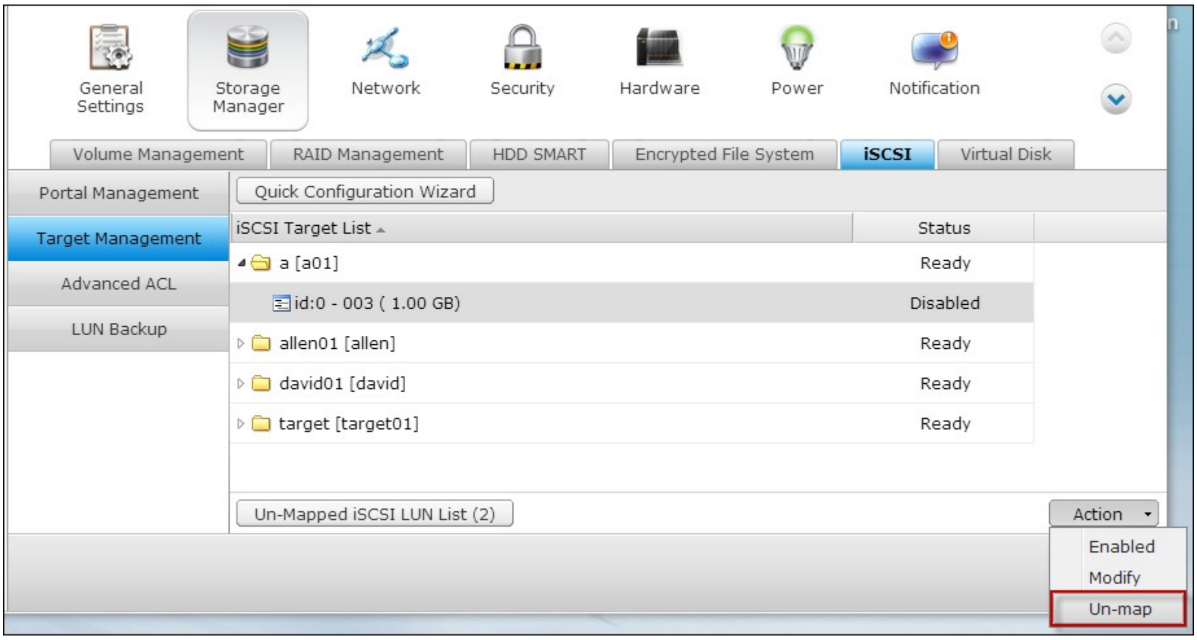
Follow the steps below to switch the mapping of an iSCSI LUN.

1. Select an iSCSI LUN to unmap from an iSCSI target and click (Disable).

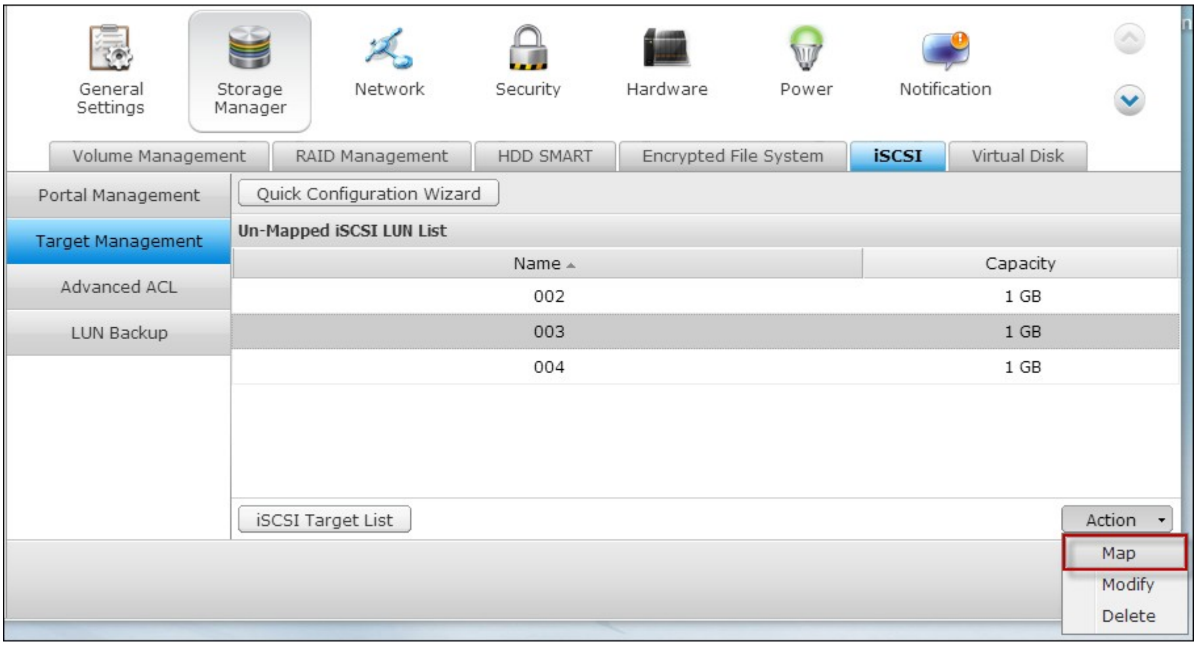


iSCSI Target List	Status
a [a01]	Ready
id:0 - 003 (1.00 GB)	Enabled
allen01 [allen]	Ready
david01 [david]	Ready
target [target01]	Ready

2. Next, click “Unmap” to unmap the LUN. The LUN will appear on the Un-Mapped iSCSI LUN List. Click “Map” to map the LUN to another target.



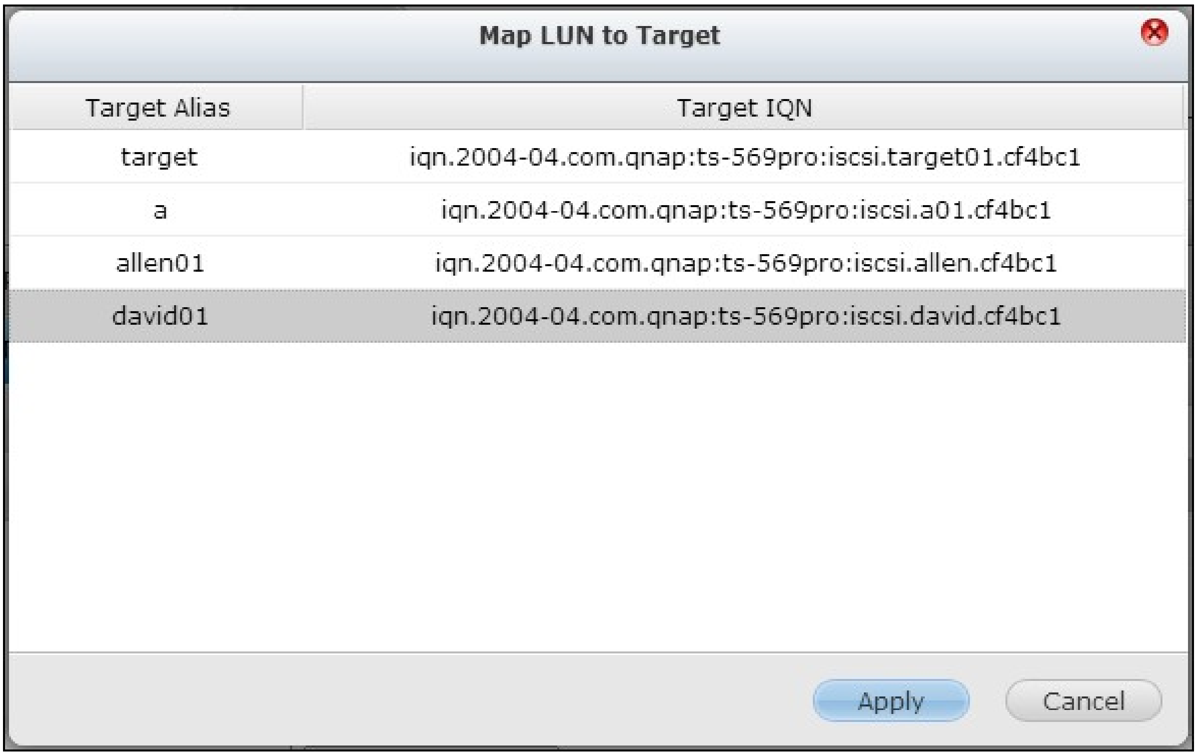
iSCSI Target List	Status
a [a01]	Ready
id:0 - 003 (1.00 GB)	Disabled
allen01 [allen]	Ready
david01 [david]	Ready
target [target01]	Ready



Un-Mapped iSCSI LUN List

Name	Capacity
002	1 GB
003	1 GB
004	1 GB

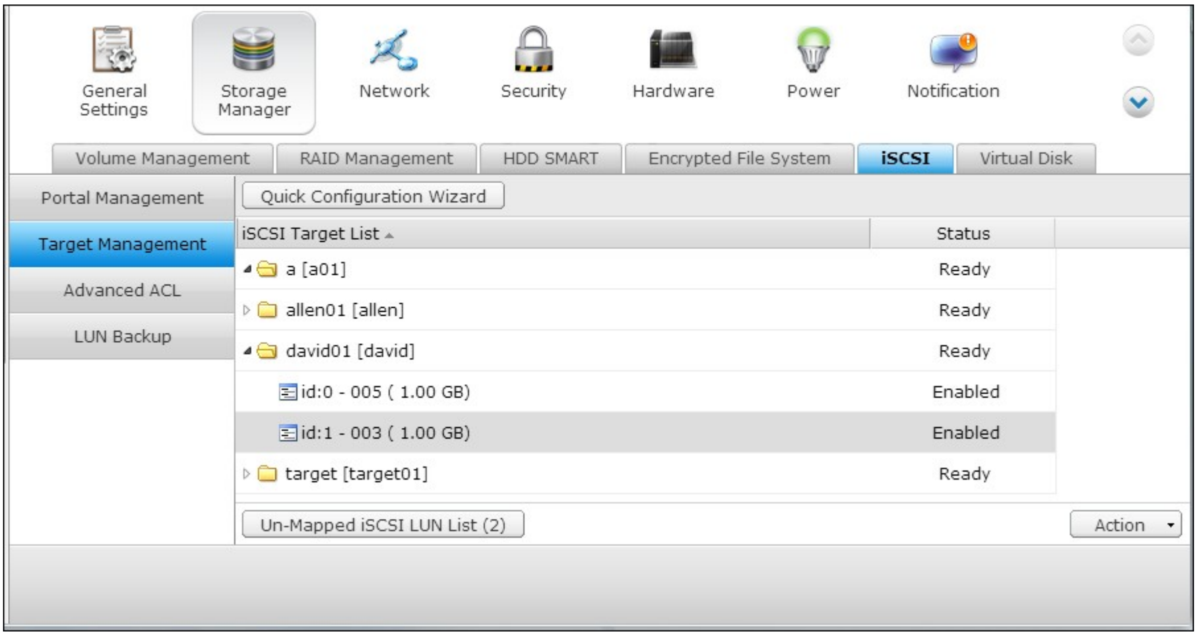
3. Select the target to map the LUN to and click "Apply"



Map LUN to Target

Target Alias	Target IQN
target	iqn.2004-04.com.qnap:ts-569pro:iscsi.target01.cf4bc1
a	iqn.2004-04.com.qnap:ts-569pro:iscsi.a01.cf4bc1
allen01	iqn.2004-04.com.qnap:ts-569pro:iscsi.allen.cf4bc1
david01	iqn.2004-04.com.qnap:ts-569pro:iscsi.david.cf4bc1

4. The LUN is mapped to the target.



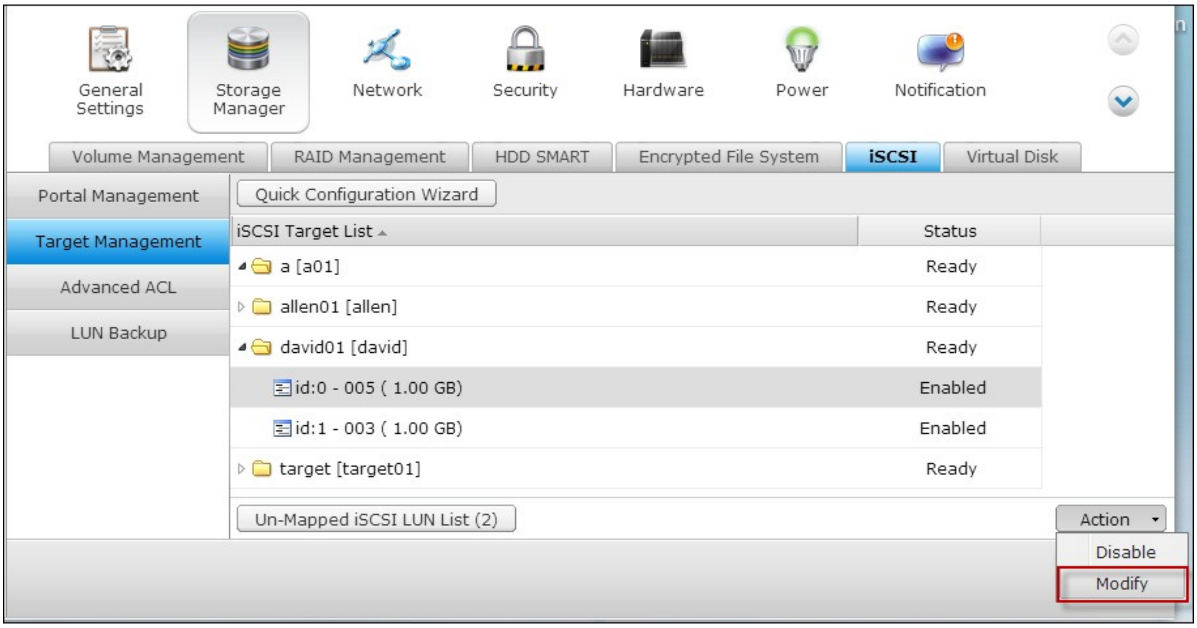
iSCSI Target List	Status
a [a01]	Ready
allen01 [allen]	Ready
david01 [david]	Ready
id:0 - 005 (1.00 GB)	Enabled
id:1 - 003 (1.00 GB)	Enabled
target [target01]	Ready

After creating the iSCSI targets and LUN on the NAS, you can use the iSCSI initiator installed on your computer (Windows PC, Mac, or Linux) to connect to the iSCSI targets and LUN and use the disk volumes as the virtual drives on your computer.

iSCSI LUN capacity expansion

The NAS supports expanding the capacity of an iSCSI LUN. To do so, follow the steps below.

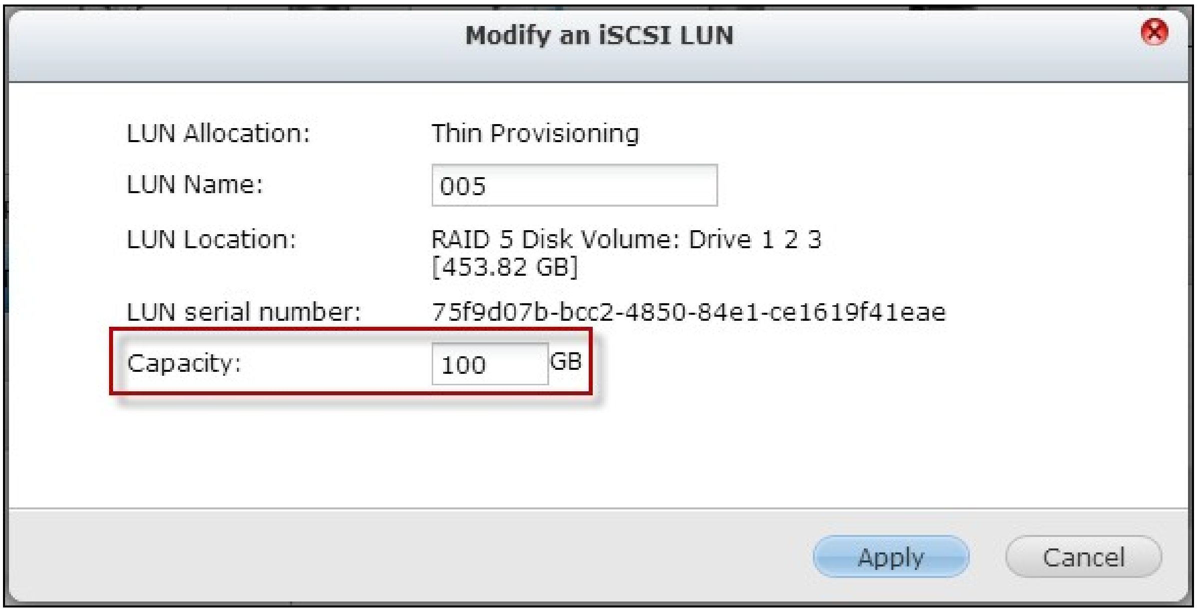
1. Locate an iSCSI LUN on the iSCSI target list in "iSCSI" > "Target Management". Click "Modify".



iSCSI Target List	Status
a [a01]	Ready
allen01 [allen]	Ready
david01 [david]	Ready
id:0 - 005 (1.00 GB)	Enabled
id:1 - 003 (1.00 GB)	Enabled
target [target01]	Ready

2. Specify the capacity of the LUN. Note that the LUN capacity can be increased many times up to the maximum limit but cannot be decreased.

Type of LUN allocation	**Maximum LUN capacity**
Thin Provisioning	32TB
Instant Allocation	Free size available on the disk volume



Modify an iSCSI LUN

LUN Allocation: Thin Provisioning

LUN Name: 005

LUN Location: RAID 5 Disk Volume: Drive 1 2 3 [453.82 GB]

LUN serial number: 75f9d07b-bcc2-4850-84e1-ce1619f41eae

Capacity: 100 GB

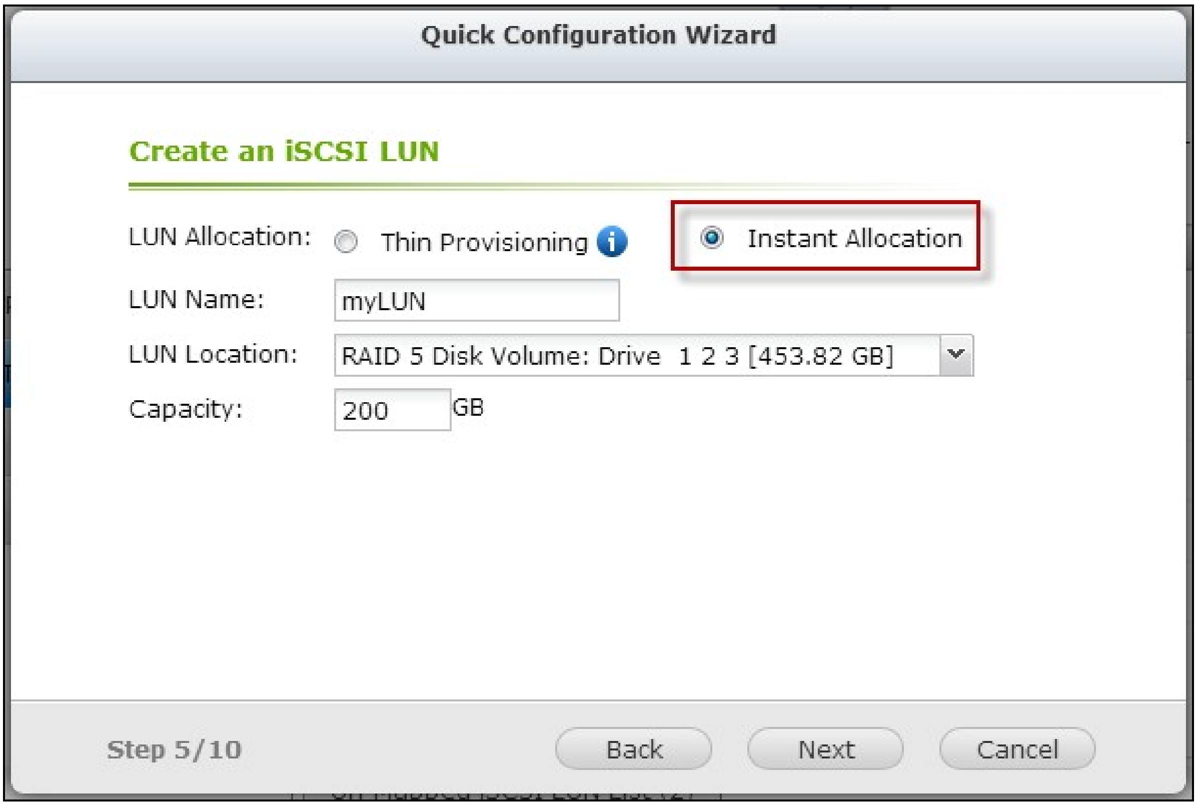
3. Click "Apply" to save the settings.

Note: An iSCSI LUN must be mapped to an iSCSI target before increasing the capacity.

Optimize iSCSI performance

In the environments that require high performance storage, such as virtualization, users are recommended to do the following to optimize the iSCSI and NAS hard disks performance:

- **Use instant allocation:** When creating an iSCSI LUN, select "Instant Allocation" to achieve slightly higher iSCSI performance. However, the benefits of thin provisioning will be lost.



Quick Configuration Wizard

Create an iSCSI LUN

LUN Allocation: ○ Thin Provisioning ● Instant Allocation

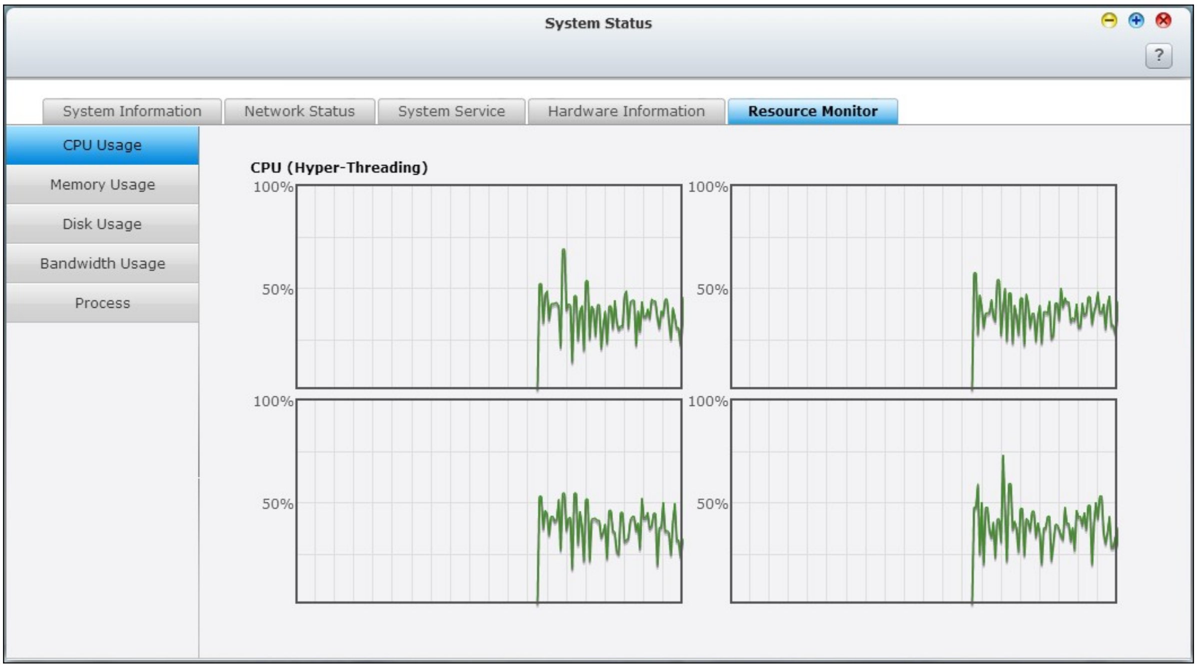
LUN Name: myLUN

LUN Location: RAID 5 Disk Volume: Drive 1 2 3 [453.82 GB]

Capacity: 200 GB

Step 5/10

- **Create multiple LUNs:** Create multiple LUNs according to the processor number of the NAS. The information can be checked in "System Status" > "Resource Monitor." If the NAS has four processors, it is advised to create four or more LUNs to optimize the iSCSI performance.
- **Use different LUNs for heavy load applications:** Spread the applications such as database and virtual machines that need high Read/Write performance on different LUNs. For example, if there are two virtual machines which read and write data intensively on the LUNs, it is recommended to create two LUNs on the NAS so that the VM workloads can be efficiently distributed.

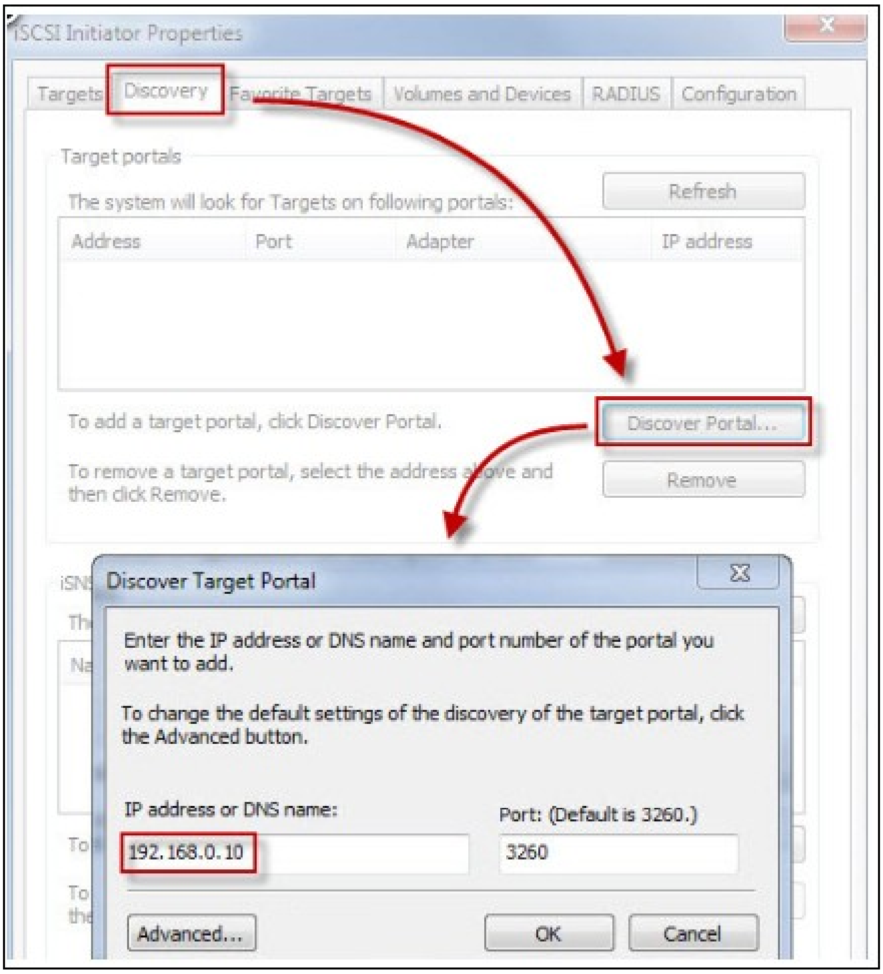

System Status
?
System Information
Network Status
System Service
Hardware Information
Resource Monitor
CPU Usage
Memory Usage
Disk Usage
Bandwidth Usage
Process
CPU (Hyper-Threading)
100%
50%
100%
50%
100%
50%
100%
50%

Before you start to use the iSCSI target service, make sure you have created an iSCSI target with a LUN on the NAS and installed the correct iSCSI initiator for your OS.

ISCSI initiator on Windows:

Microsoft iSCSI Software Initiator v2.07 is an official application for Windows OS 2003, XP, and 2000 to allow users to implement an external iSCSI storage array over the network. If you are using Windows Vista or Windows Server 2008, Microsoft iSCSI Software Initiator is included. For more information and the download location, visit: http://www.microsoft.com/downloads/details.aspx?familyid=12cb3c1a-15d6-4585-b385-befd1319f825&displaylang=en

Start iSCSI initiator from "Control Panel" > "Administrative Tools". Under the "Discovery" tab click "Add Portal". Enter the NAS IP and the port number for the iSCSI service.



The system will look for Targets on following portals:

To add a target portal, click Discover Portal.

To remove a target portal, select the address above and then click Remove.

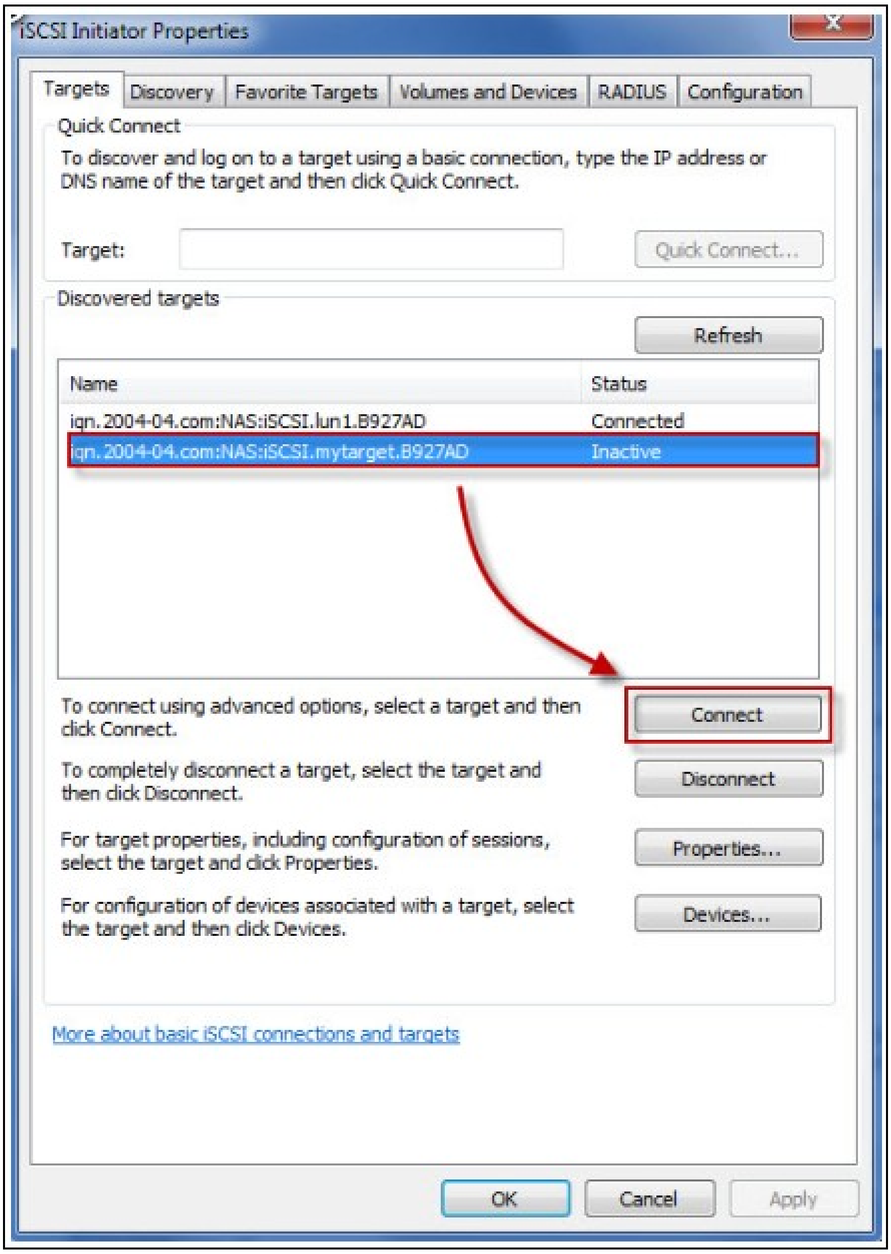
Enter the IP address or DNS name and port number of the portal you want to add.

To change the default settings of the discovery of the target portal, click the Advanced button.

IP address or DNS name: 192.168.0.10

Port: (Default is 3260.) 3260

The available iSCSI targets and their status will then be shown under the "Targets" tab. Select the target you wish to connect then click "Connect".



To discover and log on to a target using a basic connection, type the IP address or DNS name of the target and then click Quick Connect.

Target:

Name	Status
iqn.2004-04.com:NAS:iSCSI.lun1.B927AD	Connected
iqn.2004-04.com:NAS:iSCSI.mytarget.B927AD	Inactive

To connect using advanced options, select a target and then click Connect.

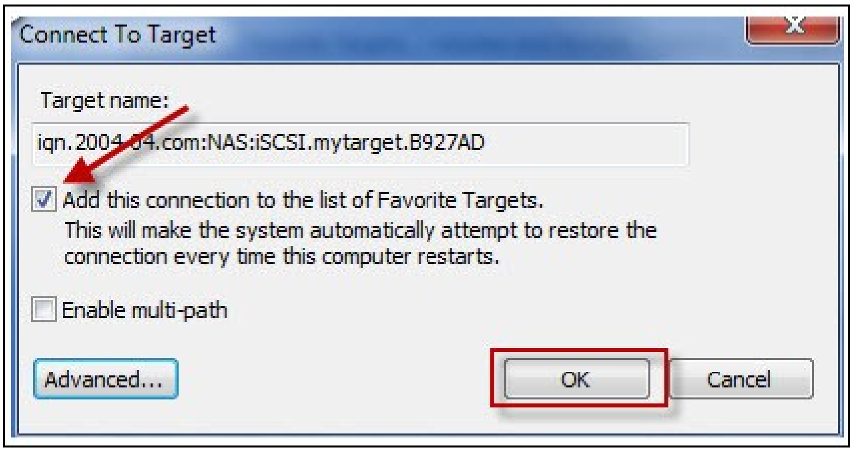
To completely disconnect a target, select the target and then click Disconnect.

For target properties, including configuration of sessions, select the target and click Properties.

For configuration of devices associated with a target, select the target and then click Devices.

More about basic iSCSI connections and targets

You may click "Advanced" to specify the logon information if you have configured the authentication otherwise simply click "OK" to continue.



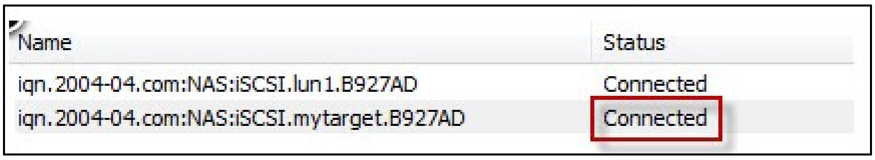
Target name:

iqn.2004-04.com:NAS:iSCSI.mytarget.B927AD

☑ Add this connection to the list of Favorite Targets.
This will make the system automatically attempt to restore the connection every time this computer restarts.

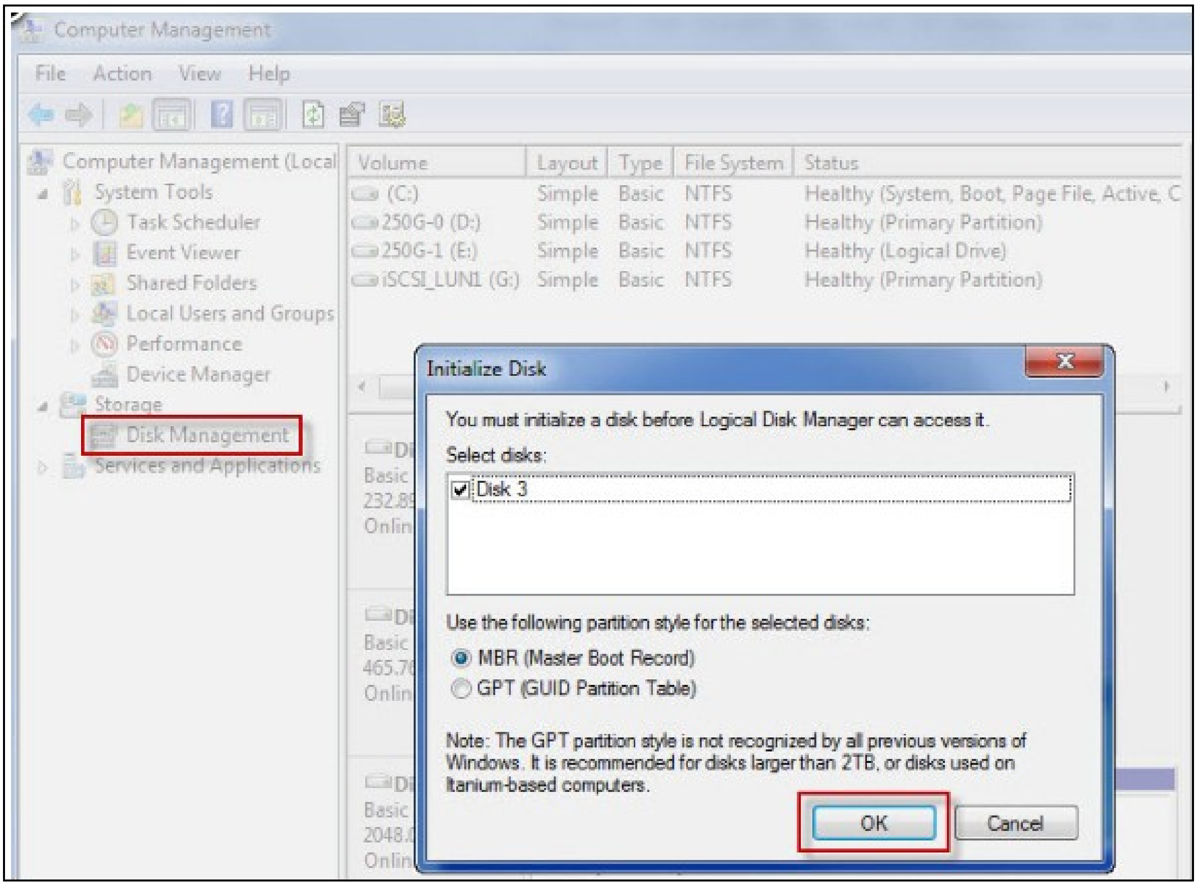
□ Enable multi-path

Upon successful logon, the status of the target now shows “Connected”.



Name	Status
iqn.2004-04.com:NAS:iSCSI.lun1.B927AD	Connected
iqn.2004-04.com:NAS:iSCSI.mytarget.B927AD	Connected

After the target has been connected Windows will detect its presence and treat it as if a new hard disk drive has been added which needs to be initialized and formatted before we can use it. Right click “My Computer” > “Manage” to open the “Computer Management” window then go to “Disk Management” and a window should pop up automatically asking whether you want to initialize the newly found hard drive. Click “OK” then format this drive as normally you would when adding a new disk.



Volume	Layout	Type	File System	Status
(C:)	Simple	Basic	NTFS	Healthy (System, Boot, Page File, Active, C
250G-0 (D:)	Simple	Basic	NTFS	Healthy (Primary Partition)
250G-1 (E:)	Simple	Basic	NTFS	Healthy (Logical Drive)
iSCSI_LUN1 (G:)	Simple	Basic	NTFS	Healthy (Primary Partition)

Initialize Disk

You must initialize a disk before Logical Disk Manager can access it.

Select disks:

☑ Disk 3

Use the following partition style for the selected disks:

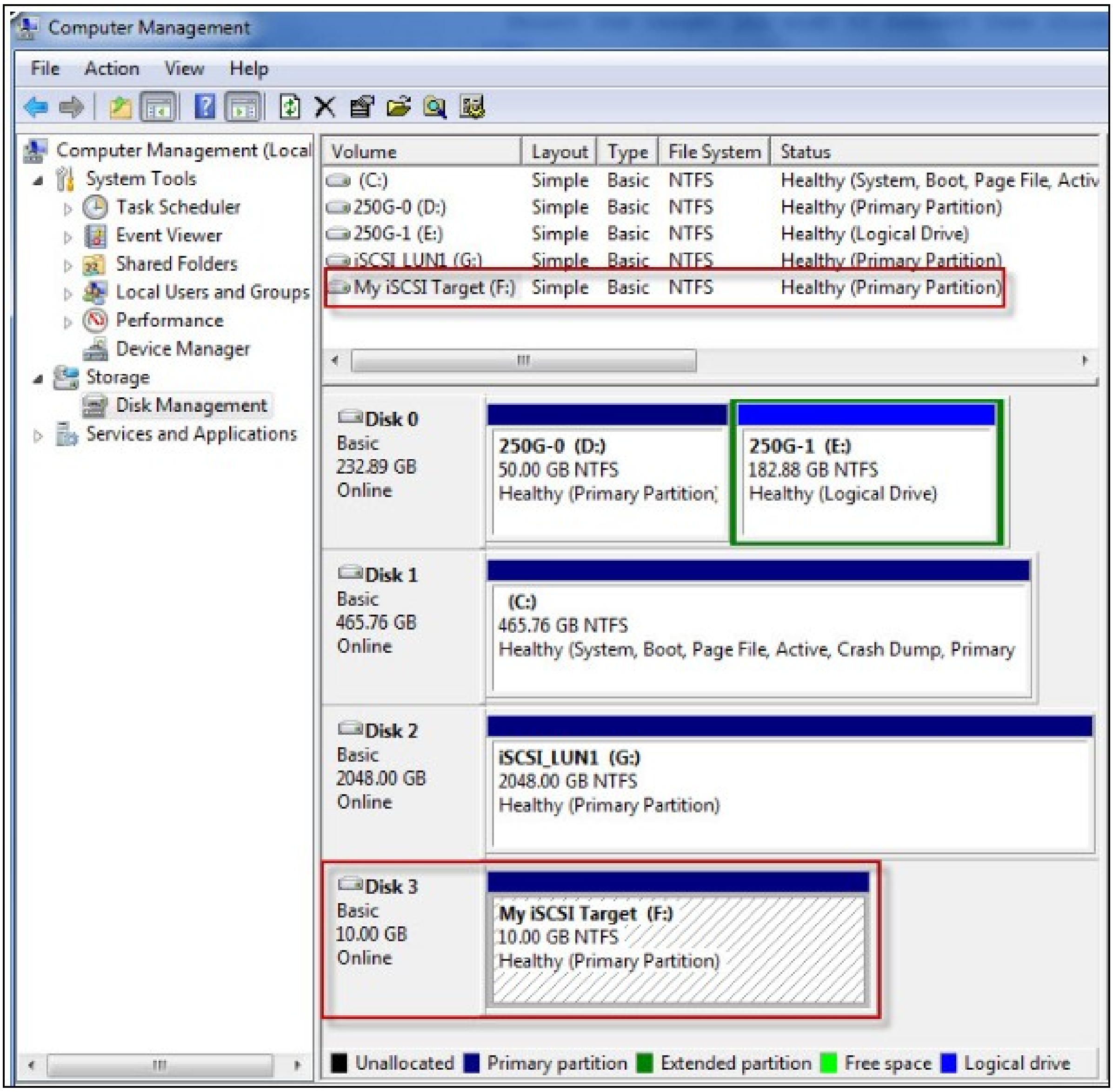
● MBR (Master Boot Record)

○ GPT (GUID Partition Table)

Note: The GPT partition style is not recognized by all previous versions of Windows. It is recommended for disks larger than 2TB, or disks used on Itanium-based computers.

OK　Cancel

After disk initialization and formatting, the new drive is attached to your PC. You can now use this iSCSI target as a regular disk partition.



Volume	Layout	Type	File System	Status
(C:)	Simple	Basic	NTFS	Healthy (System, Boot, Page File, Activ
250G-0 (D:)	Simple	Basic	NTFS	Healthy (Primary Partition)
250G-1 (E:)	Simple	Basic	NTFS	Healthy (Logical Drive)
iSCSI_LUN1 (G:)	Simple	Basic	NTFS	Healthy (Primary Partition)
My iSCSI Target (F:)	Simple	Basic	NTFS	Healthy (Primary Partition)

Disk 0
Basic
232.89 GB
Online

250G-0 (D:)
50.00 GB NTFS
Healthy (Primary Partition)

250G-1 (E:)
182.88 GB NTFS
Healthy (Logical Drive)

Disk 1
Basic
465.76 GB
Online

(C:)
465.76 GB NTFS
Healthy (System, Boot, Page File, Active, Crash Dump, Primary

Disk 2
Basic
2048.00 GB
Online

iSCSI_LUN1 (G:)
2048.00 GB NTFS
Healthy (Primary Partition)

Disk 3
Basic
10.00 GB
Online

My iSCSI Target (F:)
10.00 GB NTFS
Healthy (Primary Partition)

■ Unallocated ■ Primary partition ■ Extended partition ■ Free space ■ Logical drive

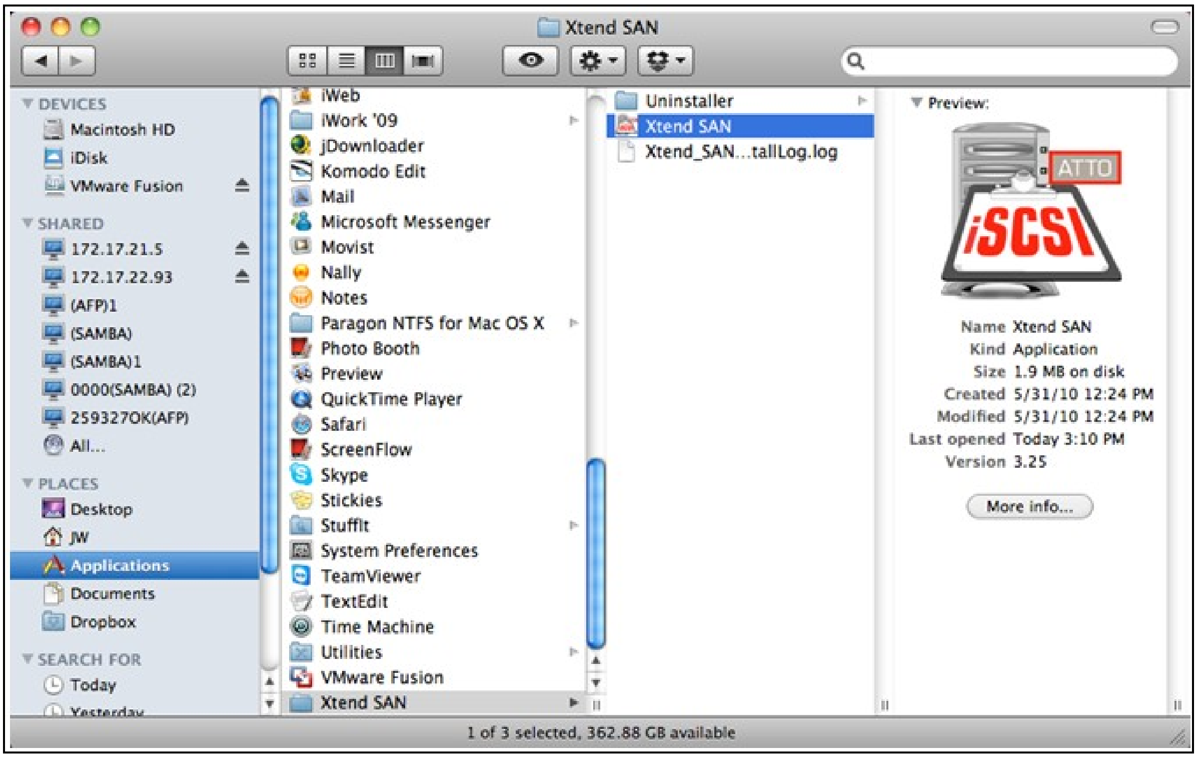
This section shows you how to use Xtend SAN iSCSI Initiator on Mac OS to add the iSCSI target (QNAP NAS) as an extra partition. Before you start to use the iSCSI target service, make sure you have created an iSCSI target with a LUN on the NAS and installed the correct iSCSI initiator for your OS.

About Xtend SAN iSCSI initiator:

ATTO's Xtend SAN iSCSI Initiator for Mac OS X allows Mac users to utilize and benefit from iSCSI. It is compatible with Mac OS X 10.4.x to 10.6.x. For more information, please visit:

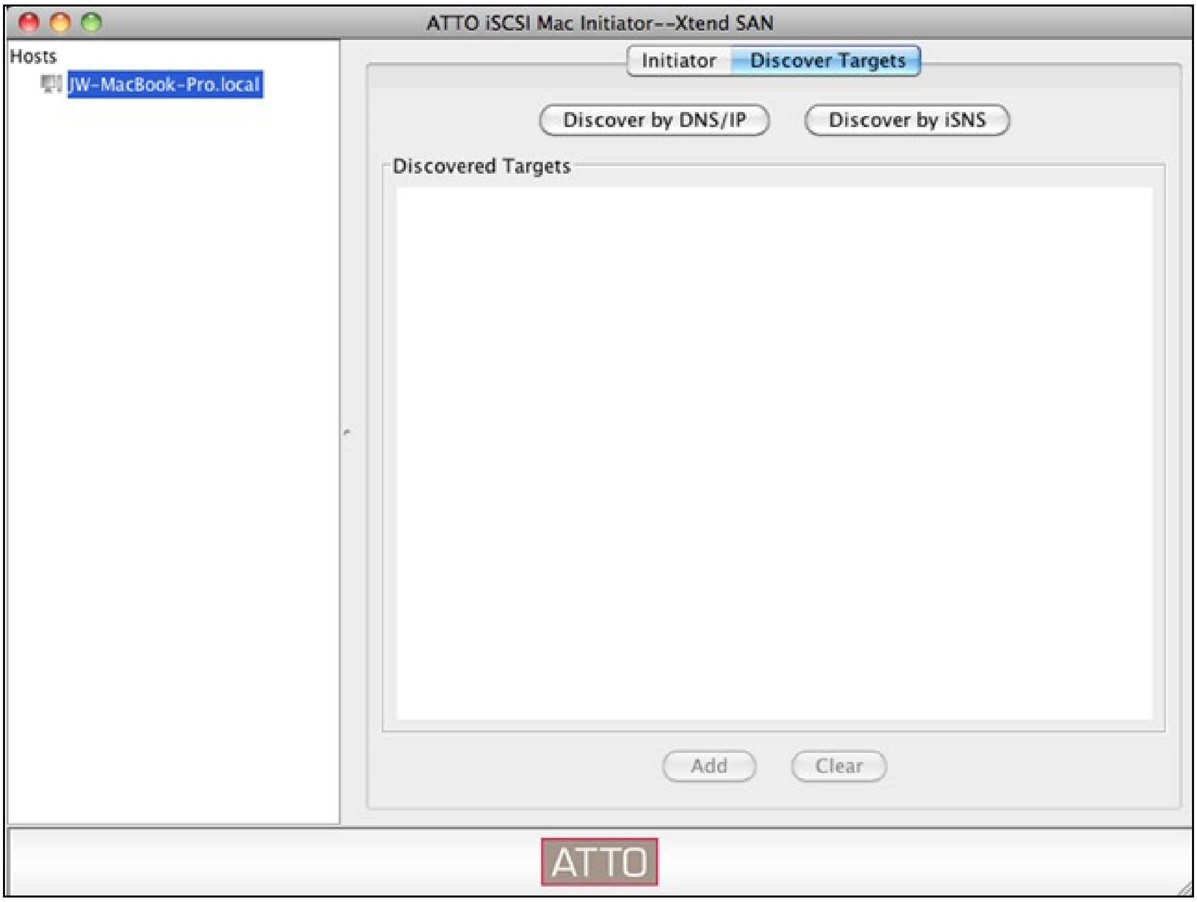
http://www.attotech.com/products/product.php?sku=INIT-MAC0-001

After installing Xtend SAN iSCSI initiator, you can find it in "Applications".

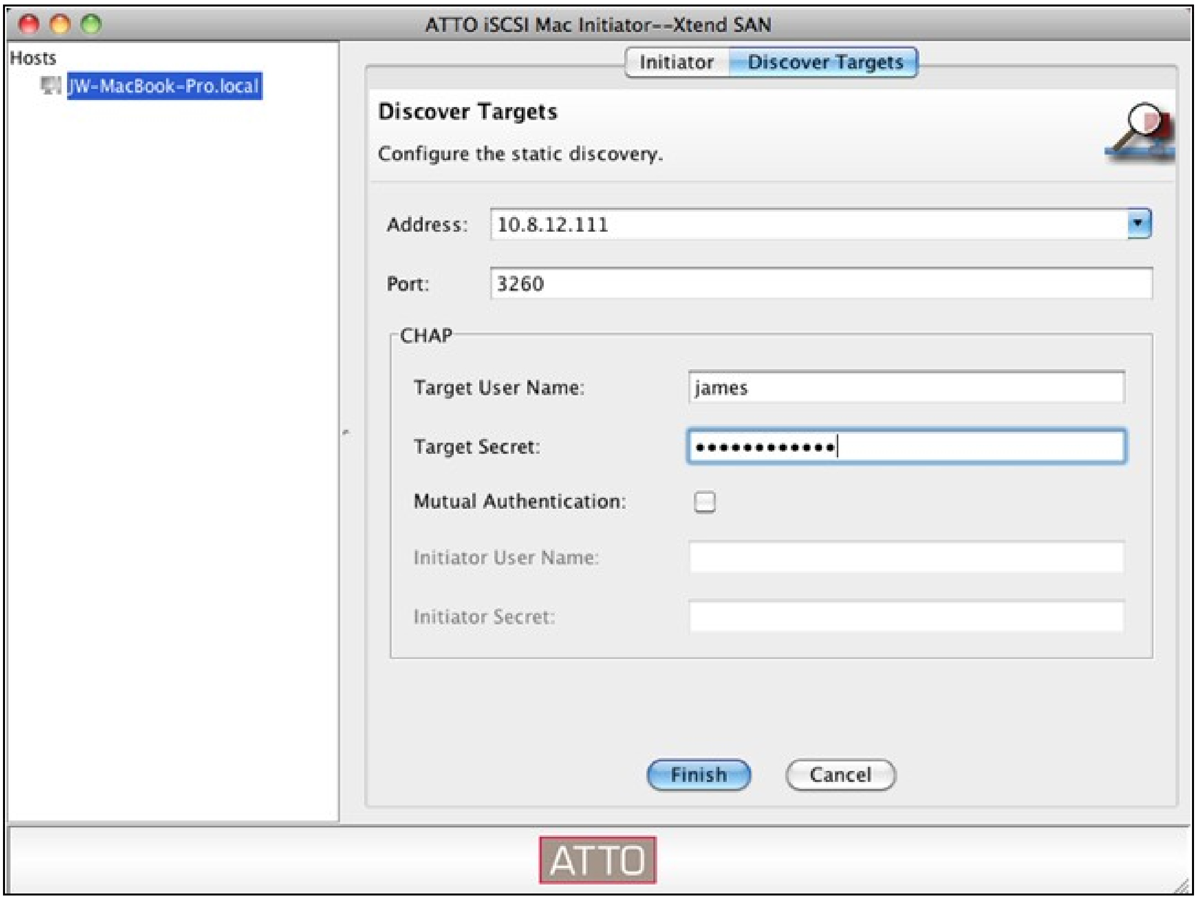


Name Xtend SAN
Kind Application
Size 1.9 MB on disk
Created 5/31/10 12:24 PM
Modified 5/31/10 12:24 PM
Last opened Today 3:10 PM
Version 3.25

Click the "Discover Targets" tab, you can either choose "Discover by DNS/IP" or "Discover by iSNS" according to the network topology. In this example, we will use the IP address to discover the iSCSI targets.



Follow the screen instructions and enter the server address, iSCSI target port number (default: 3260), and CHAP information (if applicable). Click “Finish” to retrieve the target list after all the data have been entered correctly.



Discover Targets

Configure the static discovery.

Address: 10.8.12.111

Port: 3260

CHAP

Target User Name: james

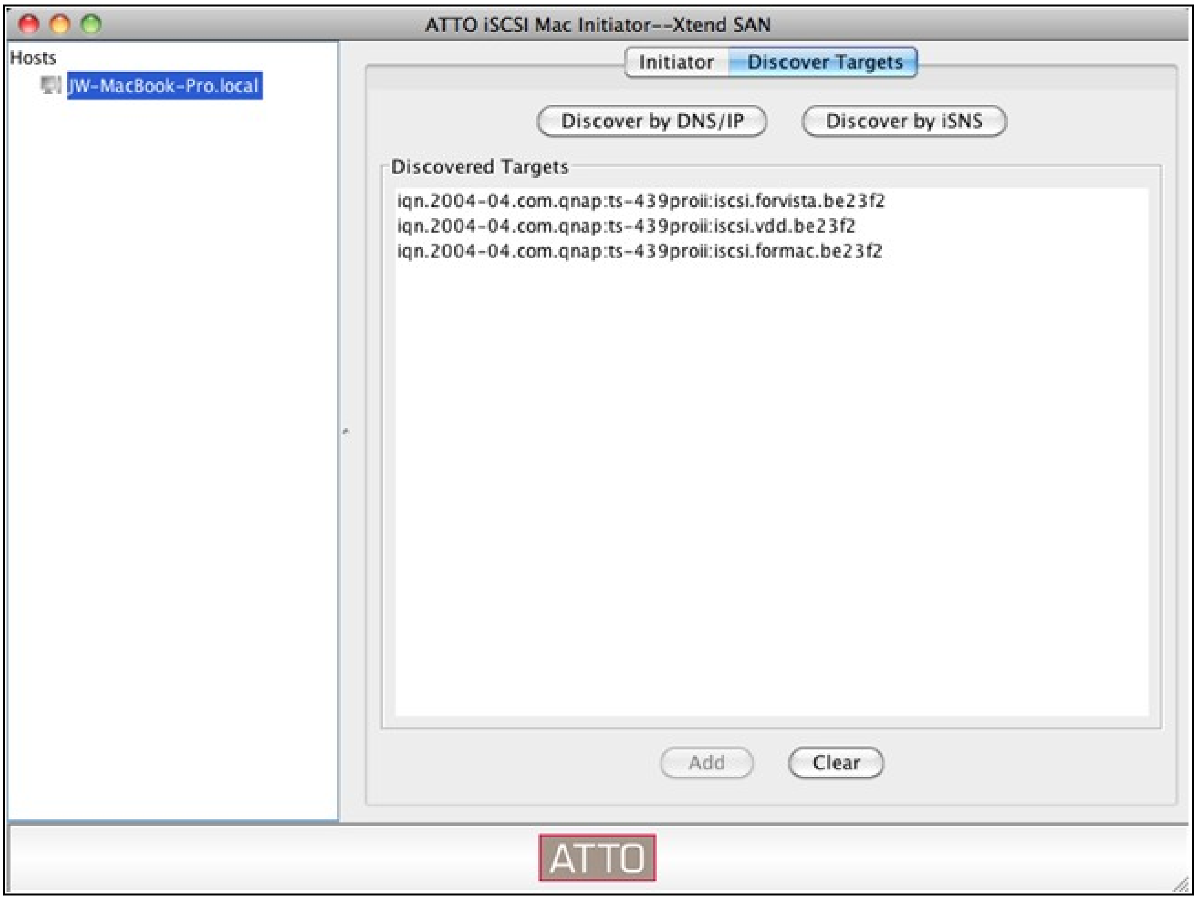
Target Secret: •••••••••••••

Mutual Authentication: □

Initiator User Name:

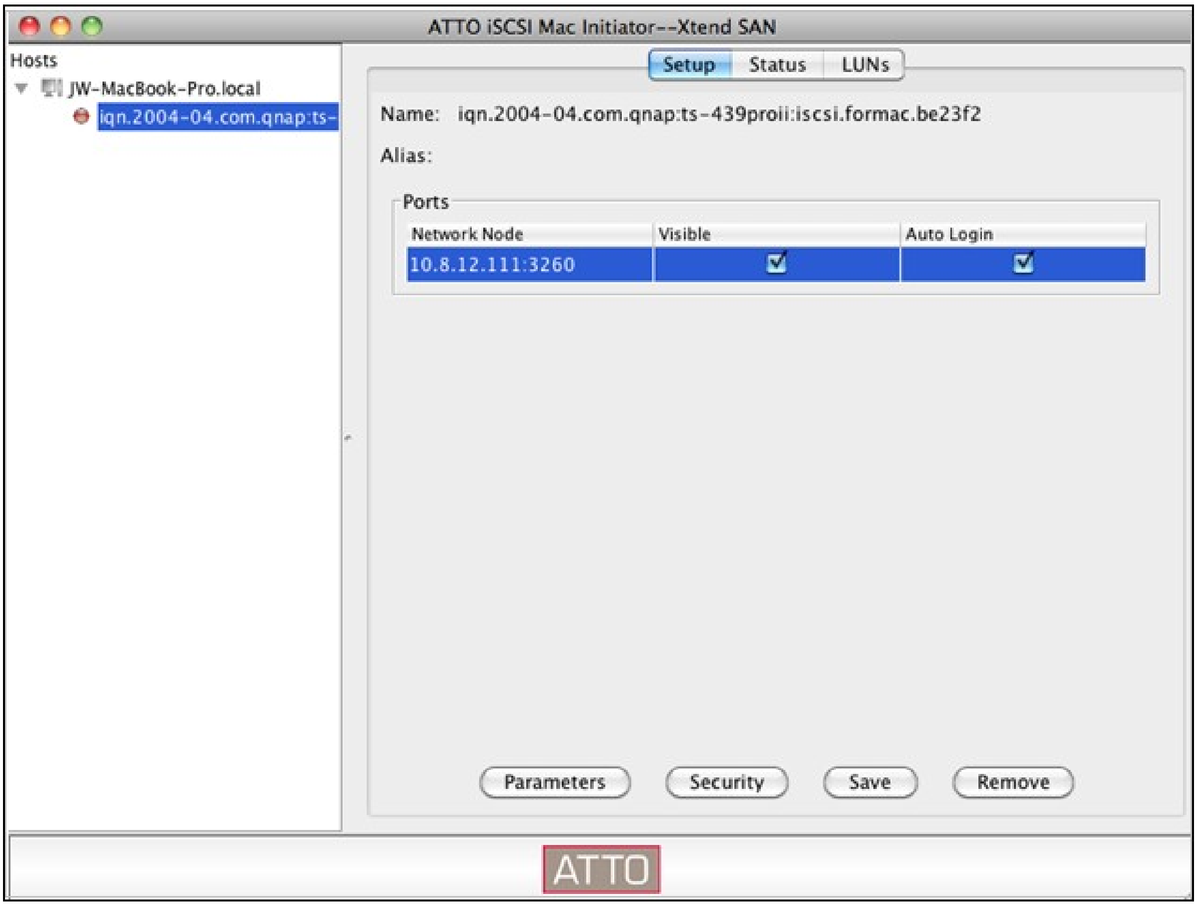
Initiator Secret:

All the available iSCSI targets on the NAS will be shown. Select the target you would like to connect and click "Add".



iqn.2004-04.com.qnap:ts-439proii:iscsi.forvista.be23f2
iqn.2004-04.com.qnap:ts-439proii:iscsi.vdd.be23f2
iqn.2004-04.com.qnap:ts-439proii:iscsi.formac.be23f2

You can configure the connection properties of the selected iSCSI target in the "Setup" tab.



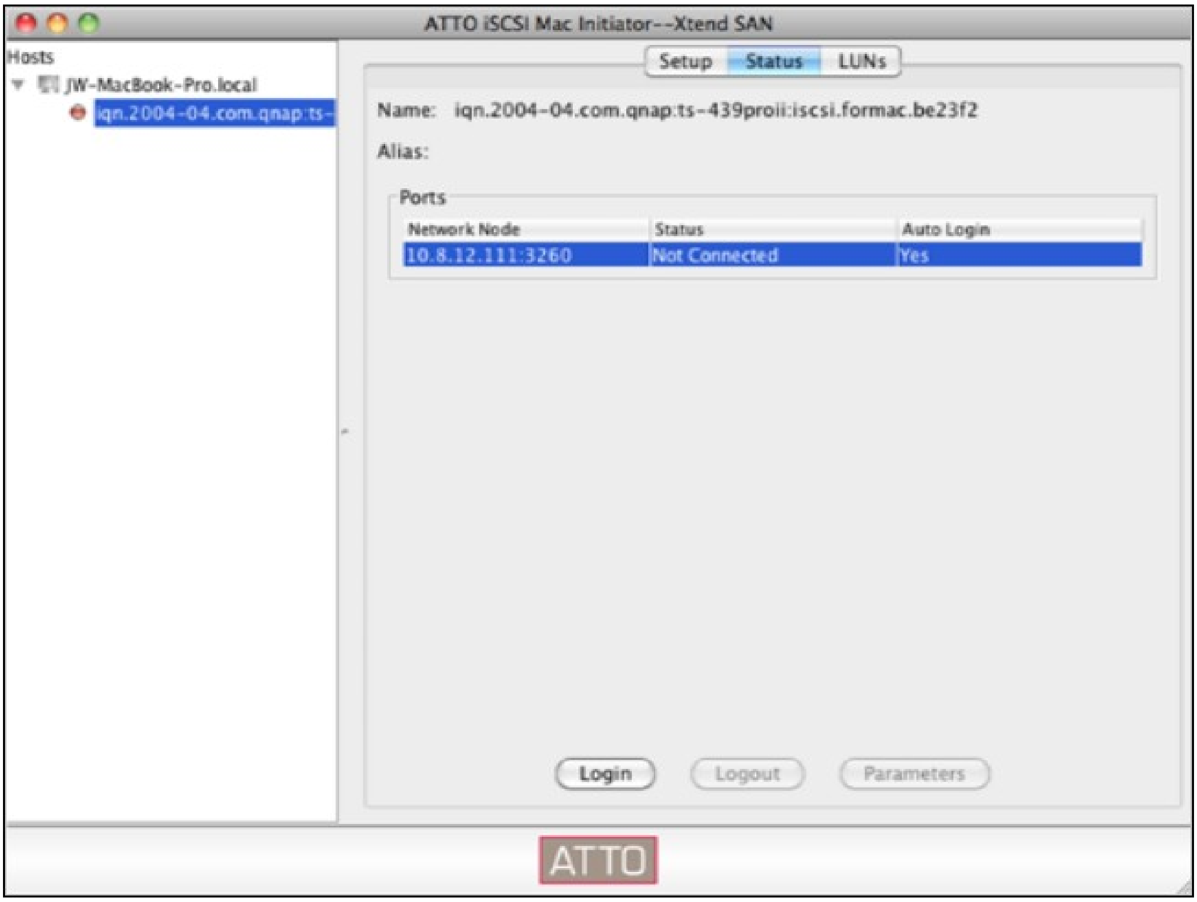
Name: iqn.2004-04.com.qnap:ts-439proii:iscsi.formac.be23f2

Alias:

Ports

Network Node	Visible	Auto Login
10.8.12.111:3260	☑	☑

Click the “Status” tab, select the target to connect. Then click “Login” to proceed.



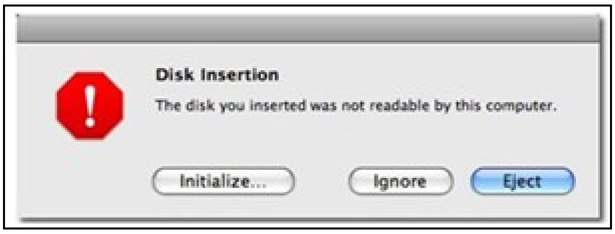
Name: iqn.2004-04.com.qnap:ts-439proii:iscsi.formac.be23f2

Alias:

Ports

Network Node	Status	Auto Login
10.8.12.111:3260	Not Connected	Yes

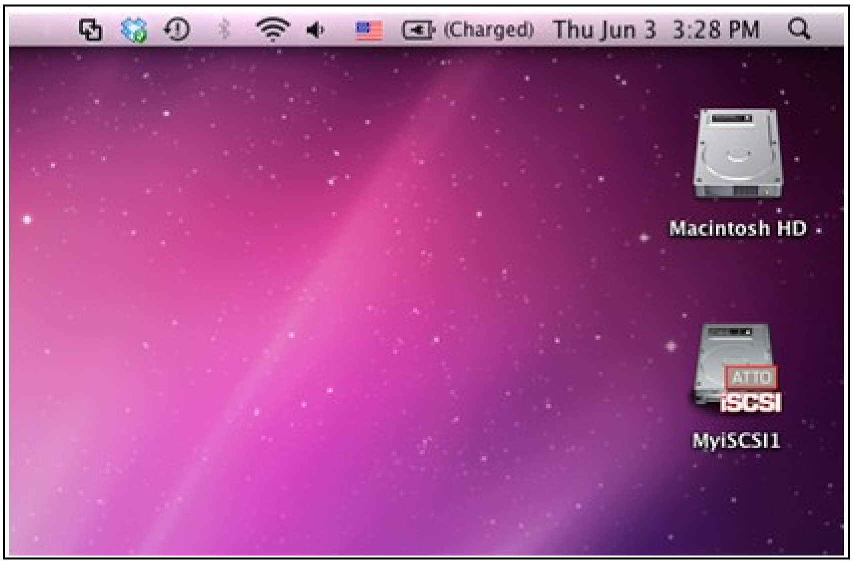
The first time you logon to the iSCSI target, a popup message will be shown to remind you the disk is not initialized. Click "Initialize…" to format the disk. You can also open the "Disk Utilities" application to do the initialization.



Disk Insertion

The disk you inserted was not readable by this computer.

You can now use the iSCSI target as an external drive on your Mac.


(Charged)
Thu Jun 3 3:28 PM
Macintosh HD
ATTO
iSCSI
MyiSCSI1

This section shows you how to use Linux Open-iSCSI Initiator on Ubuntu to add the iSCSI target (QNAP NAS) as an extra partition. Before you start to use the iSCSI target service, make sure you have created an iSCSI target with a LUN on the NAS and installed the correct iSCSI initiator for your OS.

About Linux Open-iSCSI Initiator

The Linux Open-iSCSI Initiator is a built-in package in Ubuntu 8.04 LTS (or later). You can connect to an iSCSI volume at a shell prompt with just a few commands. More information about Ubuntu is available at http://www.ubuntu.com and for information and download location of Open-iSCSI, please visit: http://www.open-iscsi.org

Before you start

Install the open-iscsi package. The package is also known as the Linux Open-iSCSI Initiator.

```
# sudo apt-get install open-iscsi
```

Now follow the steps below to connect to an iSCSI target (QNAP NAS) with Linux Open-iSCSI Initiator.

You may need to modify the iscsid.conf for CHAP logon information, such as node. session.auth.username & node.session.auth.password.

```
# vi /etc/iscsi/iscsid.conf
```

Save and close the file, then restart the open-iscsi service.

```
# /etc/init.d/open-iscsi restart
```

Discover the iSCSI targets on a specific host (the QNAP NAS in this example), for example, 10.8.12.31 with default port 3260.

```
# iscsiadm -m discovery -t sendtargets -p 10.8.12.31:3260
```

Check the available iSCSI node(s) to connect.

```
# iscsiadm -m node
```

** You can delete the node(s) you do not want to connect to when the service is on with the following command:

```
# iscsiadm -m node --op delete --targetname THE_TARGET_IQN
```

Restart open-iscsi to login all the available nodes.

```
# /etc/init.d/open-iscsi restart
```

You should be able to see the login message as below:

```
Login session [iface: default, target: iqn.2004-04.com:NAS:iSCSI.ForUbuntu.B9281B,
portal: 10.8.12.31,3260] [ OK ]
```

Check the device status with dmesg.

```
# dmesg | tail
```

Enter the following command to create a partition, /dev/sdb is the device name.

```
# fdisk /dev/sdb
```

Format the partition.

```
# mkfs.ext3 /dev/sdb1
```

Mount the file system.

```
# mkdir /mnt/iscsi
```

```
# mount /dev/sdb1 /mnt/iscsi/
```

You can test the I/O speed using the following command.

```
# hdparm -tT /dev/sdb1
```

Below are some “iscsiadm” related commands.
Discover the targets on the host:

```
# iscsiadm -m discovery --type sendtargets --portal HOST_IP
```

Login a target:

```
# iscsiadm –m node --targetname THE_TARGET_IQN --login
```

Logout a target:

```
# iscsiadm –m node --targetname THE_TARGET_IQN --logout
```

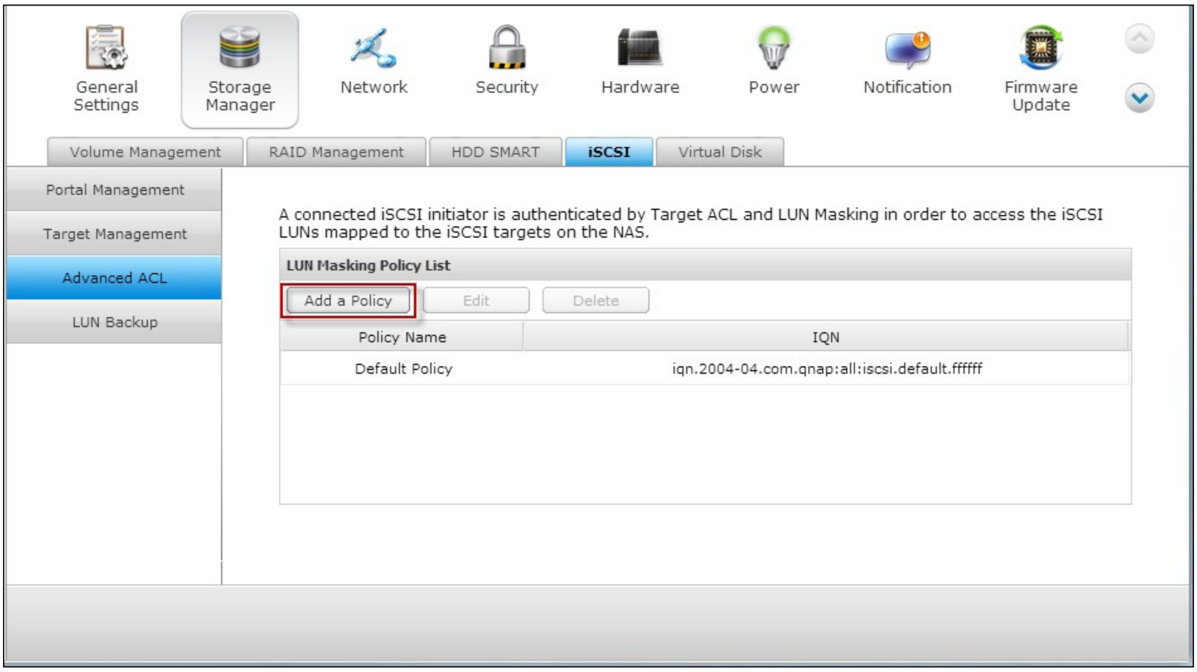
Delete a Target:

```
# iscsiadm –m node --op delete --targetname THE_TARGET_IQN
```

4.2.5.3 Advanced ACL

The description below applies to non Intel-based NAS models running firmware version 3.3.0 or later and Intel-based NAS models running firmware version 3.2.0 or later only.

You can create LUN masking policy to configure the permission of the iSCSI initiators which attempt to access the LUN mapped to the iSCSI targets on the NAS. To use this feature, click "Add a Policy" under "Advanced ACL".



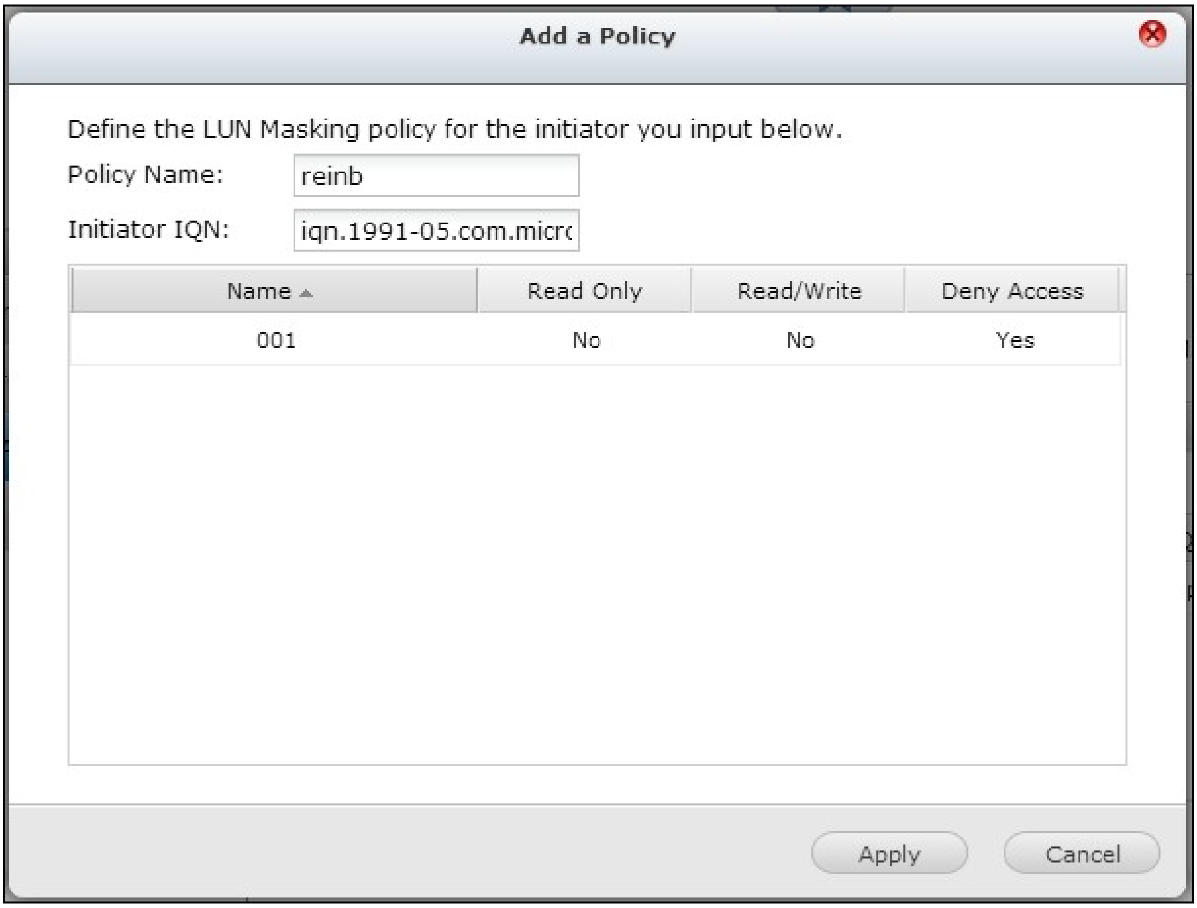
A connected iSCSI initiator is authenticated by Target ACL and LUN Masking in order to access the iSCSI LUNs mapped to the iSCSI targets on the NAS.

LUN Masking Policy List

Policy Name	IQN
Default Policy	iqn.2004-04.com.qnap:all:iscsi.default.ffffff

Enter the policy name, the initiator IQN, and assign the access right for each LUN created on the NAS.

- Read-only: The connected initiator can only read the data from the LUN.
- Read/Write: The connected initiator has read and write access right to the LUN.
- Deny Access: The LUN is invisible to the connected initiator.



Add a Policy

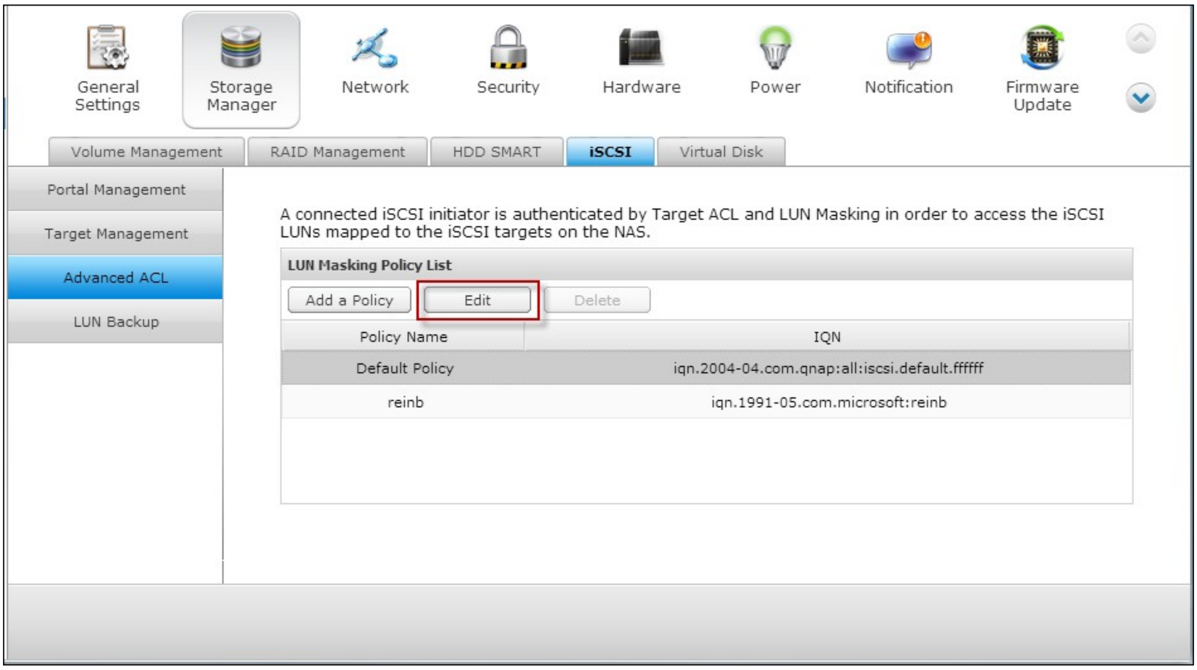
Define the LUN Masking policy for the initiator you input below.

Policy Name: reinb

Initiator IQN: iqn.1991-05.com.micrc

Name	Read Only	Read/Write	Deny Access
001	No	No	Yes

If no LUN masking policy is specified for a connected iSCSI initiator, the default policy will be applied. The system default policy allows read and write access from all the connected iSCSI initiators. You can click "Edit" to edit the default policy.



A connected iSCSI initiator is authenticated by Target ACL and LUN Masking in order to access the iSCSI LUNs mapped to the iSCSI targets on the NAS.

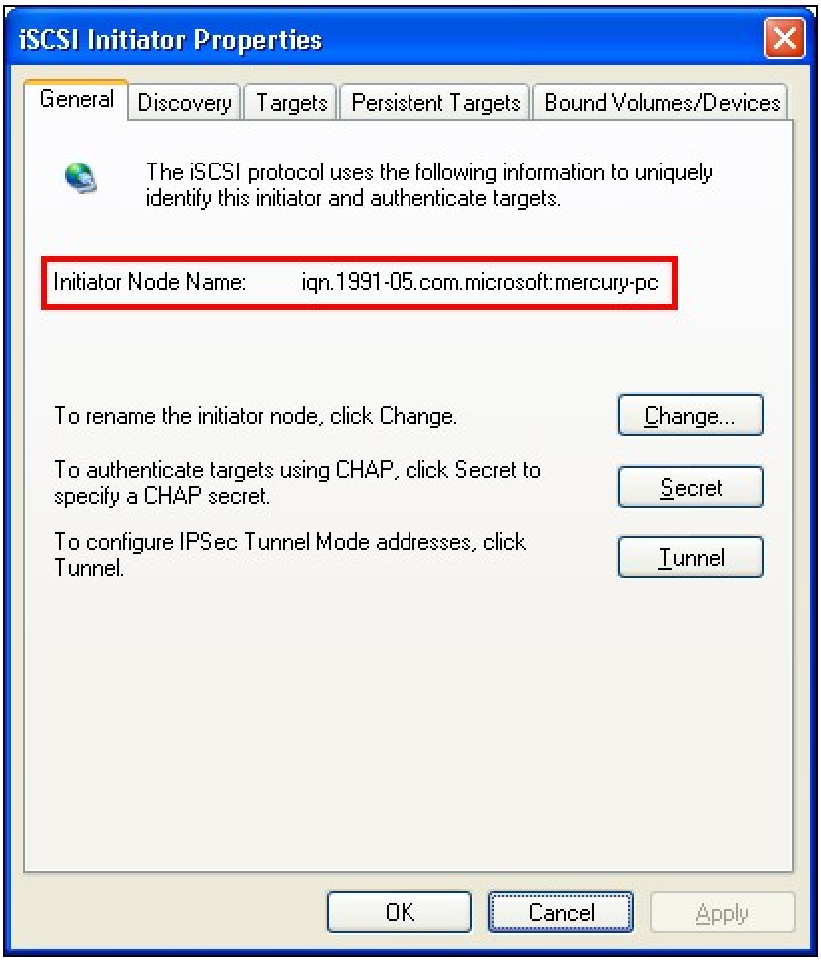
LUN Masking Policy List

Policy Name	IQN
Default Policy	iqn.2004-04.com.qnap:all:iscsi.default.ffffff
reinb	iqn.1991-05.com.microsoft:reinb

Note: Make sure you have created at least one LUN on the NAS before editing the default LUN policy.

Hint: How do I find the initiator IQN?

Start Microsoft iSCSI initiator and click "General". You can find the IQN of the initiator as shown below.



The iSCSI protocol uses the following information to uniquely identify this initiator and authenticate targets.

Initiator Node Name: iqn.1991-05.com.microsoft:mercury-pc

To rename the initiator node, click Change.

To authenticate targets using CHAP, click Secret to specify a CHAP secret.

To configure IPSec Tunnel Mode addresses, click Tunnel.

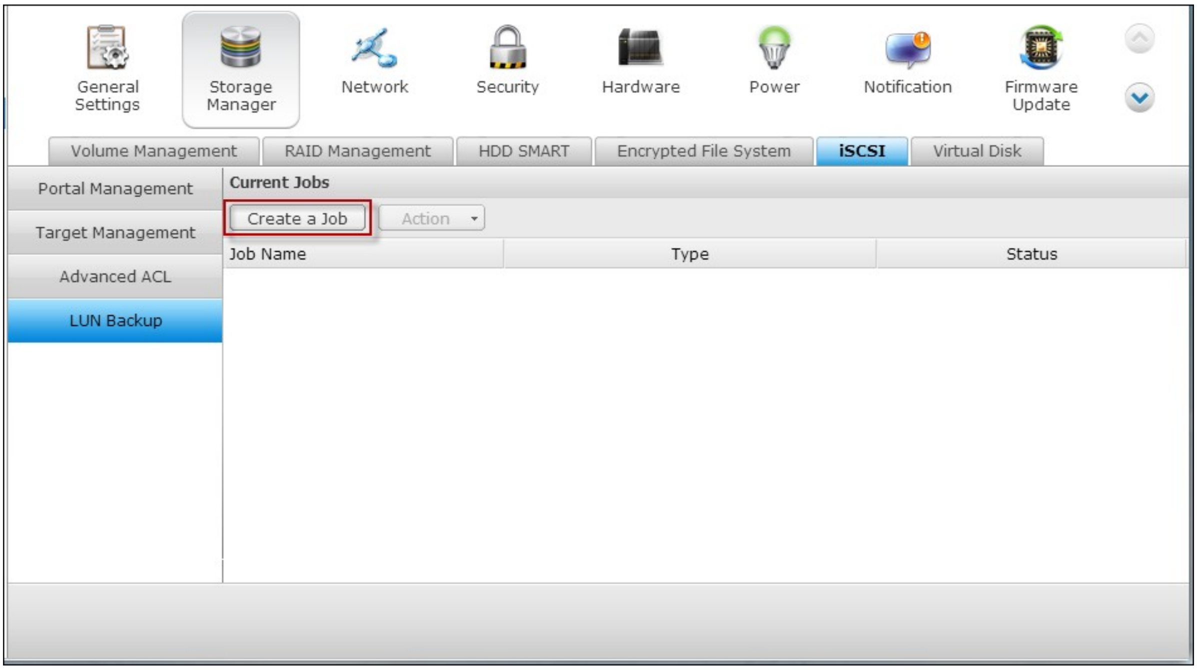
4.2.5.4 LUN Backup

The NAS supports backing up iSCSI LUNs to different storage locations (Windows, Linux, or local shared folders), restoring the LUNs to the NAS, or creating a LUN snapshot and mapping it to an iSCSI target.

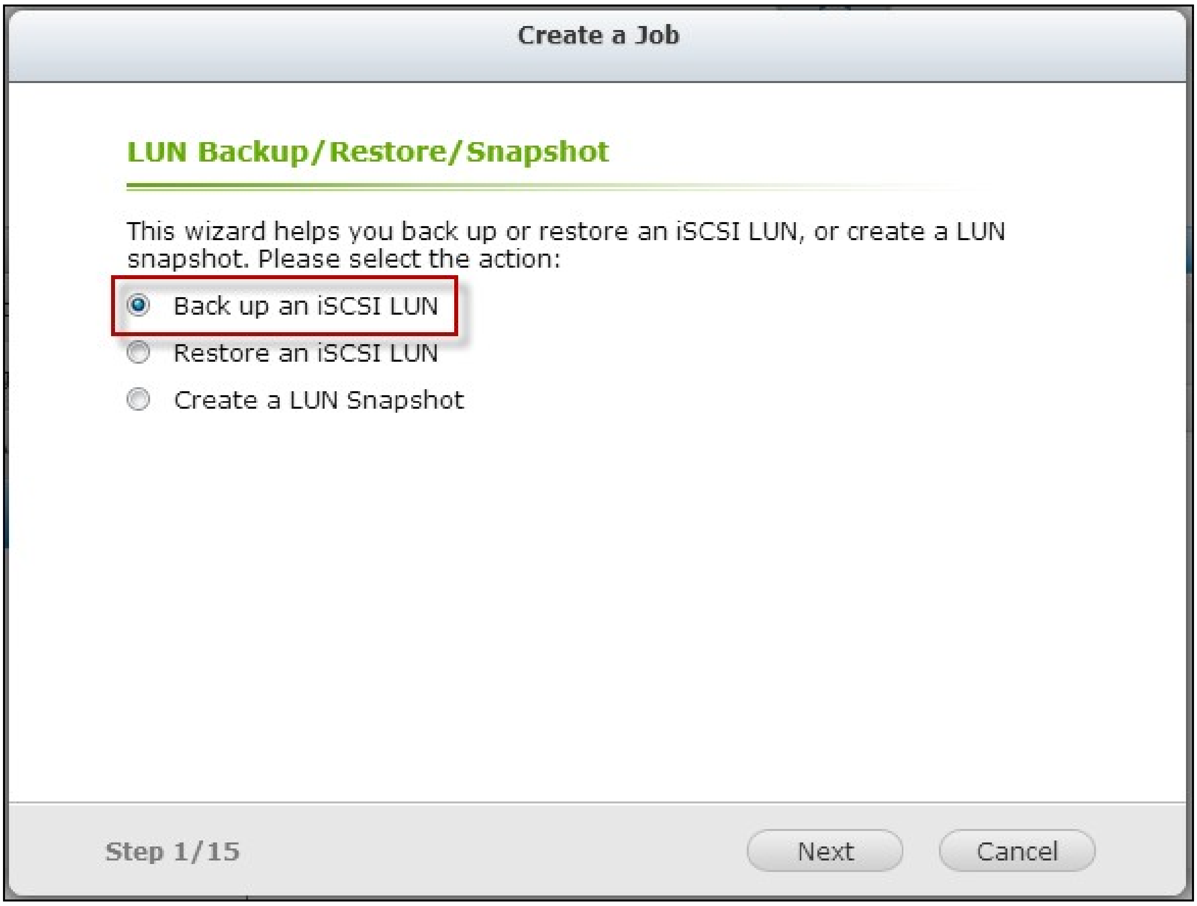
Back up an iSCSI LUN

Before backing up an iSCSI LUN, make sure at least one iSCSI LUN has been created on the NAS. To create iSCSI targets and LUN, go to "Storage Manager" > "iSCSI" > "Target Management".

1. Go to "Storage Manager" > "iSCSI" > "LUN Backup". Click "Create a new job".



2. Select "Back up an iSCSI LUN" and click "Next".



Create a Job

LUN Backup/Restore/Snapshot

This wizard helps you back up or restore an iSCSI LUN, or create a LUN snapshot. Please select the action:

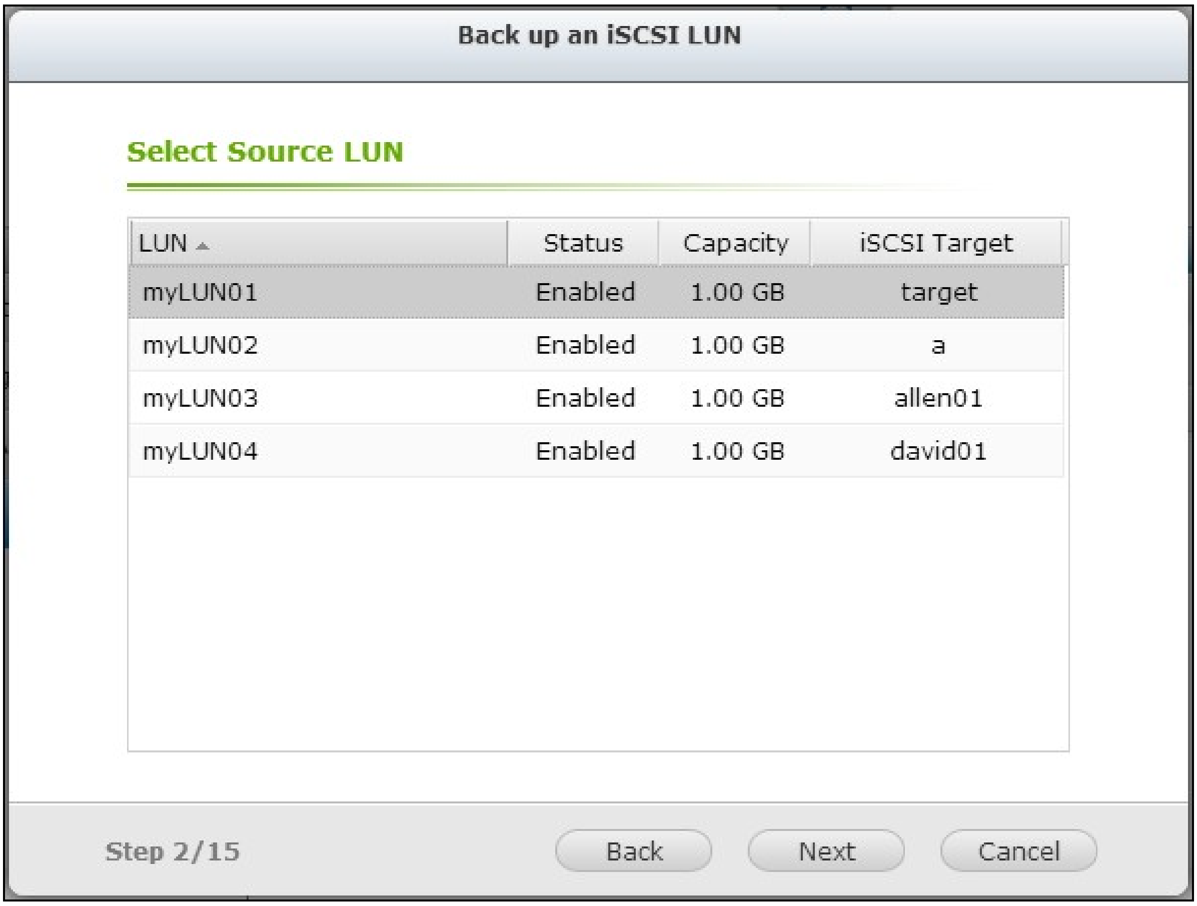
● Back up an iSCSI LUN

○ Restore an iSCSI LUN

○ Create a LUN Snapshot

Step 1/15

3. Select the source LUN for backup. If an online LUN is selected, the NAS will create a point-in-time snapshot for the LUN automatically.



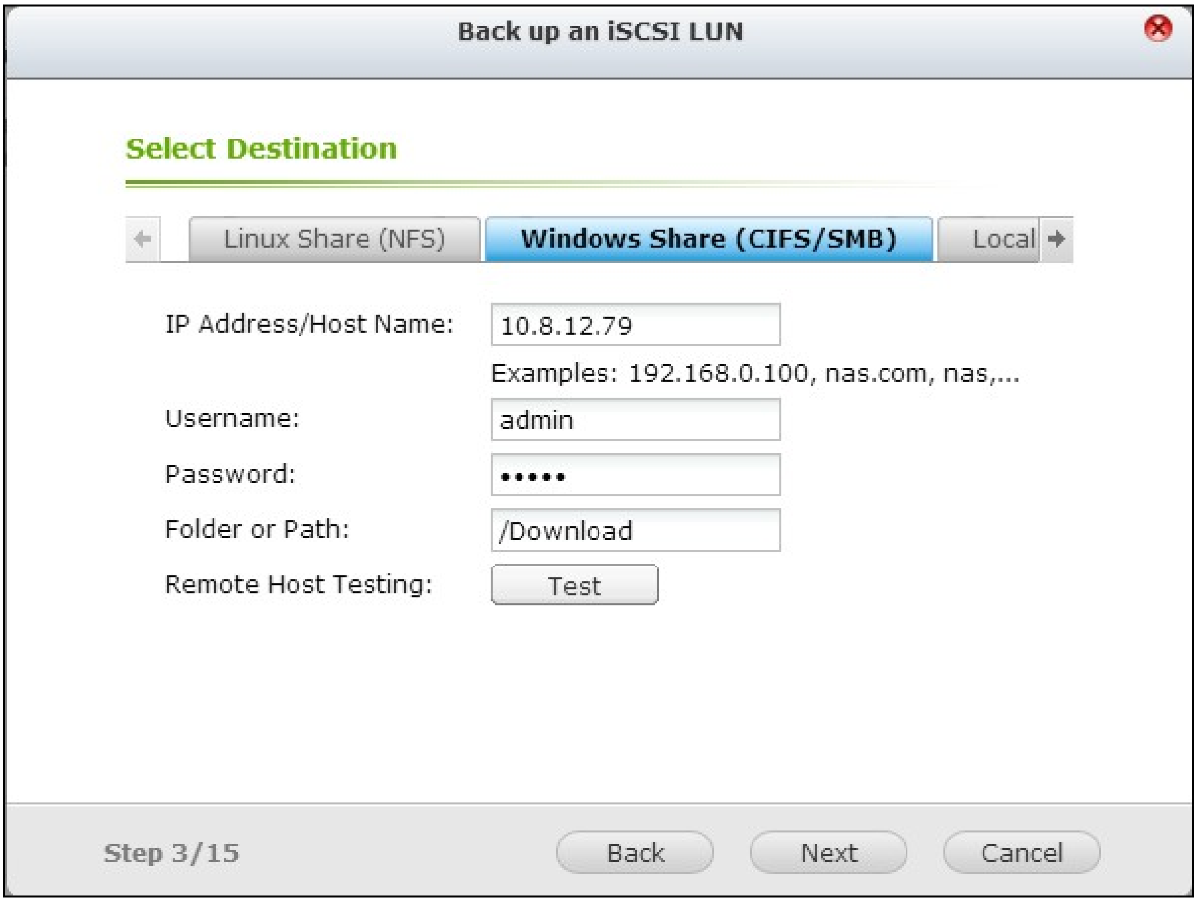
Back up an iSCSI LUN

Select Source LUN

LUN	Status	Capacity	iSCSI Target
myLUN01	Enabled	1.00 GB	target
myLUN02	Enabled	1.00 GB	a
myLUN03	Enabled	1.00 GB	allen01
myLUN04	Enabled	1.00 GB	david01

Step 2/15

4. Specify the destination where the LUN will be backed up to. The NAS supports LUN backup to a Linux share (NFS), a Windows share (CIFS/SMB), and a local folder on the NAS. Click "Test" to test the connection to the specified path. Then click "Next".



Back up an iSCSI LUN

Select Destination

IP Address/Host Name: 10.8.12.79

Examples: 192.168.0.100, nas.com, nas,...

Username: admin

Password: •••••

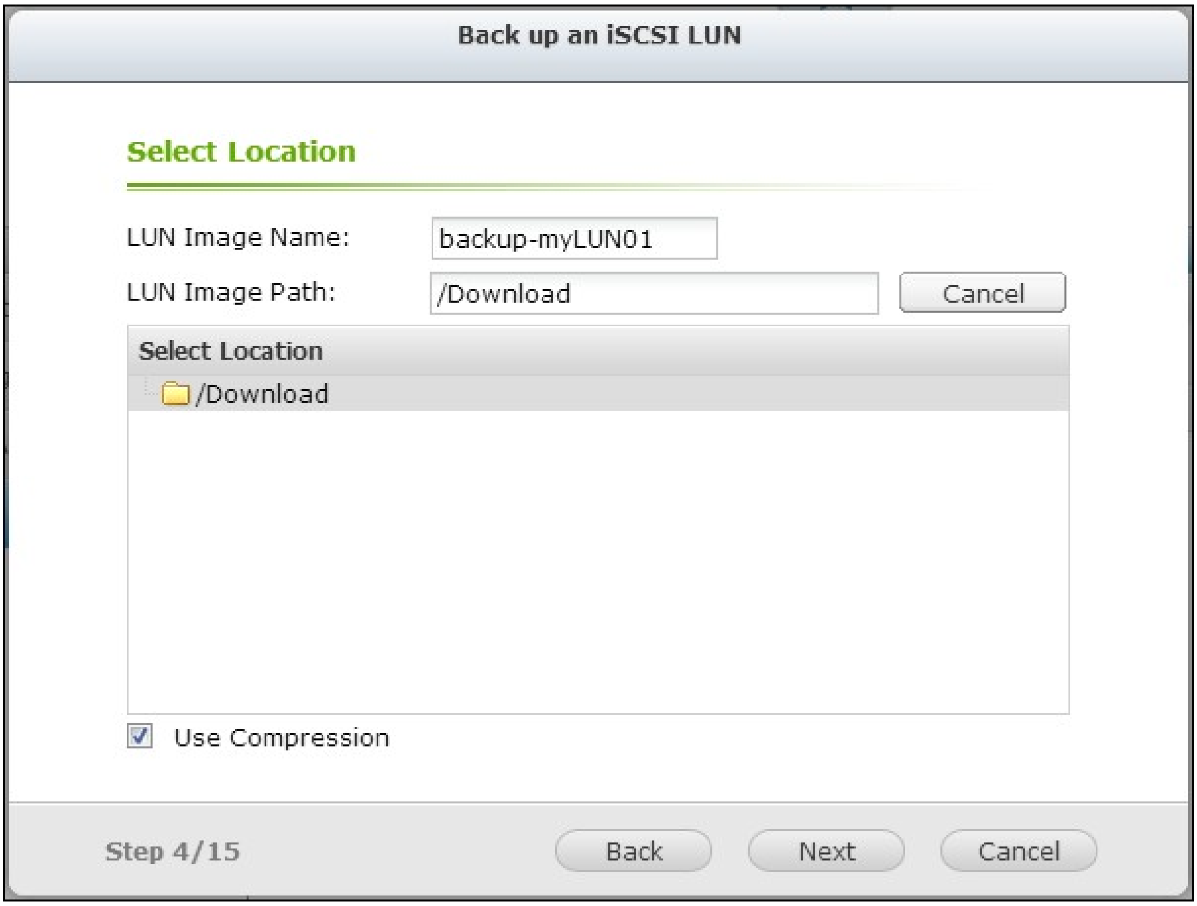
Folder or Path: /Download

Remote Host Testing: Test

Step 3/15

5. Enter a name of the backup LUN image or use the one generated by the NAS. Select the subfolder where the image file will be stored. Select to use compression* or not. Click “Next”.

*Use Compression: When this option is enabled, more CPU resources of the NAS will be consumed but the size of the backup LUN can be reduced. The backup time may vary depending on the size of the iSCSI LUN.


Back up an iSCSI LUN

Select Location

LUN Image Name: backup-myLUN01

LUN Image Path: /Download

Select Location

/Download

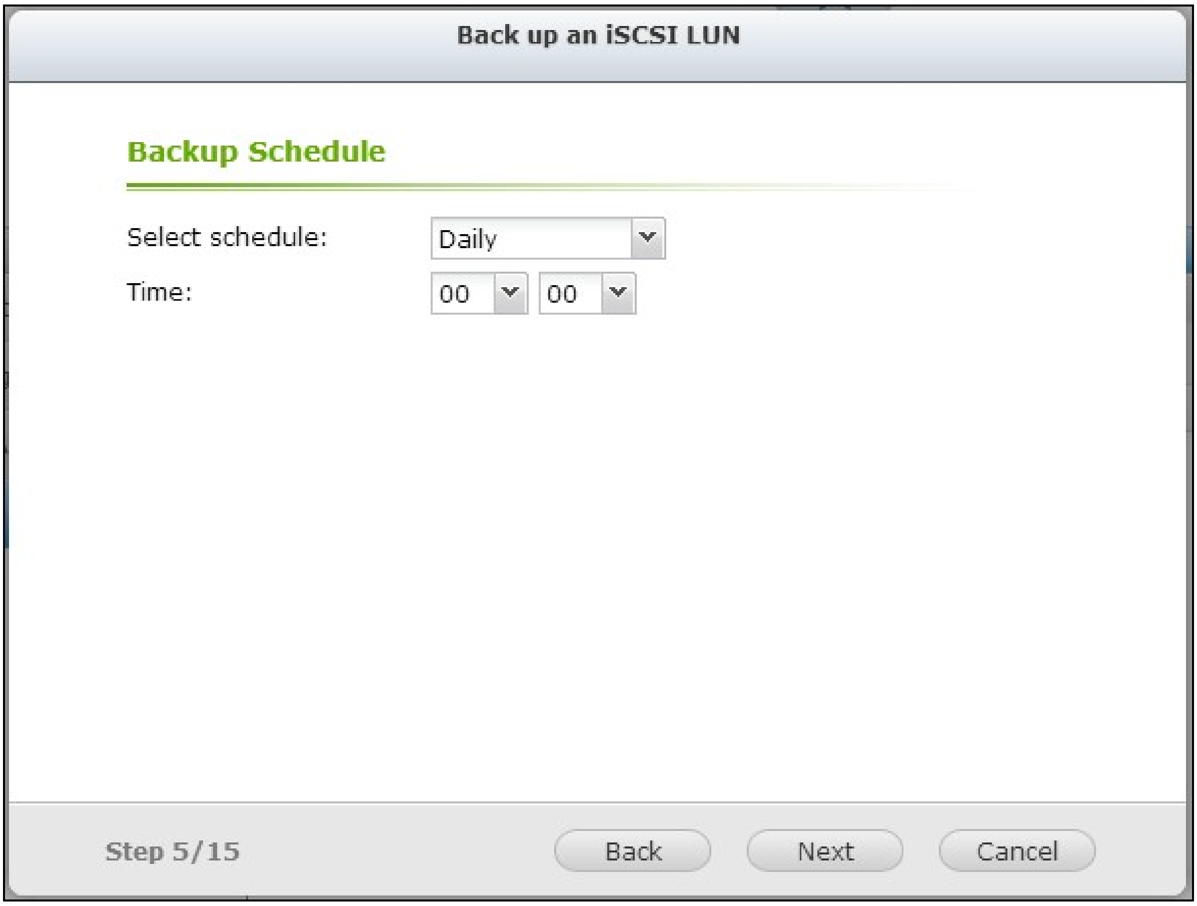
☑ Use Compression

Step 4/15

6. Specify the backup schedule. The options available are:

- Now
- Hourly
- Daily
- Weekly
- Monthly

Click “Next”.



Back up an iSCSI LUN

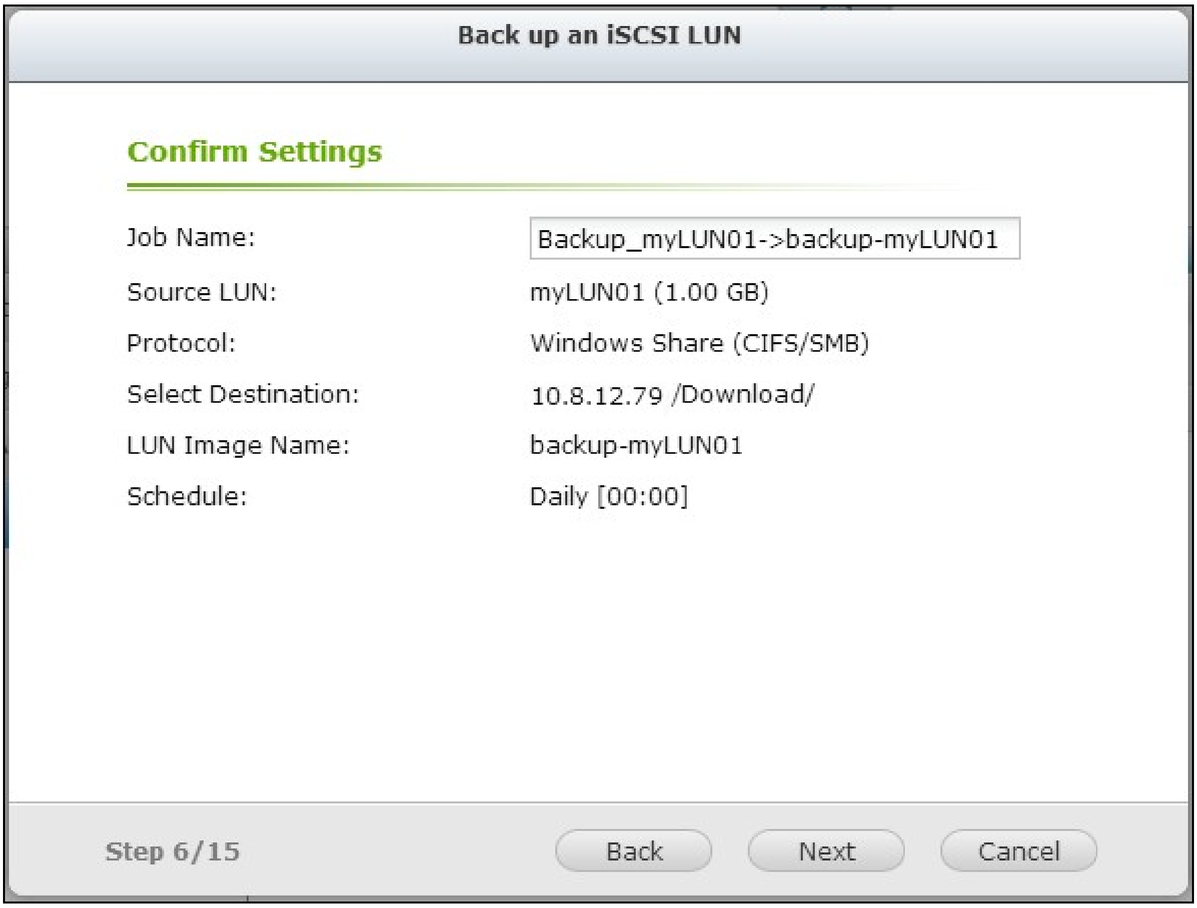
Backup Schedule

Select schedule: Daily

Time: 00 00

Step 5/15

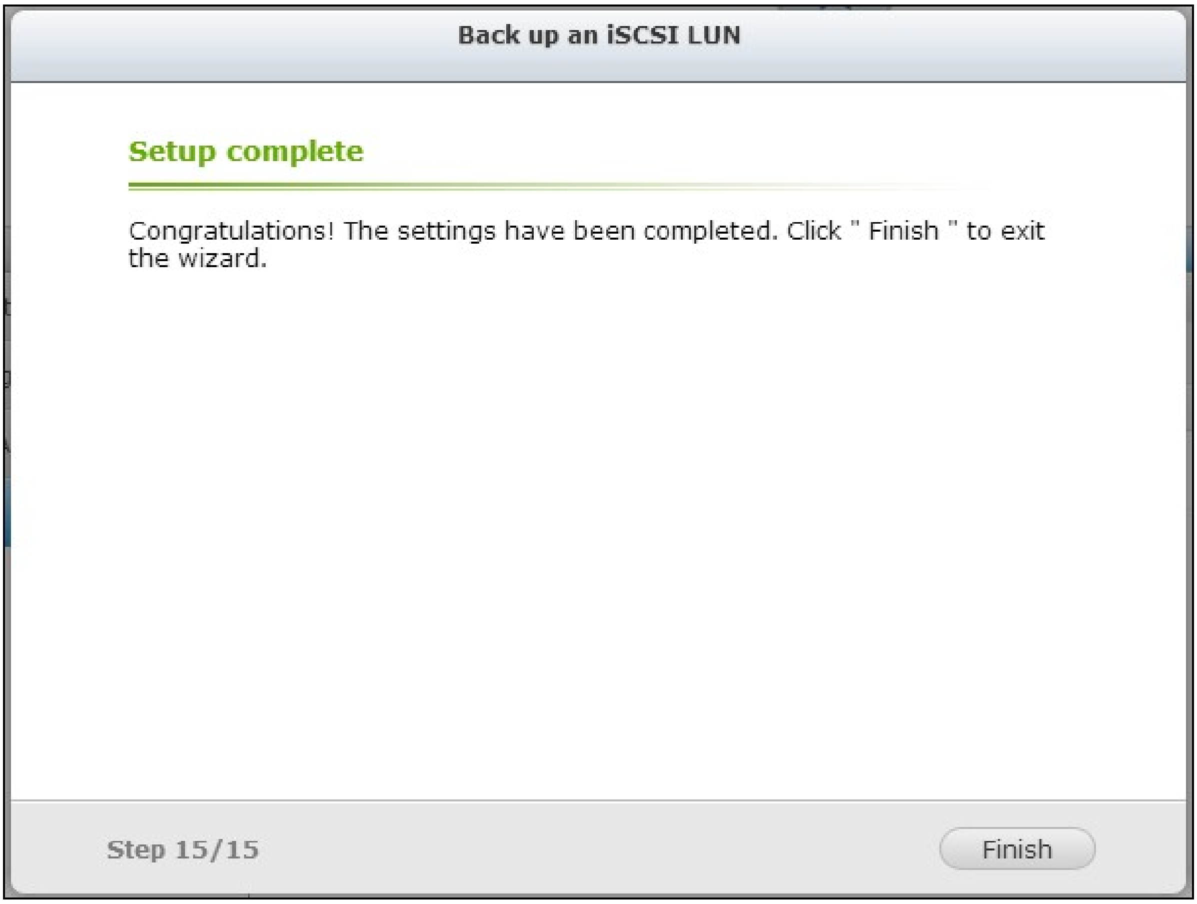
7. The settings will be shown. Enter a name for the job or use the one generated by the NAS. Click "Next."



Confirm Settings

Job Name:	Backup_myLUN01->backup-myLUN01
Source LUN:	myLUN01 (1.00 GB)
Protocol:	Windows Share (CIFS/SMB)
Select Destination:	10.8.12.79 /Download/
LUN Image Name:	backup-myLUN01
Schedule:	Daily [00:00]

8. Click "Finish" to exit.



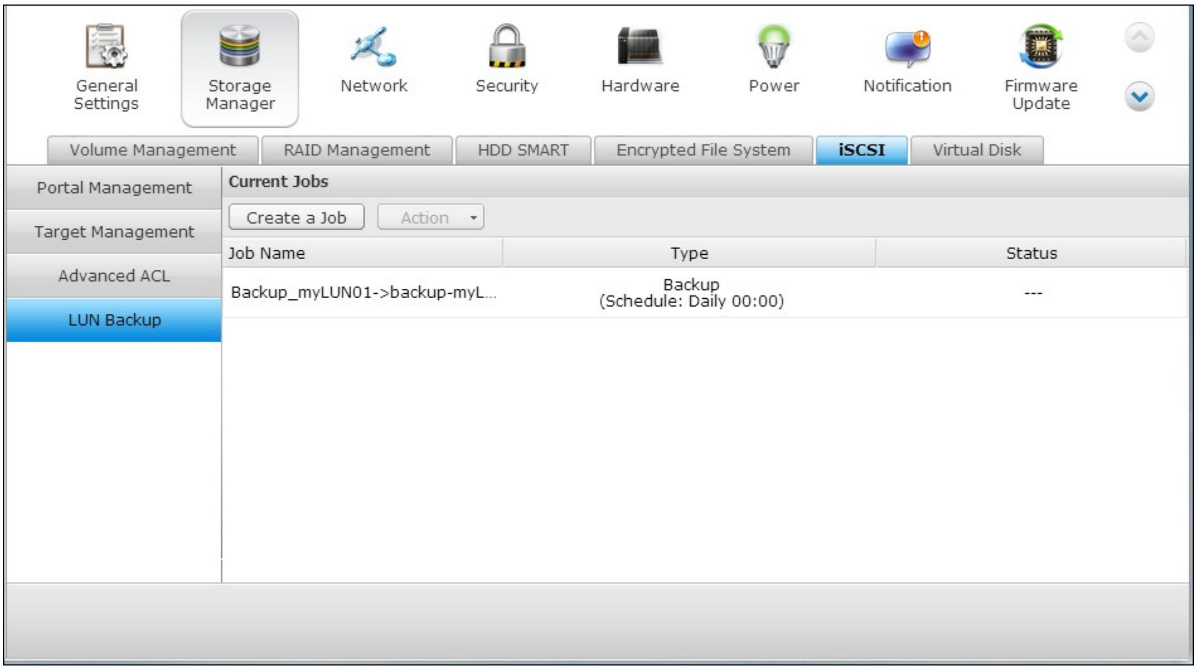
Back up an iSCSI LUN

Setup complete

Congratulations! The settings have been completed. Click " Finish " to exit the wizard.

9. The backup job is shown on the list.

Button	Description
▶	Start the job immediately.
■	Stop the running job.
✎	Edit the job settings.
🔍	View the job status and logs.

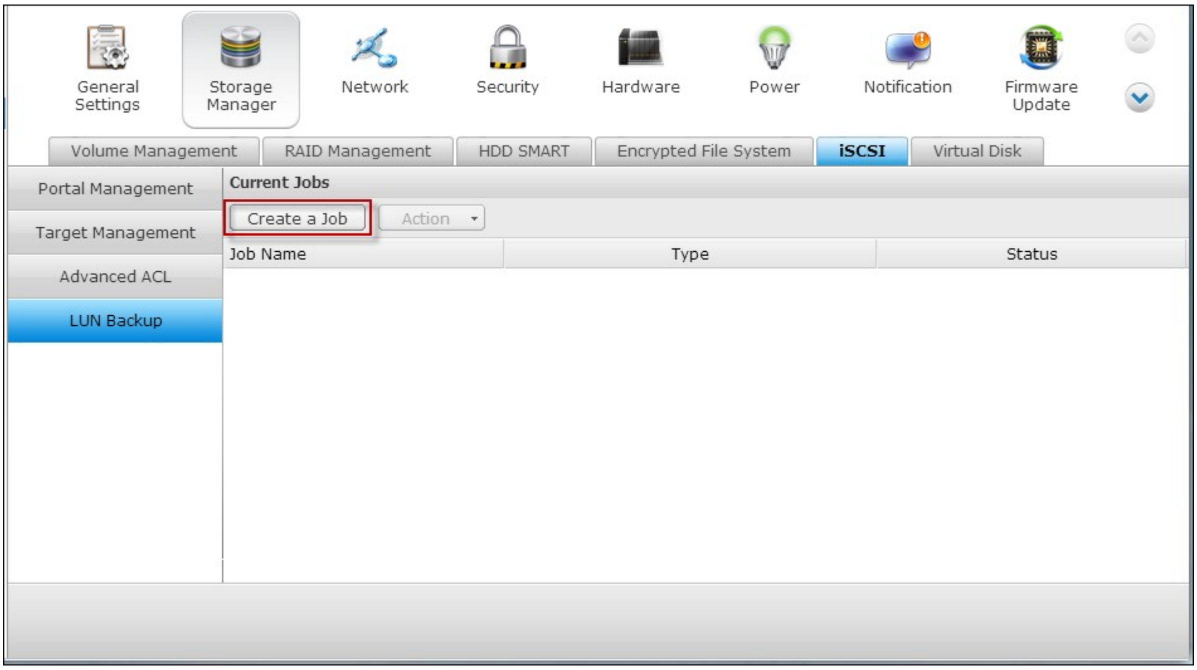


Current Jobs

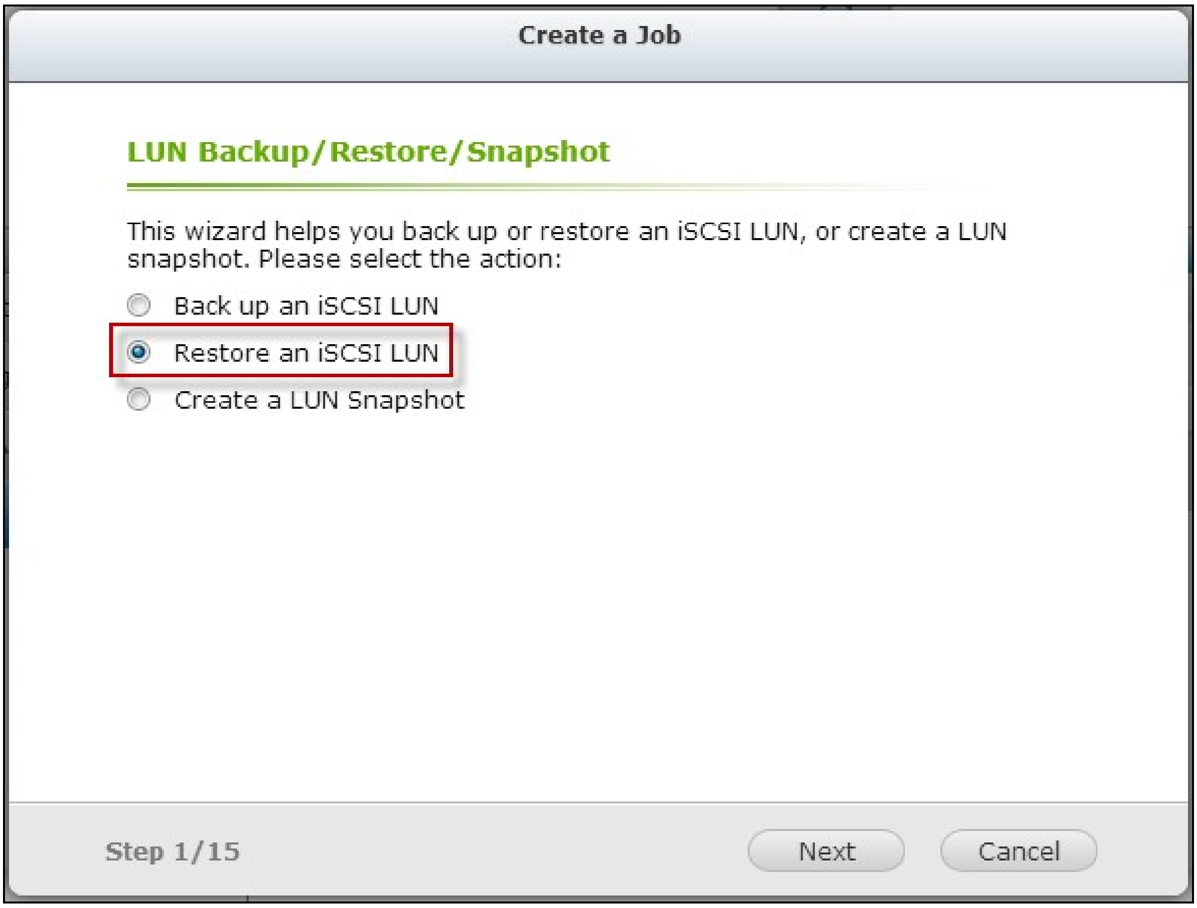
Job Name	Type	Status
Backup_myLUN01->backup-myL...	Backup (Schedule: Daily 00:00)	---

Restore an iSCSI LUN

1. To restore an iSCSI LUN to the NAS, go to "Storage Manager" > "iSCSI" > "LUN Backup". Click "Create a job".



2. Select "Restore an iSCSI LUN" and click "Next."



Create a Job

LUN Backup/Restore/Snapshot

This wizard helps you back up or restore an iSCSI LUN, or create a LUN snapshot. Please select the action:

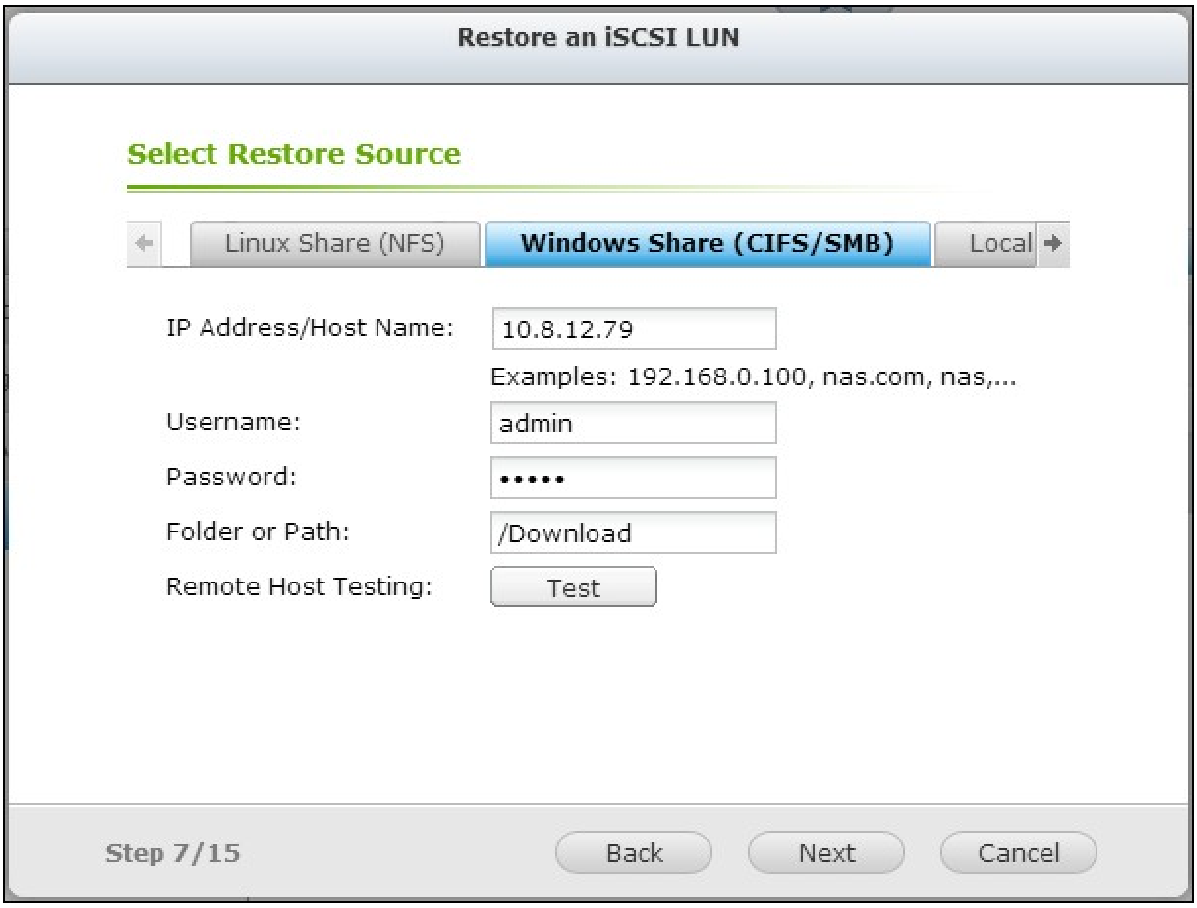
○ Back up an iSCSI LUN

● Restore an iSCSI LUN

○ Create a LUN Snapshot

Step 1/15

3. Specify the protocol, IP address/host name, and folder/path of the restore source. Click "Test" to test the connection. Then click "Next".



Select Restore Source

IP Address/Host Name: 10.8.12.79

Examples: 192.168.0.100, nas.com, nas,...

Username: admin

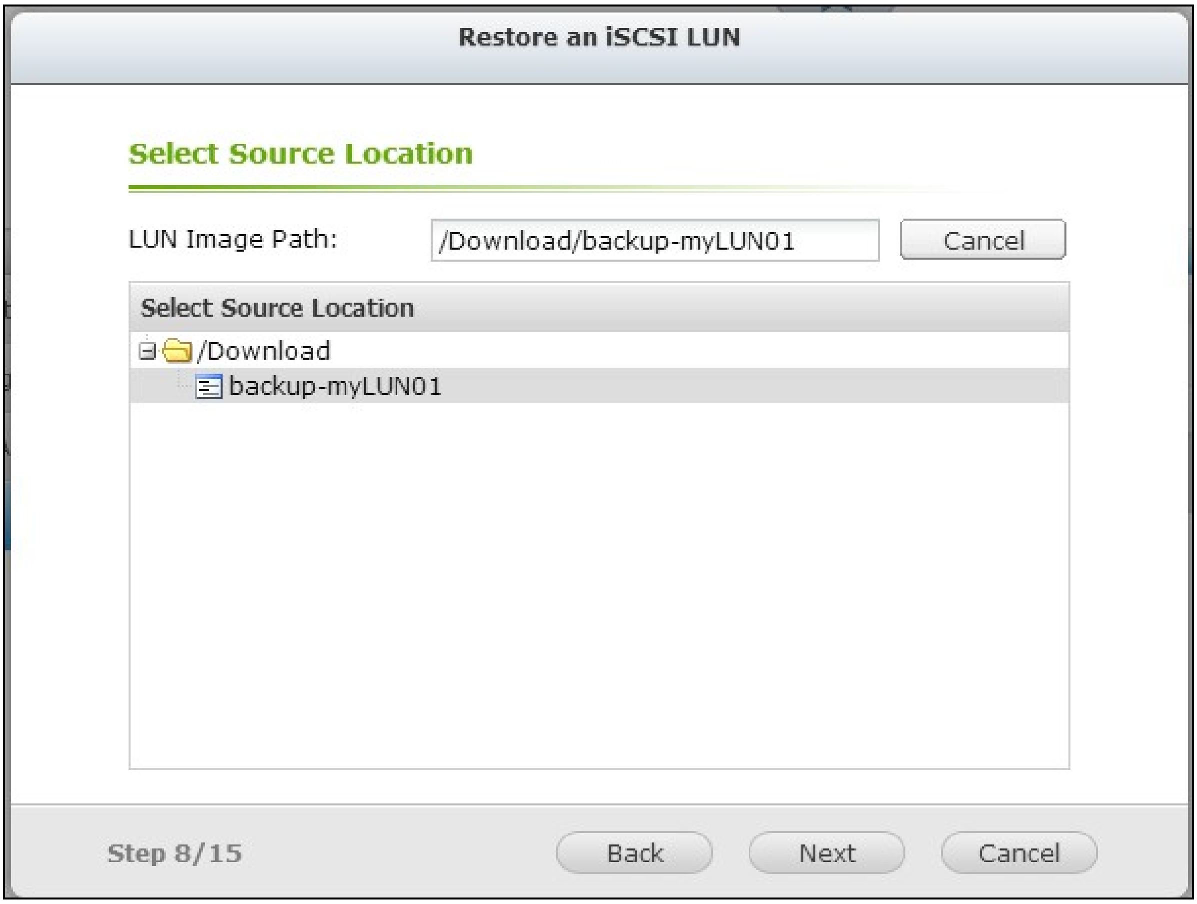
Password: •••••

Folder or Path: /Download

Remote Host Testing: Test

Step 7/15

4. Browse and select the LUN image file. Click "Next."

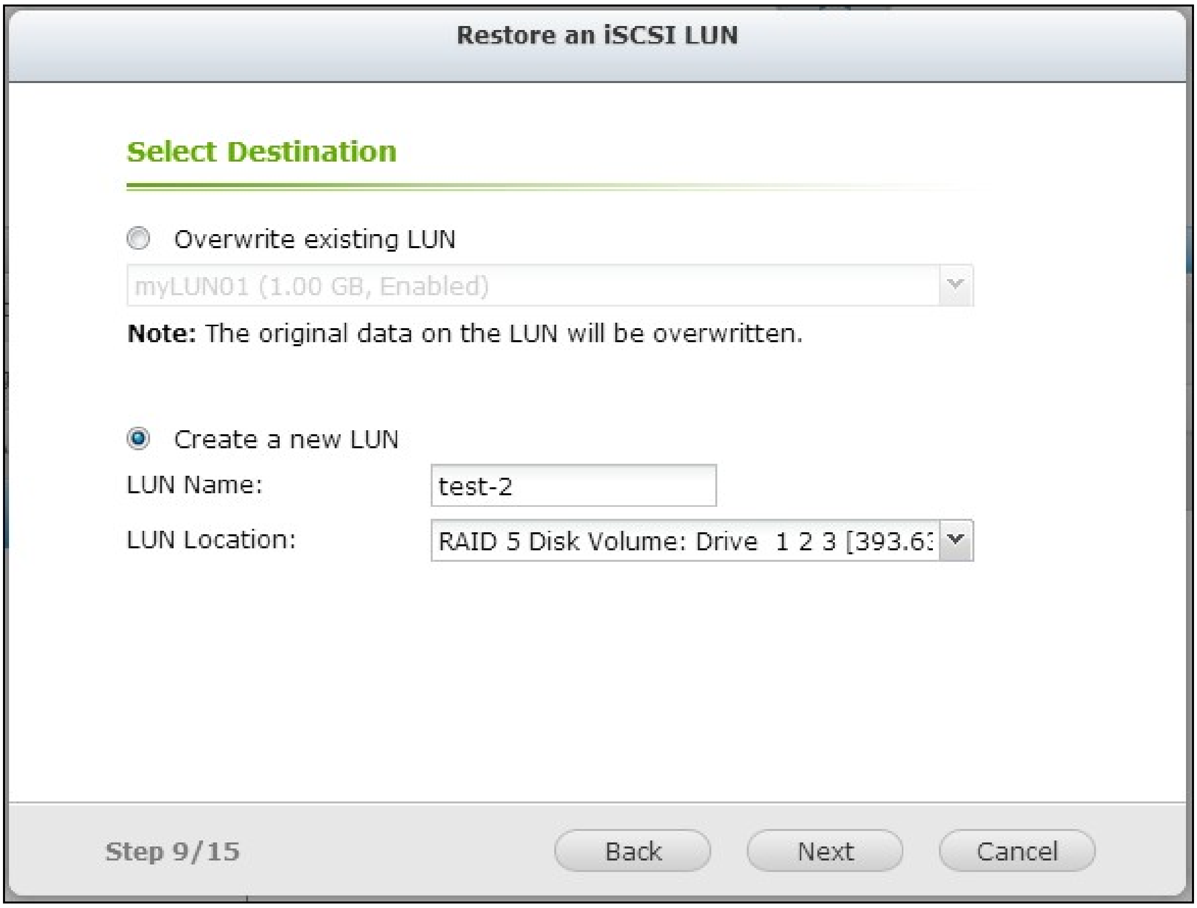


LUN Image Path: /Download/backup-myLUN01

5. Select the destination.

- Overwrite existing LUN: Restore the iSCSI LUN and overwrite the existing LUN on the NAS. All the data on the original LUN will be overwritten.
- Create a new LUN: Restore the iSCSI LUN to the NAS as a new LUN. Enter the name and select the location of the new LUN.

Click “Next”.



Restore an iSCSI LUN

Select Destination

○ Overwrite existing LUN

myLUN01 (1.00 GB, Enabled)

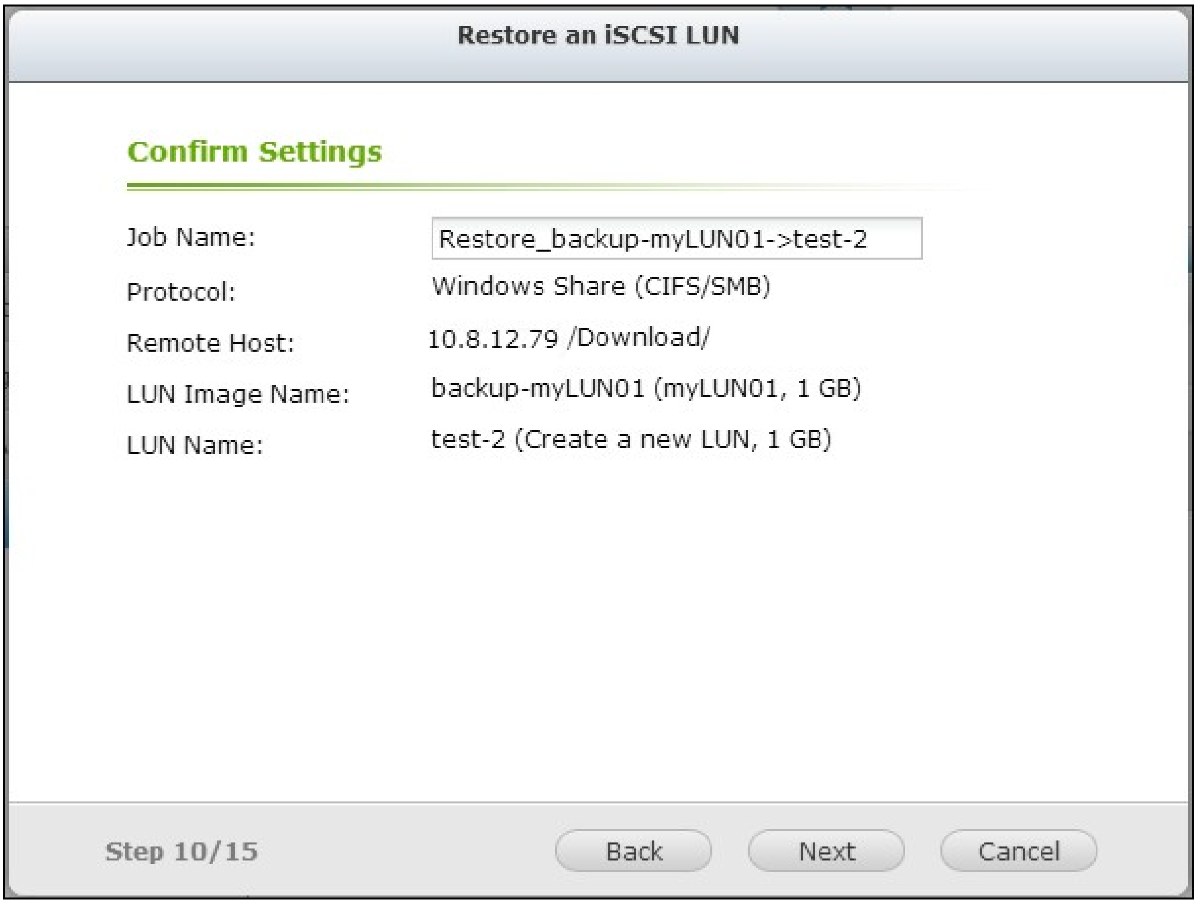
Note: The original data on the LUN will be overwritten.

● Create a new LUN

LUN Name: test-2

LUN Location: RAID 5 Disk Volume: Drive 1 2 3 [393.6:

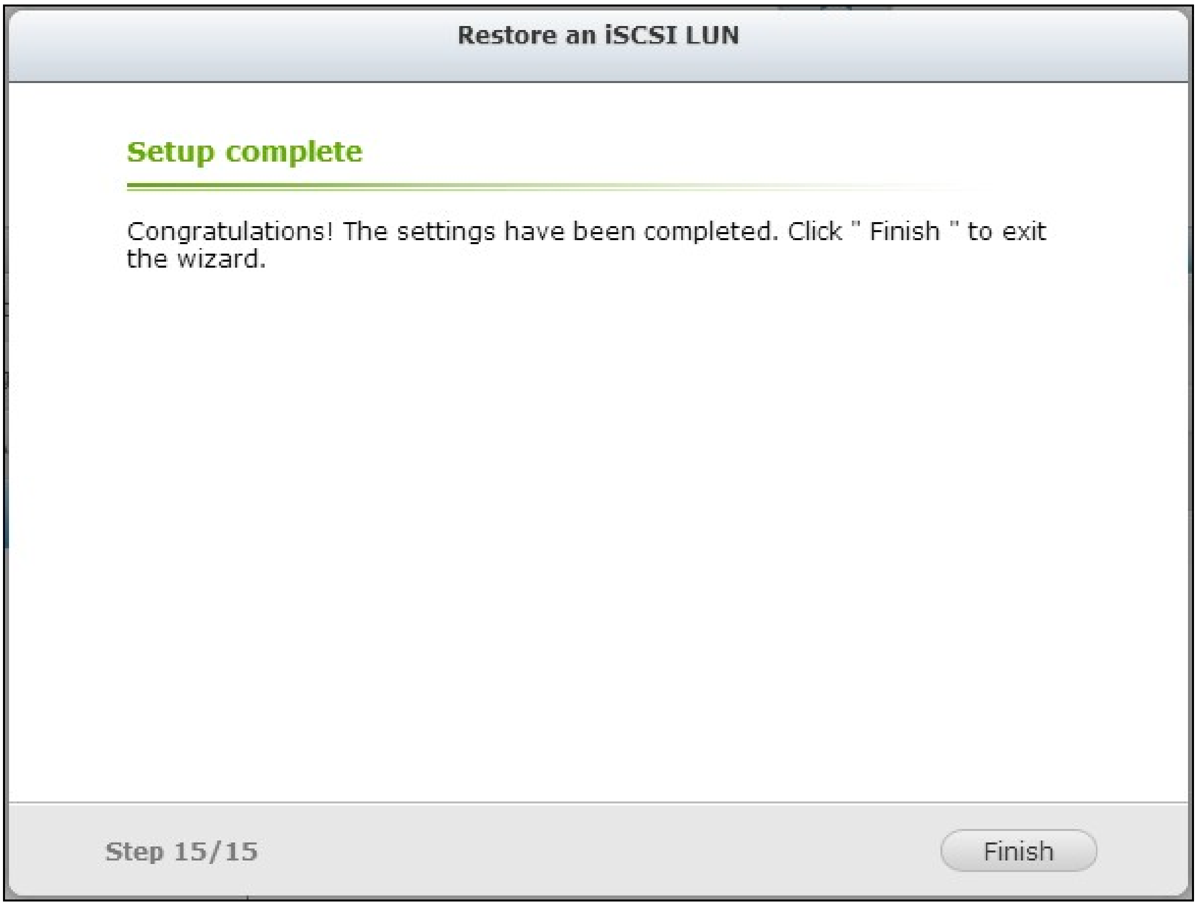
6. The settings will be shown. Enter a name for the job or use the one generated by the NAS. Click “Next”.



Confirm Settings

Job Name:	Restore_backup-myLUN01->test-2
Protocol:	Windows Share (CIFS/SMB)
Remote Host:	10.8.12.79 /Download/
LUN Image Name:	backup-myLUN01 (myLUN01, 1 GB)
LUN Name:	test-2 (Create a new LUN, 1 GB)

7. Click "Finish" to exit.



Restore an iSCSI LUN

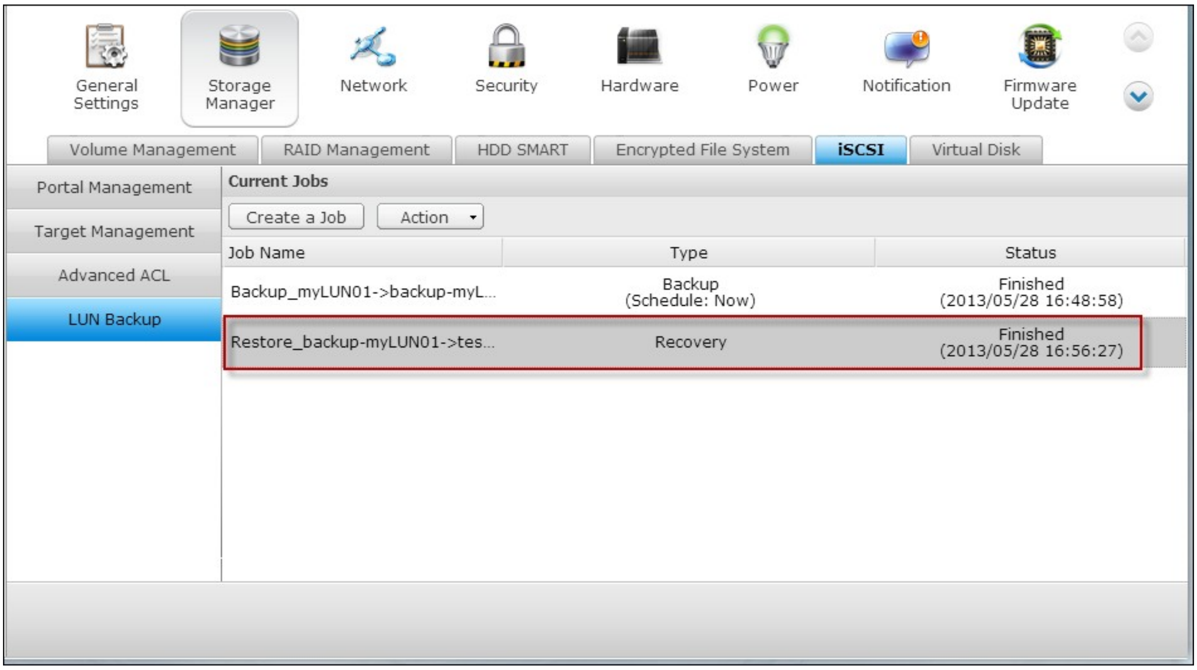
Setup complete

Congratulations! The settings have been completed. Click " Finish " to exit the wizard.

Step 15/15

The restore job will be executed immediately.

Button	Description
■	Stop the running job.
✎	Edit the job settings.
🔍	View the job status and logs.

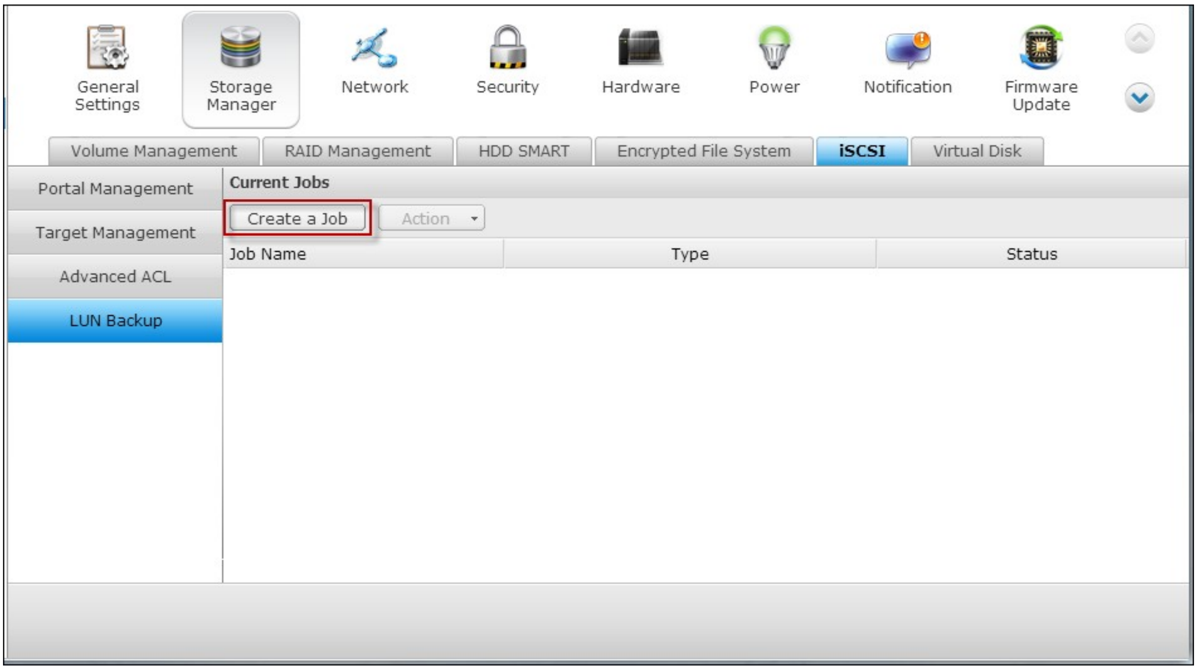


Job Name	Type	Status
Backup_myLUN01->backup-myL...	Backup (Schedule: Now)	Finished (2013/05/28 16:48:58)
Restore_backup-myLUN01->tes...	Recovery	Finished (2013/05/28 16:56:27)

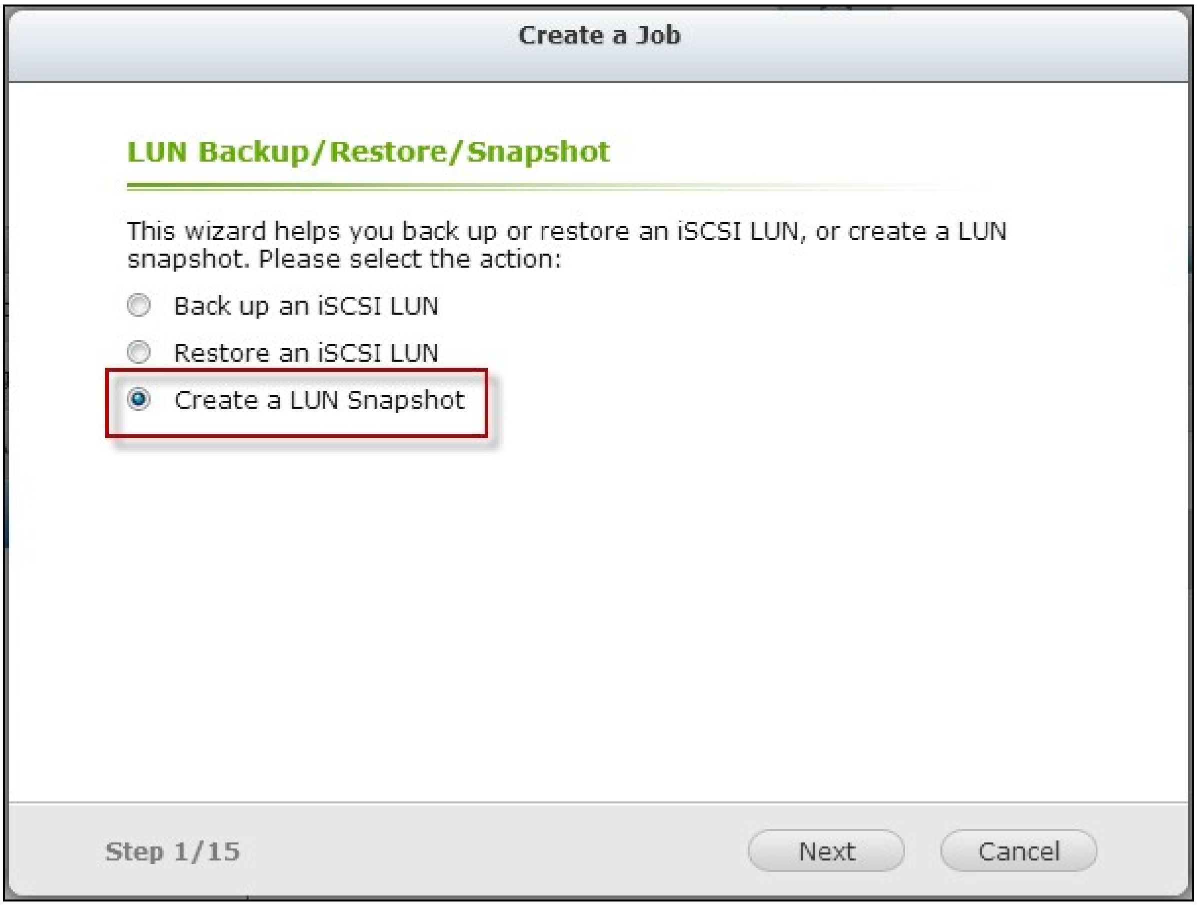
Create an iSCSI LUN Snapshot

Before creating an iSCSI LUN snapshot, make sure at least one iSCSI LUN and one iSCSI target has been created on the NAS. To create iSCSI targets and LUN, go to "Storage Manager" > "iSCSI" > "Target Management".

1. To create an iSCSI LUN snapshot, go to "Storage Manager" > "iSCSI" > "LUN Backup". Click "Create a job".



2. Select "Create a LUN Snapshot" and click "Next".


Create a Job

LUN Backup/Restore/Snapshot

This wizard helps you back up or restore an iSCSI LUN, or create a LUN snapshot. Please select the action:

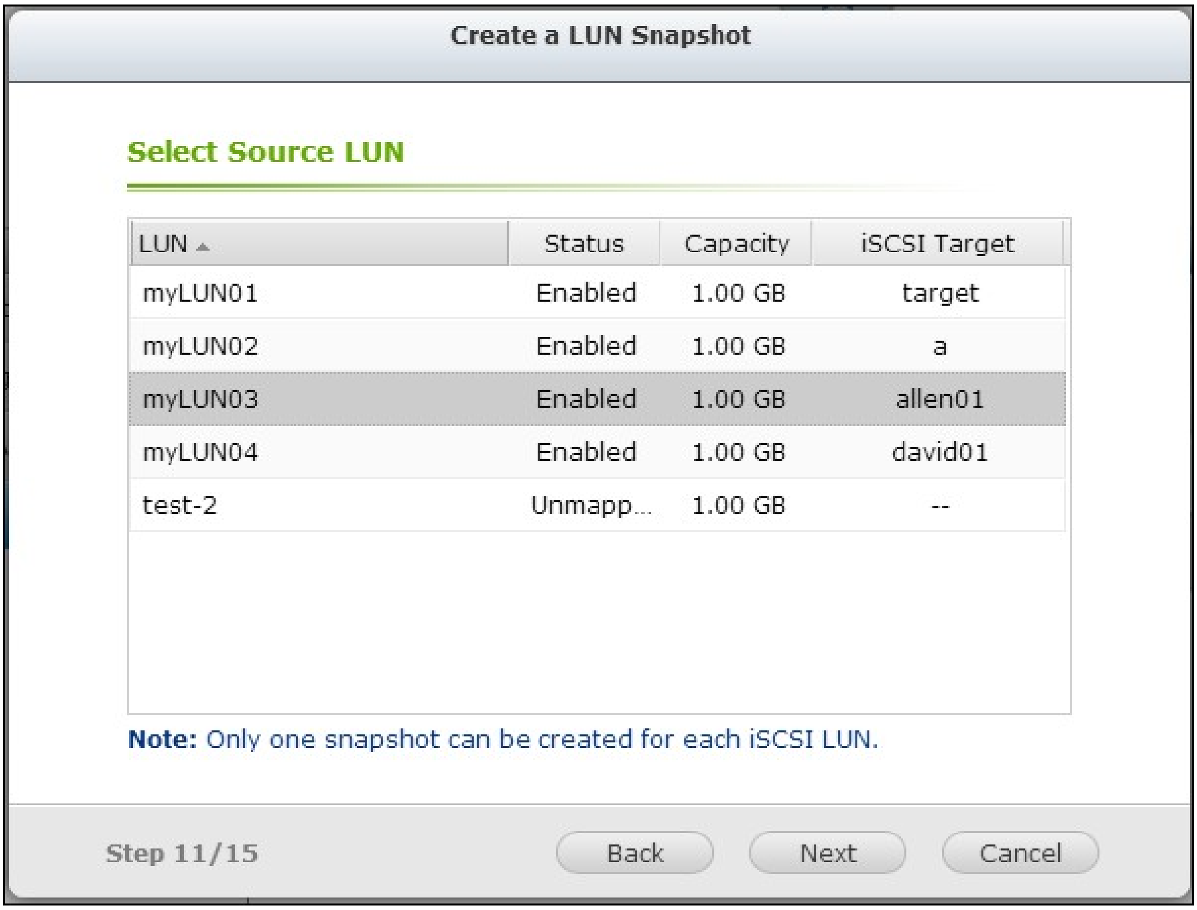
○ Back up an iSCSI LUN

○ Restore an iSCSI LUN

● Create a LUN Snapshot

Step 1/15

3. Select an iSCSI LUN on the NAS. Only one snapshot can be created for each iSCSI LUN. Click “Next”.



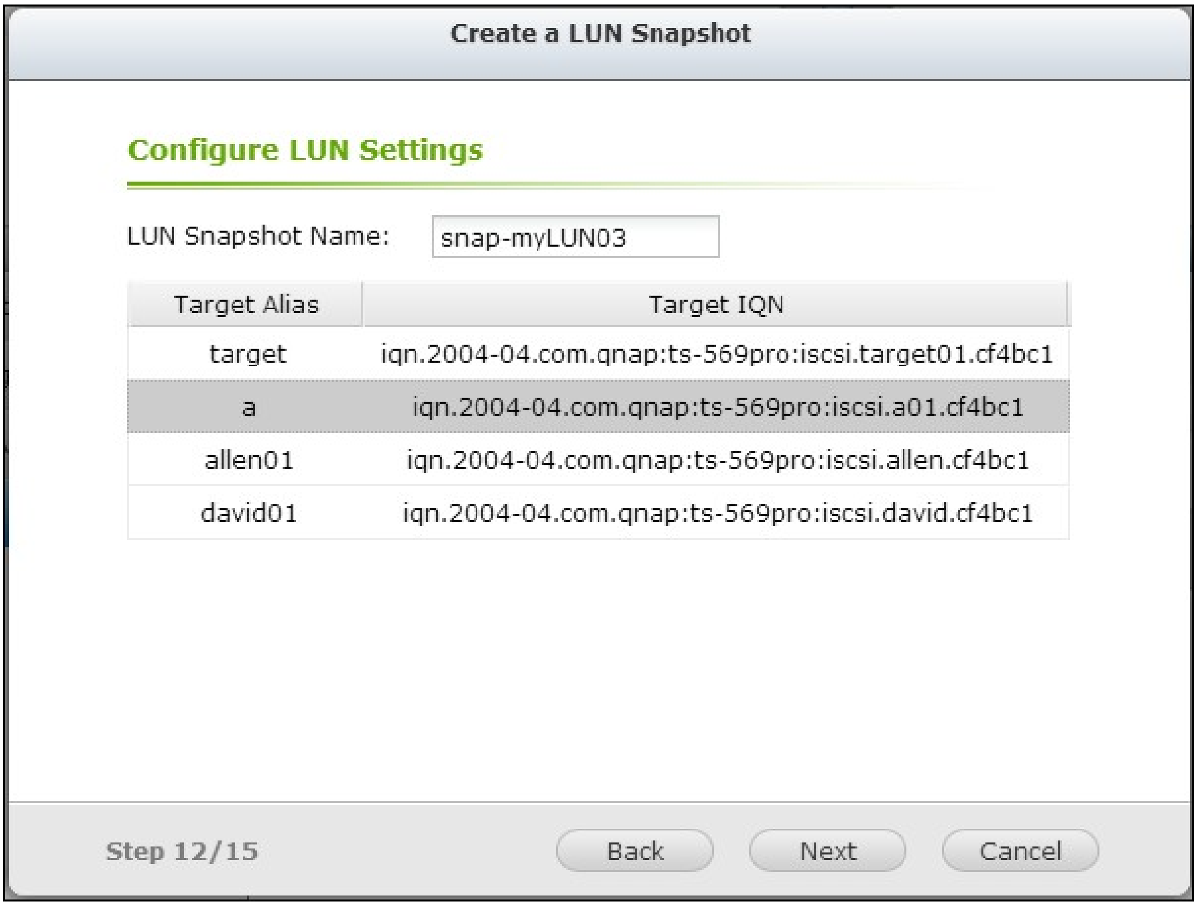
Create a LUN Snapshot

Select Source LUN

LUN ▲	Status	Capacity	iSCSI Target
myLUN01	Enabled	1.00 GB	target
myLUN02	Enabled	1.00 GB	a
myLUN03	Enabled	1.00 GB	allen01
myLUN04	Enabled	1.00 GB	david01
test-2	Unmapp...	1.00 GB	--

Note: Only one snapshot can be created for each iSCSI LUN.

4. Enter a name for the LUN snapshot or use the one generated by the NAS. Select an iSCSI target where the LUN snapshot is mapped to. Click "Next". The LUN snapshot must be mapped to another iSCSI target different from the original one.



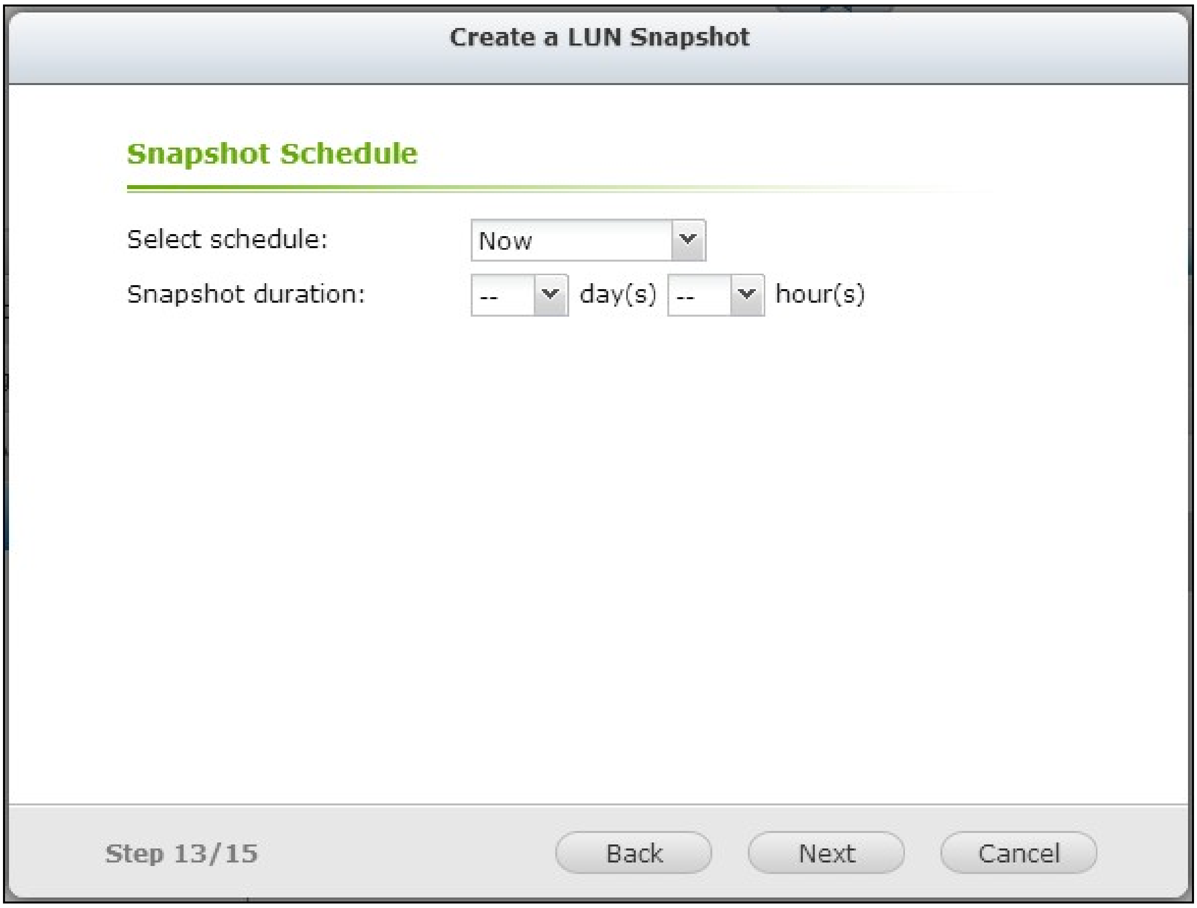
Configure LUN Settings

LUN Snapshot Name: snap-myLUN03

Target Alias	Target IQN
target	iqn.2004-04.com.qnap:ts-569pro:iscsi.target01.cf4bc1
a	iqn.2004-04.com.qnap:ts-569pro:iscsi.a01.cf4bc1
allen01	iqn.2004-04.com.qnap:ts-569pro:iscsi.allen.cf4bc1
david01	iqn.2004-04.com.qnap:ts-569pro:iscsi.david.cf4bc1

Step 12/15

5. Specify the snapshot schedule and the snapshot duration. The snapshot will be removed automatically when the snapshot duration is reached.


Create a LUN Snapshot

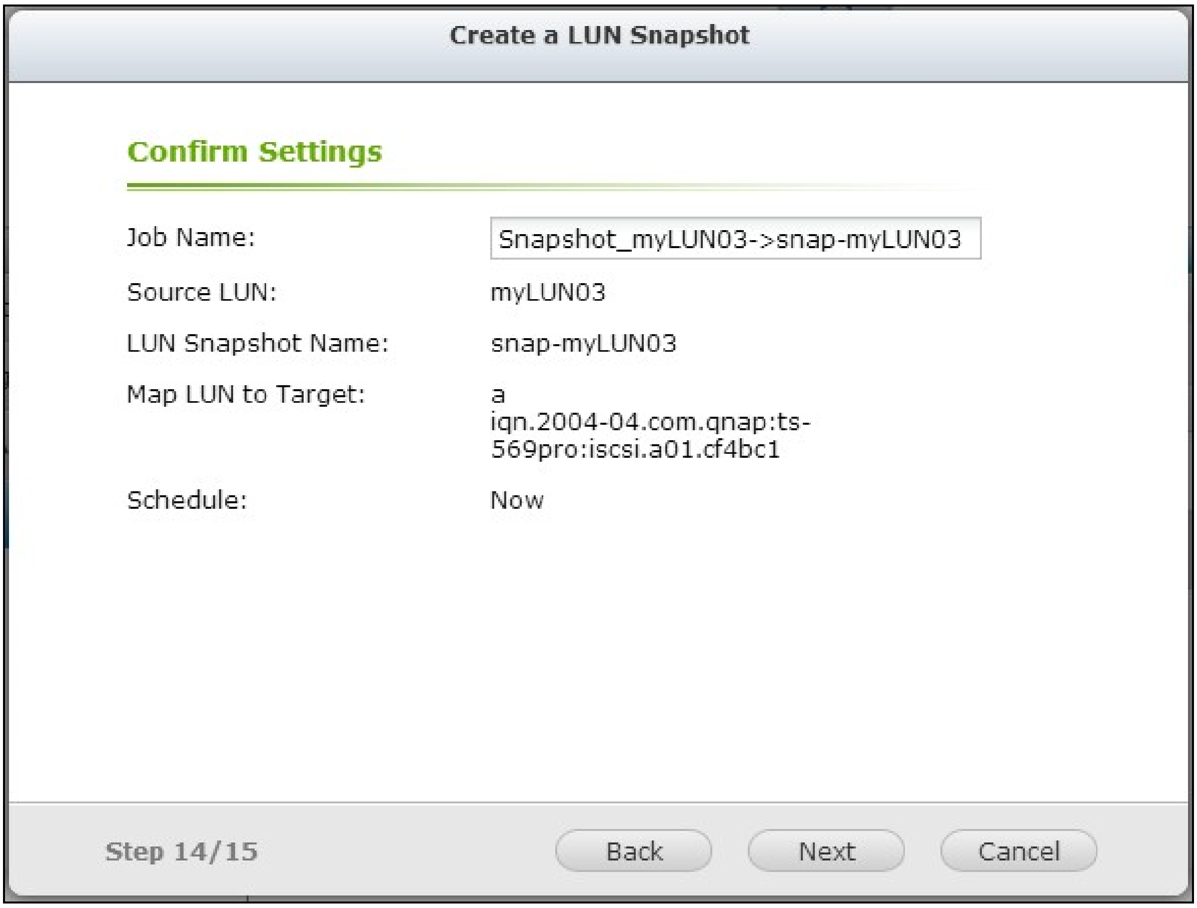
Snapshot Schedule

Select schedule: Now

Snapshot duration: -- day(s) -- hour(s)

Step 13/15

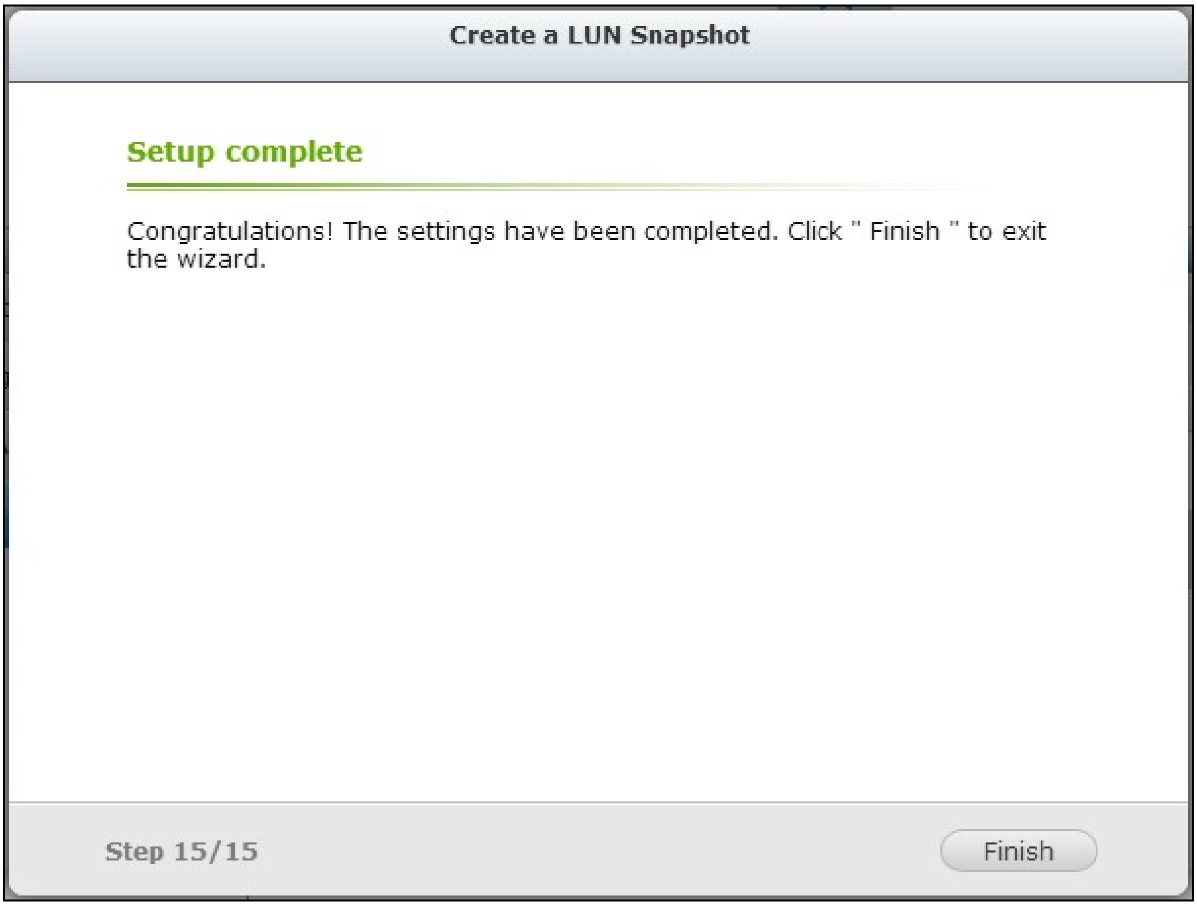
6. The settings will be shown. Enter a name for the job or use the one generated by the NAS. Click “Next”.



Confirm Settings

Job Name:	Snapshot_myLUN03->snap-myLUN03
Source LUN:	myLUN03
LUN Snapshot Name:	snap-myLUN03
Map LUN to Target:	a iqn.2004-04.com.qnap:ts-569pro:iscsi.a01.cf4bc1
Schedule:	Now

7. Click “Finish” to exit.

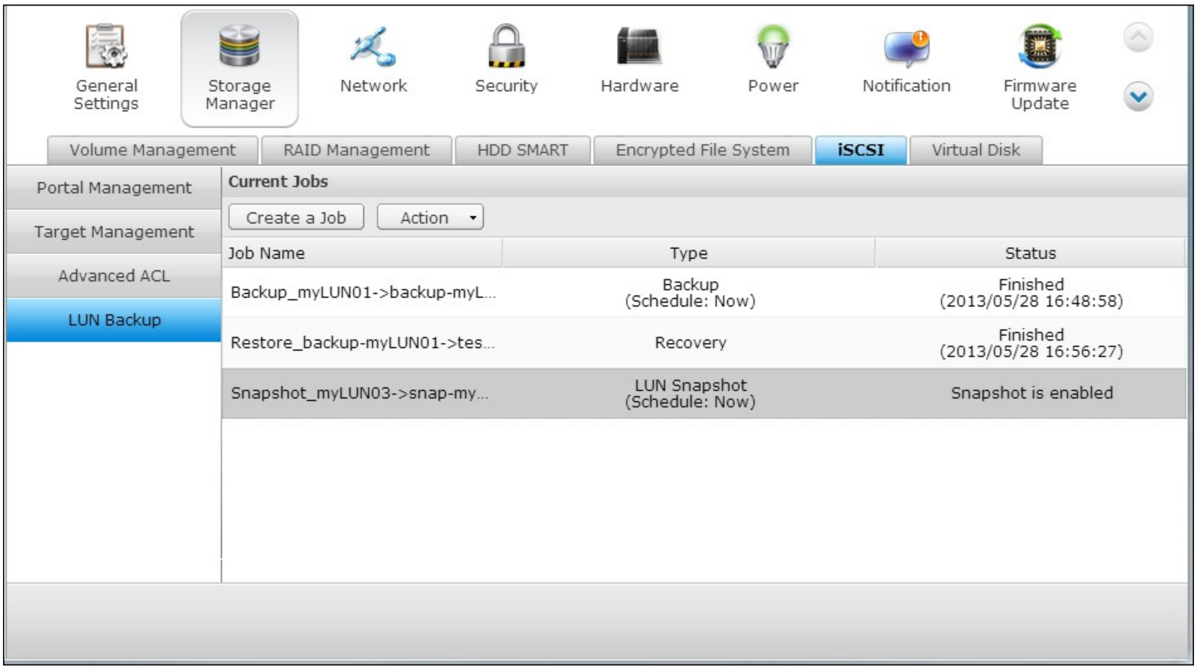


Create a LUN Snapshot

Setup complete

Congratulations! The settings have been completed. Click " Finish " to exit the wizard.

8. The snapshot will be created immediately. The status and duration will be shown on the list.

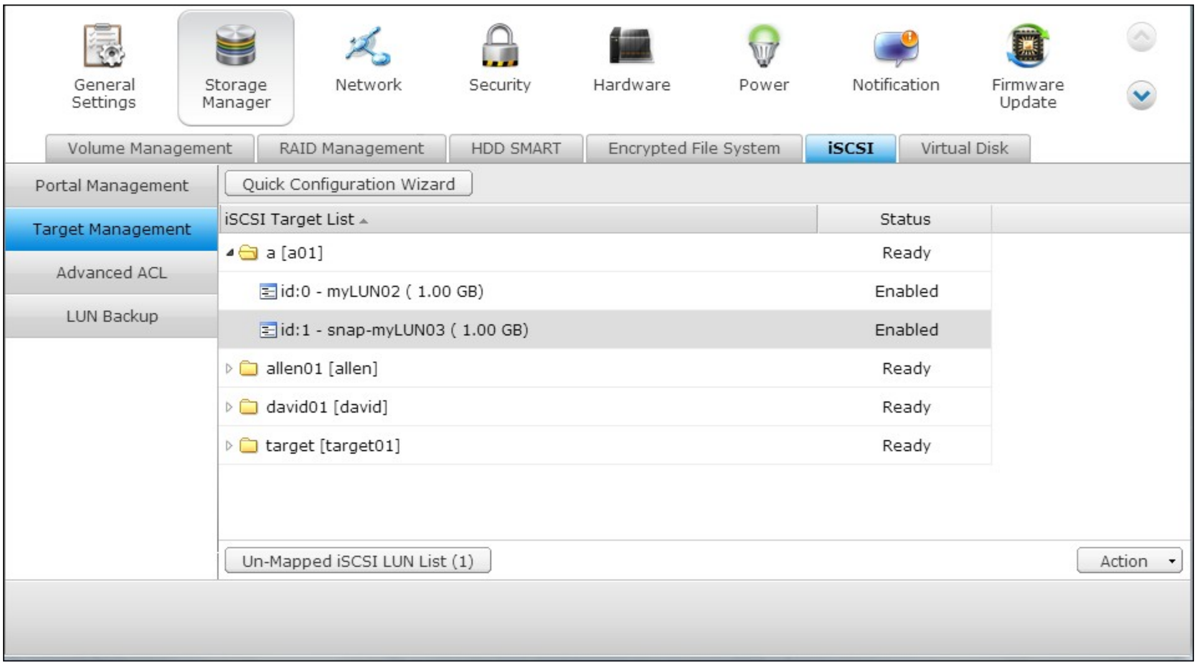


Current Jobs

Job Name	Type	Status
Backup_myLUN01->backup-myL...	Backup (Schedule: Now)	Finished (2013/05/28 16:48:58)
Restore_backup-myLUN01->tes...	Recovery	Finished (2013/05/28 16:56:27)
Snapshot_myLUN03->snap-my...	LUN Snapshot (Schedule: Now)	Snapshot is enabled

9. Go to “iSCSI” > “Target Management”, the snapshot LUN will be shown in the iSCSI

Target List. Use iSCSI initiator software to connect to the iSCSI target and access the point-in-time data on the snapshot LUN. For the information of connecting to the iSCSI targets on QNAP NAS, please refer to http://www.qnap.com/pro_application.asp?ap_id=135.



iSCSI Target List	Status
a [a01]	Ready
id:0 - myLUN02 (1.00 GB)	Enabled
id:1 - snap-myLUN03 (1.00 GB)	Enabled
allen01 [allen]	Ready
david01 [david]	Ready
target [target01]	Ready

Note: The source LUN and snapshot LUN cannot be mounted on the same NAS on certain operating systems such as Windows 7 and Windows 2008 R2. Please mount the LUN to different NAS servers in such case.

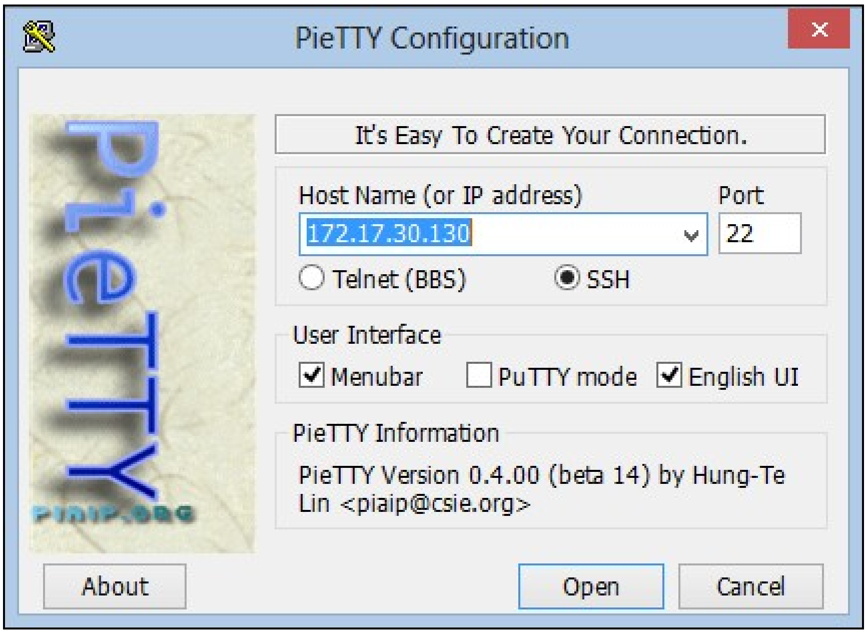
Manage LUN Backup/Restore/Snapshot by Command Line

QNAP NAS users can execute or stop the iSCSI LUN backup, restore, or snapshot jobs on the NAS by command line. Follow the instructions below to use this feature.

Note: The following instructions should only be operated by IT administrators who are familiar with command line.

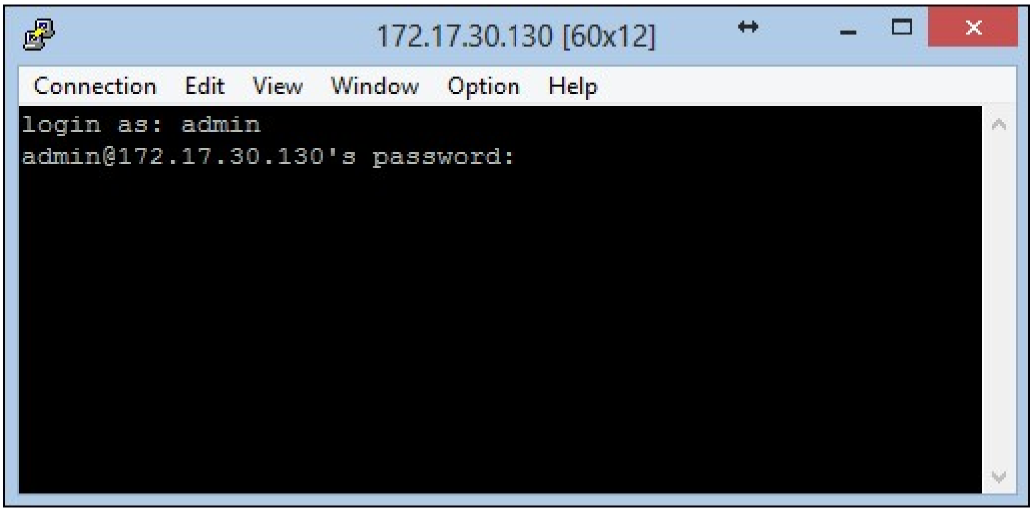
1. First make sure the iSCSI LUN backup, restore, or snapshot jobs have been created on the NAS in "Storage Manager" > "iSCSI" > "LUN Backup".

2. Connect to the NAS by an SSH utility such as Pietty.



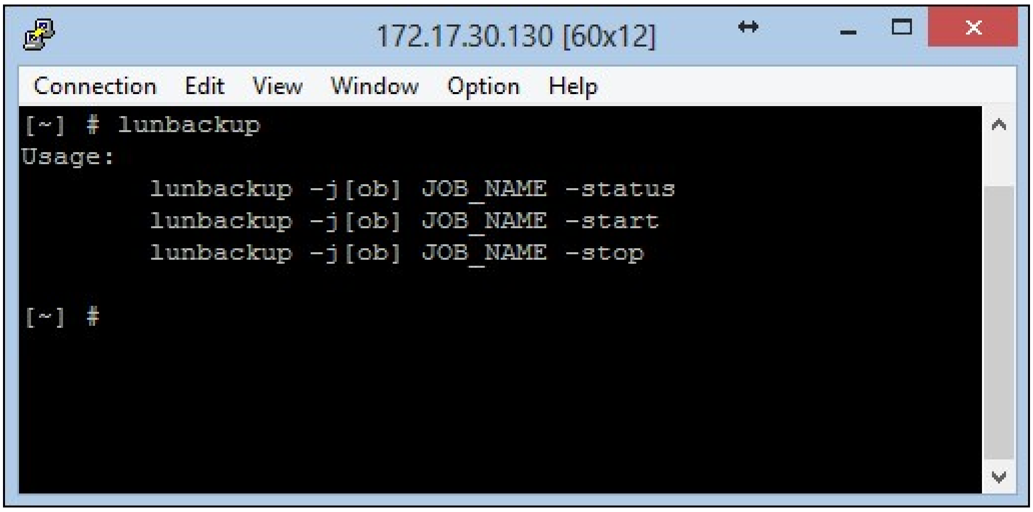
Host Name (or IP address): 172.17.30.130
Port: 22
○ Telnet (BBS) ● SSH
User Interface: ☑ Menubar □ PuTTY mode ☑ English UI
PieTTY Information: PieTTY Version 0.4.00 (beta 14) by Hung-Te Lin <piaip@csie.org>

3. Login the NAS as an administrator.



```
login as: admin
admin@172.17.30.130's password:
```

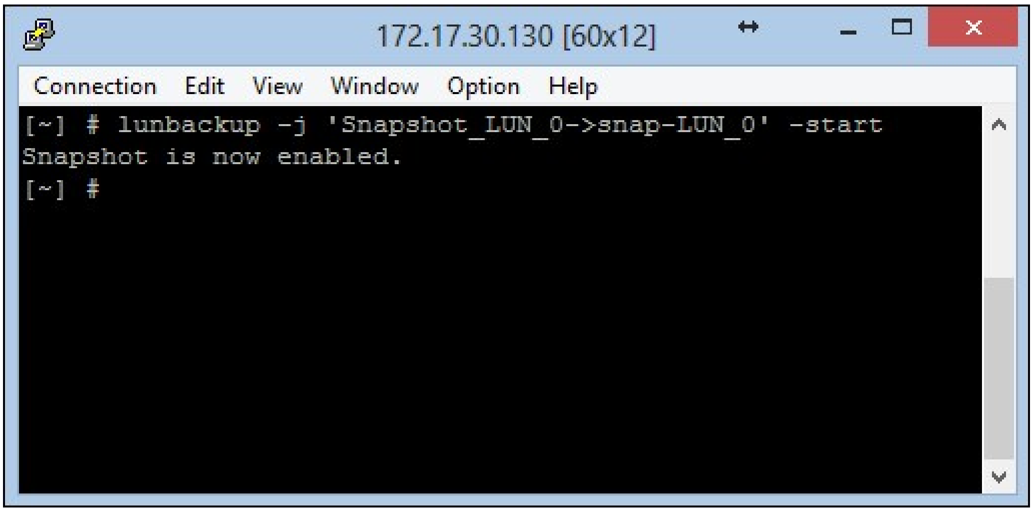
4. Input the command “lunbackup”. The command usage description will be shown.



```
[~] # lunbackup
Usage:
        lunbackup -j[ob] JOB_NAME -status
        lunbackup -j[ob] JOB_NAME -start
        lunbackup -j[ob] JOB_NAME -stop

[~] #
```

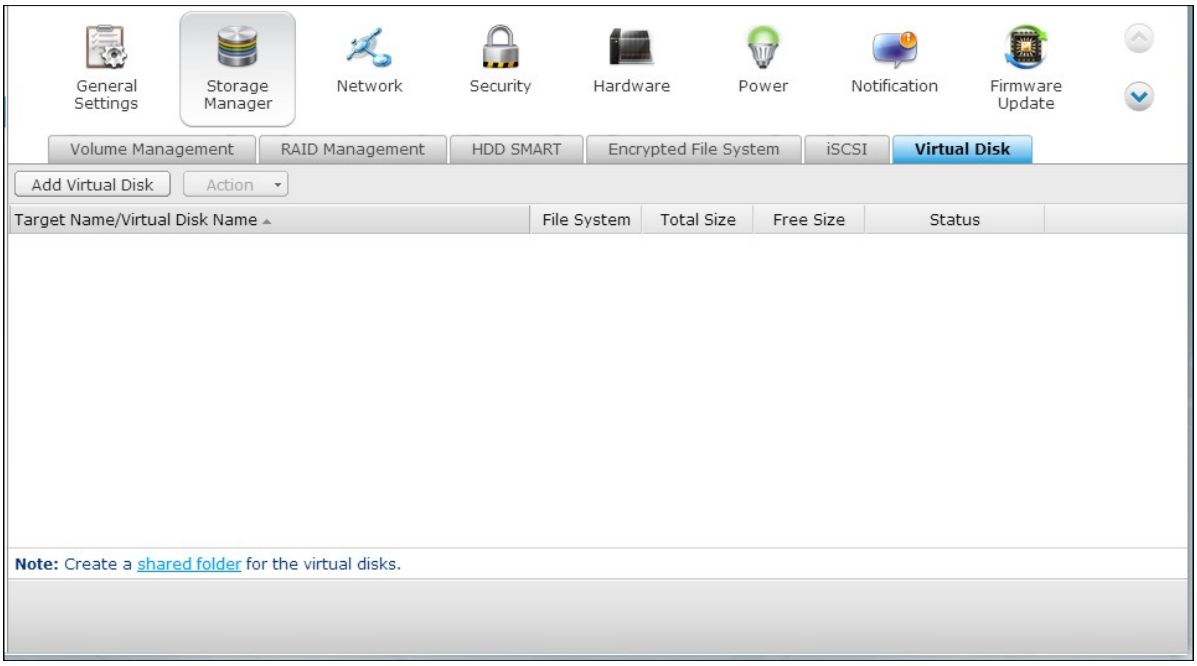
5. Use the lunbackup command to start or stop an iSCSI LUN backup, restore, or snapshot job on the NAS.



```
[~] # lunbackup -j 'Snapshot_LUN_0->snap-LUN_0' -start
Snapshot is now enabled.
[~] #
```

4.2.6 Virtual Disk

You can use this function to add the iSCSI targets of other QNAP NAS or storage servers to the NAS as the virtual disks for storage capacity expansion. The NAS supports maximum 8 virtual disks.

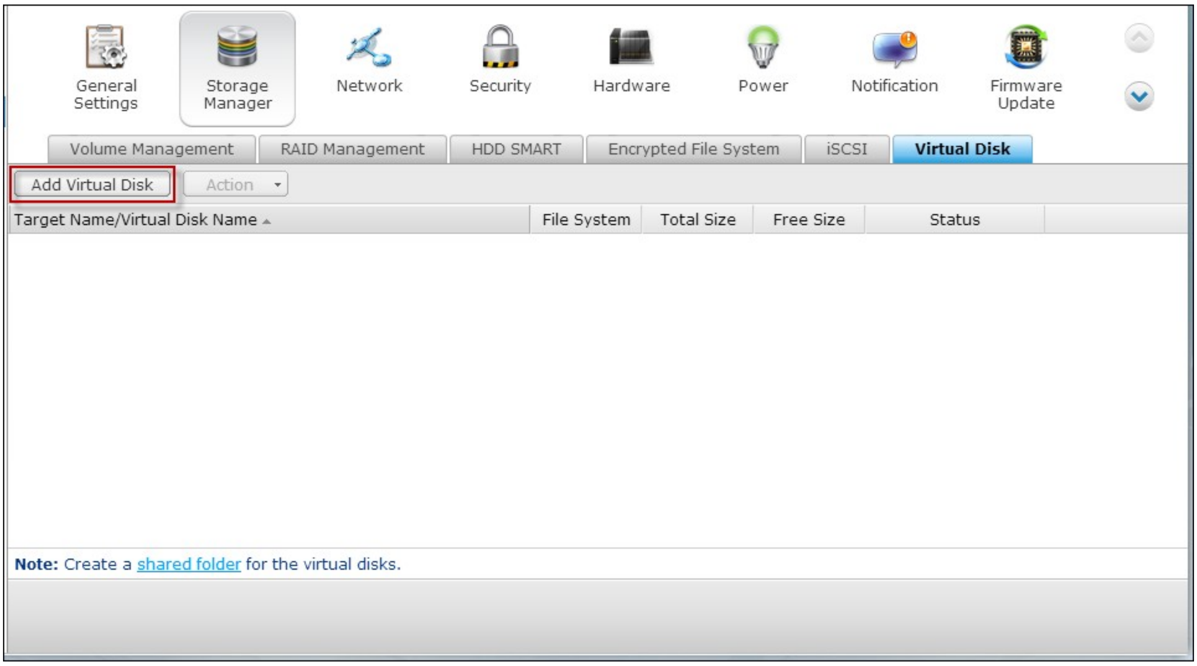


Note: Create a shared folder for the virtual disks.

Note:

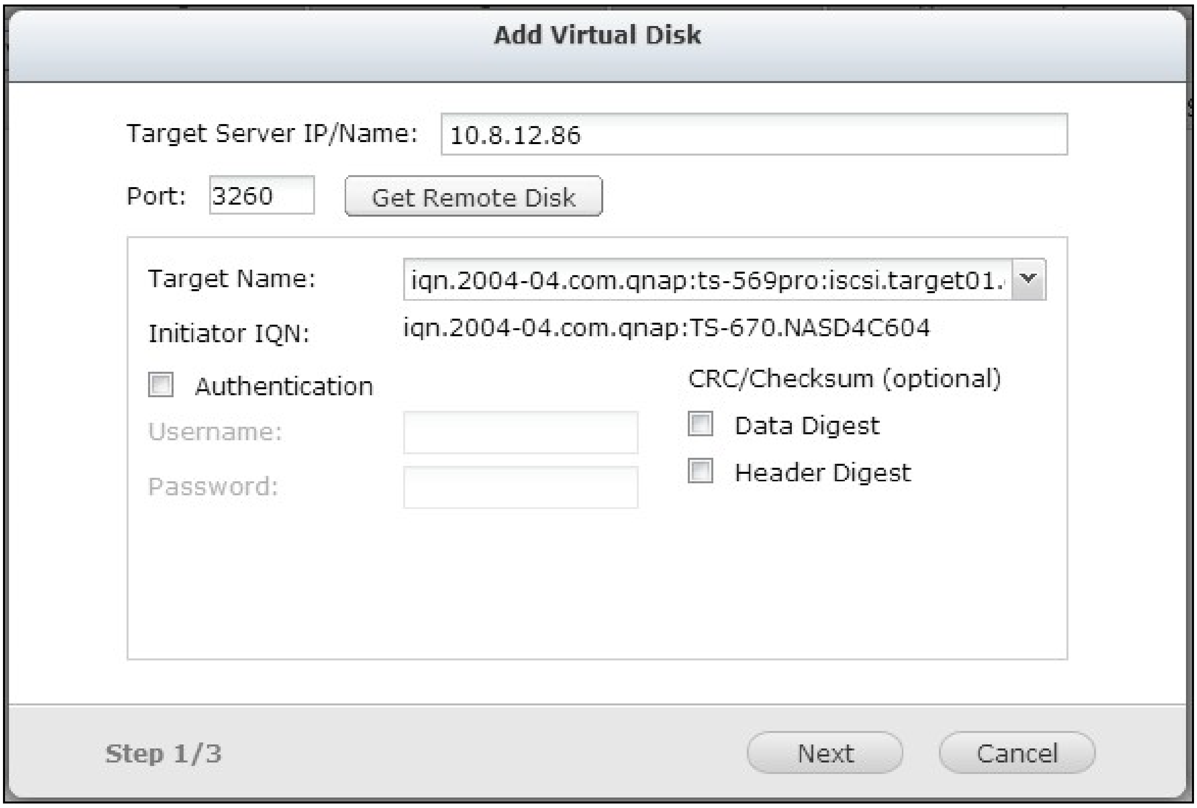
- The maximum size of a virtual disk the NAS supports is 16TB.
- When the virtual disk (iSCSI target) was disconnected, the virtual disk will disappear on the NAS interface and the NAS will try to connect to the target in two minutes. If the target cannot be connected after two minutes, the status of the virtual disk will become “Disconnected”.

To add a virtual disk to the NAS, make sure an iSCSI target has been created. Click “Add Virtual Disk”.



Note: Create a shared folder for the virtual disks.

Enter the target server IP and port number (default: 3260). Click "Get Remote Disk". Select a target from the target list. If authentication is required, enter the username and the password. You may select the options "Data Digest" and/or "Header Digest" (optional). These are the parameters that the iSCSI initiator will be verified when it attempts to connect to the iSCSI target. Then, click "Next".


Add Virtual Disk

Target Server IP/Name: 10.8.12.86

Port: 3260

Target Name: iqn.2004-04.com.qnap:ts-569pro:iscsi.target01.

Initiator IQN: iqn.2004-04.com.qnap:TS-670.NASD4C604

□ Authentication

Username:

Password:

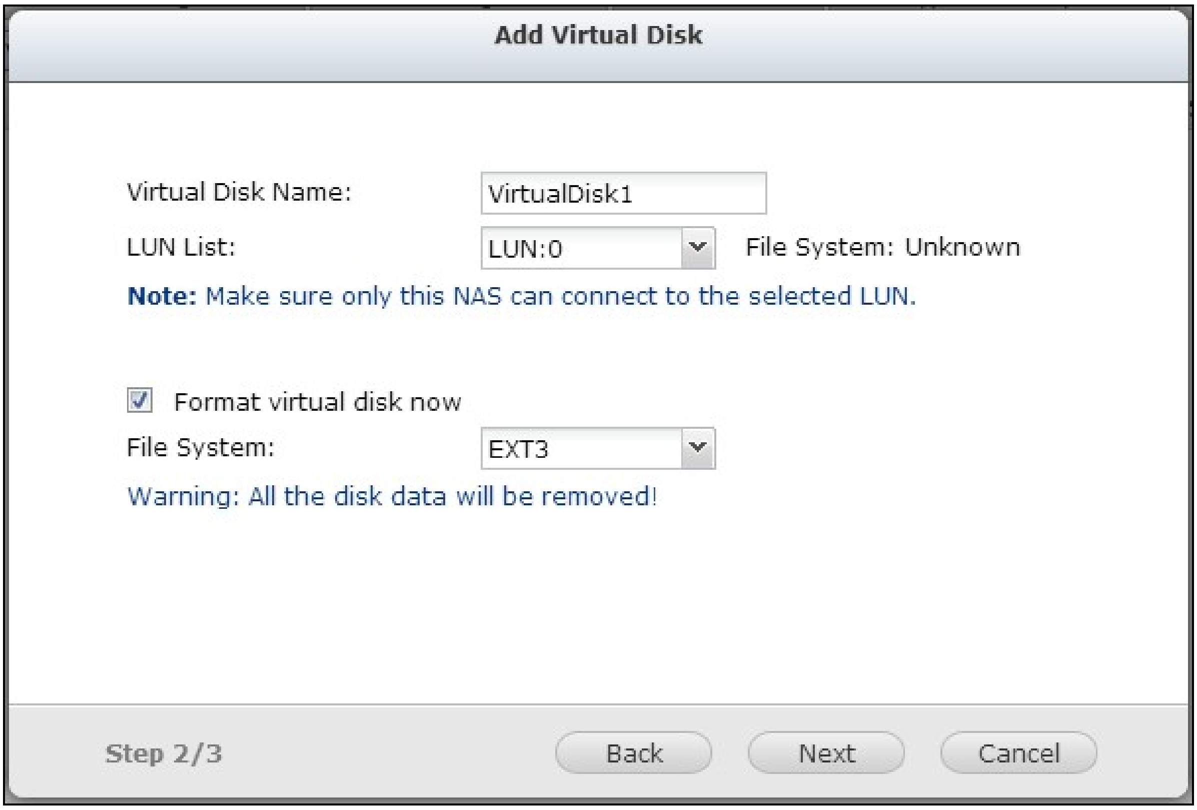
CRC/Checksum (optional)

□ Data Digest

□ Header Digest

Step 1/3

Enter a name for the virtual disk. If the target is mapped with multiple LUNs, select a LUN from the list. Make sure only this NAS can connect to the LUN. The NAS supports mounting EXT3, EXT4, FAT32, NTFS, HFS+ file systems. If the file system of the LUN is "Unknown", select "Format virtual disk now" and the file system. You can format the virtual disk as EXT3, EXT4, FAT 32, NTFS, or HFS+. By selecting "Format virtual disk now", the data on the LUN will be removed.



Add Virtual Disk

Virtual Disk Name: VirtualDisk1

LUN List: LUN:0 File System: Unknown

Note: Make sure only this NAS can connect to the selected LUN.

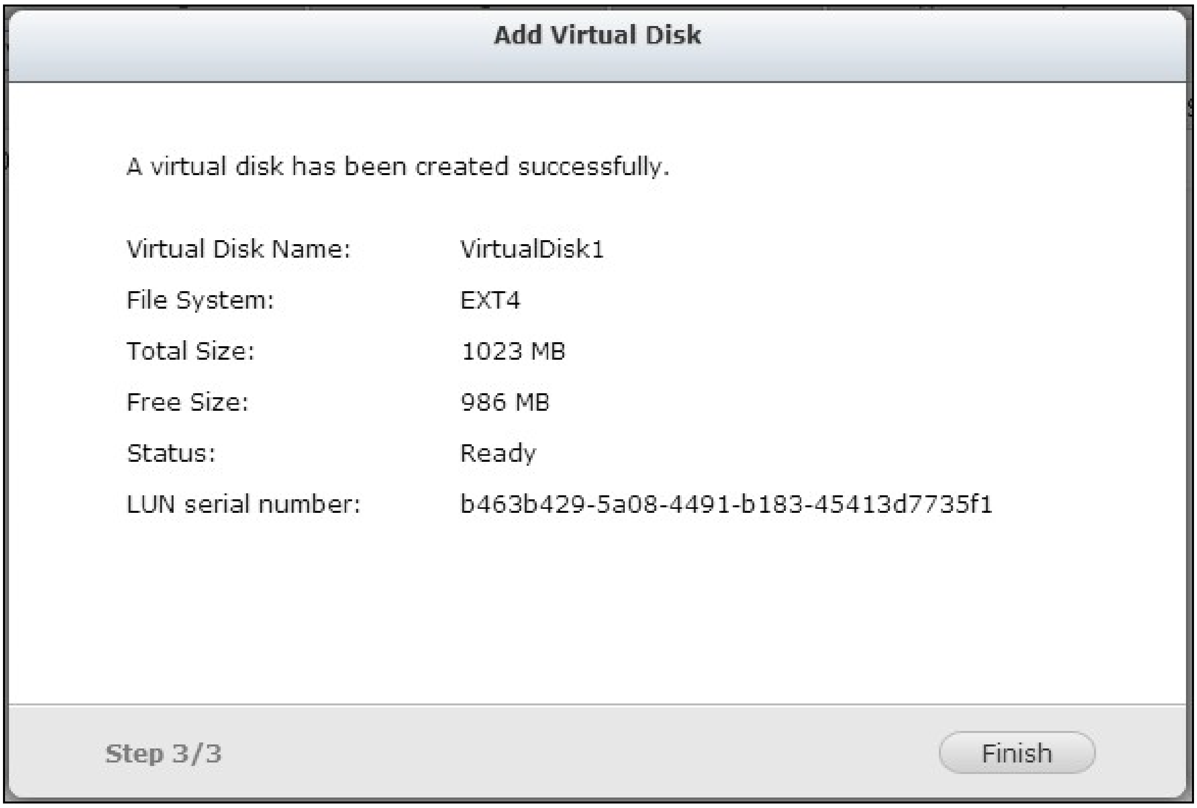
☑ Format virtual disk now

File System: EXT3

Warning: All the disk data will be removed!

Step 2/3

Click "Finish" to exit the wizard.

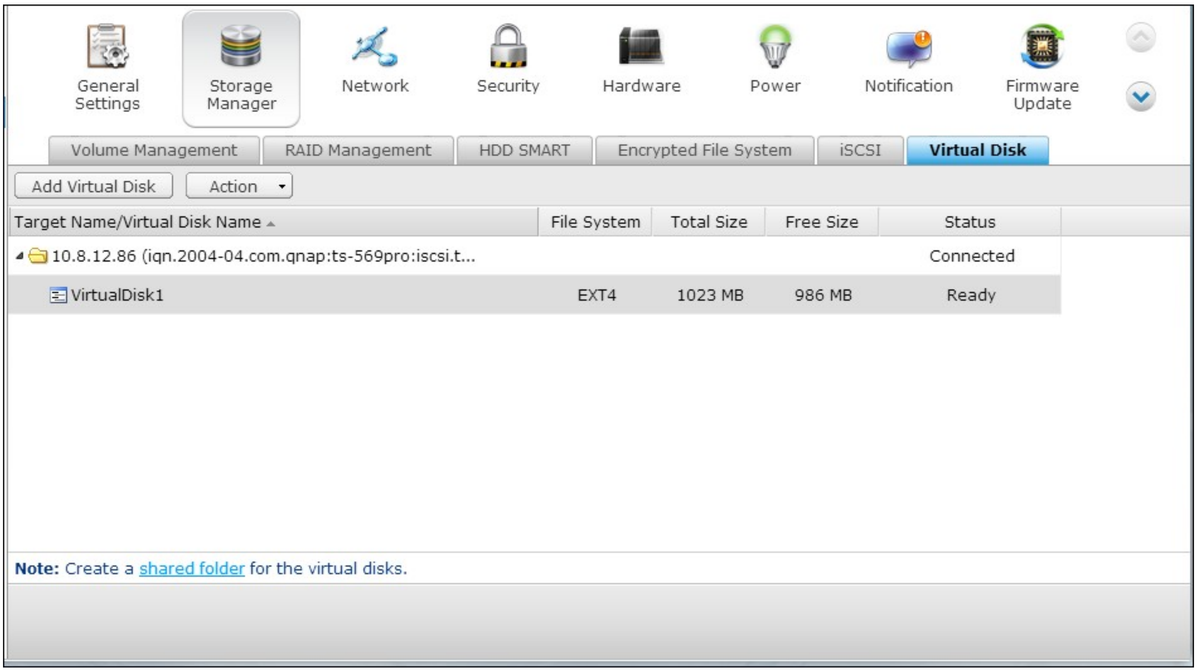


Add Virtual Disk

A virtual disk has been created successfully.

Virtual Disk Name:	VirtualDisk1
File System:	EXT4
Total Size:	1023 MB
Free Size:	986 MB
Status:	Ready
LUN serial number:	b463b429-5a08-4491-b183-45413d7735f1

The storage capacity of your NAS has been expanded by the virtual disk. You can go to “Privilege Settings” > “Share Folders” to create new shared folders on the virtual disk.



Target Name/Virtual Disk Name	File System	Total Size	Free Size	Status
10.8.12.86 (iqn.2004-04.com.qnap:ts-569pro:iscsi.t...				Connected
VirtualDisk1	EXT4	1023 MB	986 MB	Ready

Note: Create a shared folder for the virtual disks.

Icon	Description

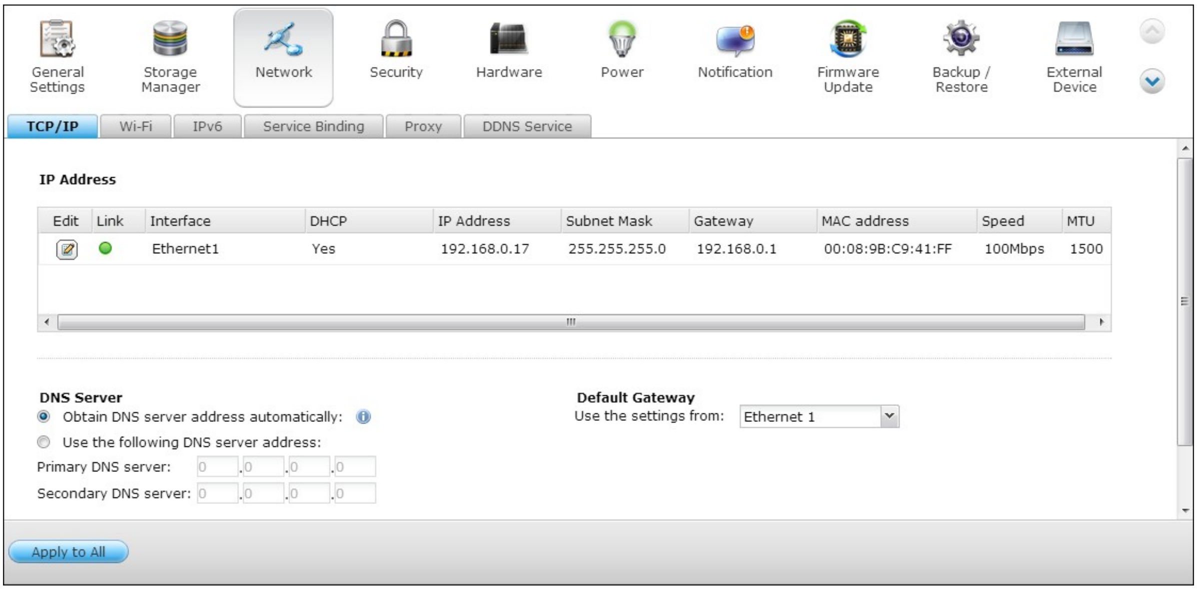
✎ (Edit)	To edit a virtual disk name or the authentication information of an iSCSI target.
⚡ (Connect)	To connect to an iSCSI target.
⏸ (Disconnect)	To disconnect an iSCSI target.
● (Format)	To format a virtual disk as EXT3, EXT 4, FAT 32, NTFS, or HFS+ file system.
☒ (Delete)	To delete a virtual disk or an iSCSI target.

4.3 Network

TCP/IP

(i) IP Address

Configure the TCP/IP settings, DNS Server and default Gateway of the NAS on this page.



IP Address

Edit	Link	Interface	DHCP	IP Address	Subnet Mask	Gateway	MAC address	Speed	MTU
	●	Ethernet1	Yes	192.168.0.17	255.255.255.0	192.168.0.1	00:08:9B:C9:41:FF	100Mbps	1500

DNS Server

● Obtain DNS server address automatically:

○ Use the following DNS server address:

Primary DNS server: 0 .0 .0 .0

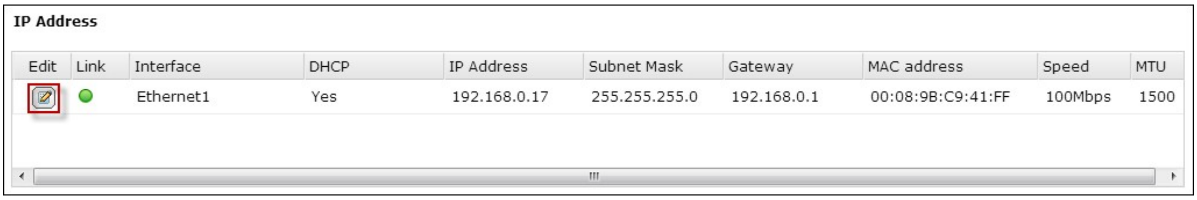
Secondary DNS server: 0 .0 .0 .0

Default Gateway

Use the settings from: Ethernet 1

Click to edit the network settings. For the NAS with two LAN ports, users can connect both network interfaces to two different switches and configure the TCP/IP settings. The NAS will acquire two IP addresses which allow access from two different subnets. This is known as multi-IP settings*. When using the Finder to detect the NAS IP, the IP of the Ethernet 1 will be shown in LAN 1 only and the IP of the Ethernet 2 will be shown in LAN 2 only. To use the port trunking mode for dual LAN connection, see section (iii).

* TS-110, TS-119, TS-210, TS-219, TS-219P, TS-119P+, TS-219P+, TS-112, and TS-212 provide one Giga LAN port only therefore do not support dual LAN configuration or port trunking.

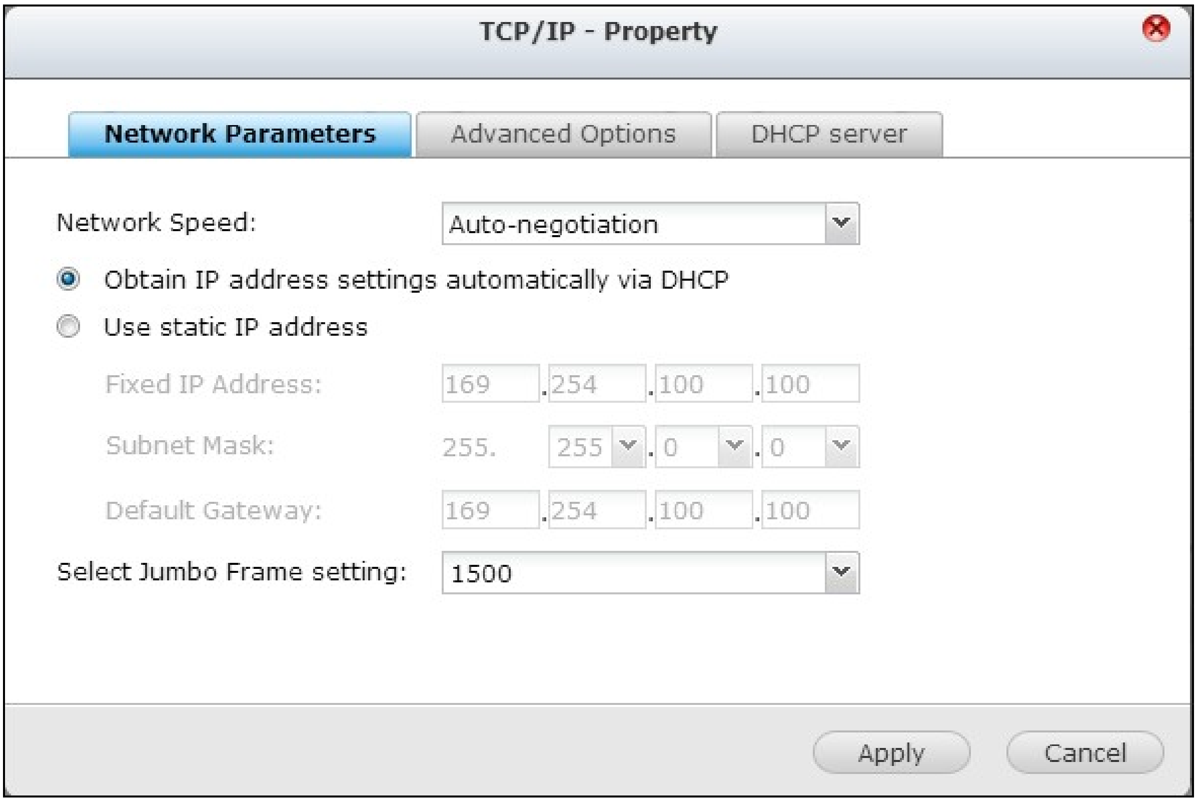


IP Address

Edit	Link	Interface	DHCP	IP Address	Subnet Mask	Gateway	MAC address	Speed	MTU
	●	Ethernet1	Yes	192.168.0.17	255.255.255.0	192.168.0.1	00:08:9B:C9:41:FF	100Mbps	1500

Network Parameters

Under the Network Parameters tab on the TCP/IP Property page, configure the following settings:



TCP/IP - Property

Network Speed: Auto-negotiation

● Obtain IP address settings automatically via DHCP

○ Use static IP address

Fixed IP Address: 169 .254 .100 .100

Subnet Mask: 255. 255 .0 .0

Default Gateway: 169 .254 .100 .100

Select Jumbo Frame setting: 1500

Network Speed

Select the network transfer rate according to the network environment to which the NAS is connected. Select auto negotiation and the NAS will adjust the transfer rate automatically.

Obtain the IP address settings automatically via DHCP

If the network supports DHCP, select this option and the NAS will obtain the IP address and network settings automatically.

Use static IP address

To use a static IP address for network connection, enter the IP address, subnet mask, and default gateway.

Jumbo Frame Settings (MTU)

This feature is not supported by TS-509 Pro, TS-809 Pro, and TS-809U-RP.

“Jumbo Frames” refer to the Ethernet frames that are larger than 1500 bytes. It is

designed to enhance Ethernet networking throughput and reduce the CPU utilization of large file transfers by enabling more efficient larger payloads per packet.
Maximum Transmission Unit (MTU) refers to the size (in bytes) of the largest packet that a given layer of a communications protocol can transmit.

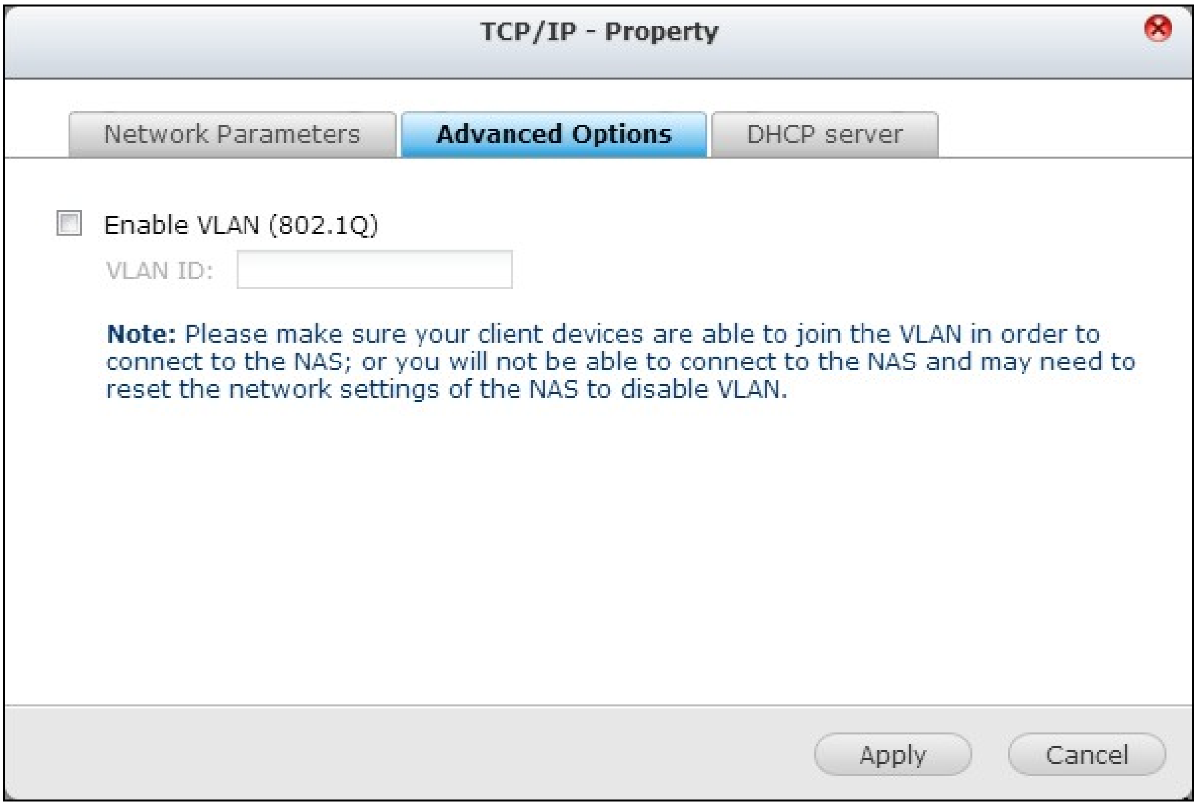
The NAS uses standard Ethernet frames: 1500 bytes by default. If the network appliances support Jumbo Frame setting, select the appropriate MTU value for the network environment. The NAS supports 4074, 7418, and 9000 bytes for MTU.

Note: The Jumbo Frame setting is valid in Gigabit network environment only. All the network appliances connected must enable Jumbo Frame and use the same MTU value.

Advanced Options

A Virtual LAN (VLAN) is a group of hosts which communicate as if they were attached to the same broadcast domain even if they were located in different physical locations. The NAS can be joined to a VLAN and configured as a backup storage of other devices on the same VLAN.

To join the NAS to a VLAN, select "Enable VLAN" and enter the VLAN ID (a value between 0 and 4094). Please keep the VLAN ID safe and make sure the client devices are able to join the VLAN. If you forgot the VLAN ID and were not able to connect to the NAS, you would need to press the reset button of the NAS to reset the network settings. Once the NAS is reset, the VLAN feature will be disabled. If the NAS supports two Gigabit LAN ports and only one network interface is configured to enable VLAN, you may also connect to the NAS via the other network interface.



☐ Enable VLAN (802.1Q)

VLAN ID:

Note: Please make sure your client devices are able to join the VLAN in order to connect to the NAS; or you will not be able to connect to the NAS and may need to reset the network settings of the NAS to disable VLAN.

Note: The VLAN feature is supported by Intel-based NAS models only. Please visit http://www.qnap.com for details.

DHCP Server

A DHCP (Dynamic Host Configuration Protocol) server assigns IP addresses to the clients on a network. Select "Enable DHCP Server" to set the NAS a DHCP server if there is none on the local network where the NAS locates.

Note:

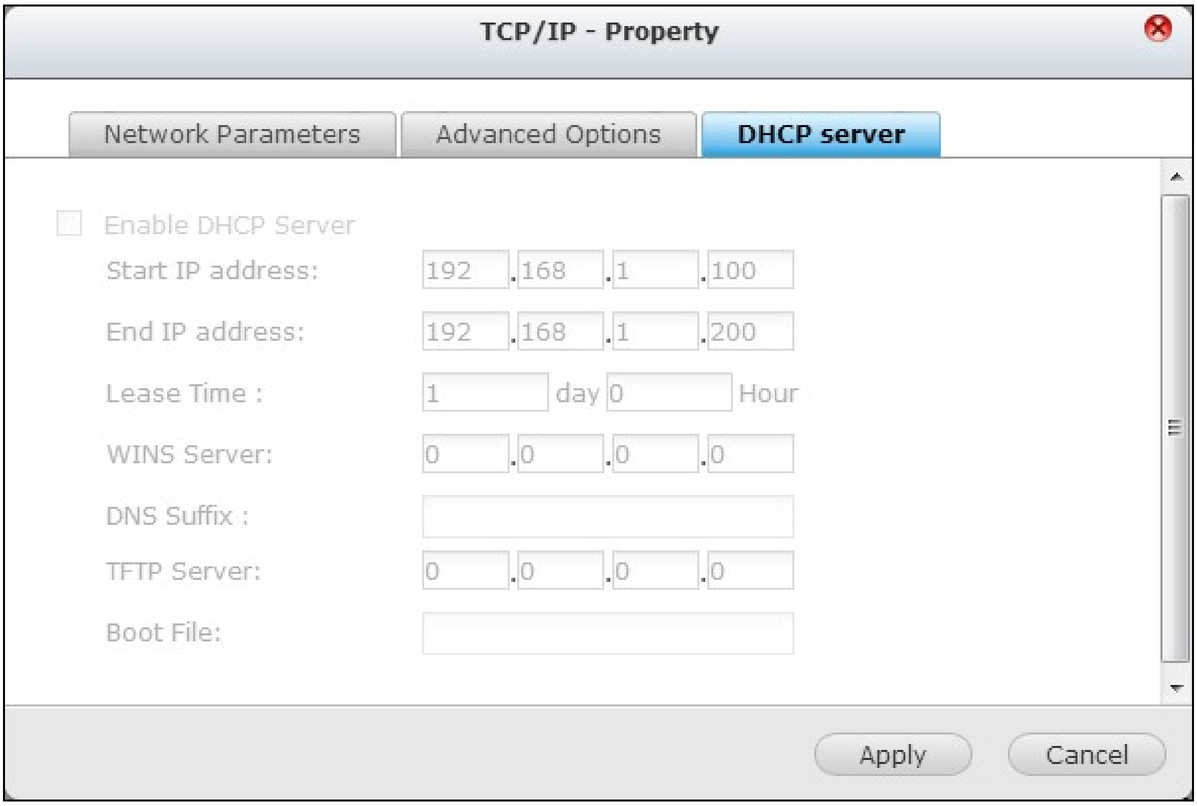
- Do not enable DHCP server if there is one the local network to avoid IP address conflicts or network access errors.
- The DHCP server option is available to Ethernet 1 only when both LAN ports of a dual LAN NAS are connected to the network and configured as standalone IP settings.

Start IP, End IP, Lease Time: Set the range of IP addresses allocated by the NAS to the DHCP clients and the lease time. The lease time refers to the time that an IP address is leased to the clients. During that time, the IP will be reserved to the assigned client. When the lease time expires, the IP can be assigned to another client.

WINS Server (optional): WINS (Windows Internet Naming Service) resolves Windows network computer names (NetBIOS names) to IP addresses, allowing Windows computers on a network to easily find and communicate with each other. Enter the IP address of the WINS server on the network if available.

DNS Suffix (optional): The DNS suffix is used for resolution of unqualified or incomplete host names.

TFTP Server & Boot File (optional): The NAS supports PXE booting of network devices. Enter the IP address of the TFTP server and the boot file (including directory on the TFTP server and file name). For remote booting of the devices, enter the public IP address of the TFTP server.



□ Enable DHCP Server

Start IP address: 192.168.1.100

End IP address: 192.168.1.200

Lease Time : 1 day 0 Hour

WINS Server: 0.0.0.0

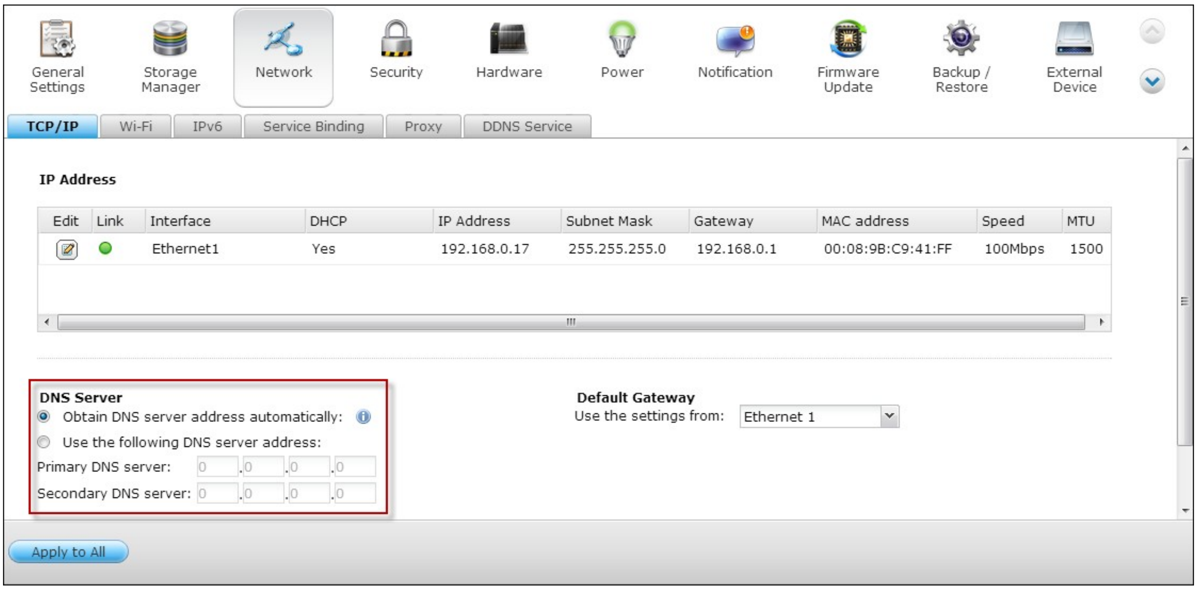
DNS Suffix :

TFTP Server: 0.0.0.0

Boot File:

(ii) DNS Server

A DNS (Domain Name Service) server translates between a domain name (such as google.com) and an IP address (74.125.31.105). Configure the NAS to obtain a DNS server address automatically or specify the IP address of a DNS server.



IP Address

Edit	Link	Interface	DHCP	IP Address	Subnet Mask	Gateway	MAC address	Speed	MTU
✎	●	Ethernet1	Yes	192.168.0.17	255.255.255.0	192.168.0.1	00:08:9B:C9:41:FF	100Mbps	1500

DNS Server

● Obtain DNS server address automatically:

○ Use the following DNS server address:

Primary DNS server: 0 .0 .0 .0

Secondary DNS server: 0 .0 .0 .0

Default Gateway

Use the settings from: Ethernet 1

Primary DNS Server: Enter the IP address of the primary DNS server.

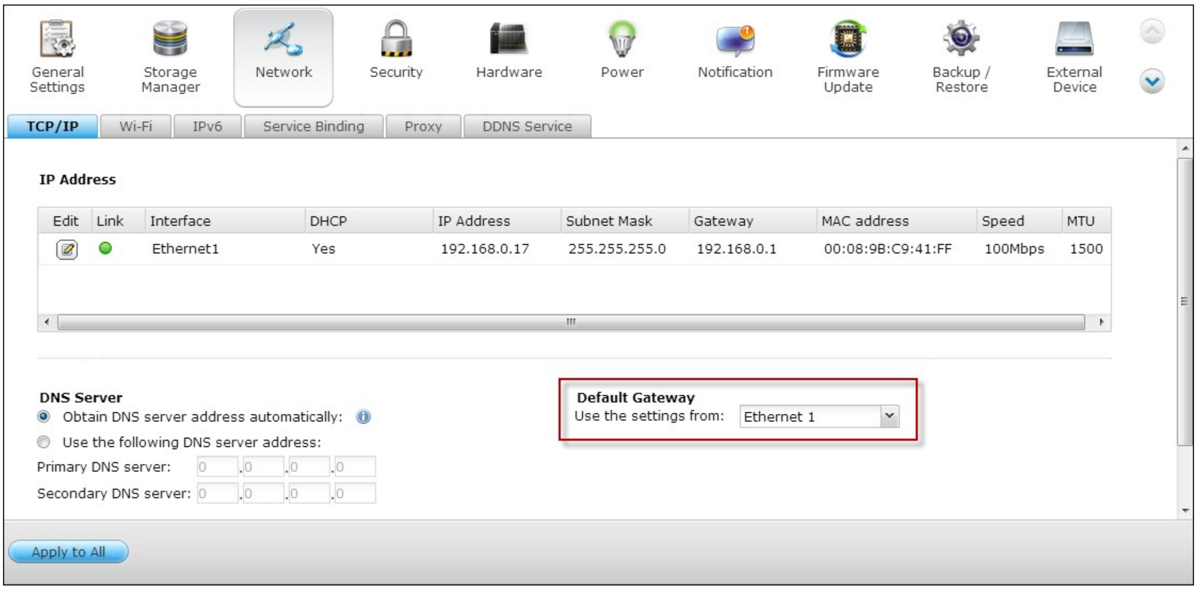
Secondary DNS Server: Enter the IP address of the secondary DNS server.

Note:

- Please contact the ISP or network administrator for the IP address of the primary and the secondary DNS servers. When the NAS plays the role as a terminal and needs to perform independent connection, for example, BT download, enter at least one DNS server IP for proper URL connection. Otherwise, the function may not work properly.
- If you select to obtain the IP address by DHCP, there is no need to configure the primary and the secondary DNS servers. In this case, enter "0.0.0.0".

(iii) Default Gateway

Select the gateway settings to use if both LAN ports have been connected to the network (dual LAN NAS models only).



IP Address

Edit	Link	Interface	DHCP	IP Address	Subnet Mask	Gateway	MAC address	Speed	MTU
✎	●	Ethernet1	Yes	192.168.0.17	255.255.255.0	192.168.0.1	00:08:9B:C9:41:FF	100Mbps	1500

DNS Server

● Obtain DNS server address automatically:

○ Use the following DNS server address:

Primary DNS server: 0 .0 .0 .0

Secondary DNS server: 0 .0 .0 .0

Default Gateway

Use the settings from: Ethernet 1

(iv) Port Trunking

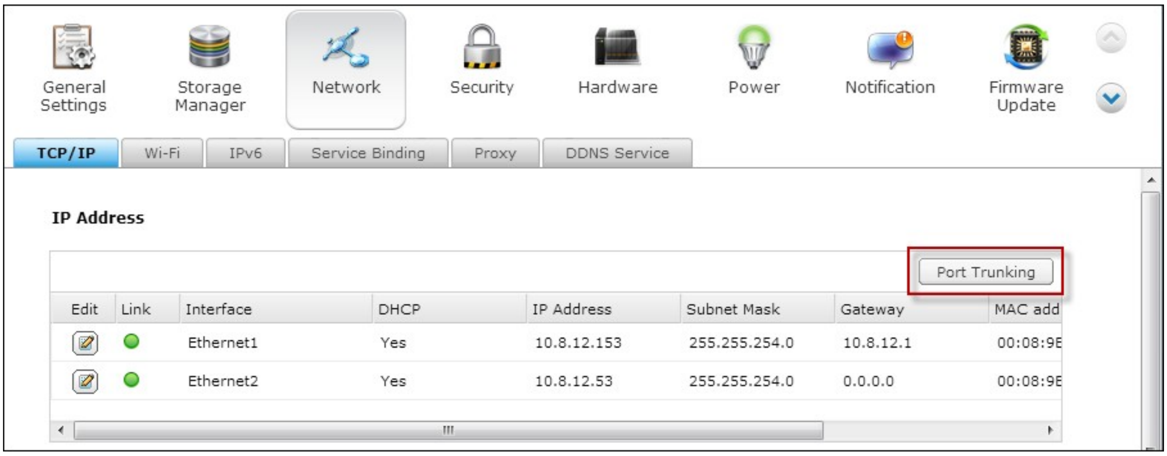
Applicable to NAS models with two or more LAN ports only.

The NAS supports port trunking which combines two Ethernet interfaces into one to increase the bandwidth and offers load balancing and fault tolerance (also known as failover). Load balancing is a feature which distributes the workload evenly across two Ethernet interfaces for higher redundancy. Failover is the capability to switch over to a standby network interface (also known as the slave interface) when the primary network interface (also known as the master interface) does not correspond correctly to maintain high availability.

To use port trunking on the NAS, make sure at least two LAN ports of the NAS have been connected to the same switch and the settings described in sections (i) and (ii) have been configured.

Follow the steps below to configure port trunking on the NAS:

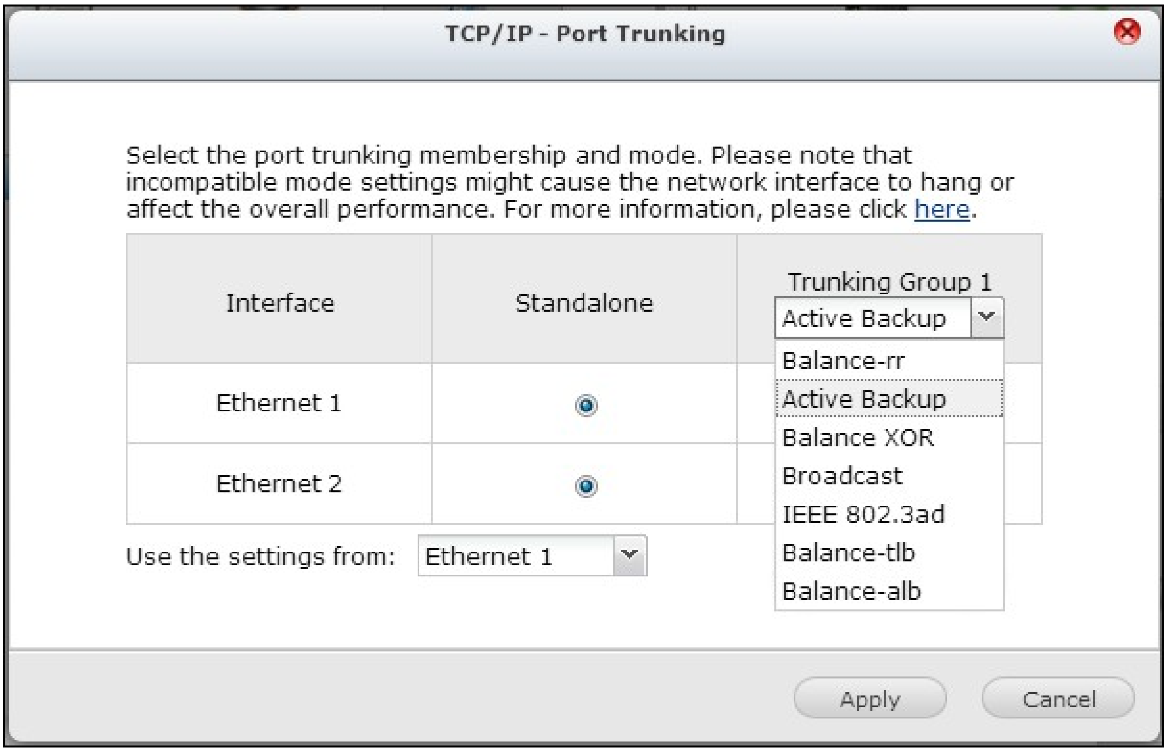
1. Click “Port Trunking”.



IP Address

Edit	Link	Interface	DHCP	IP Address	Subnet Mask	Gateway	MAC add
	●	Ethernet1	Yes	10.8.12.153	255.255.254.0	10.8.12.1	00:08:9E
	●	Ethernet2	Yes	10.8.12.53	255.255.254.0	0.0.0.0	00:08:9E

2. Select the network interfaces for a trunking group (Ethernet 1+2, Ethernet 3+4, Ethernet 5+6, or Ethernet 7+8). Choose a port trunking mode from the drop-down menu. The default option is Active Backup (Failover).



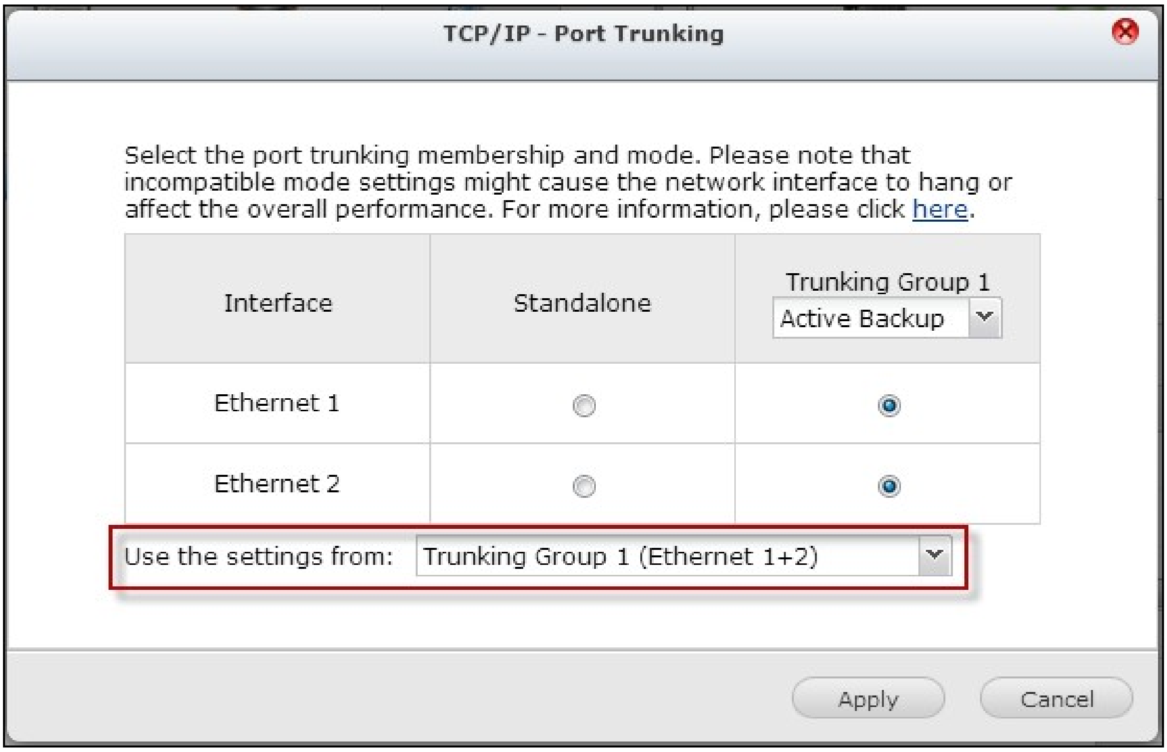
TCP/IP - Port Trunking

Select the port trunking membership and mode. Please note that incompatible mode settings might cause the network interface to hang or affect the overall performance. For more information, please click here.

Interface	Standalone	Trunking Group 1 Active Backup
Ethernet 1	●	
Ethernet 2	●	

Use the settings from: Ethernet 1

3. Select a port trunking group to use. Click "Apply".



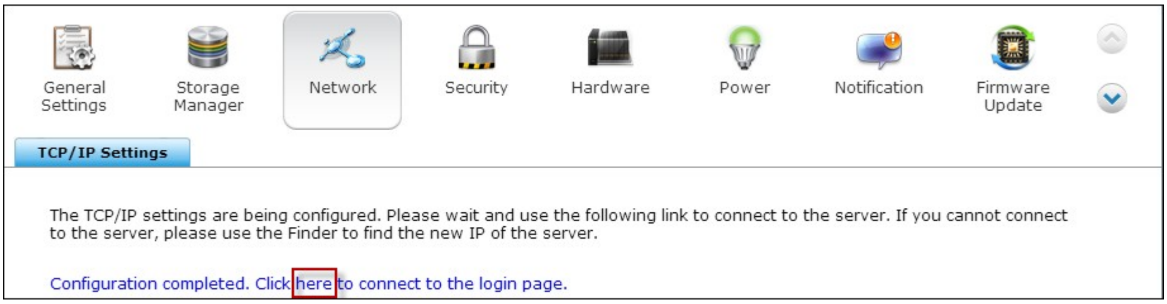
TCP/IP - Port Trunking

Select the port trunking membership and mode. Please note that incompatible mode settings might cause the network interface to hang or affect the overall performance. For more information, please click here.

Interface	Standalone	Trunking Group 1 Active Backup
Ethernet 1	○	●
Ethernet 2	○	●

Use the settings from: Trunking Group 1 (Ethernet 1+2)

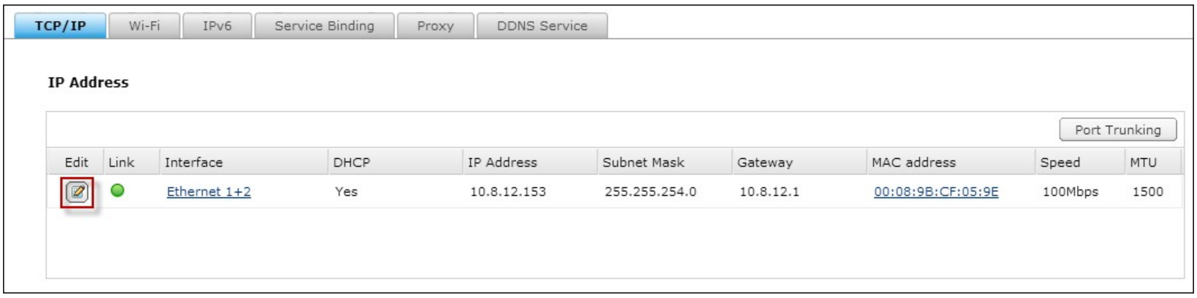
4. Click “here” to connect to the login page.



The TCP/IP settings are being configured. Please wait and use the following link to connect to the server. If you cannot connect to the server, please use the Finder to find the new IP of the server.

Configuration completed. Click here to connect to the login page.

5. Click the Edit button under “IP Address” to edit the network settings.



IP Address

Edit	Link	Interface	DHCP	IP Address	Subnet Mask	Gateway	MAC address	Speed	MTU
	●	Ethernet 1+2	Yes	10.8.12.153	255.255.254.0	10.8.12.1	00:08:9B:CF:05:9E	100Mbps	1500

Note: Make sure the Ethernet interfaces are connected to the correct switch and the switch has been configured to support the port trunking mode selected on the NAS.

The port trunking options available on the NAS:

Field	Description	Switch Required
Balance-rr (Round-Robin)	Round-Robin mode is good for general purpose load balancing between two Ethernet interfaces. This mode transmits packets in sequential order from the first available slave through the last. Balance-rr provides load balancing and fault tolerance.	Supports static trunking. Make sure static trunking is enabled on the switch.
Active Backup	Active Backup uses only one Ethernet interface. It switches to the second Ethernet interface if the first Ethernet interface does not work properly. Only one interface in the bond is active. The bond's MAC address is only visible externally on one port (network adapter) to avoid confusing the switch. Active Backup mode provides fault tolerance.	General switches
Balance XOR	Balance XOR balances traffic by splitting up outgoing packets between the Ethernet interfaces, using the same one for each specific destination when possible. It transmits based on the selected transmit hash policy. The default policy is a simple slave count operating on Layer 2 where the source MAC address is coupled with destination MAC address. Alternate transmit policies may be selected via the xmit_hash_policy option. Balance XOR mode provides load balancing and fault tolerance.	Supports static trunking. Make sure static trunking is enabled on the switch.
Broadcast	Broadcast sends traffic on both network interfaces. This mode provides fault tolerance.	Supports static trunking. Make sure static trunking is enabled on the switch.

IEEE 802.3ad (Dynamic Link Aggregation)	Dynamic Link Aggregation uses a complex algorithm to aggregate adapters by speed and duplex settings. It utilizes all slaves in the active aggregator according to the 802.3ad specification. Dynamic Link Aggregation mode provides load balancing and fault tolerance but requires a switch that supports IEEE 802.3ad with LACP mode properly configured.	Supports 802.3ad LACP
Balance-tlb (Adaptive Transmit Load Balancing)	Balance-tlb uses channel bonding that does not require any special switch. The outgoing traffic is distributed according to the current load on each Ethernet interface (computed relative to the speed). Incoming traffic is received by the current Ethernet interface. If the receiving Ethernet interface fails, the other slave takes over the MAC address of the failed receiving slave. Balance-tlb mode provides load balancing and fault tolerance.	General switches
Balance-alb (Adaptive Load Balancing)	Balance-alb is similar to balance-tlb but also attempts to redistribute incoming (receive load balancing) for IPV4 traffic. This setup does not require any special switch support or configuration. The receive load balancing is achieved by ARP negotiation sent by the local system on their way out and overwrites the source hardware address with the unique hardware address of one of the Ethernet interfaces in the bond such that different peers use different hardware address for the server. This mode provides load balancing and fault tolerance.	General switches

Wi-Fi

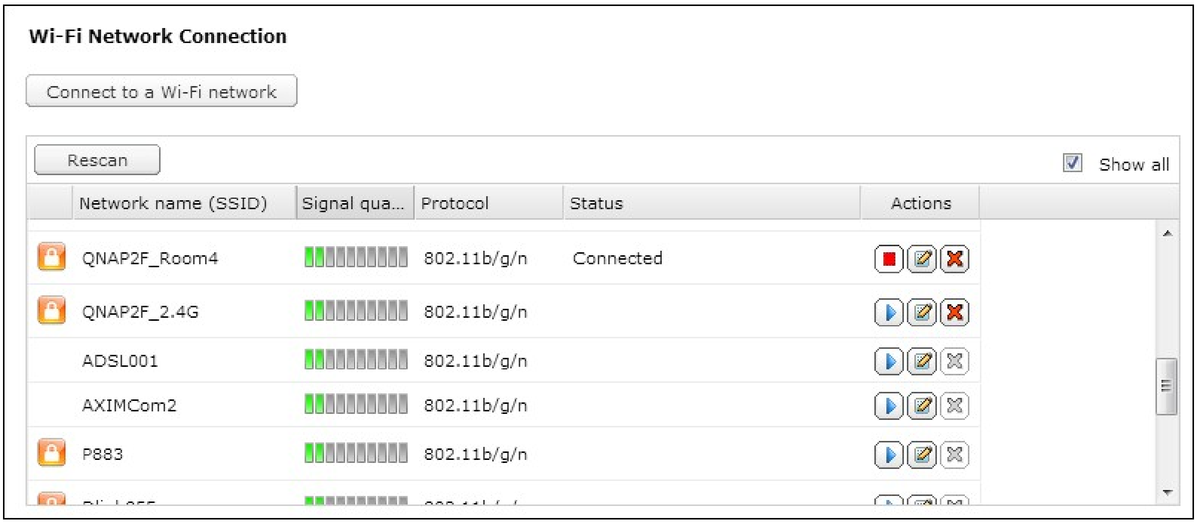
To connect the NAS to a Wi-Fi network, plug in a wireless dongle into a USB port of the NAS. The NAS will detect a list of wireless access points. You can connect the NAS to the Wi-Fi network in two ways.

Note:

- The wireless connection performance depends on many factors such as the adapter model, the USB adapter's performance, and the network environment. For higher connection performance, you are recommended to use wired connection.
- The system supports only one USB Wi-Fi dongle at a time.

A.Connect to an existing Wi-Fi network:

A list of Wi-Fi access points with signal strength are displayed on the “Wi-Fi Network Connection” panel.



Wi-Fi Network Connection

Connect to a Wi-Fi network

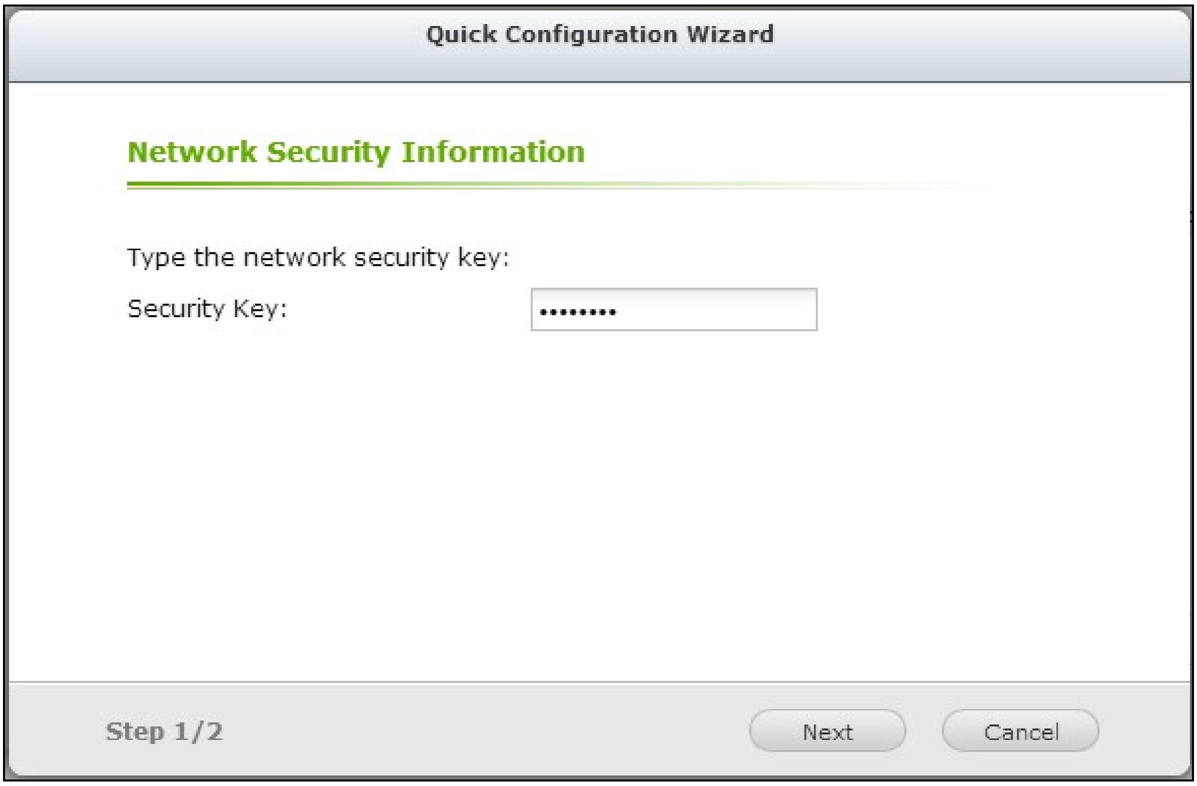
Rescan ☑ Show all

	Network name (SSID)	Signal qua...	Protocol	Status	Actions
🔒	QNAP2F_Room4		802.11b/g/n	Connected	■ ✎ ✖
🔒	QNAP2F_2.4G		802.11b/g/n		▶ ✎ ✖
	ADSL001		802.11b/g/n		▶ ✎ ✖
	AXIMCom2		802.11b/g/n		▶ ✎ ✖
🔒	P883		802.11b/g/n		▶ ✎ ✖

Icons and Options	Description
Rescan	To search for the Wi-Fi networks in range.
🔒 (Secured network)	This icon shows that the Wi-Fi network requires a network key; enter the key to connect to the network.
▶ (Connect)	To connect to Wi-Fi network. If a security key is required, you will be prompted to enter the key.

✎ (Edit)	To edit the connection information. You may also select to connect to the Wi-Fi network automatically when it is in range.
■ (Disconnect)	To disconnect from the Wi-Fi network.
☒ (Remove)	To delete the Wi-Fi network profile from the panel.
Show all	Select this option to display all the available Wi-Fi networks. Unselect this option to show only the configured network profiles.

Click "Rescan" to search for available Wi-Fi networks in range. Select a Wi-Fi network to connect to and click ▶. Enter the security key if it is a security-key enabled network. Click "Next" and the NAS will attempt to connect to the wireless network.

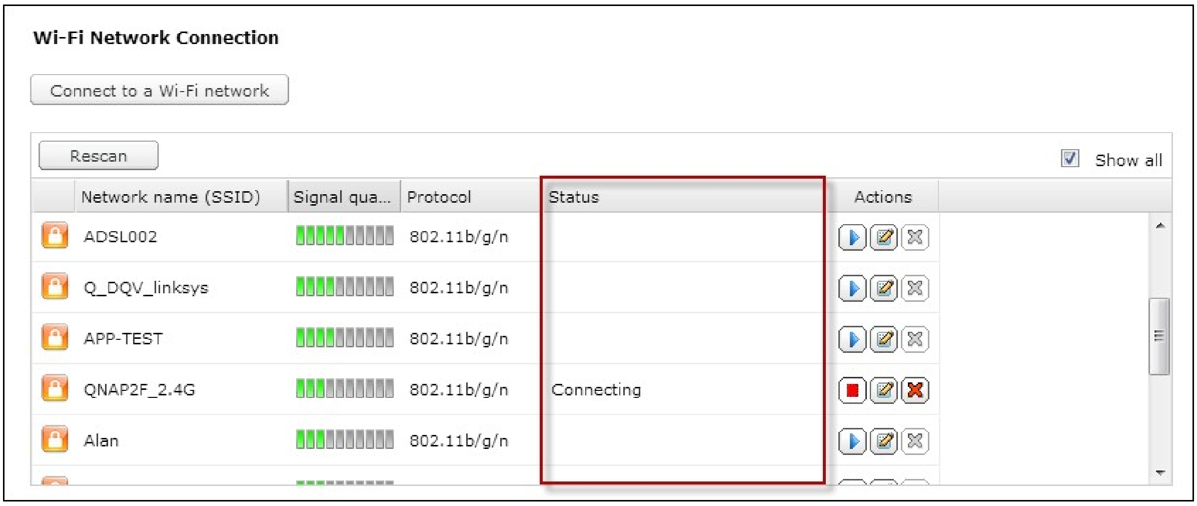


Quick Configuration Wizard

Network Security Information

Type the network security key:

Security Key: ••••••••••



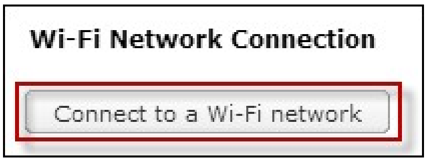
Network name (SSID)	Signal qua...	Protocol	Status	Actions
ADSL002		802.11b/g/n		
Q_DQV_linksys		802.11b/g/n		
APP-TEST		802.11b/g/n		
QNAP2F_2.4G		802.11b/g/n	Connecting	
Alan		802.11b/g/n		

You can view the status of the configured network profiles.

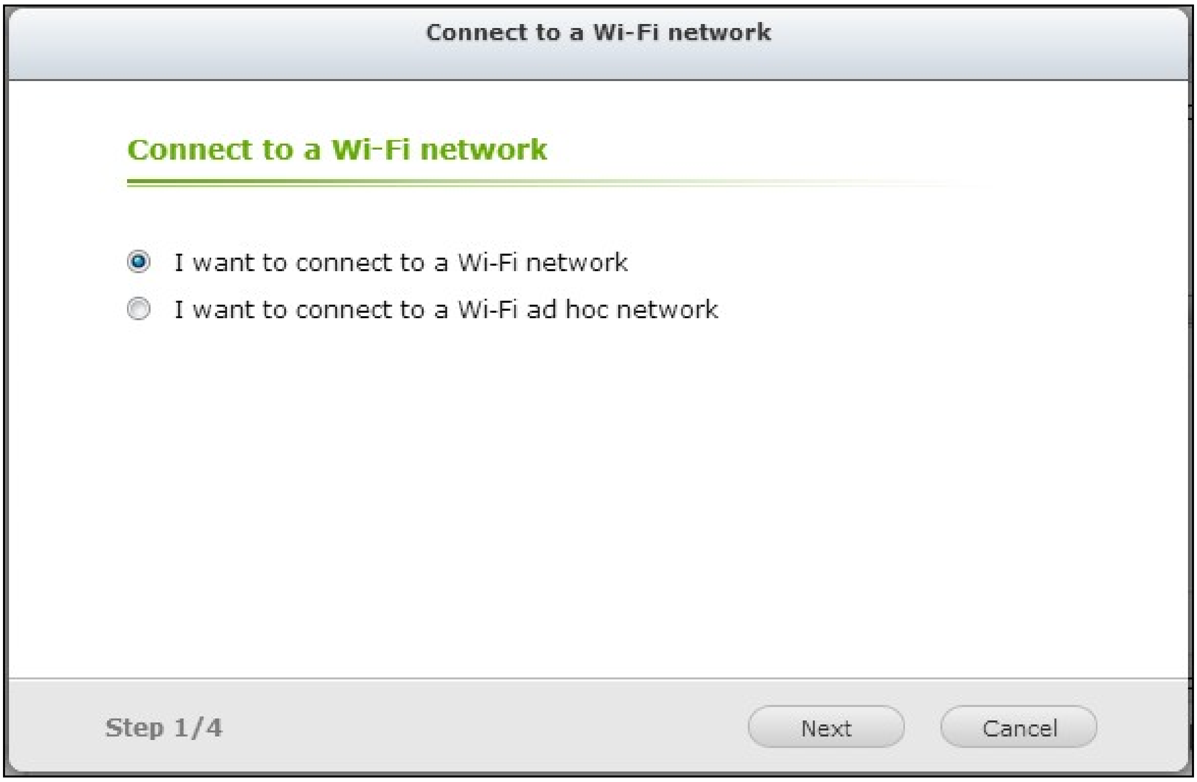
Message	**Description**
Connected	The NAS is currently connected to the Wi-Fi network.
Connecting	The NAS is trying to connect to the Wi-Fi network.
Out of range or hidden SSID	The wireless signal is not available or the SSID is not broadcast.
Failed to get IP	The NAS is connected to the Wi-Fi network but could not get an IP address from the DHCP server. Please check the router settings.
Association failed	The NAS cannot connect to the Wi-Fi network. Please check the router settings.
Incorrect key	The security key entered is incorrect.
Auto connect	Automatically connect to the Wi-Fi network if it is in range. The auto connection function is not supported if the SSID of the Wi-Fi network is not broadcast.

B.Manually connect to a Wi-Fi network:

To manually connect to a Wi-Fi network that does not broadcast its SSID (network name), click "Connect to a Wi-Fi network".



You can choose to connect to an ad hoc network in which you can connect to any wireless devices without the need for an access point.



Connect to a Wi-Fi network

Connect to a Wi-Fi network

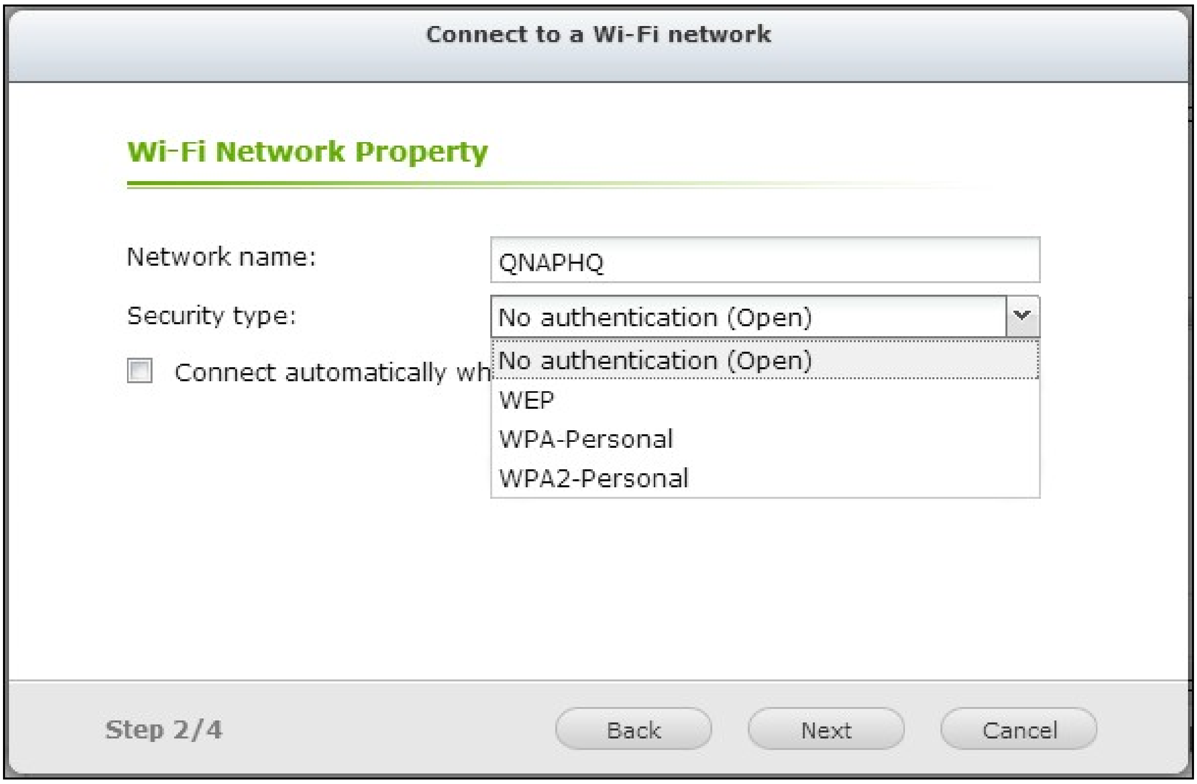
● I want to connect to a Wi-Fi network

○ I want to connect to a Wi-Fi ad hoc network

Step 1/4

Enter the network name (SSID) of the wireless network and select the security type.

- No authentication (Open): No security key required.
- WEP: Enter up to 4 WEP keys and choose 1 key to be used for authentication.
- WPA-Personal: Choose either the AES or TKIP encryption type and enter the encryption key.
- WPA2-Personal: Enter a security key.



Connect to a Wi-Fi network

Wi-Fi Network Property

Network name: QNAPHQ

Security type: No authentication (Open)

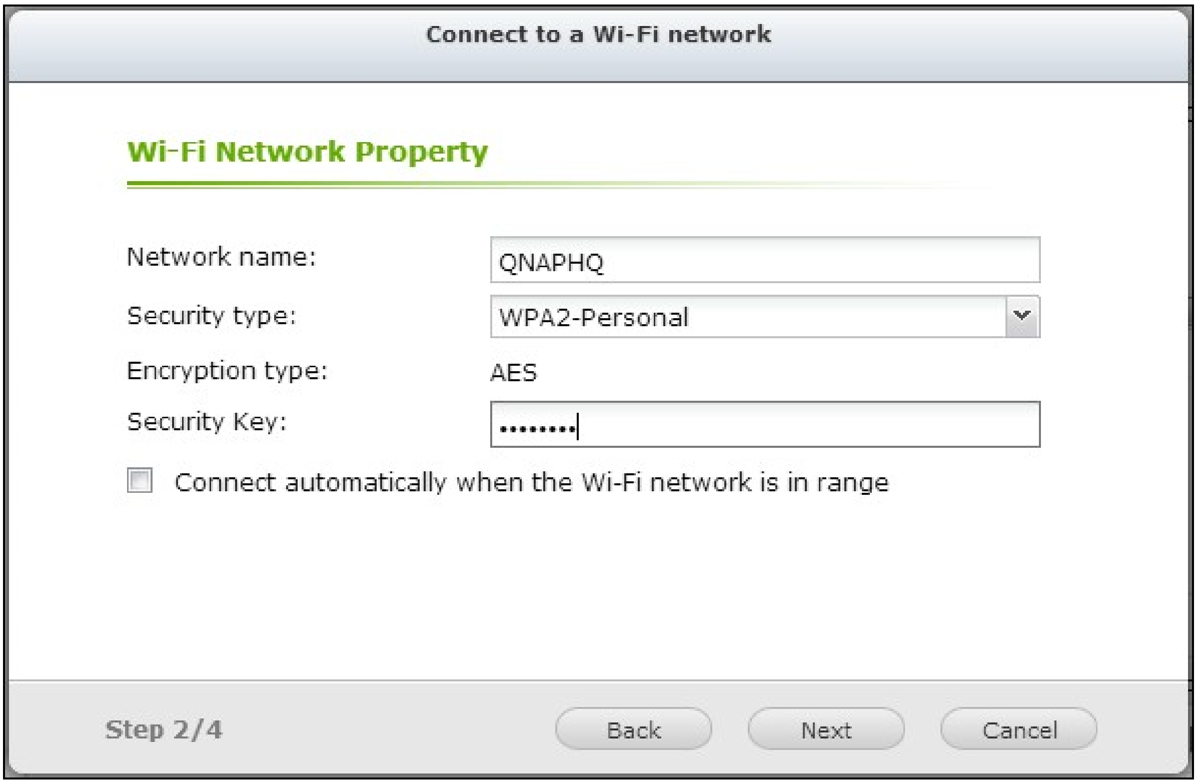
□ Connect automatically wh

Step 2/4

Note:

- The WEP key must be exactly 5 or 13 ASCII characters; or exactly 10 or 26 hexadecimal characters (0-9 and A-F).
- If you have trouble connecting to an encrypted wireless network, check the wireless router/AP settings and change the transfer rate from "N-only" mode to "B/G/N mixed" or similar settings.
- Users of Windows 7 with WPA2 encryption cannot establish ad-hoc connection with the NAS. Please change to use WEP encryption on Windows 7.
- A fixed IP address is required for the wireless interface in order to establish an ad-hoc connection.

Type in the security key.



Connect to a Wi-Fi network

Wi-Fi Network Property

Network name: QNAPHQ

Security type: WPA2-Personal

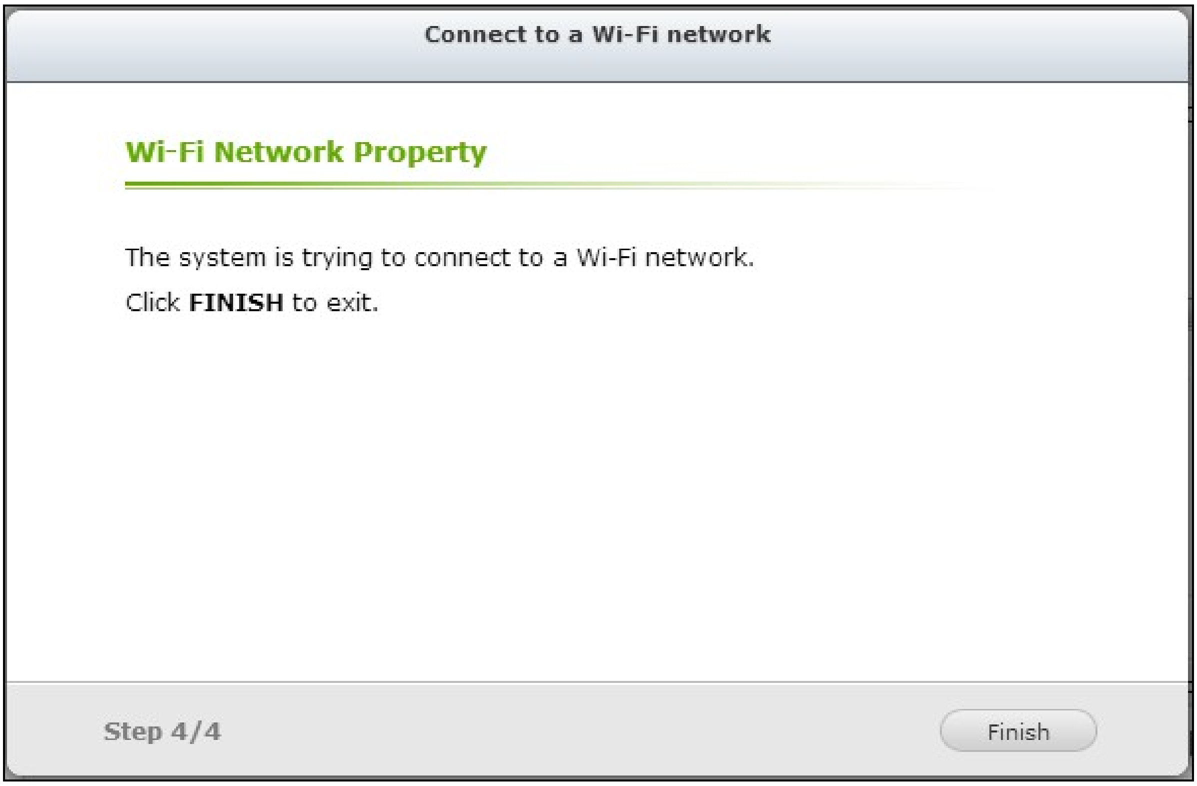
Encryption type: AES

Security Key: ••••••••

□ Connect automatically when the Wi-Fi network is in range

Step 2/4

Click "Finish" after the NAS has added the Wi-Fi network.



Connect to a Wi-Fi network

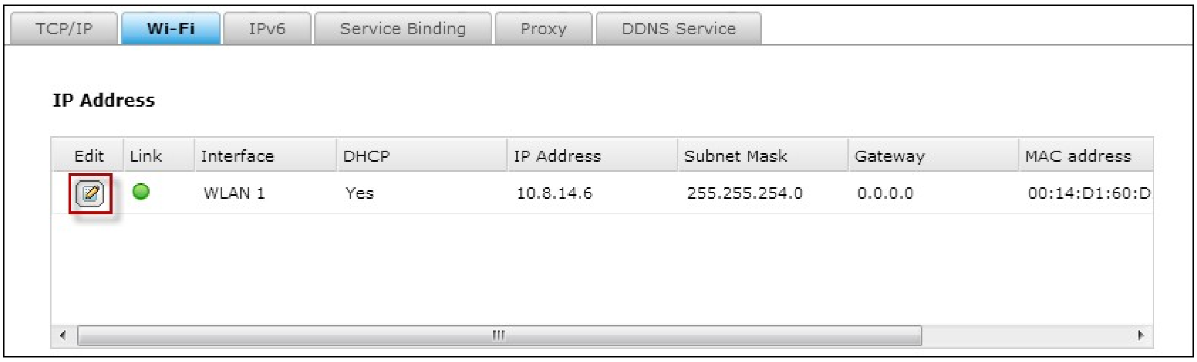
Wi-Fi Network Property

The system is trying to connect to a Wi-Fi network.

Click **FINISH** to exit.

Step 4/4

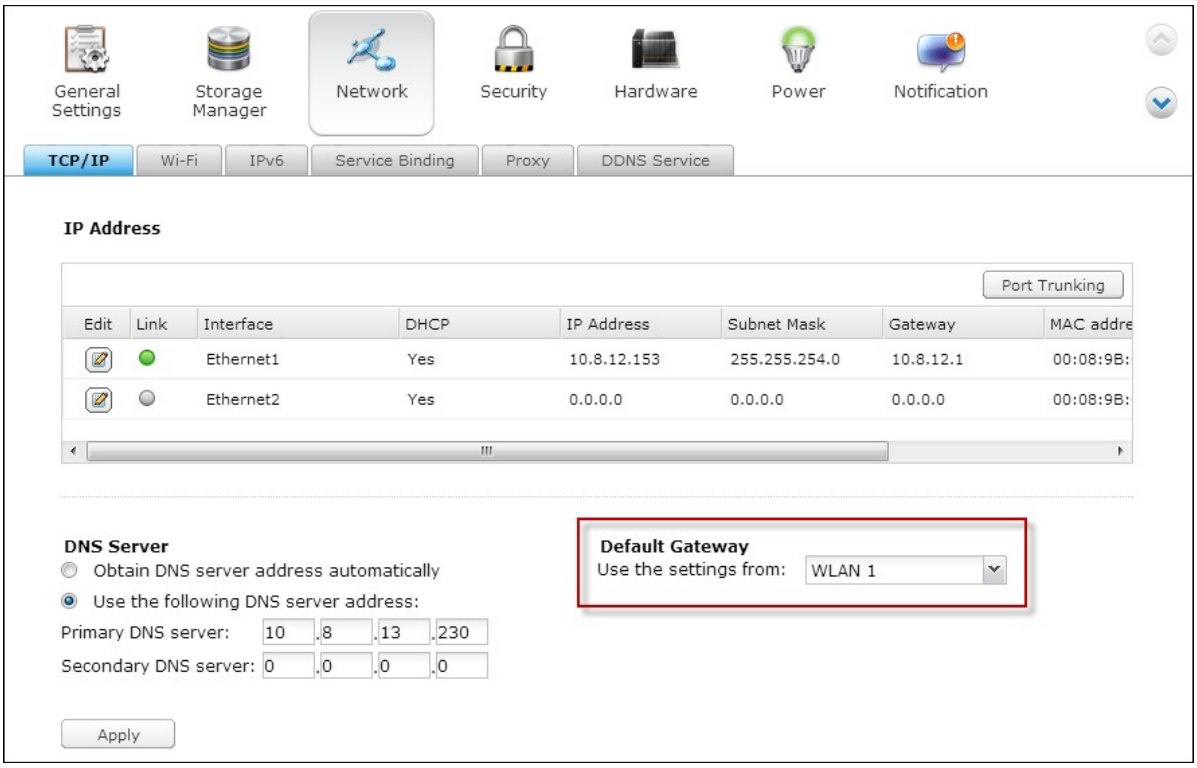
To edit the IP address settings, click ✎. You can select to obtain the IP address automatically by DHCP or configure a fixed IP address.



IP Address

Edit	Link	Interface	DHCP	IP Address	Subnet Mask	Gateway	MAC address
	●	WLAN 1	Yes	10.8.14.6	255.255.254.0	0.0.0.0	00:14:D1:60:D

If the Wi-Fi connection is the only connection between the NAS and the router/AP, you must select "WLAN1" as the default gateway in "Network" > "TCP/IP" page. Otherwise, the NAS will not be able to connect to the Internet or communicate with another network.



IP Address

Edit	Link	Interface	DHCP	IP Address	Subnet Mask	Gateway	MAC addre
	●	Ethernet1	Yes	10.8.12.153	255.255.254.0	10.8.12.1	00:08:9B:
	○	Ethernet2	Yes	0.0.0.0	0.0.0.0	0.0.0.0	00:08:9B:

DNS Server

○ Obtain DNS server address automatically

● Use the following DNS server address:

Primary DNS server: 10 .8 .13 .230

Secondary DNS server: 0 .0 .0 .0

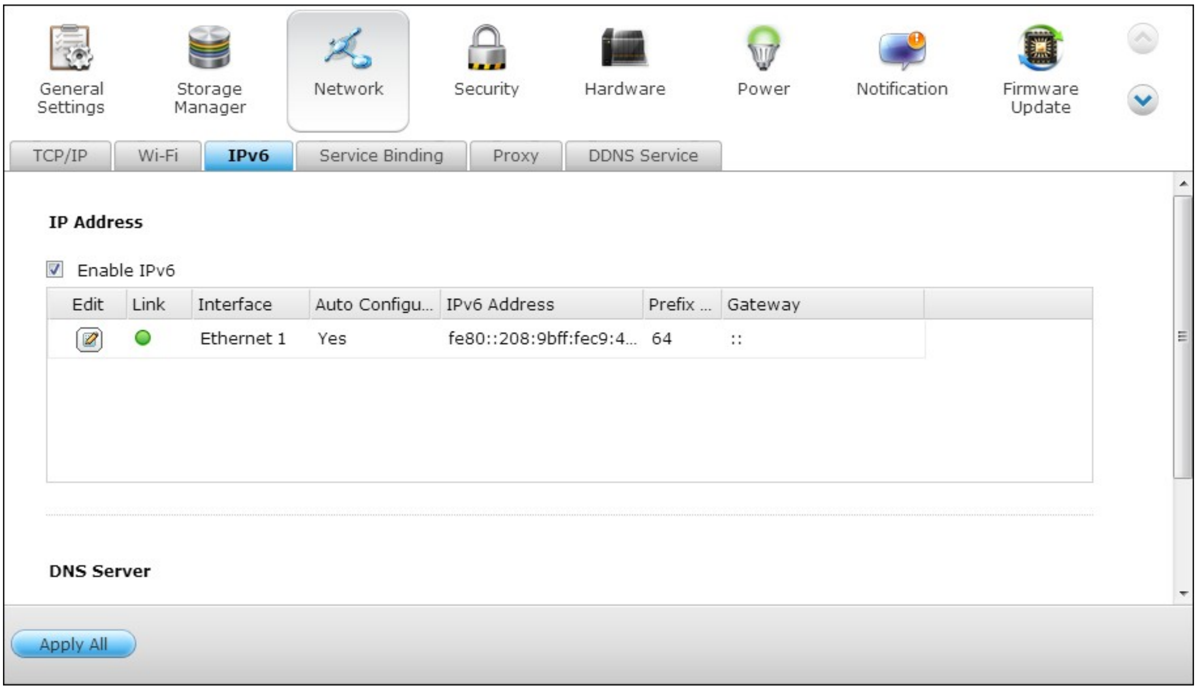
Default Gateway

Use the settings from: WLAN 1

IPv6

The NAS supports IPv6 connectivity with “stateless” address configurations and RADVD (Router Advertisement Daemon) for IPv6, RFC 2461 to allow the hosts on the same subnet to acquire IPv6 addresses from the NAS automatically. The NAS services which support IPv6 include:

- Remote replication
- Web Server
- FTP
- iSCSI (Virtual disk drives)
- SSH (putty)



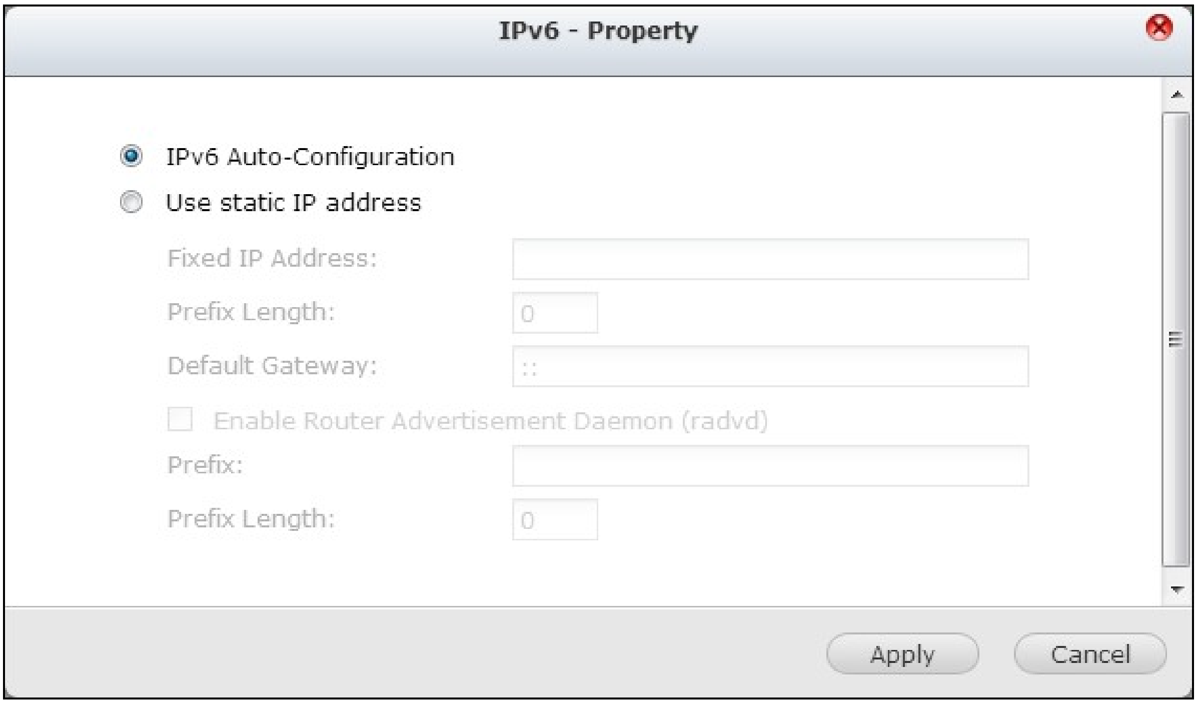
IP Address

☑ Enable IPv6

Edit	Link	Interface	Auto Configu...	IPv6 Address	Prefix ...	Gateway
✎	●	Ethernet 1	Yes	fe80::208:9bff:fec9:4...	64	::

DNS Server

To use this function, select the option “Enable IPv6” and click “Apply”. The NAS will restart. After the system restarts, login the IPv6 page again. The settings of the IPv6 interface will be shown. Click ✎ to edit the settings.



IPv6 - Property

● IPv6 Auto-Configuration

○ Use static IP address

Fixed IP Address:

Prefix Length: 0

Default Gateway: ::

□ Enable Router Advertisement Daemon (radvd)

Prefix:

Prefix Length: 0

IPv6 Auto Configuration

If an IPv6 enabled router is available on the network, select this option to allow the NAS to acquire the IPv6 address and the configurations automatically.

Use static IP address

To use a static IP address, enter the IP address (e.g. 2001:bc95:1234:5678), prefix length (e.g. 64), and the gateway address for the NAS. You may contact your ISP for the information of the prefix and the prefix length.

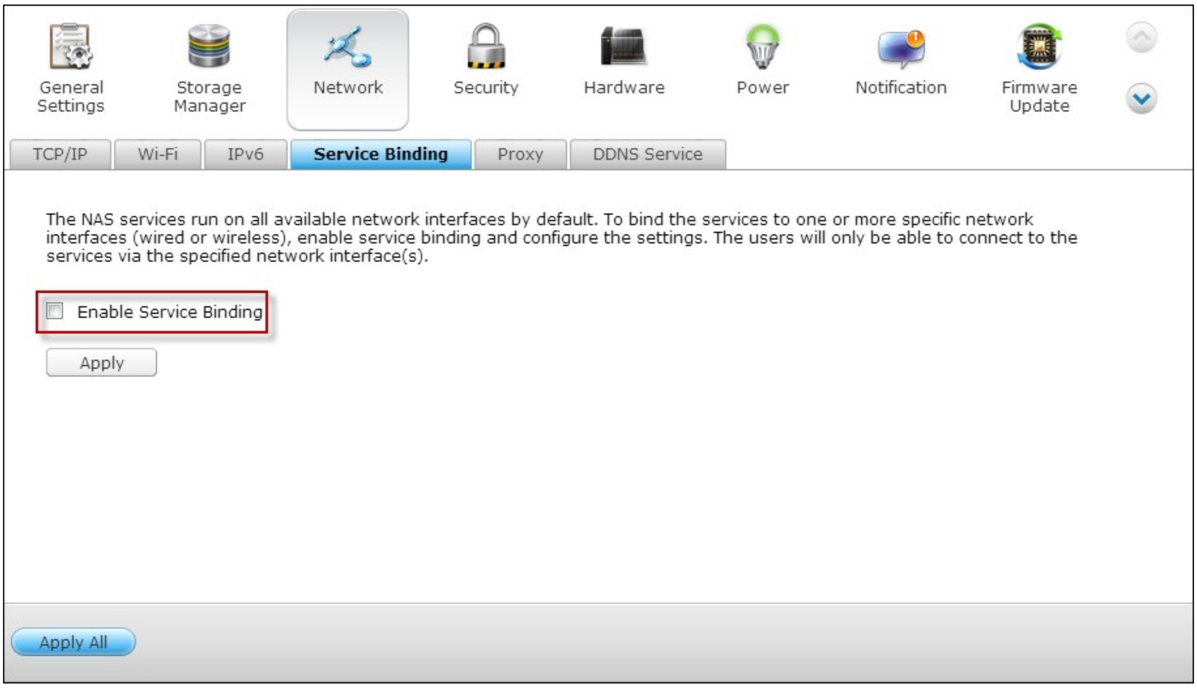
- Enable Router Advertisement Daemon (radvd): To configure the NAS as an IPv6 host and distribute IPv6 addresses to the local clients which support IPv6, enable this option and enter the prefix and prefix length.

IPv6 DNS server

Enter the preferred DNS server in the upper field and the alternate DNS server in the lower field. Contact the ISP or network administrator for the information. If IPv6 auto configuration is selected, leave the fields as "::".

Service Binding

The NAS services run on all available network interfaces by default. To bind the services to one or more specific network interfaces (wired or wireless), enable service binding.



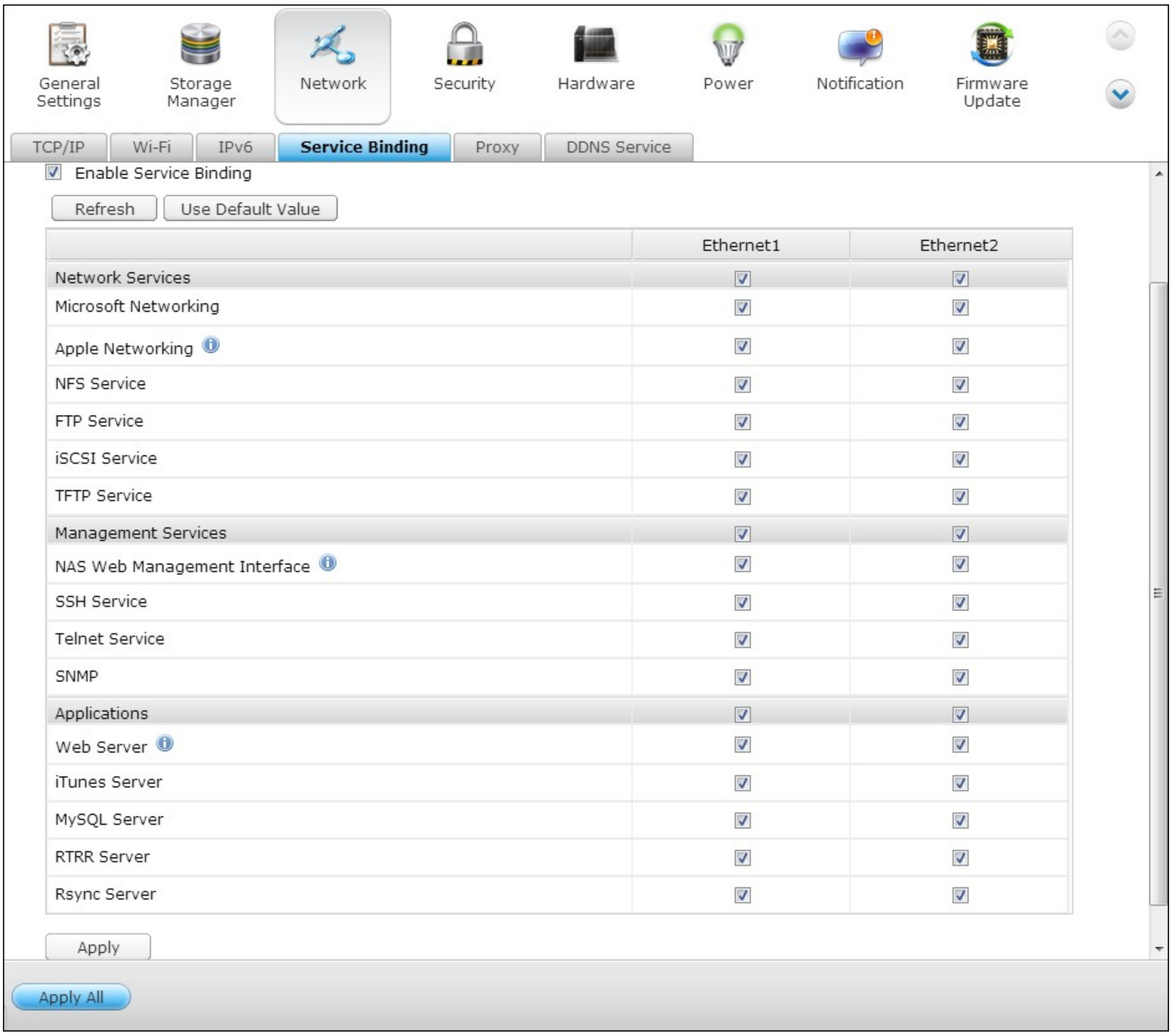
The NAS services run on all available network interfaces by default. To bind the services to one or more specific network interfaces (wired or wireless), enable service binding and configure the settings. The users will only be able to connect to the services via the specified network interface(s).

□ Enable Service Binding

Note: The service binding feature is only available for the NAS with more than one network interfaces (wired and wireless).

The available network interfaces on the NAS will be shown. All the NAS services run on all network interfaces by default. Select at least one network interface that each service should be bound to. Then click "Apply". The users will only be able to connect to the services via the specified network interface(s).

If the settings cannot be applied, click "Refresh" to list the current network interfaces on the NAS and configure service binding again.



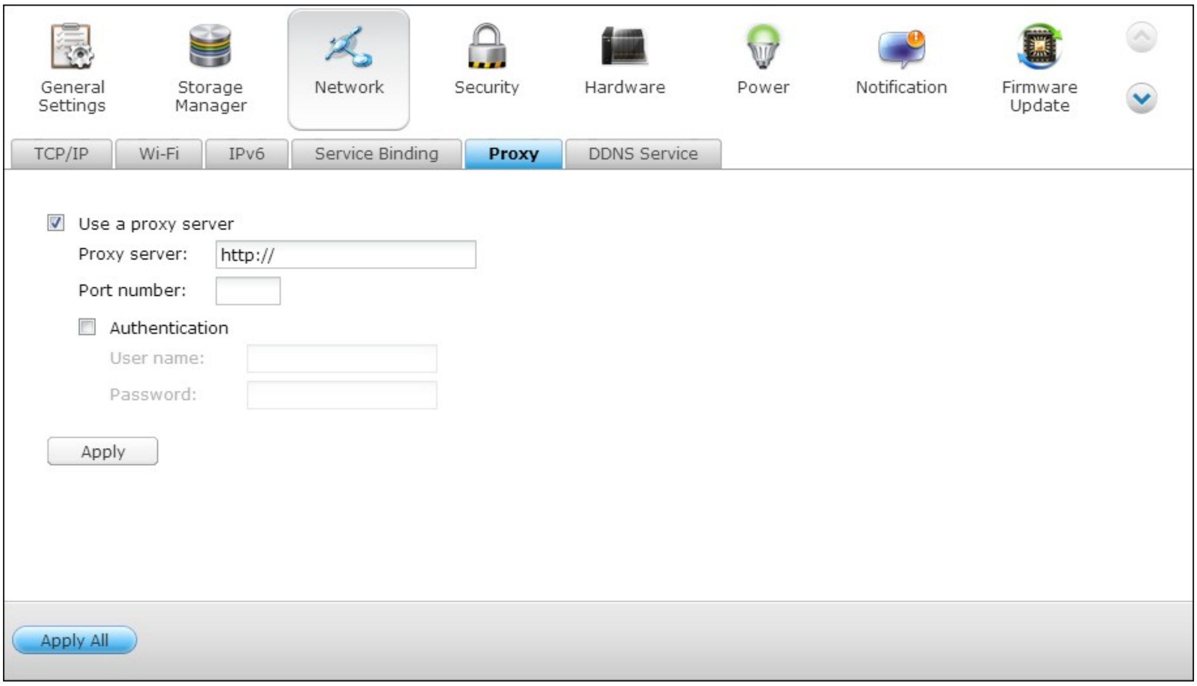
☑ Enable Service Binding

	Ethernet1	Ethernet2
Network Services	☑	☑
Microsoft Networking	☑	☑
Apple Networking	☑	☑
NFS Service	☑	☑
FTP Service	☑	☑
iSCSI Service	☑	☑
TFTP Service	☑	☑
Management Services	☑	☑
NAS Web Management Interface	☑	☑
SSH Service	☑	☑
Telnet Service	☑	☑
SNMP	☑	☑
Applications	☑	☑
Web Server	☑	☑
iTunes Server	☑	☑
MySQL Server	☑	☑
RTRR Server	☑	☑
Rsync Server	☑	☑

Note: After applying the service binding settings, the connection of the currently online users will be kept even if they were not connecting to the services via the specified network interface(s). The specified network interface(s) will be used for the next connected session.

Proxy

Enter the proxy server settings to allow the NAS to access the Internet through a proxy server for live update of the firmware, virus definition update, and App add-ons download.



☑ Use a proxy server

Proxy server: http://

Port number:

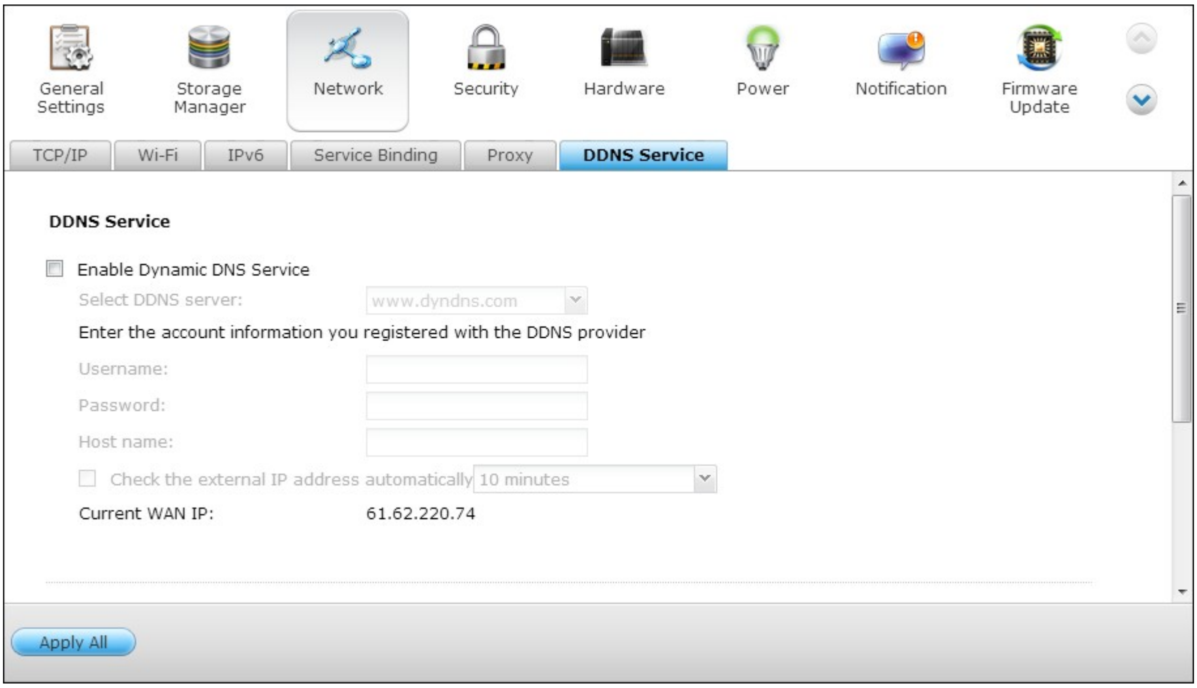
□ Authentication

User name:

Password:

DDNS Service

To allow remote access to the NAS using a domain name instead of a dynamic IP address, enable the DDNS service.



DDNS Service

□ Enable Dynamic DNS Service

Select DDNS server: www.dyndns.com

Enter the account information you registered with the DDNS provider

Username:

Password:

Host name:

□ Check the external IP address automatically 10 minutes

Current WAN IP: 61.62.220.74

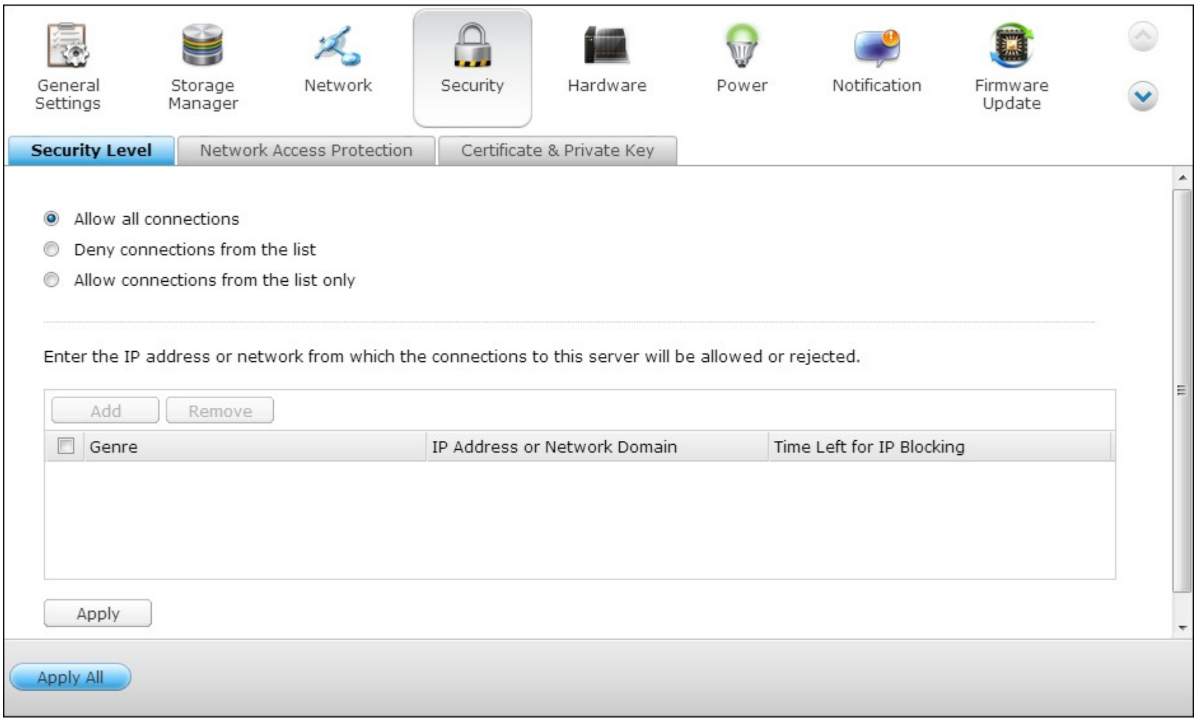
The NAS supports the DDNS providers: http://www.dyndns.com, http://update.ods.org, http://www.dhs.org, http://www.dyns.cx, http://www.3322.org, http://www.no-ip.com.

4.4 Security

Security Level

Specify the IP address or the network domain from which the connections to the NAS are allowed or denied. When the connection of a host server is denied, all the protocols of that server are not allowed to connect to the NAS.

After changing the settings, click “Apply” to save the changes. The network services will be restarted and current connections to the NAS will be terminated.



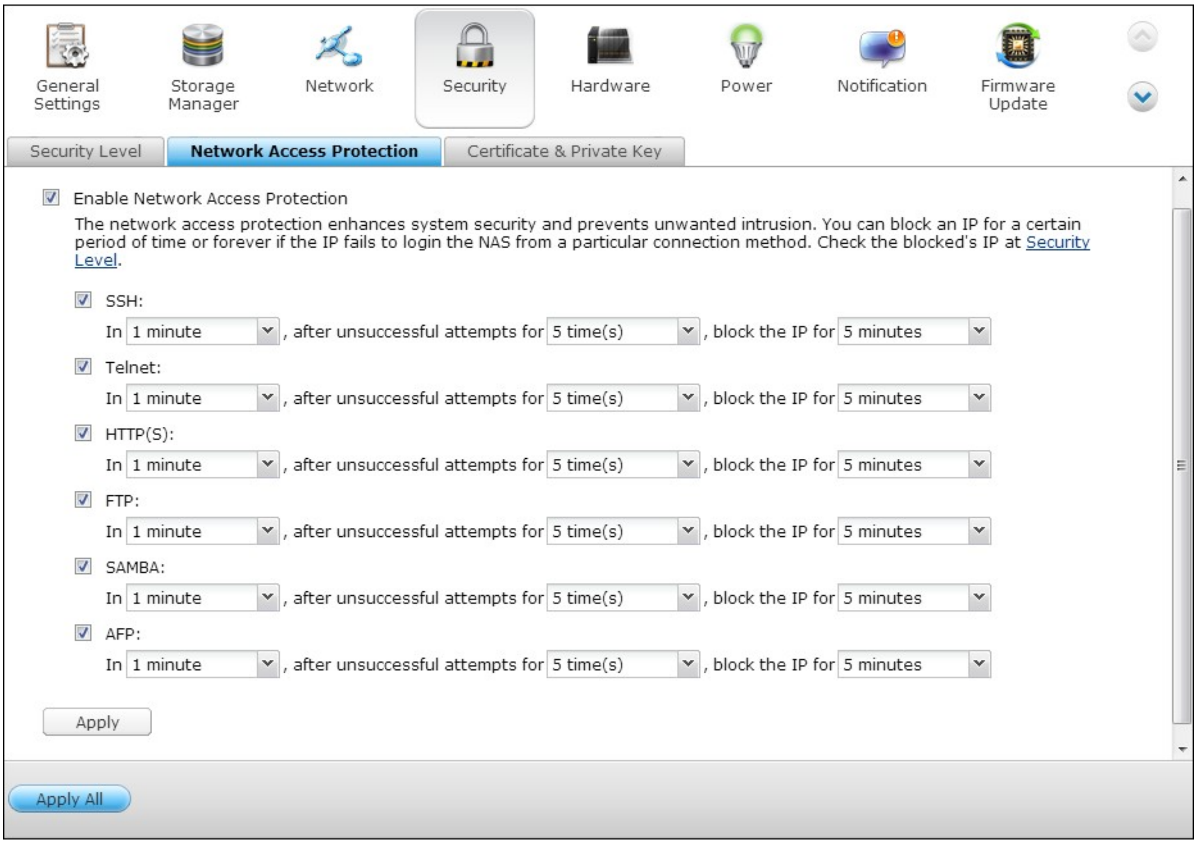
● Allow all connections
○ Deny connections from the list
○ Allow connections from the list only

Enter the IP address or network from which the connections to this server will be allowed or rejected.

□ Genre	IP Address or Network Domain	Time Left for IP Blocking

Network Access Protection

The network access protection enhances system security and prevents unwanted intrusion. You can block an IP for a certain period of time or forever if the IP fails to login the NAS from a particular connection method.



☑ Enable Network Access Protection

The network access protection enhances system security and prevents unwanted intrusion. You can block an IP for a certain period of time or forever if the IP fails to login the NAS from a particular connection method. Check the blocked's IP at Security Level.

☑ SSH:
In 1 minute, after unsuccessful attempts for 5 time(s), block the IP for 5 minutes

☑ Telnet:
In 1 minute, after unsuccessful attempts for 5 time(s), block the IP for 5 minutes

☑ HTTP(S):
In 1 minute, after unsuccessful attempts for 5 time(s), block the IP for 5 minutes

☑ FTP:
In 1 minute, after unsuccessful attempts for 5 time(s), block the IP for 5 minutes

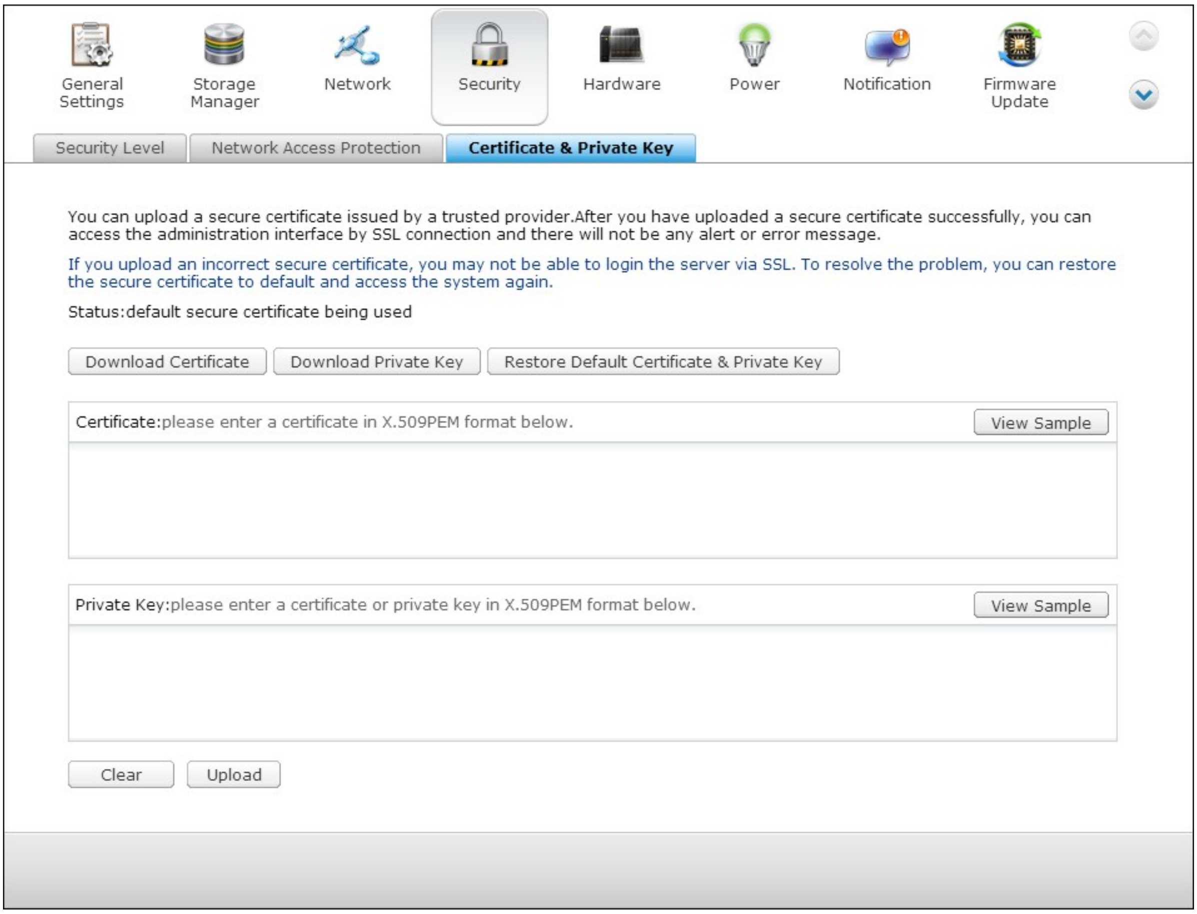
☑ SAMBA:
In 1 minute, after unsuccessful attempts for 5 time(s), block the IP for 5 minutes

☑ AFP:
In 1 minute, after unsuccessful attempts for 5 time(s), block the IP for 5 minutes

Certificate & Private Key

The Secure Socket Layer (SSL) is a protocol for encrypted communication between the web servers and the web browsers for secure data transfer. You can upload a secure certificate issued by a trusted provider. After uploading a secure certificate, users can connect to the administration interface of the NAS by SSL connection and there will not be any alert or error message. The NAS supports X.509 certificate and private key only.

- Download Certificate: To download the secure certificate which is currently in use.
- Download Private Key: To download the private key which is currently in use.
- Restore Default Certificate & Private Key: To restore the secure certificate and private key to system default. The secure certificate and private key in use will be overwritten.



You can upload a secure certificate issued by a trusted provider.After you have uploaded a secure certificate successfully, you can access the administration interface by SSL connection and there will not be any alert or error message.

If you upload an incorrect secure certificate, you may not be able to login the server via SSL. To resolve the problem, you can restore the secure certificate to default and access the system again.

Status:default secure certificate being used

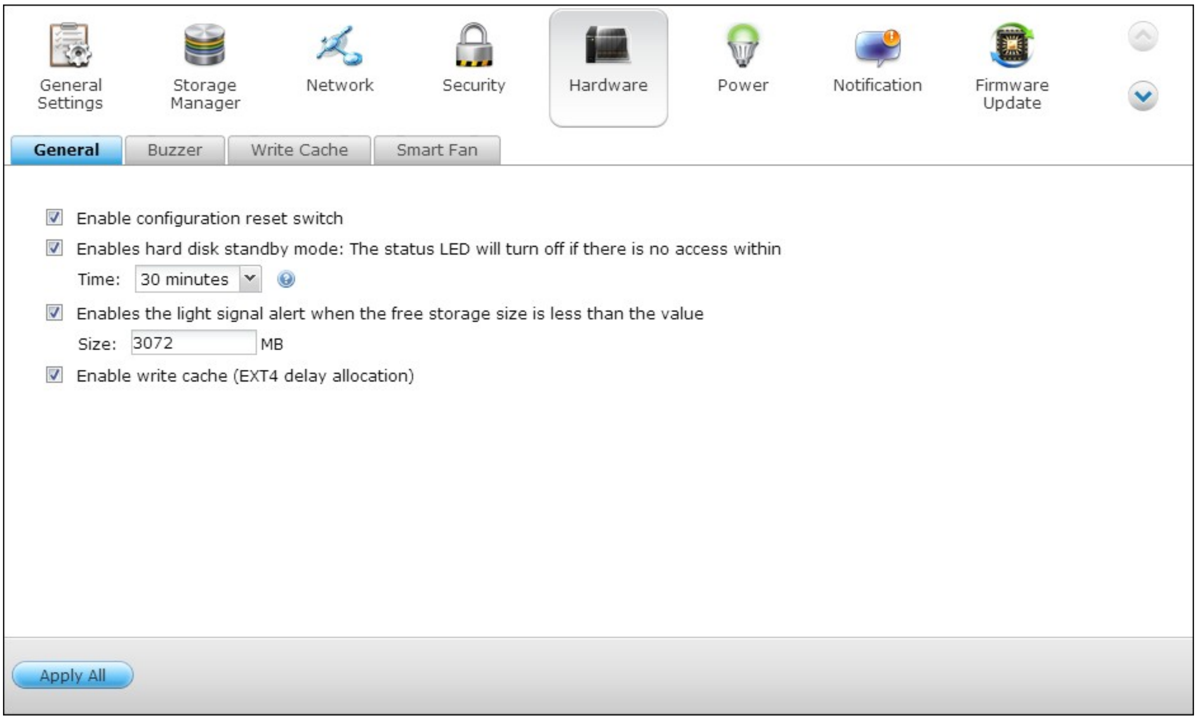
Certificate:please enter a certificate in X.509PEM format below.

Private Key:please enter a certificate or private key in X.509PEM format below.

4.5 Hardware

Configure the hardware functions of the NAS.

General



☑ Enable configuration reset switch

☑ Enables hard disk standby mode: The status LED will turn off if there is no access within

Time: 30 minutes

☑ Enables the light signal alert when the free storage size is less than the value

Size: 3072 MB

☑ Enable write cache (EXT4 delay allocation)

Enable configuration reset switch

When this function is turned on, you can press the reset button for 3 seconds to reset the administrator password and the system settings to default. The disk data will be retained.

System	Basic system reset (1 beep)	Advanced system reset (2 beeps)
All NAS models	Press the reset button for 3 sec	Press the reset button for 10 sec

Basic system reset (3 sec)

After pressing the reset button for 3 seconds, a beep sound will be heard. The following settings will be reset to default:

- System administration password: admin.
- TCP/IP configuration: Obtain IP address settings automatically via DHCP.
- TCP/IP configuration: Disable Jumbo Frame.
- TCP/IP configuration: If port trunking is enabled (dual LAN models only), the port

trunking mode will be reset to "Active Backup (Failover)".

- System port: 8080 (system service port).
- Security level: Low (Allow all connections).
- LCD panel password: (blank)*.
- VLAN will be disabled.
- Service binding: All NAS services run on all available network interfaces.

*This feature is only provided by the NAS models with LCD panels. Please visit http://www.qnap.com for details.

Advanced system reset (10 sec)

After pressing the reset button for 10 seconds, you will hear two beeps at the third and the tenth seconds. The NAS will reset all the system settings to default as it does by the web-based system reset in "Administration" > "Restore to Factory Default" except all the data are reserved. The settings such as the users, user groups, and the shared folders previously created will be cleared. To retrieve the old data after advanced system reset, create the same shared folders on the NAS and the data will be accessible again.

Enable hard disk standby mode

This option allows the hard drives on the NAS to enter standby mode if there is no disk access within the specified period.

Enable light signal alert when the free size of SATA disk is less than the value:

The status LED flashes red and green when this option is turned on and the free space of the SATA hard drive is less than the value. The valid range of the value is 1-51200 MB.

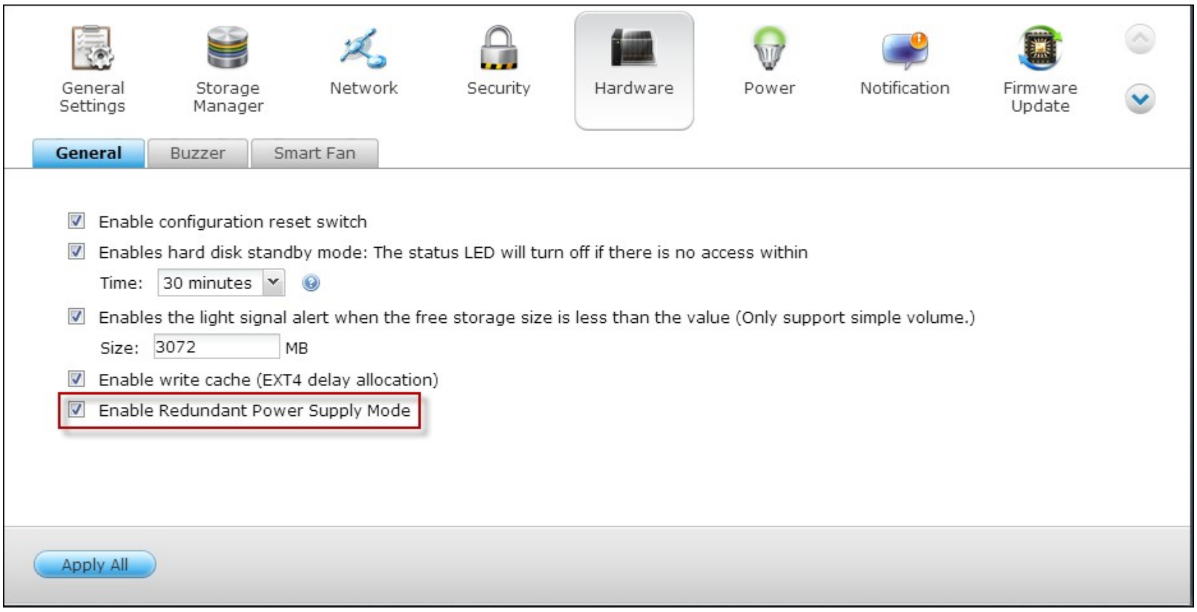
Enable write cache (EXT4 only)

If the disk volume of the NAS is formatted as EXT4, turn on this option for higher write performance. Note that an unexpected system shutdown may lead to incomplete data transfer when data write is in process. This option will be turned off when any of the following services is enabled: Download Station, MySQL service, user quota, and Surveillance Station. You are recommended to turn this option off if the NAS is set as a shared storage in a virtualized or clustered environment.

Enable warning alert for redundant power supply on the web-based interface:

If two power supply units (PSU) are installed on the NAS and connected to the power sockets, both PSU will supply the power to the NAS (applied to 1U and 2U models). Turn on the redundant power supply mode in "System Settings" > "Hardware" to receive warning alert for the redundant power supply. The NAS will sound and record the error messages in "System Logs" when the PSU is plugged out or does not correspond correctly.

If only one PSU is installed on the NAS, do NOT enable this option.



☑ Enable configuration reset switch

☑ Enables hard disk standby mode: The status LED will turn off if there is no access within

Time: 30 minutes

☑ Enables the light signal alert when the free storage size is less than the value (Only support simple volume.)

Size: 3072 MB

☑ Enable write cache (EXT4 delay allocation)

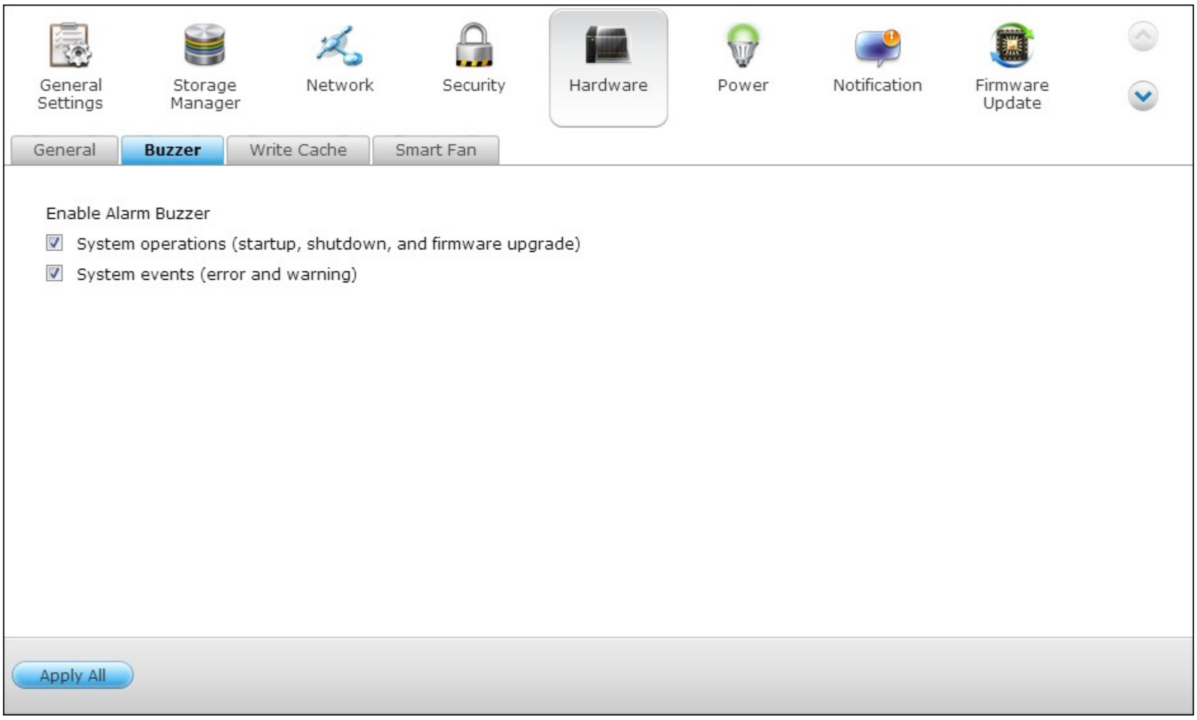
☑ Enable Redundant Power Supply Mode

* This function is disabled by default.

Buzzer

Enable alarm buzzer

Turn on this option to allow the alarm buzzer to beep when certain system operations (startup, shutdown, or firmware upgrade) are executed or system events (error or warning) occur.



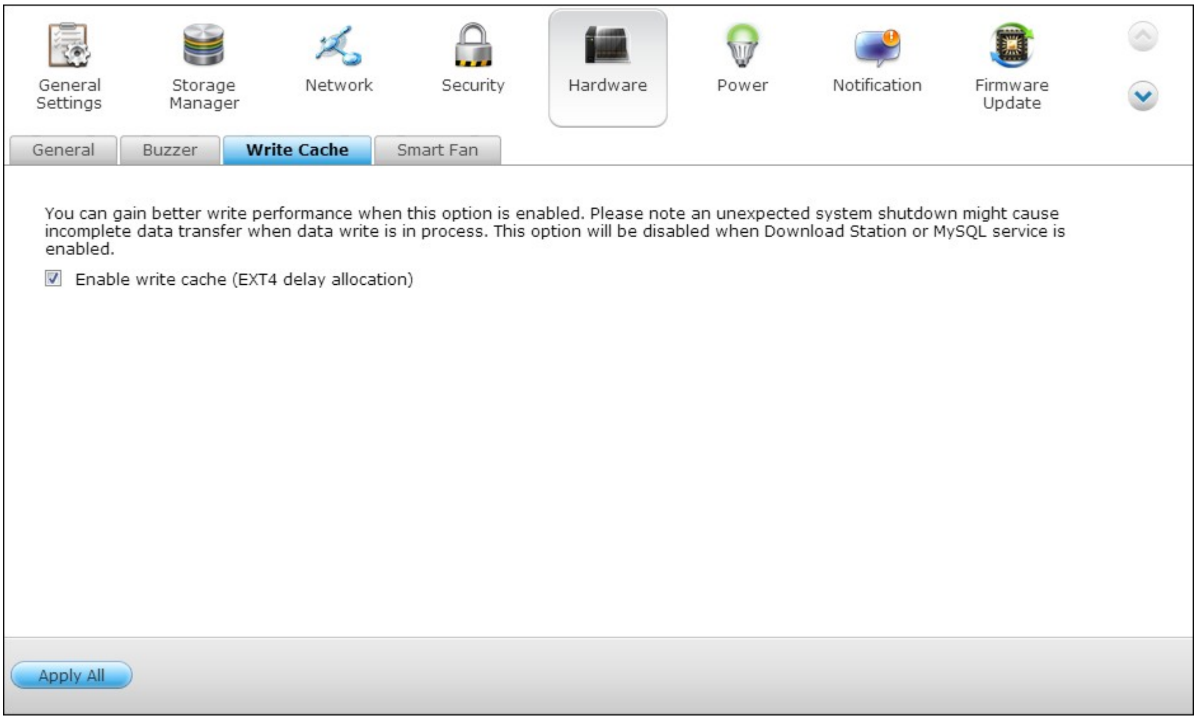
Enable Alarm Buzzer

☑ System operations (startup, shutdown, and firmware upgrade)

☑ System events (error and warning)

Write Cache

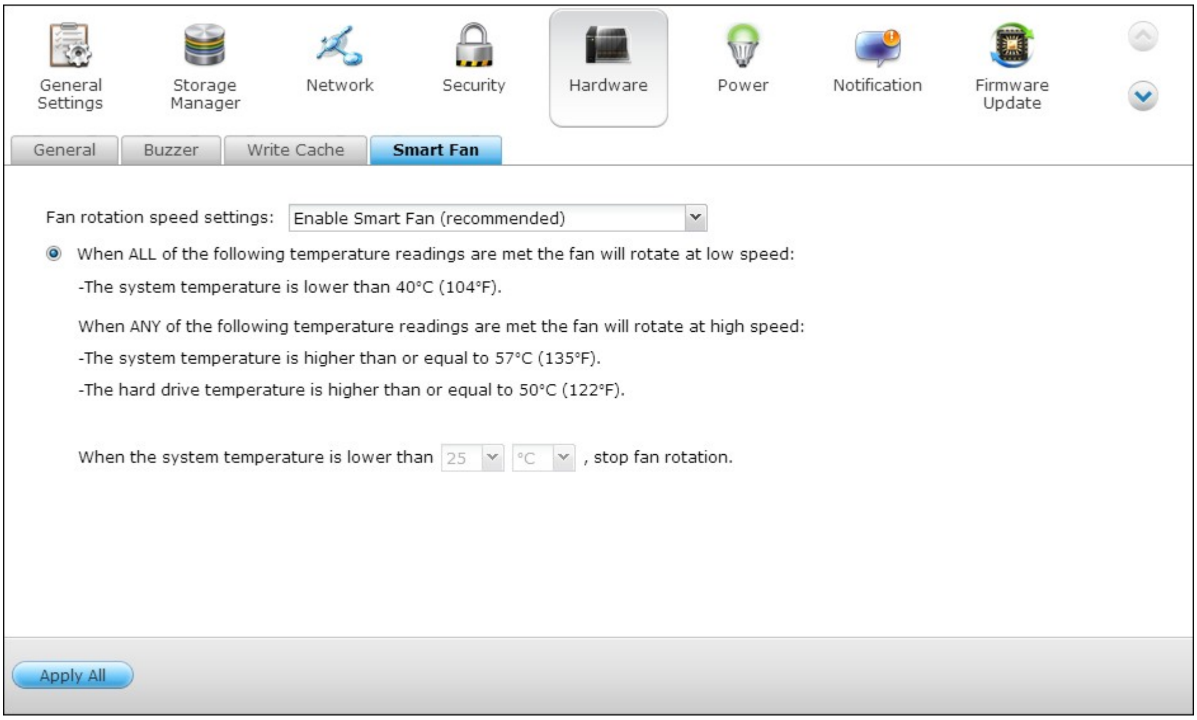
Better write performance can be obtained when this option is enabled. Please not that an unexpected system shutdown might cause incomplete data transfer when data write is in progress. This option will be disabled when Download Station or MySQL service is enabled.



You can gain better write performance when this option is enabled. Please note an unexpected system shutdown might cause incomplete data transfer when data write is in process. This option will be disabled when Download Station or MySQL service is enabled.

☑ Enable write cache (EXT4 delay allocation)

Smart Fan



Fan rotation speed settings: Enable Smart Fan (recommended)

● When ALL of the following temperature readings are met the fan will rotate at low speed:

-The system temperature is lower than 40°C (104°F).

When ANY of the following temperature readings are met the fan will rotate at high speed:

-The system temperature is higher than or equal to 57°C (135°F).

-The hard drive temperature is higher than or equal to 50°C (122°F).

When the system temperature is lower than 25 °C , stop fan rotation.

Smart Fan Configuration:

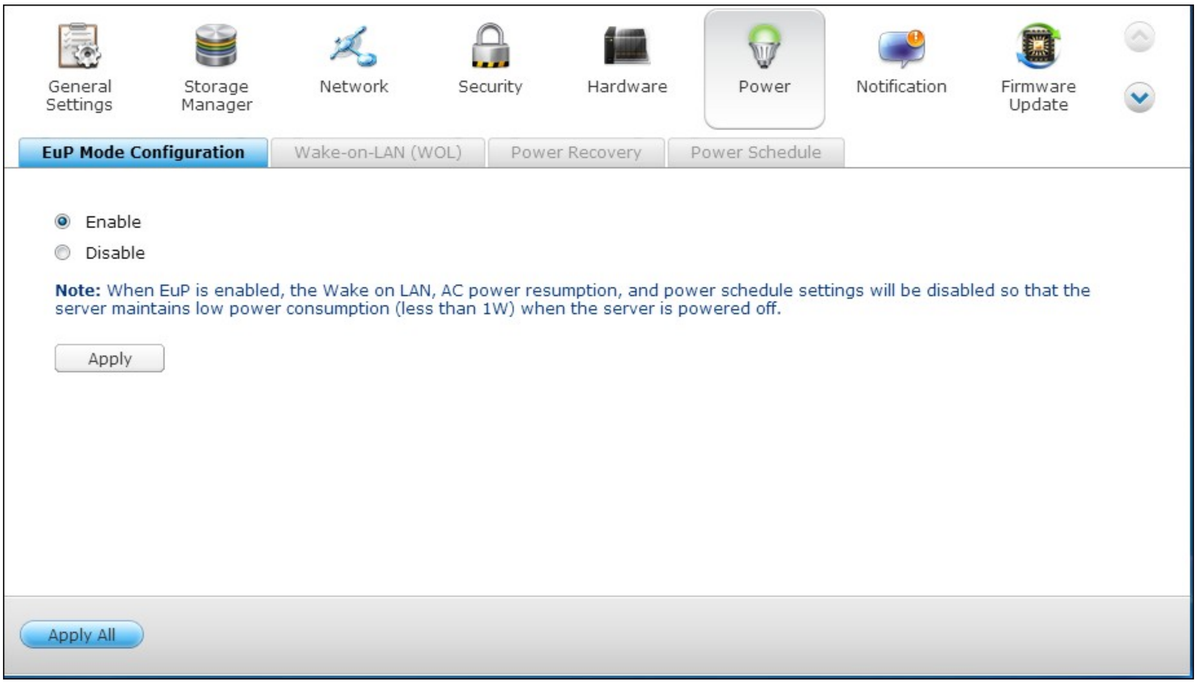
- Enable smart fan (recommended)
  Select to use the default smart fan settings or define the settings manually. When the system default settings are selected, the fan rotation speed will be automatically adjusted when the NAS temperature, CPU temperature, and hard drive temperature meet the criteria. It is recommended to enable this option.
- Set fan rotation speed manually
  By manually setting the fan rotation speed, the fan rotates at the defined speed continuously.

4.6 Power

You can restart or shut down the NAS, specify the behavior of the NAS after a power recovery, and set the schedule for automatic system power on/off/restart on this page.

EuP Mode Configuration

EuP (also Energy-using Products) is a European Union (EU) directive designed to improve the energy efficiency of electrical devices, reduce use of hazardous substances, increase ease of product recycling, and improve environment-friendliness of the product.



● Enable
○ Disable

Note: When EuP is enabled, the Wake on LAN, AC power resumption, and power schedule settings will be disabled so that the server maintains low power consumption (less than 1W) when the server is powered off.

When EuP is enabled, the following settings will be affected so that the NAS maintains low power consumption (less than 1W) when the NAS is powered off:

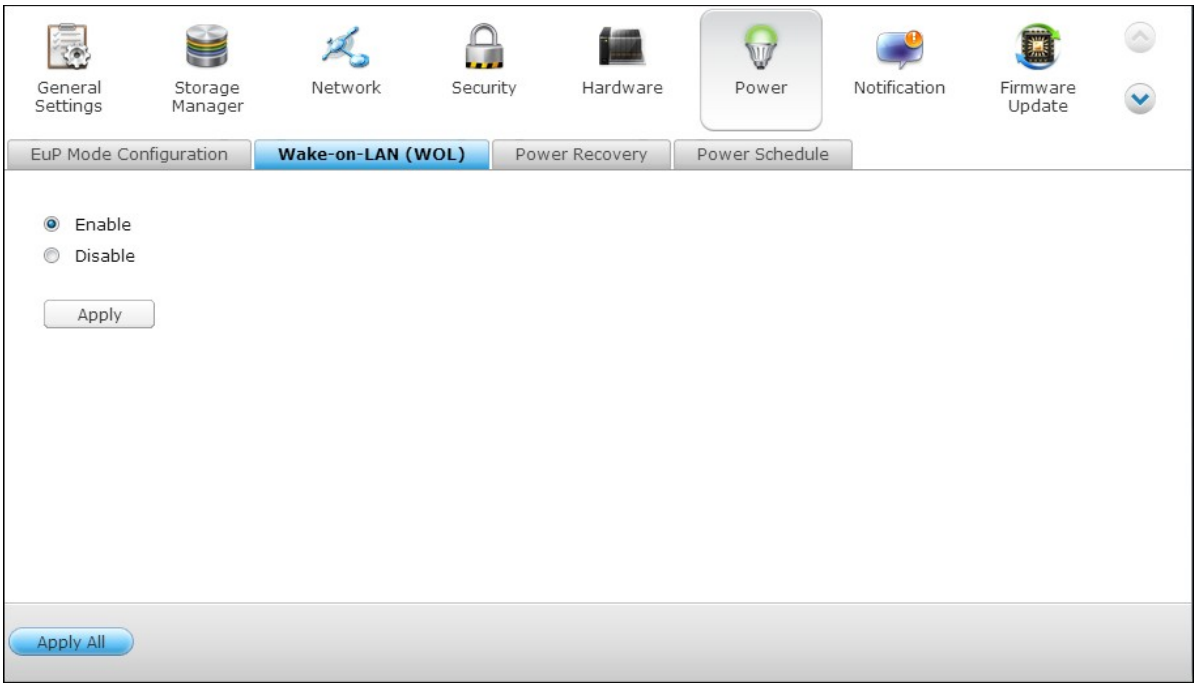
- Wake on LAN: Disabled.
- AC power resumption: The NAS will remain off after the power restores from an outage.
- Scheduled power on, off, restart settings: Disabled.

When EuP is disabled, the power consumption of the NAS is slightly higher than 1W when the NAS is powered off. EuP is disabled by default so that you can use the functions Wake on LAN, AC power resumption, and power schedule settings properly.

This feature is only supported by certain NAS models, please visit http://www.qnap.com for details.

Wake-on-LAN (WOL)

Turn on this option to allow the users to power on the NAS remotely by Wake on LAN. Note that if the power connection is physically removed (in other words, the power cable is unplugged) when the NAS is turned off, Wake on LAN will not function whether or not the power supply is reconnected afterwards.

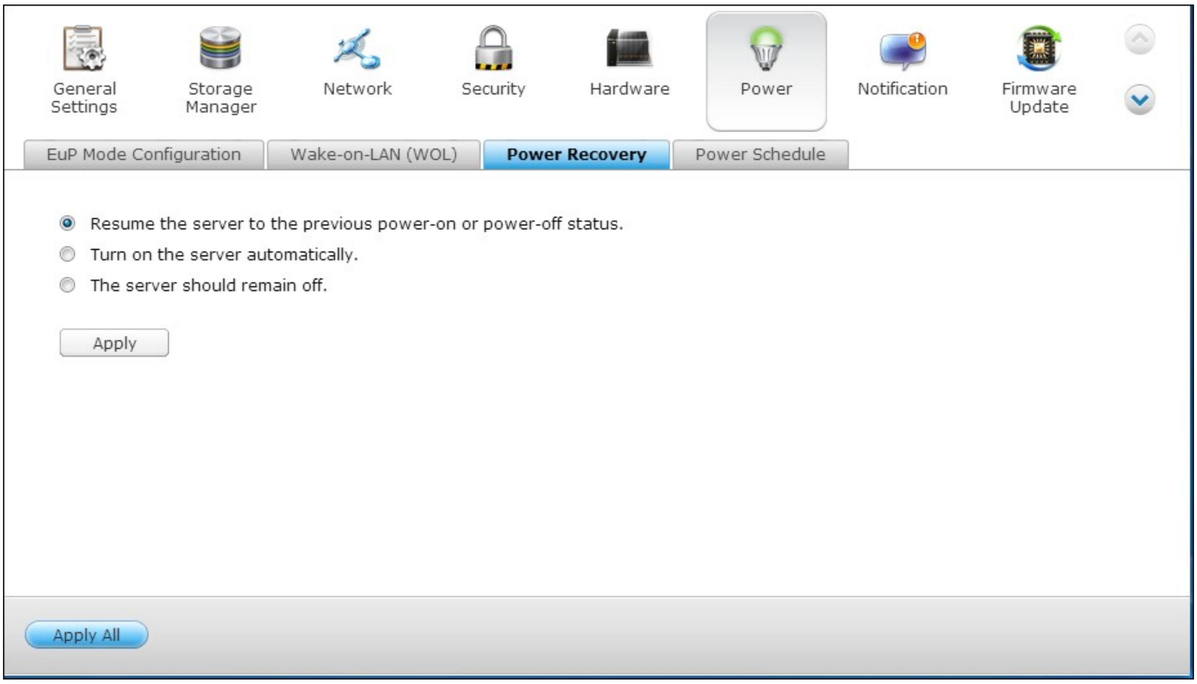


● Enable
○ Disable

This feature is only supported by certain NAS models, please visit http://www.qnap.com for details.

Power Recovery

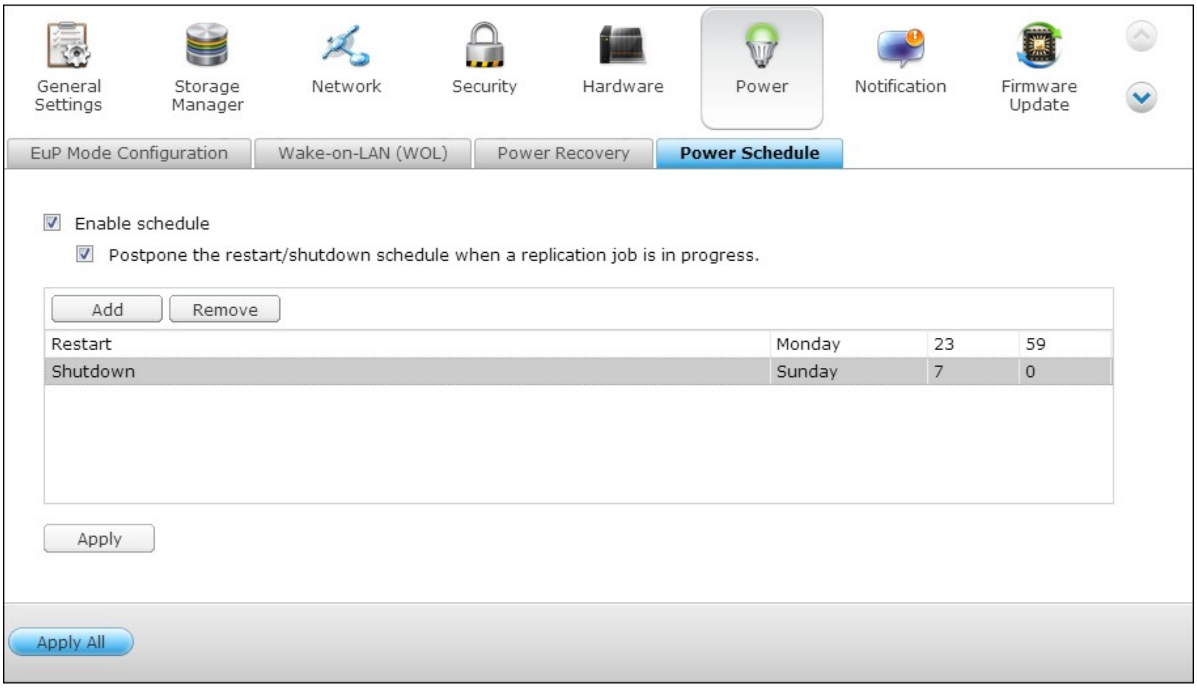
Configure the NAS to resume to the previous power-on or power-off status, turn on, or remain off when the AC power resumes after a power outage.



● Resume the server to the previous power-on or power-off status.
○ Turn on the server automatically.
○ The server should remain off.

Power Schedule

Specify the schedule for automatic system power on, power off, or restart. Weekdays stand for Monday to Friday; weekend stands for Saturday and Sunday. Up to 15 schedules can be set.



☑ Enable schedule

☑ Postpone the restart/shutdown schedule when a replication job is in progress.

Restart	Monday	23	59
Shutdown	Sunday	7	0

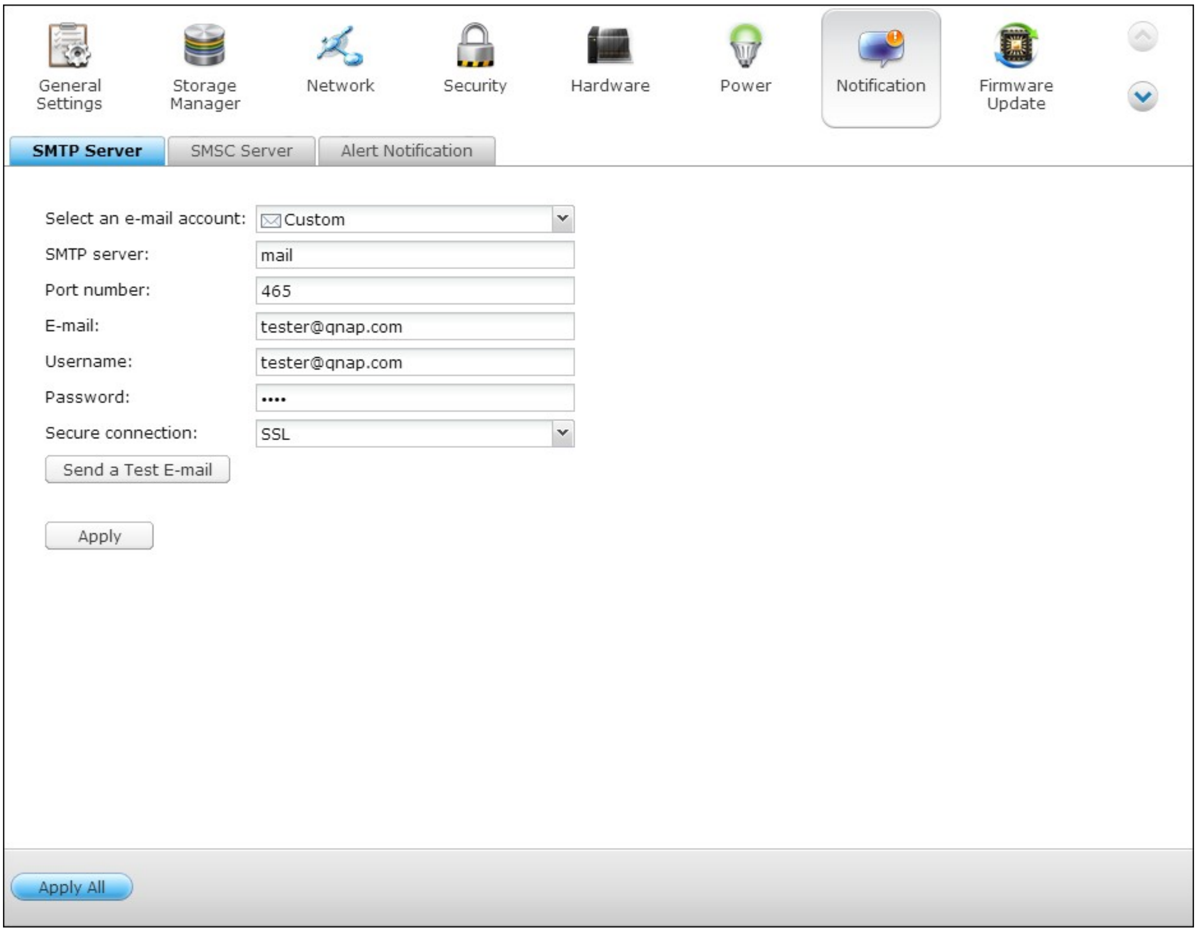
Turn on the option "Postpone the restart/shutdown schedule when replication job is in process" to allow the scheduled system restart or shutdown to be carried out after a running replication job completes. Otherwise, the NAS will ignore the running replication job and execute scheduled system restart or shutdown.

4.7 Notification

SMTP Server

The NAS supports email alert to inform the administrator of system errors and warning. To receive the alert by email, configure the SMTP server.

- Select an email account: specify the type of email account you would like to use for email alerts.
- SMTP Server: Enter the SMTP server name, for example, smtp.gmail.com.
- Port Number: Enter the port number for the SMTP server. The default port number is 25.
- Email: Enter email address of the alert recipient.
- Username and Password: Enter the login information of the email account.
- Secure connection: Choose SSL or TLS to ensure a secure connection between the NAS and SMTP server, or None based on your needs. It is advised to turn this function on if the SMTP server supports it.



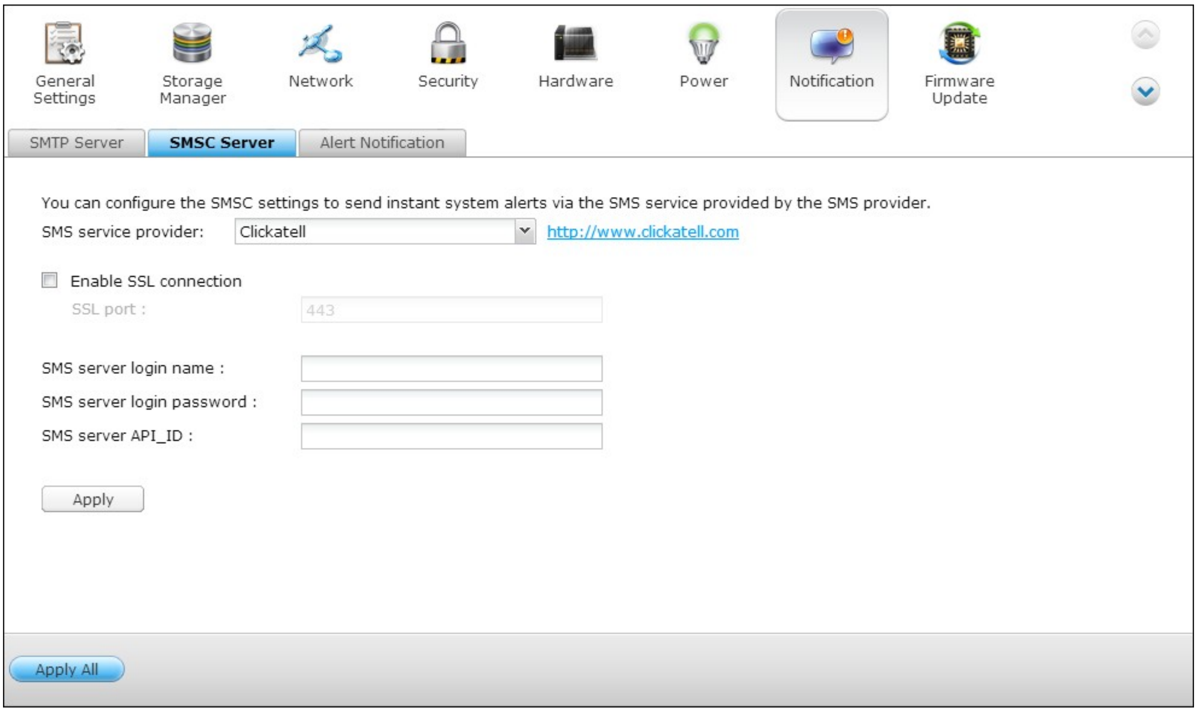
Select an e-mail account: Custom
SMTP server: mail
Port number: 465
E-mail: tester@qnap.com
Username: tester@qnap.com
Password: ••••
Secure connection: SSL

SMSC Server

Configure the SMSC server settings to send SMS messages to the specified phone number(s) from the NAS. The default SMS service provider is Clickatell. You can add your own SMS service provider by selecting "Add SMS Provider" from the drop-down menu.

When "Add SMS service provider" is selected, enter the name of the SMS provider and the URL template text.

Note: The URL template text must follow the standard of the SMS service provider to receive the SMS alert properly.



You can configure the SMSC settings to send instant system alerts via the SMS service provided by the SMS provider.

SMS service provider: Clickatell http://www.clickatell.com

□ Enable SSL connection

SSL port : 443

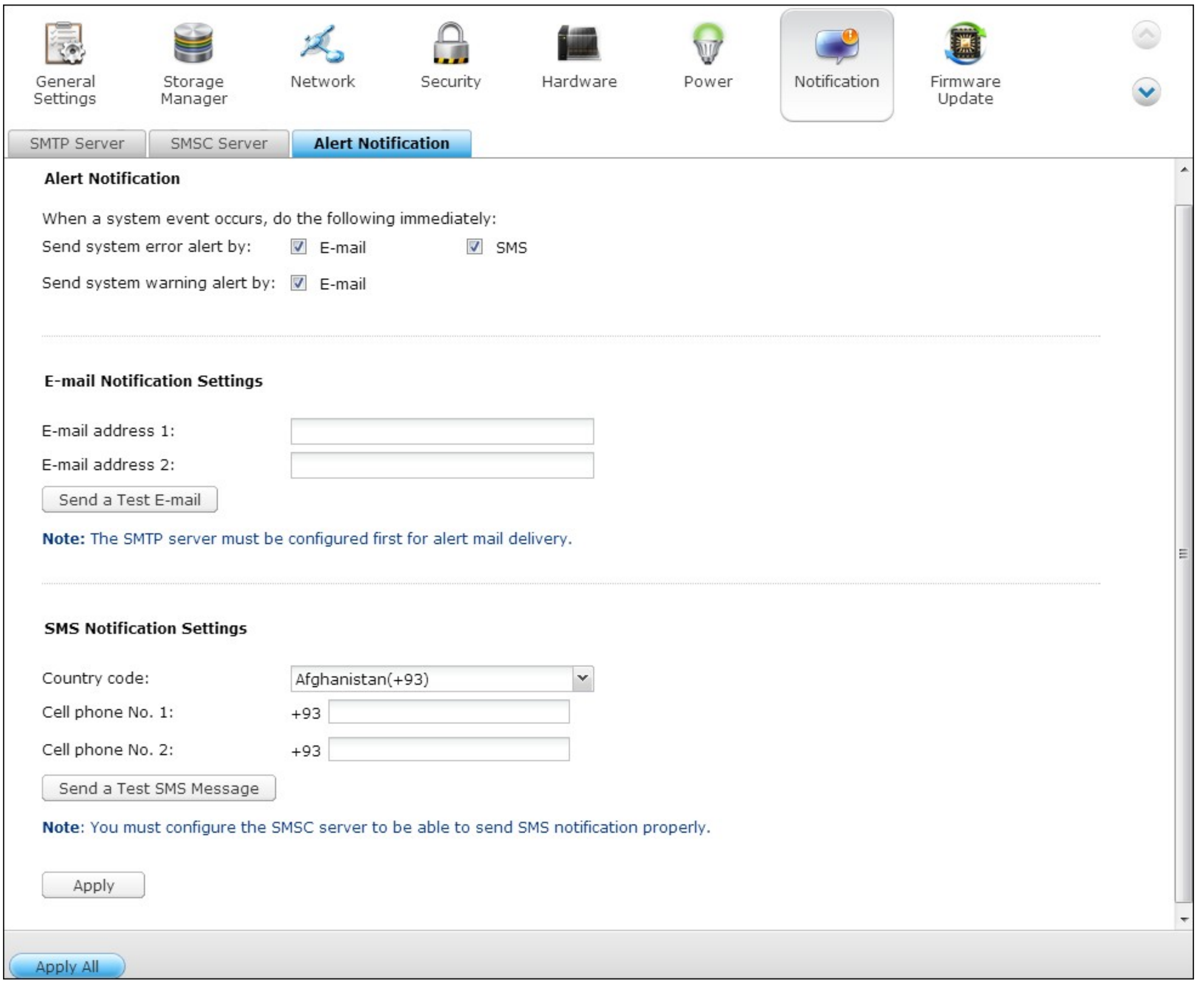
SMS server login name :

SMS server login password :

SMS server API_ID :

Alert Notification

Select the type of instant alert the NAS will send to the designated users when system events (warning/error) occur.



Alert Notification

When a system event occurs, do the following immediately:

Send system error alert by: ☑ E-mail ☑ SMS

Send system warning alert by: ☑ E-mail

E-mail Notification Settings

E-mail address 1:

E-mail address 2:

Send a Test E-mail

Note: The SMTP server must be configured first for alert mail delivery.

SMS Notification Settings

Country code: Afghanistan(+93)

Cell phone No. 1: +93

Cell phone No. 2: +93

Send a Test SMS Message

Note: You must configure the SMSC server to be able to send SMS notification properly.

Apply

Apply All

E-mail Notification Settings

Specify the email addresses (maximum 2) to receive instant system alert from the NAS.

SMS Notification Settings

Specify the cell phone numbers (maximum 2) to receive instant system alert from the NAS.

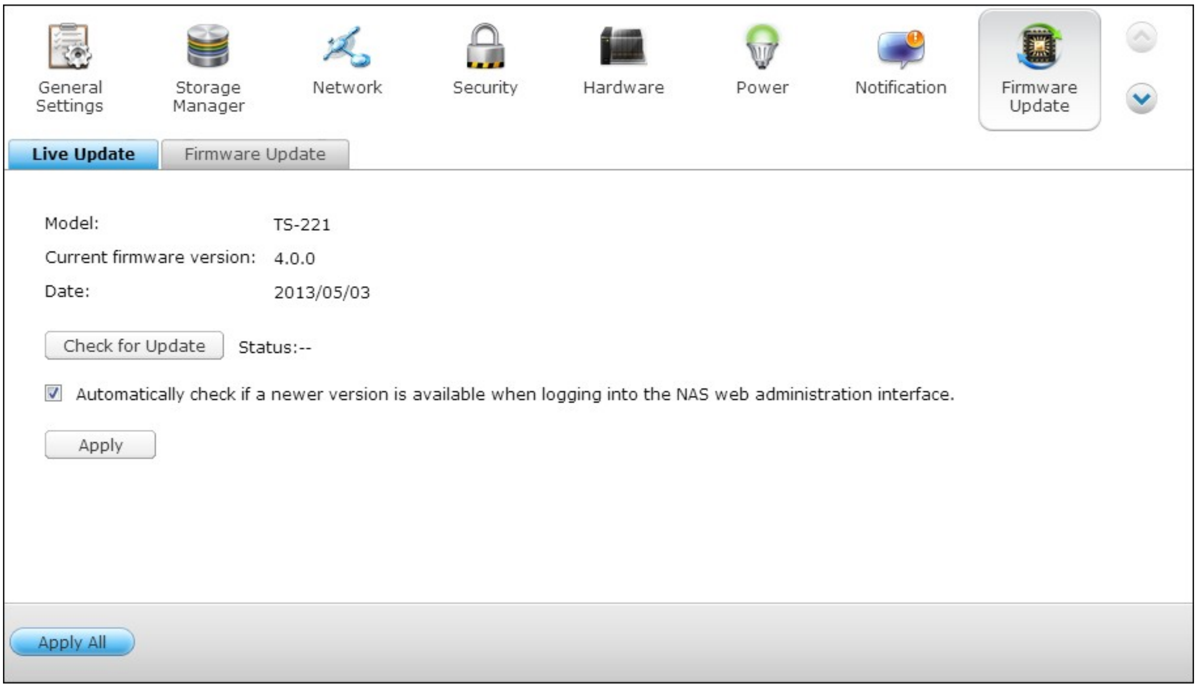
4.8 Firmware Update

Live Update

Select "Automatically check if a newer version is available when logging into the NAS web administration interface" to allow the NAS to automatically check if a new firmware version is available for download from the Internet. If a new firmware is found, you will be notified after logging in the NAS as an administrator.

Click "Check for Update" to check if any firmware update is available.

Note that the NAS must be connected to the Internet for these features to work.

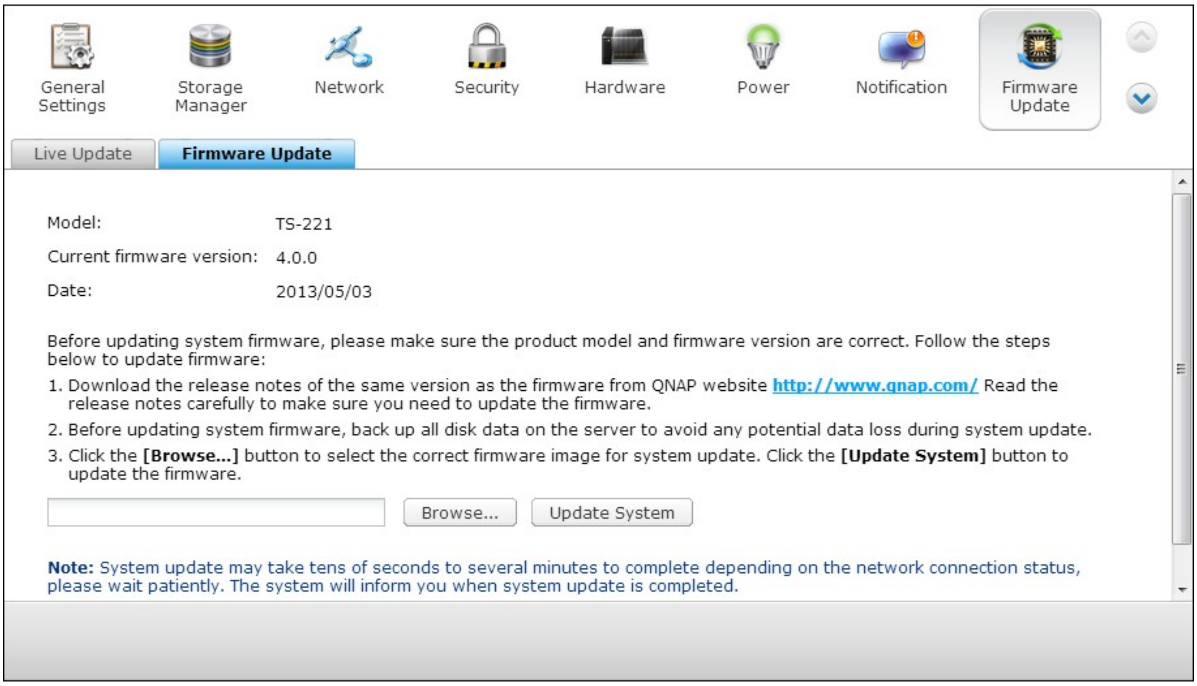


Model: TS-221
Current firmware version: 4.0.0
Date: 2013/05/03

Status:--

☑ Automatically check if a newer version is available when logging into the NAS web administration interface.

Firmware Update



Model: TS-221

Current firmware version: 4.0.0

Date: 2013/05/03

Before updating system firmware, please make sure the product model and firmware version are correct. Follow the steps below to update firmware:

1. Download the release notes of the same version as the firmware from QNAP website http://www.qnap.com/ Read the release notes carefully to make sure you need to update the firmware.
2. Before updating system firmware, back up all disk data on the server to avoid any potential data loss during system update.
3. Click the **[Browse...]** button to select the correct firmware image for system update. Click the **[Update System]** button to update the firmware.

Note: System update may take tens of seconds to several minutes to complete depending on the network connection status, please wait patiently. The system will inform you when system update is completed.

Note: If the system is running properly, you do not need to update the firmware.

Before updating the system firmware, make sure the product model and firmware version are correct. Follow the steps below to update firmware:

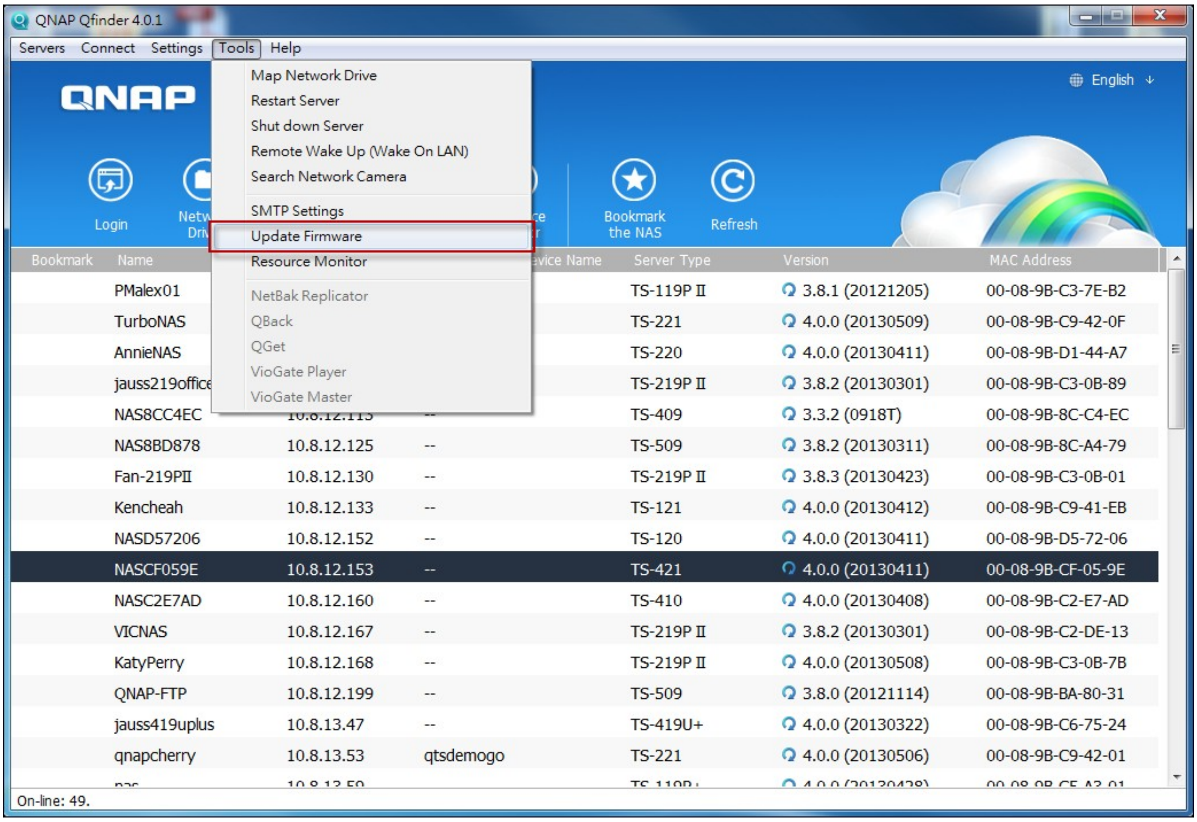
1. Download the release notes of the firmware from the QNAP website http://www.qnap.com. Read the release notes carefully to make sure it is required to update the firmware.
2. Download the NAS firmware and unzip the IMG file to the computer.
3. Before updating the system firmware, back up all the disk data on the NAS to avoid any potential data loss during the system update.
4. Click “Browse” to select the correct firmware image for the system update. Click “Update System” to update the firmware.

The system update may take tens of seconds to several minutes to complete depending on the network connection status. Please wait patiently. The NAS will inform you when the system update has completed.

Update Firmware by QNAP Qfinder

The NAS firmware can be updated by the QNAP Qfinder. Follow the steps below:

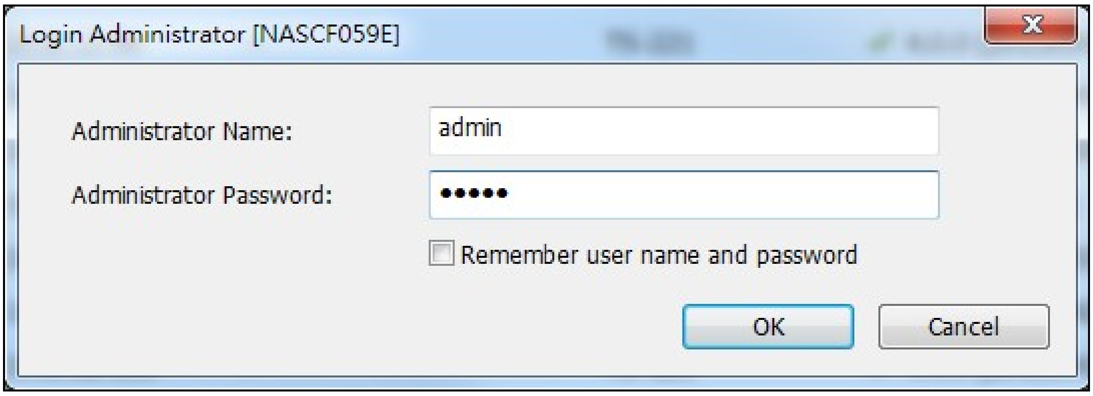
1. Select a NAS model and choose "Update Firmware" from the "Tools" menu.



Bookmark	Name		vice Name	Server Type	Version	MAC Address
	PMalex01			TS-119P II	3.8.1 (20121205)	00-08-9B-C3-7E-B2
	TurboNAS			TS-221	4.0.0 (20130509)	00-08-9B-C9-42-0F
	AnnieNAS			TS-220	4.0.0 (20130411)	00-08-9B-D1-44-A7
	jauss219office			TS-219P II	3.8.2 (20130301)	00-08-9B-C3-0B-89
	NAS8CC4EC	10.8.12.115	--	TS-409	3.3.2 (0918T)	00-08-9B-8C-C4-EC
	NAS8BD878	10.8.12.125	--	TS-509	3.8.2 (20130311)	00-08-9B-8C-A4-79
	Fan-219PII	10.8.12.130	--	TS-219P II	3.8.3 (20130423)	00-08-9B-C3-0B-01
	Kencheah	10.8.12.133	--	TS-121	4.0.0 (20130412)	00-08-9B-C9-41-EB
	NASD57206	10.8.12.152	--	TS-120	4.0.0 (20130411)	00-08-9B-D5-72-06
	NASCF059E	10.8.12.153	--	TS-421	4.0.0 (20130411)	00-08-9B-CF-05-9E
	NASC2E7AD	10.8.12.160	--	TS-410	4.0.0 (20130408)	00-08-9B-C2-E7-AD
	VICNAS	10.8.12.167	--	TS-219P II	3.8.2 (20130301)	00-08-9B-C2-DE-13
	KatyPerry	10.8.12.168	--	TS-219P II	4.0.0 (20130508)	00-08-9B-C3-0B-7B
	QNAP-FTP	10.8.12.199	--	TS-509	3.8.0 (20121114)	00-08-9B-BA-80-31
	jauss419uplus	10.8.13.47	--	TS-419U+	4.0.0 (20130322)	00-08-9B-C6-75-24
	qnapcherry	10.8.13.53	qtsdemogo	TS-221	4.0.0 (20130506)	00-08-9B-C9-42-01
	nas	10.8.13.50		TS-119P+	4.0.0 (20130428)	00-08-9B-CF-A3-01

On-line: 49.

2. Login the NAS as an administrator.



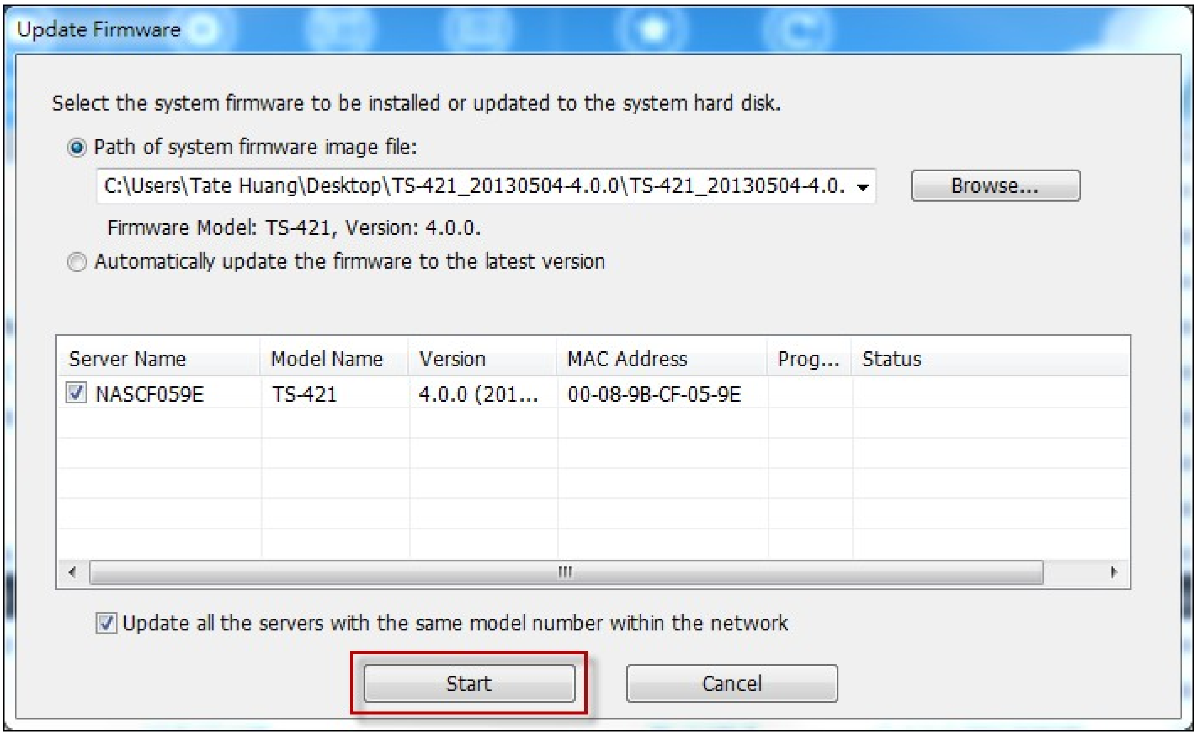
Login Administrator [NASCF059E]

Administrator Name: admin

Administrator Password: •••••

□ Remember user name and password

3. Browse and select the firmware for the NAS. Click "Start" to update the system.



Update Firmware

Select the system firmware to be installed or updated to the system hard disk.

● Path of system firmware image file:

C:\Users\Tate Huang\Desktop\TS-421_20130504-4.0.0\TS-421_20130504-4.0.

Firmware Model: TS-421, Version: 4.0.0.

○ Automatically update the firmware to the latest version

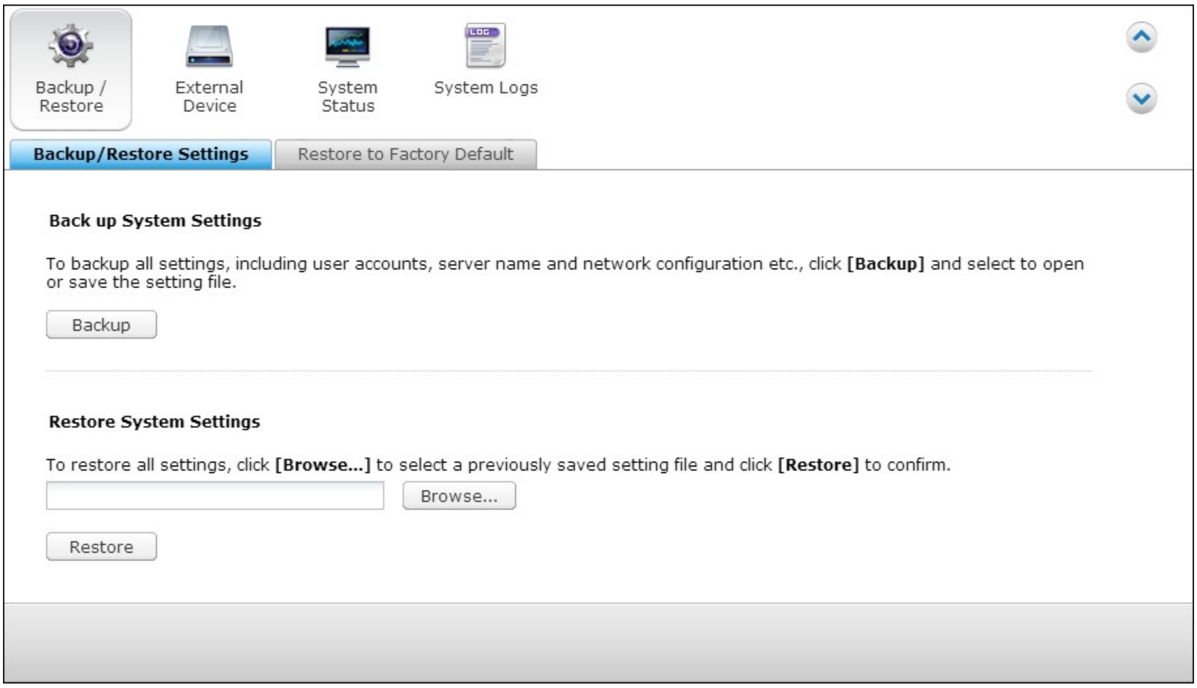
Server Name	Model Name	Version	MAC Address	Prog...	Status
☑ NASCF059E	TS-421	4.0.0 (201...	00-08-9B-CF-05-9E		

☑ Update all the servers with the same model number within the network

Note: The NAS servers of the same model on the same LAN can be updated by the Finder at the same time. Administrator access is required for system update.

4.9 Backup/Restore

Backup/Restore Settings



Back up System Settings

To backup all settings, including user accounts, server name and network configuration etc., click **[Backup]** and select to open or save the setting file.

Restore System Settings

To restore all settings, click **[Browse...]** to select a previously saved setting file and click **[Restore]** to confirm.

Back up System Settings

To back up all the settings, including the user accounts, server name, network configuration and so on, click "Backup" and select to open or save the setting file.

Restore System Settings

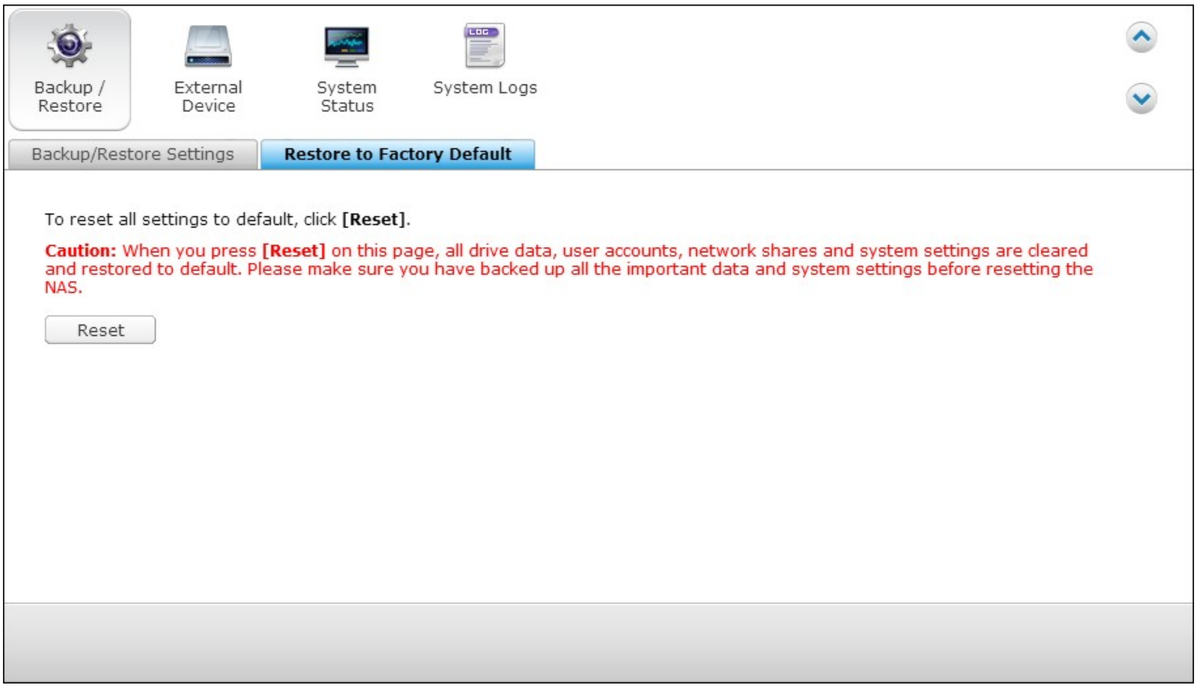
To restore all the settings, click "Browse" to select a previously saved setting file and click "Restore".

Restore to Factory Default

To reset all the system settings to default, click "RESET" and then click "OK".

Caution: When "RESET" is pressed on this page, all the disk data, user accounts, shared folders, and system settings will be cleared and restored to default. Always back up all the important data and system settings before resetting the NAS.

To reset the NAS by the reset button, see "System Settings" > "Hardware".



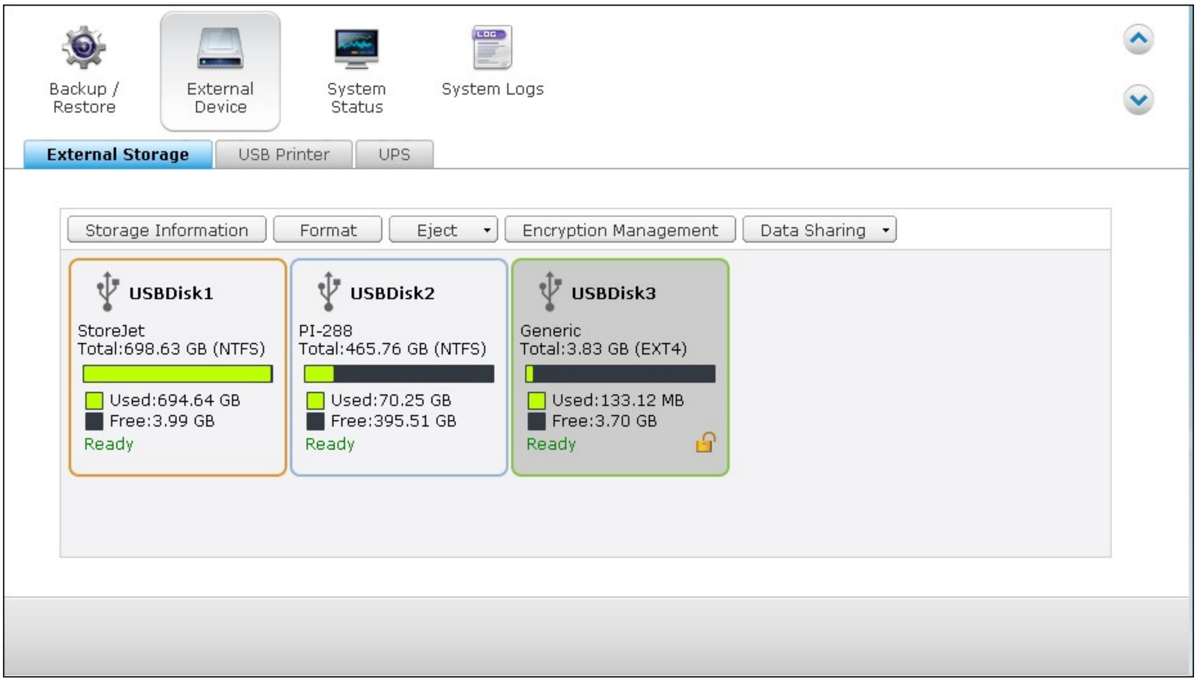
To reset all settings to default, click **[Reset]**.

Caution: When you press **[Reset]** on this page, all drive data, user accounts, network shares and system settings are cleared and restored to default. Please make sure you have backed up all the important data and system settings before resetting the NAS.

4.10 External Device

4.10.1 External Storage

The NAS supports external USB and eSATA storage devices* for backup and data storage. Connect the external storage device to a USB or an eSATA interface of the NAS, when the device is successfully detected, the details will be shown on this page.



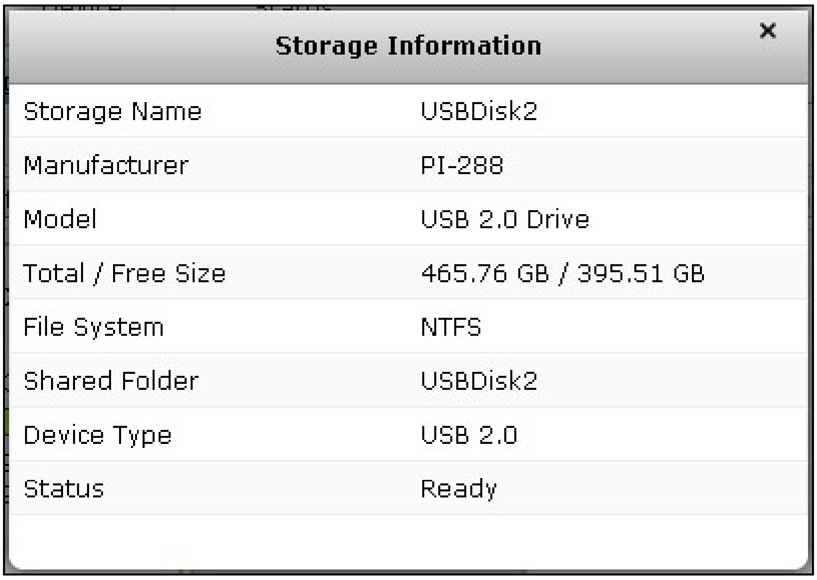
USBDisk1
StoreJet
Total:698.63 GB (NTFS)
Used:694.64 GB
Free:3.99 GB
Ready

USBDisk2
PI-288
Total:465.76 GB (NTFS)
Used:70.25 GB
Free:395.51 GB
Ready

USBDisk3
Generic
Total:3.83 GB (EXT4)
Used:133.12 MB
Free:3.70 GB
Ready

Storage Information

Select a storage device and click Storage Information to check for its details.



Storage Information

Storage Name	USBDisk2
Manufacturer	PI-288
Model	USB 2.0 Drive
Total / Free Size	465.76 GB / 395.51 GB
File System	NTFS
Shared Folder	USBDisk2
Device Type	USB 2.0
Status	Ready

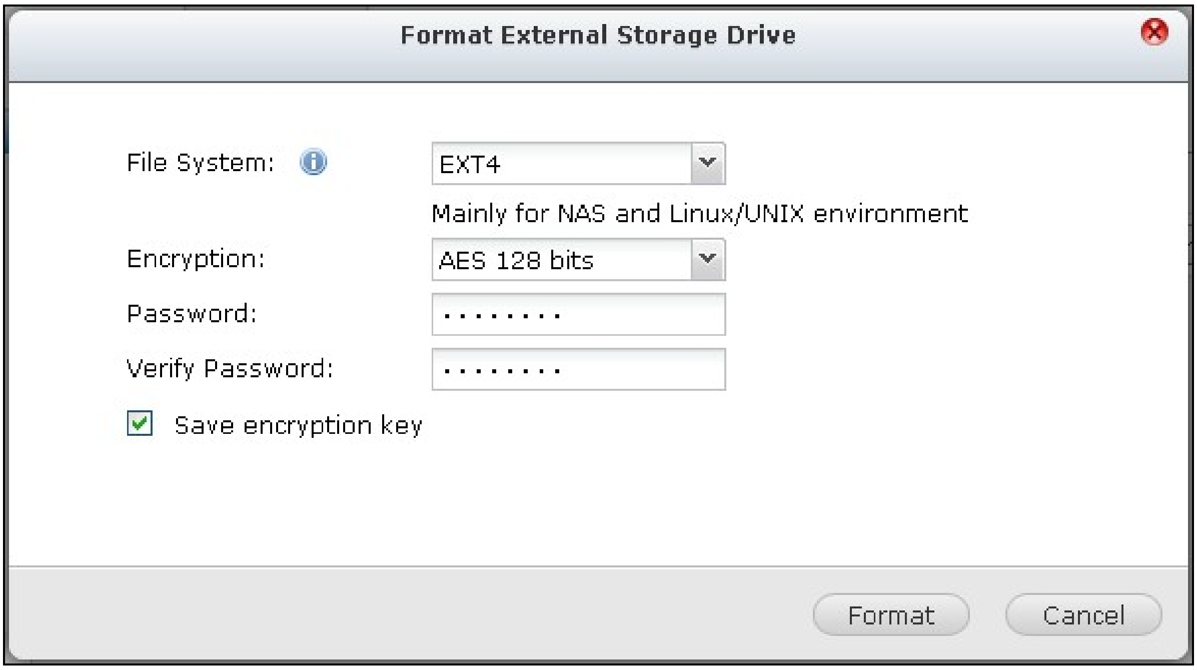
*The number of USB and eSATA interfaces supported varies by models. Please refer to http://www.qnap.com for details.

It may take tens of seconds for the NAS server to detect the external USB or eSATA device successfully. Please wait patiently.

Format

The external storage device can be formatted as EXT3, EXT4, FAT32, NTFS, or HFS+ (Mac only) file system. Click "Format" and select the option from the drop-down menu.

The NAS supports external drive encryption. To encrypt an external storage device, click "Encryption". Select the encryption method: AES 128-, 192- or 256-bit and enter the password (8-16 characters). Select "Save encryption key" to save the password in a hidden location on a hard drive of the NAS. The NAS will unlock the encrypted external storage device automatically every time the device is connected. Click Format to proceed.



Format External Storage Drive

File System: EXT4

Mainly for NAS and Linux/UNIX environment

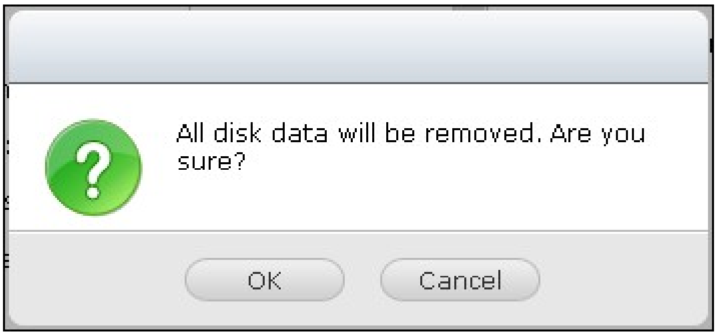
Encryption: AES 128 bits

Password: ·········

Verify Password: ·········

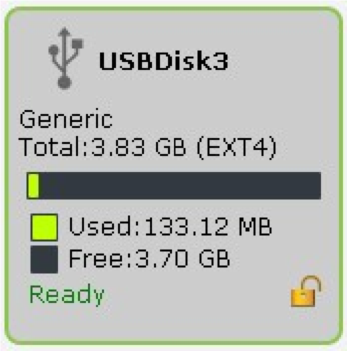
☑ Save encryption key

Click "OK" and all the data will be cleared.



All disk data will be removed. Are you sure?

The device will be "Ready" after disk initialization.



USBDisk3

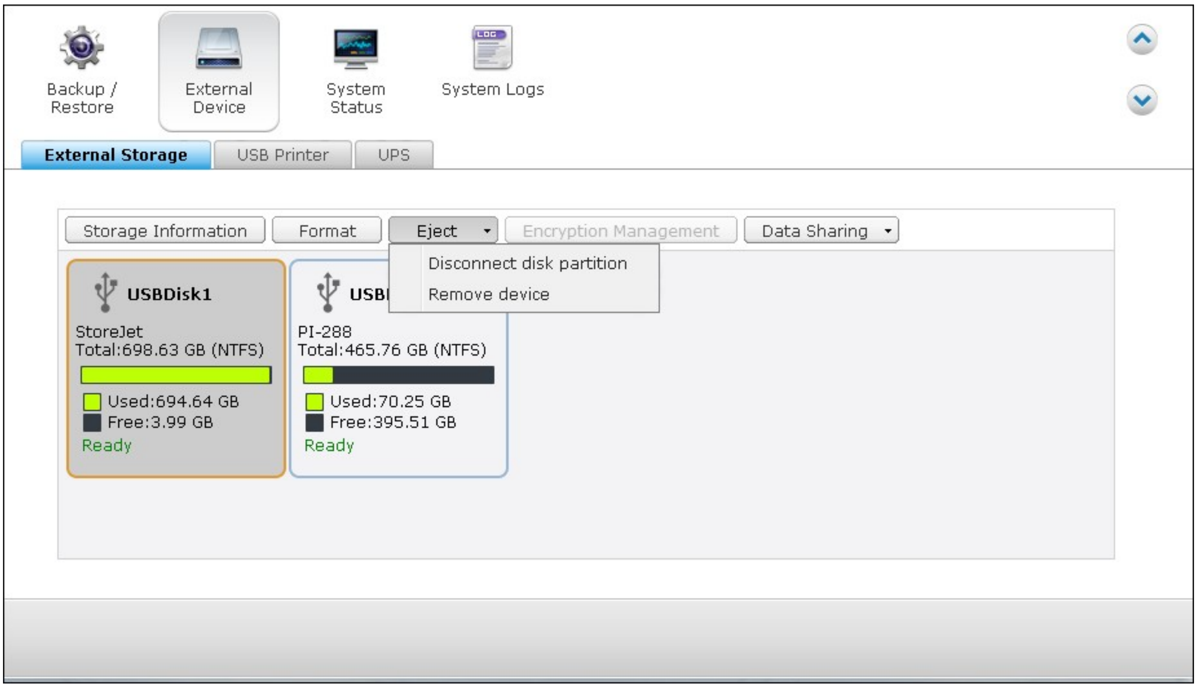
Generic
Total:3.83 GB (EXT4)

🟩 Used:133.12 MB
■ Free:3.70 GB
Ready

Eject

"Eject" offers two different options. "Disconnect disk partition" allows you to remove a single disk partition or a disk drive in a multi-drive enclosure. "Remove device" allows you to disconnect external storage devices without the risk of losing any data when the device is removed.

First choose a device to eject, click "Eject" and then to disconnect the disk partition or remove the device.



USBDisk1
StoreJet
Total:698.63 GB (NTFS)
🟩 Used:694.64 GB
■ Free:3.99 GB
Ready

USBI
PI-288
Total:465.76 GB (NTFS)
🟩 Used:70.25 GB
■ Free:395.51 GB
Ready

Encryption management

If an external storage device is encrypted by the NAS, the button "Encryption

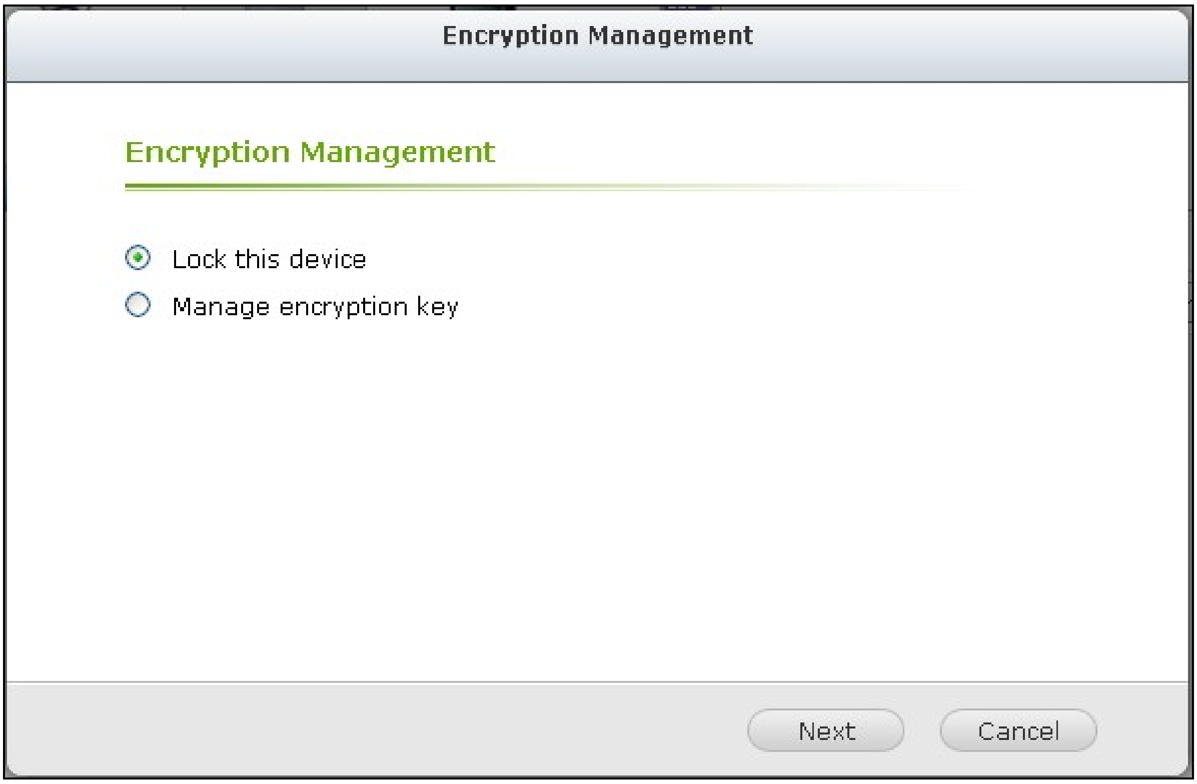
Management" will appear. Click this button to manage the encryption password/key, or lock or unlock the device.

Lock the device

Note: The external storage device cannot be locked if a real-time or scheduled backup job is running on the device. To disable the backup job, go to "Control Panel" > "Applications" > "Backup Station" > "External Drive".

1. To lock an encrypted external storage device, click "Encryption Management".

2. Select "Lock this device" and click "Next".



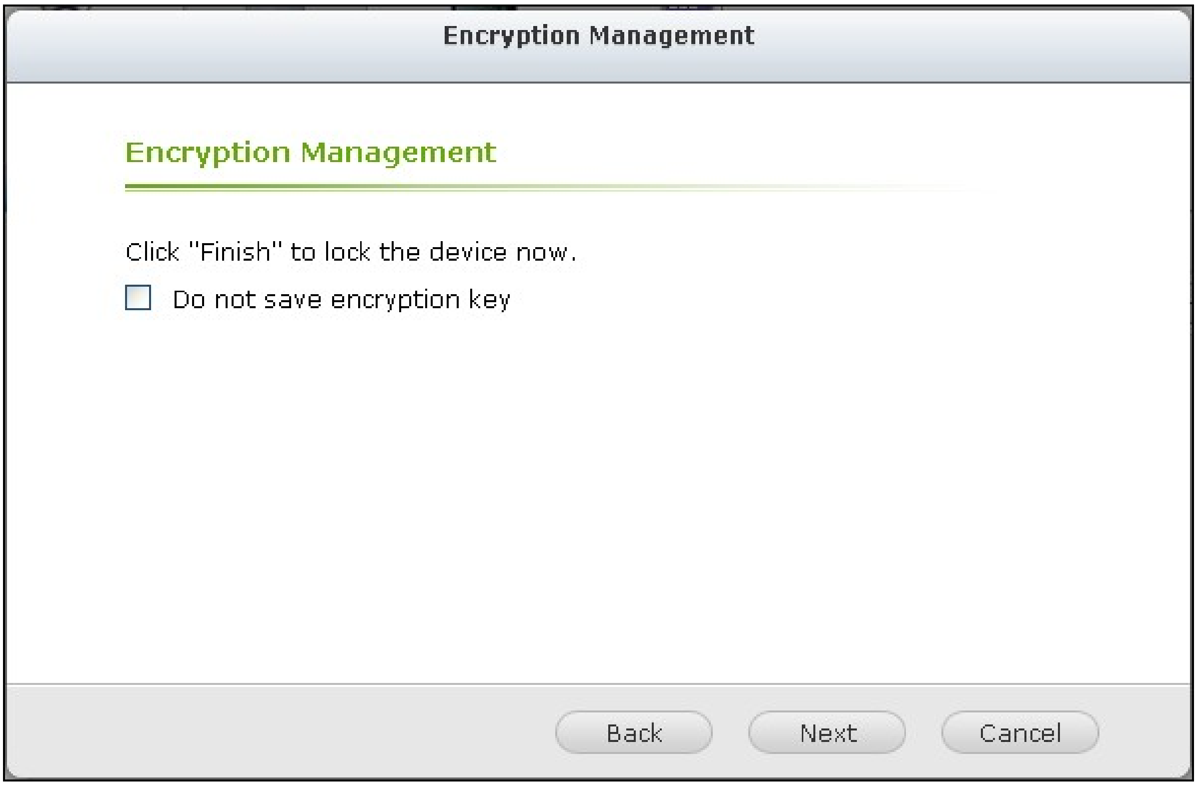
Encryption Management

Encryption Management

● Lock this device

○ Manage encryption key

3. Click "Next" to lock the device.


Encryption Management

Encryption Management

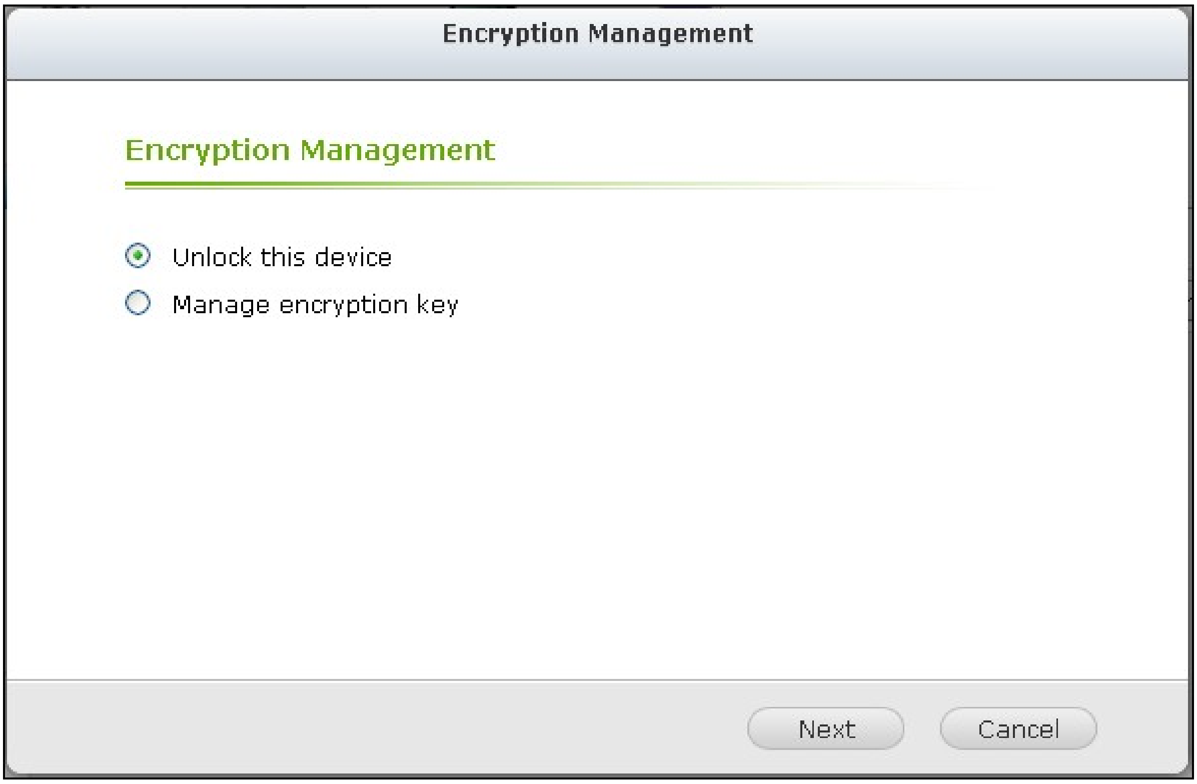
Click "Finish" to lock the device now.

□ Do not save encryption key

Unlock the device

1. To unlock an encrypted external storage device, click “Encryption Management”.

2. Select “Unlock this device”. Click “Next”.

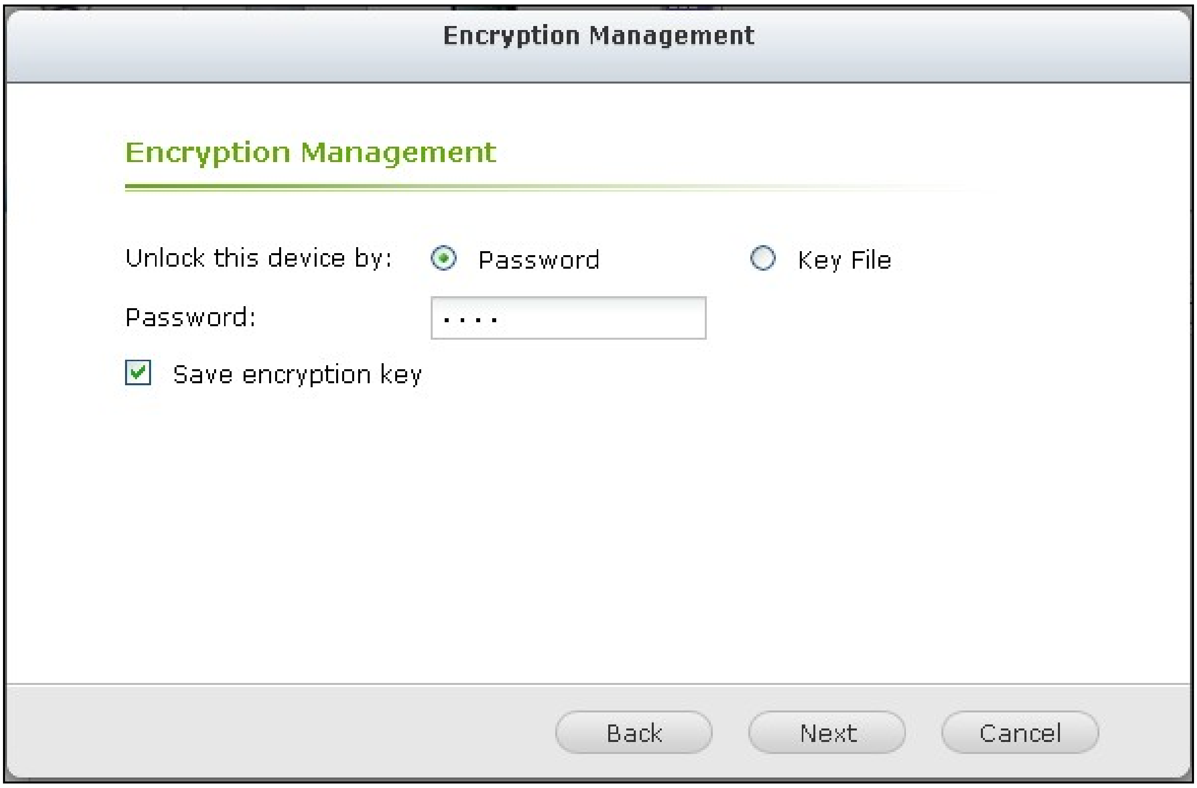

Encryption Management

Encryption Management

● Unlock this device

○ Manage encryption key

3. Enter the encryption password or upload the key file. Select “Save encryption key” to save the password in a hidden location on a hard drive of the NAS. The NAS will unlock the encrypted external storage device automatically every time the device is connected. Click “Next”.



Encryption Management

Encryption Management

Unlock this device by: ● Password ○ Key File

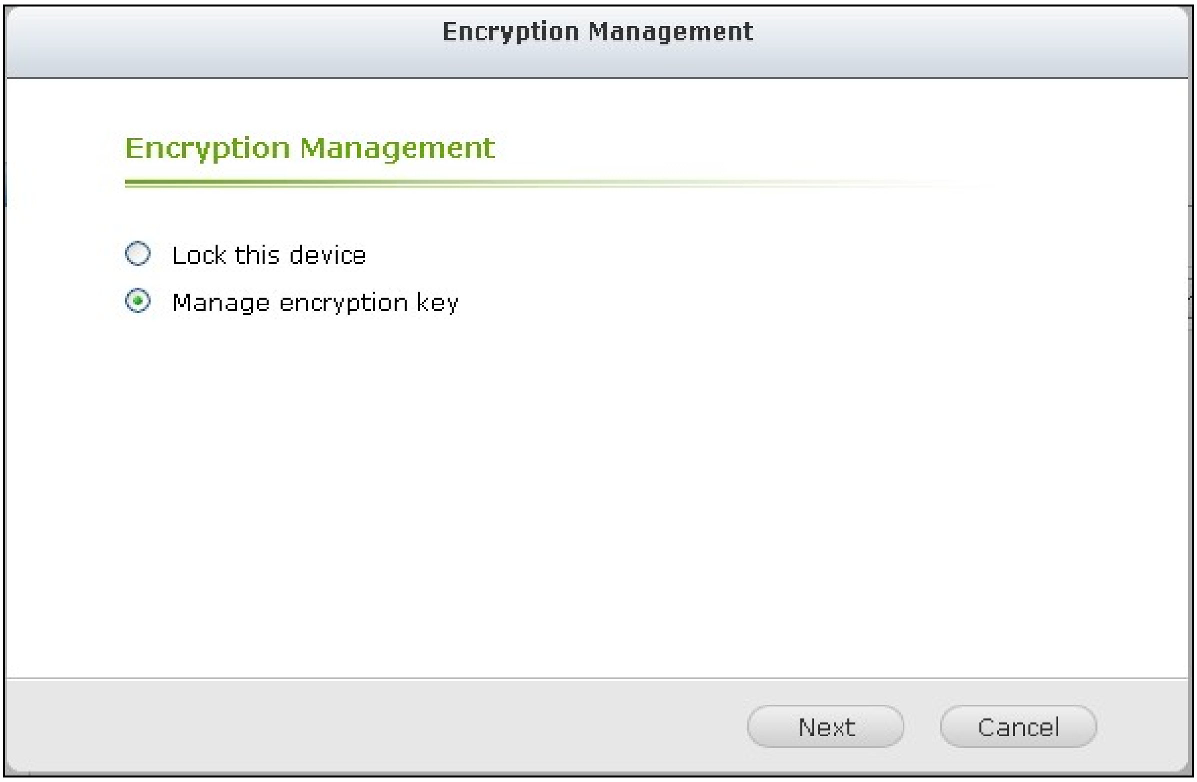
Password: ····

☑ Save encryption key

Manage the encryption key

1. To change an encryption password or download an encryption key file, click “Encryption Management”.

2. Select “Manage encryption key”. Click “Next”.



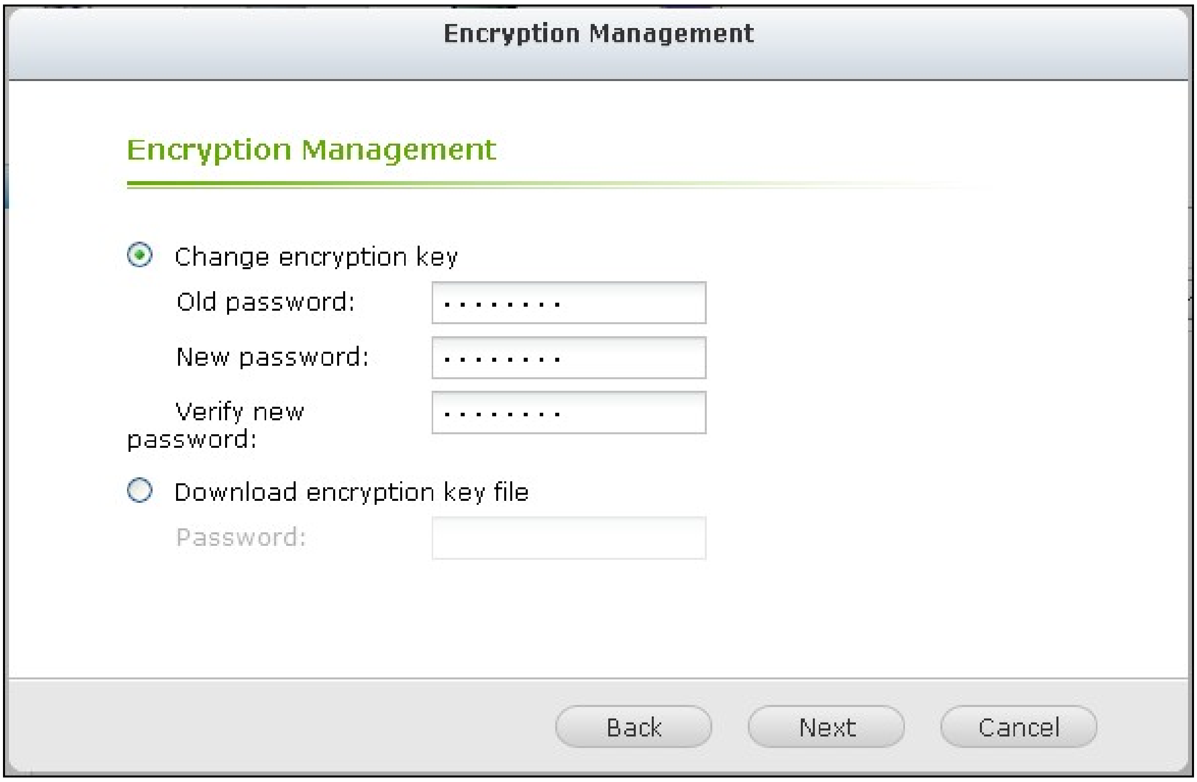
Encryption Management

Encryption Management

○ Lock this device

● Manage encryption key

3. Select to change the encryption password or download the encryption key file to the local PC. Click "Next".



Encryption Management

Encryption Management

● Change encryption key

Old password: ········

New password: ········

Verify new password: ········

○ Download encryption key file

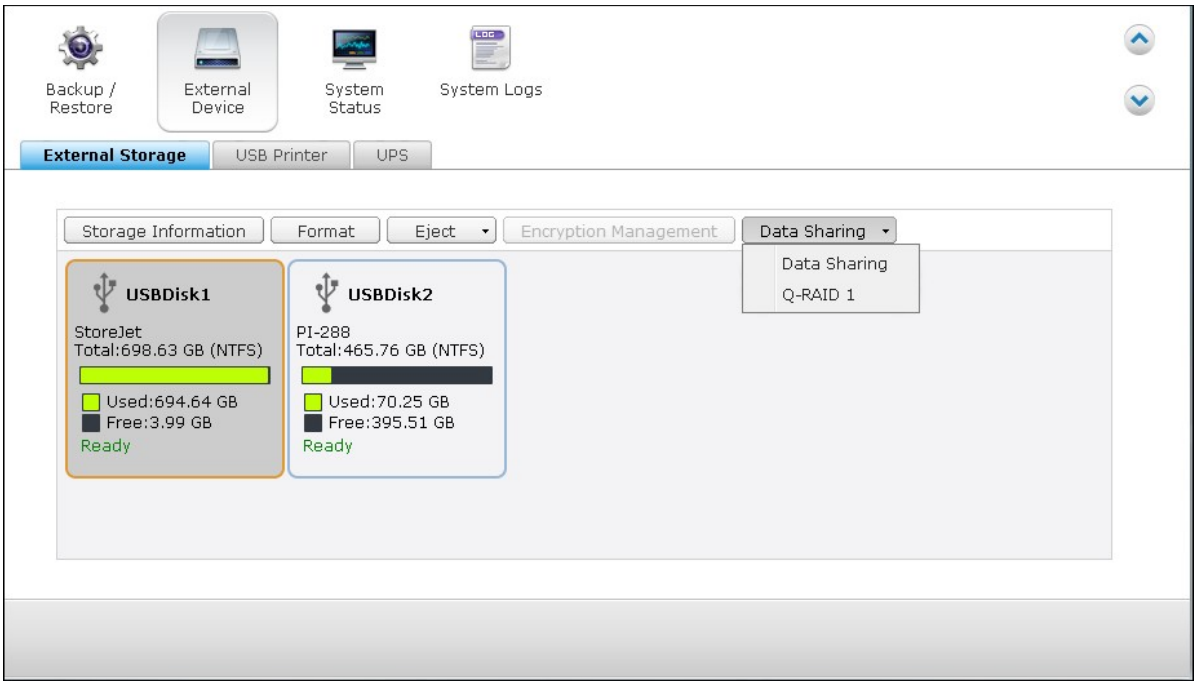
Password:

Data Sharing

Disk usage settings for 1-drive models.

Select one of the following settings for an external storage device connected to a 1-drive NAS:

- Data sharing: Use the external drive for storage expansion of the NAS.
- Q-RAID 1: Configure the external drive and a local hard drive on the NAS as Q-RAID 1. Q-RAID 1 enables one-way data synchronization from the NAS to the external storage device but does not offer any RAID redundancy. **Note that the external drive will be formatted when Q-RAID 1 is executed.**



USBDisk1
StoreJet
Total:698.63 GB (NTFS)
Used:694.64 GB
Free:3.99 GB
Ready

USBDisk2
PI-288
Total:465.76 GB (NTFS)
Used:70.25 GB
Free:395.51 GB
Ready

After Q-RAID 1 has been executed once, the NAS data will be automatically copied to the external storage device whenever it is connected to the NAS.

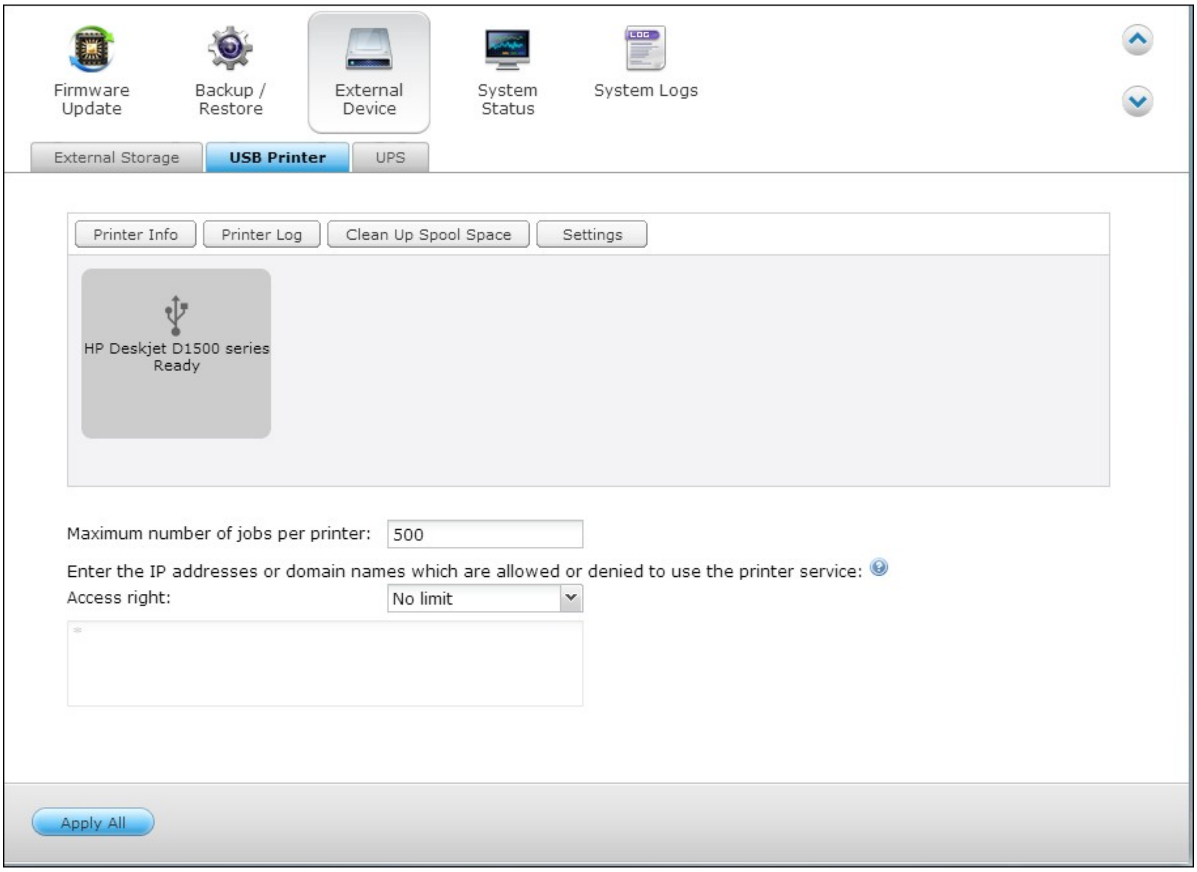
Note:

- Only one external hard disk can be set as Q-RAID 1 at one time.
- It is recommended to use an external storage device of the same capacity as the internal hard drive of the NAS. If the storage capacity of the external storage device is too small to synchronize with the internal hard drive, the device can only be used for data sharing.

4.10.2 USB Printer

The NAS supports network printing sharing service over local network and the Internet in Windows, Mac, and Linux (Ubuntu) environments. Up to 3 USB printers are supported.

To share a USB printer by NAS, connect the printer to a USB port of the NAS. The printer will be detected automatically and the printer's information will be shown.



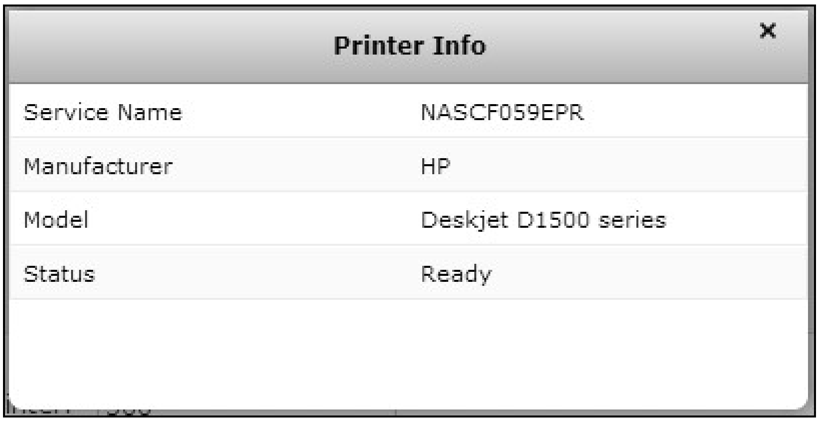
Maximum number of jobs per printer: 500

Enter the IP addresses or domain names which are allowed or denied to use the printer service:

Access right: No limit

Printer Info

click a connected USB printer and then "Printer Info" to review printer details.



Printer Info

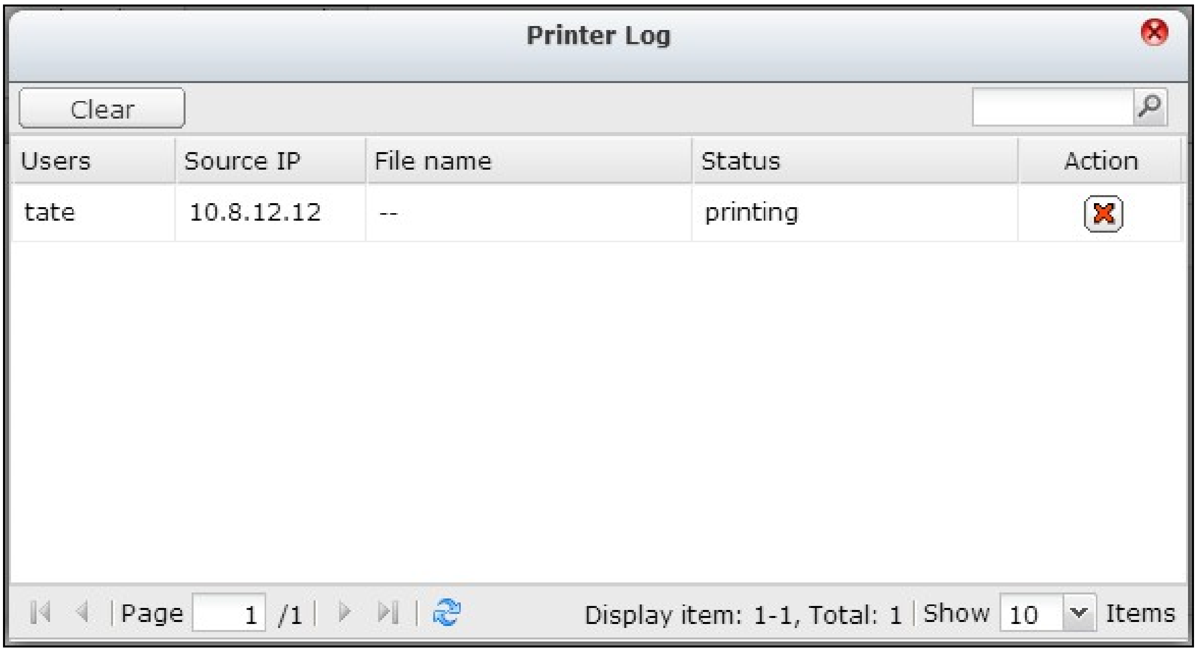
Service Name	NASCF059EPR
Manufacturer	HP
Model	Deskjet D1500 series
Status	Ready

Note:

- Please connect a USB printer to the NAS after the software configuration is completed.
- The NAS does not support multifunction printer.
- The file name display on the printer job table is only available for printer jobs sent via IPP (Internet Printing Protocol) connection.
- For the information of the supported USB printer models, please visit http://www.qnap.com

Printer Log

click a connected USB printer and then "Printer Log" to view its print job history. You can pause or cancel ongoing or pending jobs, resume paused jobs, or delete completed or pending jobs here. To clear the history, click "Clear".



Users	Source IP	File name	Status	Action
tate	10.8.12.12	--	printing	☒

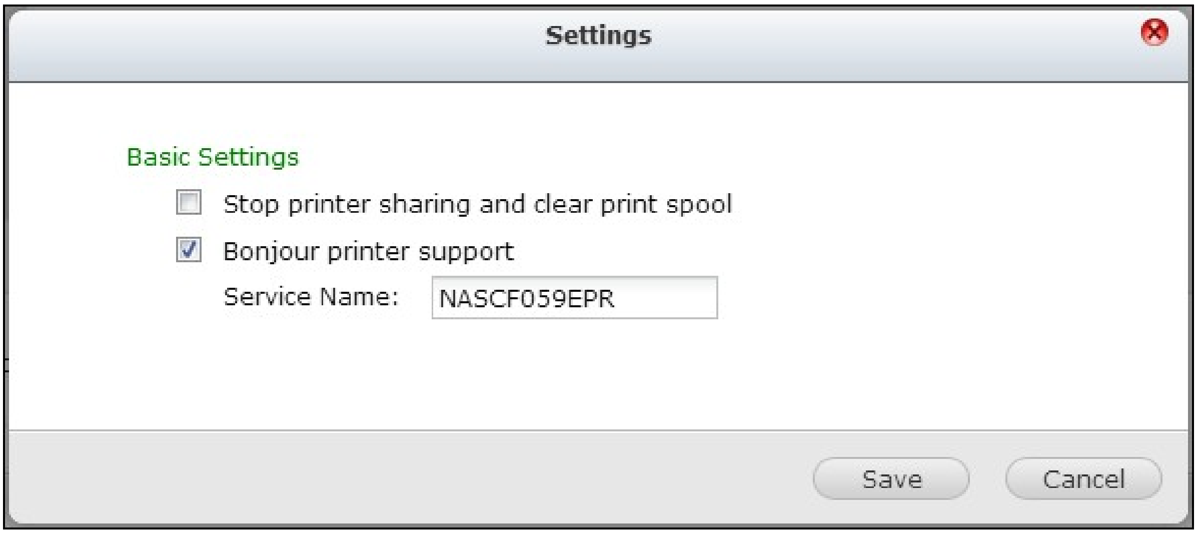
Note: Do NOT restart the NAS or update the system firmware when printing is in process or there are queued jobs. Otherwise all the queued jobs will be cancelled and removed.

Clean Up Spool Space

click "Clean Up Spool Space to clean up the data saved in the printer spool.

Settings

click “Settings” to configure basic settings of the printer.



Settings

Basic Settings

□ Stop printer sharing and clear print spool

☑ Bonjour printer support

Service Name: NASCF059EPR

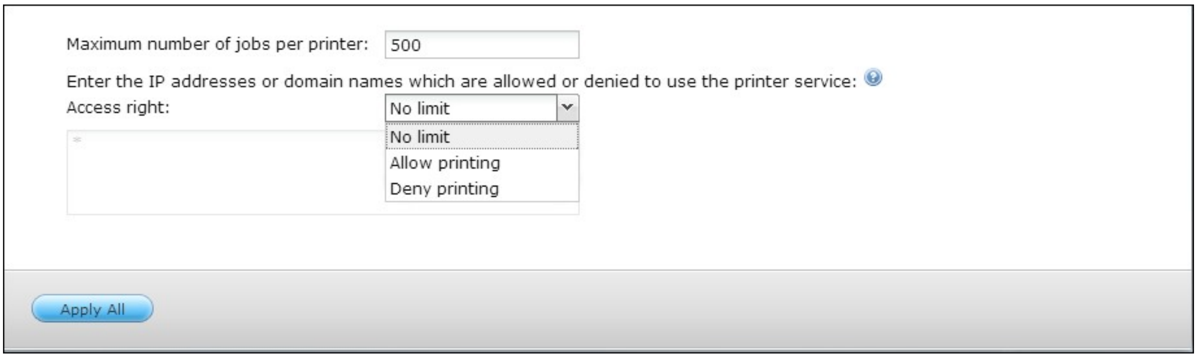
Stop printer sharing and clear print spool

Select this option to temporarily disable the selected printer for print sharing. All the data in the printer spool will also be cleared.

Bonjour printer support

Select this option to broadcast printing service to Mac users via Bonjour. Enter a service name, which allows the printer to be found by Bonjour. The name can only contain “a-z”, “A-Z”, “0-9”, dot (.), comma (,) and dash (-).

Maximum Printer Jobs and Blacklist



Maximum number of jobs per printer: 500

Enter the IP addresses or domain names which are allowed or denied to use the printer service:

Access right: No limit

Maximum printer jobs per printer

Specify the maximum number of printer jobs for a printer. A printer supports maximum 1,000 printer jobs. The oldest printer job will be overwritten by the newest one if the printer has reached the maximum number of printer jobs.

Enter IP addresses or domain names to allow or deny printing access

To allow or deny particular IP addresses or domain names to use the printing service of the NAS, select "Allow printing" or "Deny printing" and enter the IP address(es) or domain name(s). An asterisk (*) denotes all connections. To allow all users to use the printer, select "No limit". Click "Apply" to save the settings.

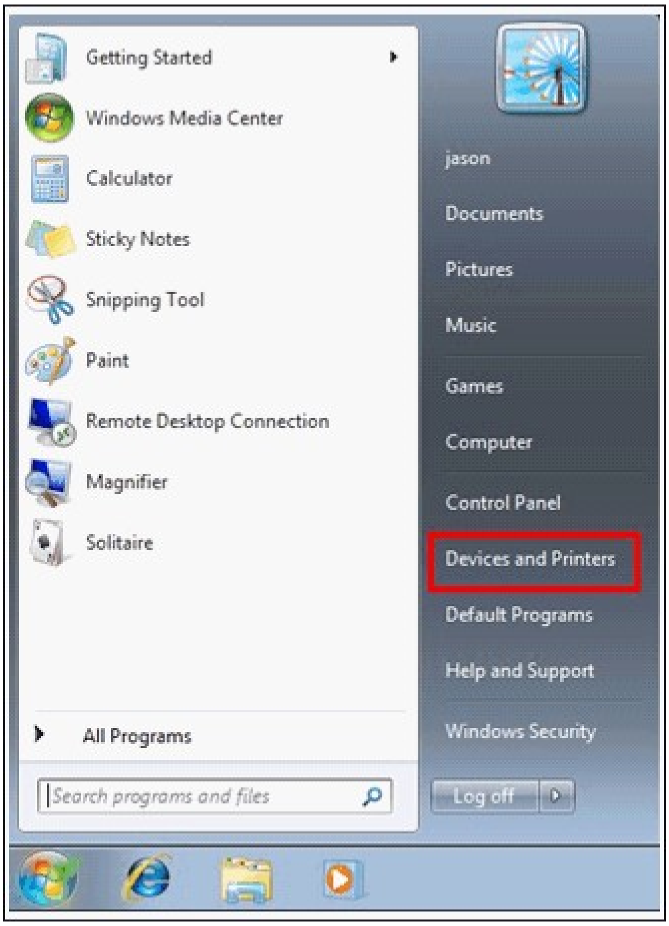
Note: This feature only works for printing service configured via IPP and Bonjour, but not Samba.

4.10.2.1 Setting up Printer Connection in Windows 7

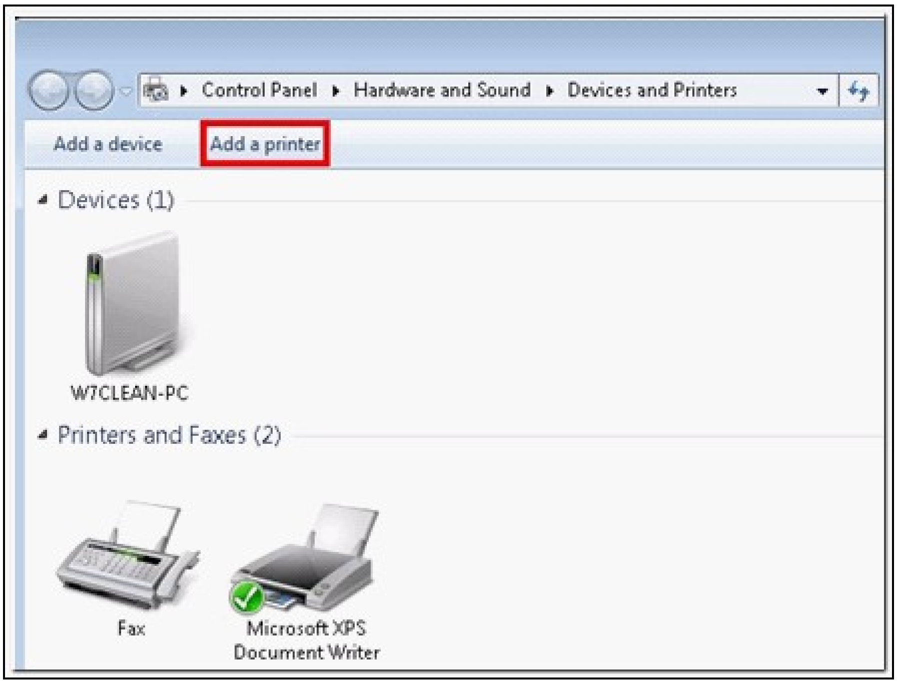
The following description applies to Windows 7.

Follow the steps below to set up your printer connection.

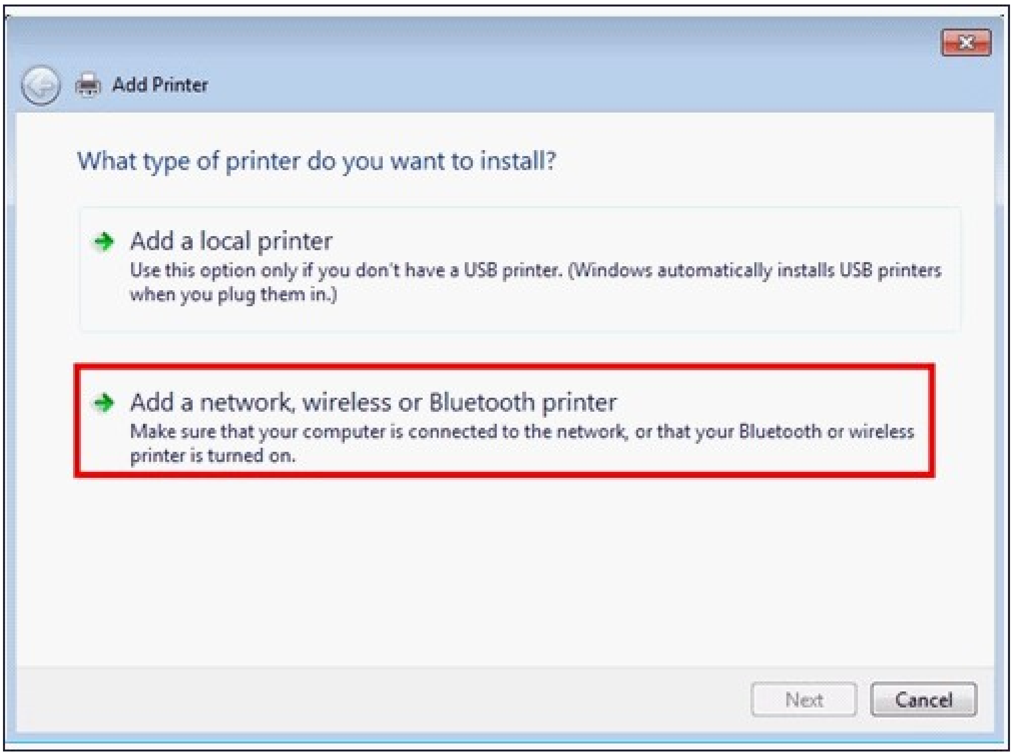
1. Go to Devices and Printers.



2. Click “Add a printer”.


Control Panel ▸ Hardware and Sound ▸ Devices and Printers
Add a device
Add a printer
Devices (1)
W7CLEAN-PC
Printers and Faxes (2)
Fax
Microsoft XPS Document Writer

3. In the Add printer wizard, click “Add a network, wireless or Bluetooth printer”.

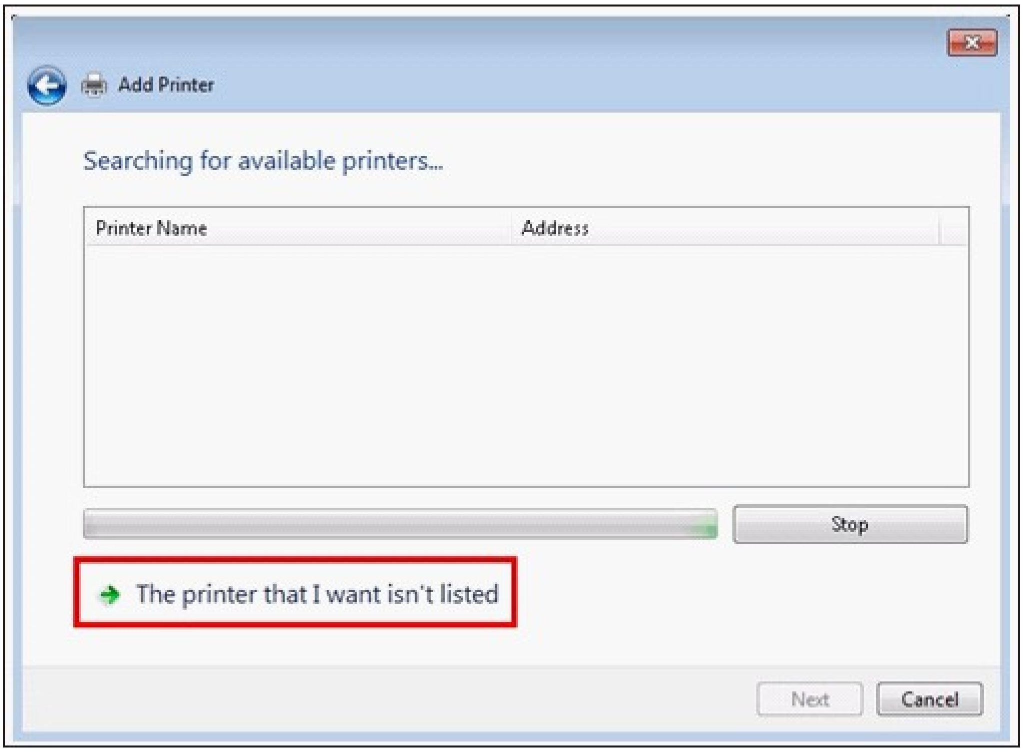


What type of printer do you want to install?

Add a local printer
Use this option only if you don't have a USB printer. (Windows automatically installs USB printers when you plug them in.)

Add a network, wireless or Bluetooth printer
Make sure that your computer is connected to the network, or that your Bluetooth or wireless printer is turned on.

4. While Windows is searching for available network printers, click “The printer that I want isn't listed”.

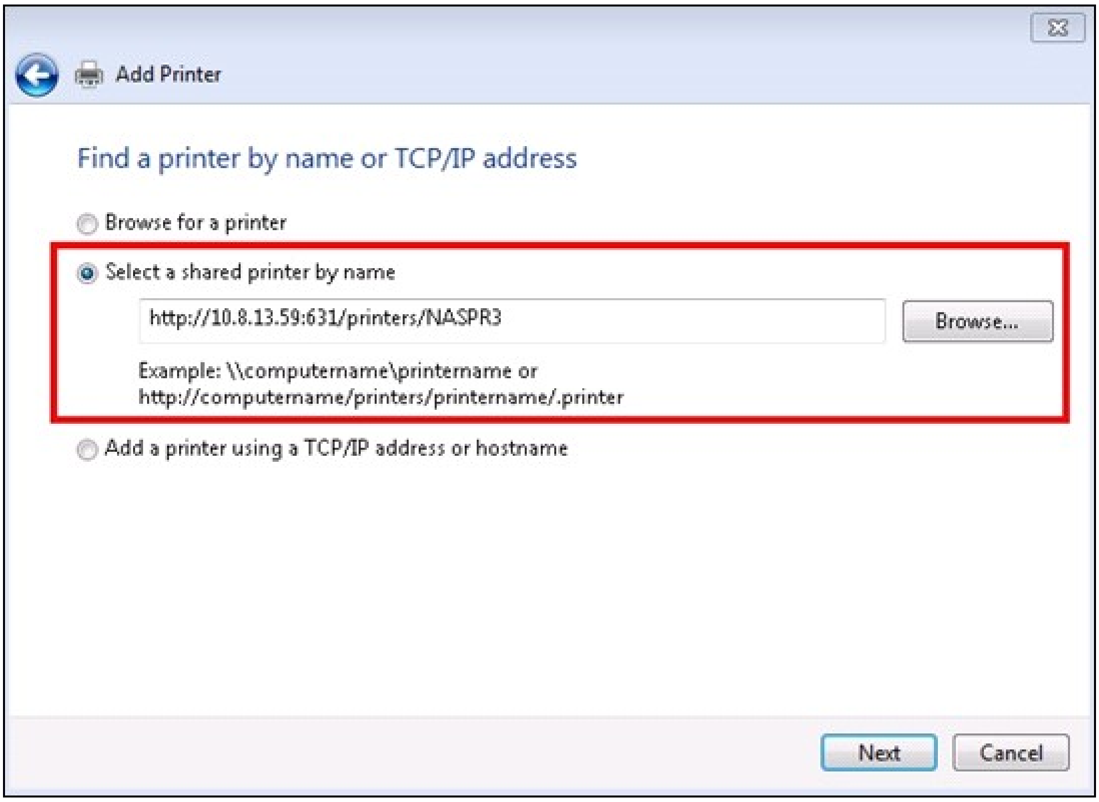


Add Printer

Searching for available printers...

Printer Name	Address

5. Click "Select a shared printer by name", and then enter the address of the network printer. The address is in the following format – http://NAS_IP:631/printers/ ServernamePR, where the NAS_IP can also be a domain name address if you want to print remotely. For example, http://10.8.13.59:631/printers/NASPR3



Add Printer

Find a printer by name or TCP/IP address

○ Browse for a printer

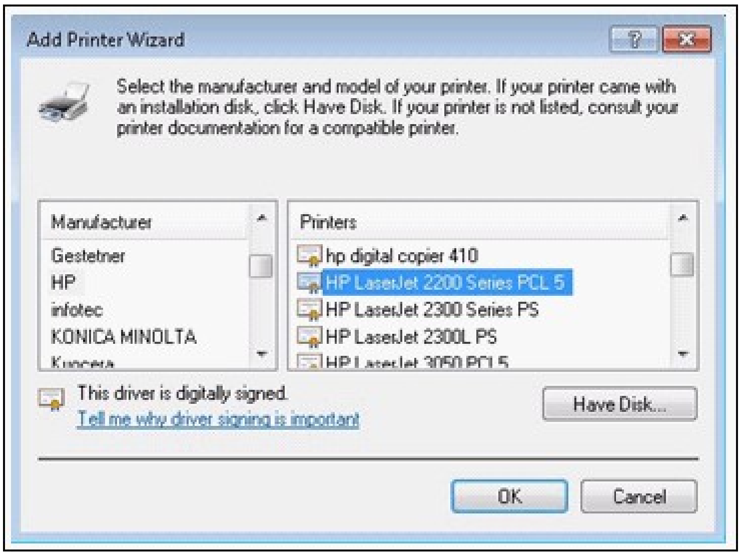
● Select a shared printer by name

http://10.8.13.59:631/printers/NASPR3

Example: \\computername\printername or
http://computername/printers/printername/.printer

○ Add a printer using a TCP/IP address or hostname

6. The wizard will prompt you for the correct printer driver. You may also download the latest printer driver from the manufacturer's website if it is not built-into Windows operating system.

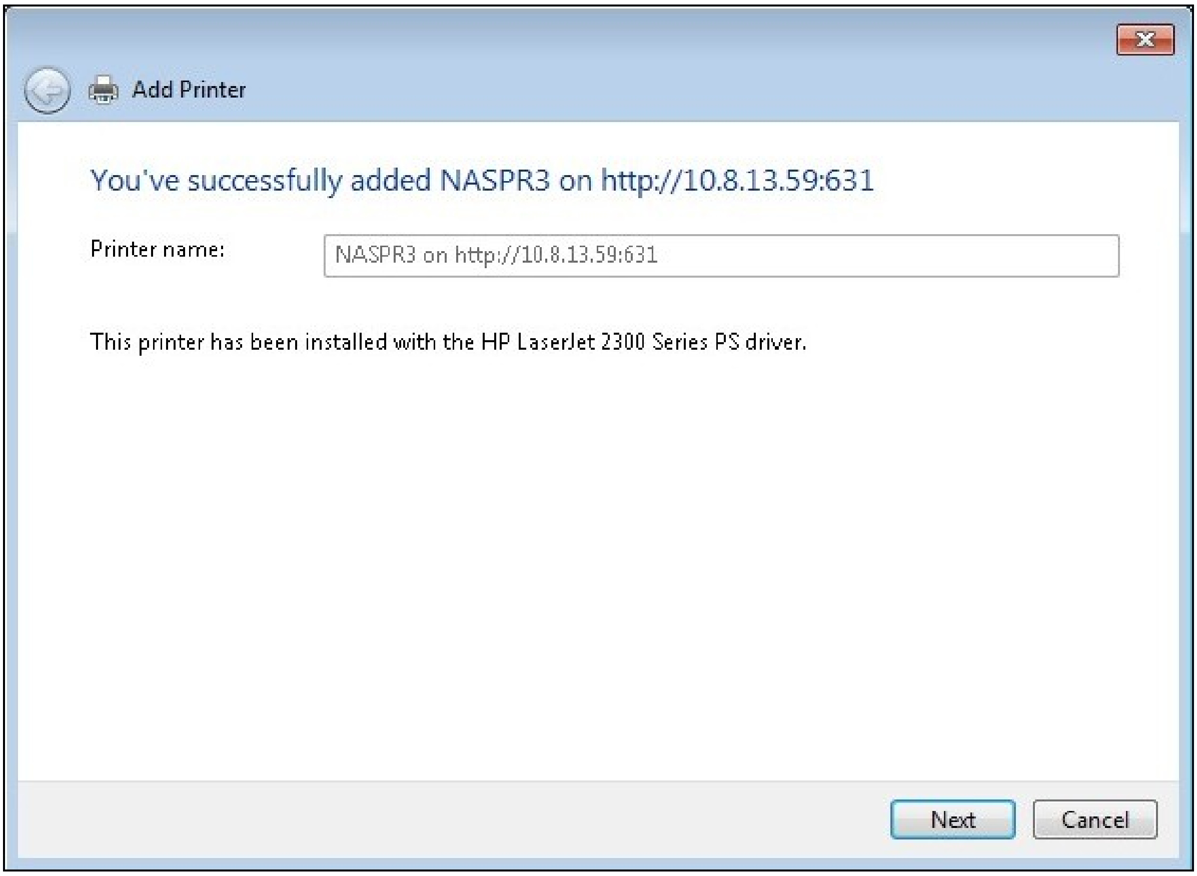


Select the manufacturer and model of your printer. If your printer came with an installation disk, click Have Disk. If your printer is not listed, consult your printer documentation for a compatible printer.

Printers: HP LaserJet 2200 Series PCL 5

This driver is digitally signed.

7. After installing the correct printer driver, the wizard shows the address and driver of the new network printer.



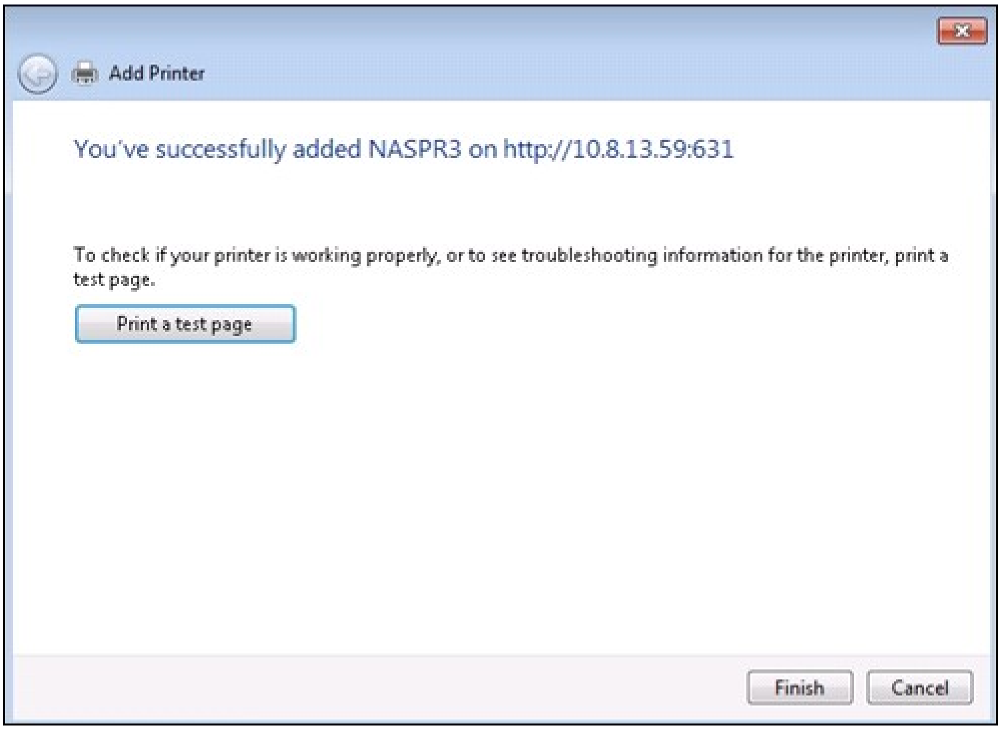
You've successfully added NASPR3 on http://10.8.13.59:631

Printer name: NASPR3 on http://10.8.13.59:631

This printer has been installed with the HP LaserJet 2300 Series PS driver.

8. You may also set the network printer as the default printer or print a test page.

Click “Finish” to exit the wizard.



You've successfully added NASPR3 on http://10.8.13.59:631

To check if your printer is working properly, or to see troubleshooting information for the printer, print a test page.

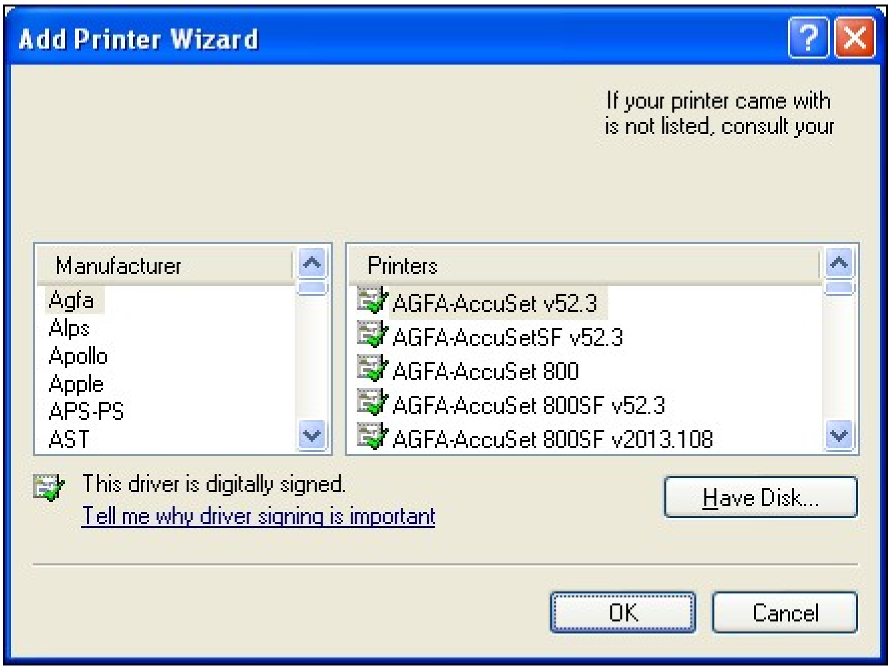
9. The new network printer is now available for printing.

4.10.2.2 Setting up Printer Connection in Windows XP

Follow the steps below to set up your printer connection.

Method 1

1. Enter \\NAS IP in Windows Explorer.
2. A printer icon is shown as a shared folder on the server. Double click the icon.
3. Install the printer driver.



If your printer came with
is not listed, consult your

This driver is digitally signed.
Tell me why driver signing is important

4. When finished, you can start to use the network printer service of the NAS.

Method 2

The following configuration method has been verified on Windows XP only:

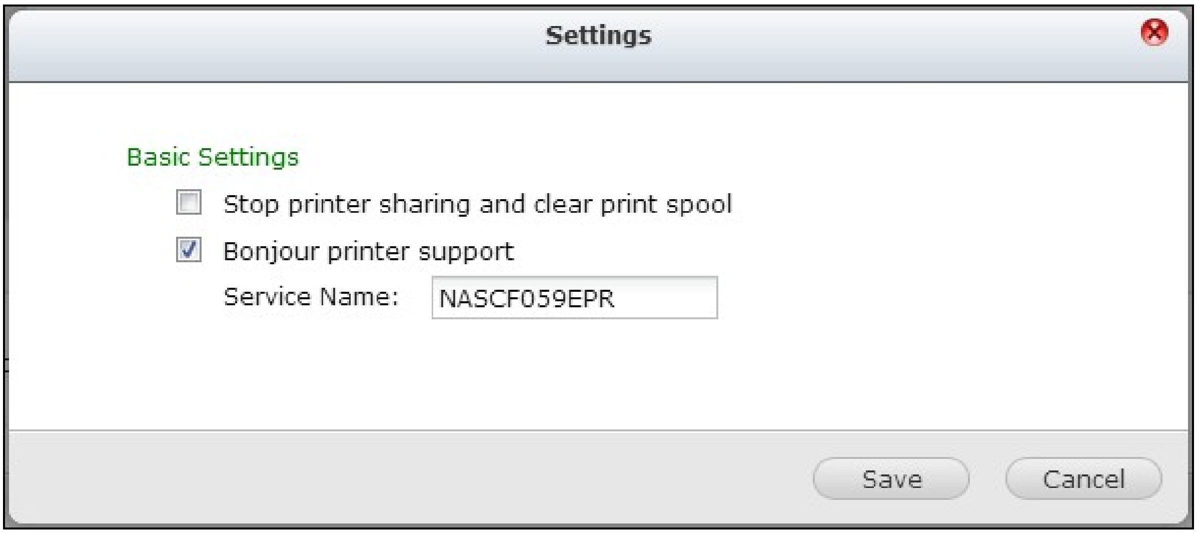
1. Open "Printers and Faxes".
2. Delete the existing network printer (if any).
3. Right click the blank area in the Printers and Faxes window. Select "Server Properties".
4. Click the "Ports" tab and delete the ports configured for the previous network printer (if any).
5. Restart your PC.
6. Open Printers and Faxes.
7. Click "Add a printer" and click "Next".
8. Select "Local printer attached to this computer". Click "Next".

9. Click “Create a new port” and select “Local Port” from the drop-down menu. Click “Next”.
10. Enter the port name. The format is \\NAS IP\NAS namepr, for example, NAS IP= 192.168.1.1, NAS name= myNAS, the link is \\192.168.1.1\myNASpr.
11. Install the printer driver.
12. Print a test page.

4.10.2.3 Setting up Printer Connection in Mac OS 10.6

If you are using Mac OS 10.6, follow the steps below to configure the printer function of the NAS.

1. First make sure the Bonjour printer support is enabled on the NAS in "External Device" > "USB Printer" > "Settings". You may change the Service Name to better represent the printer.



Settings

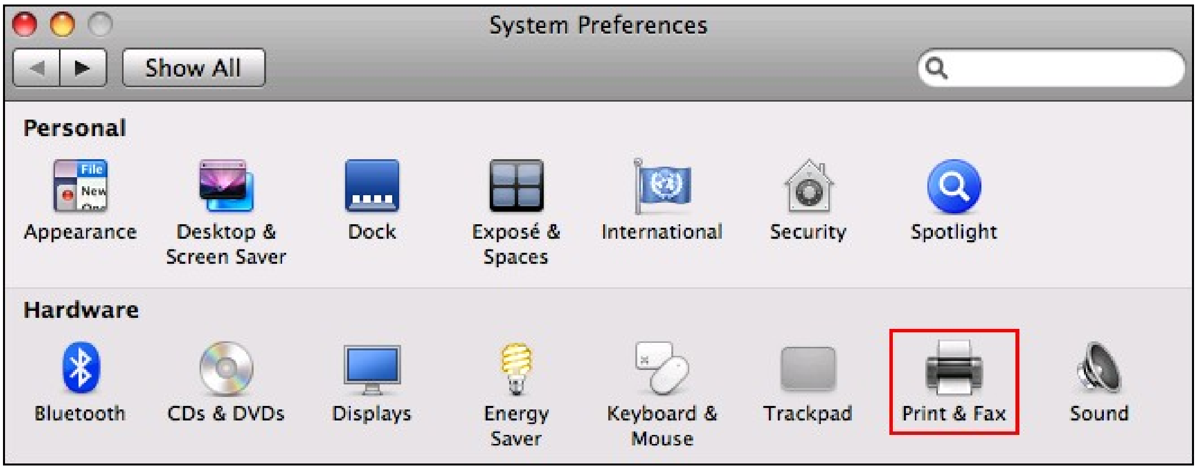
Basic Settings

□ Stop printer sharing and clear print spool

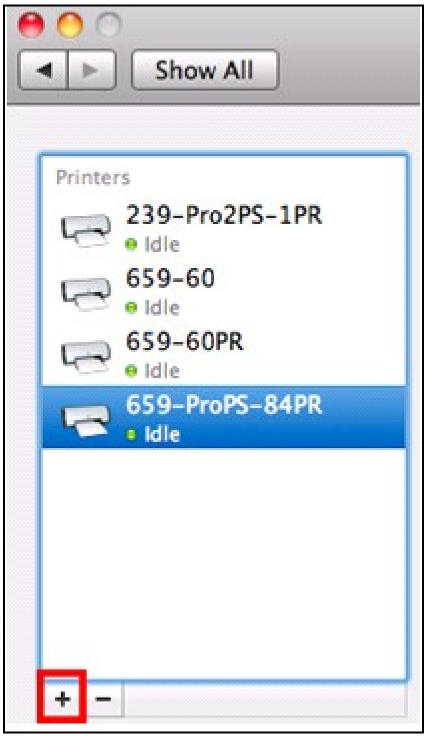
☑ Bonjour printer support

Service Name: NASCF059EPR

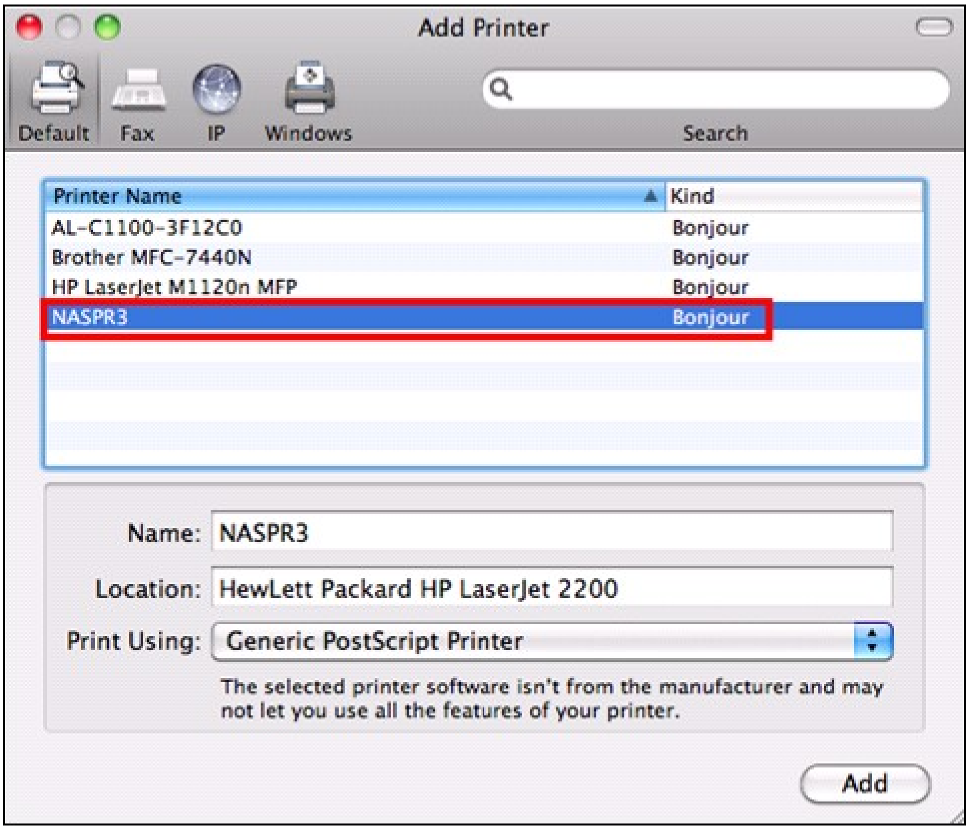
2. On your Mac, go to "System Preferences", and then click "Print & Fax".



3. In the Print & Fax window, click + to add a printer.



4. The USB network printer will be listed via Bonjour. Select the default printer driver or you may download and install the latest one from the printer manufacturer’s website. Click “Add” to add this printer.



Printer Name	Kind
AL-C1100-3F12C0	Bonjour
Brother MFC-7440N	Bonjour
HP LaserJet M1120n MFP	Bonjour
NASPR3	Bonjour

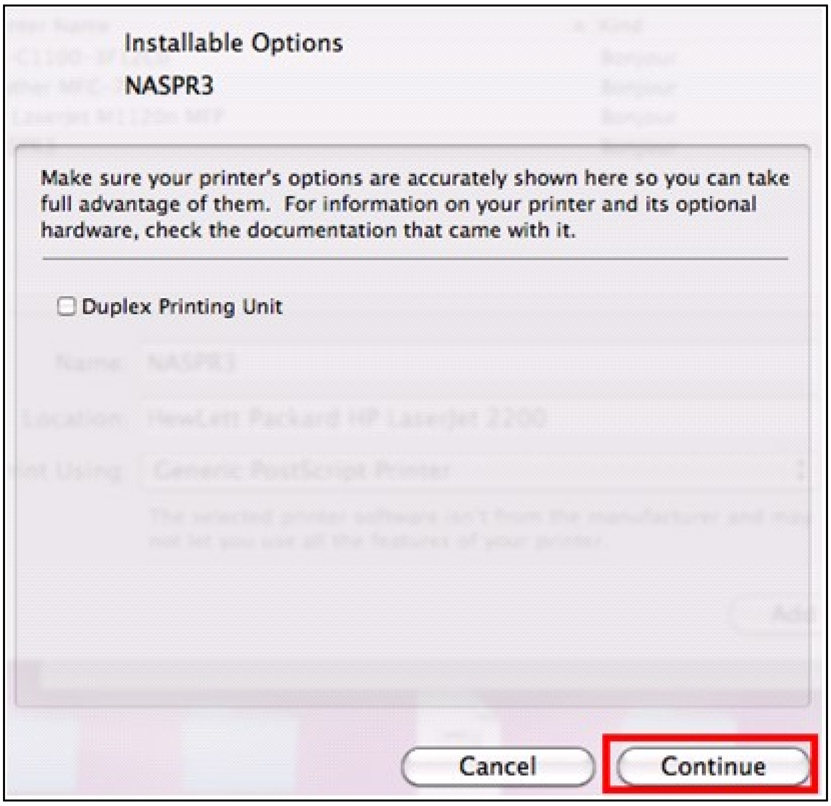
Name: NASPR3

Location: HewLett Packard HP LaserJet 2200

Print Using: Generic PostScript Printer

The selected printer software isn't from the manufacturer and may not let you use all the features of your printer.

5. Additional options may be available for your printer. Click “Continue”.



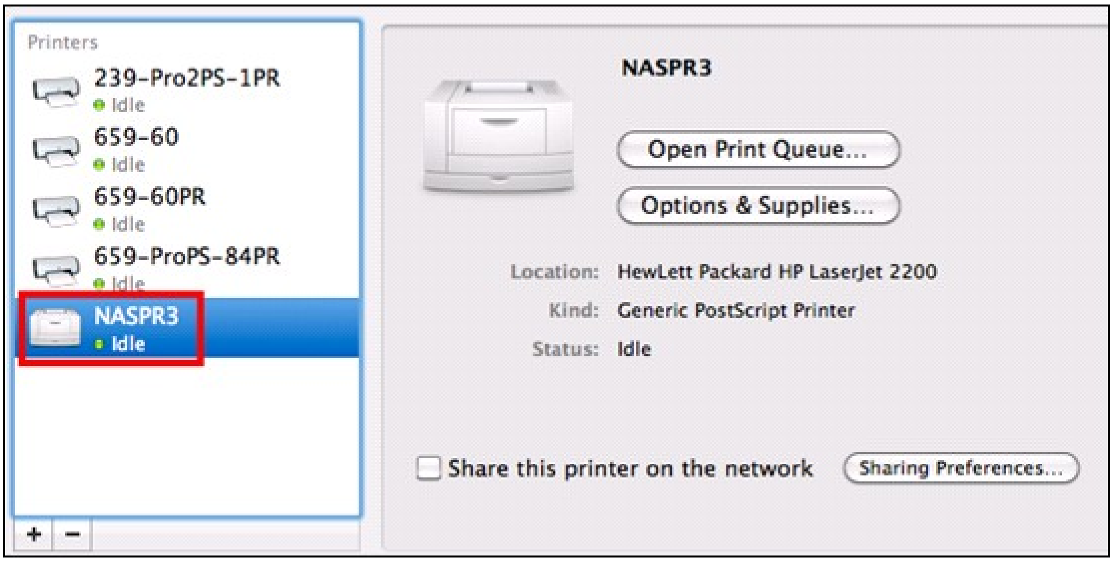
Installable Options

NASPR3

Make sure your printer's options are accurately shown here so you can take full advantage of them. For information on your printer and its optional hardware, check the documentation that came with it.

□ Duplex Printing Unit

6. The new network printer is now available for printing.



Printers

239-Pro2PS-1PR Idle

659-60 Idle

659-60PR Idle

659-ProPS-84PR Idle

NASPR3 Idle

NASPR3

Location: HewLett Packard HP LaserJet 2200

Kind: Generic PostScript Printer

Status: Idle

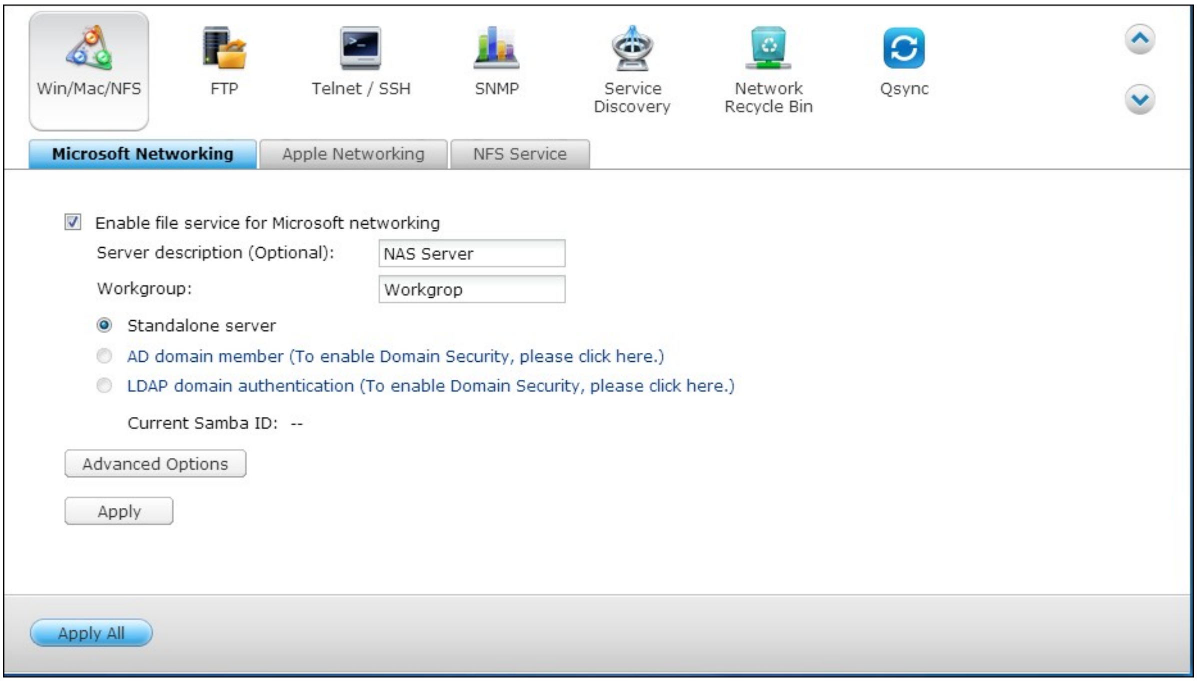
□ Share this printer on the network

4.10.2.4 Setting up Printer Connection in Mac OS 10.5

If you are using Mac OS X 10.5, follow the steps below to configure the printer function of the NAS.

Make sure your printer is connected to the NAS and the printer information is displayed correctly on the "USB Printer" page.

1. Go to "Network Services" > "Win/Mac/MFS" > "Microsoft Networking". Enter a workgroup name for the NAS. You will need this information later.



☑ Enable file service for Microsoft networking

Server description (Optional): NAS Server

Workgroup: Workgrop

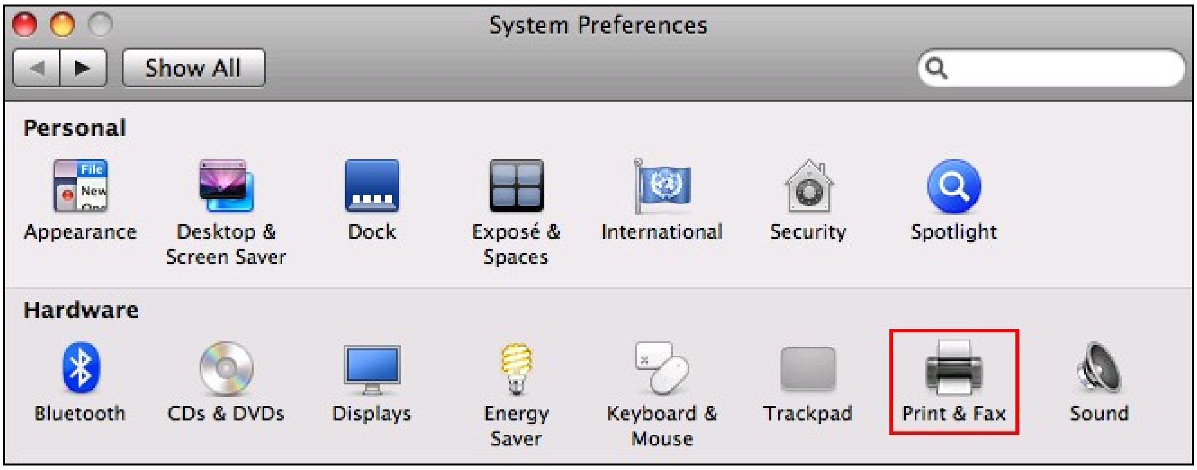
● Standalone server

○ AD domain member (To enable Domain Security, please click here.)

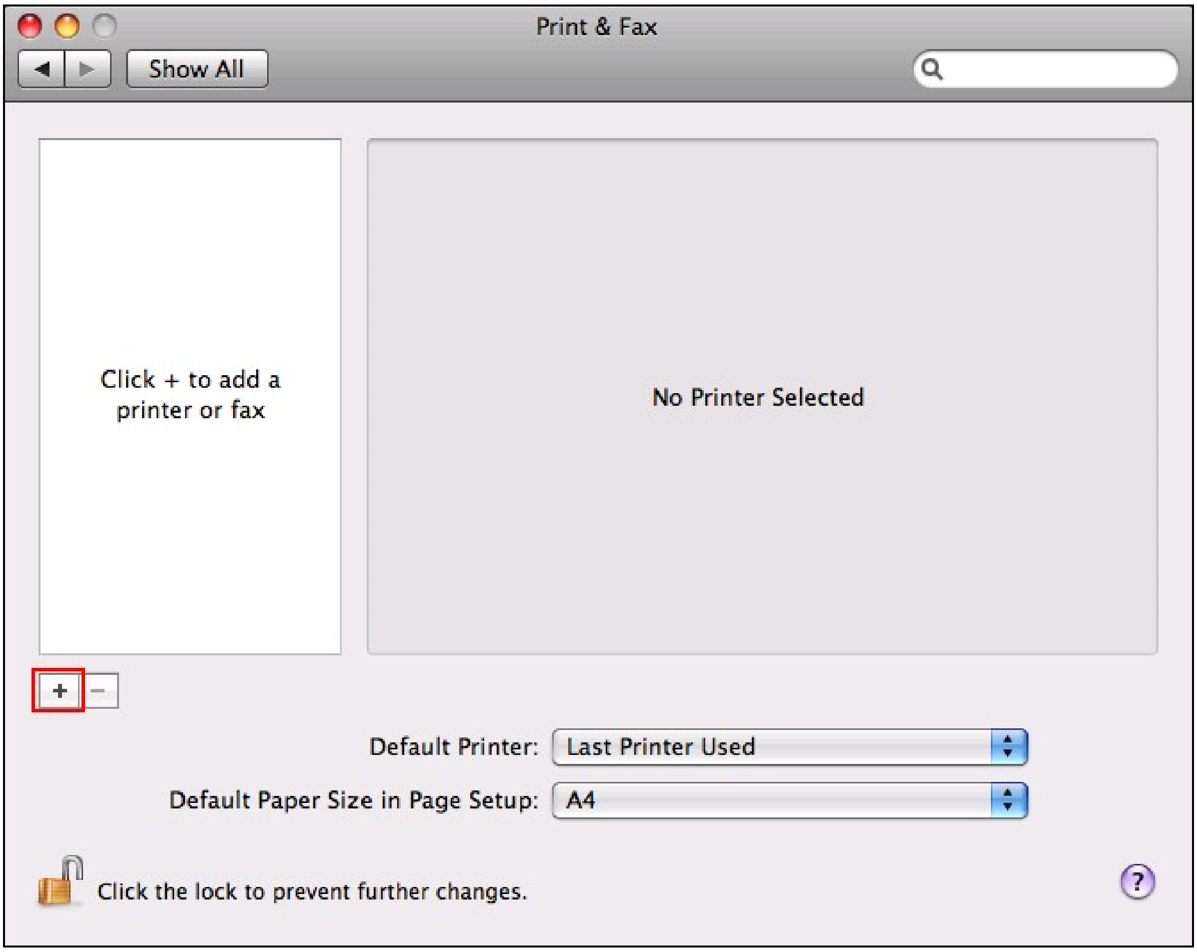
○ LDAP domain authentication (To enable Domain Security, please click here.)

Current Samba ID: --

2. Go to "Print & Fax" on your Mac.



3. Click + to add a printer.

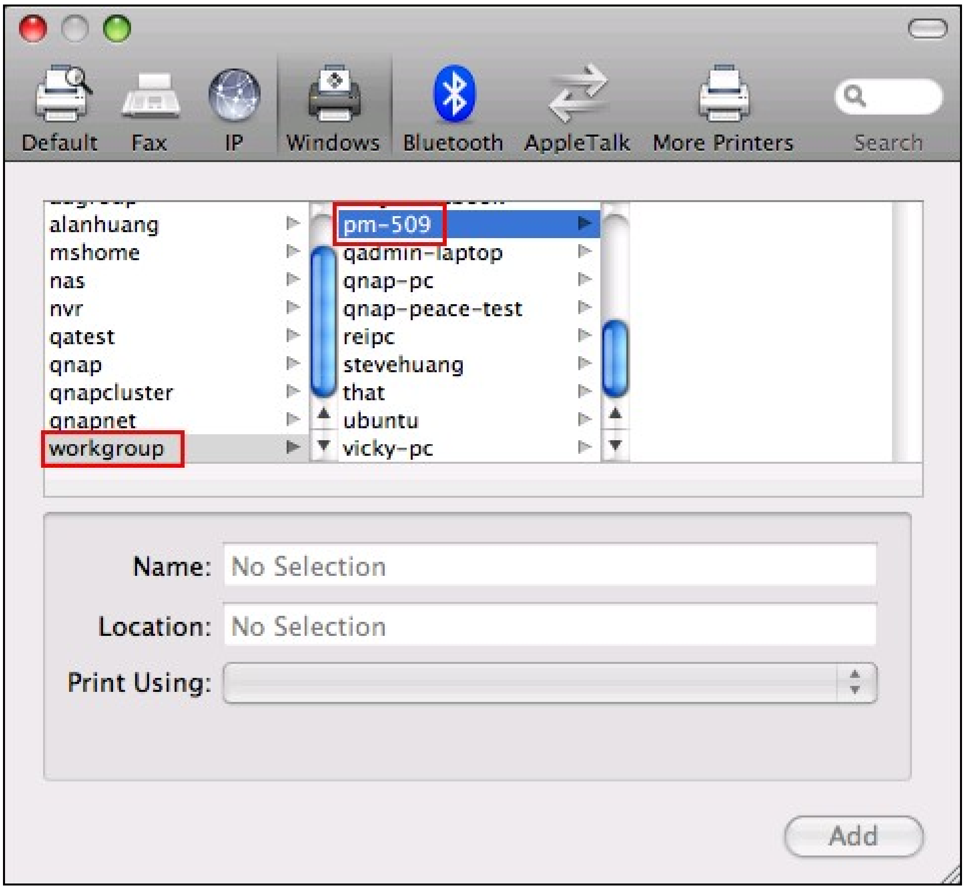


Default Printer: Last Printer Used

Default Paper Size in Page Setup: A4

Click the lock to prevent further changes.

4. Select the NAS workgroup and find the printer name.

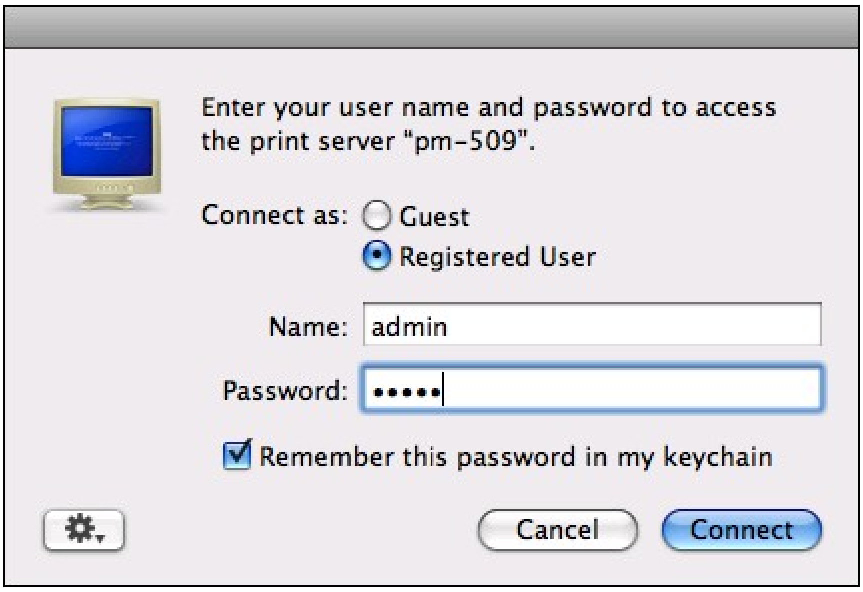


Name: No Selection

Location: No Selection

Print Using:

5. Enter the username and password to login the printer server on the NAS.


Enter your user name and password to access the print server "pm-509".

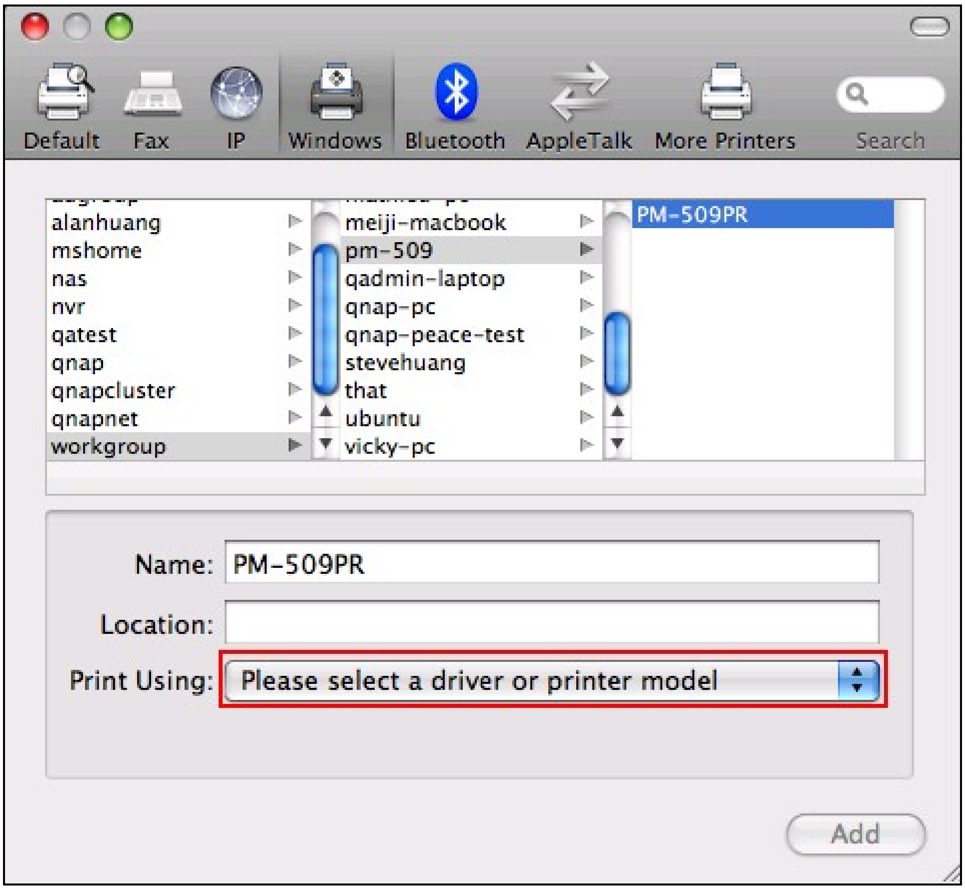
Connect as: ○ Guest
● Registered User

Name: admin

Password: •••••

☑ Remember this password in my keychain

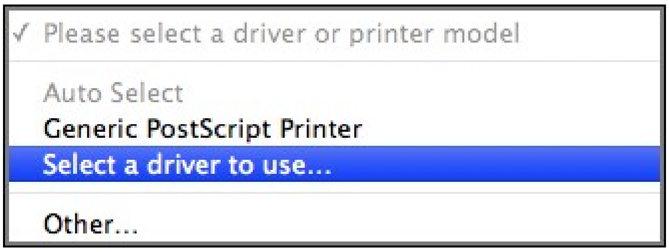
6. Select the printer driver.



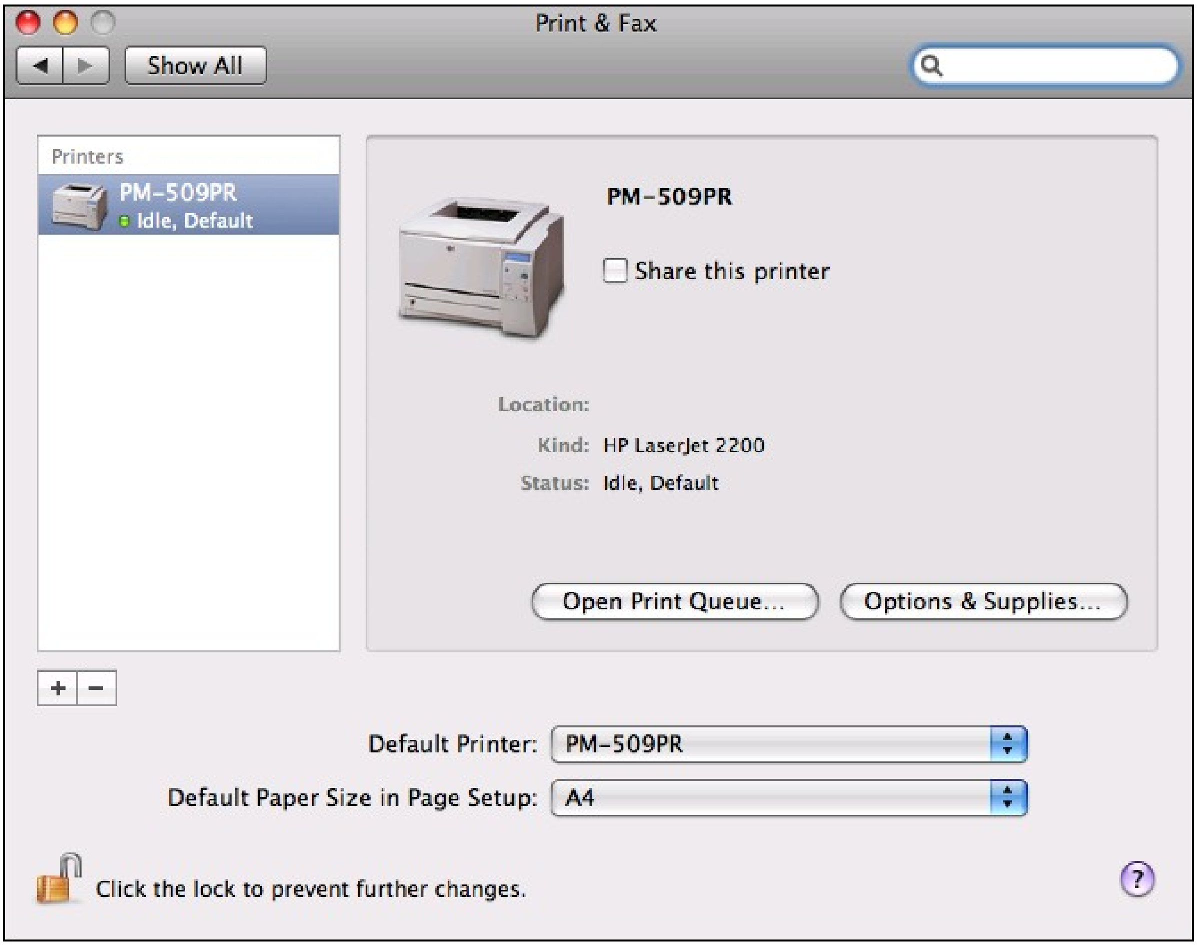
Name: PM-509PR

Location:

Print Using: Please select a driver or printer model


✓ Please select a driver or printer model
Auto Select
Generic PostScript Printer
Select a driver to use...
Other...

7. After installing the printer driver correctly, you can start to use the printer.



PM-509PR
Idle, Default

PM-509PR

□ Share this printer

Location:

Kind: HP LaserJet 2200

Status: Idle, Default

Default Printer: PM-509PR

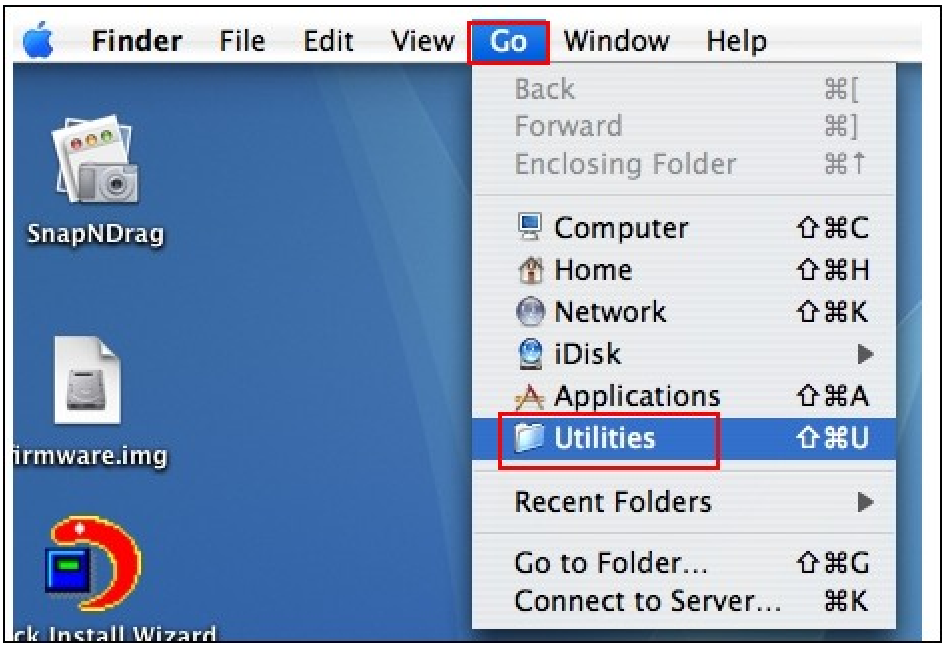
Default Paper Size in Page Setup: A4

Click the lock to prevent further changes.

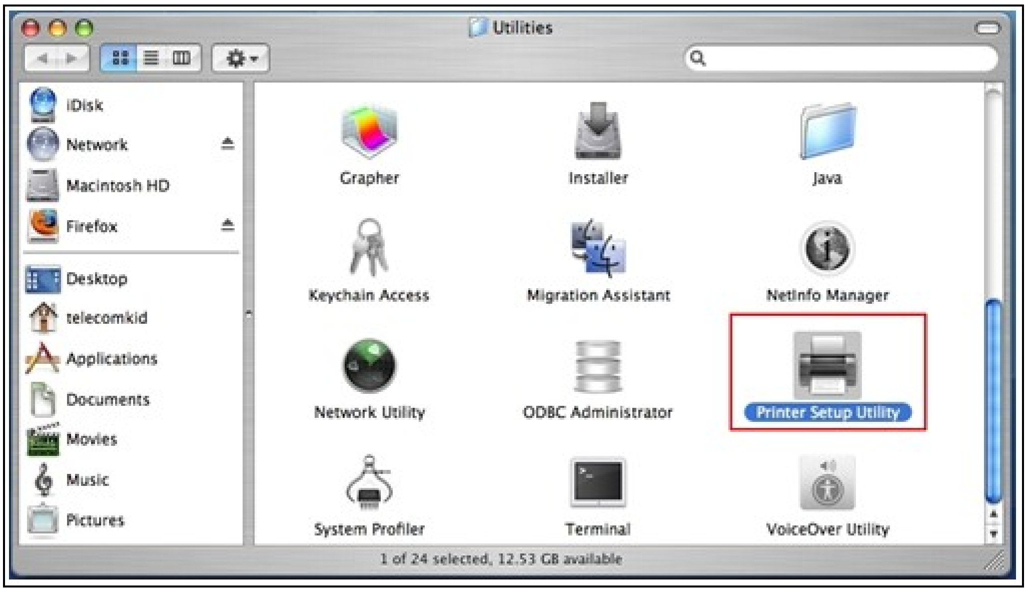
4.10.2.5 Setting up Printer Connection in Mac OS 10.4

If you are using Mac OS 10.4, follow the steps below to configure the printer function of the NAS.

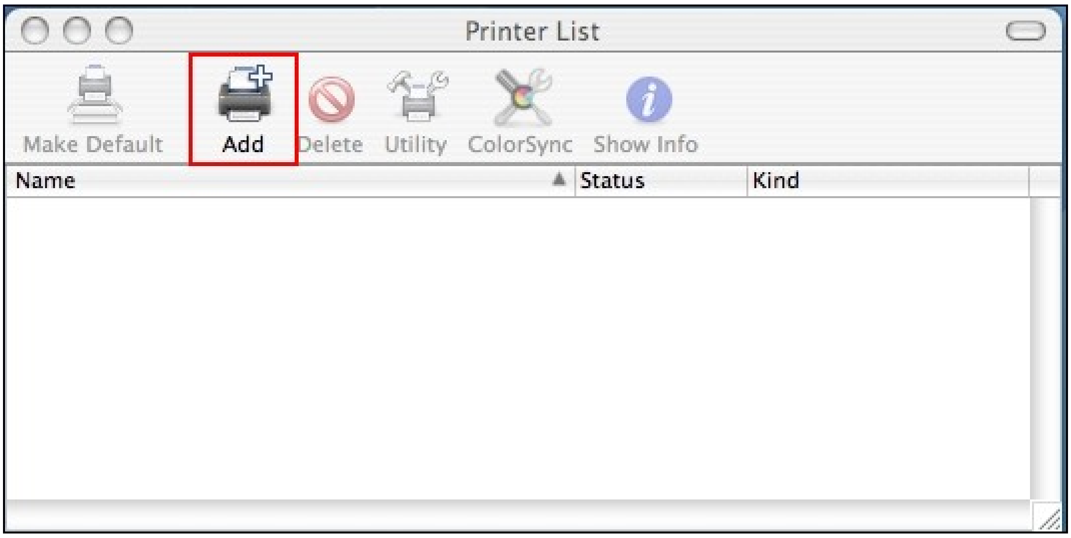
1. On the toolbar, click "Go/Utilities".



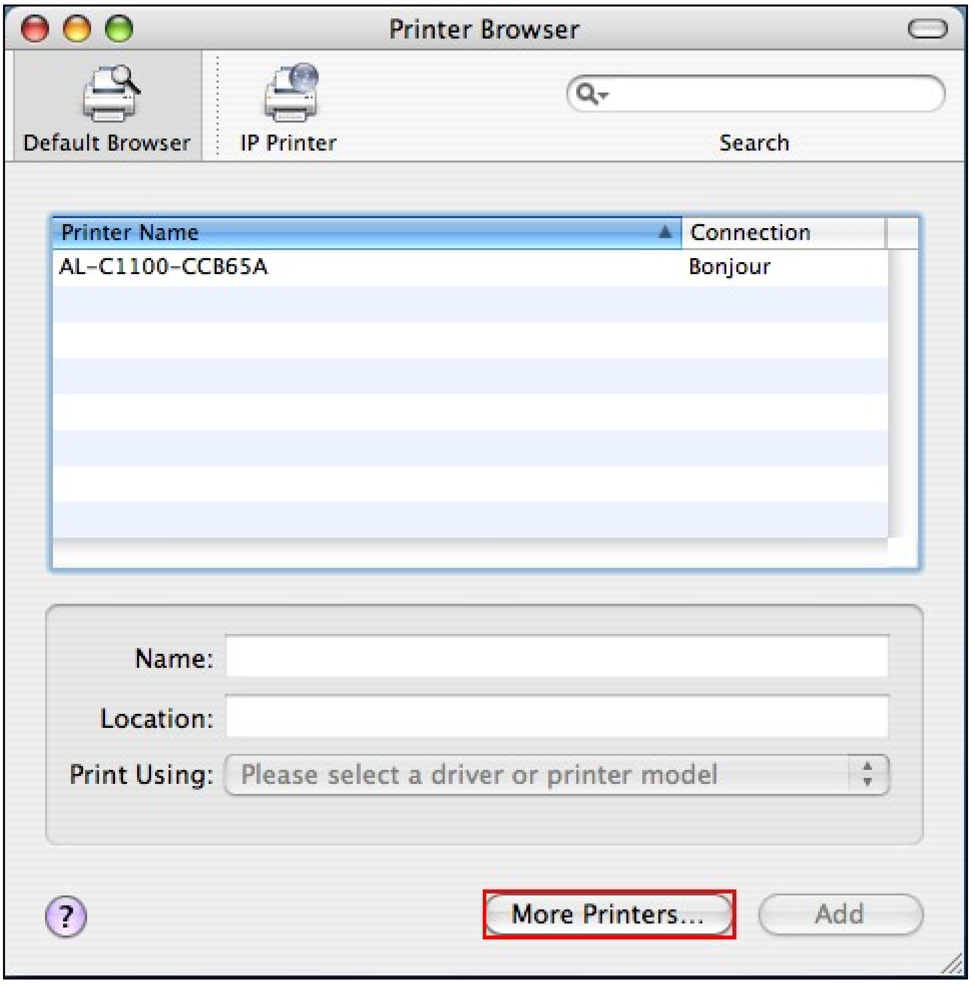
2. Click "Printer Setup Utility".



3. Click "Add".



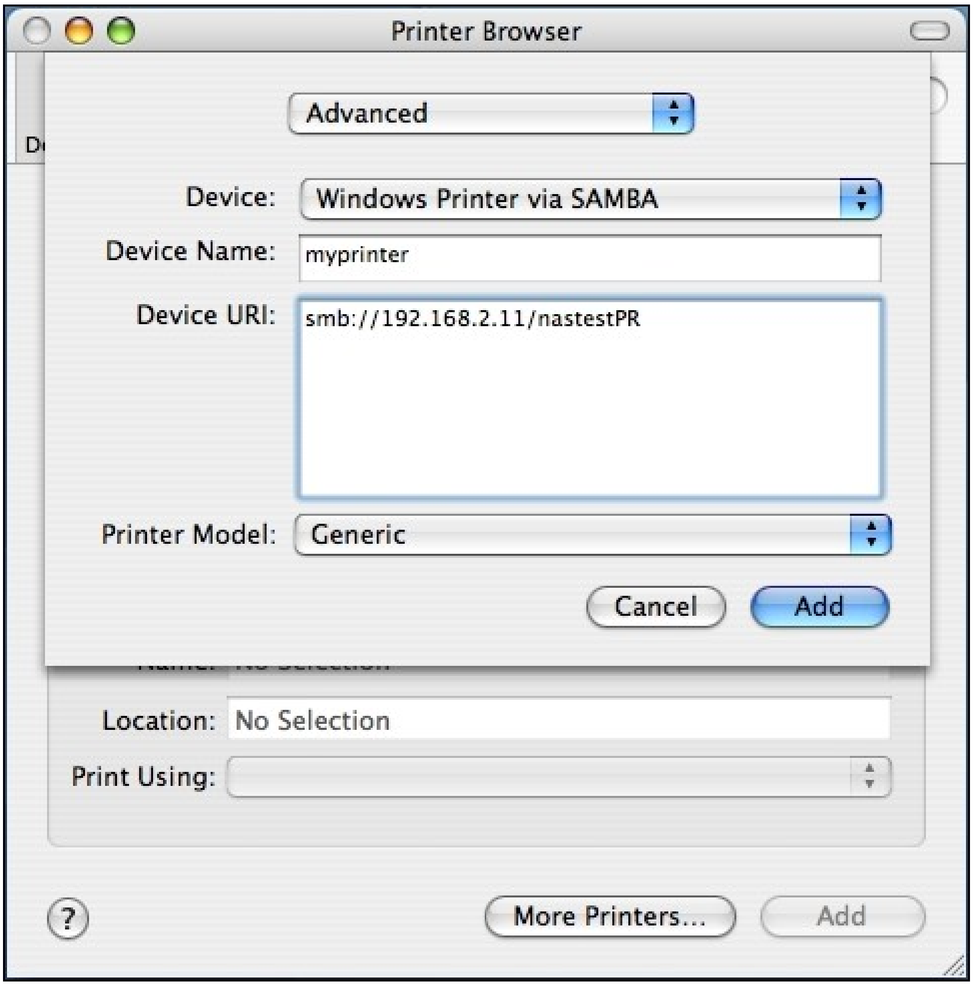
4. Press and hold the “alt” key on the keyboard and click “More Printers” concurrently.



Printer Name	Connection
AL-C1100-CCB65A	Bonjour

5. In the pop up window:

- Select “Advanced”*.
- Select “Windows Printer with SAMBA”.
- Enter the printer name.
- Enter the printer URI, the format is smb://NAS IP/printer name. The printer name is found on the “Device Configuration” > “USB Printer page”.
- Select “Generic” for Printer Model.
- Click “Add”.



Device: Windows Printer via SAMBA

Device Name: myprinter

Device URI: smb://192.168.2.11/nastestPR

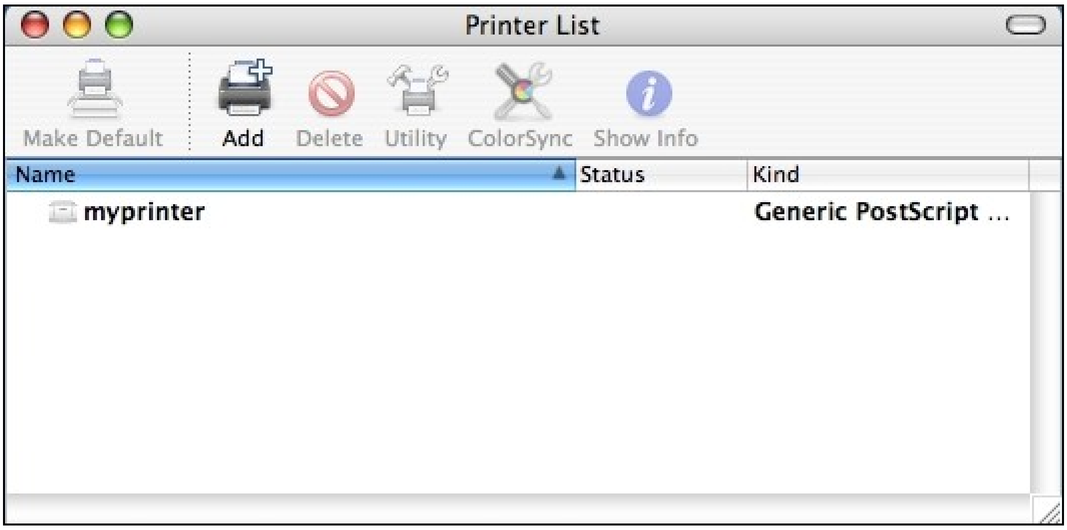
Printer Model: Generic

Location: No Selection

Print Using:

*Note that you must hold and press the “alt” key and click “More Printers” at the same time to view the Advanced printer settings. Otherwise, this option does not appear.

6. The printer appears on the printer list. It is ready to use.



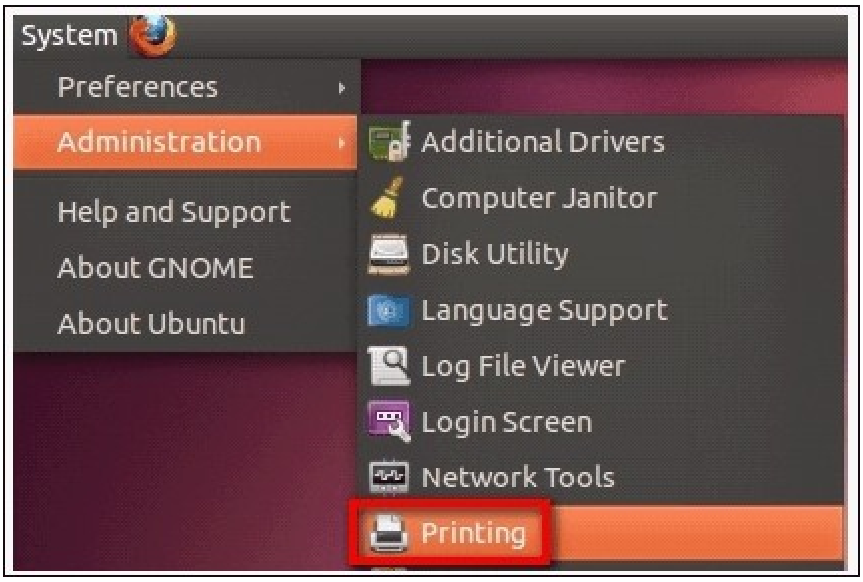
Name	Status	Kind
myprinter		Generic PostScript ...

Note: The network printer service of the NAS supports Postscript printer on Mac OS only.

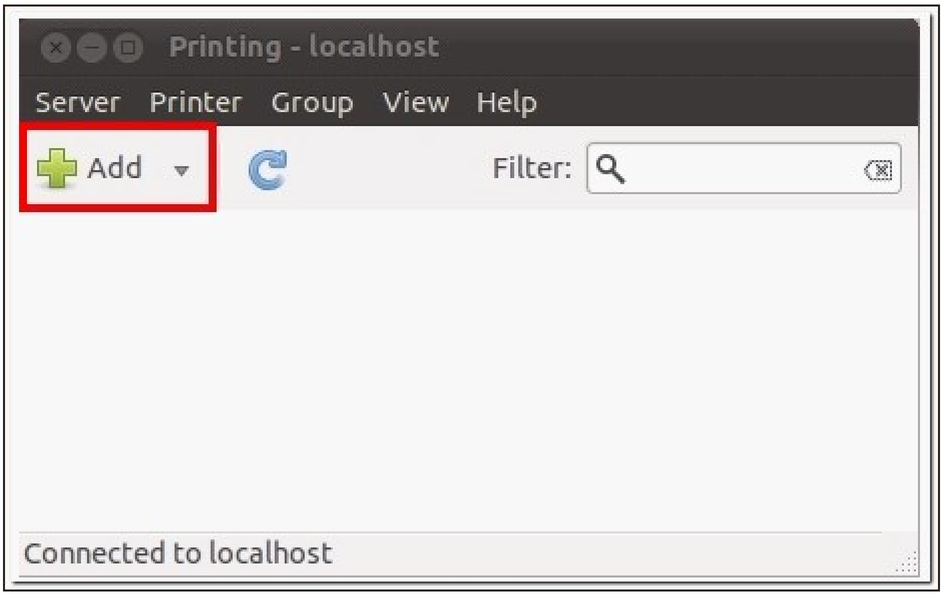
4.10.2.6 Setting up Printer Connection in Linux (Ubuntu 10.10)

If you are using Linux (Ubuntu 10.10), follow the steps below to configure the printer function of the NAS.

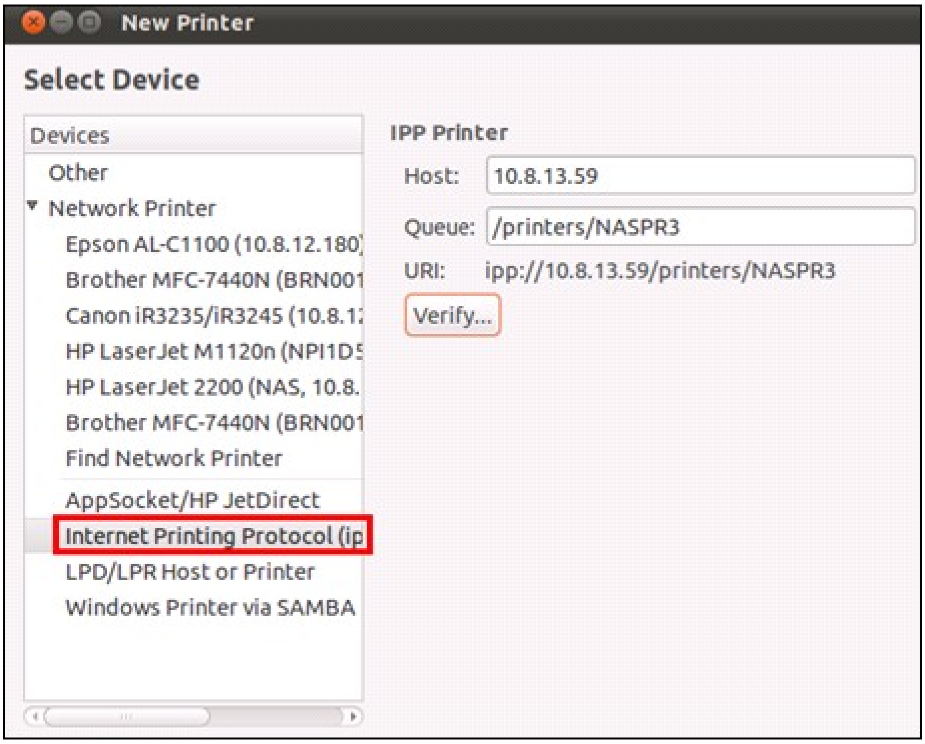
1. Click the "System" tab, choose "Administration". Then select "Printing".



2. Click "Add" to add a printer.



3. Click "Network Printer", and then select "Internet Printing Protocol (ipp)". Enter the NAS IP address in "Host". "/printers" is already present. Enter the printer name after "printers/" in the field "Queue".


New Printer
Select Device
Devices
Other
Network Printer
Epson AL-C1100 (10.8.12.180)
Brother MFC-7440N (BRN001
Canon iR3235/iR3245 (10.8.1
HP LaserJet M1120n (NPI1D5
HP LaserJet 2200 (NAS, 10.8.
Brother MFC-7440N (BRN001
Find Network Printer
AppSocket/HP JetDirect
Internet Printing Protocol (ip
LPD/LPR Host or Printer
Windows Printer via SAMBA
Verify...

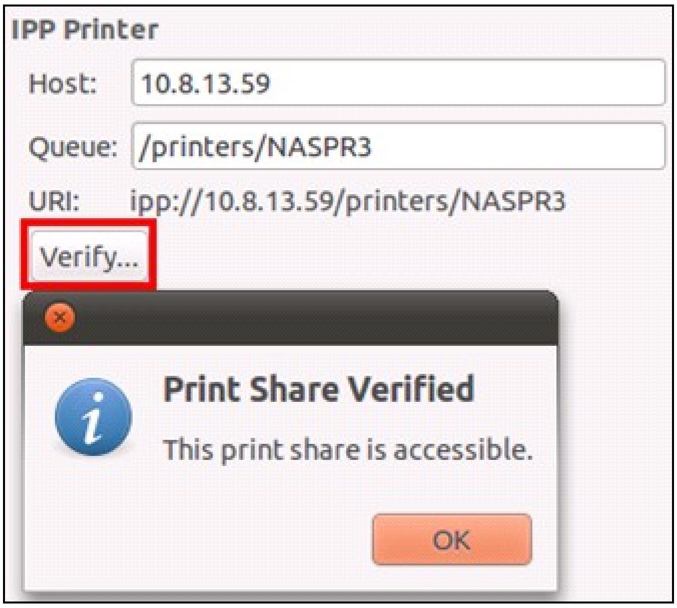
IPP Printer

Host: 10.8.13.59

Queue: /printers/NASPR3

URI: ipp://10.8.13.59/printers/NASPR3

4. Before you continue, you may click “Verify” to test the printer connection.



IPP Printer

Host: 10.8.13.59

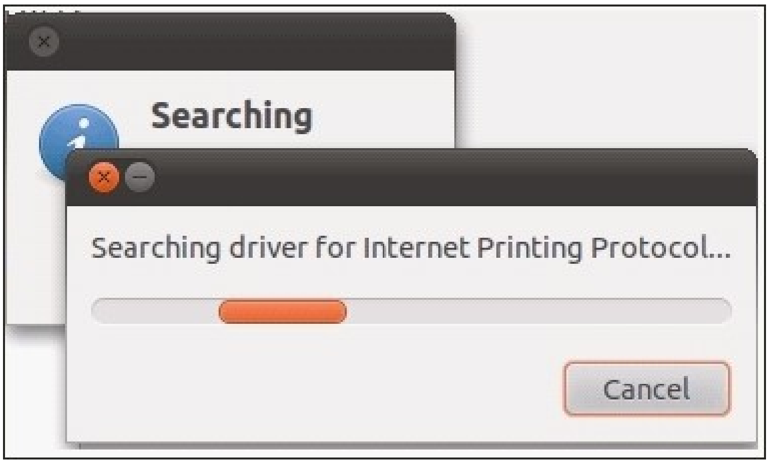
Queue: /printers/NASPR3

URI: ipp://10.8.13.59/printers/NASPR3

Print Share Verified

This print share is accessible.

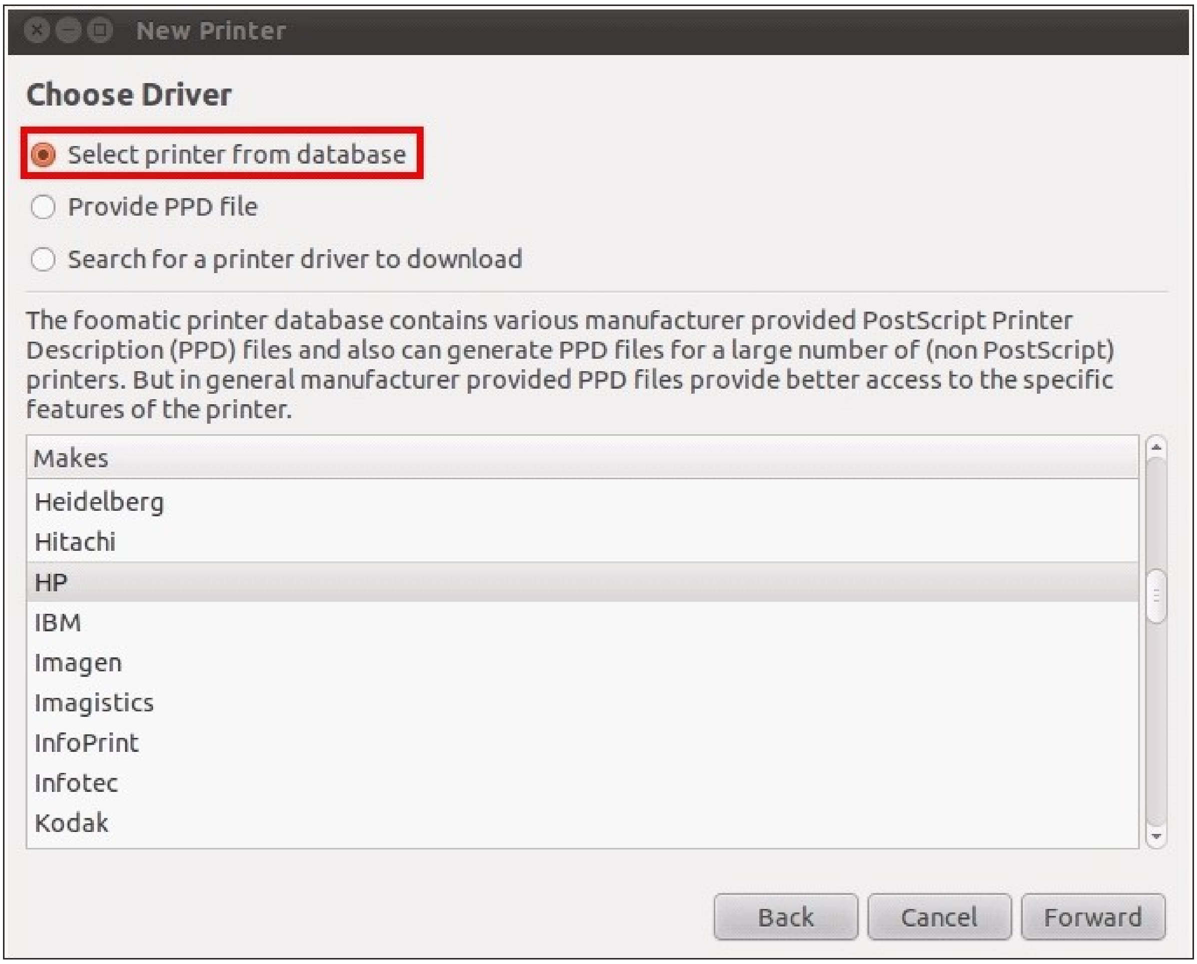
5. The operating system starts to search for the possible driver list.



Searching

Searching driver for Internet Printing Protocol...

6. Select the printer driver from the built-in database, or search online.



New Printer

Choose Driver

● Select printer from database

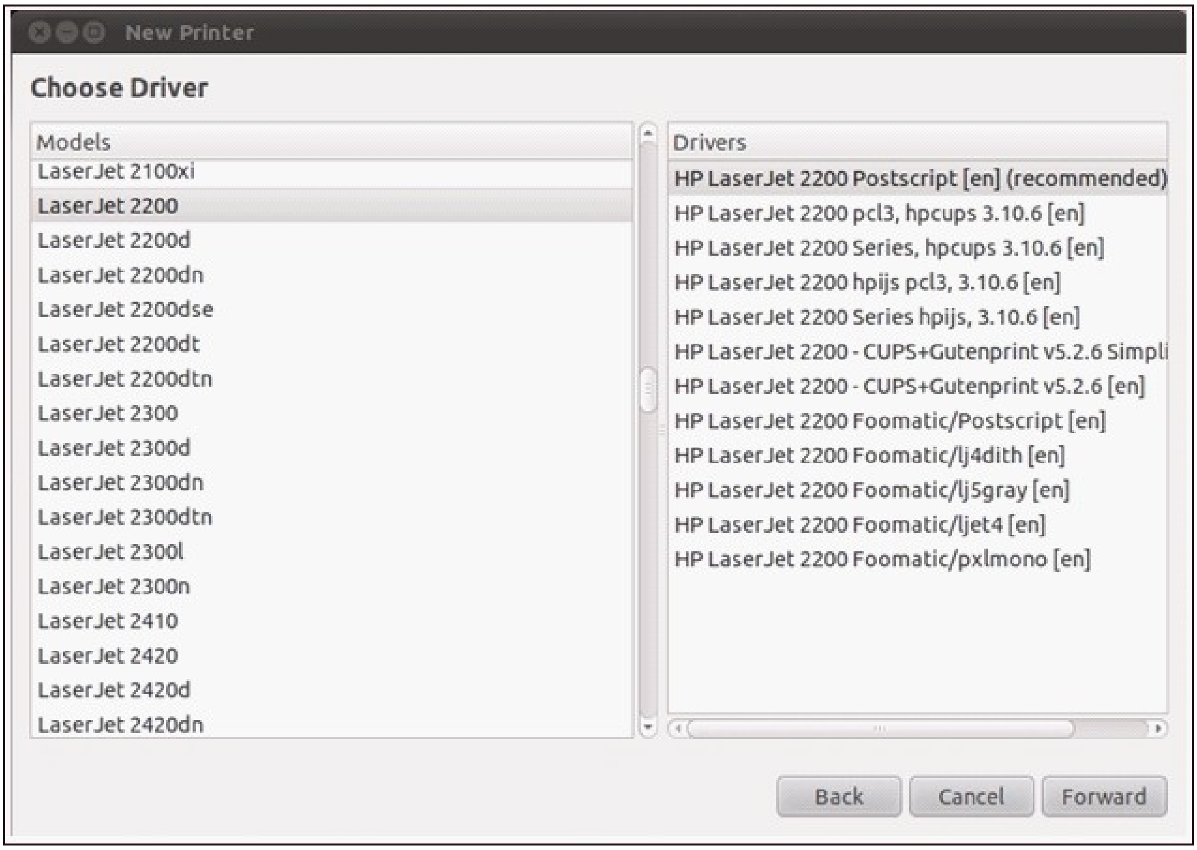
○ Provide PPD file

○ Search for a printer driver to download

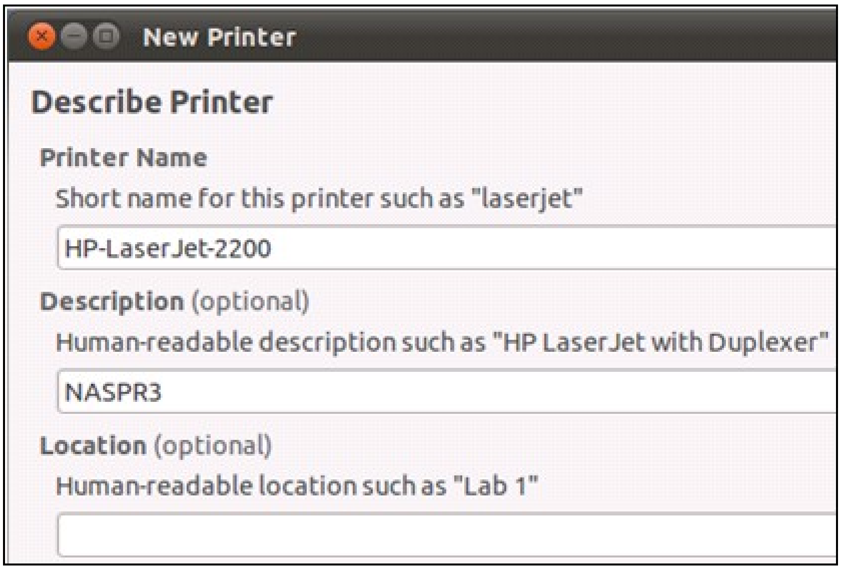
The foomatic printer database contains various manufacturer provided PostScript Printer Description (PPD) files and also can generate PPD files for a large number of (non PostScript) printers. But in general manufacturer provided PPD files provide better access to the specific features of the printer.

Makes
Heidelberg
Hitachi
HP
IBM
Imagen
Imagistics
InfoPrint
Infotec
Kodak

7. Choose the correct printer model and driver. Depending on the printer, some additional printer options may be available in the next step.

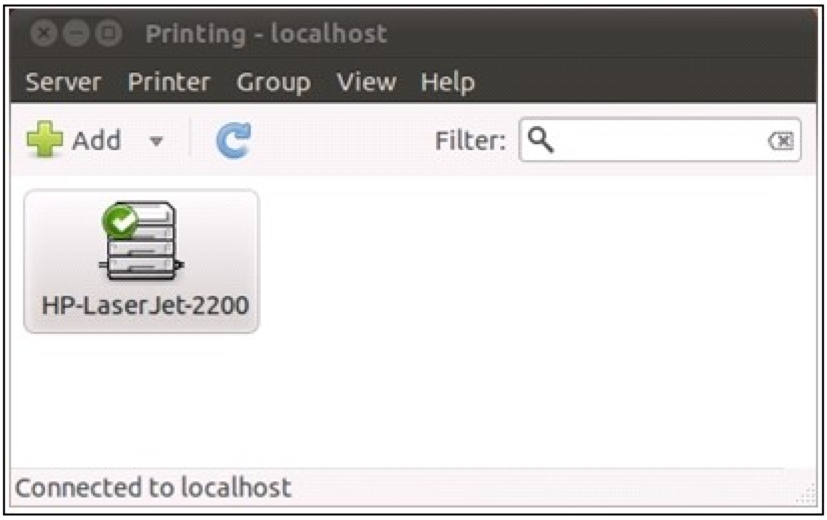

New Printer
Choose Driver
Models
LaserJet 2100xi
LaserJet 2200
LaserJet 2200d
LaserJet 2200dn
LaserJet 2200dse
LaserJet 2200dt
LaserJet 2200dtn
LaserJet 2300
LaserJet 2300d
LaserJet 2300dn
LaserJet 2300dtn
LaserJet 2300l
LaserJet 2300n
LaserJet 2410
LaserJet 2420
LaserJet 2420d
LaserJet 2420dn
Drivers
HP LaserJet 2200 Postscript [en] (recommended)
HP LaserJet 2200 pcl3, hpcups 3.10.6 [en]
HP LaserJet 2200 Series, hpcups 3.10.6 [en]
HP LaserJet 2200 hpijs pcl3, 3.10.6 [en]
HP LaserJet 2200 Series hpijs, 3.10.6 [en]
HP LaserJet 2200 - CUPS+Gutenprint v5.2.6 Simpli
HP LaserJet 2200 - CUPS+Gutenprint v5.2.6 [en]
HP LaserJet 2200 Foomatic/Postscript [en]
HP LaserJet 2200 Foomatic/lj4dith [en]
HP LaserJet 2200 Foomatic/lj5gray [en]
HP LaserJet 2200 Foomatic/ljet4 [en]
HP LaserJet 2200 Foomatic/pxlmono [en]
Back
Cancel
Forward

8. You can rename this printer or enter additional information. Click “Apply” to exit and finish.



Printer Name
Short name for this printer such as "laserjet"
HP-LaserJet-2200
Description (optional)
Human-readable description such as "HP LaserJet with Duplexer"
NASPR3
Location (optional)
Human-readable location such as "Lab 1"

9. The network printer is now available for printing.



Connected to localhost

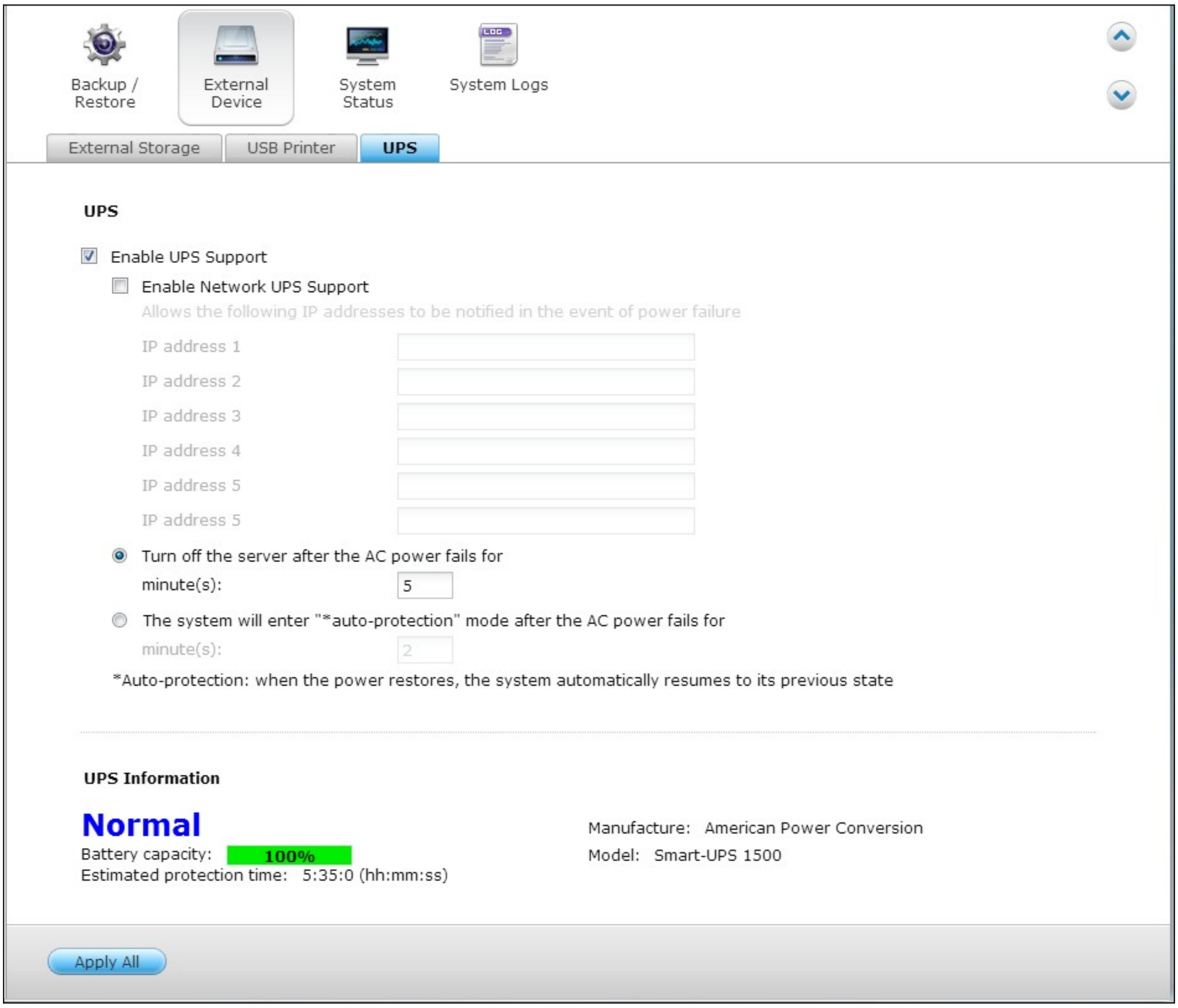
4.10.3 UPS

By enabling the UPS (Uninterruptible Power Supply) support, you can protect your NAS from abnormal system shutdown caused by power disruption. In the event of a power failure the NAS will shut down automatically or enter auto-protection mode by probing the power status of the connected UPS unit.

Standalone mode – USB

To operate under USB standalone mode, follow the steps below:

1. Plug in the USB cable on the UPS to the NAS.
2. Select the option "Enable UPS Support".
3. Choose between whether the NAS will shut down or enter auto-protection mode after AC power fails. Specify the time in minutes that the NAS should wait before executing the option you have selected. After the NAS enters auto-protection mode, the NAS resumes the previous operation status when the power restores.
4. Click "Apply All" to confirm.



UPS

☑ Enable UPS Support

☐ Enable Network UPS Support

Allows the following IP addresses to be notified in the event of power failure

IP address 1	
IP address 2	
IP address 3	
IP address 4	
IP address 5	
IP address 5	

● Turn off the server after the AC power fails for minute(s): 5

○ The system will enter "*auto-protection" mode after the AC power fails for minute(s): 2

*Auto-protection: when the power restores, the system automatically resumes to its previous state

UPS Information

Normal

Battery capacity: 100%

Estimated protection time: 5:35:0 (hh:mm:ss)

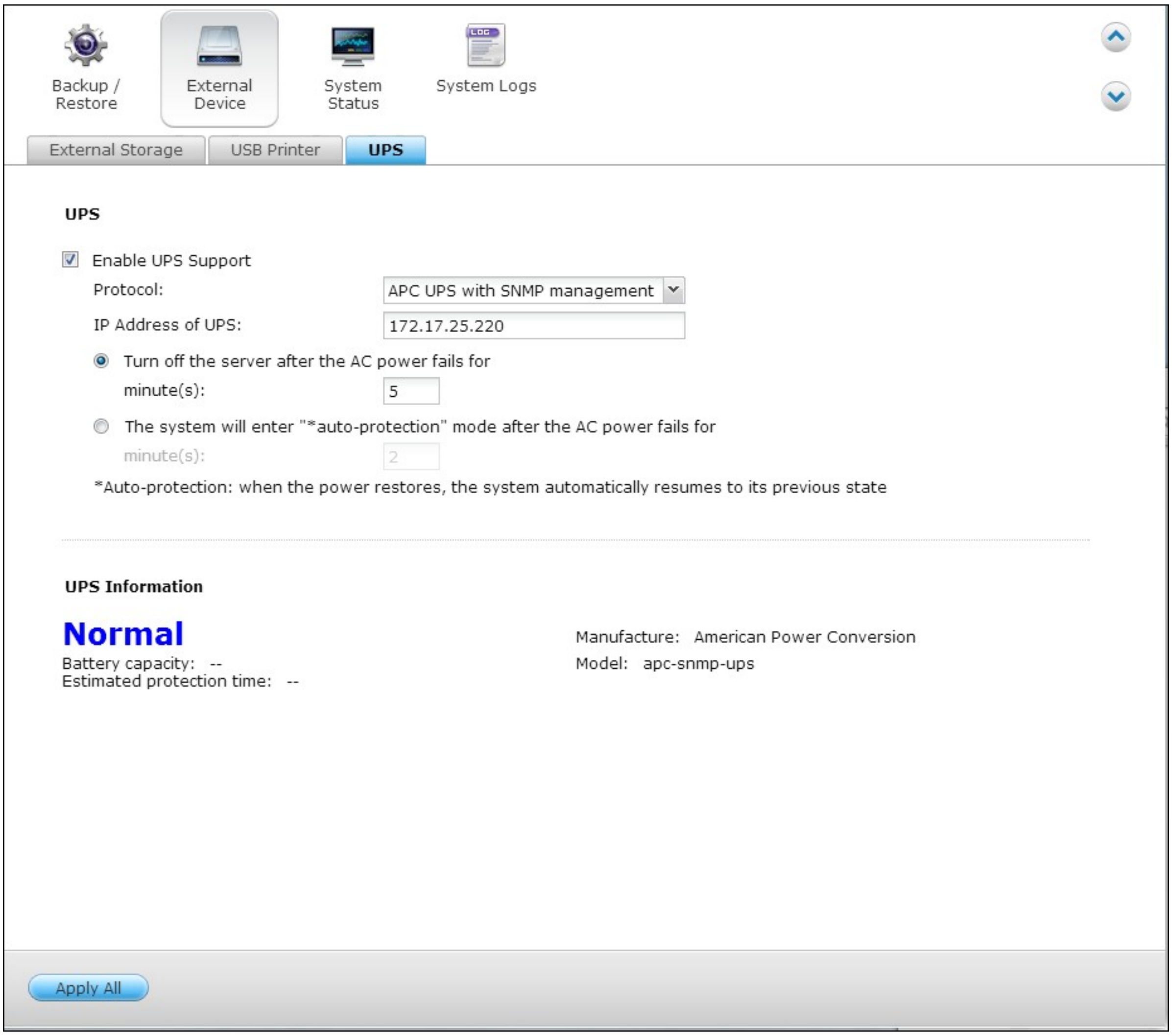
Manufacture: American Power Conversion

Model: Smart-UPS 1500

Standalone mode – SNMP

To operate under SNMP standalone mode, follow the steps below:

1. Make sure the NAS is connected to the same physical network as the SNMP-based UPS.
2. Select the option "Enable UPS Support".
3. Select "APC UPS with SNMP management" from the "Protocol" drop down menu.
4. Enter the IP address of the SNMP-based UPS.
5. Choose between whether the NAS will shut down or enter auto-protection mode after AC power fails. Specify the time in minutes that the NAS should wait before executing the option you have selected. After the NAS enters auto-protection mode, the NAS resumes the previous operation status when the power restores.
6. Click "Apply All" to confirm.



UPS

☑ Enable UPS Support

Protocol: APC UPS with SNMP management

IP Address of UPS: 172.17.25.220

● Turn off the server after the AC power fails for minute(s): 5

○ The system will enter "*auto-protection" mode after the AC power fails for minute(s): 2

*Auto-protection: when the power restores, the system automatically resumes to its previous state

UPS Information

Normal

Battery capacity: --

Estimated protection time: --

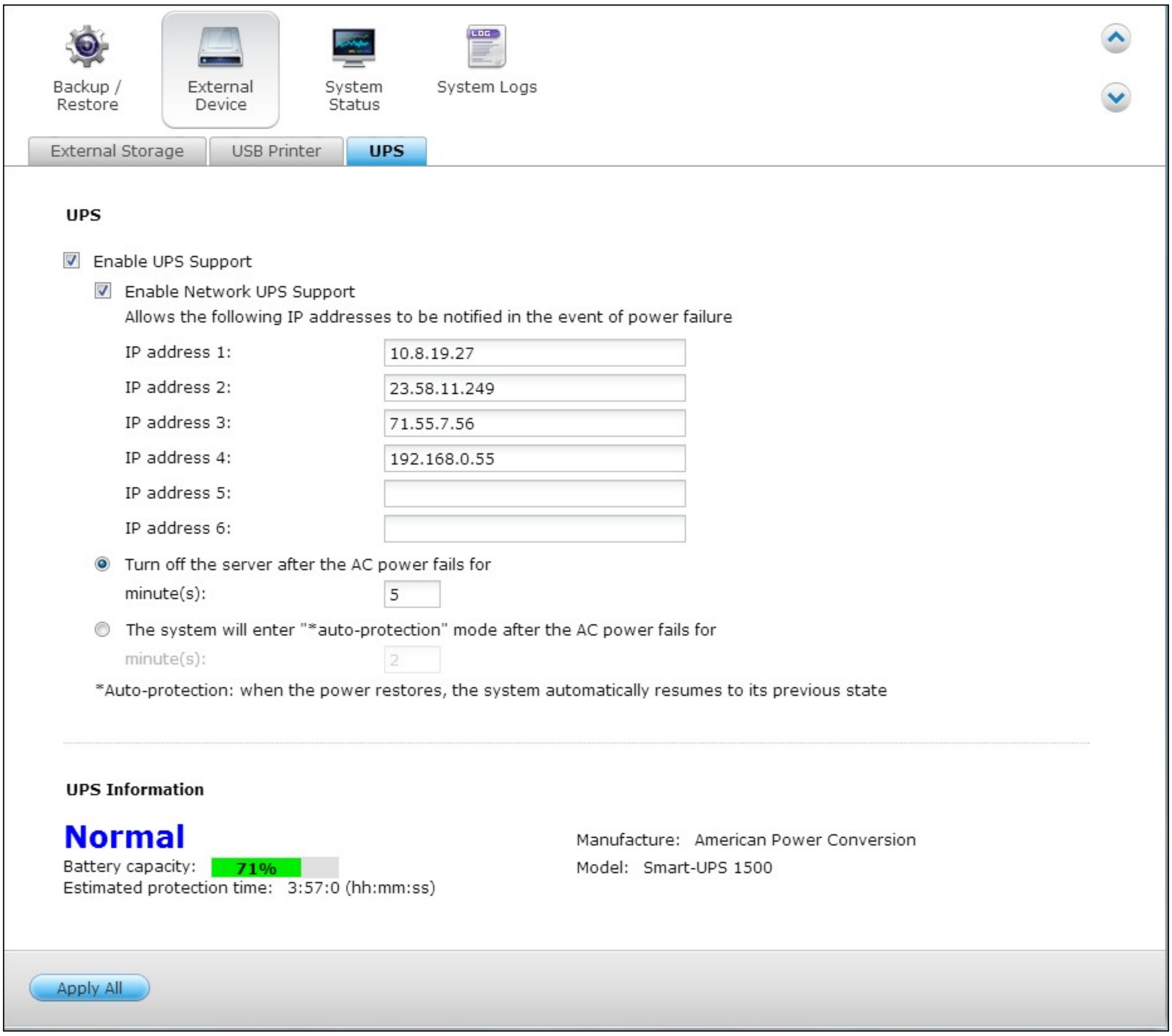
Manufacture: American Power Conversion

Model: apc-snmp-ups

Network master mode

A network UPS master is responsible for communicating with network UPS slaves on the same physical network about critical power status. To set up your NAS with UPS as network master mode, plug in the USB cable on the UPS to the NAS and follow the steps below:

1. Make sure the NAS (the "UPS master") is connected to the same physical network as the network UPS slaves.
2. Select the option "Enable UPS Support".
3. Click "Enable network UPS Support". This option appears only when your NAS is connected to the UPS by a USB cable.
4. Choose between whether the NAS will shut down or enter auto-protection mode after AC power fails. Specify the time in minutes that the NAS should wait before executing the option you have selected. After the NAS enters auto-protection mode, the NAS resumes the previous operation status when the power restores.
5. Enter the "IP address" of other network UPS slaves to be notified in the event of power failure.
6. Click "Apply All" to confirm and continue the setup for the NAS systems which operate in network slave mode below.



UPS

☑ Enable UPS Support

☑ Enable Network UPS Support

Allows the following IP addresses to be notified in the event of power failure

IP address 1: 10.8.19.27

IP address 2: 23.58.11.249

IP address 3: 71.55.7.56

IP address 4: 192.168.0.55

IP address 5:

IP address 6:

● Turn off the server after the AC power fails for minute(s): 5

○ The system will enter "*auto-protection" mode after the AC power fails for minute(s): 2

*Auto-protection: when the power restores, the system automatically resumes to its previous state

UPS Information

Normal

Battery capacity: 71%

Estimated protection time: 3:57:0 (hh:mm:ss)

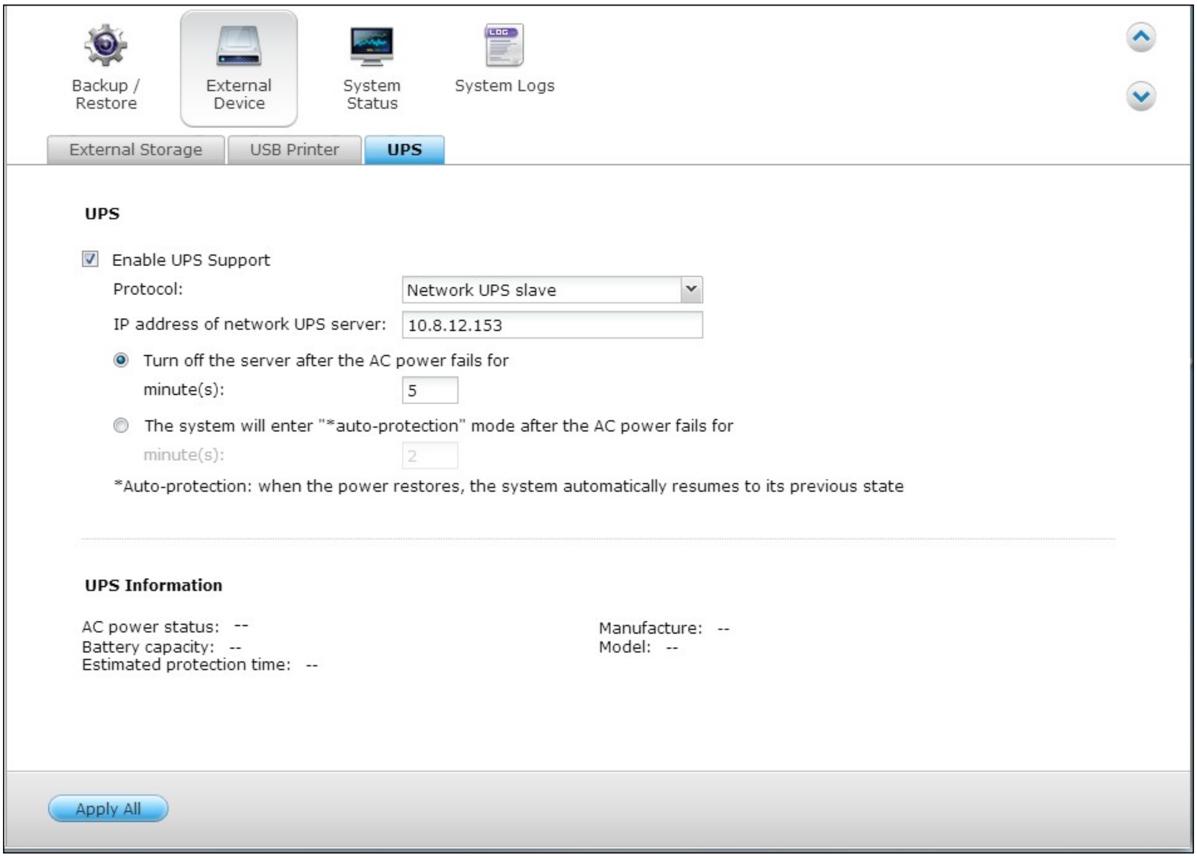
Manufacture: American Power Conversion

Model: Smart-UPS 1500

Network slave mode

A network UPS slave communicates with network UPS master to receive the UPS status. To set up your NAS with UPS as network slave mode, follow the steps below:

1. Make sure the NAS is connected to the same physical network as the network UPS master.
2. Select the option "Enable UPS Support".
3. Select "Network UPS slave" from the "Protocol" drop down menu.
4. Enter the IP address of the network UPS server.
5. Choose between whether the NAS will shut down or enter auto-protection mode after AC power fails. Specify the time in minutes that the NAS should wait before executing the option you have selected. After the NAS enters auto-protection mode, the NAS resumes the previous operation status when the power restores.
6. Click "Apply All" to confirm.



UPS

☑ Enable UPS Support

Protocol: Network UPS slave

IP address of network UPS server: 10.8.12.153

● Turn off the server after the AC power fails for minute(s): 5

○ The system will enter "*auto-protection" mode after the AC power fails for minute(s): 2

*Auto-protection: when the power restores, the system automatically resumes to its previous state

UPS Information

AC power status: --
Battery capacity: --
Estimated protection time: --

Manufacture: --
Model: --

Note: To allow the UPS device to send SNMP alerts to the QNAP NAS in case of power loss, you may have to enter the IP address of the NAS in the configuration page of the UPS device.

Behavior of the UPS feature of the NAS:

In case of power loss and power recovery, the events will be logged in the "System

Event Logs”.

During a power loss, the NAS will wait for the specified time you enter in the “UPS Settings” before powering off or entering auto-protection mode.
If the power restores before the end of the waiting time, the NAS will remain in operation and cancel its power-off or auto-protection action.

Once the power restores:

- If the NAS is in auto-protection mode, it will resume to normal operation.
- If the NAS is powered off, it will remain off.

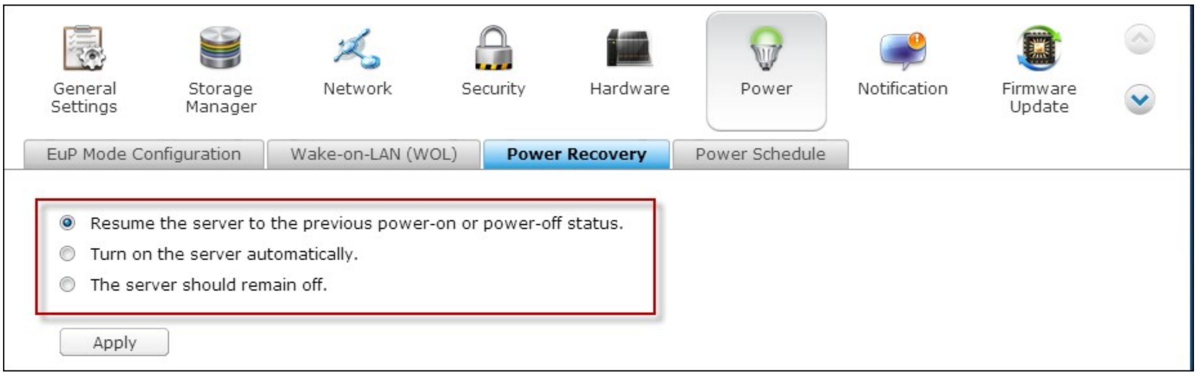
Difference between auto-protection mode and power-off mode

Mode	**Advantage**	**Disadvantage**
Auto-protection mode	The NAS resumes after power recovery.	If the power outage lasts until the UPS is turned off, the NAS may suffer from abnormal shutdown.
Power-off mode	The NAS will be shut down properly.	The NAS will remain off after the power recovery. Manual power on of the NAS is required.

If the power restores after the NAS has been shut down and before the UPS device is powered off, you may power on the NAS by Wake on LAN* (if your NAS and UPS device both support Wake on LAN and Wake on LAN is enabled on the NAS).

*This feature is not supported by TS-110, TS-119, TS-210, TS-219, TS-219P, TS-410, TS-419P, TS-410U, TS-419U, TS-112, TS-212, TS-412, TS-412U. Please visit http://www.qnap.com for details.

If the power restores after both the NAS and the UPS have been shut down, the NAS will react according to the settings in “System Settings” > “Power Recovery”.



● Resume the server to the previous power-on or power-off status.

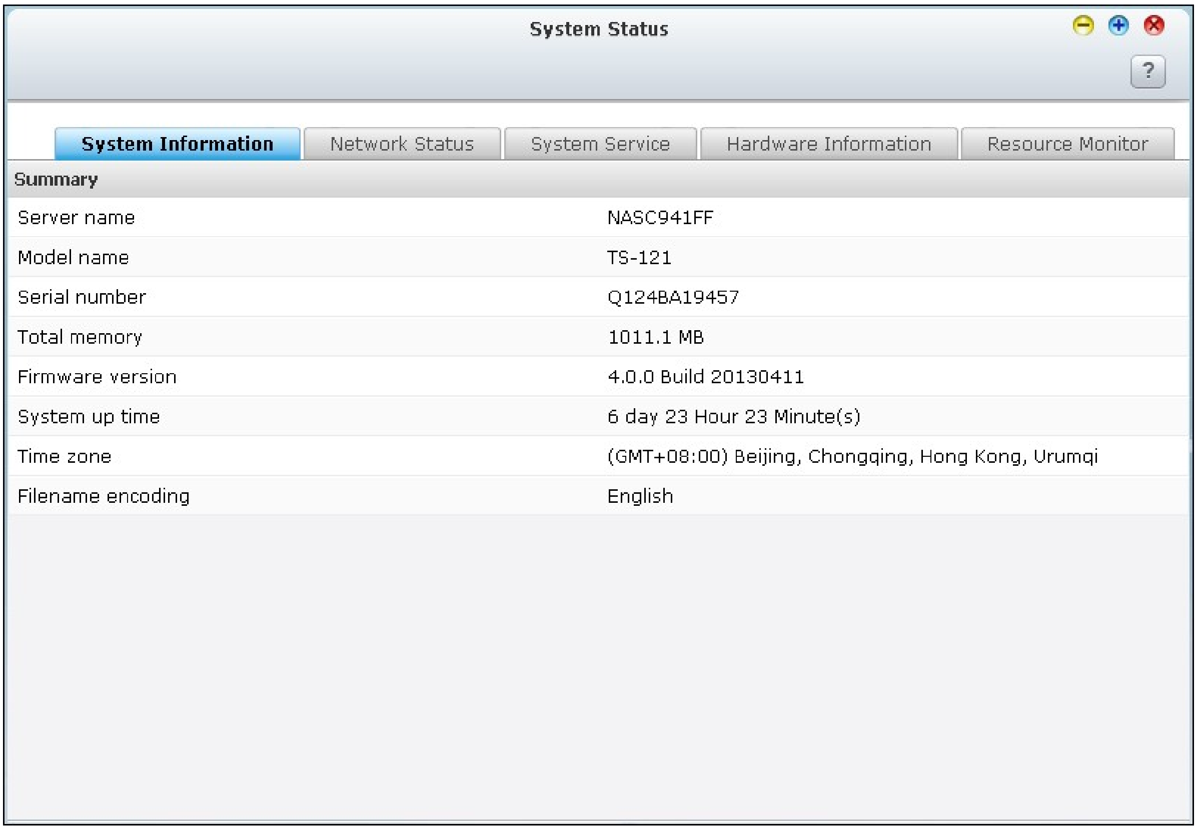
○ Turn on the server automatically.

○ The server should remain off.

4.11 System Status

System Information

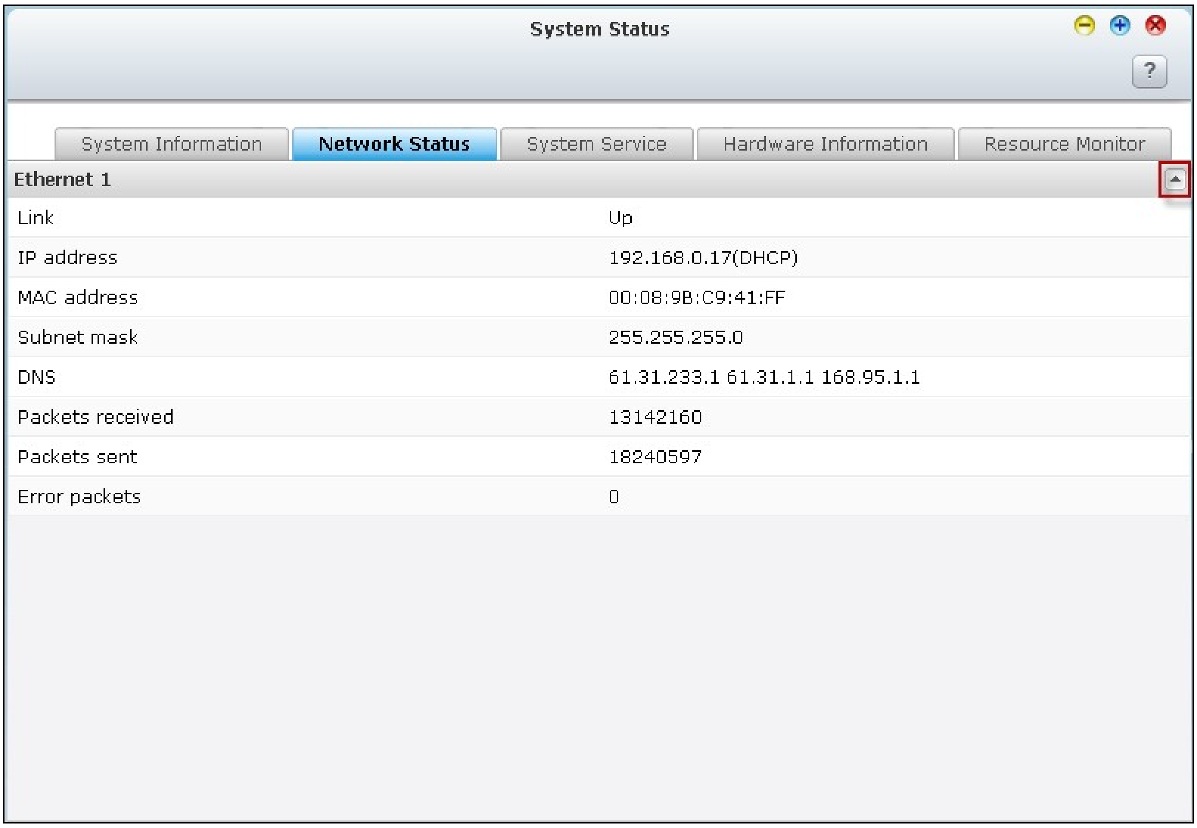
View the summary of system information such as the server name, memory, firmware and system up time on this page.



Summary	
Server name	NASC941FF
Model name	TS-121
Serial number	Q124BA19457
Total memory	1011.1 MB
Firmware version	4.0.0 Build 20130411
System up time	6 day 23 Hour 23 Minute(s)
Time zone	(GMT+08:00) Beijing, Chongqing, Hong Kong, Urumqi
Filename encoding	English

Network Status

View the current network settings and statistics on this page and they are displayed based on network interfaces. click the up arrow at top right to collapse the interface page and down arrow to expand the page.

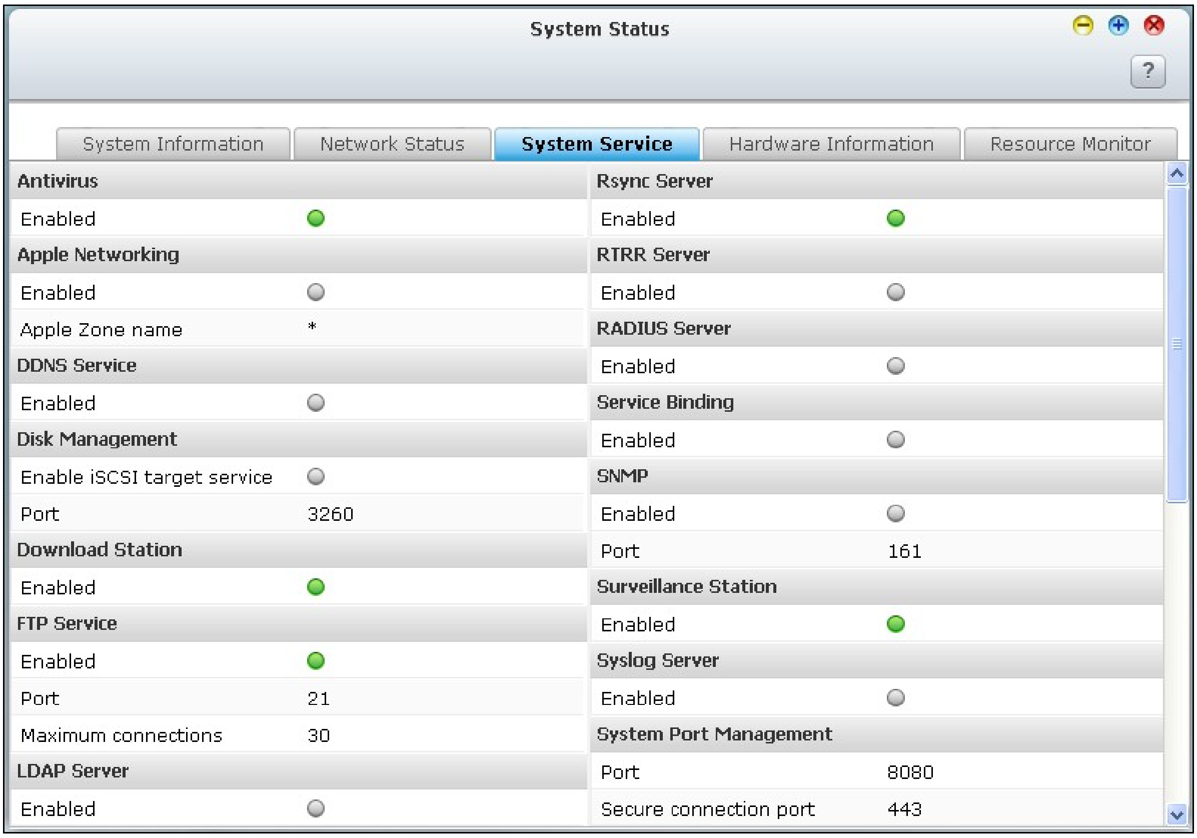


Ethernet 1

Link	Up
IP address	192.168.0.17(DHCP)
MAC address	00:08:9B:C9:41:FF
Subnet mask	255.255.255.0
DNS	61.31.233.1 61.31.1.1 168.95.1.1
Packets received	13142160
Packets sent	18240597
Error packets	0

System Service

View the current settings of system services provided by the NAS on this page.

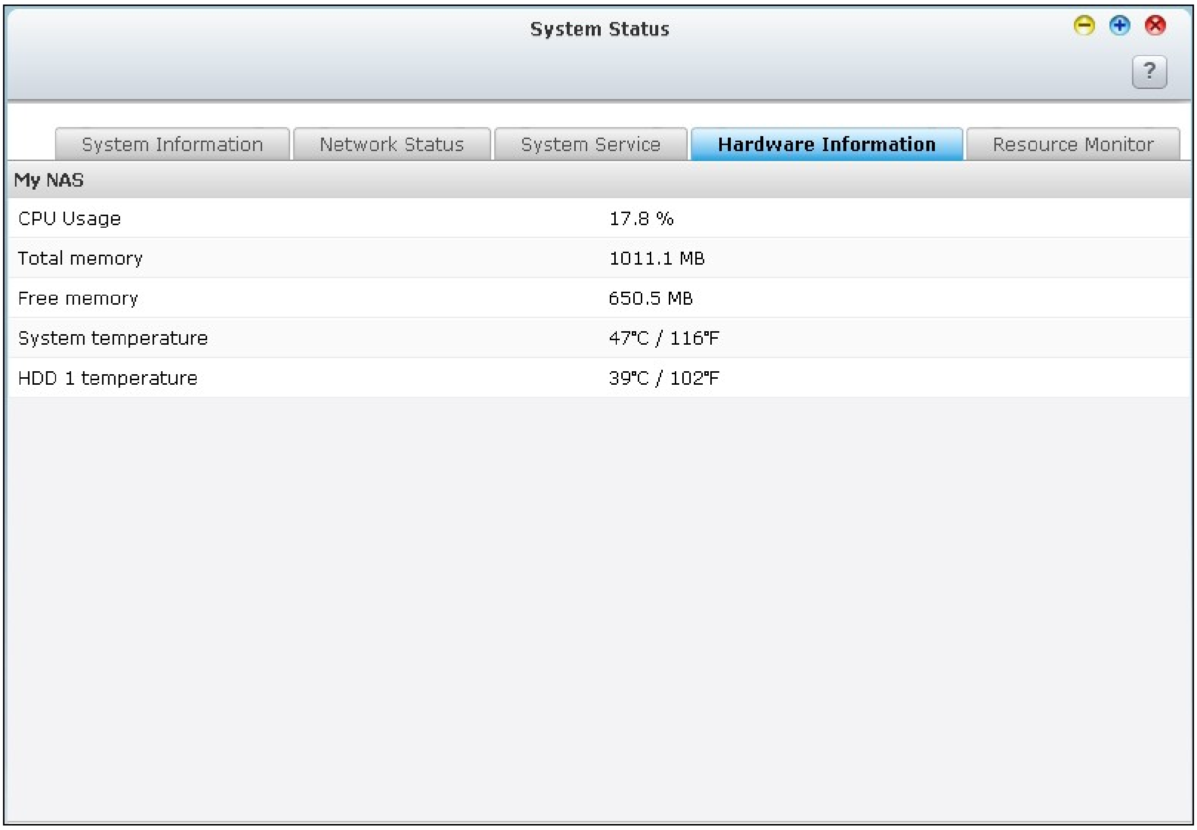


Antivirus	
Enabled	●
Apple Networking	
Enabled	○
Apple Zone name	*
DDNS Service	
Enabled	○
Disk Management	
Enable iSCSI target service	○
Port	3260
Download Station	
Enabled	●
FTP Service	
Enabled	●
Port	21
Maximum connections	30
LDAP Server	
Enabled	○

Rsync Server	
Enabled	●
RTRR Server	
Enabled	○
RADIUS Server	
Enabled	○
Service Binding	
Enabled	○
SNMP	
Enabled	○
Port	161
Surveillance Station	
Enabled	●
Syslog Server	
Enabled	○
System Port Management	
Port	8080
Secure connection port	443

Hardware Information

View basic hardware information of the NAS on this page.



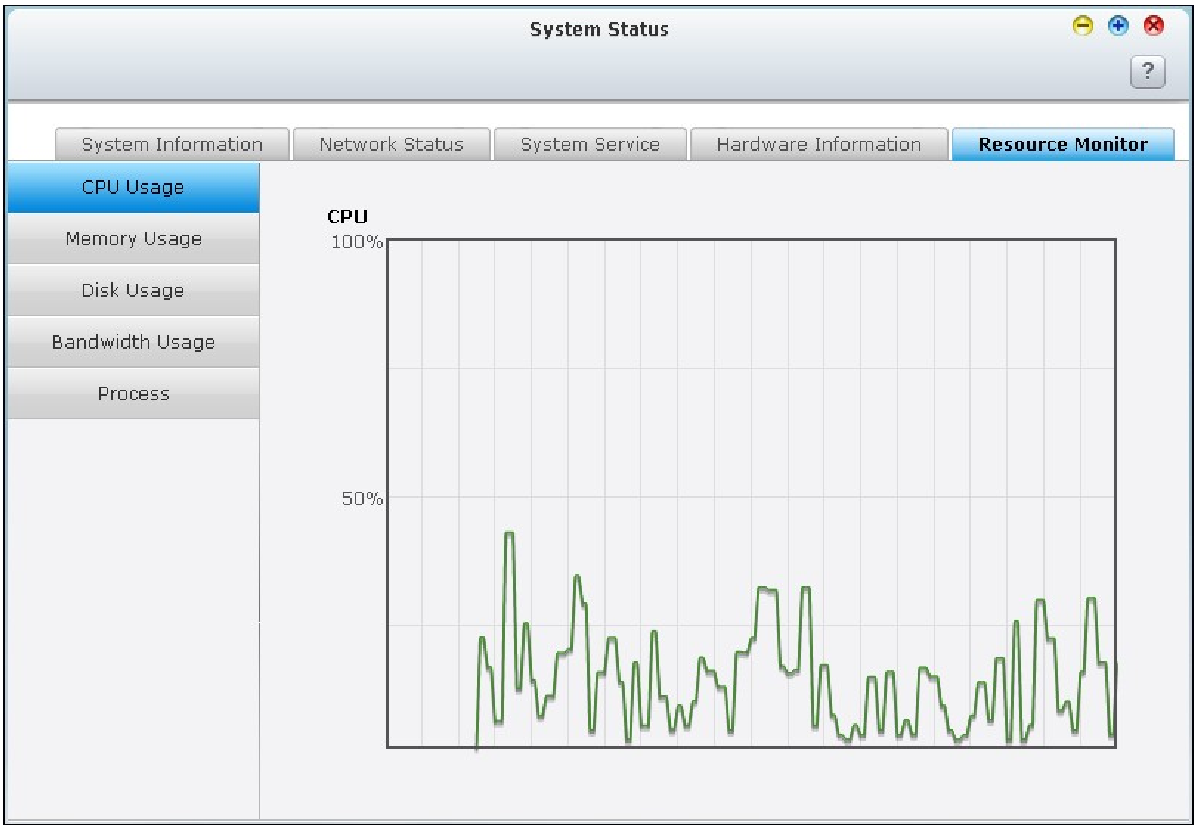
My NAS

CPU Usage	17.8 %
Total memory	1011.1 MB
Free memory	650.5 MB
System temperature	47°C / 116°F
HDD 1 temperature	39°C / 102°F

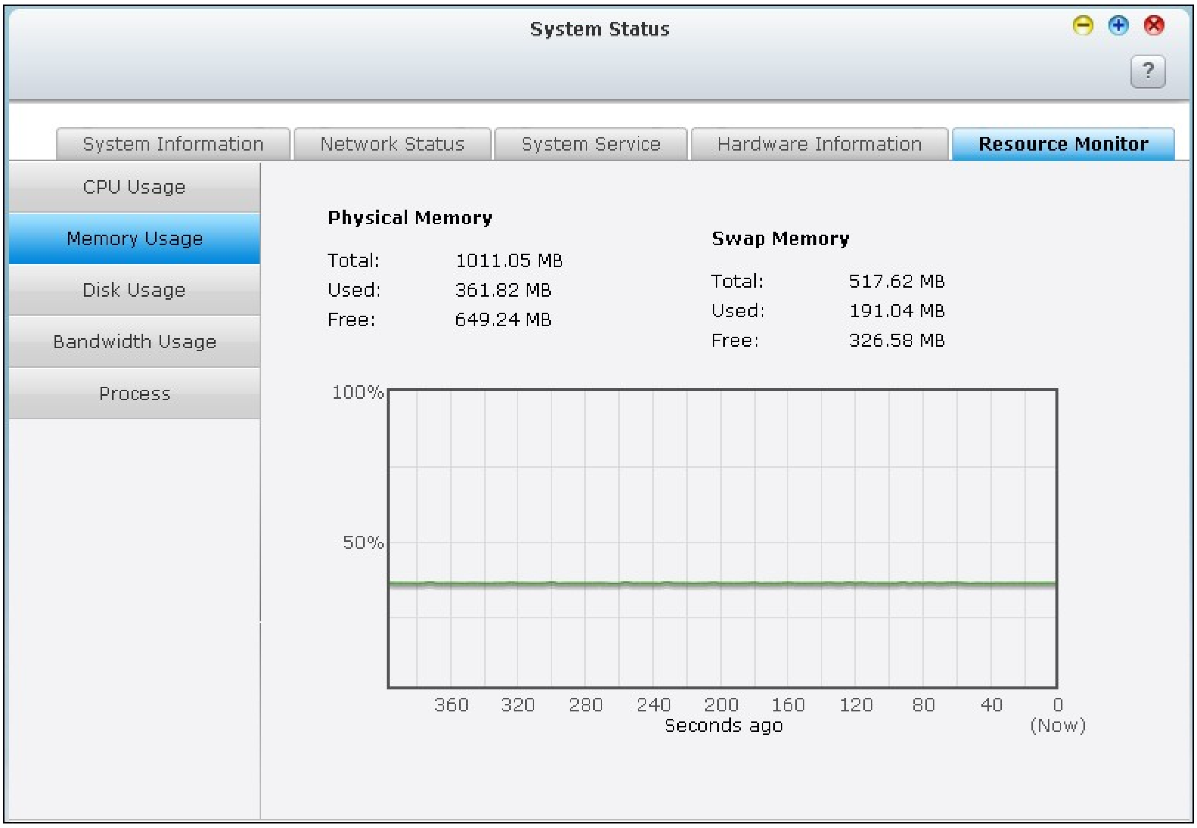
Resource Monitor

You can view the CPU usage, disk usage, and bandwidth transfer statistics of the NAS on this page.

- CPU Usage: This tab shows the CPU usage of the NAS.



- Memory Usage: This tab shows the memory usage of the NAS by real-time dynamic graph.



System Status

System Information | Network Status | System Service | Hardware Information | **Resource Monitor**

CPU Usage
Memory Usage
Disk Usage
Bandwidth Usage
Process

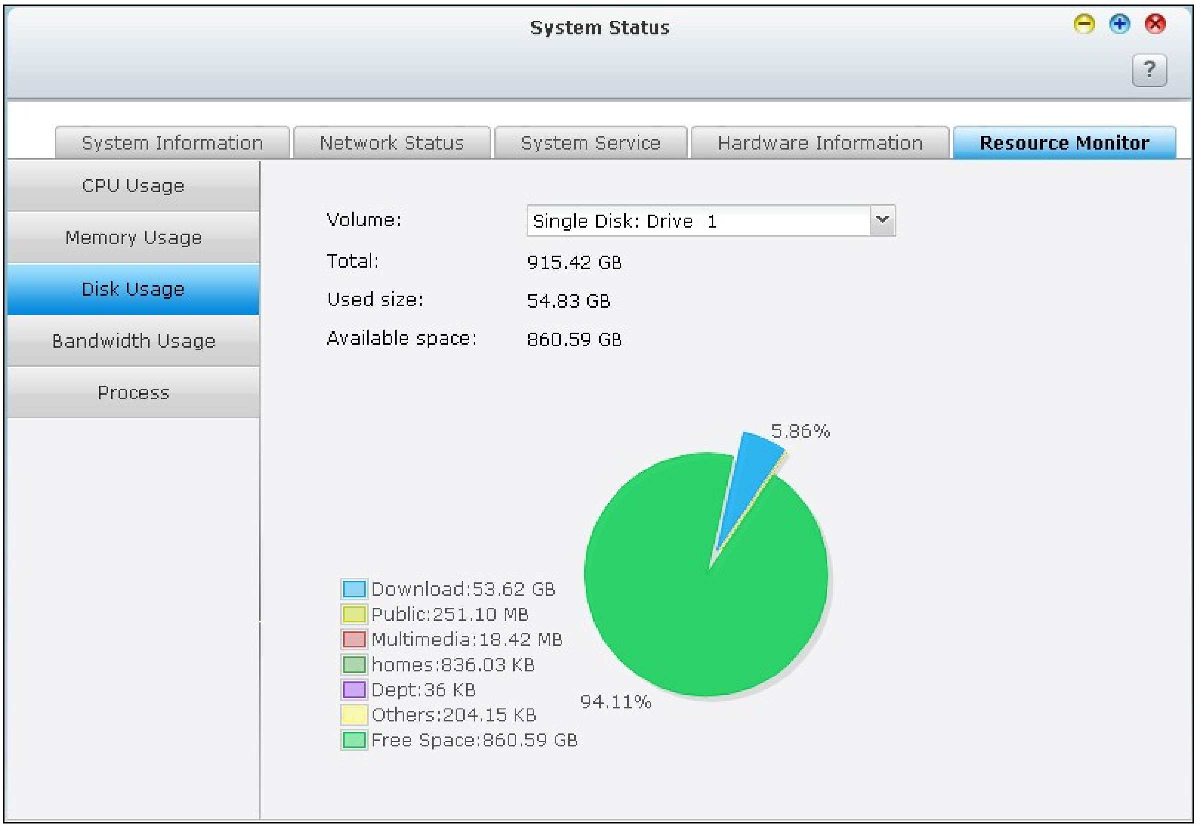
Physical Memory

Total:	1011.05 MB
Used:	361.82 MB
Free:	649.24 MB

Swap Memory

Total:	517.62 MB
Used:	191.04 MB
Free:	326.58 MB

- Disk Usage: This tab shows the disk space usage of each disk volume and its shared folders.



System Status

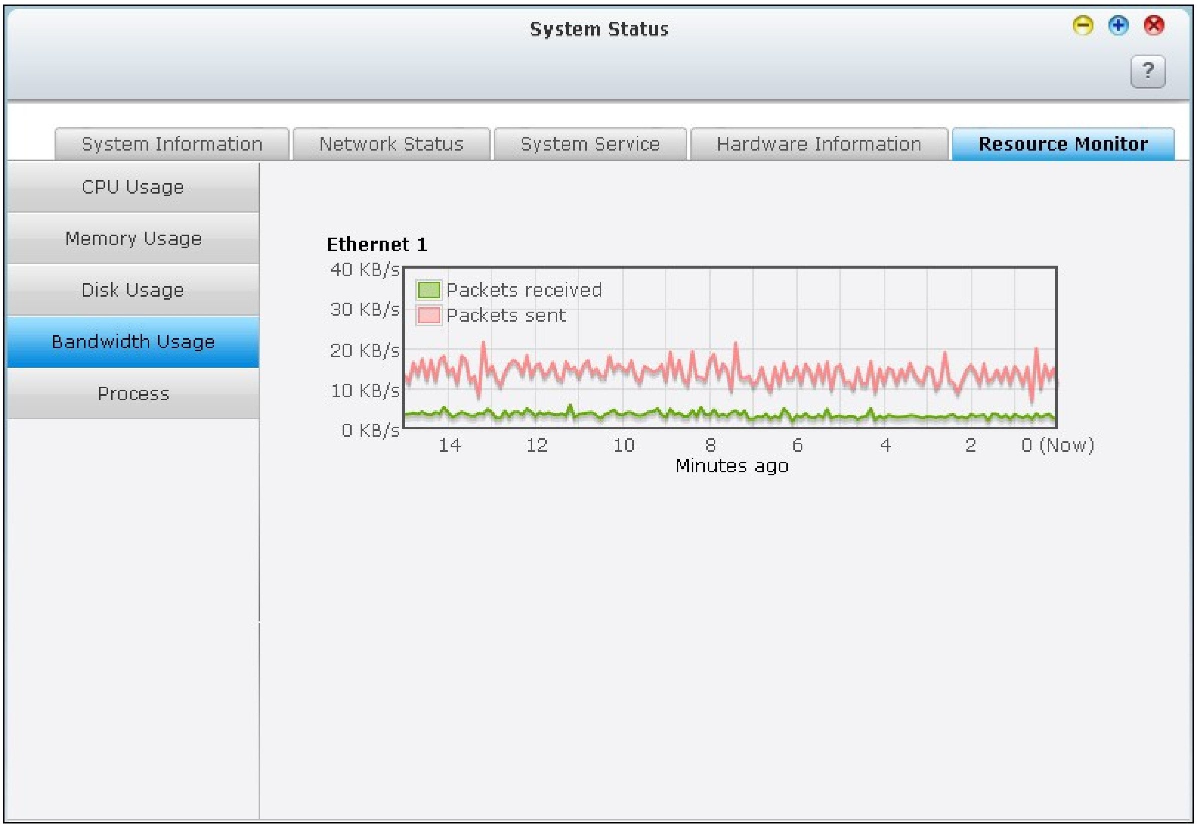
System Information | Network Status | System Service | Hardware Information | **Resource Monitor**

CPU Usage
Memory Usage
Disk Usage
Bandwidth Usage
Process

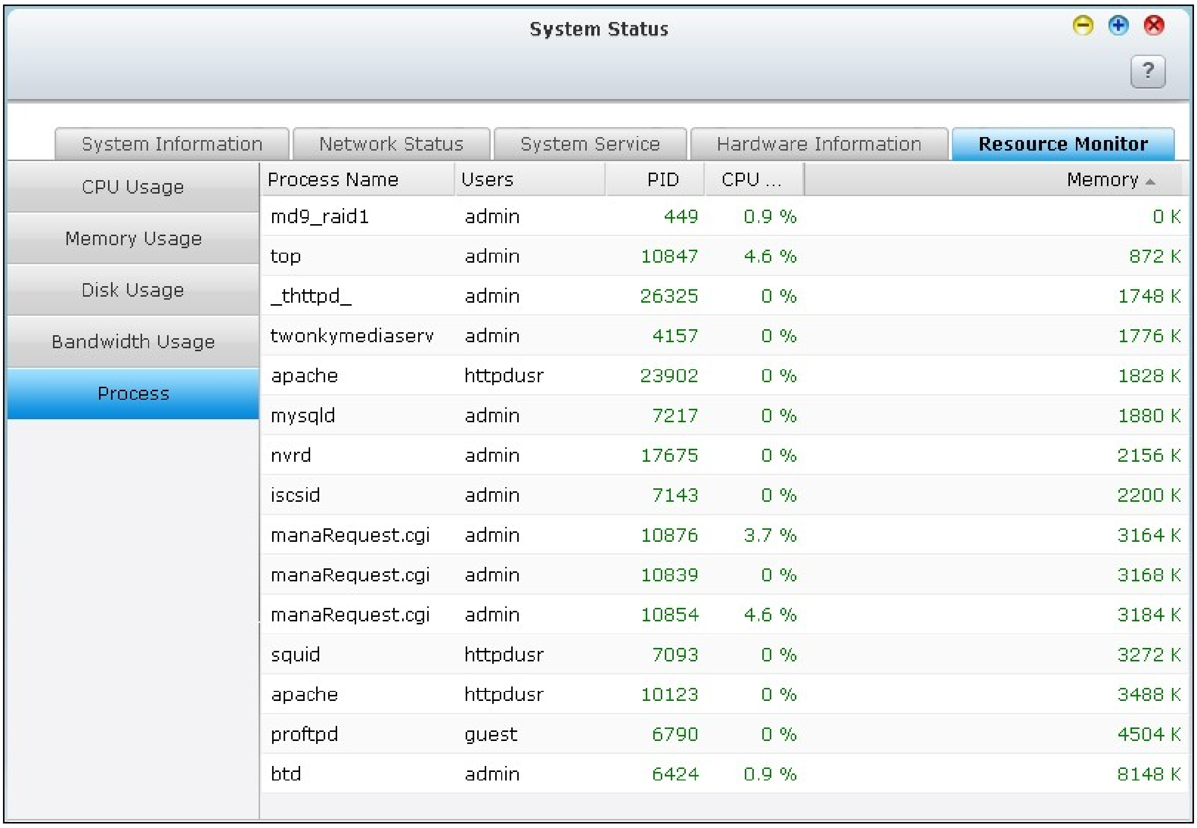
Volume:	Single Disk: Drive 1
Total:	915.42 GB
Used size:	54.83 GB
Available space:	860.59 GB

Download:53.62 GB
Public:251.10 MB
Multimedia:18.42 MB
homes:836.03 KB
Dept:36 KB
Others:204.15 KB
Free Space:860.59 GB

- Bandwidth Usage: This tab provides information about bandwidth transfer of each available LAN port of the NAS.



- Process: This tab shows information about the processes running on the NAS.



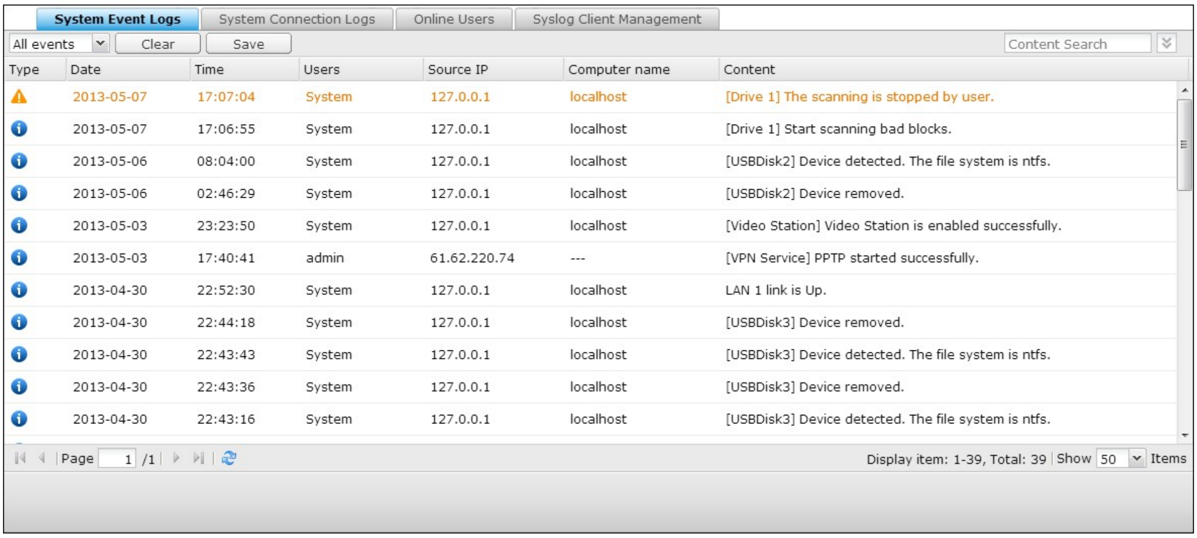
Process Name	Users	PID	CPU ...	Memory ▲
md9_raid1	admin	449	0.9 %	0 K
top	admin	10847	4.6 %	872 K
thttpd	admin	26325	0 %	1748 K
twonkymediaserv	admin	4157	0 %	1776 K
apache	httpdusr	23902	0 %	1828 K
mysqld	admin	7217	0 %	1880 K
nvrd	admin	17675	0 %	2156 K
iscsid	admin	7143	0 %	2200 K
manaRequest.cgi	admin	10876	3.7 %	3164 K
manaRequest.cgi	admin	10839	0 %	3168 K
manaRequest.cgi	admin	10854	4.6 %	3184 K
squid	httpdusr	7093	0 %	3272 K
apache	httpdusr	10123	0 %	3488 K
proftpd	guest	6790	0 %	4504 K
btd	admin	6424	0.9 %	8148 K

4.12 System Logs

System Event Logs

The NAS can store 10,000 recent event logs, including warning, error, and information messages. If the NAS does not function correctly, refer to the event logs for troubleshooting.

Tip: Right click a log to delete the record. To clear all logs, click “Clear”.



Type	Date	Time	Users	Source IP	Computer name	Content
⚠	2013-05-07	17:07:04	System	127.0.0.1	localhost	[Drive 1] The scanning is stopped by user.
ℹ	2013-05-07	17:06:55	System	127.0.0.1	localhost	[Drive 1] Start scanning bad blocks.
ℹ	2013-05-06	08:04:00	System	127.0.0.1	localhost	[USBDisk2] Device detected. The file system is ntfs.
ℹ	2013-05-06	02:46:29	System	127.0.0.1	localhost	[USBDisk2] Device removed.
ℹ	2013-05-03	23:23:50	System	127.0.0.1	localhost	[Video Station] Video Station is enabled successfully.
ℹ	2013-05-03	17:40:41	admin	61.62.220.74	---	[VPN Service] PPTP started successfully.
ℹ	2013-04-30	22:52:30	System	127.0.0.1	localhost	LAN 1 link is Up.
ℹ	2013-04-30	22:44:18	System	127.0.0.1	localhost	[USBDisk3] Device removed.
ℹ	2013-04-30	22:43:43	System	127.0.0.1	localhost	[USBDisk3] Device detected. The file system is ntfs.
ℹ	2013-04-30	22:43:36	System	127.0.0.1	localhost	[USBDisk3] Device removed.
ℹ	2013-04-30	22:43:16	System	127.0.0.1	localhost	[USBDisk3] Device detected. The file system is ntfs.

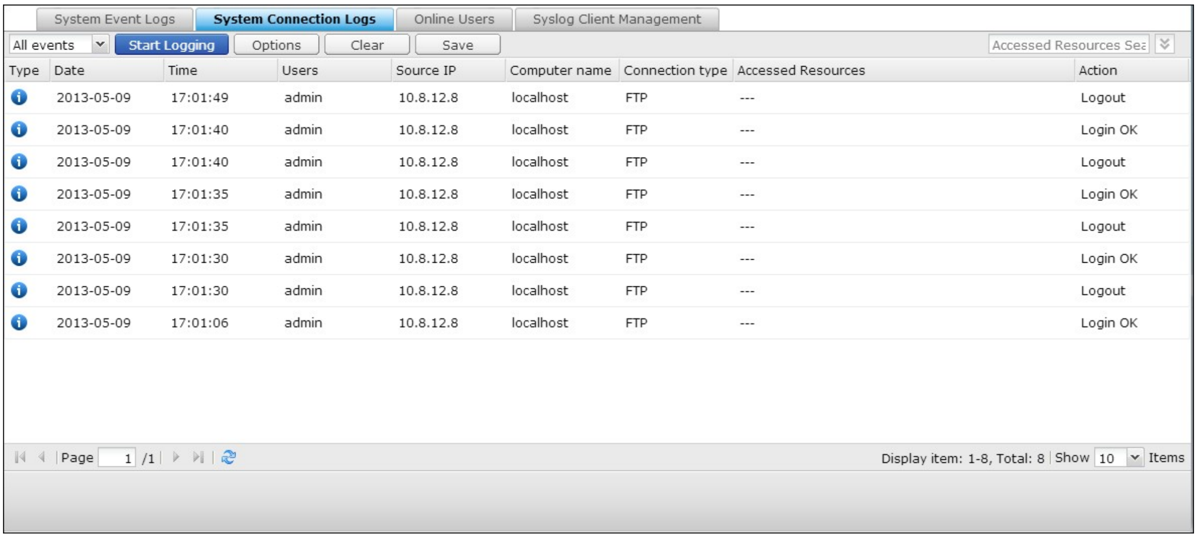
Page 1 /1

Display item: 1-39, Total: 39 Show 50 Items

System Connection Logs

The NAS supports recording HTTP, FTP, Telnet, SSH, AFP, NFS, SAMBA, and iSCSI connections. Click "Options" to select the connection type to be logged. The file transfer performance can be slightly affected when this feature is turned on.

Tip: Right click a log and select to delete the record or block the IP and select how long the IP should be blocked. To clear all the logs, click "Clear".

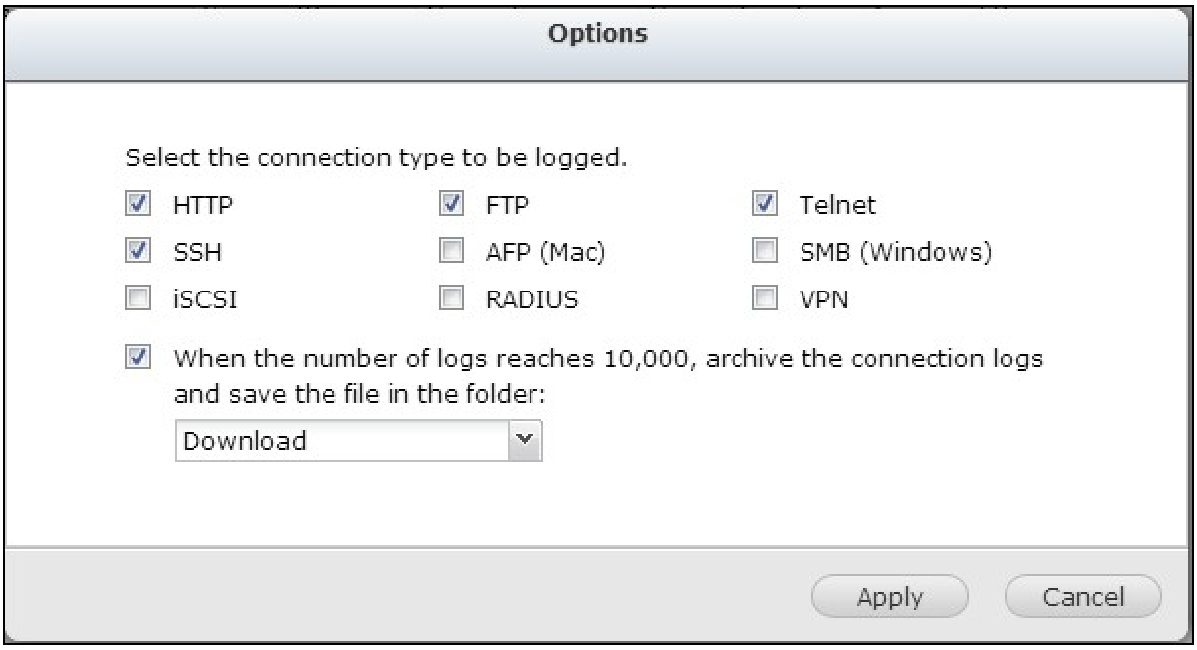


Type	Date	Time	Users	Source IP	Computer name	Connection type	Accessed Resources	Action
●	2013-05-09	17:01:49	admin	10.8.12.8	localhost	FTP	---	Logout
●	2013-05-09	17:01:40	admin	10.8.12.8	localhost	FTP	---	Login OK
●	2013-05-09	17:01:40	admin	10.8.12.8	localhost	FTP	---	Logout
●	2013-05-09	17:01:35	admin	10.8.12.8	localhost	FTP	---	Login OK
●	2013-05-09	17:01:35	admin	10.8.12.8	localhost	FTP	---	Logout
●	2013-05-09	17:01:30	admin	10.8.12.8	localhost	FTP	---	Login OK
●	2013-05-09	17:01:30	admin	10.8.12.8	localhost	FTP	---	Logout
●	2013-05-09	17:01:06	admin	10.8.12.8	localhost	FTP	---	Login OK

Page 1 /1

Display item: 1-8, Total: 8 | Show 10 Items

Start Logging: Turn on this option to archive the connection logs. The NAS generates a CSV file automatically and saves it to a specified folder when the number of logs reaches the upper limit.



Options

Select the connection type to be logged.

☑ HTTP ☑ FTP ☑ Telnet

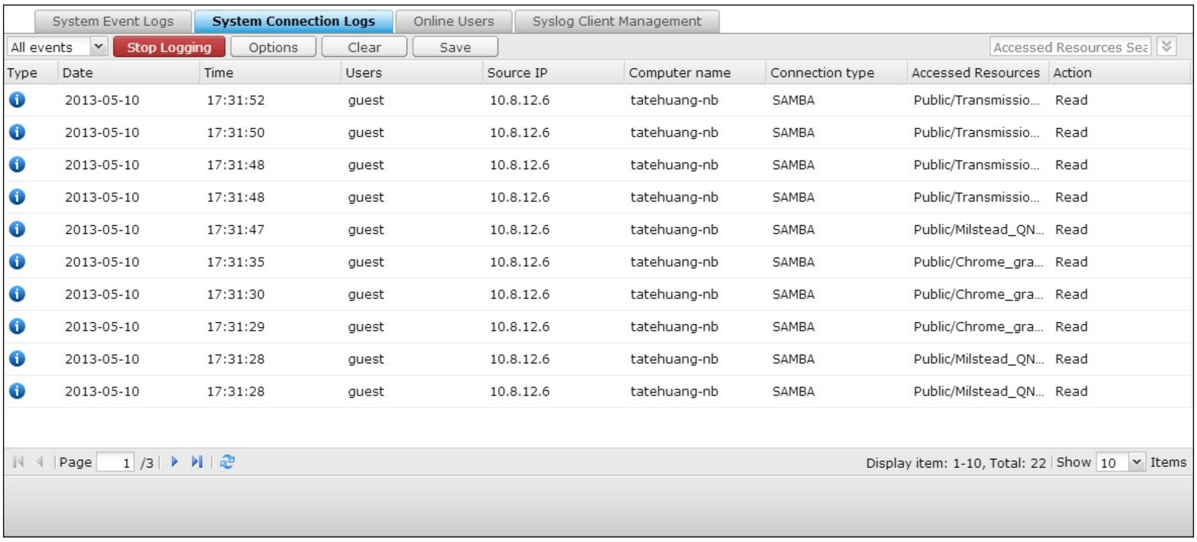
☑ SSH □ AFP (Mac) □ SMB (Windows)

□ iSCSI □ RADIUS □ VPN

☑ When the number of logs reaches 10,000, archive the connection logs and save the file in the folder:

Download

The file-level access logs are available on this page. The NAS will record the logs when users access, create, delete, move, or rename any files or folders via the connection type specified in “Options”. To disable this feature, click “Stop logging”.



Type	Date	Time	Users	Source IP	Computer name	Connection type	Accessed Resources	Action
ℹ	2013-05-10	17:31:52	guest	10.8.12.6	tatehuang-nb	SAMBA	Public/Transmissio...	Read
ℹ	2013-05-10	17:31:50	guest	10.8.12.6	tatehuang-nb	SAMBA	Public/Transmissio...	Read
ℹ	2013-05-10	17:31:48	guest	10.8.12.6	tatehuang-nb	SAMBA	Public/Transmissio...	Read
ℹ	2013-05-10	17:31:48	guest	10.8.12.6	tatehuang-nb	SAMBA	Public/Transmissio...	Read
ℹ	2013-05-10	17:31:47	guest	10.8.12.6	tatehuang-nb	SAMBA	Public/Milstead_QN...	Read
ℹ	2013-05-10	17:31:35	guest	10.8.12.6	tatehuang-nb	SAMBA	Public/Chrome_gra...	Read
ℹ	2013-05-10	17:31:30	guest	10.8.12.6	tatehuang-nb	SAMBA	Public/Chrome_gra...	Read
ℹ	2013-05-10	17:31:29	guest	10.8.12.6	tatehuang-nb	SAMBA	Public/Chrome_gra...	Read
ℹ	2013-05-10	17:31:28	guest	10.8.12.6	tatehuang-nb	SAMBA	Public/Milstead_QN...	Read
ℹ	2013-05-10	17:31:28	guest	10.8.12.6	tatehuang-nb	SAMBA	Public/Milstead_QN...	Read

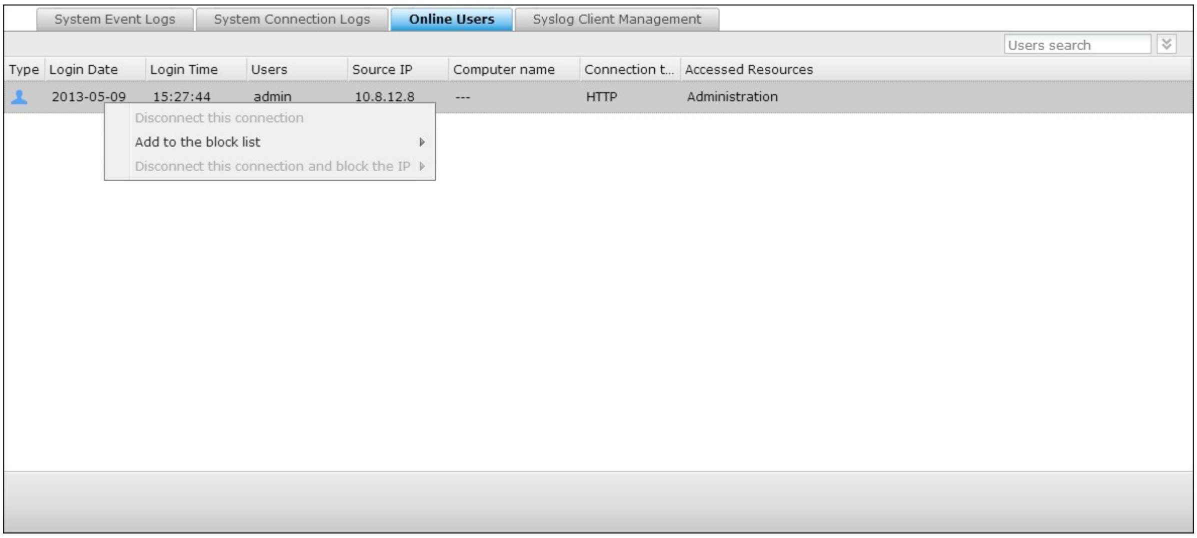
Page 1 /3

Display item: 1-10, Total: 22 Show 10 Items

Online Users

The information of the on-line users connecting to the NAS by networking services is shown on this page.

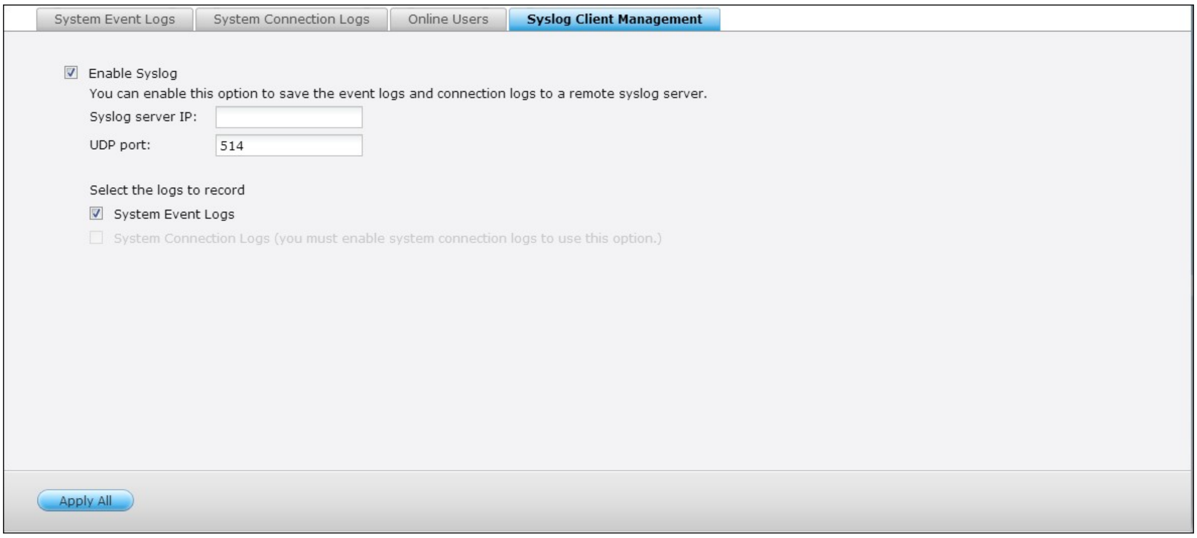
Tip: Right click a log to disconnect the IP connection and block the IP.



Type	Login Date	Login Time	Users	Source IP	Computer name	Connection t...	Accessed Resources
👤	2013-05-09	15:27:44	admin	10.8.12.8	---	HTTP	Administration

Syslog Client Management

Syslog is a standard for forwarding the log messages on an IP network. Turn on this option to save the event logs and connection logs to a remote Syslog server.



☑ Enable Syslog

You can enable this option to save the event logs and connection logs to a remote syslog server.

Syslog server IP:

UDP port: 514

Select the logs to record

☑ System Event Logs

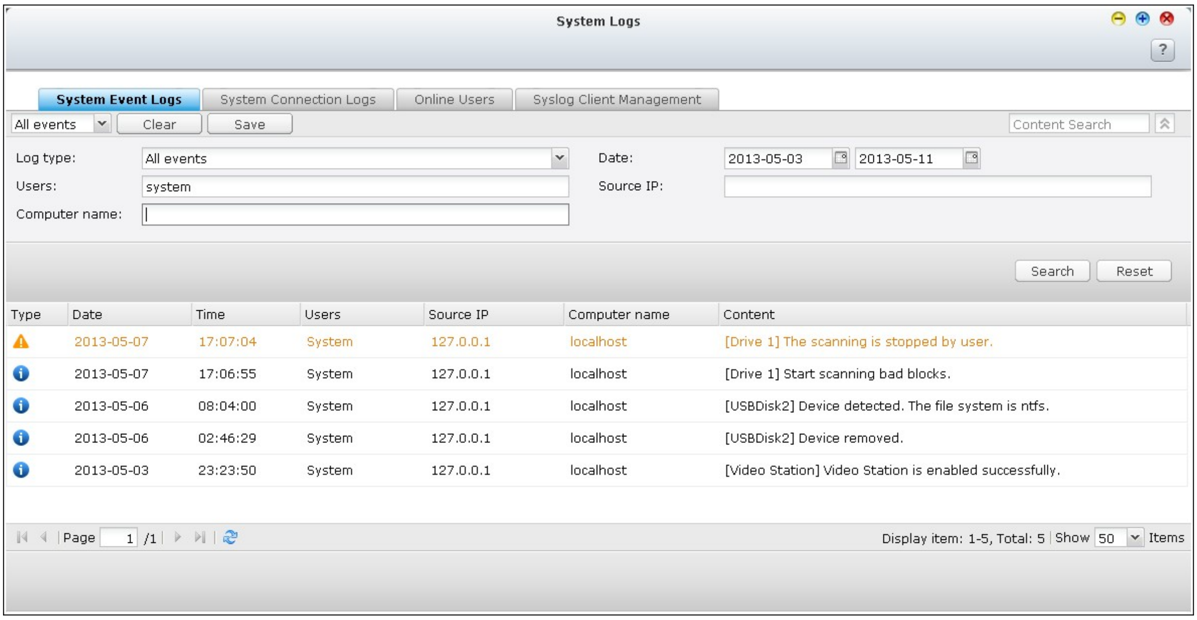
□ System Connection Logs (you must enable system connection logs to use this option.)

When converting the connection logs into a CSV file, the connection type and action will be number coded. Please refer to the table below for the code meaning.

Connection type codes	**Action codes**
0 - UNKNOWN	0 - UNKNOWN
1 - SAMBA	1 - DEL
2 - FTP	2 - READ
3 - HTTP	3 - WRITE
4 - NFS	4 - OPEN
5 - AFP	5 - MKDIR
6 - TELNET	6 - NFSMOUNT_SUCC
7 - SSH	7 - NFSMOUNT_FAIL
8 - ISCSI	8 - RENAME
	9 - LOGIN_FAIL
	10 - LOGIN_SUCC
	11 - LOGOUT
	12 - NFSUMOUNT
	13 - COPY
	14 - MOVE
	15 - ADD

Advanced Log Search

Advanced log search is provided to search for system event logs, system connection logs and online users based on user preferences. First, specify the log type, users, computer name, date range and source IP and click "Search" to search for the desired logs or reset to list all logs.



Log type: All events

Users: system

Computer name:

Date: 2013-05-03 – 2013-05-11

Source IP:

Type	Date	Time	Users	Source IP	Computer name	Content
⚠	2013-05-07	17:07:04	System	127.0.0.1	localhost	[Drive 1] The scanning is stopped by user.
ℹ	2013-05-07	17:06:55	System	127.0.0.1	localhost	[Drive 1] Start scanning bad blocks.
ℹ	2013-05-06	08:04:00	System	127.0.0.1	localhost	[USBDisk2] Device detected. The file system is ntfs.
ℹ	2013-05-06	02:46:29	System	127.0.0.1	localhost	[USBDisk2] Device removed.
ℹ	2013-05-03	23:23:50	System	127.0.0.1	localhost	[Video Station] Video Station is enabled successfully.

Page 1 /1

Display item: 1-5, Total: 5 Show 50 Items

Please note that for online users, only the source IP and Computer name can be specified.

5. Privilege Settings

5.1 Users

The NAS has created the following users by default:

- admin

  The administrator "admin" has full access to system administration and all shared folders. It cannot be deleted.
- guest

  This is a built-in user and will not be displayed on the "User Management" page. A guest does not belong to any user group. The login password is "guest".
- anonymous

  This is a built-in user and will not be shown on the "User Management" page. When you connect to the server by FTP, you can use this name to login.

The number of users you can create on the NAS varies according to the NAS models. If your NAS models are not listed, please visit http://www.qnap.com for details.

Maximum number of users	**NAS models**
1,024	TS-110, TS-210
2,048	TS-112, TS-119, TS-119P+, TS-212, TS-219P+, TS-410, TS-239 Pro II+, TS-259 Pro+
4,096	TS-412, TS-419P+, TS-410U, TS-419U, TS-412U, TS-419U+, SS-439 Pro, SS-839 Pro, TS-439 Pro II+, TS-459U-RP/SP, TS-459U-RP+/SP+, TS-459 Pro+, TS-459 Pro II, TS-559 Pro+, TS-559 Pro II, TS-659 Pro+, TS-659 Pro II, TS-859 Pro+, TS-859U-RP, TS-859U-RP+, TS-809 Pro, TS-809U-RP, TS-879 Pro, TS-1079 Pro, TS-879U-RP, TS-EC879U-RP, TS-1279U-RP, TS-EC1279U-RP

The following information is required to create a new user:

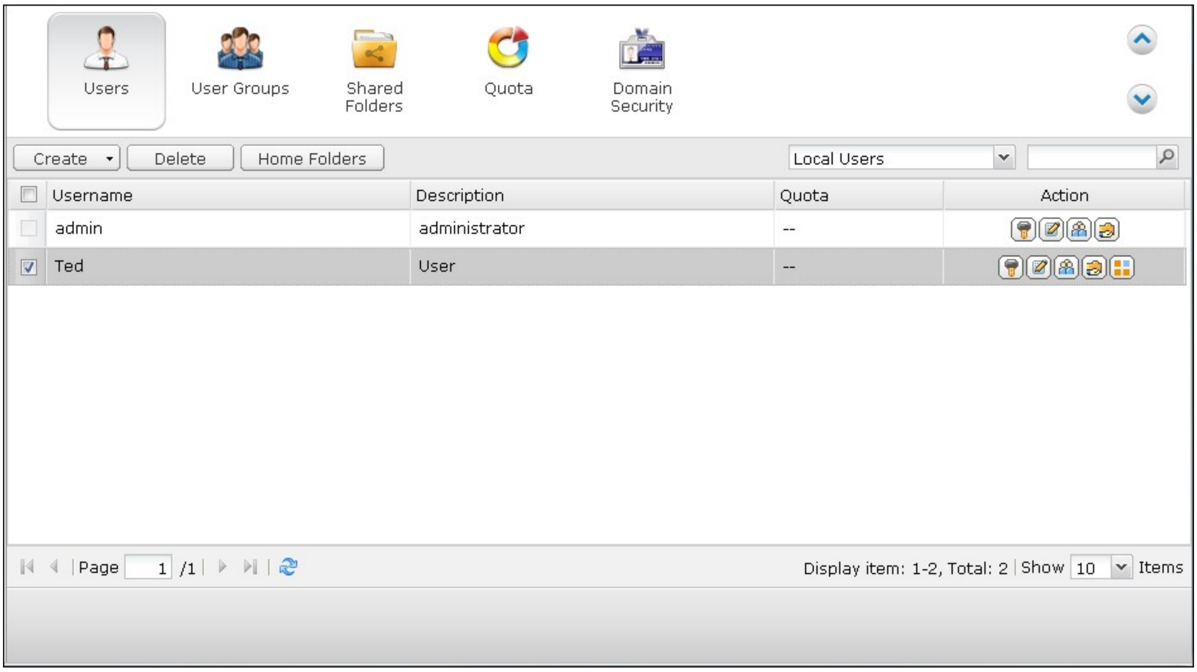
- Username

  The username is case-insensitive and supports multi-byte characters, such as Chinese, Japanese, Korean, and Russian. The maximum length is 32 characters. The invalid characters are listed below:

  " / \ [ ] : ; | = , + * ? < > ` '

- Password

  The password is case-sensitive and supports maximum 16 characters. It is recommended to use a password of at least 6 characters.



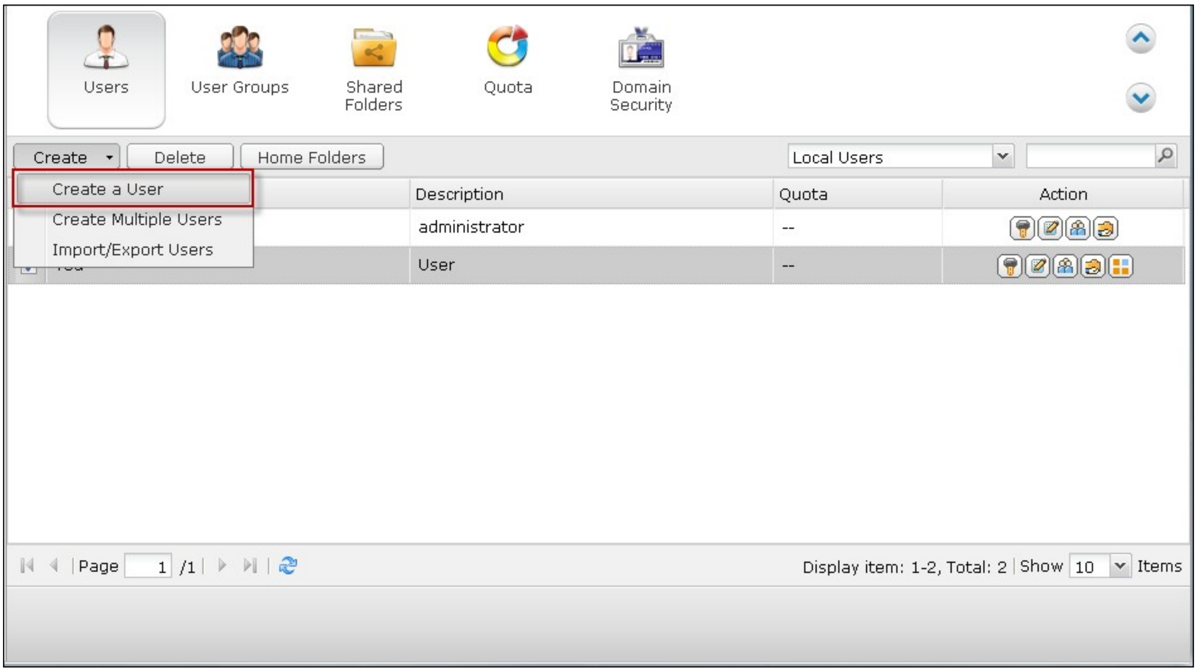
□	Username	Description	Quota	Action
□	admin	administrator	--	
☑	Ted	User	--	

Page 1 /1

Display item: 1-2, Total: 2 | Show 10 Items

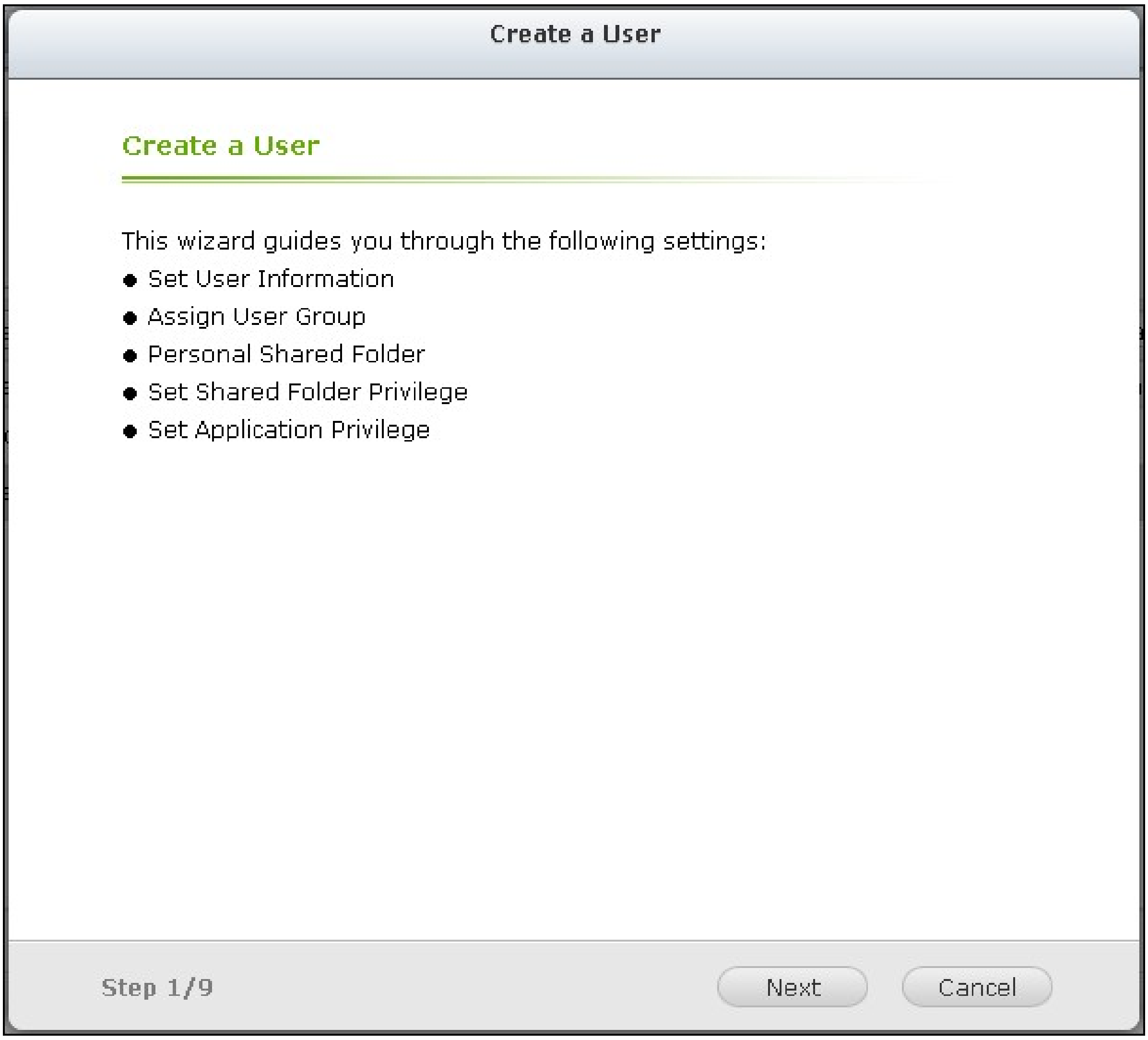
Create a User

To create a user on the NAS, click “Create a User”.



Description	Quota	Action
administrator	--	
User	--	

Follow the instructions of the wizard to complete the details.



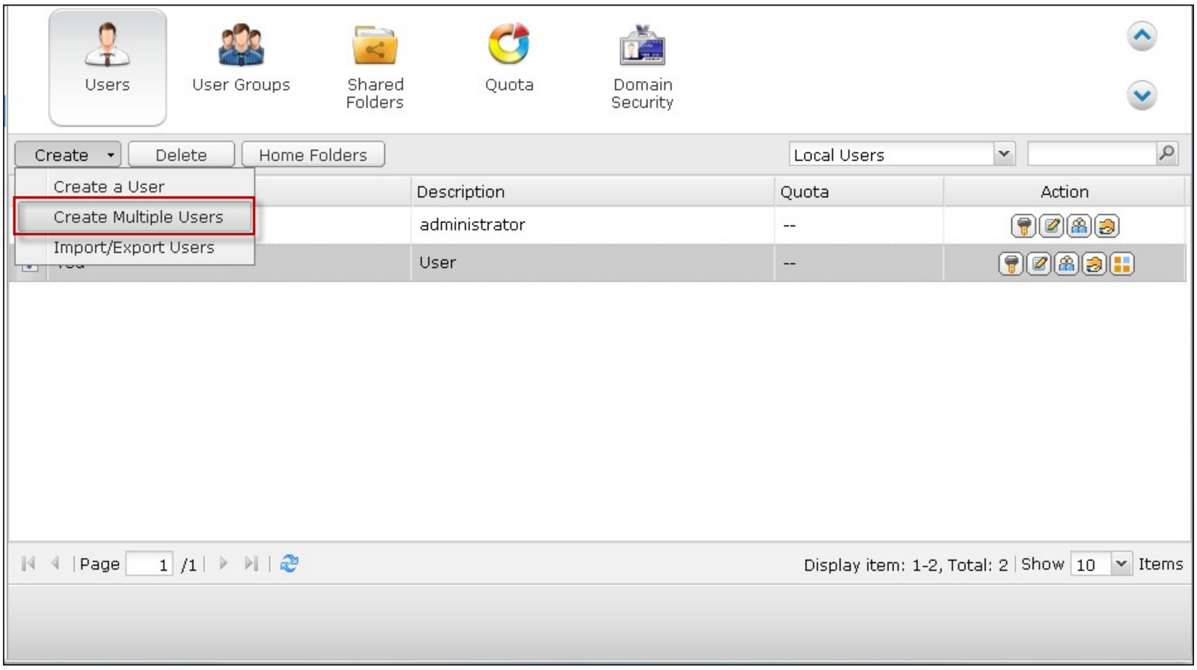
Create a User

This wizard guides you through the following settings:

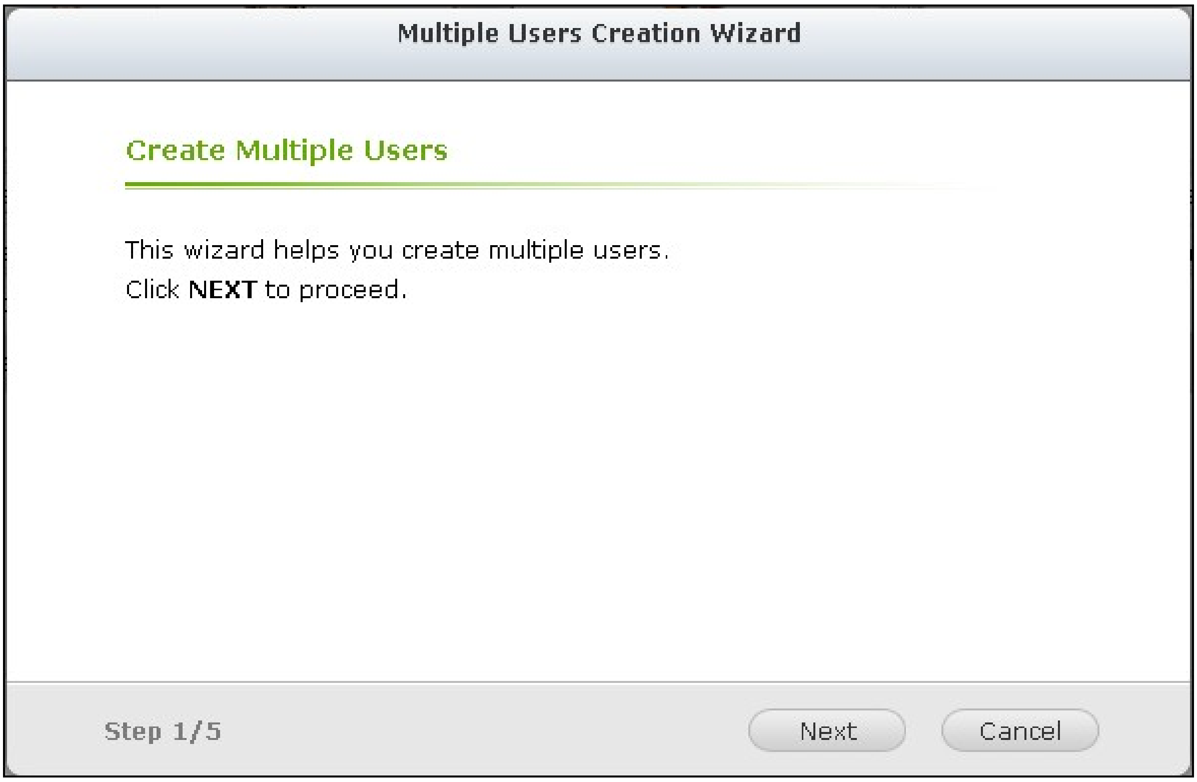
- Set User Information
- Assign User Group
- Personal Shared Folder
- Set Shared Folder Privilege
- Set Application Privilege

Create Multiple Users

1. To create multiple users on the NAS, click "Create Multiple Users".



2. Click "Next".



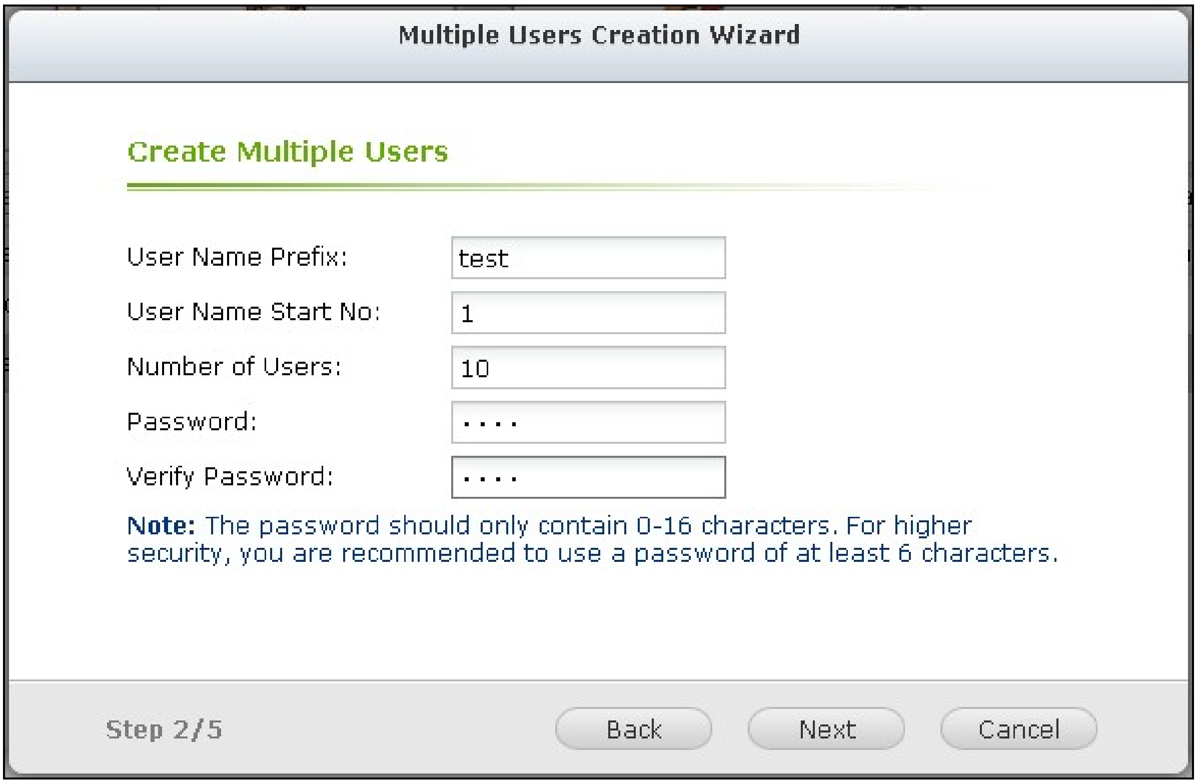
Multiple Users Creation Wizard

Create Multiple Users

This wizard helps you create multiple users.
Click **NEXT** to proceed.

3. Enter the name prefix, e.g. test. Enter the start number for the username, e.g.

0001 and the number of users to be created, e.g. 10. The NAS creates ten users named test0001, test0002, test0003…test0010. The password entered here is the same for all the new users.



Create Multiple Users

User Name Prefix: test

User Name Start No: 1

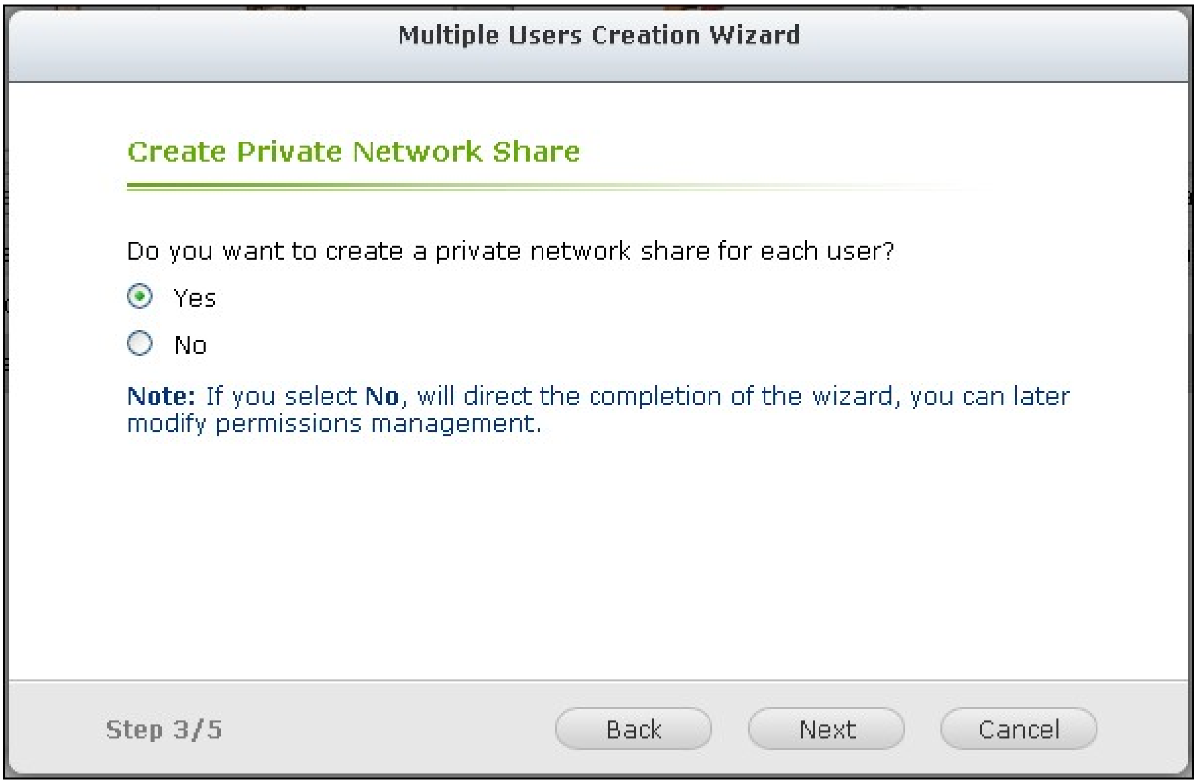
Number of Users: 10

Password: ····

Verify Password: ····

Note: The password should only contain 0-16 characters. For higher security, you are recommended to use a password of at least 6 characters.

4. Select to create a private shard folder for each user or not. The shared folder will be named after the username. If a shared folder of the same name has already existed, the NAS will not create the folder.



Multiple Users Creation Wizard

Create Private Network Share

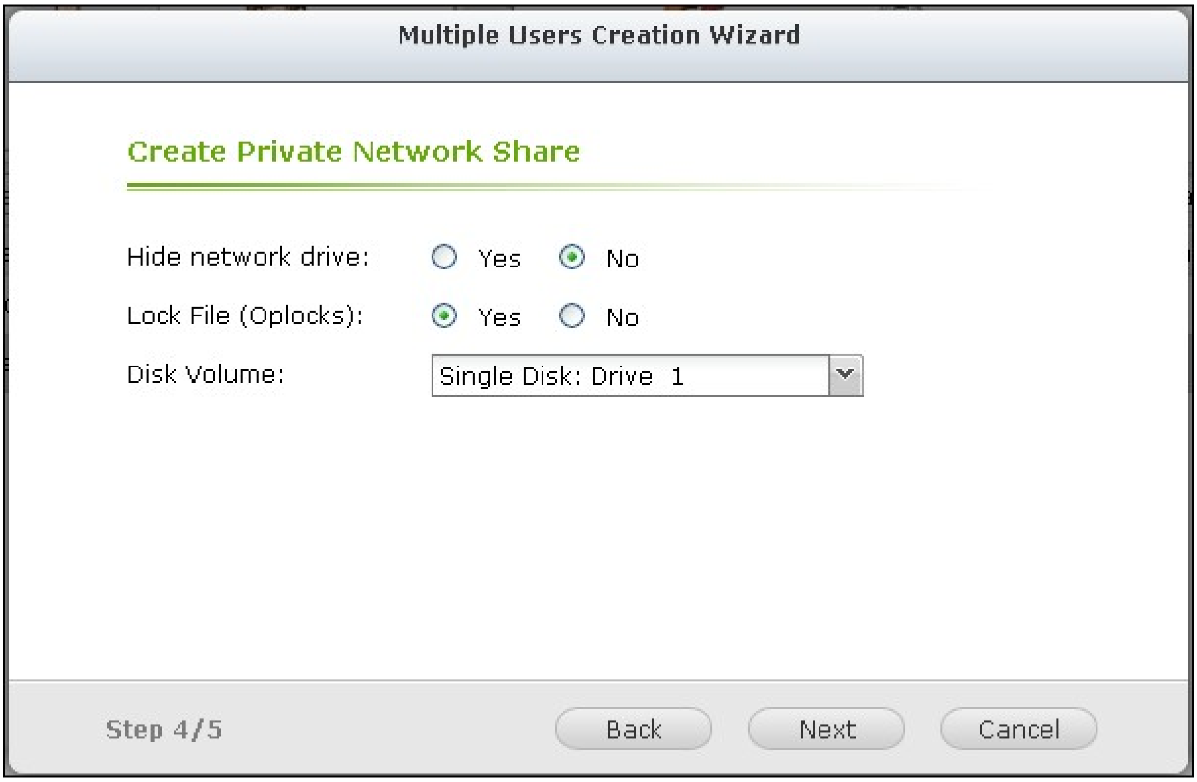
Do you want to create a private network share for each user?

● Yes

○ No

Note: If you select **No**, will direct the completion of the wizard, you can later modify permissions management.

5. Specify the folder settings.



Multiple Users Creation Wizard

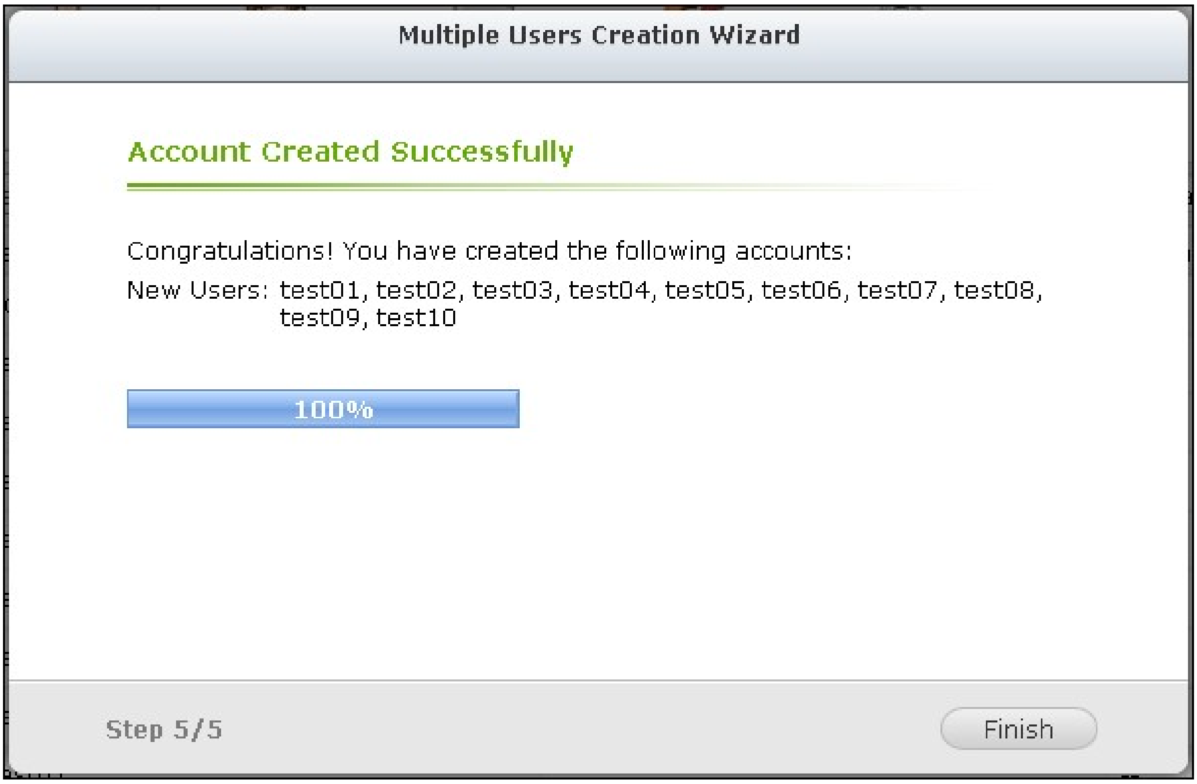
Create Private Network Share

Hide network drive: ○ Yes ● No

Lock File (Oplocks): ● Yes ○ No

Disk Volume: Single Disk: Drive 1

6. You can view the new users created in the last step. Click "Finish" to exit the wizard.



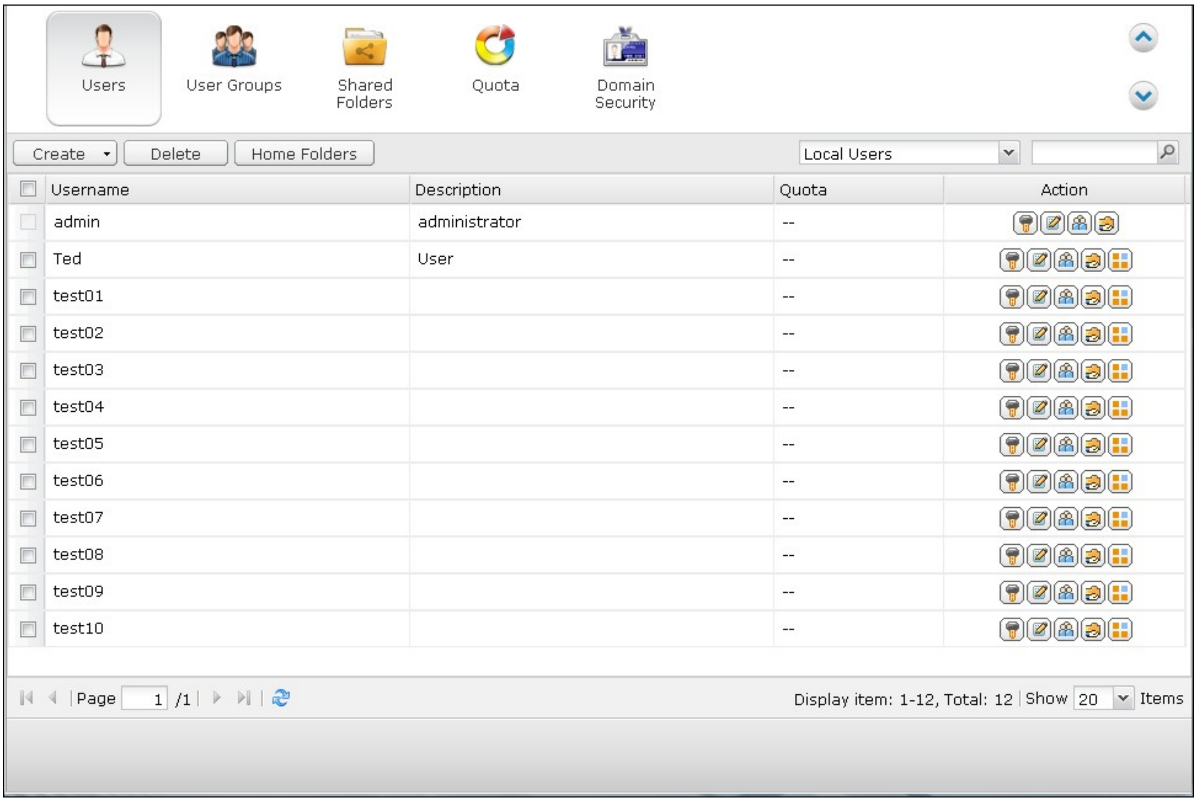
Multiple Users Creation Wizard

Account Created Successfully

Congratulations! You have created the following accounts:

New Users: test01, test02, test03, test04, test05, test06, test07, test08, test09, test10

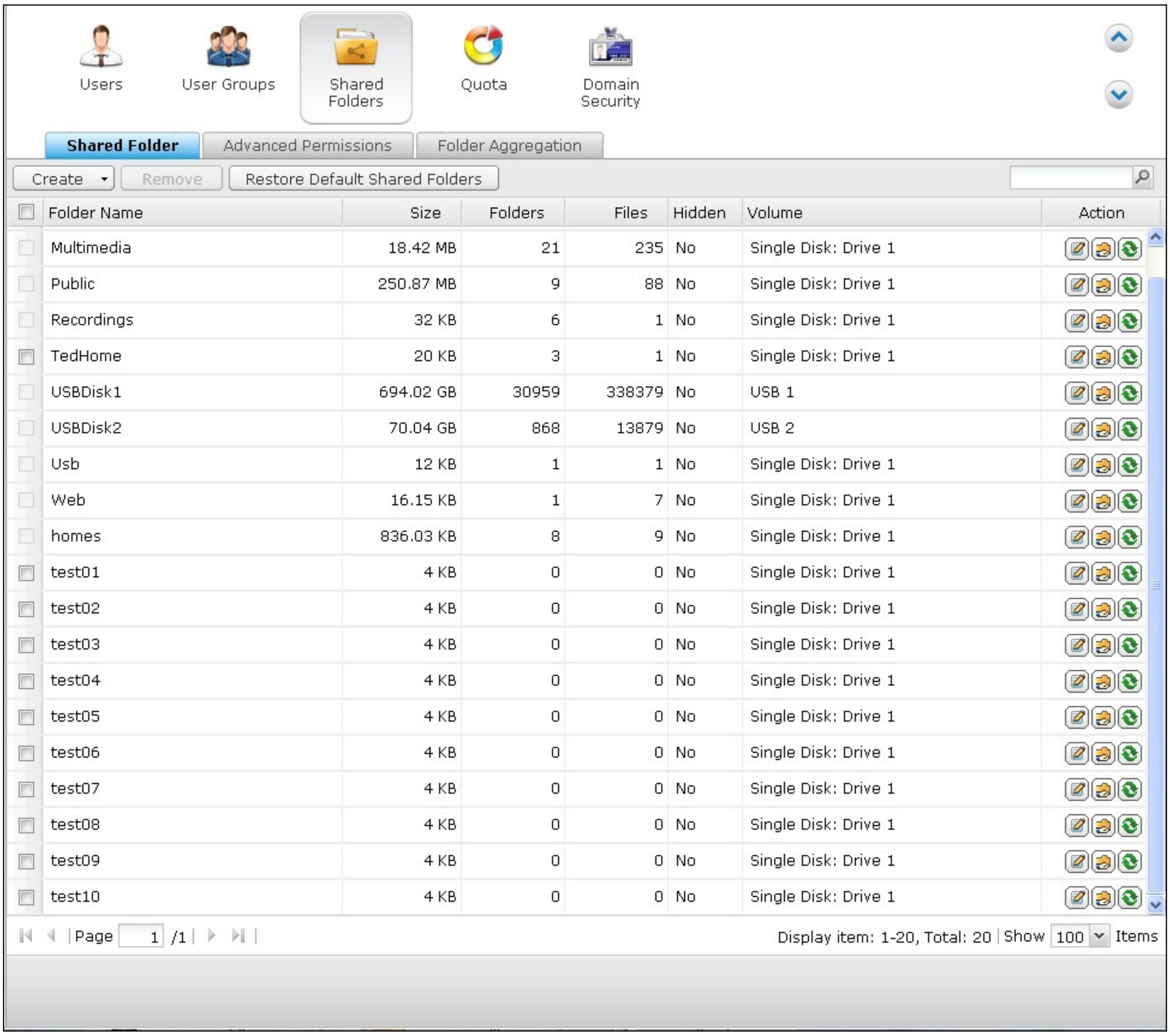
7. Check that the users have been created.



Username	Description	Quota	Action
admin	administrator	--	
Ted	User	--	
test01		--	
test02		--	
test03		--	
test04		--	
test05		--	
test06		--	
test07		--	
test08		--	
test09		--	
test10		--	

Page 1 /1 Display item: 1-12, Total: 12 Show 20 Items

8. Check that the shared folders have been created for the users.



□	Folder Name	Size	Folders	Files	Hidden	Volume	Action
□	Multimedia	18.42 MB	21	235	No	Single Disk: Drive 1	
□	Public	250.87 MB	9	88	No	Single Disk: Drive 1	
□	Recordings	32 KB	6	1	No	Single Disk: Drive 1	
□	TedHome	20 KB	3	1	No	Single Disk: Drive 1	
□	USBDisk1	694.02 GB	30959	338379	No	USB 1	
□	USBDisk2	70.04 GB	868	13879	No	USB 2	
□	Usb	12 KB	1	1	No	Single Disk: Drive 1	
□	Web	16.15 KB	1	7	No	Single Disk: Drive 1	
□	homes	836.03 KB	8	9	No	Single Disk: Drive 1	
□	test01	4 KB	0	0	No	Single Disk: Drive 1	
□	test02	4 KB	0	0	No	Single Disk: Drive 1	
□	test03	4 KB	0	0	No	Single Disk: Drive 1	
□	test04	4 KB	0	0	No	Single Disk: Drive 1	
□	test05	4 KB	0	0	No	Single Disk: Drive 1	
□	test06	4 KB	0	0	No	Single Disk: Drive 1	
□	test07	4 KB	0	0	No	Single Disk: Drive 1	
□	test08	4 KB	0	0	No	Single Disk: Drive 1	
□	test09	4 KB	0	0	No	Single Disk: Drive 1	
□	test10	4 KB	0	0	No	Single Disk: Drive 1	

Page 1 /1

Display item: 1-20, Total: 20 | Show 100 Items

Import/Export Users

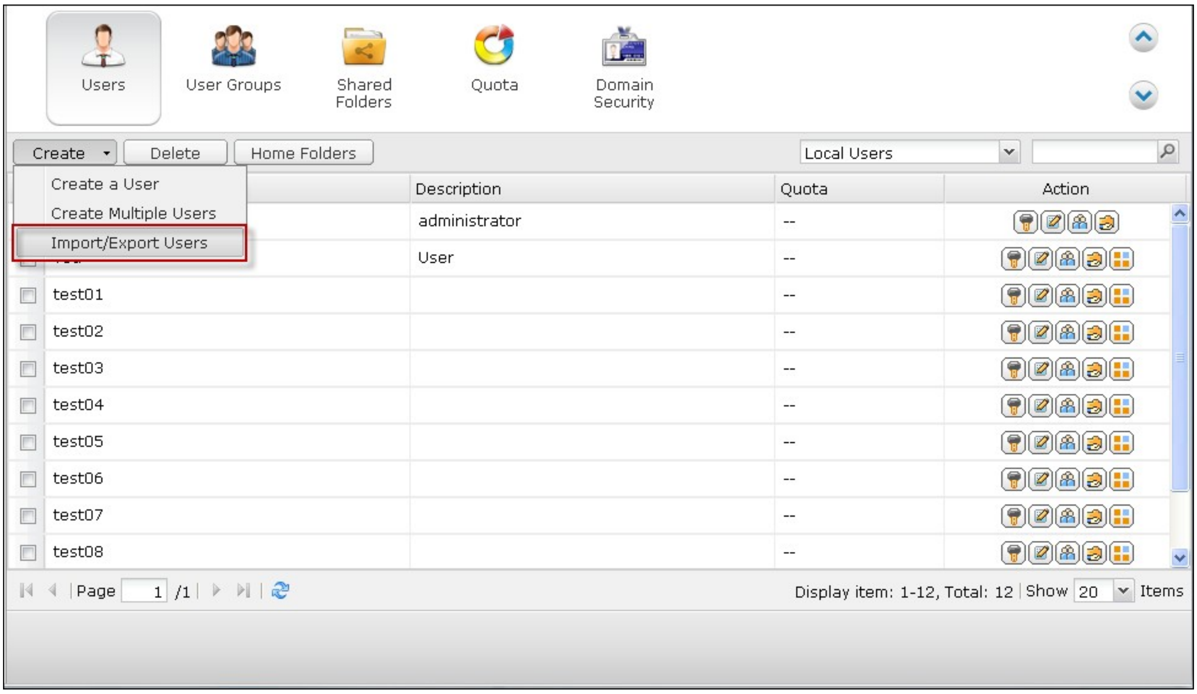
You can import users to or export users from the NAS with this function.

Note: The password rules (if applicable) will not be applied when importing the users.

Export users:

Follow the steps below to export users from the NAS:

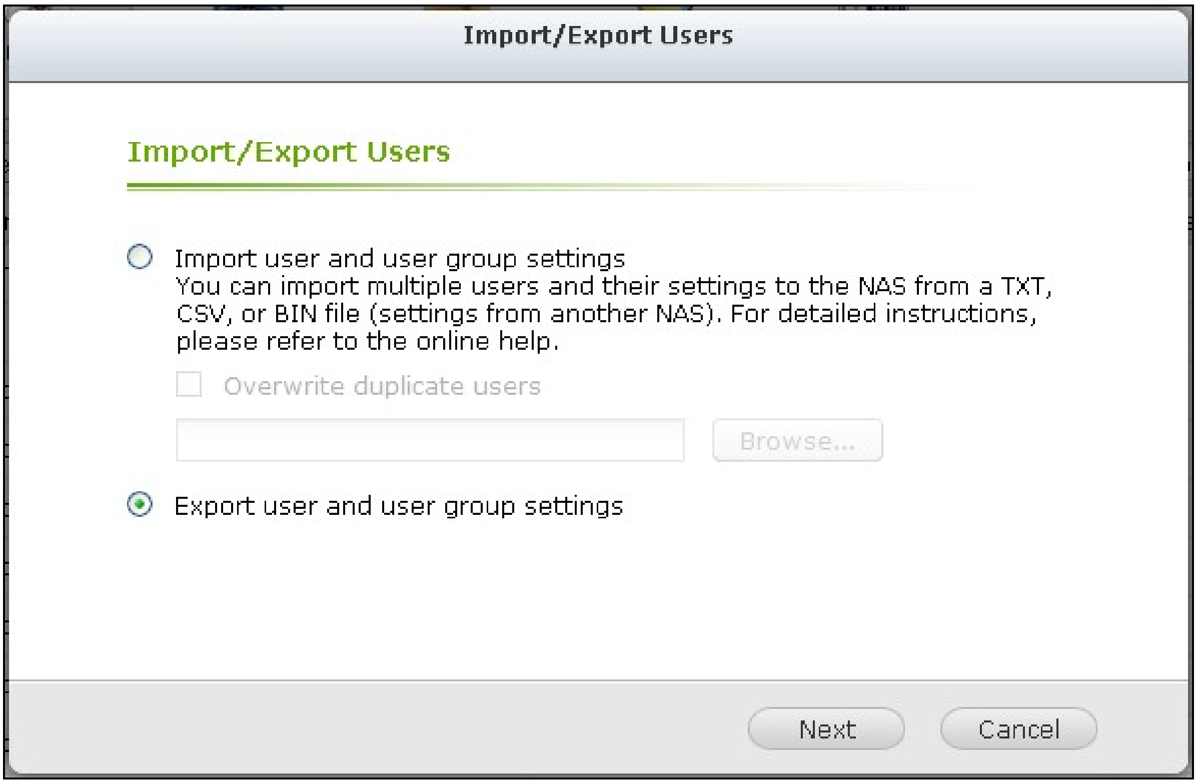
1. Click “Import/Export Users”.



	Description	Quota	Action
	administrator	--	
	User	--	
test01		--	
test02		--	
test03		--	
test04		--	
test05		--	
test06		--	
test07		--	
test08		--	

2. Select the option “Export user and user group settings”.

3. Click “Next” to download and save the account setting file (*.bin). The file can be imported to another NAS for account setup.



Import/Export Users

Import/Export Users

○ Import user and user group settings
You can import multiple users and their settings to the NAS from a TXT, CSV, or BIN file (settings from another NAS). For detailed instructions, please refer to the online help.

□ Overwrite duplicate users

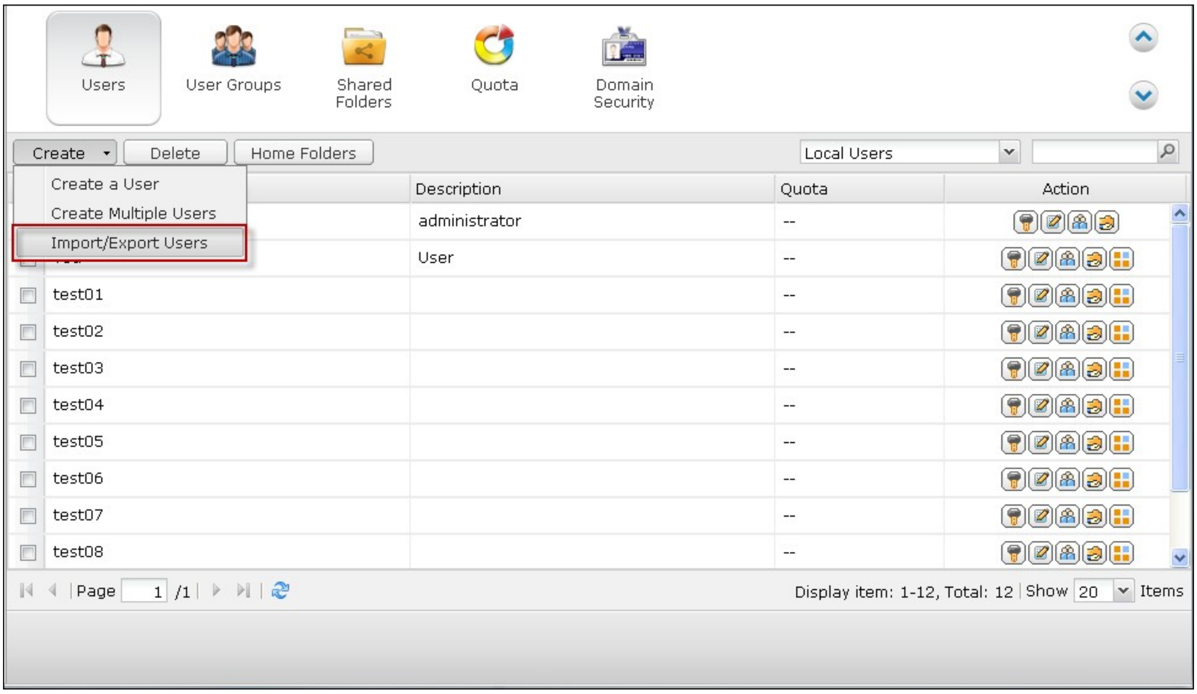
● Export user and user group settings

Note that the quota settings can be exported only when the quota function is enabled in "Privilege Settings" > "Quota".

Import users:

Before you import users to the NAS, make sure you have backed up the original users settings by exporting the users. Follow the steps below to import users to the NAS:

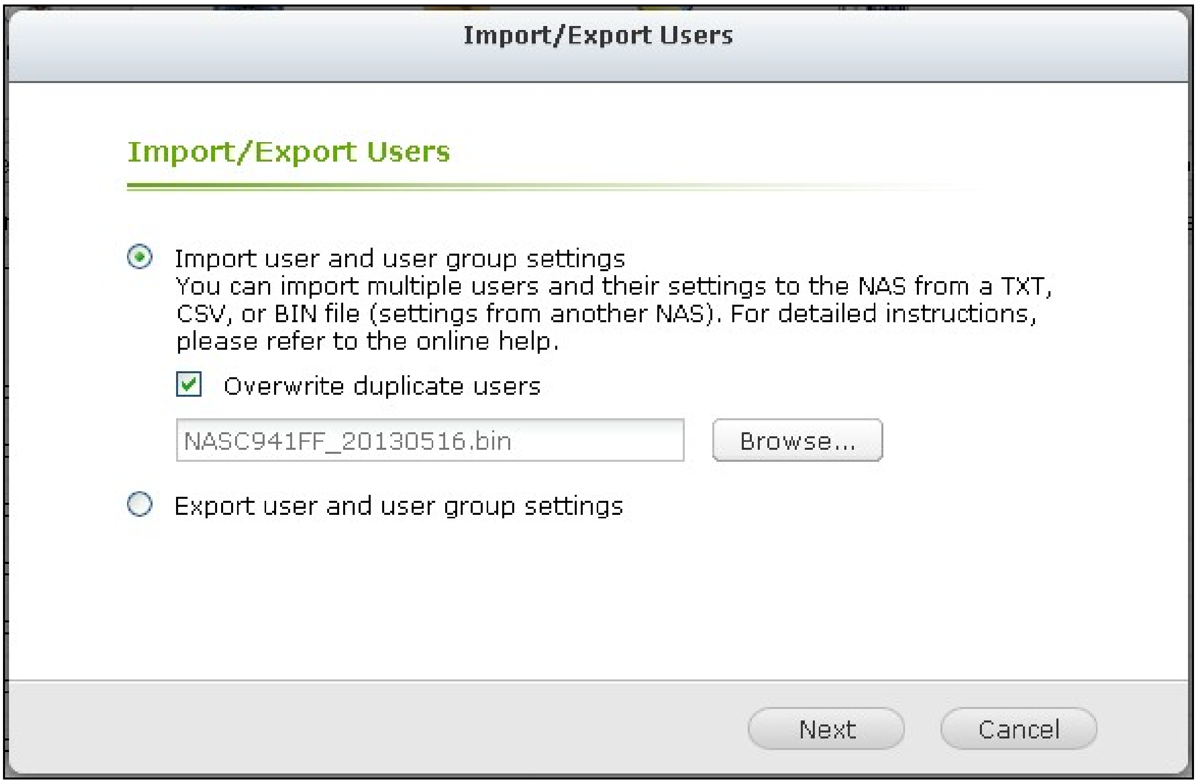
1. Click "Import/Export Users".



		Description	Quota	Action
		administrator	--	
□		User	--	
□	test01		--	
□	test02		--	
□	test03		--	
□	test04		--	
□	test05		--	
□	test06		--	
□	test07		--	
□	test08		--	

Page 1 /1 Display item: 1-12, Total: 12 | Show 20 Items

2. Select "Import user and user group settings". Select the option "Overwrite duplicate users" to overwrite existing users on the NAS. Click "Browse" and select the file (*.txt, *.csv, *.bin) which contains the users information and click "Next" to import the users.



Import/Export Users

Import/Export Users

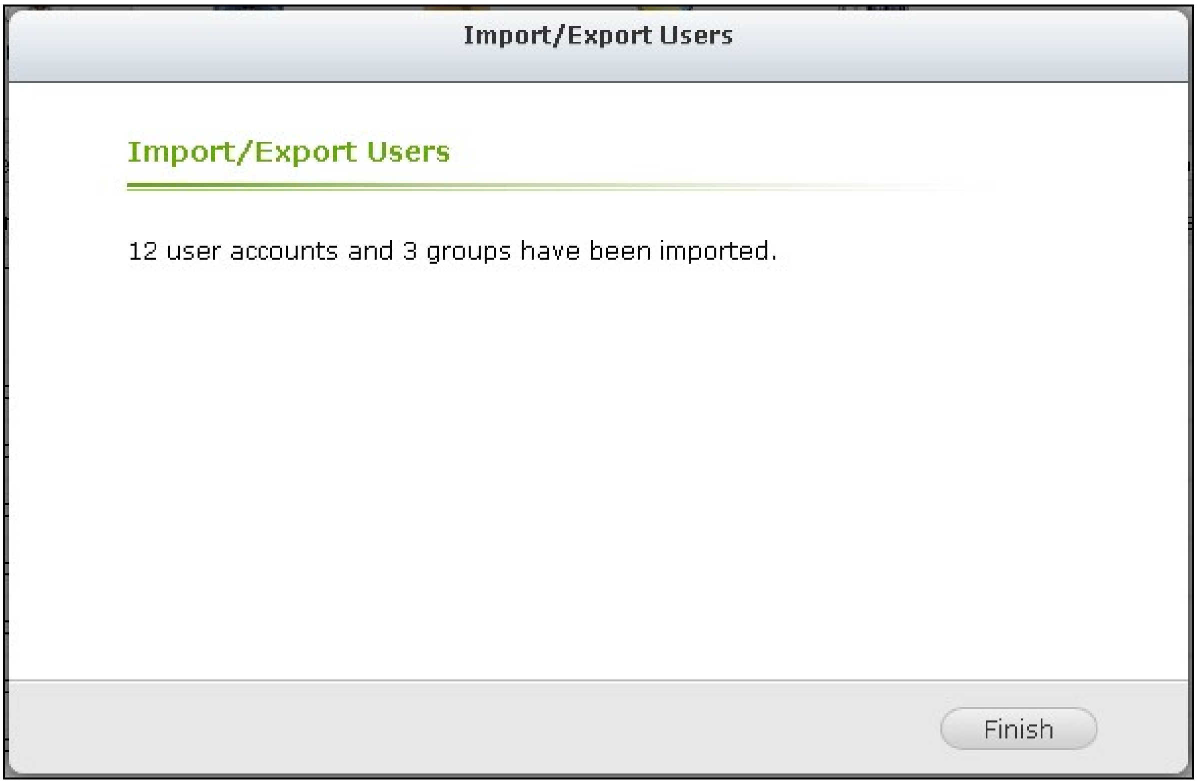
● Import user and user group settings
You can import multiple users and their settings to the NAS from a TXT, CSV, or BIN file (settings from another NAS). For detailed instructions, please refer to the online help.

☑ Overwrite duplicate users

NASC941FF_20130516.bin

○ Export user and user group settings

3. Click "Finish" after the users have been created.

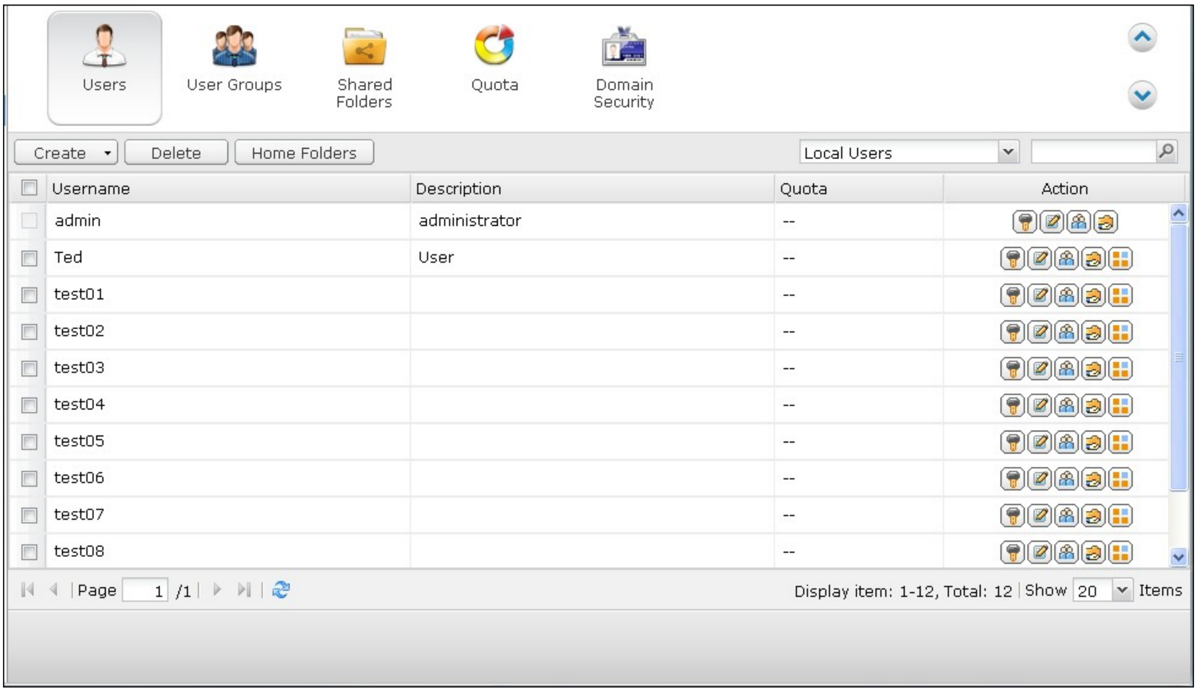


Import/Export Users

Import/Export Users

12 user accounts and 3 groups have been imported.

4. The imported user accounts will be shown.



□	Username	Description	Quota	Action
□	admin	administrator	--	
□	Ted	User	--	
□	test01		--	
□	test02		--	
□	test03		--	
□	test04		--	
□	test05		--	
□	test06		--	
□	test07		--	
□	test08		--	

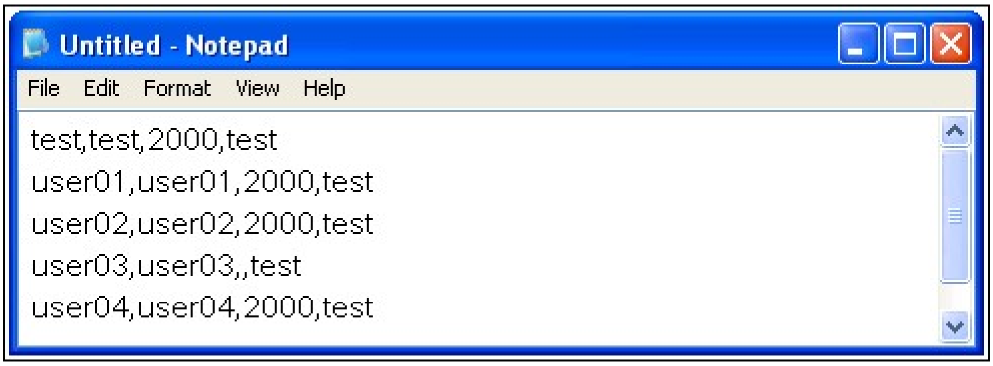
Page 1 /1 Display item: 1-12, Total: 12 Show 20 Items

The NAS supports importing user accounts from TXT, CSV or BIN files. To create a list of user accounts with these file types, follow the steps below.

TXT

1. Open a new file with a text editor.
2. Enter a user's information in the following order and separate them by ",":
   Username, Password, Quota (MB), Group Name
3. Go to the next line and repeat the previous step to create another user account. Each line indicates one user's information.
4. Save the file in UTF-8 encoding if it contains double-byte characters.

An example is shown as below. Note that if the quota is left empty, the user will have no limit in using the disk space of the NAS.

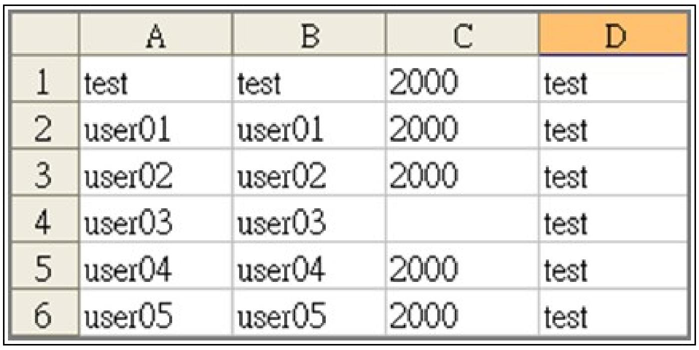


```
test,test,2000,test
user01,user01,2000,test
user02,user02,2000,test
user03,user03,,test
user04,user04,2000,test
```

CSV (Excel)

1. Open a new file with Excel.
2. Enter a user's information in the same row in the following order:
   Column A: Username
   Column B: Password
   Column C: Quota (MB)
   Column D: Group name
3. Go to the next row and repeat the previous step to create another user account. Each row indicates one user's information. Save the file in CSV format.
4. Open the CSV file with Notepad and save it in UTF-8 encoding if it contains double-byte characters.

An example is shown as below:



	A	B	C	D
1	test	test	2000	test
2	user01	user01	2000	test
3	user02	user02	2000	test
4	user03	user03		test
5	user04	user04	2000	test
6	user05	user05	2000	test

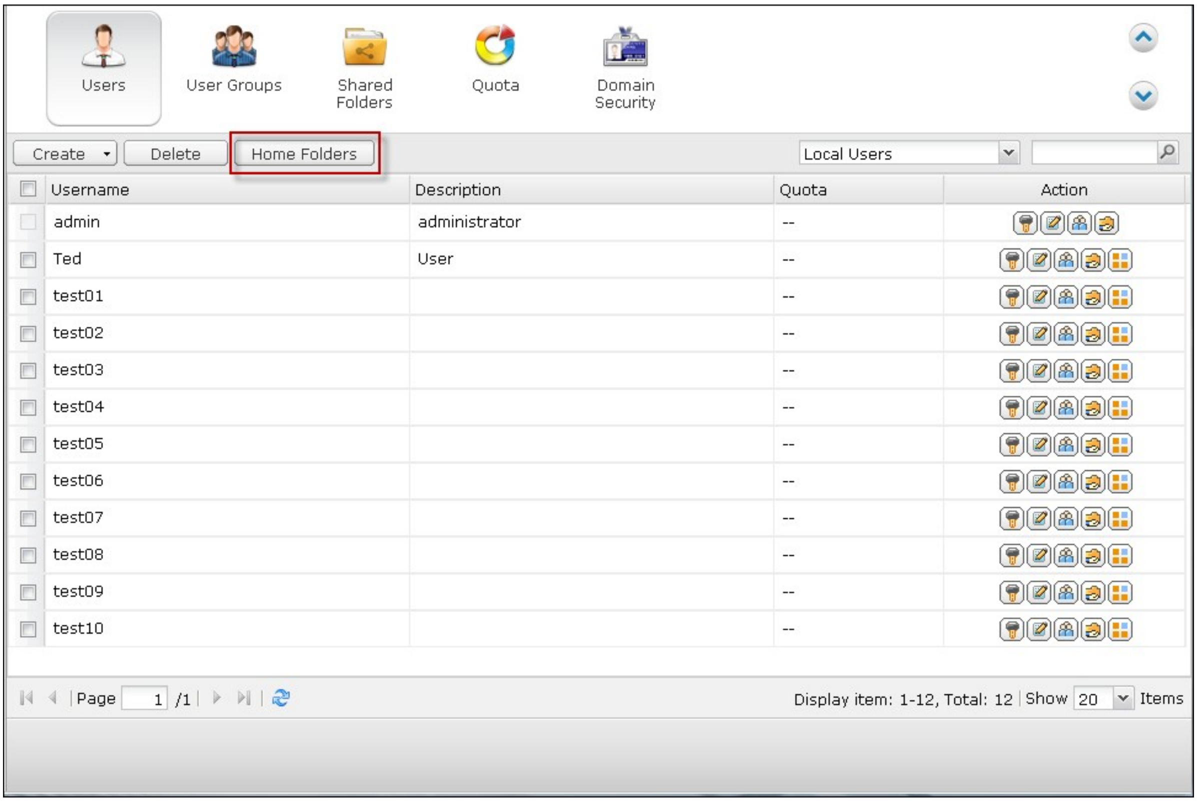
BIN (Exported from the NAS)

The BIN file is exported from a QNAP NAS. It contains information including username, password, quota, and user group. The quota setting can be exported only when the quota function is enabled in "Privilege Settings" > "Quota".

Home Folders

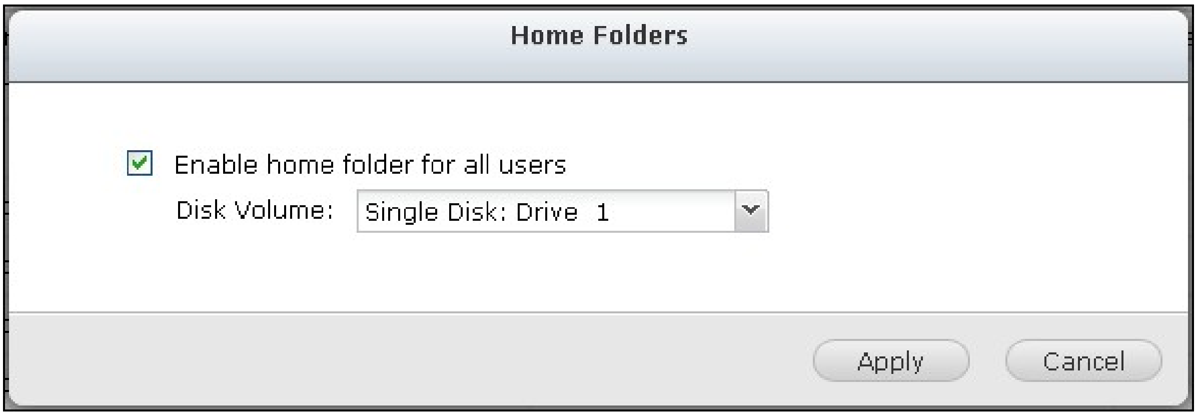
Enable Home Folders to create a personal folder to each local and domain user on the NAS. Users can access their folders "home" via Microsoft networking, FTP, AFP, and File Station. All the home folders are located in the shared folder "Homes", which can only be accessed by "admin" by default.

To use this feature, click "Home Folders".



□	Username	Description	Quota	Action
□	admin	administrator	--	
□	Ted	User	--	
□	test01		--	
□	test02		--	
□	test03		--	
□	test04		--	
□	test05		--	
□	test06		--	
□	test07		--	
□	test08		--	
□	test09		--	
□	test10		--	

Select "Enable home folder for all users" and the disk volume where the home folders will be created in. Click "Apply".



☑ Enable home folder for all users

Disk Volume: Single Disk: Drive 1

5.2 User Groups

A user group is a collection of users with the same access right to the files or folders. The NAS has created the following user groups by default:

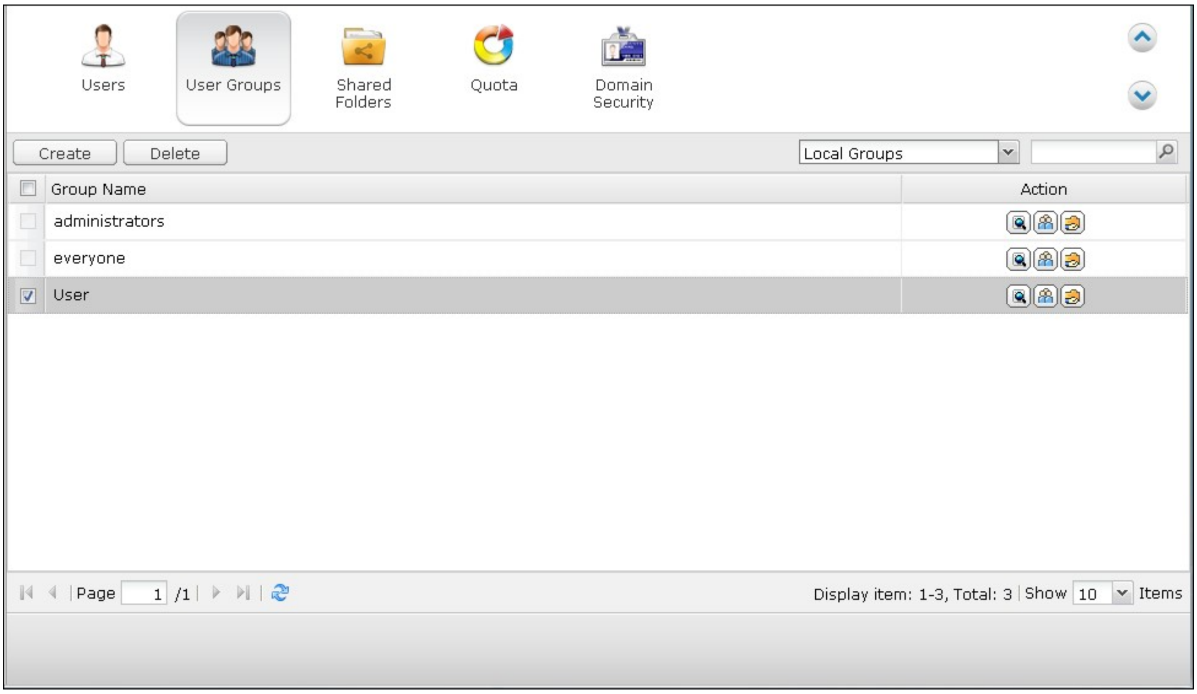
- administrators
  All the members in this group have the administration right of the NAS. This group cannot be deleted.
- everyone
  All the registered users belong to everyone group. This group cannot be deleted.

The number of user groups you can create on the NAS varies according to the NAS models. If your NAS models are not listed, please visit http://www.qnap.com for details.

Maximum number of user groups	**NAS models**
128	TS-110, TS-210
256	TS-112, TS-119, TS-119P+, TS-212, TS-219P+, TS-410, TS-239 Pro II+, TS-259 Pro+
512	TS-412, TS-419P+, TS-410U, TS-419U, TS-412U, TS-419U+, SS-439 Pro, SS-839 Pro, TS-439 Pro II+, TS-459U-RP/SP, TS-459U-RP+/SP+, TS-459 Pro+, TS-459 Pro II, TS-559 Pro+, TS-559 Pro II, TS-659 Pro+, TS-659 Pro II, TS-859 Pro+, TS-859U-RP, TS-859U-RP+, TS-809 Pro, TS-809U-RP, TS-879 Pro, TS-1079 Pro, TS-879U-RP, TS-EC879U-RP, TS-1279U-RP, TS-EC1279U-RP

A group name must not exceed 256 characters. It is case-insensitive and supports double-byte characters, such as Chinese, Japanese, and Korean, except the following ones:

" / \ [ ] : ; | = , + * ? < > ` '



☐	Group Name	Action
☐	administrators	
☐	everyone	
☑	User	

Page 1 /1

Display item: 1-3, Total: 3 | Show 10 Items

5.3 Shared Folders

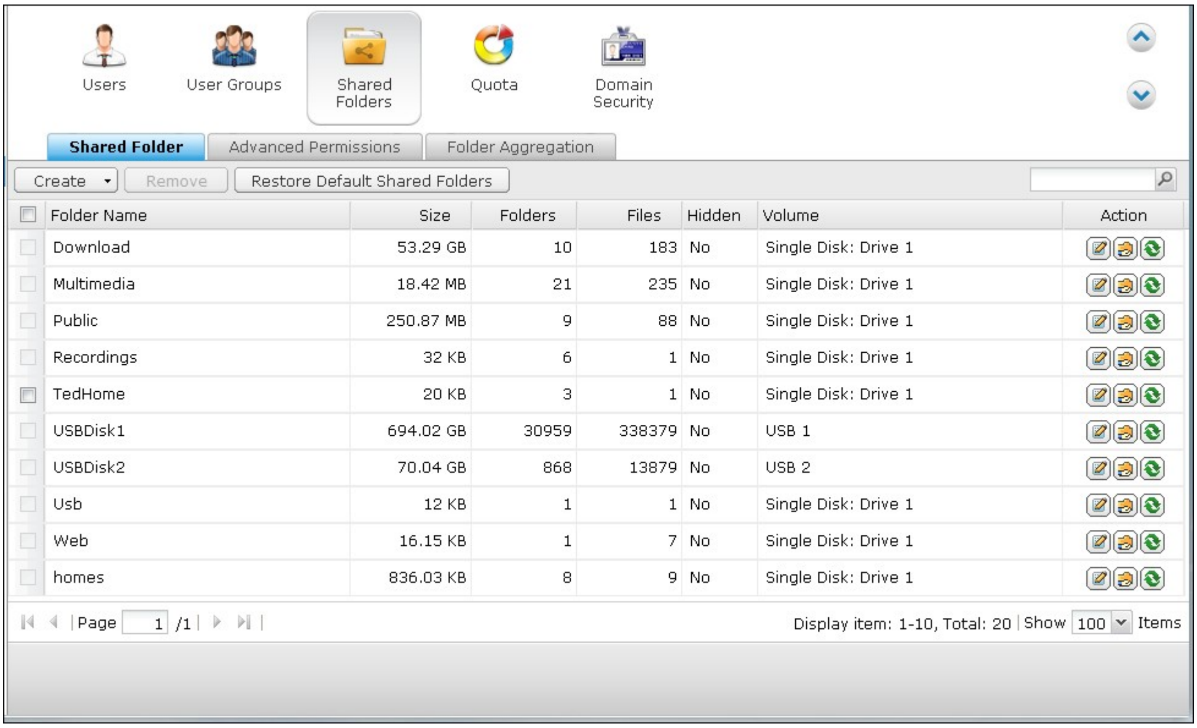
Shared Folders

You can create multiple shared folders on the NAS and specify the access rights of the users and user groups to the shares.

The number of shared folders you can create on the NAS varies according to the NAS models. If your NAS models are not listed, please visit http://www.qnap.com for details.

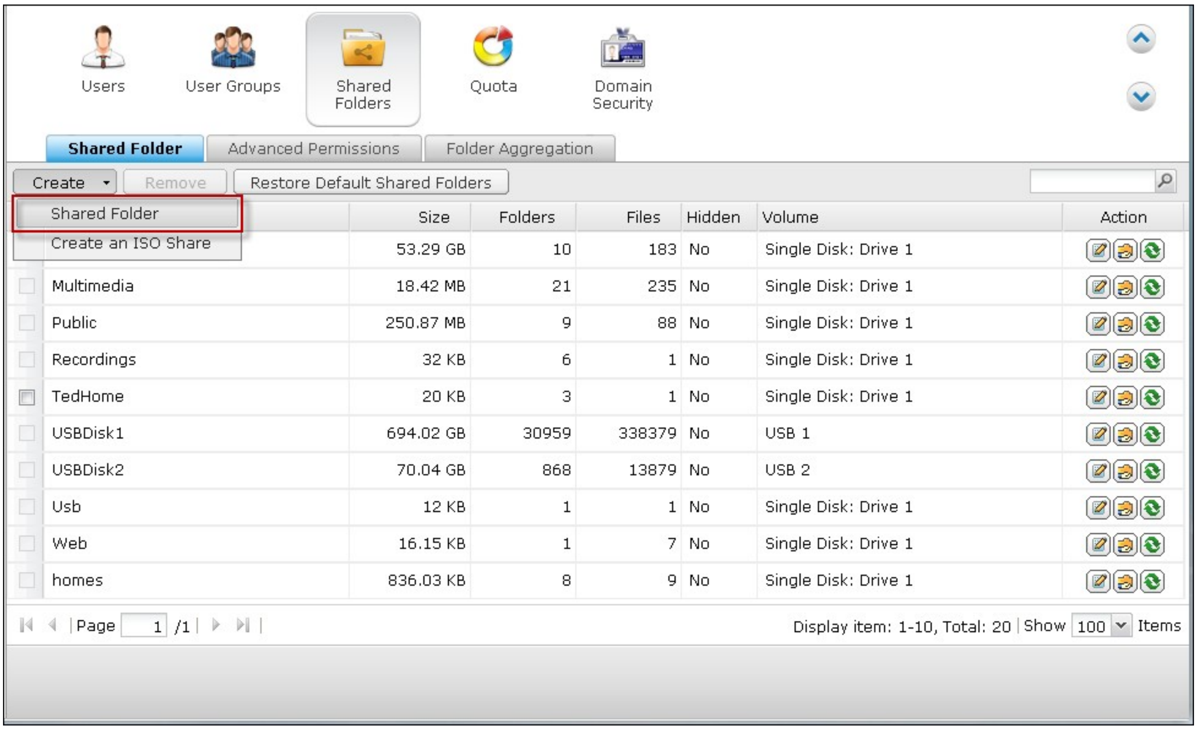
Maximum number of shared folders	**NAS models**
256	TS-110, TS-210, TS-112, TS-119, TS-119P+, TS-212, TS-219P+, TS-x20, TS-x21, TS-410, TS-239 Pro II+, TS-259 Pro+
512	TS-412, TS-419P+, TS-410U, TS-419U, TS-412U, TS-419U+, SS-439 Pro, SS-839 Pro, TS-439 Pro II+, TS-459U-RP/SP, TS-459U-RP+/SP+, TS-459 Pro+, TS-459 Pro II, TS-559 Pro+, TS-559 Pro II, TS-659 Pro+, TS-659 Pro II, TS-859 Pro+, TS-859U-RP, TS-859U-RP+, TS-809 Pro, TS-809U-RP, TS-x70, TS-879 Pro, TS-1079 Pro, TS-879U-RP, TS-EC879U-RP, TS-1279U-RP, TS-EC1279U-RP

On the folder list, you can view the current data size, number of sub-folders and files created in the shared folder, and the folder status (hidden or not).



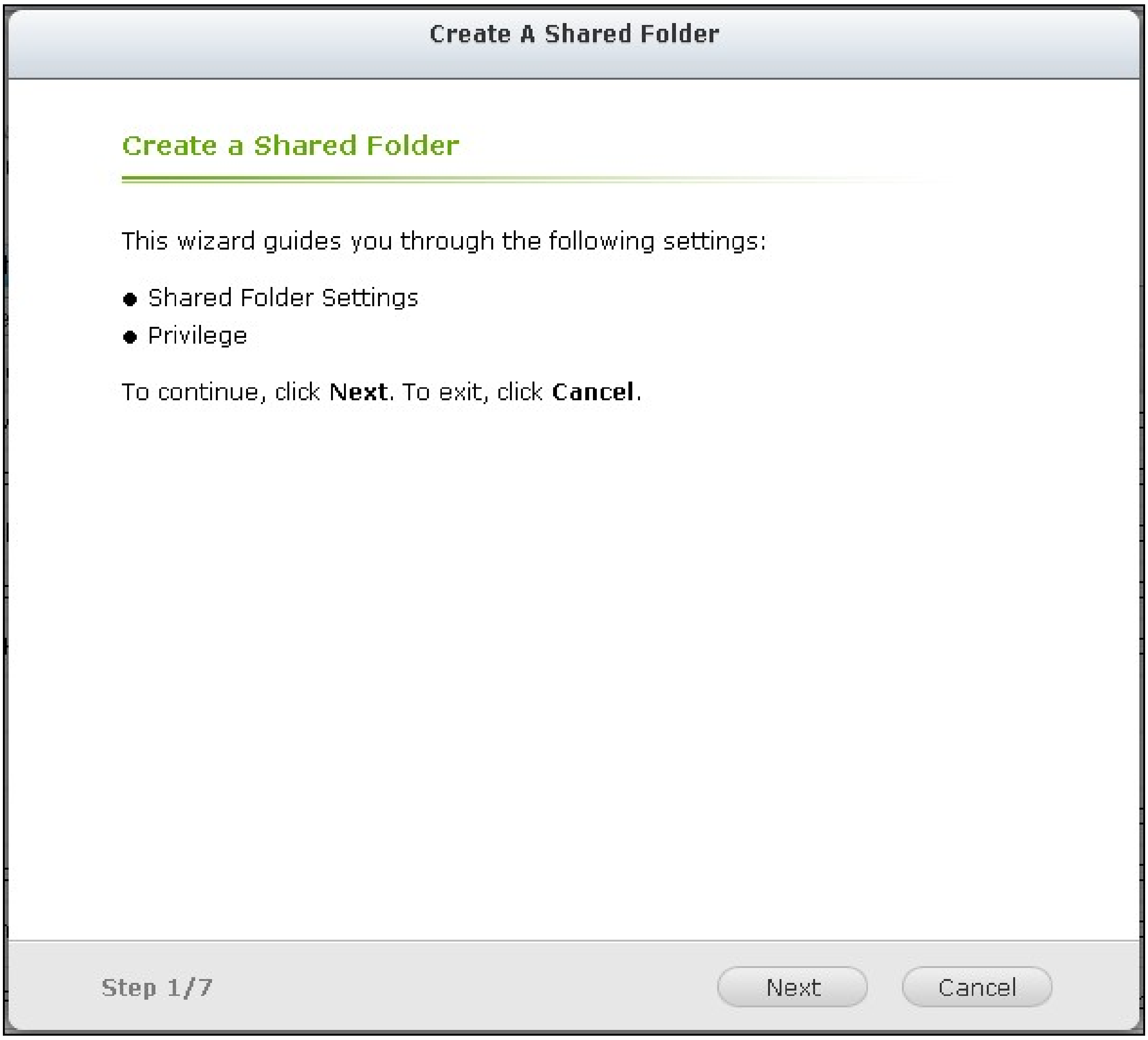
□	Folder Name	Size	Folders	Files	Hidden	Volume	Action
□	Download	53.29 GB	10	183	No	Single Disk: Drive 1	
□	Multimedia	18.42 MB	21	235	No	Single Disk: Drive 1	
□	Public	250.87 MB	9	88	No	Single Disk: Drive 1	
□	Recordings	32 KB	6	1	No	Single Disk: Drive 1	
□	TedHome	20 KB	3	1	No	Single Disk: Drive 1	
□	USBDisk1	694.02 GB	30959	338379	No	USB 1	
□	USBDisk2	70.04 GB	868	13879	No	USB 2	
□	Usb	12 KB	1	1	No	Single Disk: Drive 1	
□	Web	16.15 KB	1	7	No	Single Disk: Drive 1	
□	homes	836.03 KB	8	9	No	Single Disk: Drive 1	

1. To create a shared folder, click Create > "Shared Folder".



		Size	Folders	Files	Hidden	Volume	Action
		53.29 GB	10	183	No	Single Disk: Drive 1	
□	Multimedia	18.42 MB	21	235	No	Single Disk: Drive 1	
□	Public	250.87 MB	9	88	No	Single Disk: Drive 1	
□	Recordings	32 KB	6	1	No	Single Disk: Drive 1	
□	TedHome	20 KB	3	1	No	Single Disk: Drive 1	
□	USBDisk1	694.02 GB	30959	338379	No	USB 1	
□	USBDisk2	70.04 GB	868	13879	No	USB 2	
□	Usb	12 KB	1	1	No	Single Disk: Drive 1	
□	Web	16.15 KB	1	7	No	Single Disk: Drive 1	
□	homes	836.03 KB	8	9	No	Single Disk: Drive 1	

2. Click "Next".



Create A Shared Folder

Create a Shared Folder

This wizard guides you through the following settings:

- Shared Folder Settings
- Privilege

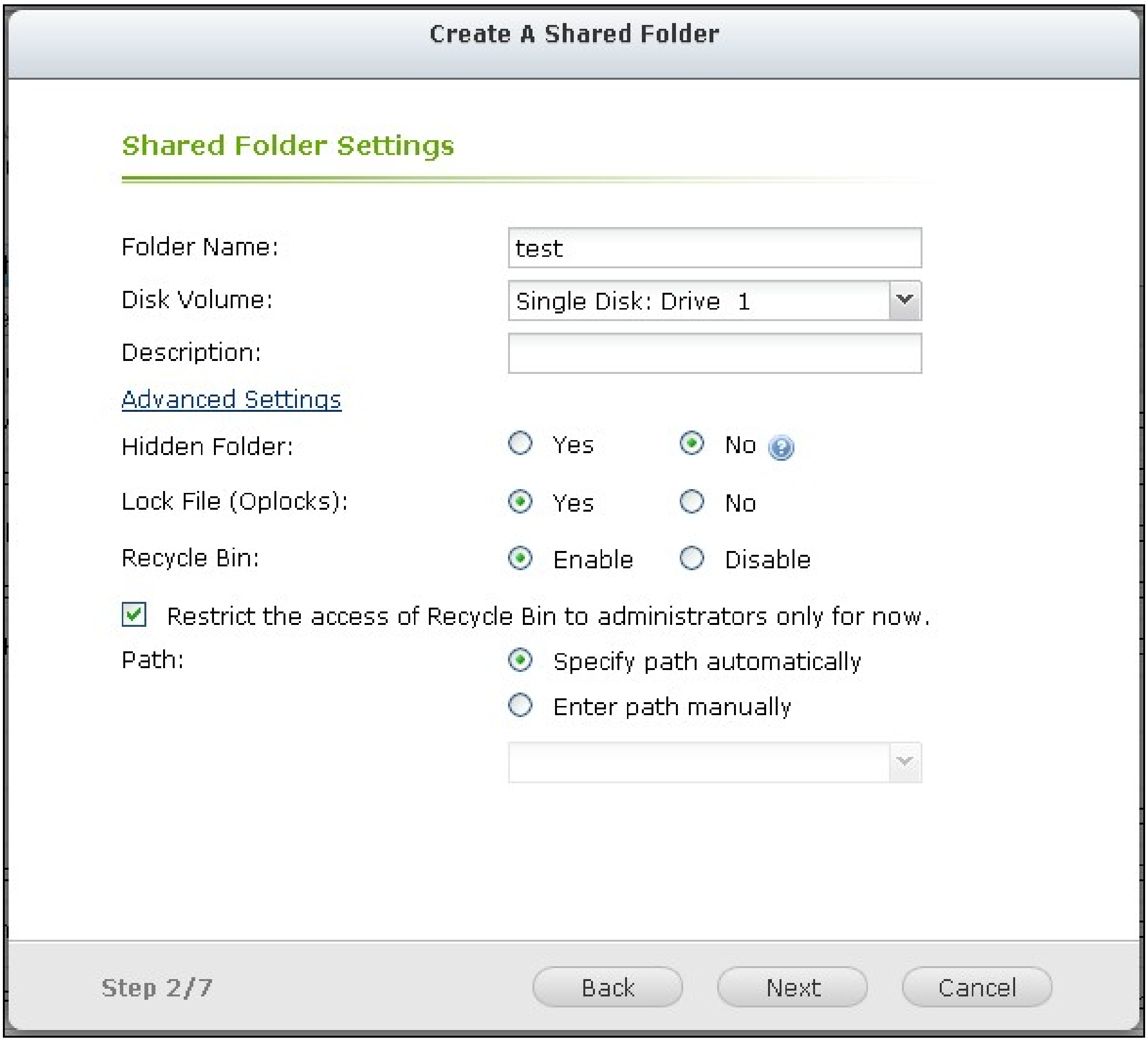
To continue, click **Next**. To exit, click **Cancel**.

3. Enter the folder settings.

- Folder name: Enter the share name. The share name does not support " / \ [ ] : ; | = , + * ? < > ` '
- Disk Volume: Select which disk volume on which to create the folder.
- Description: Enter an optional description of the shared folder.
- Hide Folder: Select to hide the shared folder or not in Microsoft Networking. When a shared folder is hidden, you have to enter the complete directory \ \NAS_IP\share_name to access the share.
- Lock file (oplocks): Opportunistic locking is a Windows mechanism for the client to place an opportunistic lock (oplock) on a file residing on a server in order to cache the data locally for improved performance. Oplocks is enabled by default for everyday usage. For networks that require multiple users concurrently accessing the same file such as a database, oplocks should be disabled.
- Recycle Bin: Enable the Network Recycle Bin for created shared folders. The option

"Restrict the access of Recycle Bin to administrators only for now", once enabled, will ensure that files deleted and moved to the Network Recycle Bin can only be recovered by administrators.

- Path: Specify the path of the shared folder or select to let the NAS specify the path automatically.



Create A Shared Folder

Shared Folder Settings

Folder Name: test

Disk Volume: Single Disk: Drive 1

Description:

Advanced Settings

Hidden Folder: ○ Yes ● No

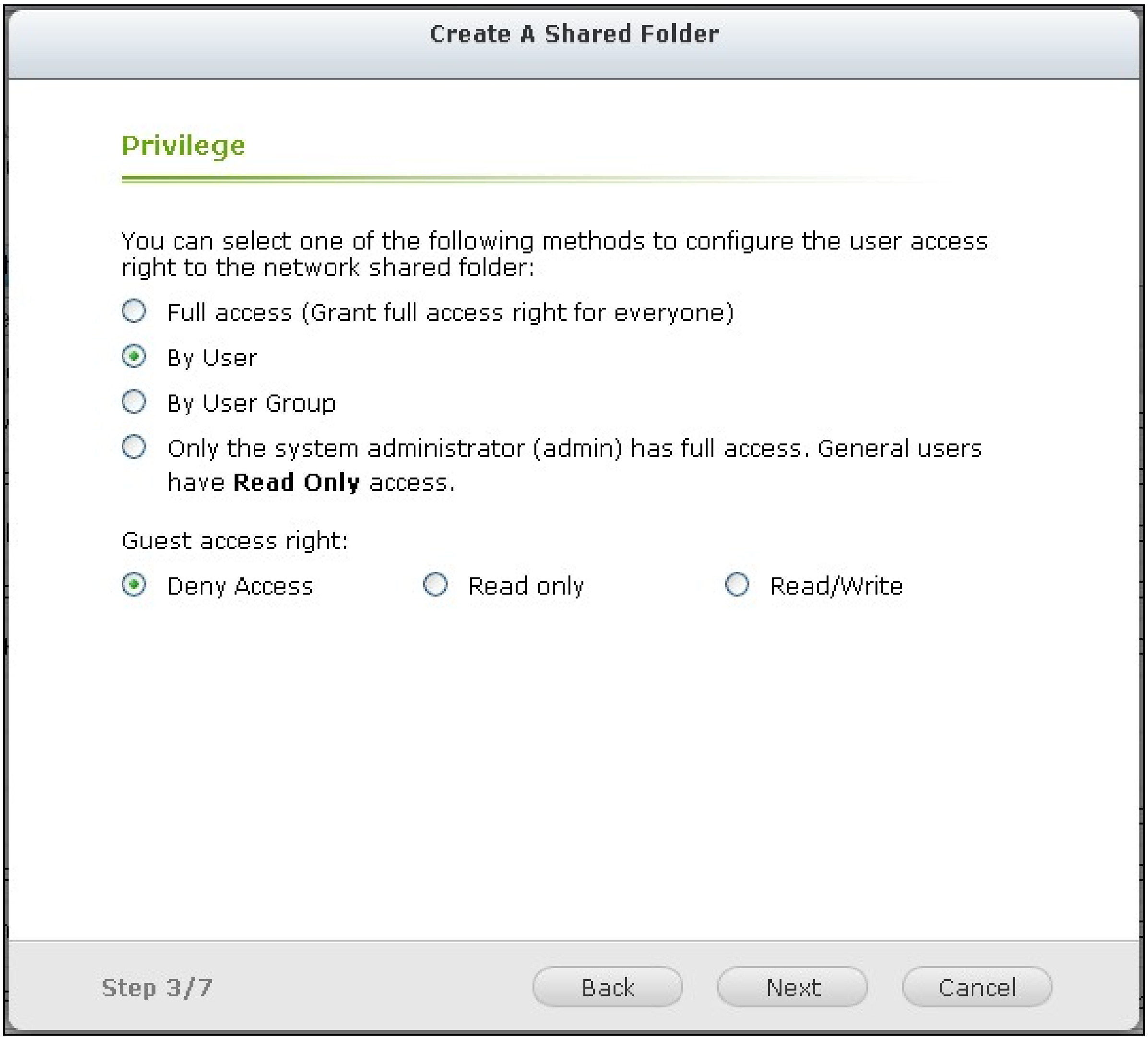
Lock File (Oplocks): ● Yes ○ No

Recycle Bin: ● Enable ○ Disable

☑ Restrict the access of Recycle Bin to administrators only for now.

Path: ● Specify path automatically ○ Enter path manually

4. Select the way you want to specify the access right to the folder and specify the guest access right.



Create A Shared Folder

Privilege

You can select one of the following methods to configure the user access right to the network shared folder:

○ Full access (Grant full access right for everyone)

● By User

○ By User Group

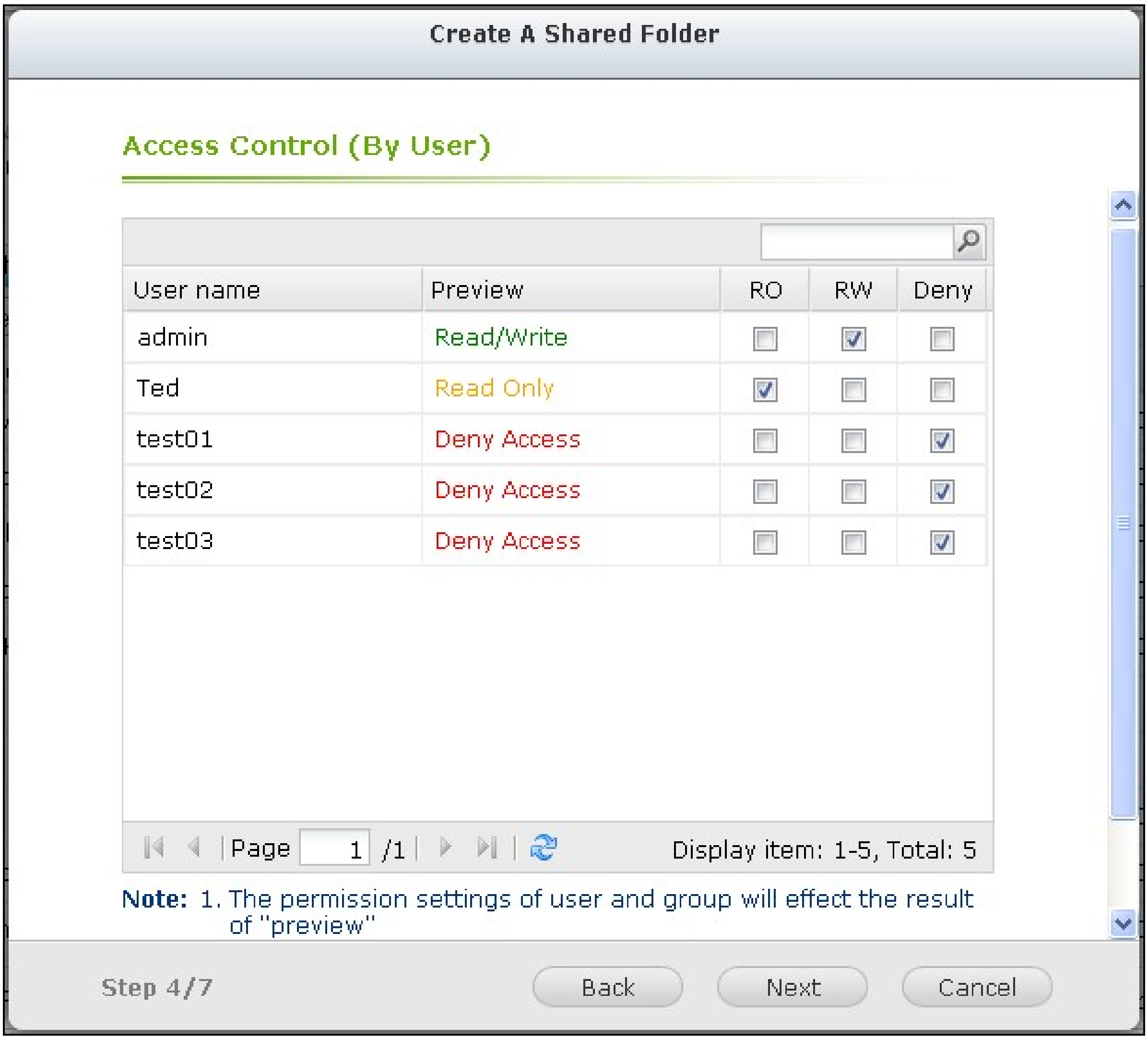
○ Only the system administrator (admin) has full access. General users have **Read Only** access.

Guest access right:

● Deny Access ○ Read only ○ Read/Write

Step 3/7

5. If you select to specify the access right by user or user group, you can select to grant read only, read/write, or deny access to the users or user groups.

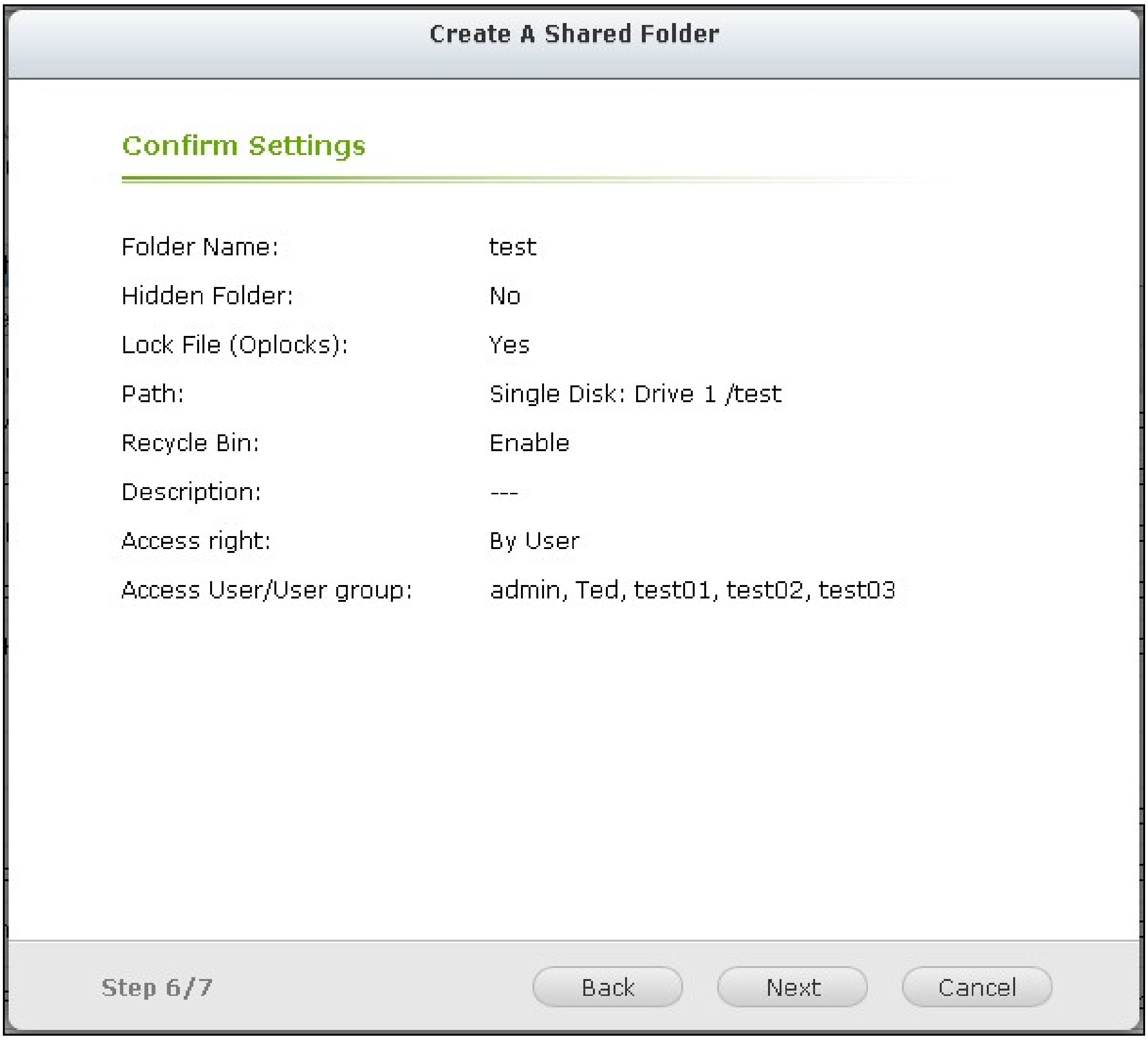


Access Control (By User)

User name	Preview	RO	RW	Deny
admin	Read/Write	□	☑	□
Ted	Read Only	☑	□	□
test01	Deny Access	□	□	☑
test02	Deny Access	□	□	☑
test03	Deny Access	□	□	☑

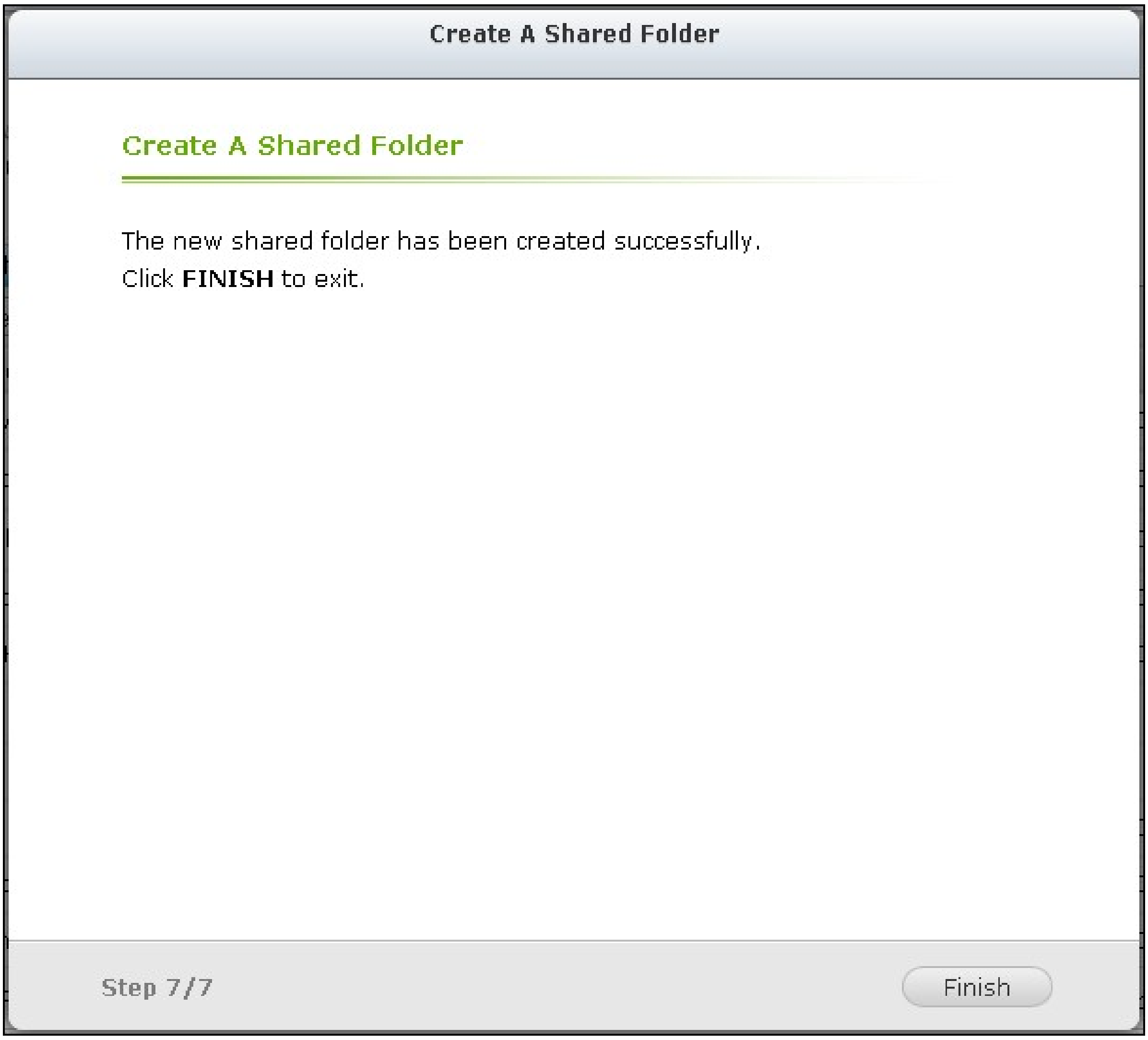
Note: 1. The permission settings of user and group will effect the result of "preview"

6. Confirm the settings and click “Next”.



Folder Name:	test
Hidden Folder:	No
Lock File (Oplocks):	Yes
Path:	Single Disk: Drive 1 /test
Recycle Bin:	Enable
Description:	---
Access right:	By User
Access User/User group:	admin, Ted, test01, test02, test03

7. Click "Finish" to complete the setup.

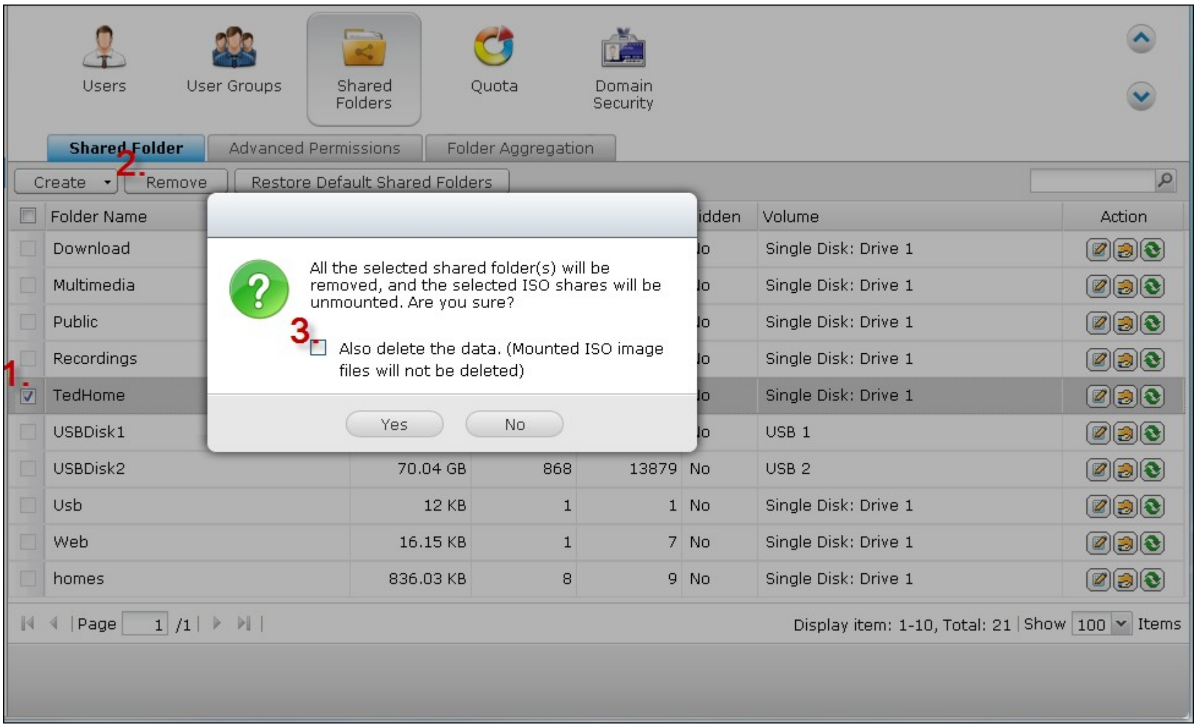


Create A Shared Folder

Create A Shared Folder

The new shared folder has been created successfully.
Click **FINISH** to exit.

To delete a shared folder, select the folder checkbox and click "Remove". You can select the option "Also delete the data. (Mounted ISO image files will not be deleted)" to delete the folder and the files in it. If you select not to delete the folder data, the data will be retained in the NAS. You can create a shared folder of the same name again to access the data.



All the selected shared folder(s) will be removed, and the selected ISO shares will be unmounted. Are you sure?

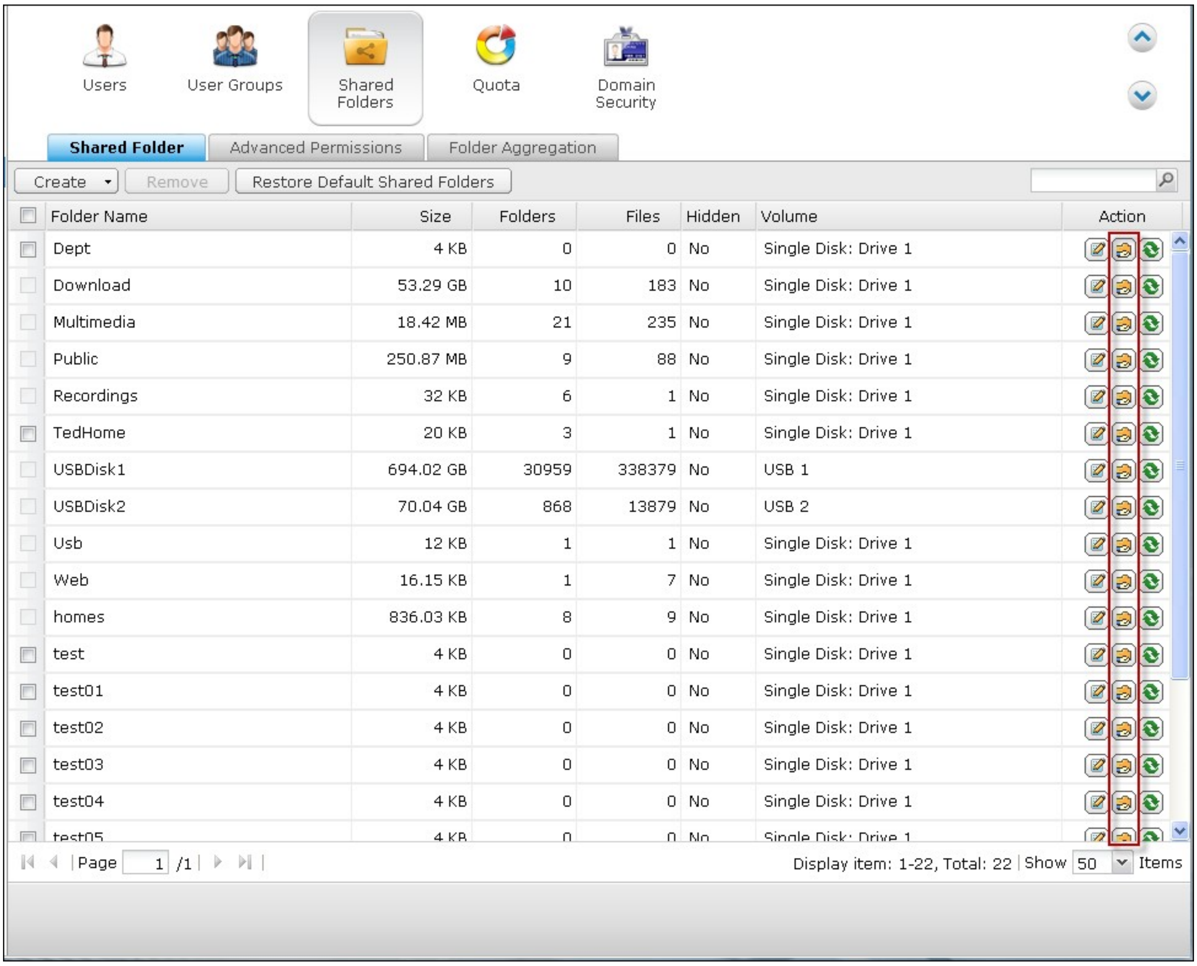
□ Also delete the data. (Mounted ISO image files will not be deleted)

Folder Name				idden	Volume	Action
□ Download				o	Single Disk: Drive 1	
□ Multimedia				o	Single Disk: Drive 1	
□ Public				o	Single Disk: Drive 1	
□ Recordings				o	Single Disk: Drive 1	
☑ TedHome				o	Single Disk: Drive 1	
□ USBDisk1				o	USB 1	
□ USBDisk2	70.04 GB	868	13879	No	USB 2	
□ Usb	12 KB	1	1	No	Single Disk: Drive 1	
□ Web	16.15 KB	1	7	No	Single Disk: Drive 1	
□ homes	836.03 KB	8	9	No	Single Disk: Drive 1	

Icon	**Description**
(Folder property)	Edit the folder property. Select to hide or show the network drive, enable or disable oplocks, folder path, comment, restrict the access of Recycle Bin to administrators (files can only be recovered by administrators from the Network Recycle Bin) and enable or disable write-only access on FTP connection.
(Folder permissions)	Edit folder permissions and subfolder permissions.
(Refresh)	Refresh the shared folder details.

Folder Permissions

Configure folder and subfolder permissions on the NAS. To edit basic folder permissions, locate a folder name in "Privilege Settings" > "Shared Folders" and click .

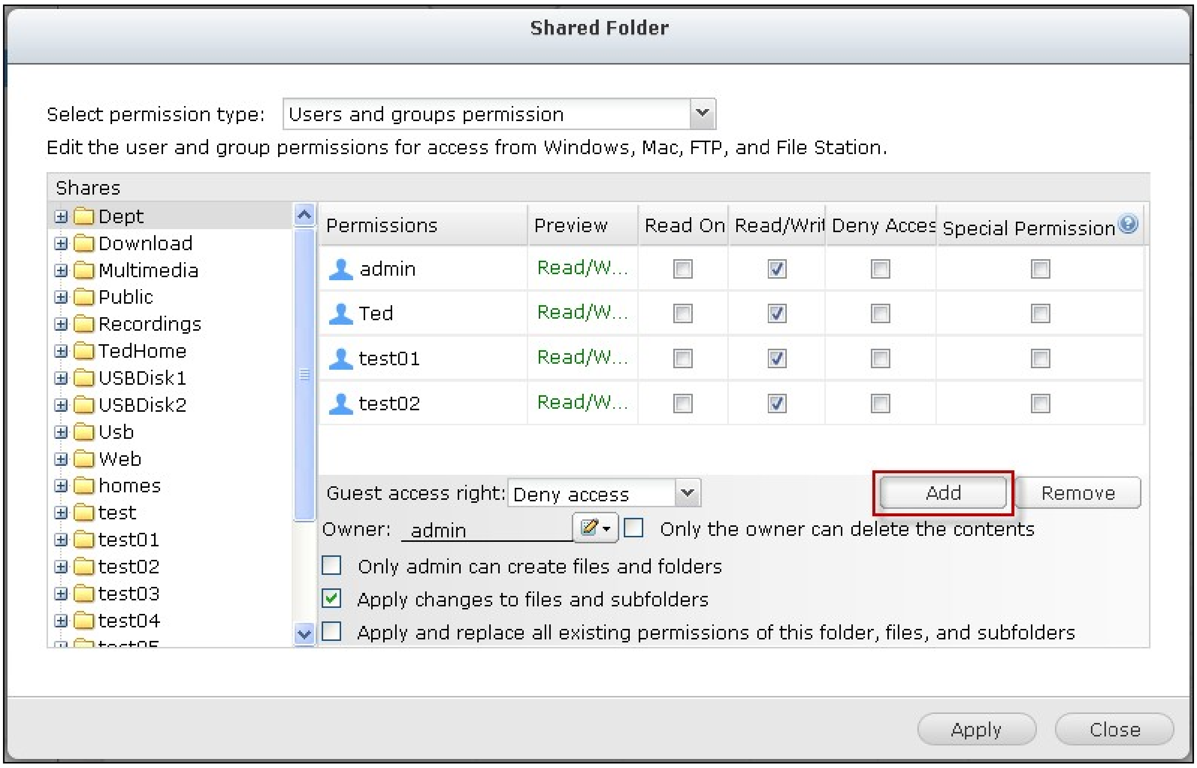


Folder Name	Size	Folders	Files	Hidden	Volume	Action
Dept	4 KB	0	0	No	Single Disk: Drive 1	
Download	53.29 GB	10	183	No	Single Disk: Drive 1	
Multimedia	18.42 MB	21	235	No	Single Disk: Drive 1	
Public	250.87 MB	9	88	No	Single Disk: Drive 1	
Recordings	32 KB	6	1	No	Single Disk: Drive 1	
TedHome	20 KB	3	1	No	Single Disk: Drive 1	
USBDisk1	694.02 GB	30959	338379	No	USB 1	
USBDisk2	70.04 GB	868	13879	No	USB 2	
Usb	12 KB	1	1	No	Single Disk: Drive 1	
Web	16.15 KB	1	7	No	Single Disk: Drive 1	
homes	836.03 KB	8	9	No	Single Disk: Drive 1	
test	4 KB	0	0	No	Single Disk: Drive 1	
test01	4 KB	0	0	No	Single Disk: Drive 1	
test02	4 KB	0	0	No	Single Disk: Drive 1	
test03	4 KB	0	0	No	Single Disk: Drive 1	
test04	4 KB	0	0	No	Single Disk: Drive 1	
test05	4 KB	0	0	No	Single Disk: Drive 1	

Page 1 /1

Display item: 1-22, Total: 22 | Show 50 Items

The folder name will be shown on the left and the users with configured access rights are shown in the panel. You can also specify the guest access right at the bottom of the panel.



Shared Folder

Select permission type: Users and groups permission

Edit the user and group permissions for access from Windows, Mac, FTP, and File Station.

Shares

- Dept
- Download
- Multimedia
- Public
- Recordings
- TedHome
- USBDisk1
- USBDisk2
- Usb
- Web
- homes
- test
- test01
- test02
- test03
- test04

Permissions	Preview	Read On	Read/Wri	Deny Acces	Special Permission
admin	Read/W...	□	☑	□	□
Ted	Read/W...	□	☑	□	□
test01	Read/W...	□	☑	□	□
test02	Read/W...	□	☑	□	□

Guest access right: Deny access

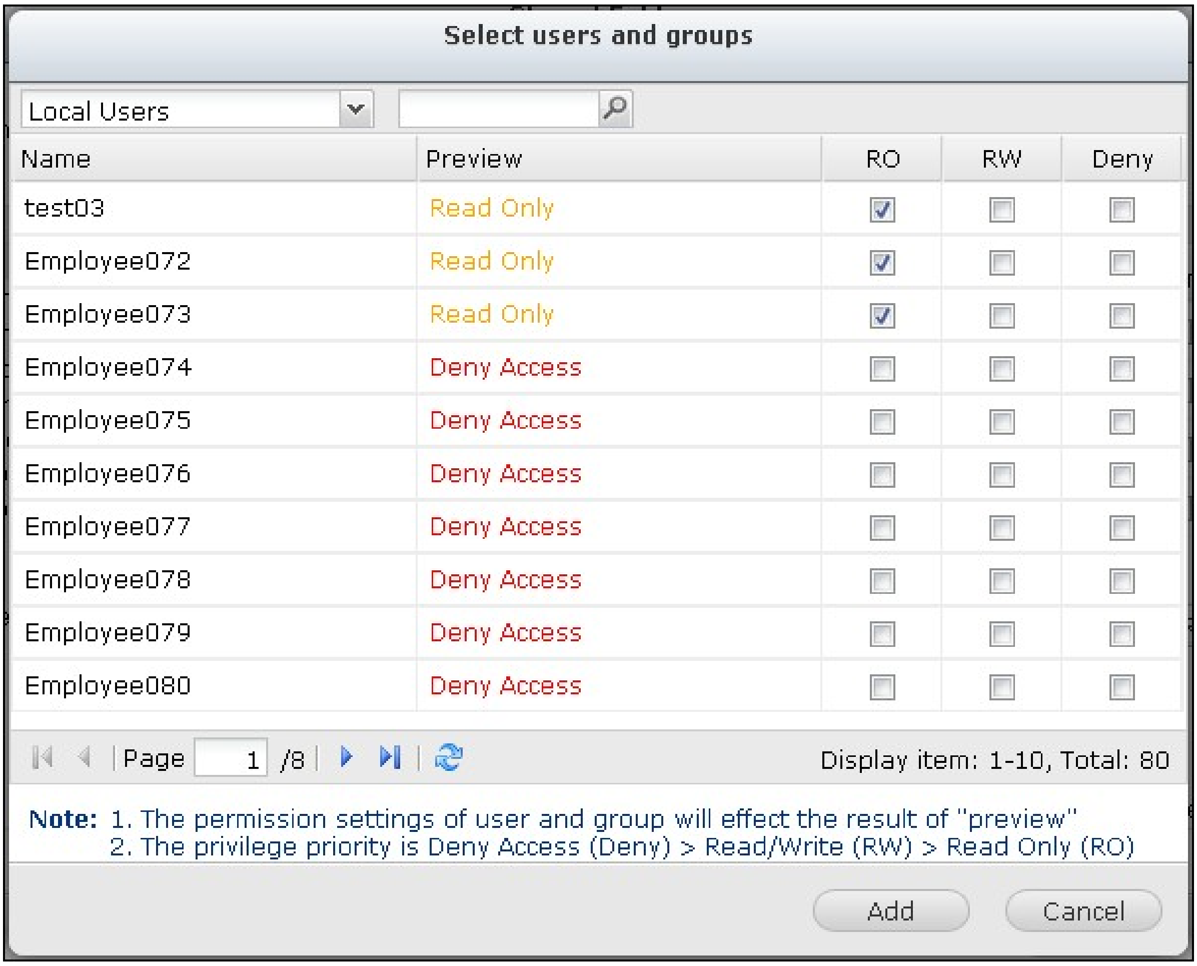
Owner: admin □ Only the owner can delete the contents

□ Only admin can create files and folders

☑ Apply changes to files and subfolders

□ Apply and replace all existing permissions of this folder, files, and subfolders

Click "Add" to select more users and user groups and specify their access rights to the folder. Click "Add" to confirm.



Select users and groups

Local Users

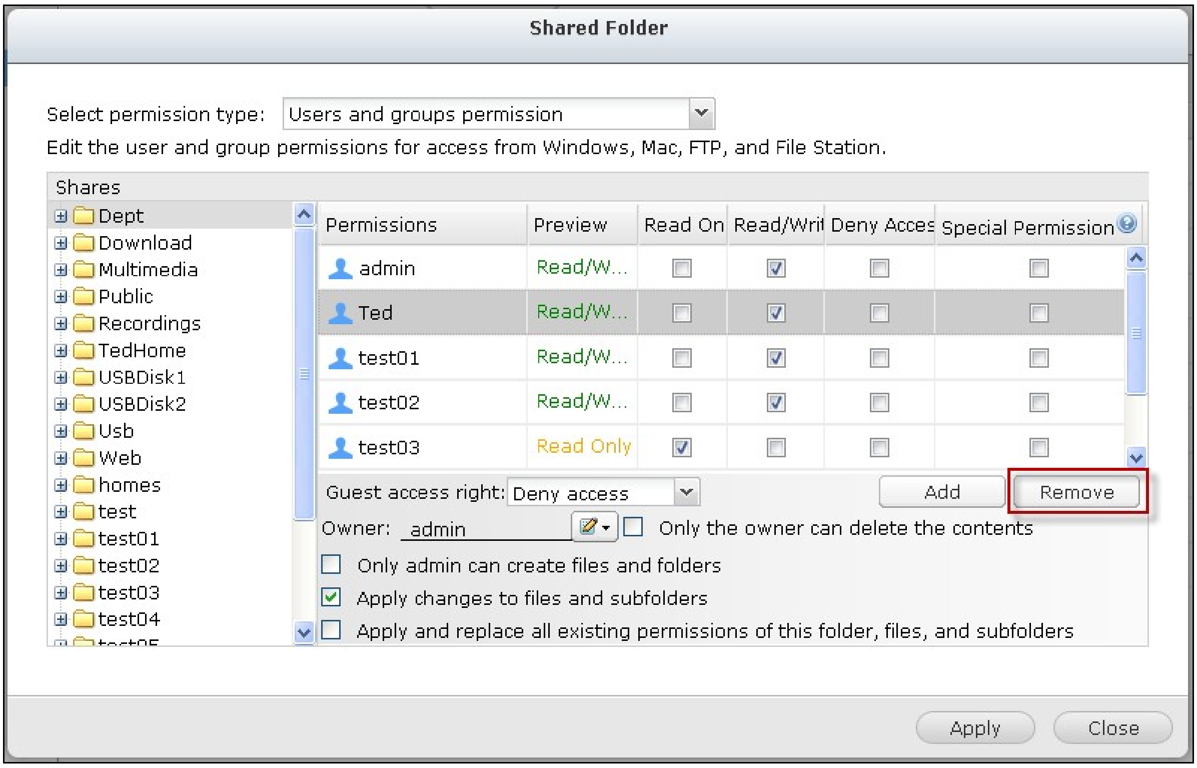
Name	Preview	RO	RW	Deny
test03	Read Only	☑	□	□
Employee072	Read Only	☑	□	□
Employee073	Read Only	☑	□	□
Employee074	Deny Access	□	□	□
Employee075	Deny Access	□	□	□
Employee076	Deny Access	□	□	□
Employee077	Deny Access	□	□	□
Employee078	Deny Access	□	□	□
Employee079	Deny Access	□	□	□
Employee080	Deny Access	□	□	□

Page 1 /8

Display item: 1-10, Total: 80

Note: 1. The permission settings of user and group will effect the result of "preview"
2. The privilege priority is Deny Access (Deny) > Read/Write (RW) > Read Only (RO)

Click "Remove" to remove any configured permissions. You can select multiple items by holding the Ctrl key and left clicking the mouse. Click "Apply" to save the settings.



Shared Folder

Select permission type: Users and groups permission

Edit the user and group permissions for access from Windows, Mac, FTP, and File Station.

Shares

- Dept
- Download
- Multimedia
- Public
- Recordings
- TedHome
- USBDisk1
- USBDisk2
- Usb
- Web
- homes
- test
- test01
- test02
- test03
- test04
- test05

Permissions	Preview	Read On	Read/Writ	Deny Acces	Special Permission
admin	Read/W...	□	☑	□	□
Ted	Read/W...	□	☑	□	□
test01	Read/W...	□	☑	□	□
test02	Read/W...	□	☑	□	□
test03	Read Only	☑	□	□	□

Guest access right: Deny access

Owner: admin □ Only the owner can delete the contents

□ Only admin can create files and folders

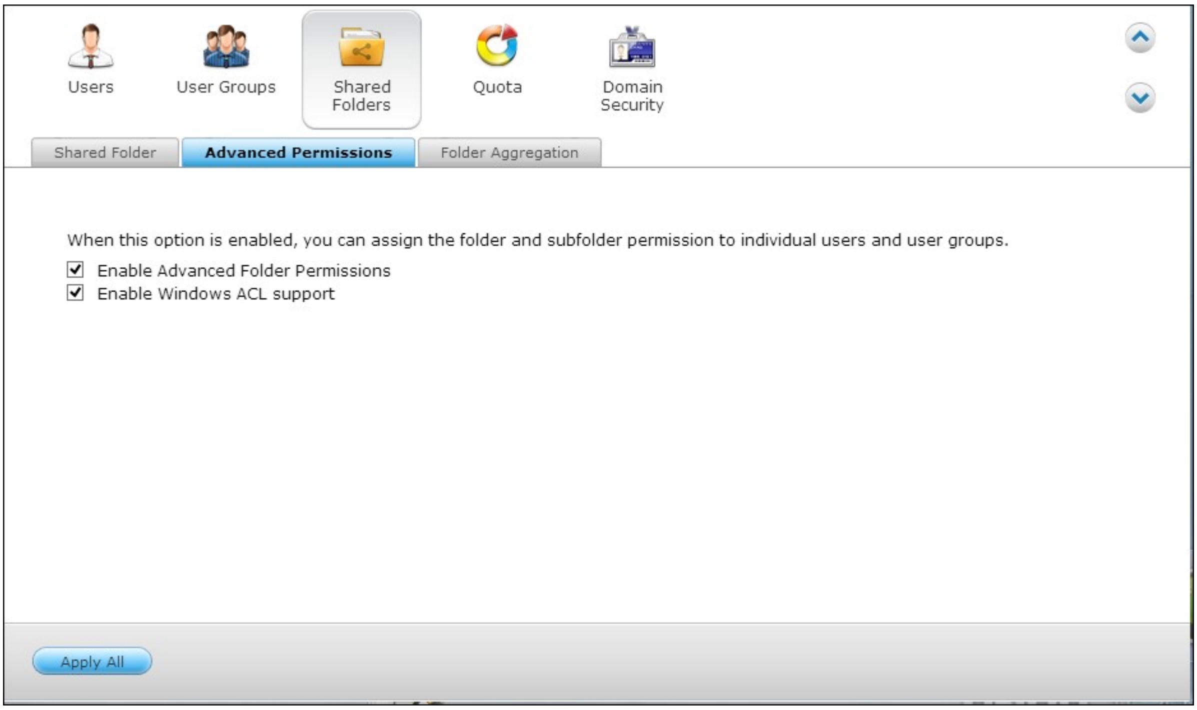
☑ Apply changes to files and subfolders

□ Apply and replace all existing permissions of this folder, files, and subfolders

Subfolder Permissions

The NAS supports subfolder permissions for secure management of the folders and subfolders. You can specify read, read/write, and deny access of individual user to each folder and subfolder.

To configure subfolder permissions, go to "Privilege Settings" > "Shared Folders" > "Advanced Permissions" tab. Select "Enable Advanced Folder Permissions" and click "Apply".



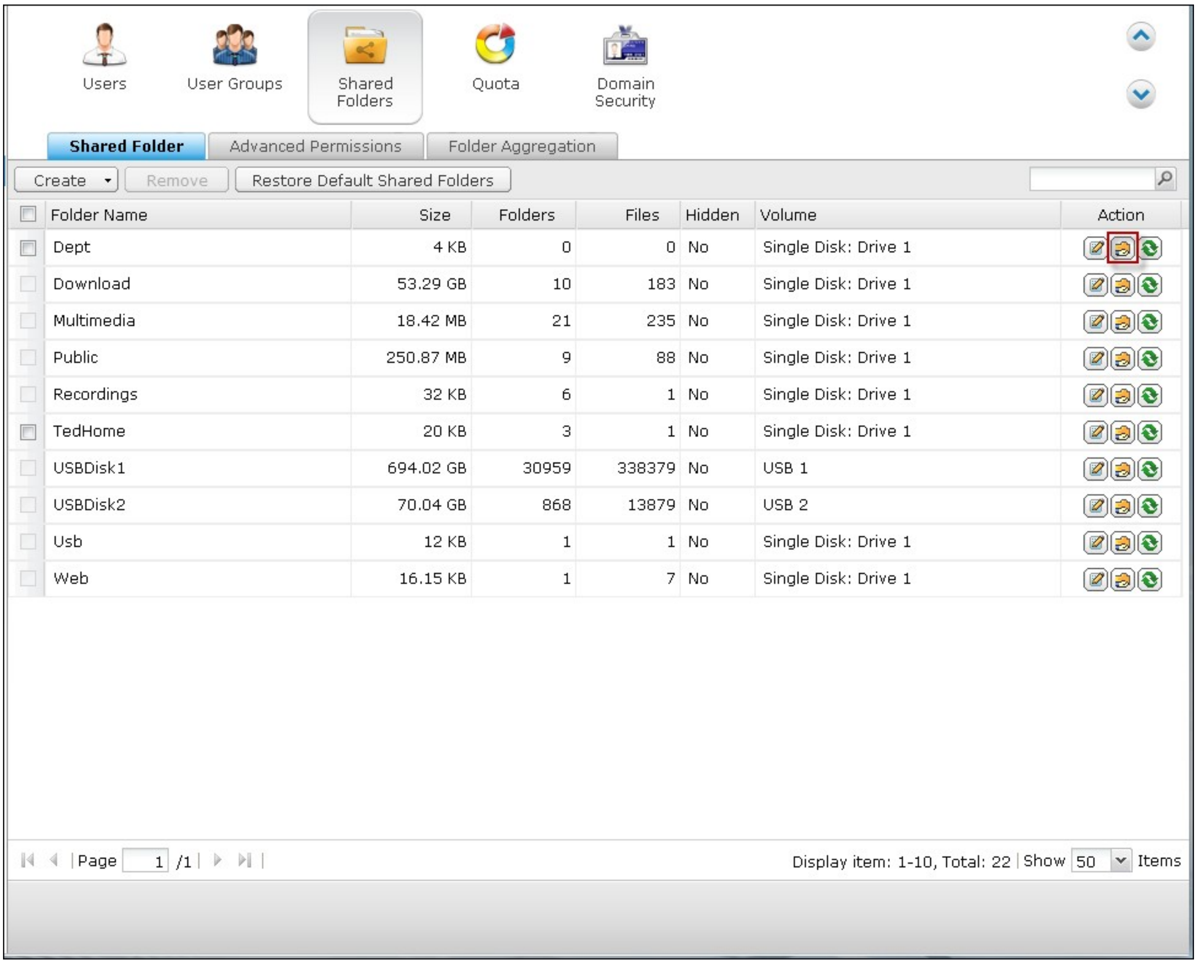
When this option is enabled, you can assign the folder and subfolder permission to individual users and user groups.

☑ Enable Advanced Folder Permissions

☑ Enable Windows ACL support

Note: You can create maximum 230 permission entries for each folder when Advanced Folder Permission is enabled.

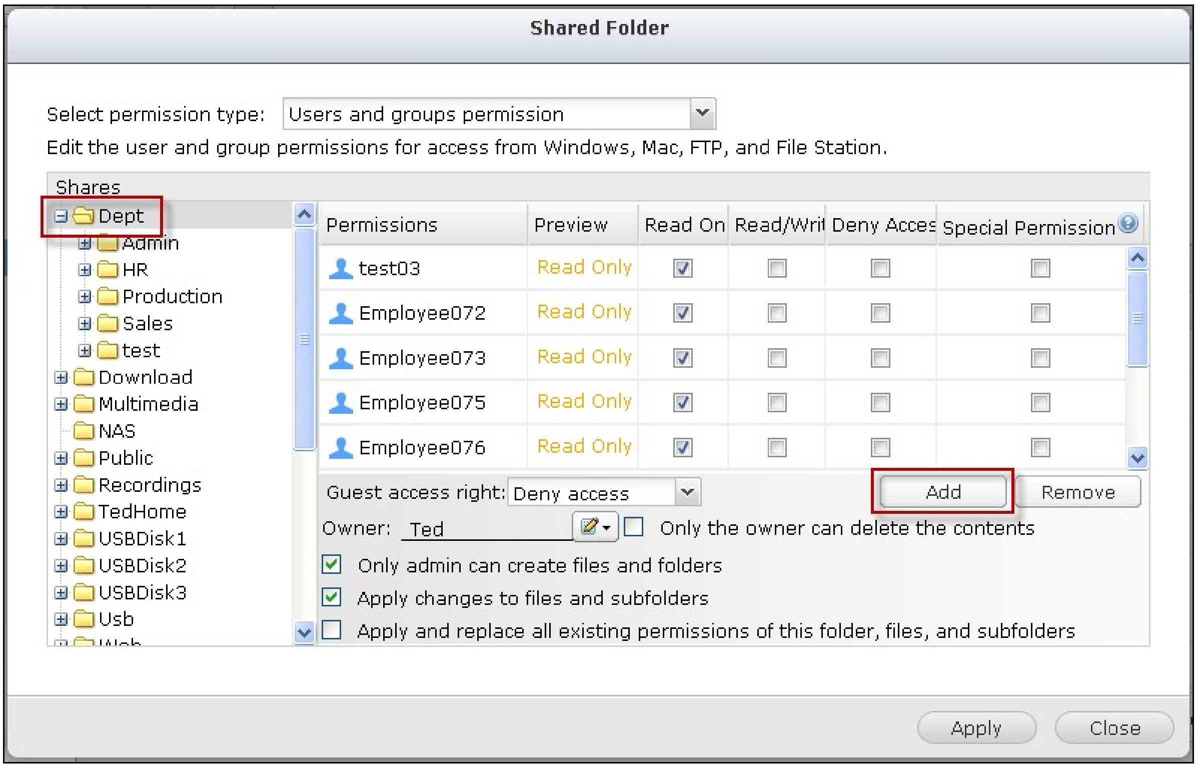
Go to "Privilege Settings" > "Shared Folders" > "Shared Folders" tab. Select a root folder, for example Dept, and click .



□	Folder Name	Size	Folders	Files	Hidden	Volume	Action
□	Dept	4 KB	0	0	No	Single Disk: Drive 1	
□	Download	53.29 GB	10	183	No	Single Disk: Drive 1	
□	Multimedia	18.42 MB	21	235	No	Single Disk: Drive 1	
□	Public	250.87 MB	9	88	No	Single Disk: Drive 1	
□	Recordings	32 KB	6	1	No	Single Disk: Drive 1	
□	TedHome	20 KB	3	1	No	Single Disk: Drive 1	
□	USBDisk1	694.02 GB	30959	338379	No	USB 1	
□	USBDisk2	70.04 GB	868	13879	No	USB 2	
□	Usb	12 KB	1	1	No	Single Disk: Drive 1	
□	Web	16.15 KB	1	7	No	Single Disk: Drive 1	

Page 1 /1 Display item: 1-10, Total: 22 Show 50 Items

The shared folder name and its first-level subfolders are shown on the left. The users with configured access rights are shown in the panel, with special permission below. Double click the first-level subfolders to view the second-level subfolders. Select the root folder (Dept). Click "+ Add" to specify read only, read/write, or deny access for the users and user groups.



Select permission type: Users and groups permission

Edit the user and group permissions for access from Windows, Mac, FTP, and File Station.

Permissions	Preview	Read On	Read/Wri	Deny Acces	Special Permission
test03	Read Only	☑	□	□	□
Employee072	Read Only	☑	□	□	□
Employee073	Read Only	☑	□	□	□
Employee075	Read Only	☑	□	□	□
Employee076	Read Only	☑	□	□	□

Guest access right: Deny access

Owner: Ted □ Only the owner can delete the contents

☑ Only admin can create files and folders

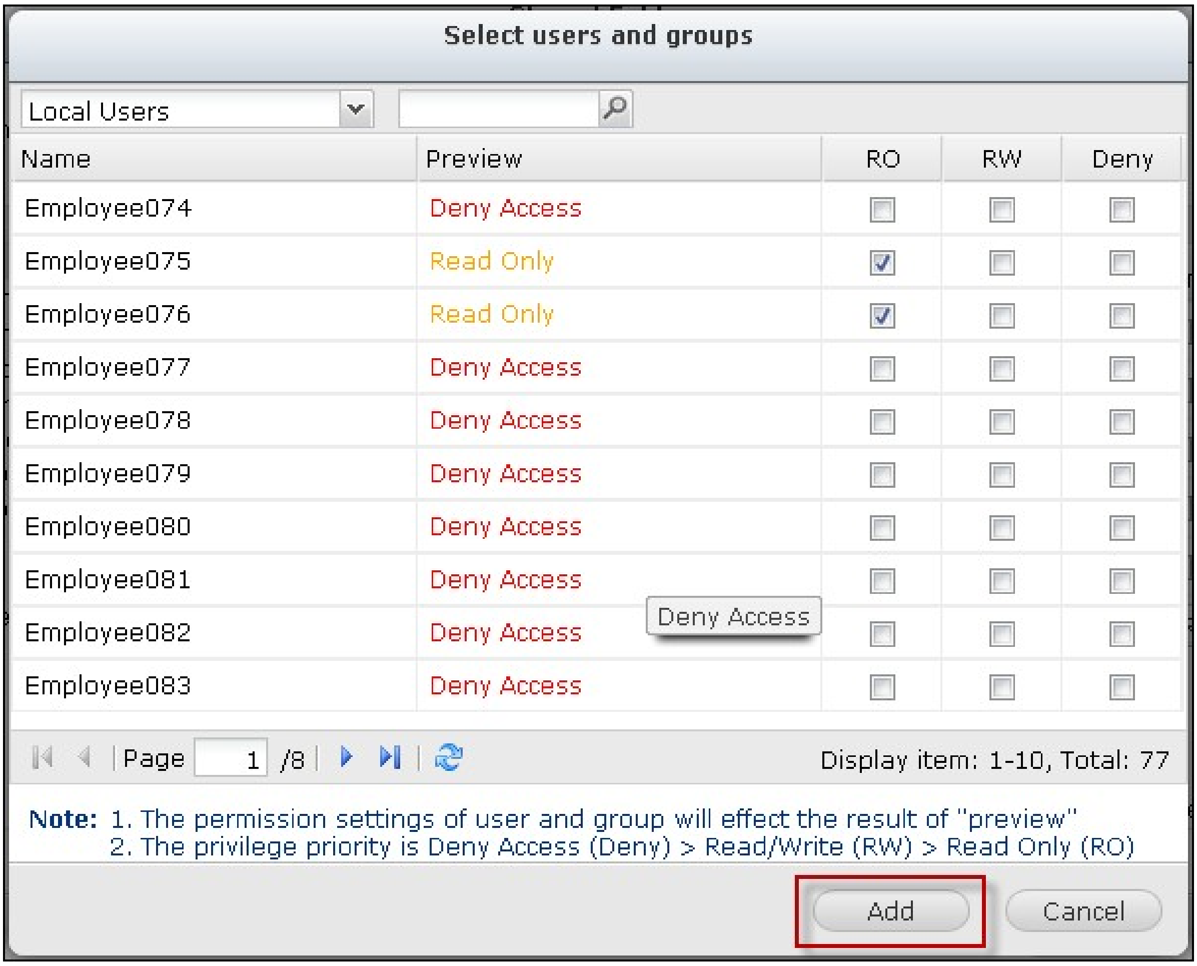
☑ Apply changes to files and subfolders

□ Apply and replace all existing permissions of this folder, files, and subfolders

Note:

- If you have specified "deny access" for a user on the root folder, the user will not be allowed to access the folder and subfolders even if you select read/write access to the subfolders.
- If you have specified "read only access" for a user on the root folder, the user will have read only access to all the subfolders even if you select read/write access to the subfolders.
- To specify read only permission on the root folder and read/write permission on the subfolders, you must set read/write permission on the root folder and use the option "Only admin can create files and folders" (to be explained later).
- If an unidentified account ID (such as 500) is shown for a subfolder on the permission assignment page after you click the "Access Permissions" button next to a shared folder in "Control Panel">"Privilege Settings">"Shared Folders">"Shared Folder", it is likely that the permission of that subfolder has been granted to a user account that no longer exists. In this case, please select this unidentified account ID and click "Remove" to delete this account ID.

Click "Add" when you have finished the settings.



Select users and groups

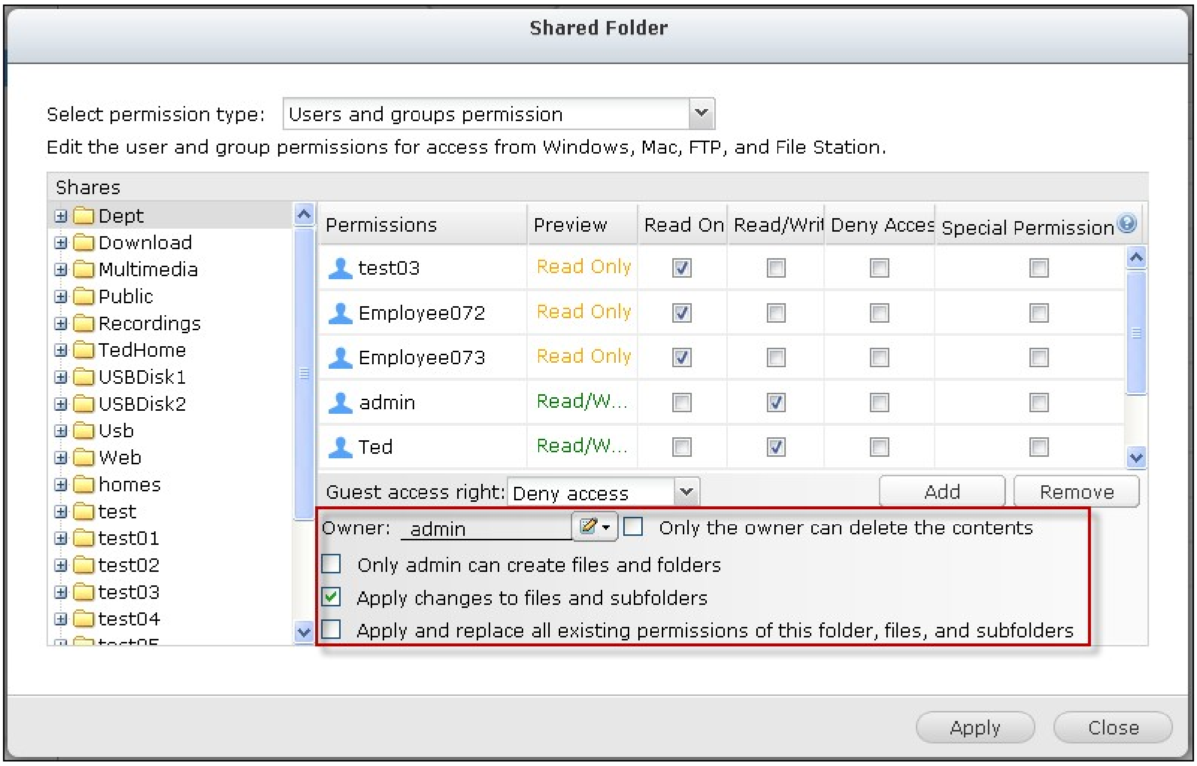
Local Users

Name	Preview	RO	RW	Deny
Employee074	Deny Access	□	□	□
Employee075	Read Only	☑	□	□
Employee076	Read Only	☑	□	□
Employee077	Deny Access	□	□	□
Employee078	Deny Access	□	□	□
Employee079	Deny Access	□	□	□
Employee080	Deny Access	□	□	□
Employee081	Deny Access	□	□	□
Employee082	Deny Access	□	□	□
Employee083	Deny Access	□	□	□

Display item: 1-10, Total: 77

Note: 1. The permission settings of user and group will effect the result of "preview"
2. The privilege priority is Deny Access (Deny) > Read/Write (RW) > Read Only (RO)

Specify other permissions settings below the folder permissions panel.



Shared Folder

Select permission type: Users and groups permission

Edit the user and group permissions for access from Windows, Mac, FTP, and File Station.

Shares

- Dept
- Download
- Multimedia
- Public
- Recordings
- TedHome
- USBDisk1
- USBDisk2
- Usb
- Web
- homes
- test
- test01
- test02
- test03
- test04

Permissions	Preview	Read On	Read/Writ	Deny Acces	Special Permission
test03	Read Only	☑	□	□	□
Employee072	Read Only	☑	□	□	□
Employee073	Read Only	☑	□	□	□
admin	Read/W...	□	☑	□	□
Ted	Read/W...	□	☑	□	□

Guest access right: Deny access

Owner: admin □ Only the owner can delete the contents

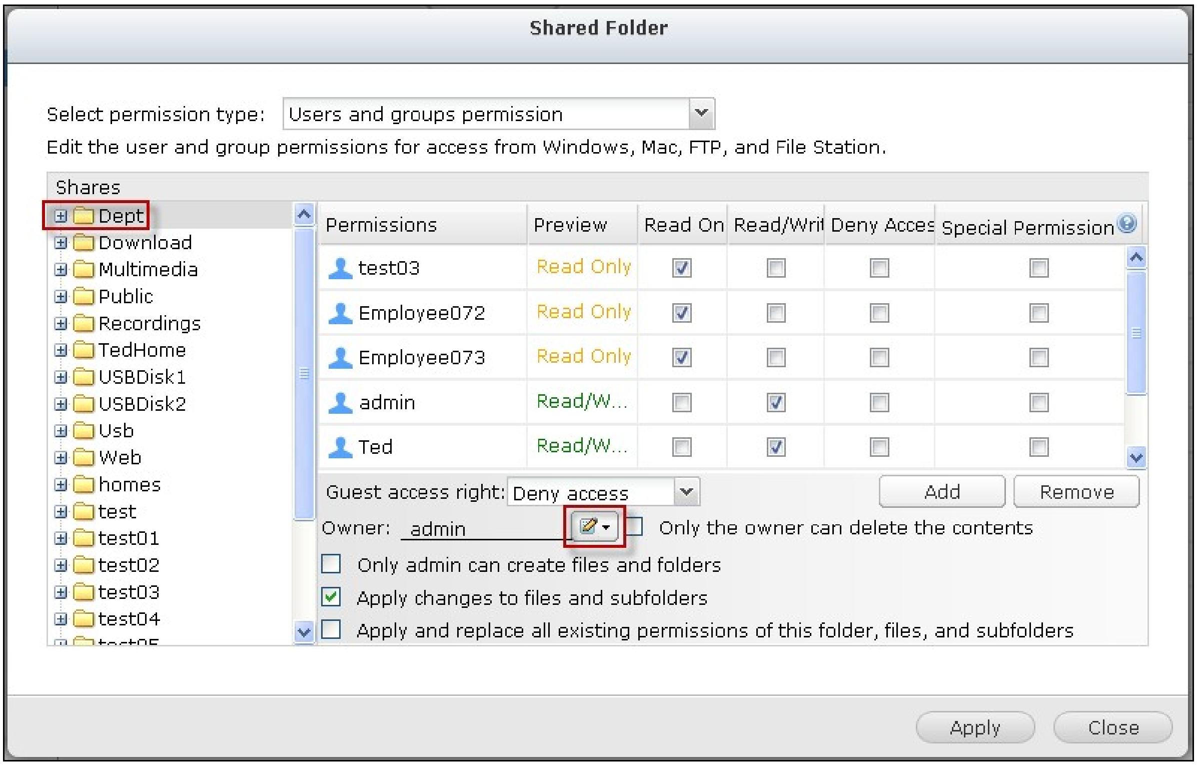
□ Only admin can create files and folders

☑ Apply changes to files and subfolders

□ Apply and replace all existing permissions of this folder, files, and subfolders

Guest Access Right: Specify to grant full or read only access or deny guest access.

Owner: Specify the owner of the folder. By default, the folder owner is the creator. To change the folder owner, click .



Shared Folder

Select permission type: Users and groups permission

Edit the user and group permissions for access from Windows, Mac, FTP, and File Station.

Shares

Dept
Download
Multimedia
Public
Recordings
TedHome
USBDisk1
USBDisk2
Usb
Web
homes
test
test01
test02
test03
test04

Permissions	Preview	Read On	Read/Wri	Deny Acces	Special Permission
test03	Read Only	☑	□	□	□
Employee072	Read Only	☑	□	□	□
Employee073	Read Only	☑	□	□	□
admin	Read/W...	□	☑	□	□
Ted	Read/W...	□	☑	□	□

Guest access right: Deny access

Owner: admin

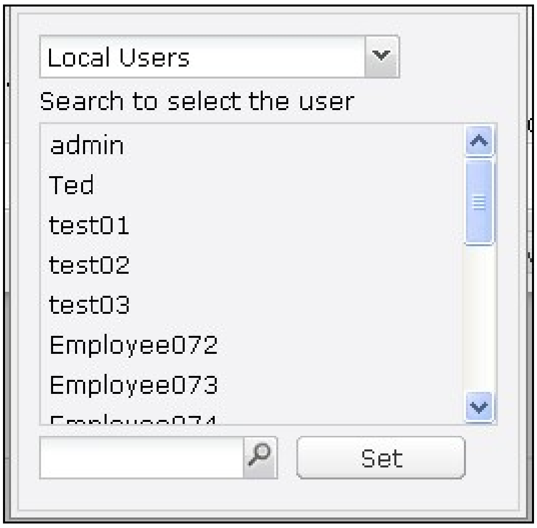
□ Only the owner can delete the contents

□ Only admin can create files and folders

☑ Apply changes to files and subfolders

□ Apply and replace all existing permissions of this folder, files, and subfolders

Select a user from the list or search a username. Then click “Set”.

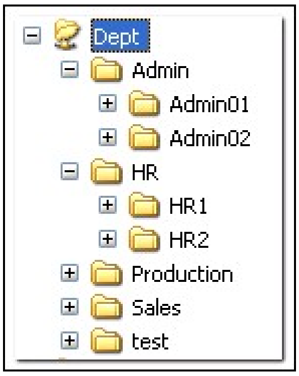


Local Users

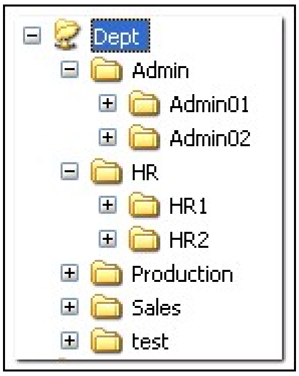
Search to select the user

admin
Ted
test01
test02
test03
Employee072
Employee073

- Only the owner can delete the contents: When you apply this option to a folder, e.g. Dept, only the folder owner can delete the first-level subfolders and files. Users who are not the owner but possess read/write permission to the folder cannot delete the folders Admin, HR, Production, Sales, and test in this example. This option does not apply to the subfolders of the selected folder even if the options "Apply changes to files and subfolders" and "Apply and replace all existing permissions of this folder, files, and subfolders" are selected.



- Only admin can create files and folders: This option is only available for root folders. Select this option to allow admin to create first-level subfolders and files in the selected folder only. For example, in the folder "Dept", only admin can create files and subfolders Admin, HR, Production, and so on. Other users with read/write access to Dept can only create files and folders in the second and lower-level subfolders such as Admin01, Admin02, HR1, and HR2.

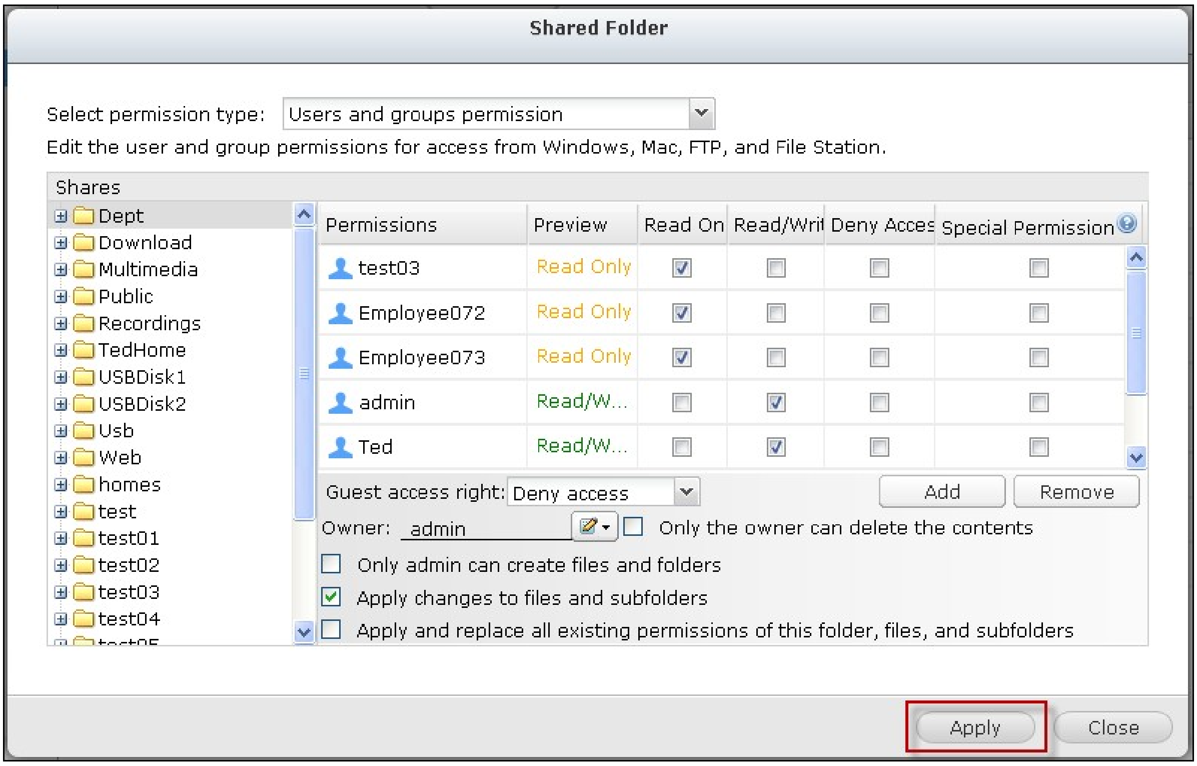


- Apply changes to files and subfolders: Apply permissions settings except owner protection and root folder write protection settings to all the files and subfolders within the selected folder. These settings include new users, deleted users, modified permissions, and folder owner. The options "Only the owner can delete the contents" and "Only admin can create files and folders" will not be applied to subfolders.

- Apply and replace all existing permissions of this folder, files, and subfolders: Select this option to override all previously configured permissions of the selected folder and its files and subfolders except owner protection and root folder write protection settings. The options "Only the owner can delete the contents" and "Only admin can create files and folders" will not be applied to subfolders.

- Special Permission: This option is only available for root folders. Select this option and choose between "Read only" or "Read/Write" to allow a user to access to all the contents of a folder irrespectively of the pre-configured permissions. A user with special permission will be identified as "admin" when he/she connects to the folder via Microsoft Networking. If you have granted special permission with "Read/Write" access to the user, the user will have full access and is able to configure the folder permissions on Windows. Note that all the files created by this user belong to "admin". Since "admin" does not have quota limit on the NAS, the number and size of the files created by users with special permission will not be limited by their pre-configured quota settings. This option should be used for administrative and backup tasks only.

After changing the permissions, click "Apply" and then "YES" to confirm.



Select permission type: Users and groups permission

Edit the user and group permissions for access from Windows, Mac, FTP, and File Station.

Permissions	Preview	Read On	Read/Wri	Deny Acces	Special Permission
test03	Read Only	☑	□	□	□
Employee072	Read Only	☑	□	□	□
Employee073	Read Only	☑	□	□	□
admin	Read/W...	□	☑	□	□
Ted	Read/W...	□	☑	□	□

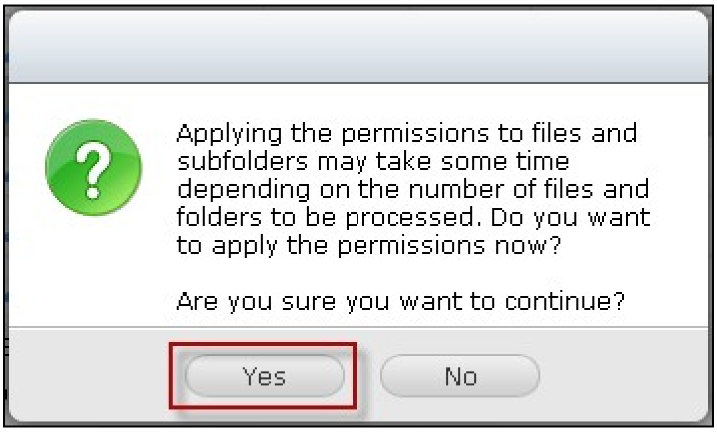
Guest access right: Deny access

Owner: admin □ Only the owner can delete the contents

□ Only admin can create files and folders

☑ Apply changes to files and subfolders

□ Apply and replace all existing permissions of this folder, files, and subfolders

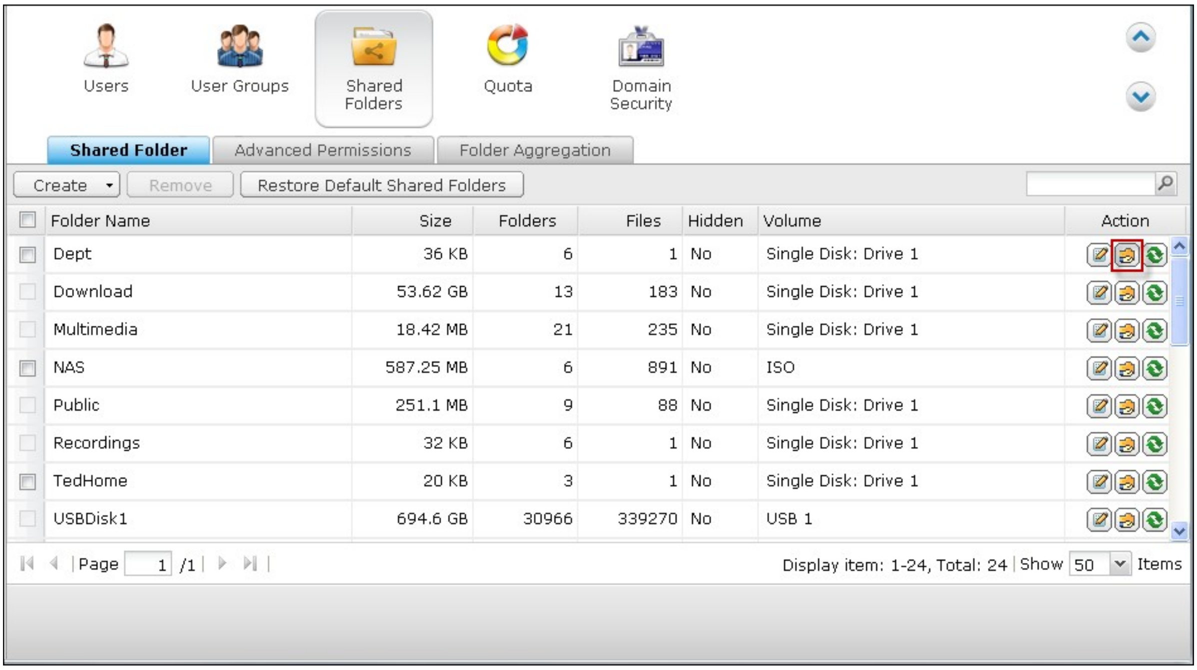


Applying the permissions to files and subfolders may take some time depending on the number of files and folders to be processed. Do you want to apply the permissions now?

Are you sure you want to continue?

Microsoft Networking Host Access Control

The NAS folders can be accessed via Samba connection (Windows) by default. You can specify the IP addresses and hosts which are allowed to access the NAS via Microsoft Networking. Click .

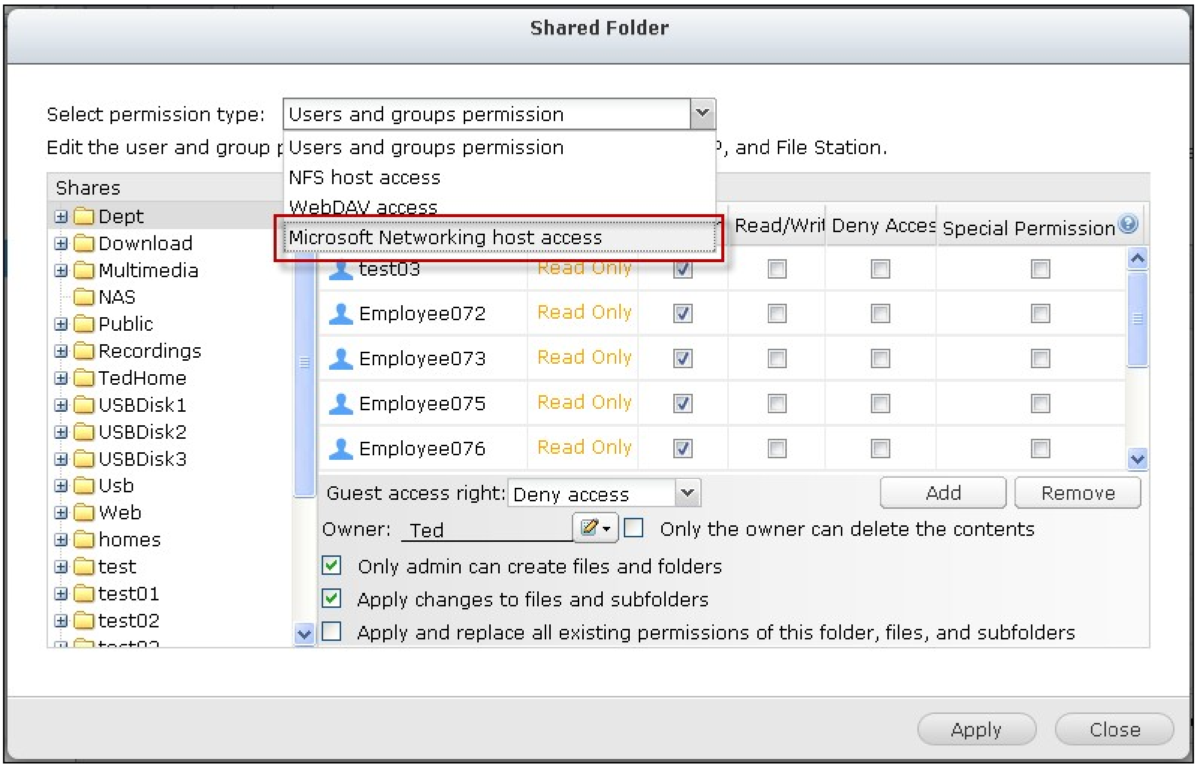


☐	Folder Name	Size	Folders	Files	Hidden	Volume	Action
☐	Dept	36 KB	6	1	No	Single Disk: Drive 1	
☐	Download	53.62 GB	13	183	No	Single Disk: Drive 1	
☐	Multimedia	18.42 MB	21	235	No	Single Disk: Drive 1	
☐	NAS	587.25 MB	6	891	No	ISO	
☐	Public	251.1 MB	9	88	No	Single Disk: Drive 1	
☐	Recordings	32 KB	6	1	No	Single Disk: Drive 1	
☐	TedHome	20 KB	3	1	No	Single Disk: Drive 1	
☐	USBDisk1	694.6 GB	30966	339270	No	USB 1	

Page 1 /1

Display item: 1-24, Total: 24 | Show 50 Items

Select "Microsoft Networking host access" from the dropdown menu on top of the page.



Select permission type: Users and groups permission

Edit the user and group p P, and File Station.

Shares: Dept, Download, Multimedia, NAS, Public, Recordings, TedHome, USBDisk1, USBDisk2, USBDisk3, Usb, Web, homes, test, test01, test02

			Read/Writ	Deny Acces	Special Permission
test03	Read Only	☑	☐	☐	☐
Employee072	Read Only	☑	☐	☐	☐
Employee073	Read Only	☑	☐	☐	☐
Employee075	Read Only	☑	☐	☐	☐
Employee076	Read Only	☑	☐	☐	☐

Guest access right: Deny access

Owner: Ted ☐ Only the owner can delete the contents

☑ Only admin can create files and folders

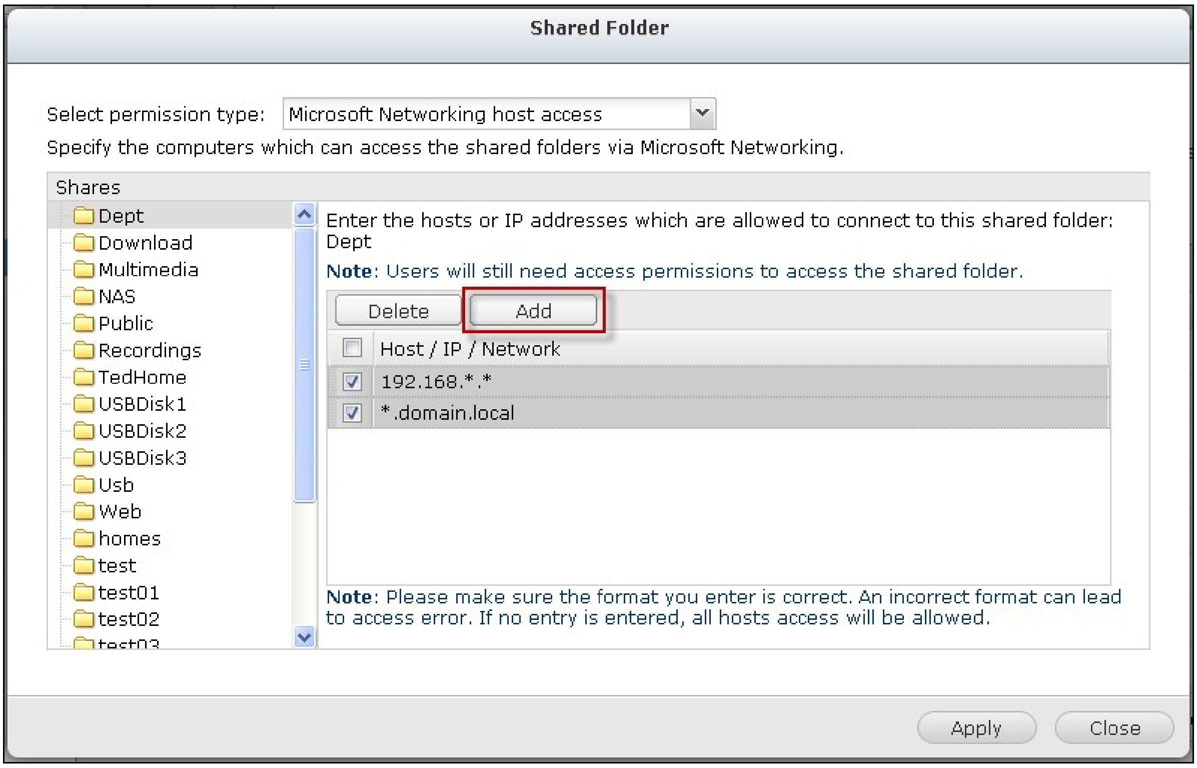
☑ Apply changes to files and subfolders

☐ Apply and replace all existing permissions of this folder, files, and subfolders

Specify the allowed IP addresses and host names. The following IP address and host name are used as example here:

IP address	192.168.12.12 192.168.*.*
Host name	dnsname.domain.local *.domain.local

click "Add" to enter the IP address and host name and then "Apply".



Shared Folder

Select permission type: Microsoft Networking host access

Specify the computers which can access the shared folders via Microsoft Networking.

Enter the hosts or IP addresses which are allowed to connect to this shared folder: Dept

Note: Users will still need access permissions to access the shared folder.

□	Host / IP / Network
☑	192.168.*.*
☑	*.domain.local

Note: Please make sure the format you enter is correct. An incorrect format can lead to access error. If no entry is entered, all hosts access will be allowed.

Wildcard characters

You can enter wildcard characters in an IP address or host name entry to represent unknown characters.

Asterisk (*)

Use an asterisk (*) as a substitute for zero or more characters. For example, if you enter *.domain.local, the following items are included:

a.domain.local

cde.domain.local

test.domain.local

Question mark (?)

Use a question mark (?) as a substitute for only one character. For example, test?.domain.local includes the following:

test1.domain.local

test2.domain.local

testa.domain.local

When you use wildcard characters in a valid host name, dot (.) is included in wildcard characters. For example, when you enter *.example.com, "one.example.com" and "one.two.example.com" are included.

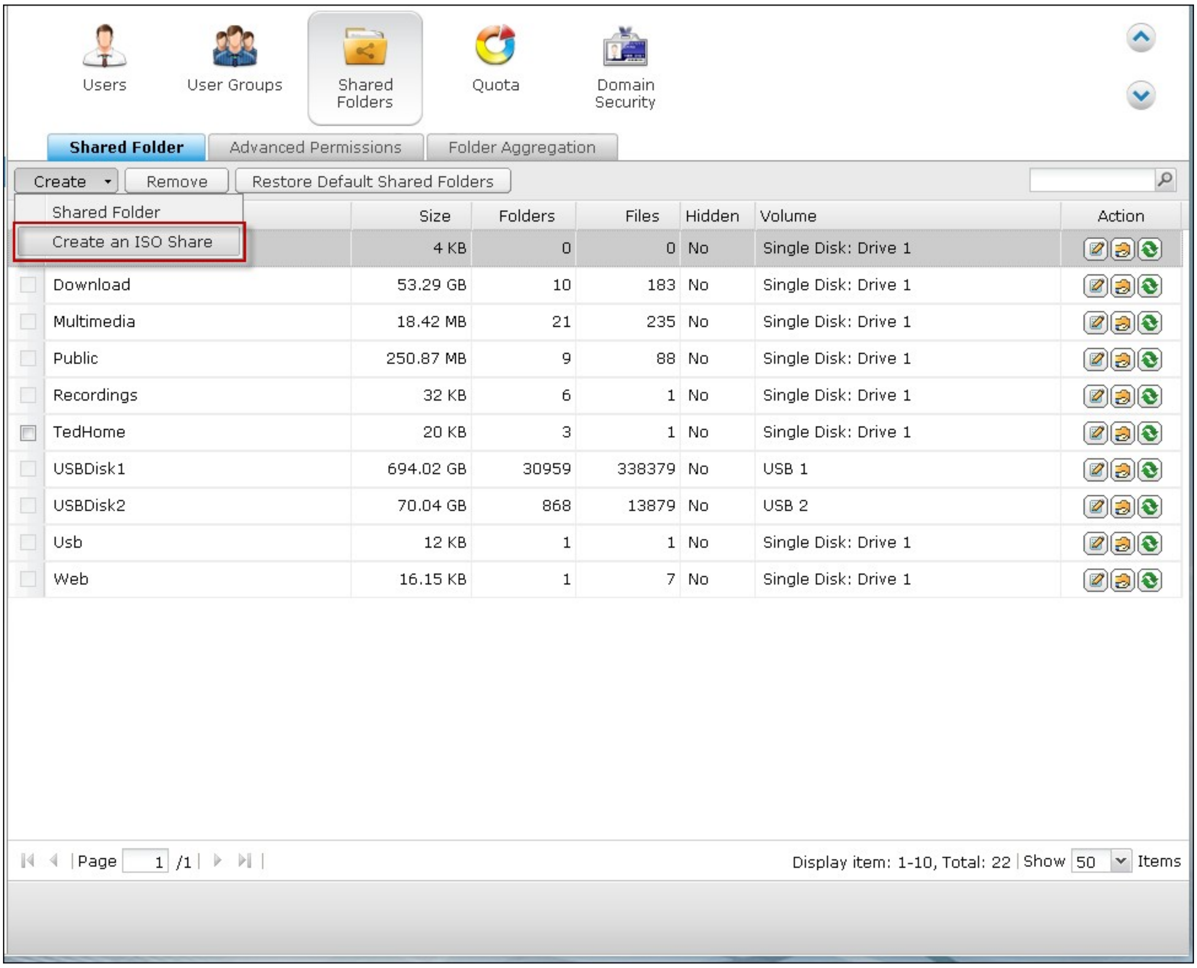
ISO Shared Folders

You can mount the ISO image files on the NAS as ISO shares and access the contents without disc burning. The NAS supports mounting up to 256 ISO shares.

TS-110, TS-119, TS-120, TS-121, TS-210, TS-219, TS-219P, TS-220, TS-221, TS-410, , TS-119P+, TS-219P+, TS-112, TS-212 support maximum 256 network shares only (including 6 default network shares). The maximum number of ISO image files supported by these models is less than 256 (256 minus 6 default shares minus number of network recycle bin folders).

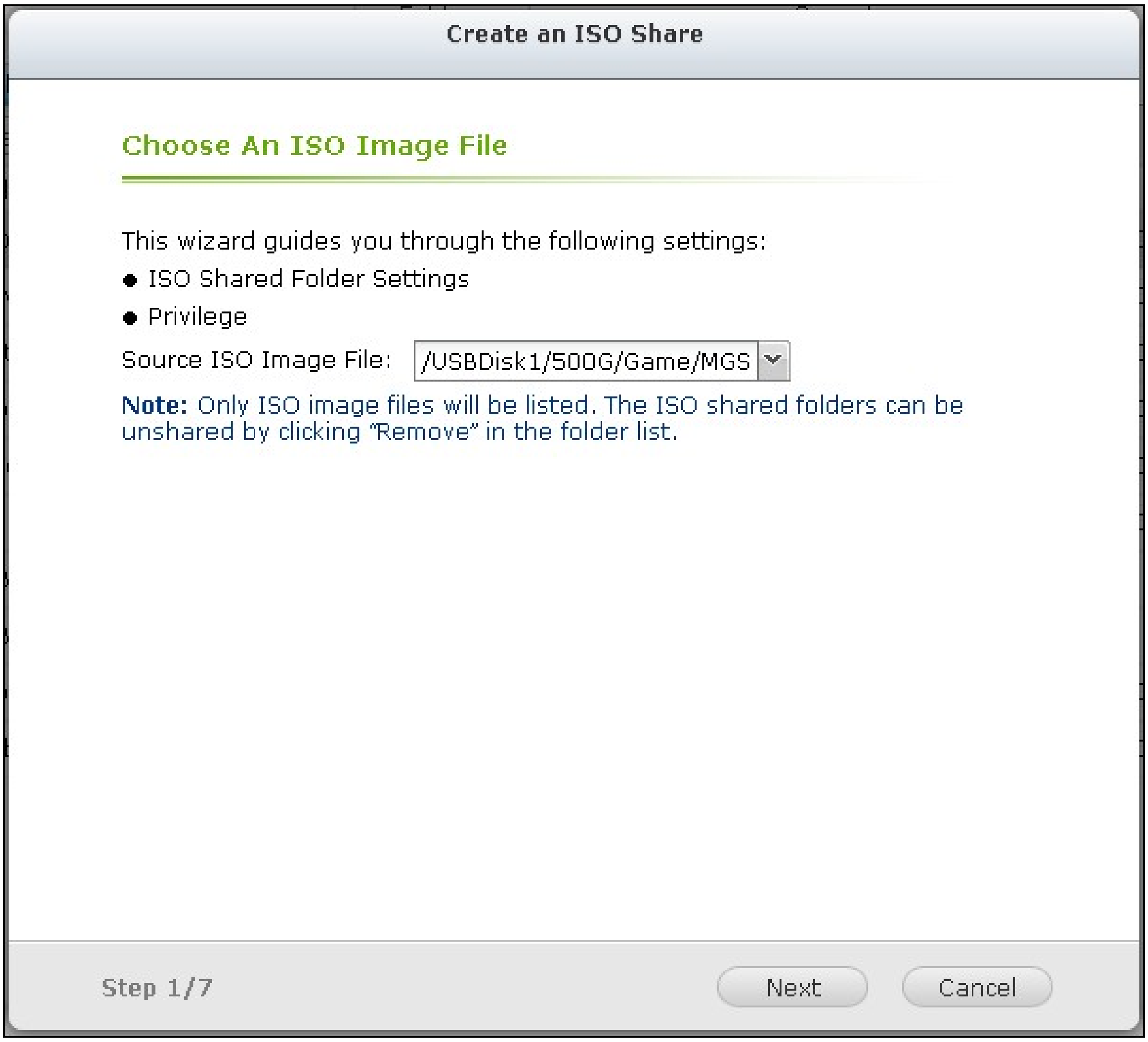
Follow the steps below to mount an ISO file on the NAS by the web interface.

1. Login the NAS as an administrator. Go to "Share Folders" > "Create". Click "Create an ISO Share".



	Size	Folders	Files	Hidden	Volume	Action
	4 KB	0	0	No	Single Disk: Drive 1	
Download	53.29 GB	10	183	No	Single Disk: Drive 1	
Multimedia	18.42 MB	21	235	No	Single Disk: Drive 1	
Public	250.87 MB	9	88	No	Single Disk: Drive 1	
Recordings	32 KB	6	1	No	Single Disk: Drive 1	
TedHome	20 KB	3	1	No	Single Disk: Drive 1	
USBDisk1	694.02 GB	30959	338379	No	USB 1	
USBDisk2	70.04 GB	868	13879	No	USB 2	
Usb	12 KB	1	1	No	Single Disk: Drive 1	
Web	16.15 KB	1	7	No	Single Disk: Drive 1	

2. Select an ISO image file on the NAS. Click "Next".



Choose An ISO Image File

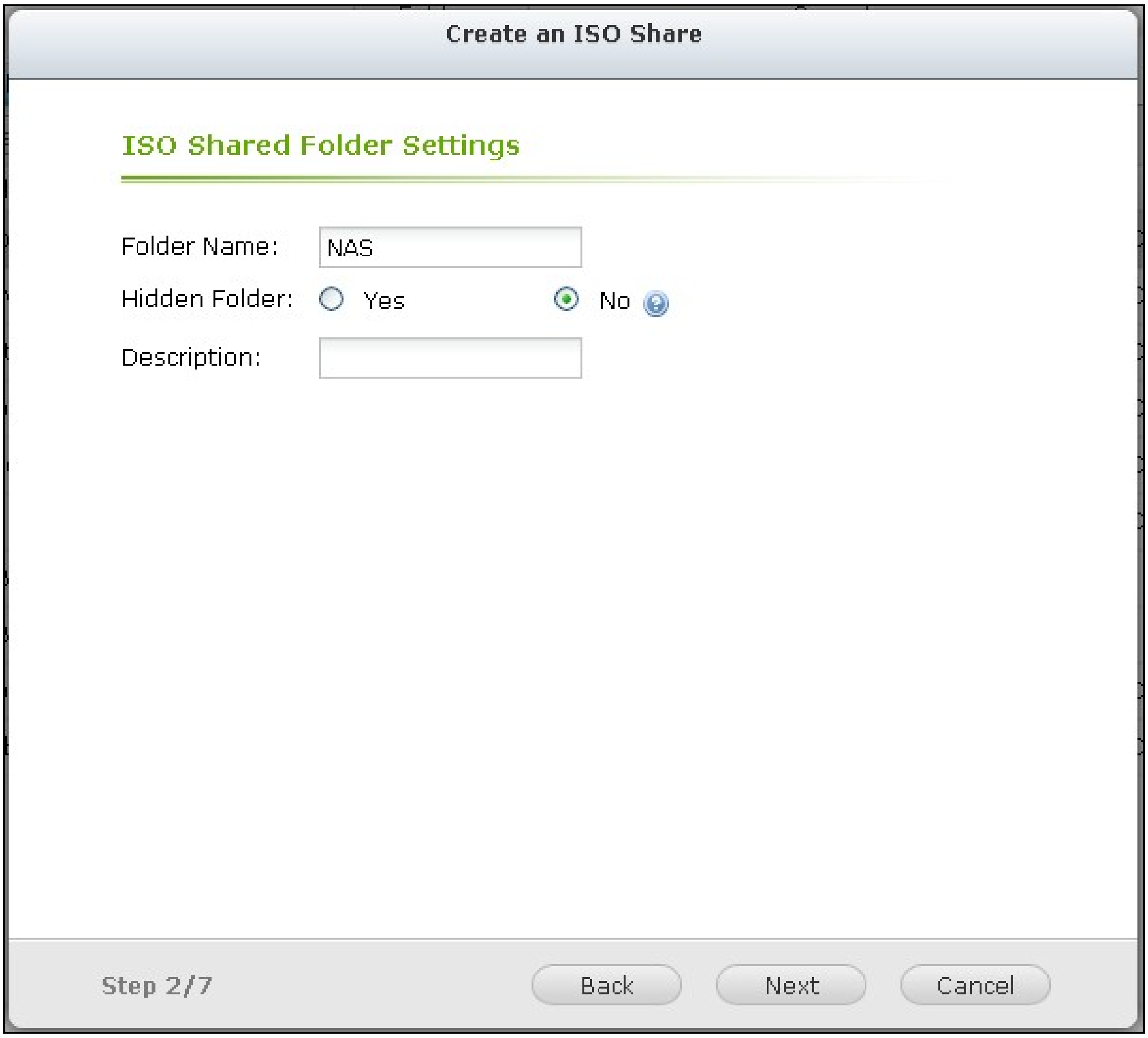
This wizard guides you through the following settings:

- ISO Shared Folder Settings
- Privilege

Source ISO Image File: /USBDisk1/500G/Game/MGS

Note: Only ISO image files will be listed. The ISO shared folders can be unshared by clicking "Remove" in the folder list.

3. The image file will be mounted as a shared folder of the NAS. Enter the folder name.



Create an ISO Share

ISO Shared Folder Settings

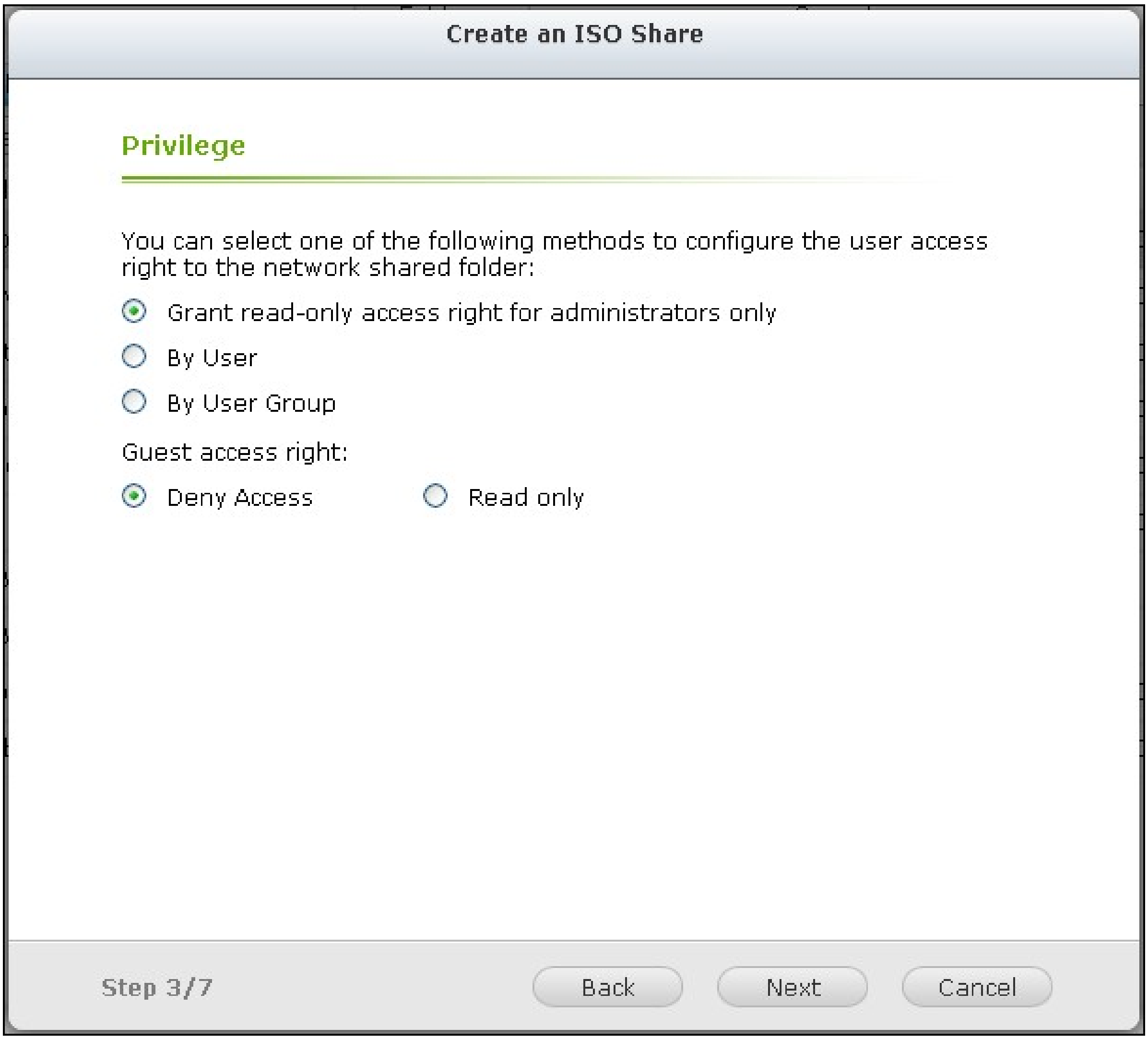
Folder Name: NAS

Hidden Folder: ○ Yes ● No

Description:

Step 2/7

4. Specify the access rights of the NAS users or user groups to the shared folder. You can also select "Deny Access" or "Read only" for the guest access right. Click "Next".



Create an ISO Share

Privilege

You can select one of the following methods to configure the user access right to the network shared folder:

● Grant read-only access right for administrators only

○ By User

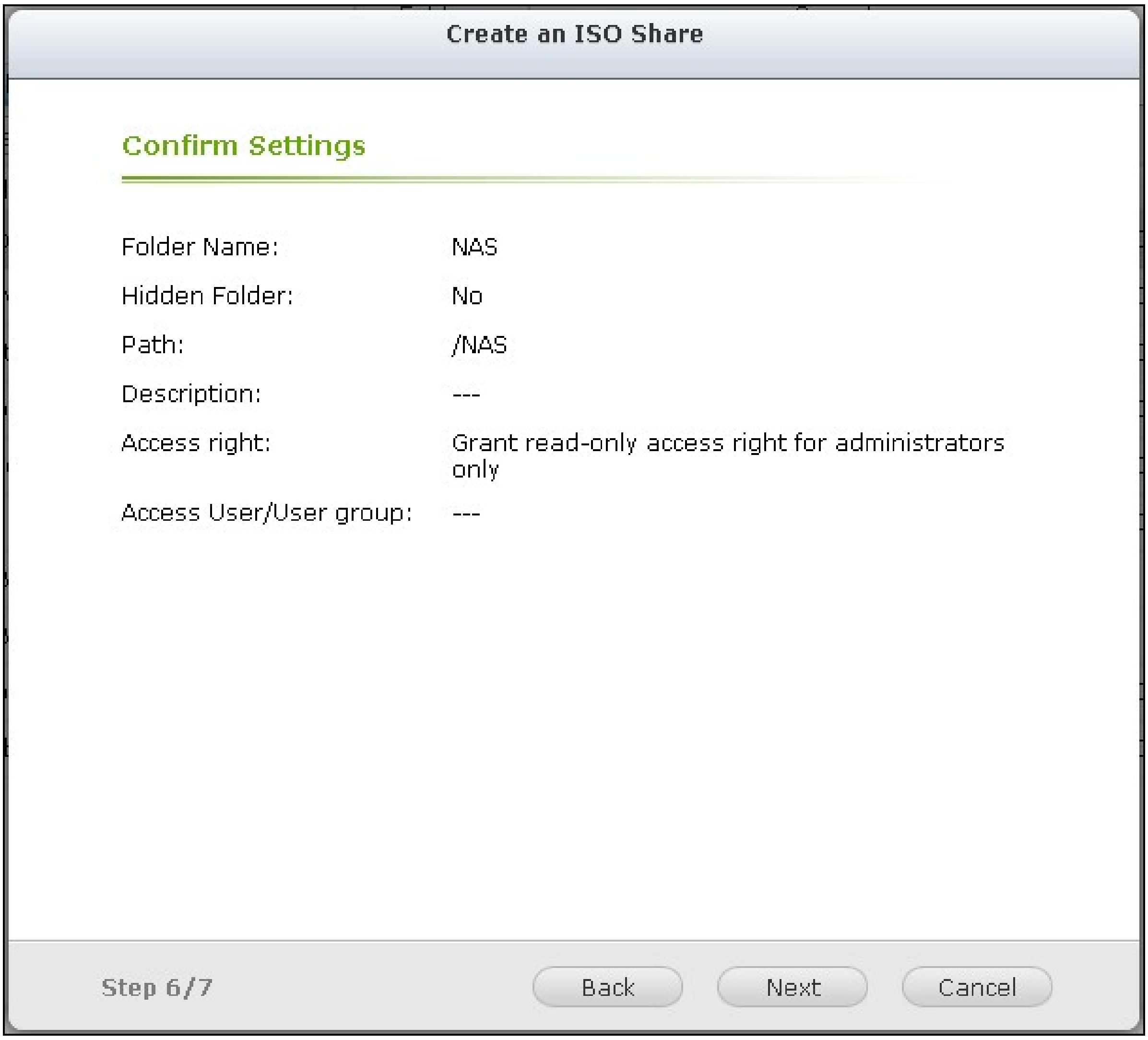
○ By User Group

Guest access right:

● Deny Access ○ Read only

Step 3/7

5. Confirm the settings and click "Next".

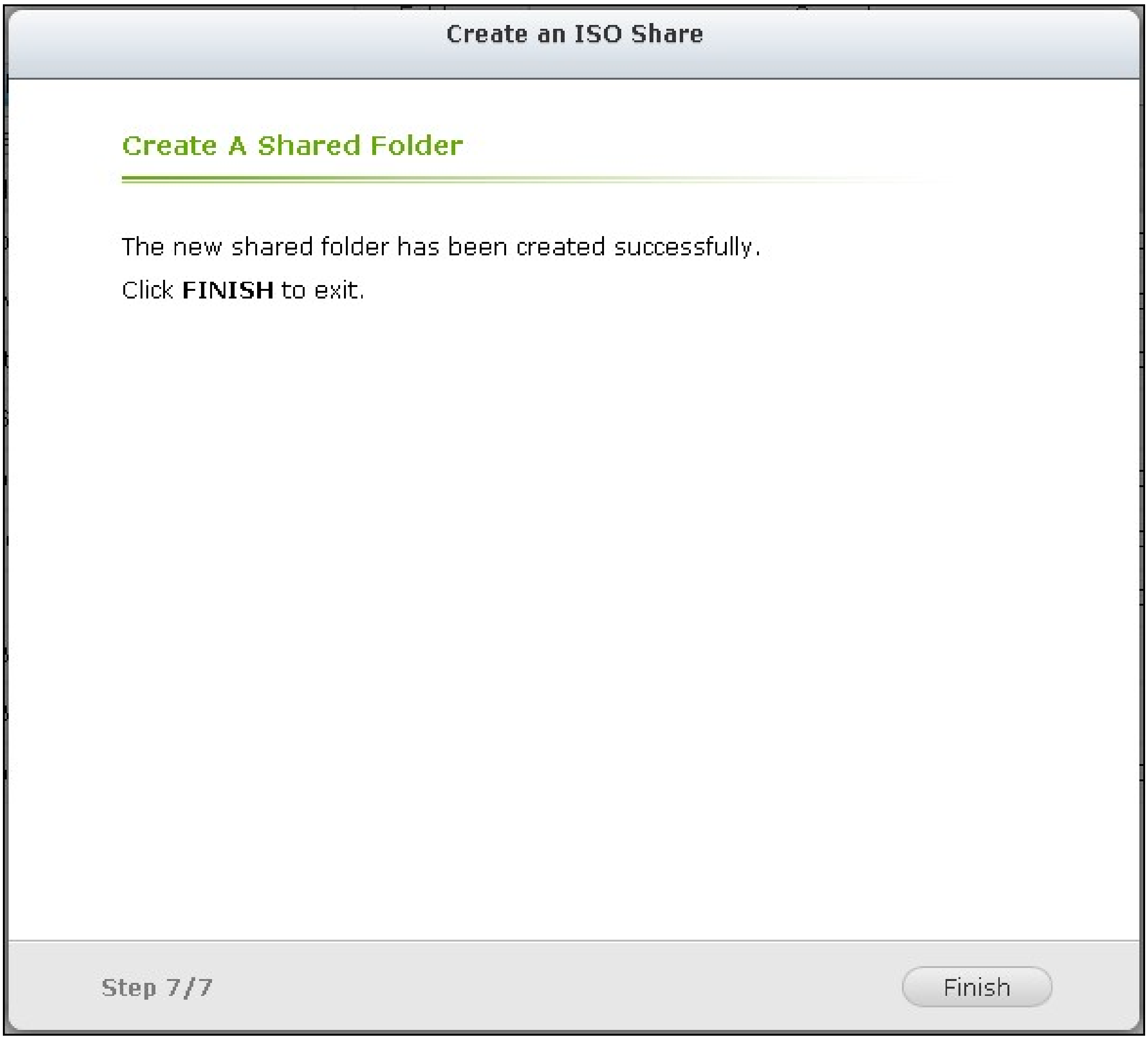


Create an ISO Share

Confirm Settings

Folder Name:	NAS
Hidden Folder:	No
Path:	/NAS
Description:	---
Access right:	Grant read-only access right for administrators only
Access User/User group:	---

6. Click “Finish”.

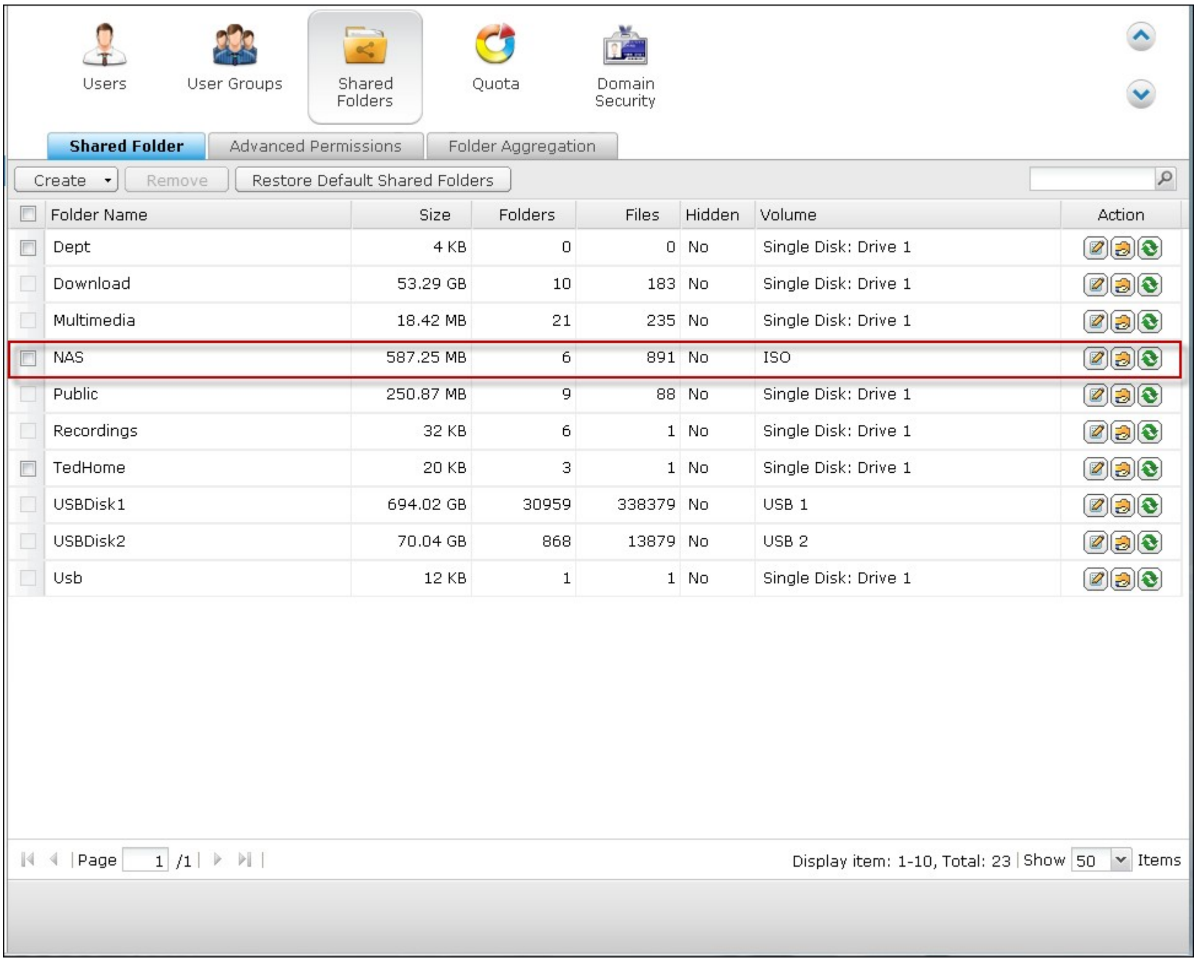


Create A Shared Folder

The new shared folder has been created successfully.

Click **FINISH** to exit.

7. After mounting the image file, you can specify the access rights of the users over different network protocols such as SMB, AFP, NFS, and WebDAV by clicking the Access Permission icon in the "Action" column.



☐	Folder Name	Size	Folders	Files	Hidden	Volume	Action
☐	Dept	4 KB	0	0	No	Single Disk: Drive 1	
☐	Download	53.29 GB	10	183	No	Single Disk: Drive 1	
☐	Multimedia	18.42 MB	21	235	No	Single Disk: Drive 1	
☐	NAS	587.25 MB	6	891	No	ISO	
☐	Public	250.87 MB	9	88	No	Single Disk: Drive 1	
☐	Recordings	32 KB	6	1	No	Single Disk: Drive 1	
☐	TedHome	20 KB	3	1	No	Single Disk: Drive 1	
☐	USBDisk1	694.02 GB	30959	338379	No	USB 1	
☐	USBDisk2	70.04 GB	868	13879	No	USB 2	
☐	Usb	12 KB	1	1	No	Single Disk: Drive 1	

Page 1 /1

Display item: 1-10, Total: 23 | Show 50 Items

The NAS supports mounting ISO image files by the File Station. Please refer to the chapter on File Station for details.

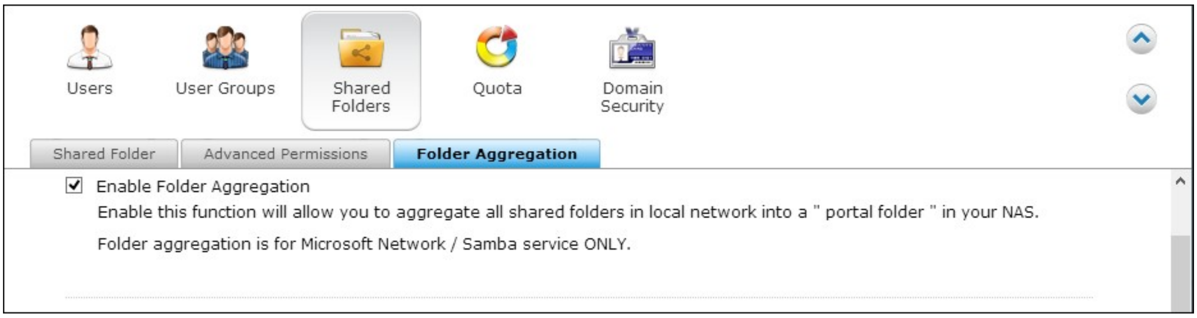
Folder Aggregation

You can aggregate the shared folders on Microsoft network as a portal folder on the NAS and let the NAS users access the folders through your NAS. Up to 10 folders can be linked to a portal folder.

Note: This function is supported only in Microsoft networking service and recommended for a Windows AD environment.

To use this function, follow the steps below.

1. Enable folder aggregation.

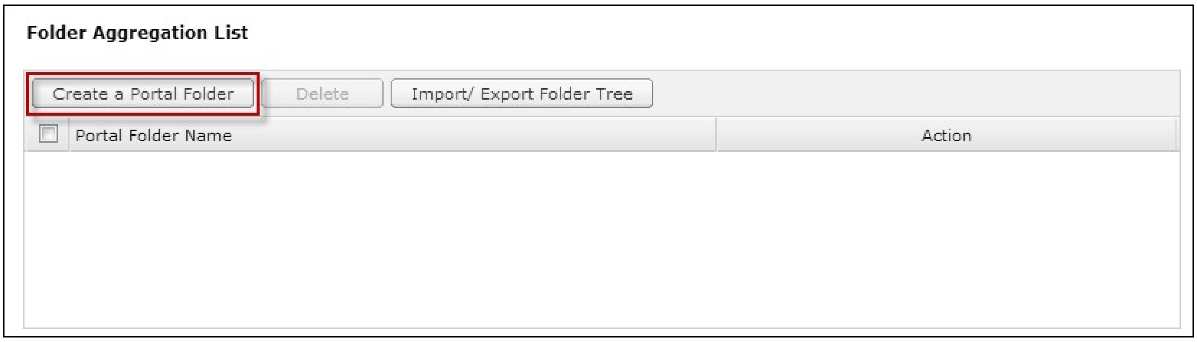


☑ Enable Folder Aggregation

Enable this function will allow you to aggregate all shared folders in local network into a " portal folder " in your NAS.

Folder aggregation is for Microsoft Network / Samba service ONLY.

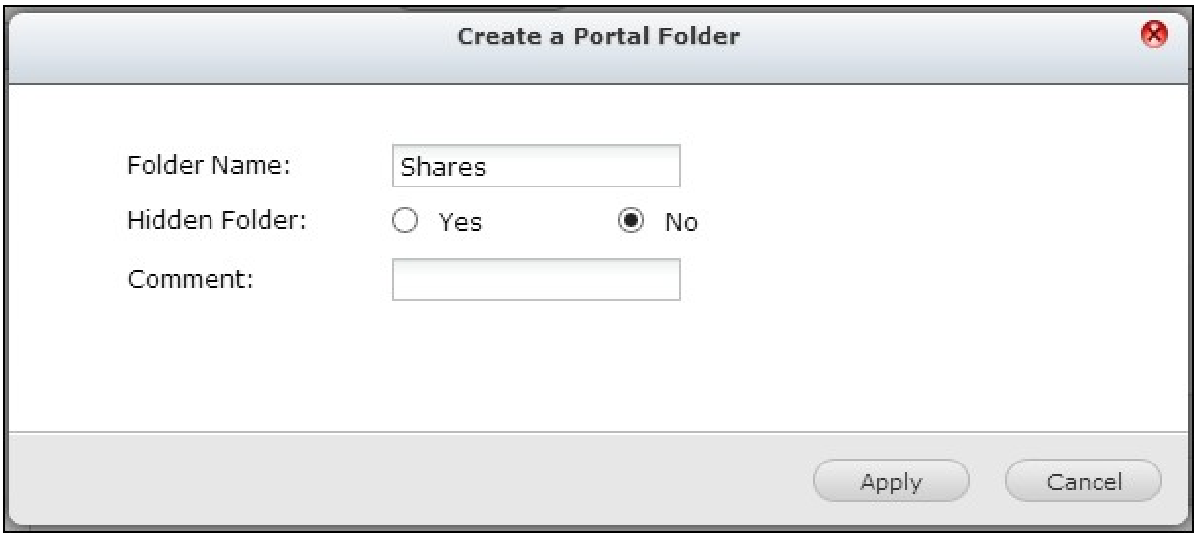
2. Click "Create A Portal Folder".



Folder Aggregation List

□ Portal Folder Name	Action

3. Enter the portal folder name. Select to hide the folder or not, and enter an optional comment for the portal folder.



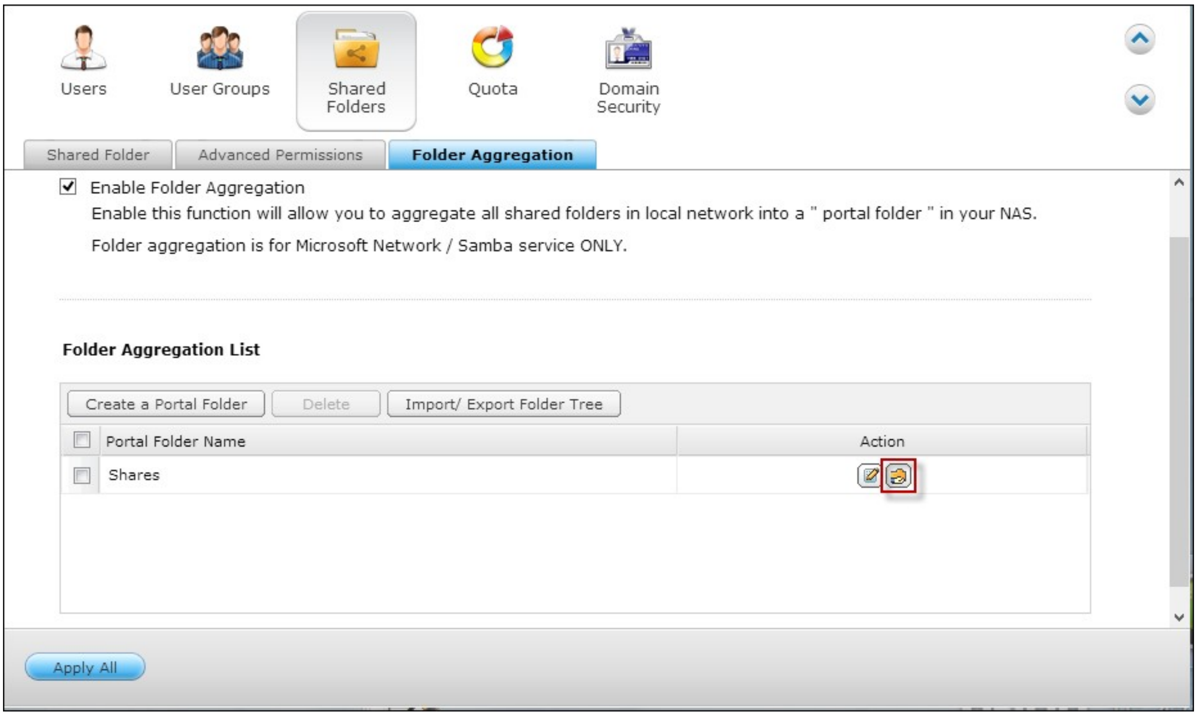
Create a Portal Folder

Folder Name: Shares

Hidden Folder: ○ Yes ● No

Comment:

4. Click (Link Configuration) and enter the remote folder settings. Make sure the folders are open for public access.



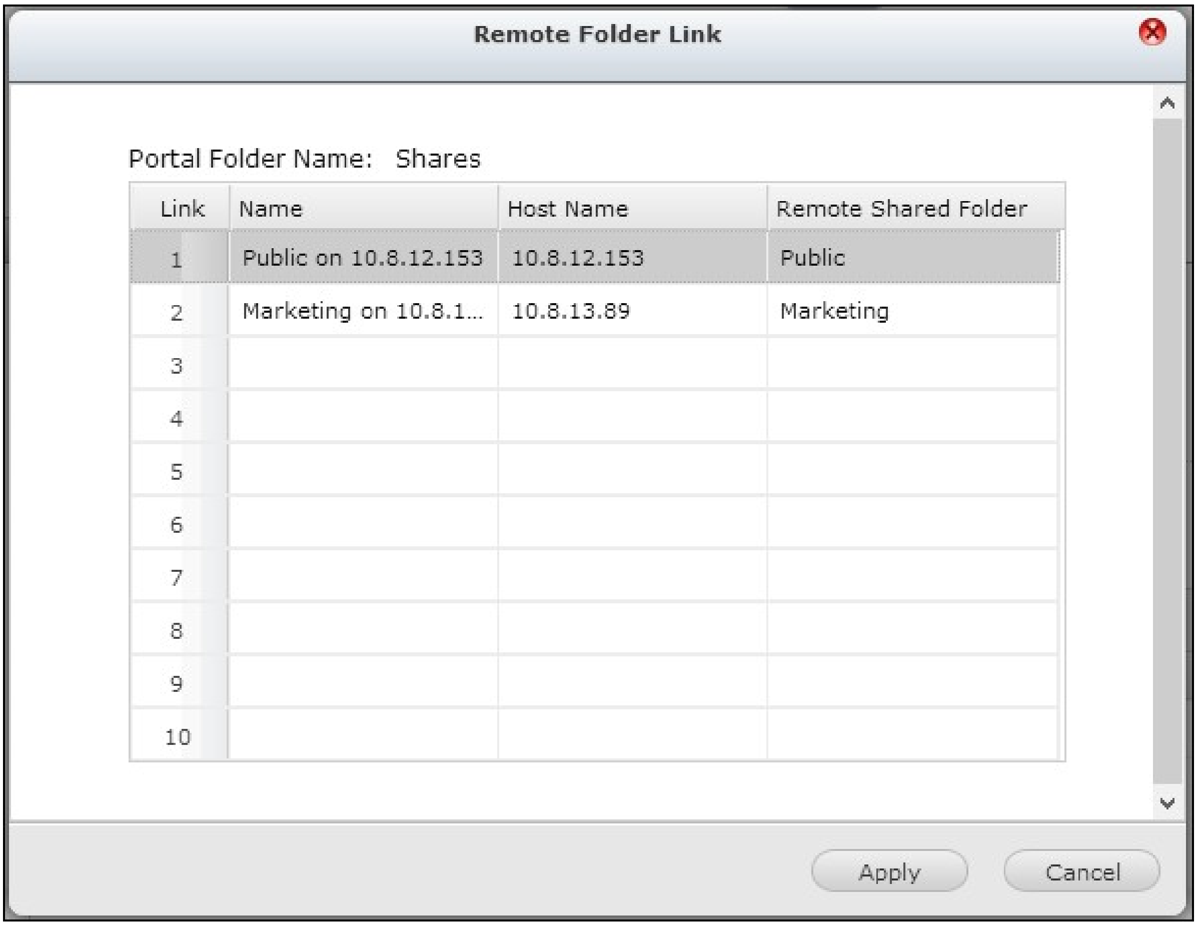
☑ Enable Folder Aggregation

Enable this function will allow you to aggregate all shared folders in local network into a " portal folder " in your NAS.

Folder aggregation is for Microsoft Network / Samba service ONLY.

Folder Aggregation List

□	Portal Folder Name	Action
□	Shares	

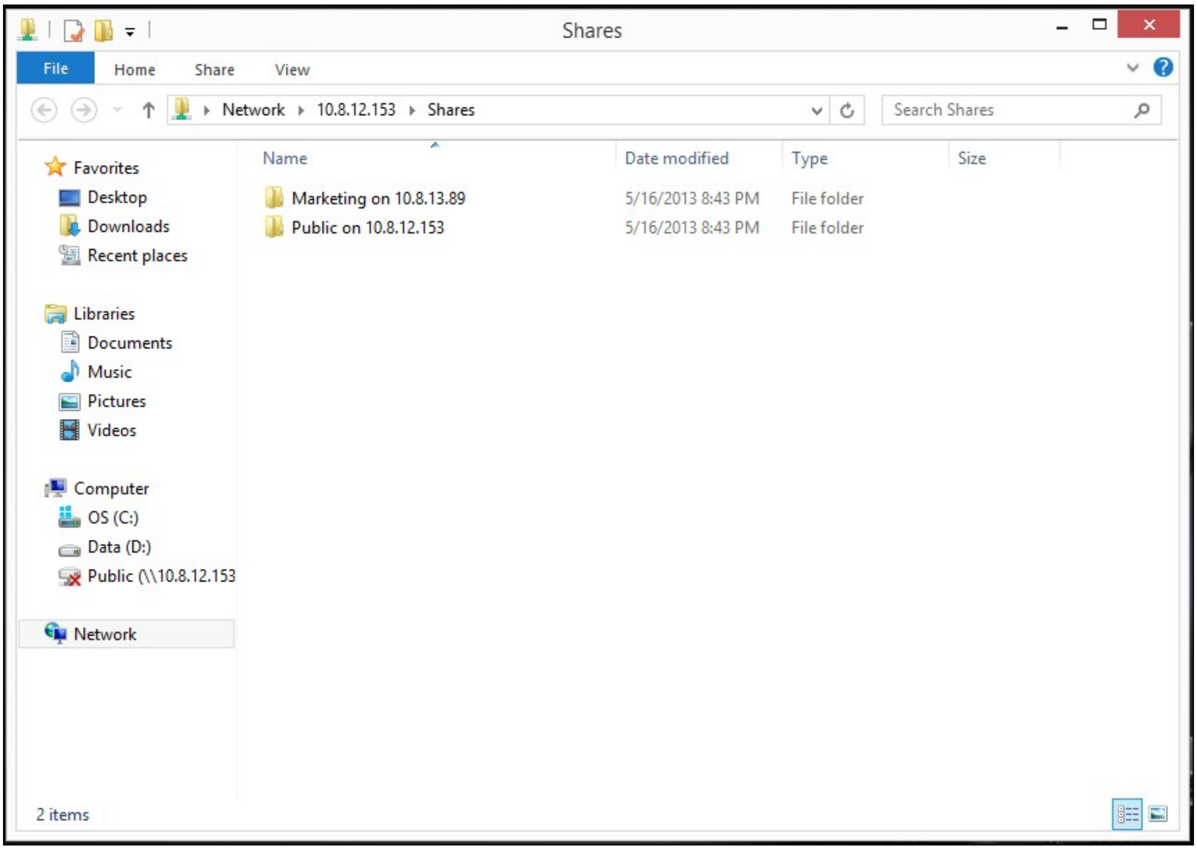


Portal Folder Name: Shares

Link	Name	Host Name	Remote Shared Folder
1	Public on 10.8.12.153	10.8.12.153	Public
2	Marketing on 10.8.1...	10.8.13.89	Marketing
3			
4			
5			
6			
7			
8			
9			
10			

Note: If there is permission control on the folders, you need to join the NAS and the remote servers to the same AD domain.

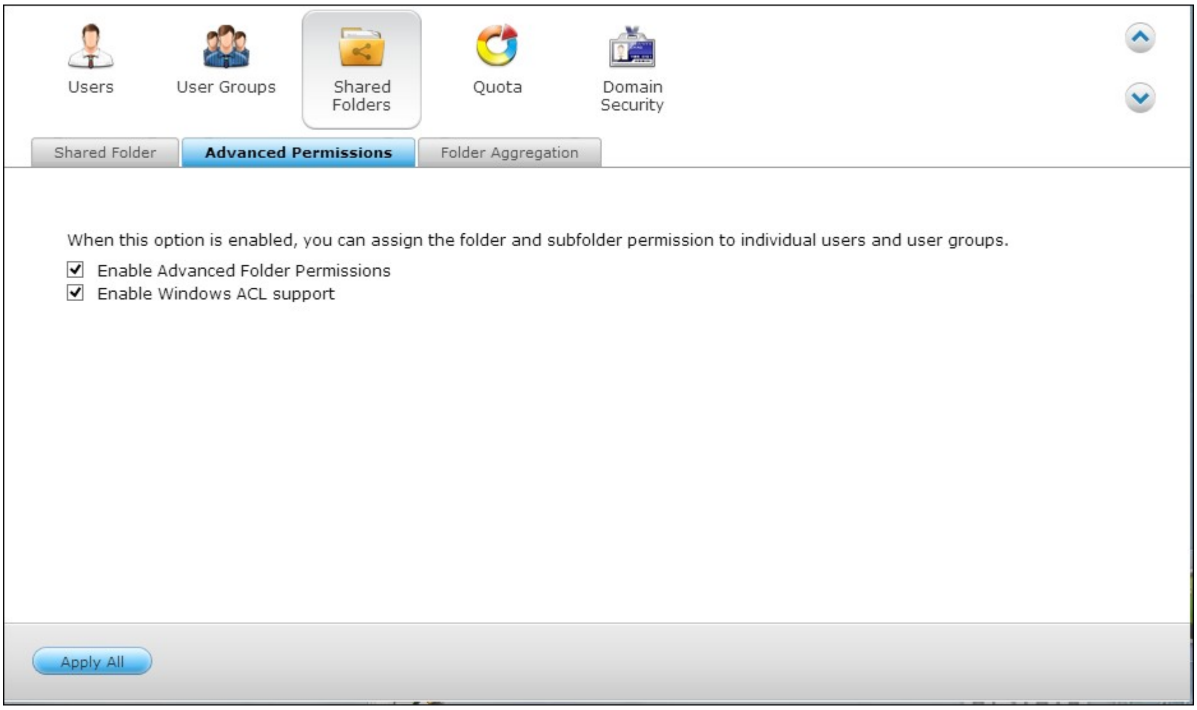
5. Upon successful connection, you can connect to the remote folders through the NAS.



Name	Date modified	Type	Size
Marketing on 10.8.13.89	5/16/2013 8:43 PM	File folder	
Public on 10.8.12.153	5/16/2013 8:43 PM	File folder	

Advanced Permissions

"Advanced Folder Permissions" and "Windows ACL" provide subfolder and file level permissions control. They can be enabled independently or together.



When this option is enabled, you can assign the folder and subfolder permission to individual users and user groups.

☑ Enable Advanced Folder Permissions

☑ Enable Windows ACL support

Protocols	Permission	Options	How to Configure
Advanced Folder Permissions	FTP, AFP, File Station, Samba	3 (Read, Read & Write, Deny)	NAS web UI
Windows ACL	Samba	13 (NTFS permissions)	Windows File Explorer
Both	FTP, AFP, File Station, Samba	Please see the application note (http://www.qnap.com/index.php?lang=en&sn=4686) for more details.	Windows File Explorer

Advanced Folder Permissions

Use "Advanced Folder Permissions" to configure subfolder permissions directly from the NAS UI. There is no depth limitation for the subfolder permissions. However, it is highly recommended to change the permissions only on the first or second level of the subfolders. When "Advanced Folder Permissions" is enabled, click the "Folder Permissions" icon under the "Shared Folders" tab to configure the subfolder permission settings. See "Shared Folders" > "Folder Permission" of this section for details.

Windows ACL

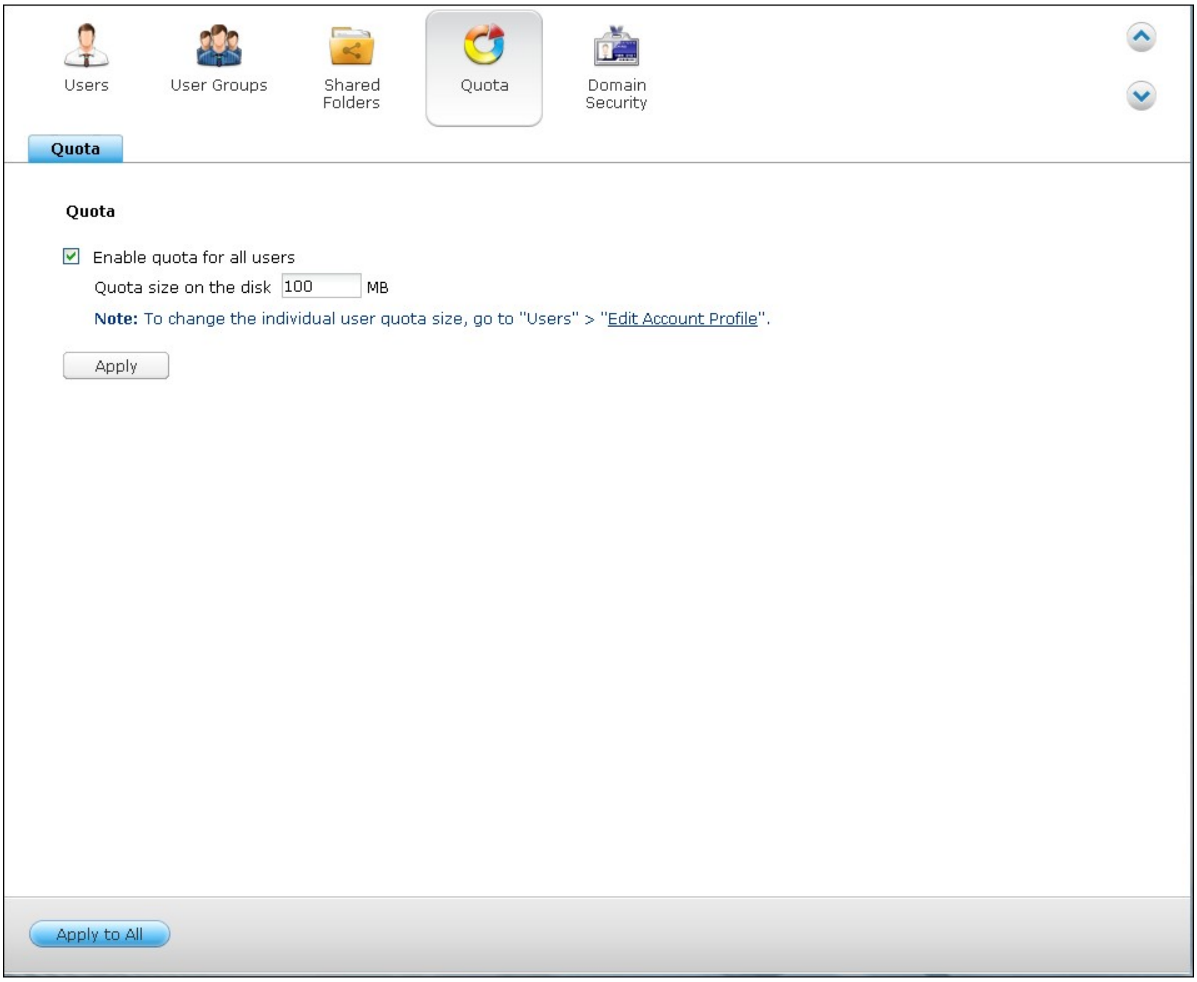
Use "Windows ACL" to configure the subfolder and file level permissions from Windows File Explorer. All Windows Permissions are supported. For detailed Windows ACL behavior, please refer to standard NTFS permissions: http://www.ntfs.com/#ntfs_permiss

- To assign subfolder and file permissions to a user or a user group, full control share-level permissions must be granted to the user or user group.
- When Windows ACL is enabled while "Advanced Folder Permissions" are disabled, subfolder and file permissions will have effect only when accessing the NAS from Windows File Explorer. Users connecting to the NAS via FTP, AFP, or File Station will only have share-level permissions.
- When Windows ACL and Advanced Folder Permissions are both enabled, users cannot configure Advanced Folder Permissions from the NAS UI. The permissions (Read only, Read/Write, and Deny) of Advanced Folder Permissions for AFP, File Station, and FTP will automatically follow Windows ACL configuration.

5.4 Quota

To allocate the disk volume efficiently, you can specify the quota that can be used by each user. When this function is enabled and a user has reached the disk quota, the user cannot upload any data to the server anymore. By default, no limitations are set for the users. You can modify the following options:

- Enable quota for all users
- Quota size on each disk volume



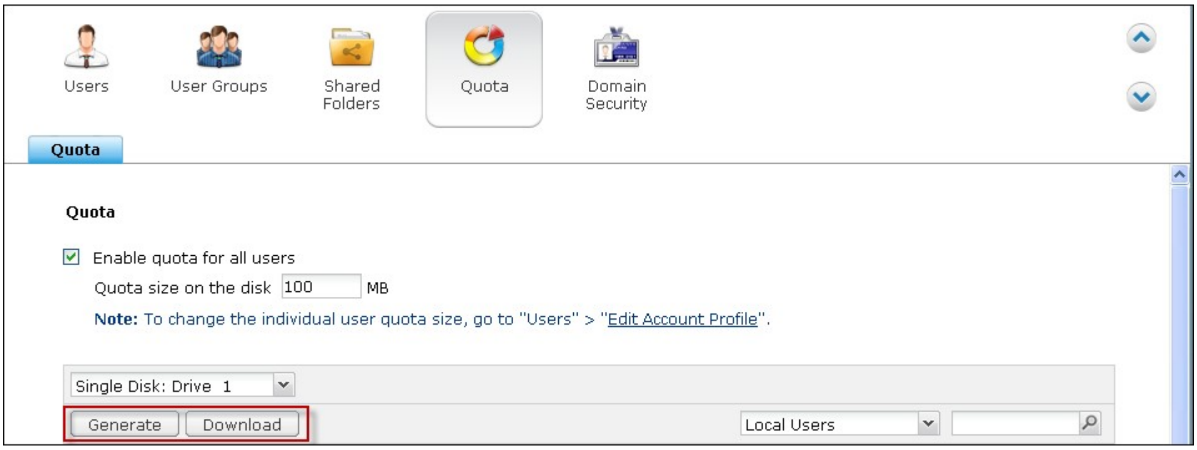
Quota

☑ Enable quota for all users

Quota size on the disk 100 MB

Note: To change the individual user quota size, go to "Users" > "Edit Account Profile".

After applying the changes, the quota settings will be shown. Click "Generate" to generate a quota settings file in CSV format. After the file has been generated, click "Download" to save it to your specified location.



Quota

☑ Enable quota for all users

Quota size on the disk 100 MB

Note: To change the individual user quota size, go to "Users" > "Edit Account Profile".

5.5 Domain Security

The NAS supports user authentication by local access right management, Microsoft Active Directory (Windows Server 2003/2008), and Lightweight Directory Access Protocol (LDAP) directory. By joining the NAS to an Active Directory or a LDAP directory, the AD or LDAP users can access the NAS using their own accounts without extra user account setup on the NAS.

No domain security

Only the local users can access the NAS.

Active Directory authentication (domain members)

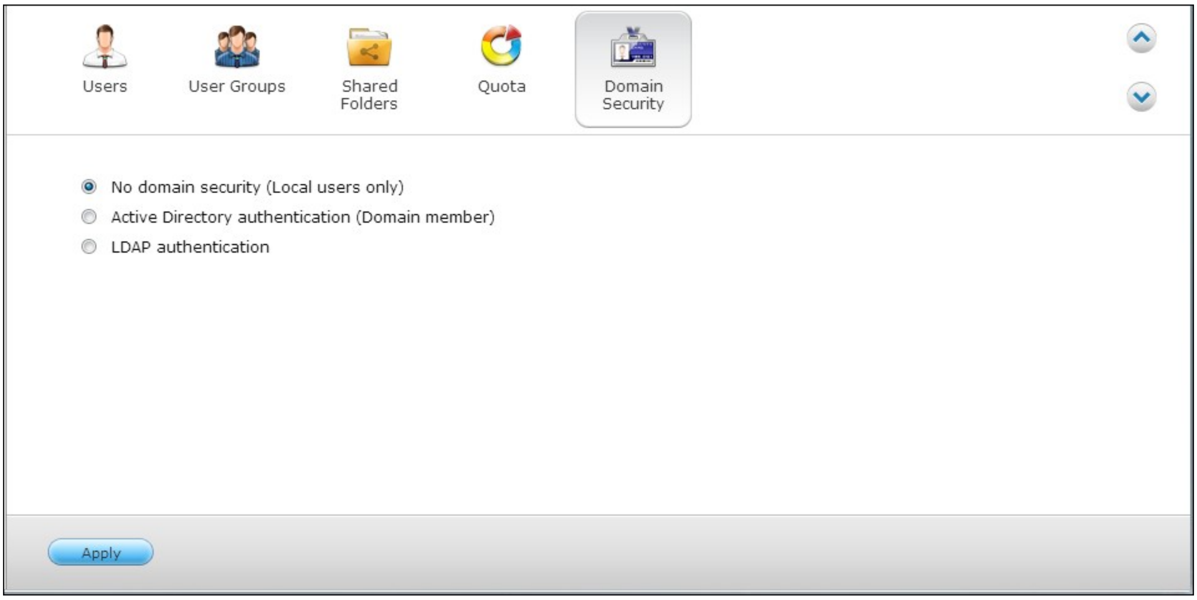
Join the NAS to an Active Directory. The domain users can be authenticated by the NAS. After joining the NAS to an AD domain, both the local NAS users and AD users can access the NAS via the following protocols/services:

- Samba (Microsoft Networking)
- AFP
- FTP
- File Station

LDAP authentication

Connect the NAS to an LDAP directory. The LDAP users can be authenticated by the NAS. After connecting the NAS to an LDAP directory, either the local NAS users or the LDAP users can be authenticated to access the NAS via Samba (Microsoft Networking). Both the local NAS users and LDAP users can access the NAS via the following protocols/ services:

- AFP
- FTP
- File Station



● No domain security (Local users only)

○ Active Directory authentication (Domain member)

○ LDAP authentication

5.5.1 Joining NAS to Active Directory (Windows Server 2003/2008)

Active Directory is a Microsoft directory used in Windows environments to centrally store, share, and manage the information and resources on the network. It is a hierarchical data centre which centrally holds the information of the users, user groups, and the computers for secure access management.

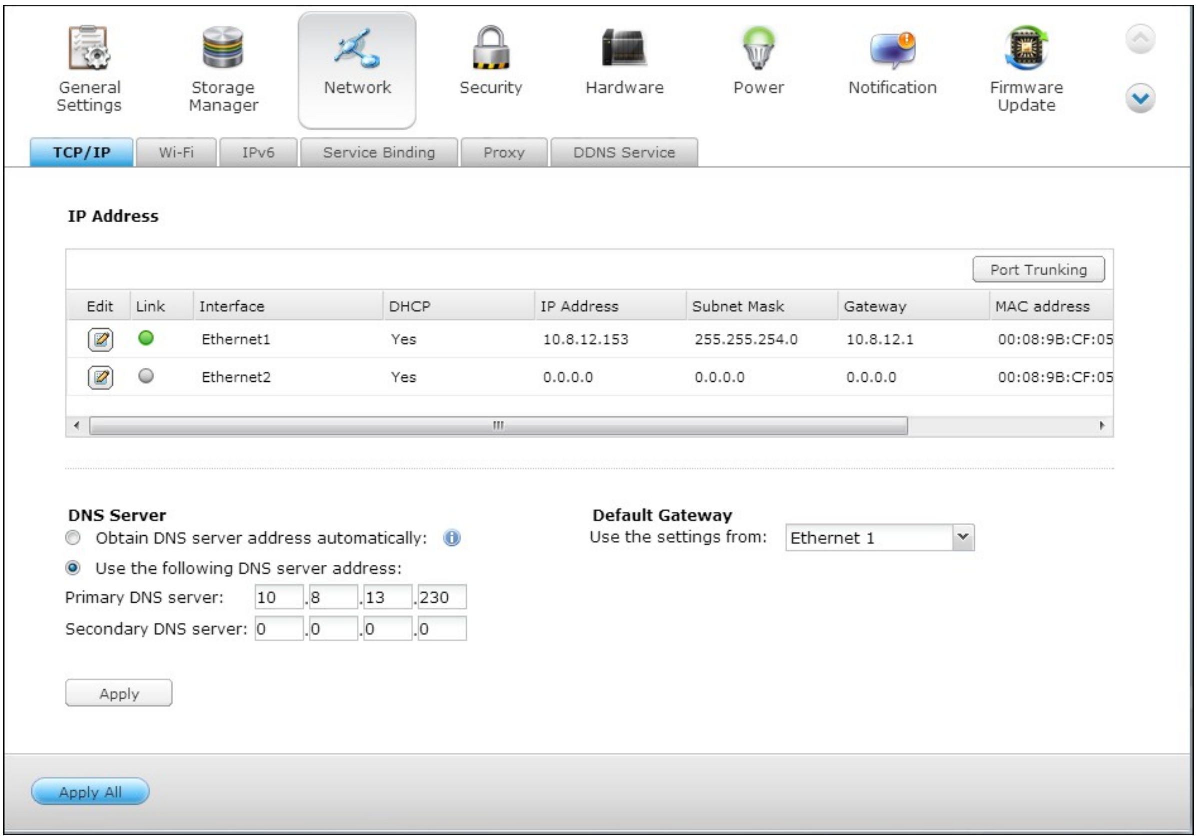
The NAS supports Active Directory (AD). By joining the NAS to the Active Directory, all the user accounts of the AD server will be imported to the NAS automatically. The AD users can use the same set of username and password to login the NAS.

If you are using Active Directory with Windows Server 2008 R2, you must update the NAS firmware to V3.2.0 or above to join the NAS to the AD.

Follow the steps below to join the QNAP NAS to the Windows Active Directory.

1. Login the NAS as an administrator. Go to "System Settings" > "General Settings" > "Time". Set the date and time of the NAS, which must be consistent with the time of the AD server. The maximum time difference allowed is 5 minutes.

2. Go to "System Settings" > "Network" > "TCP/IP". Set the IP of the primary DNS server as the IP of the Active Directory server that contains the DNS service. It must be the IP of the DNS server that is used for your Active Directory. If you use an external DNS server, you will not be able to join the domain.



IP Address

Edit	Link	Interface	DHCP	IP Address	Subnet Mask	Gateway	MAC address
✎	●	Ethernet1	Yes	10.8.12.153	255.255.254.0	10.8.12.1	00:08:9B:CF:05
✎	○	Ethernet2	Yes	0.0.0.0	0.0.0.0	0.0.0.0	00:08:9B:CF:05

DNS Server

○ Obtain DNS server address automatically:

● Use the following DNS server address:

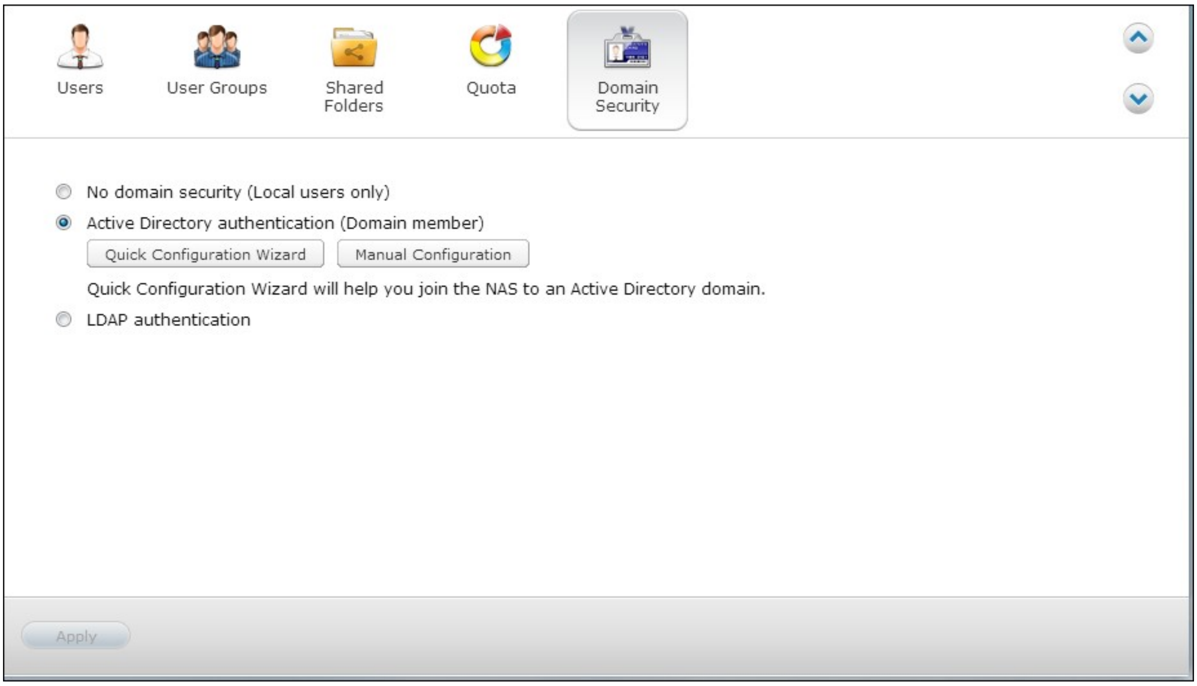
Primary DNS server: 10 .8 .13 .230

Secondary DNS server: 0 .0 .0 .0

Default Gateway

Use the settings from: Ethernet 1

3. Go to “Privilege Settings” > “Domain Security”. Enable “Active Directory authentication (domain member)”, and enter the AD domain information.



○ No domain security (Local users only)

● Active Directory authentication (Domain member)

Quick Configuration Wizard will help you join the NAS to an Active Directory domain.

○ LDAP authentication

Note:

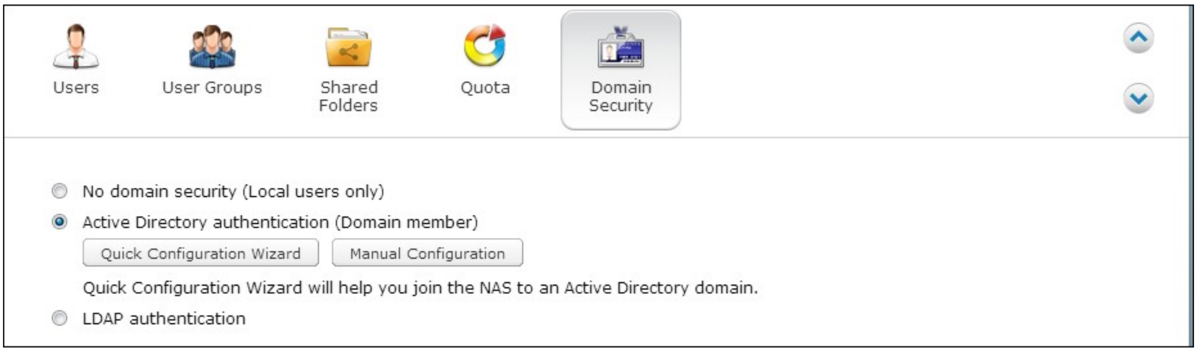
- Enter a fully qualified AD domain name, for example, qnap-test.com

- The AD user entered here must have the administrator access right to the AD domain.
- WINS Support: If you are using a WINS server on the network and the workstation is configured to use that WINS server for name resolution, you must set up the WINS server IP on the NAS (use the specified WINS server.)

Join the NAS to Active Directory (AD) by Quick Configuration Wizard

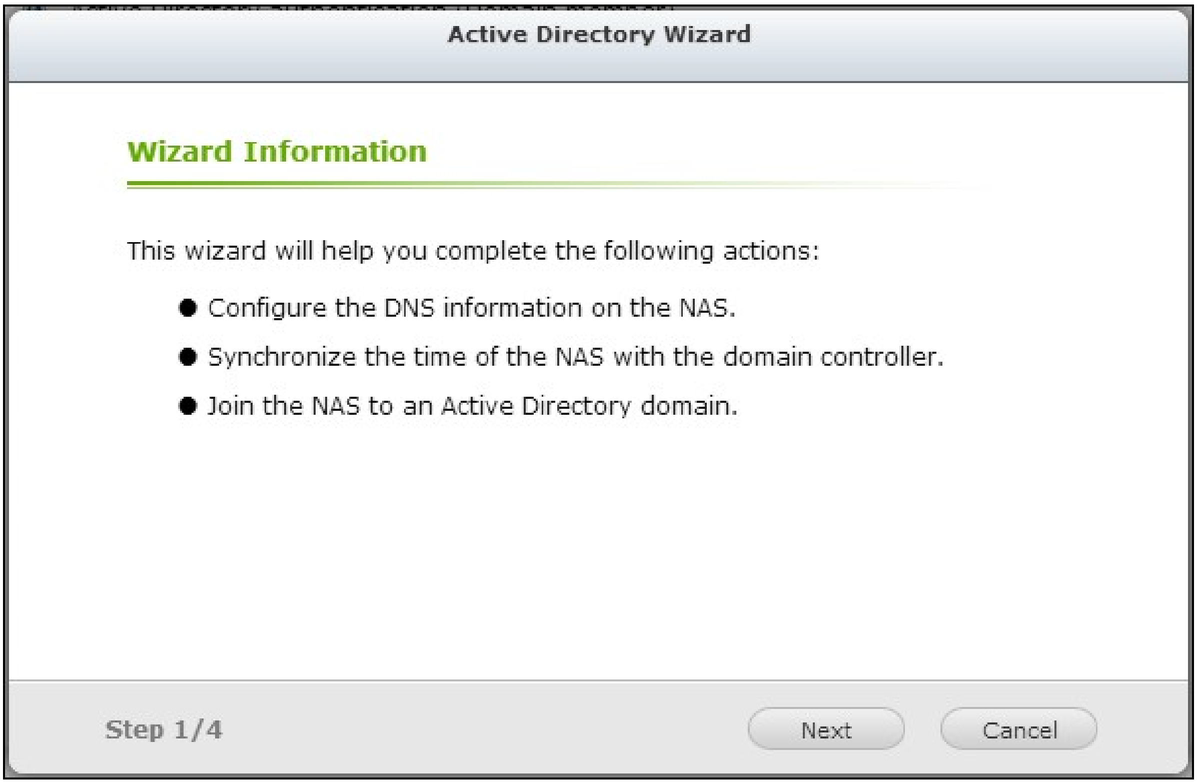
To join the NAS to an AD domain by the Quick Configuration Wizard, follow the steps below.

1. Go to “Privilege Settings” > “Domain Security”. Select “Active Directory authentication (domain member)” and click “Quick Configuration Wizard”.



○ No domain security (Local users only)
● Active Directory authentication (Domain member)
Quick Configuration Wizard will help you join the NAS to an Active Directory domain.
○ LDAP authentication

2. Read the introduction of the wizard. Click “Next”.

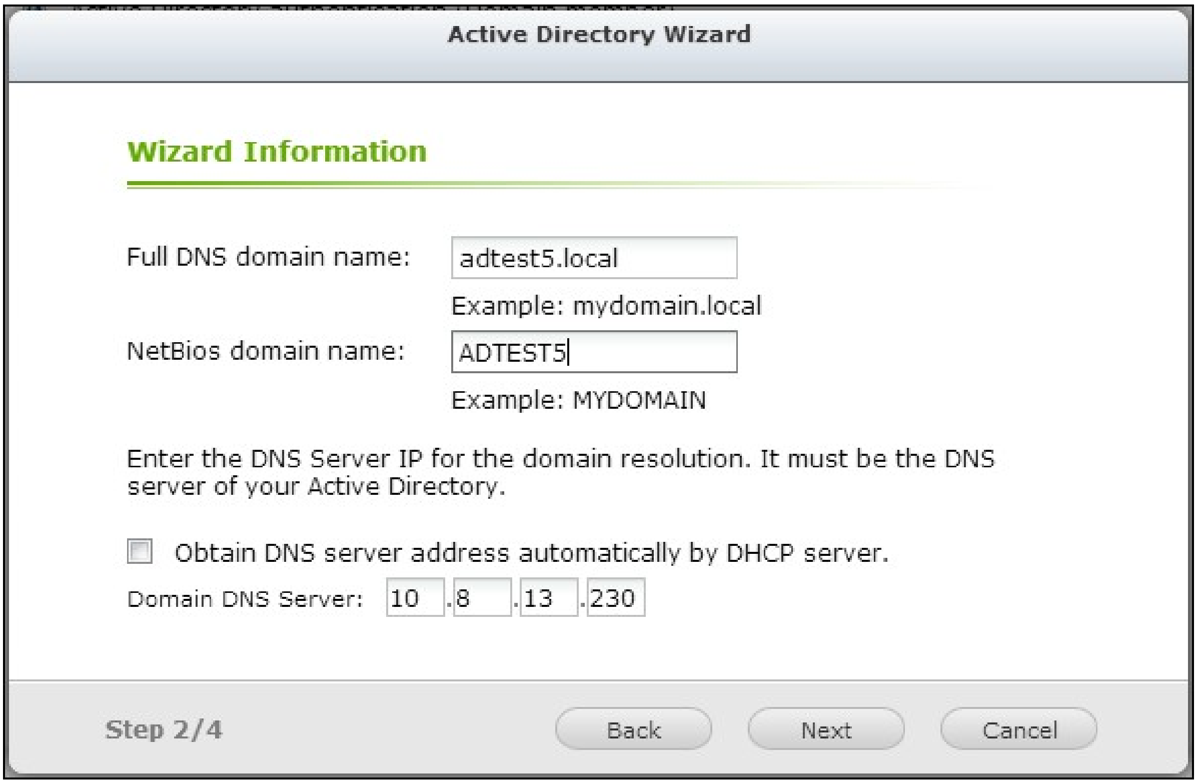


Wizard Information

This wizard will help you complete the following actions:

- Configure the DNS information on the NAS.
- Synchronize the time of the NAS with the domain controller.
- Join the NAS to an Active Directory domain.

3. Enter the domain name of the domain name service (DNS). The NetBIOS name will be generated automatically when you type the domain name. Specify the DNS server IP for domain resolution. The IP must be the same as the DNS server of your Active Directory. Click “Next”.


Active Directory Wizard

Wizard Information

Full DNS domain name: adtest5.local

Example: mydomain.local

NetBios domain name: ADTEST5

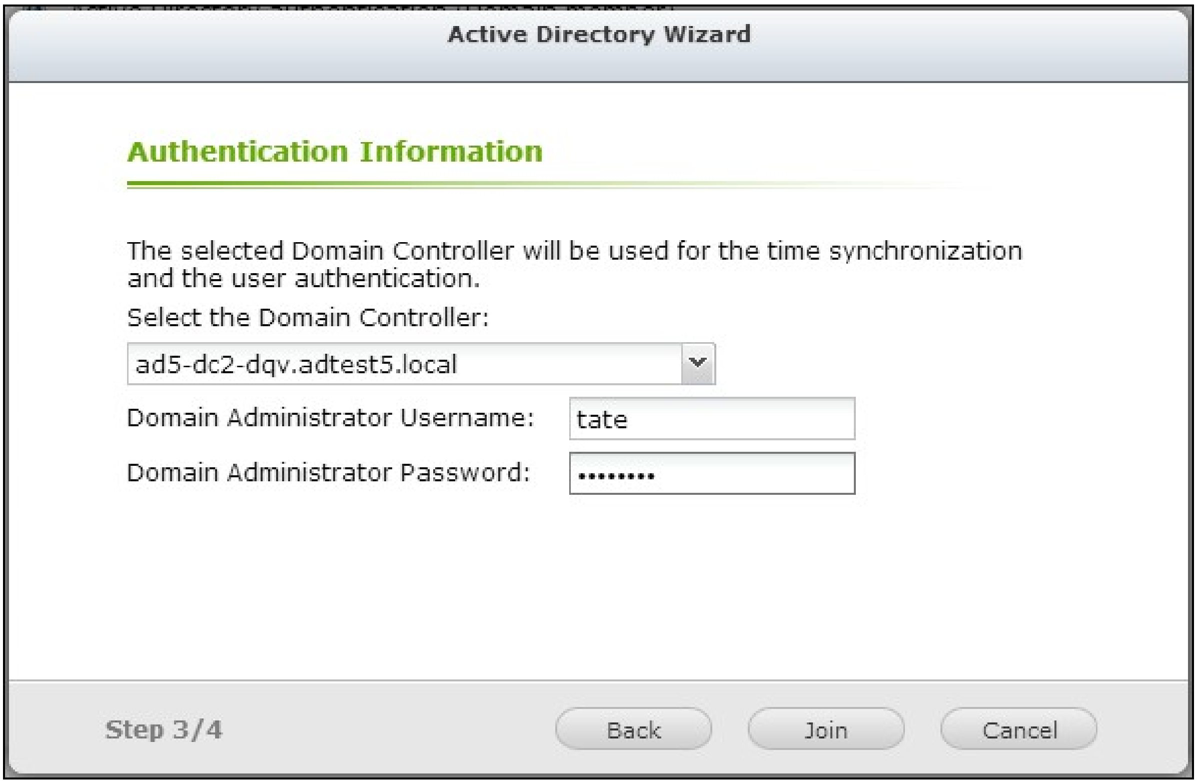
Example: MYDOMAIN

Enter the DNS Server IP for the domain resolution. It must be the DNS server of your Active Directory.

□ Obtain DNS server address automatically by DHCP server.

Domain DNS Server: 10 .8 .13 .230

4. Select a domain controller from the drop-down menu. The domain controller is responsible for time synchronization between the NAS and the domain server and user authentication. Enter the domain administrator name and password. Click “Join”.


Active Directory Wizard

Authentication Information

The selected Domain Controller will be used for the time synchronization and the user authentication.

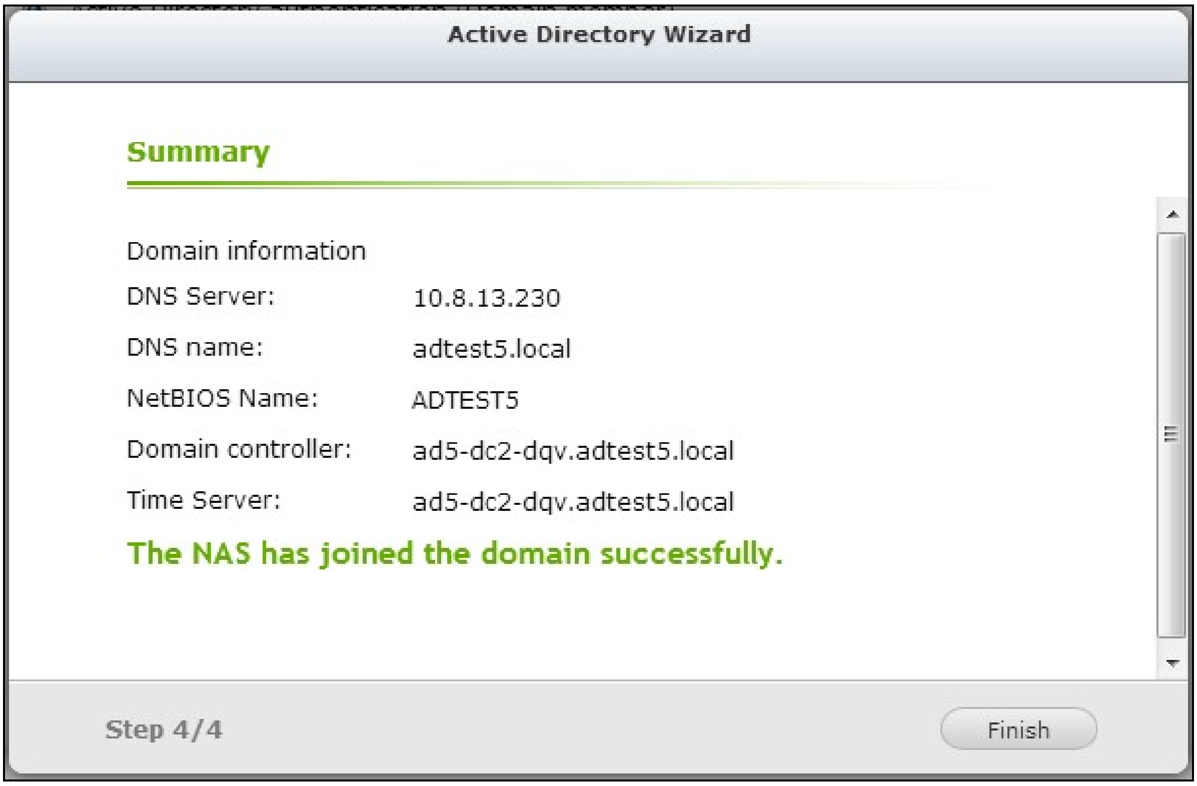
Select the Domain Controller:

ad5-dc2-dqv.adtest5.local

Domain Administrator Username: tate

Domain Administrator Password: ••••••••

5. Upon successful login to the domain server, the NAS has joined to the domain. Click "Finish" to exit the wizard.



Summary

Domain information

DNS Server: 10.8.13.230

DNS name: adtest5.local

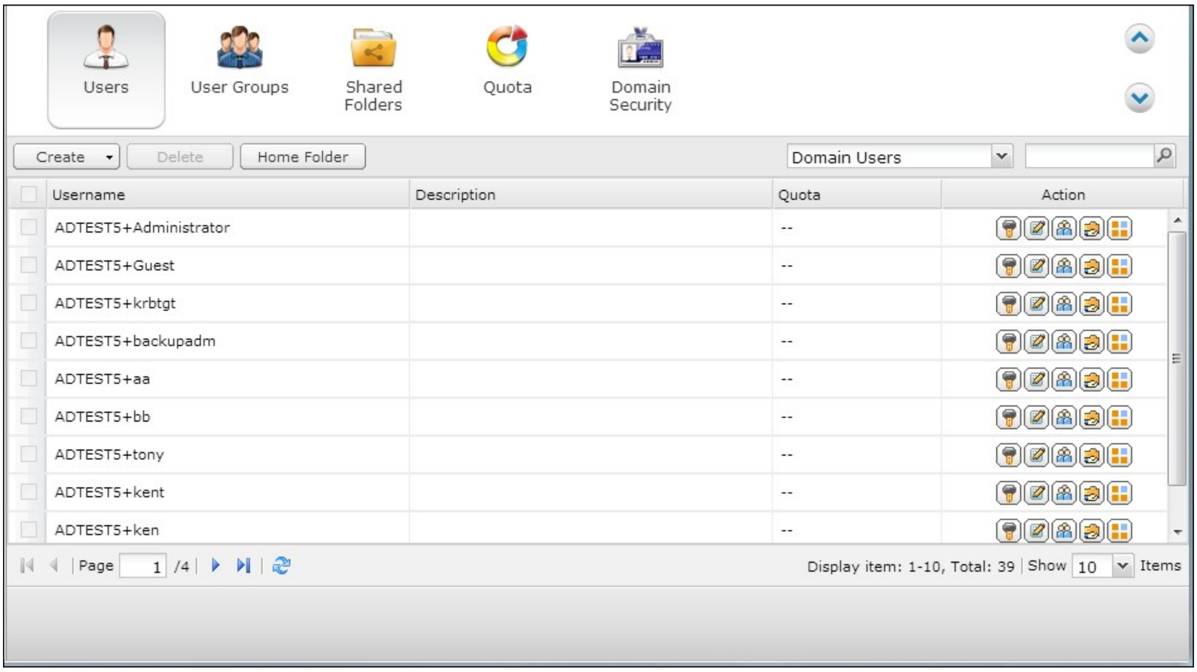
NetBIOS Name: ADTEST5

Domain controller: ad5-dc2-dqv.adtest5.local

Time Server: ad5-dc2-dqv.adtest5.local

The NAS has joined the domain successfully.

6. Go to "Privilege Settings" > "Users" or "User Groups" to load the domain users or user groups to the NAS.



Domain Users

Username	Description	Quota	Action
ADTEST5+Administrator		--	
ADTEST5+Guest		--	
ADTEST5+krbtgt		--	
ADTEST5+backupadm		--	
ADTEST5+aa		--	
ADTEST5+bb		--	
ADTEST5+tony		--	
ADTEST5+kent		--	
ADTEST5+ken		--	

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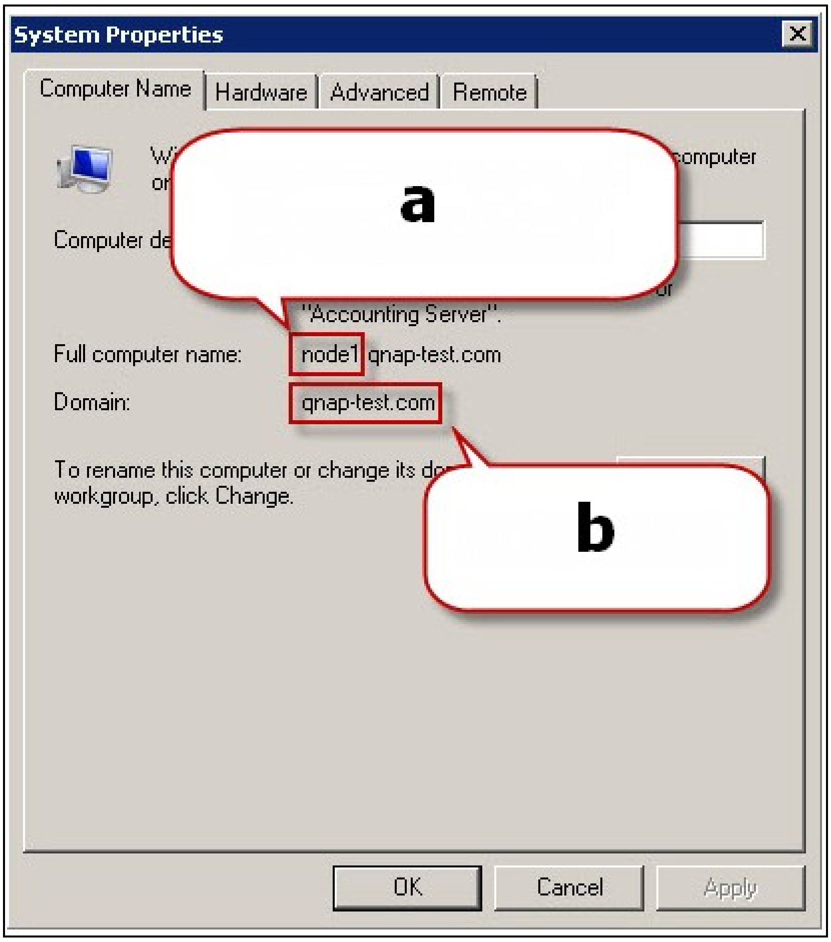
Display item: 1-10, Total: 39 | Show 10 Items

Windows 2003

The AD server name and AD domain name can be checked in “System Properties”.



Full computer name: node1.qnap-test.com

Domain: qnap-test.com

a. In Windows 2003 servers, the AD server name is “node1” NOT “node1.qnap-test.com”.

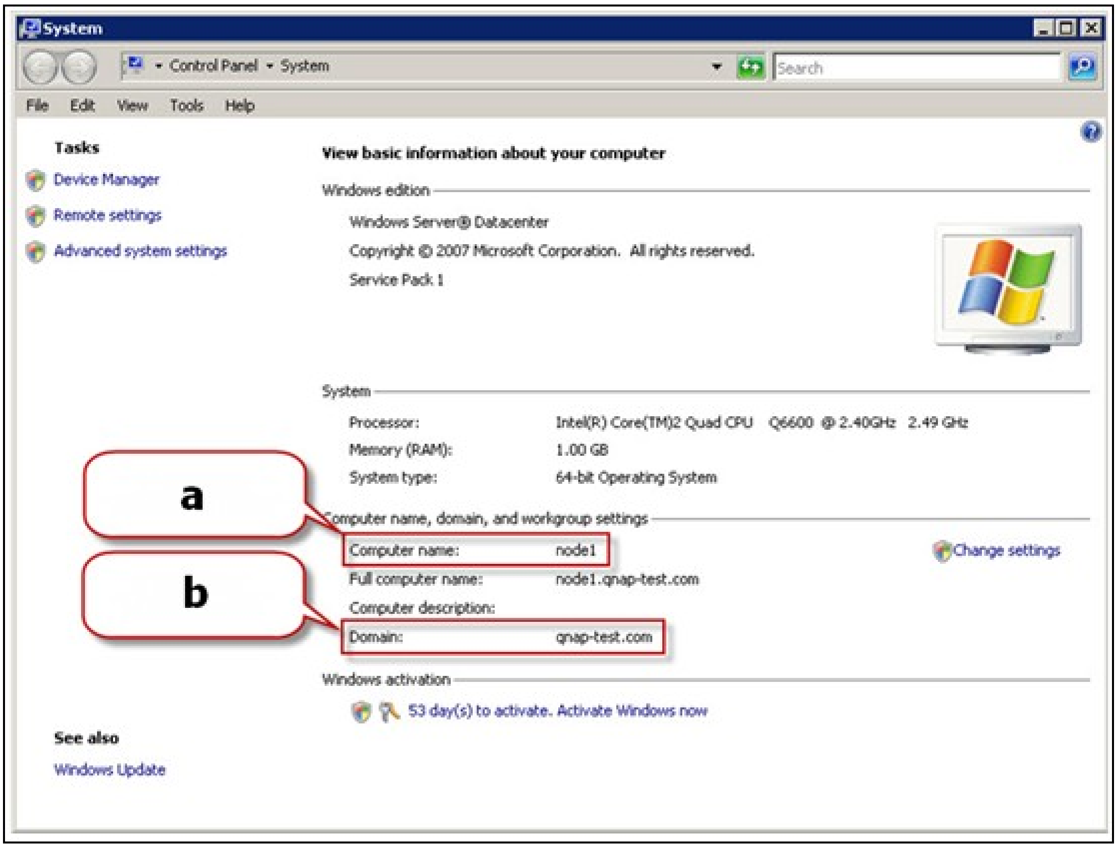
b. The domain name remains the same.

Windows Server 2008

Check the AD server name and domain name in “Control Panel” > “System”.

a. This is the AD server name.

b. This is the domain name.



View basic information about your computer

Windows edition

Windows Server® Datacenter
Copyright © 2007 Microsoft Corporation. All rights reserved.
Service Pack 1

System

Processor: Intel(R) Core(TM)2 Quad CPU Q6600 @ 2.40GHz 2.49 GHz
Memory (RAM): 1.00 GB
System type: 64-bit Operating System

Computer name, domain, and workgroup settings

Computer name: node1
Full computer name: node1.qnap-test.com
Computer description:
Domain: qnap-test.com

Windows activation

53 day(s) to activate. Activate Windows now

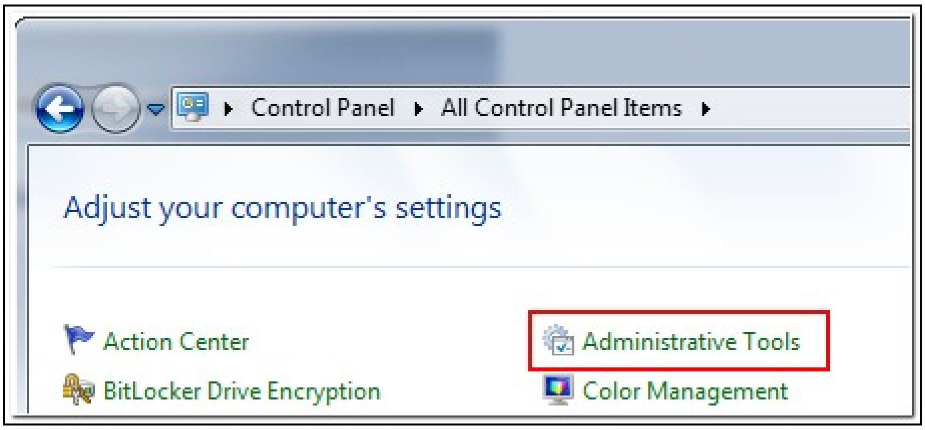
Note:

- After joining the NAS to the Active Directory, the local NAS users who have access right to the AD server should use “NASname\username” to login; the AD users should use their own usernames to login the AD server.
- For TS-109/209/409/509 series NAS, if the AD domain is based on Windows 2008 Server, the NAS firmware must be updated to version 2.1.2 or above.

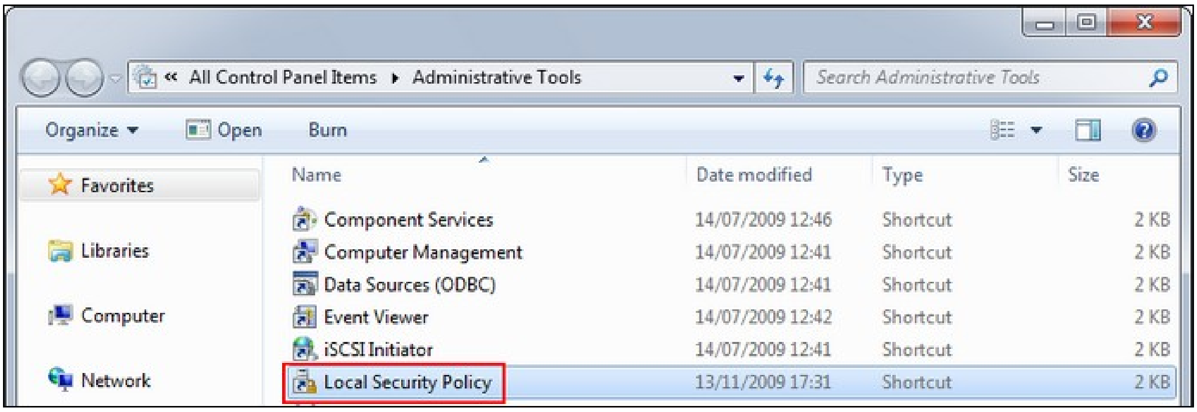
Windows 7

If you are using a Windows 7 PC which is not a member of an Active Directory, while your NAS is an AD domain member and its firmware version is earlier than v3.2.0, change your PC settings as shown below to allow your PC to connect to the NAS.

1. Go to "Control Panel" > "Administrative Tools".

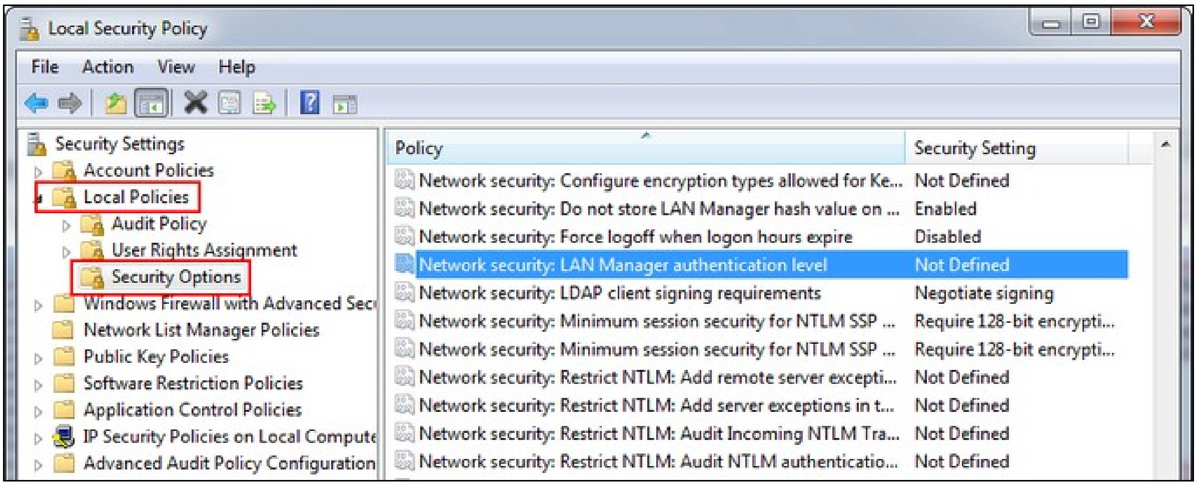

Control Panel ▸ All Control Panel Items ▸
Adjust your computer's settings
Action Center
Administrative Tools
BitLocker Drive Encryption
Color Management

2. Click "Local Security Policy".


« All Control Panel Items ▸ Administrative Tools
Search Administrative Tools
Organize ▾
Open
Burn
Favorites
Libraries
Computer
Network

Name	Date modified	Type	Size
Component Services	14/07/2009 12:46	Shortcut	2 KB
Computer Management	14/07/2009 12:41	Shortcut	2 KB
Data Sources (ODBC)	14/07/2009 12:41	Shortcut	2 KB
Event Viewer	14/07/2009 12:42	Shortcut	2 KB
iSCSI Initiator	14/07/2009 12:41	Shortcut	2 KB
Local Security Policy	13/11/2009 17:31	Shortcut	2 KB

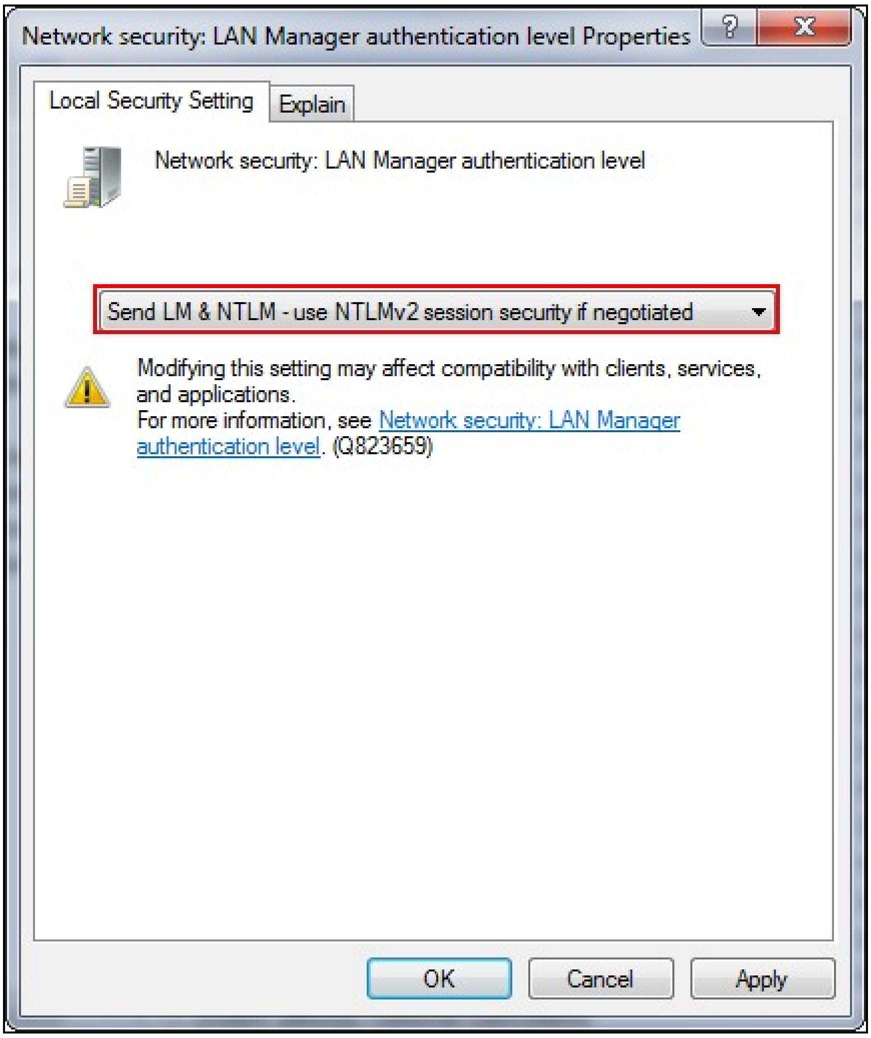
3. Go to "Local Policies" > "Security Options". Select "Network security: LAN Manager authentication level".



- Security Settings
  - Account Policies
  - Local Policies
    - Audit Policy
    - User Rights Assignment
    - Security Options
  - Windows Firewall with Advanced Secu
  - Network List Manager Policies
  - Public Key Policies
  - Software Restriction Policies
  - Application Control Policies
  - IP Security Policies on Local Compute
  - Advanced Audit Policy Configuration

Policy	Security Setting
Network security: Configure encryption types allowed for Ke...	Not Defined
Network security: Do not store LAN Manager hash value on ...	Enabled
Network security: Force logoff when logon hours expire	Disabled
Network security: LAN Manager authentication level	Not Defined
Network security: LDAP client signing requirements	Negotiate signing
Network security: Minimum session security for NTLM SSP ...	Require 128-bit encrypti...
Network security: Minimum session security for NTLM SSP ...	Require 128-bit encrypti...
Network security: Restrict NTLM: Add remote server excepti...	Not Defined
Network security: Restrict NTLM: Add server exceptions in t...	Not Defined
Network security: Restrict NTLM: Audit Incoming NTLM Tra...	Not Defined
Network security: Restrict NTLM: Audit NTLM authenticatio...	Not Defined

4. Select the "Local Security Setting" tab, and select "Send LM & NTLMv2 – use NTLMv2 session security if negotiated" from the list. Then click "OK".


Network security: LAN Manager authentication level Properties
Local Security Setting
Explain
OK
Cancel
Apply

Network security: LAN Manager authentication level

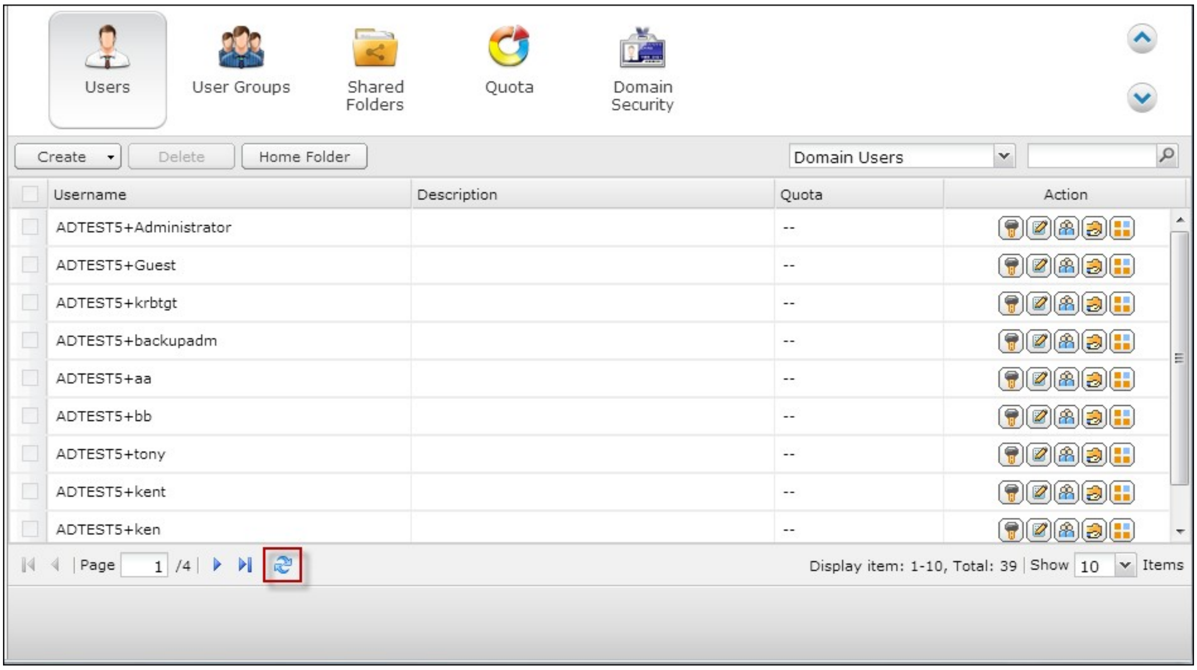
Send LM & NTLM - use NTLMv2 session security if negotiated

Modifying this setting may affect compatibility with clients, services, and applications.
For more information, see Network security: LAN Manager authentication level. (Q823659)

Verifying the settings

To verify that the NAS has been joined to the Active Directory successfully, go to "Privilege Settings" > "Users" and "User Groups". A list of users and user groups will be shown on the "Domain Users" and "Domain Groups" lists respectively.

If you have created new users or user groups in the domain, you can click the reload button. This will reload the user and user group lists from the Active Directory to the NAS. The user permission settings will be synchronized in real time with the domain controller.



Username	Description	Quota	Action
ADTEST5+Administrator		--	
ADTEST5+Guest		--	
ADTEST5+krbtgt		--	
ADTEST5+backupadm		--	
ADTEST5+aa		--	
ADTEST5+bb		--	
ADTEST5+tony		--	
ADTEST5+kent		--	
ADTEST5+ken		--	

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Display item: 1-10, Total: 39 | Show 10 Items

5.5.2 Connecting NAS to an LDAP Directory

LDAP stands for Lightweight Directory Access Protocol. It is a directory that can store the information of all the users and groups in a centralized server. Using LDAP, the administrator can manage the users in the LDAP directory and allow the users to connect to multiple NAS servers with the same username and password.

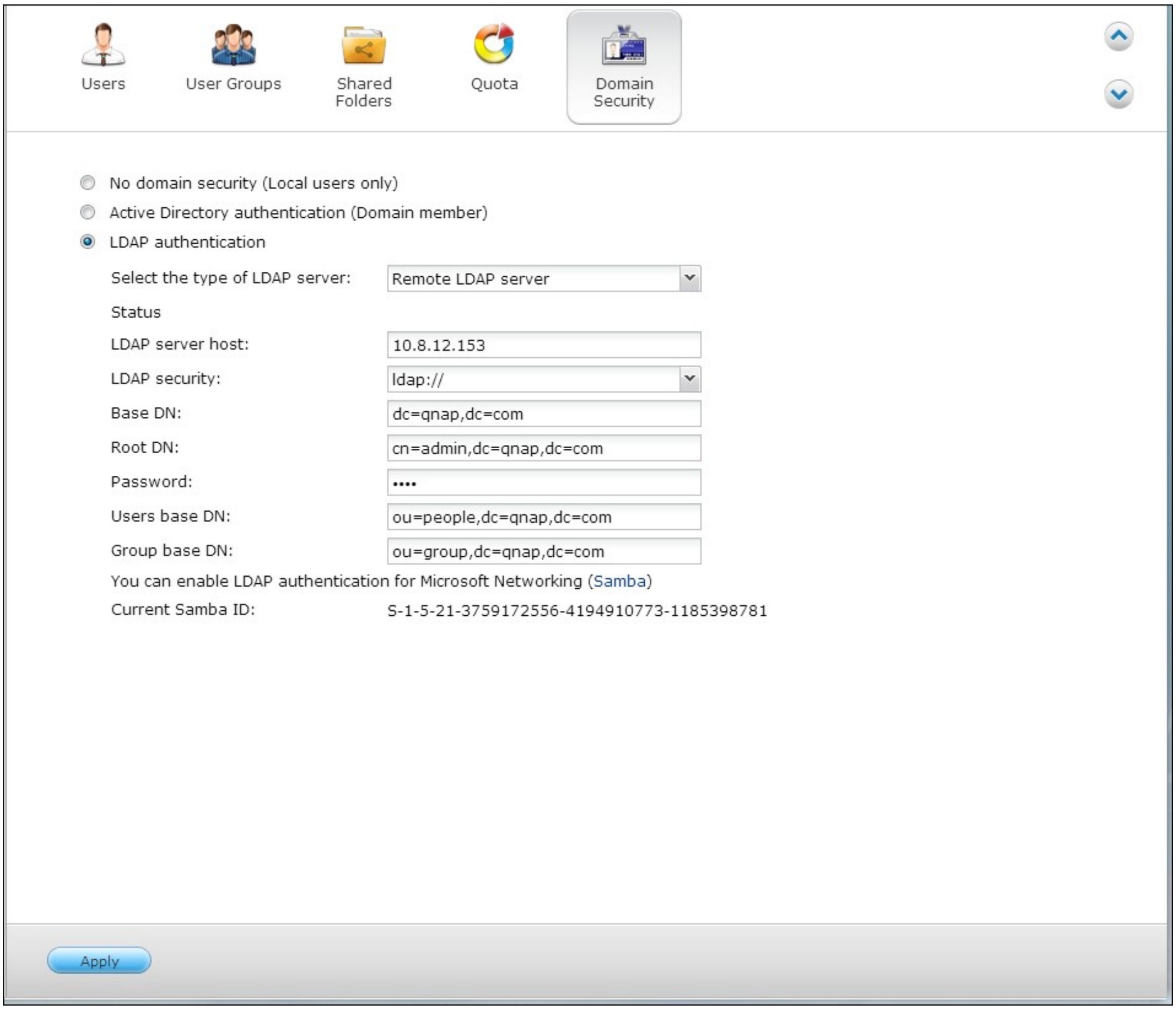
This feature is intended for administrator and users who have some knowledge about Linux servers, LDAP servers, and Samba. An LDAP server which is up and running is required when using the LDAP feature of the QNAP NAS.

Required information/settings:

- The LDAP server connection and authentication information
- The LDAP structure, where the users and groups are stored
- The LDAP server security settings

Follow the steps below to connect the QNAP NAS to an LDAP directory.

1. Login the web interface of the NAS as an administrator.
2. Go to "Privilege Settings" > "Domain Security". By default, the option "No domain security" is enabled. That means only the local NAS users can connect to the NAS.
3. Select "LDAP authentication" and complete the settings.



○ No domain security (Local users only)

○ Active Directory authentication (Domain member)

● LDAP authentication

Select the type of LDAP server:	Remote LDAP server
Status	
LDAP server host:	10.8.12.153
LDAP security:	ldap://
Base DN:	dc=qnap,dc=com
Root DN:	cn=admin,dc=qnap,dc=com
Password:	••••
Users base DN:	ou=people,dc=qnap,dc=com
Group base DN:	ou=group,dc=qnap,dc=com

You can enable LDAP authentication for Microsoft Networking (Samba)

Current Samba ID: S-1-5-21-3759172556-4194910773-1185398781

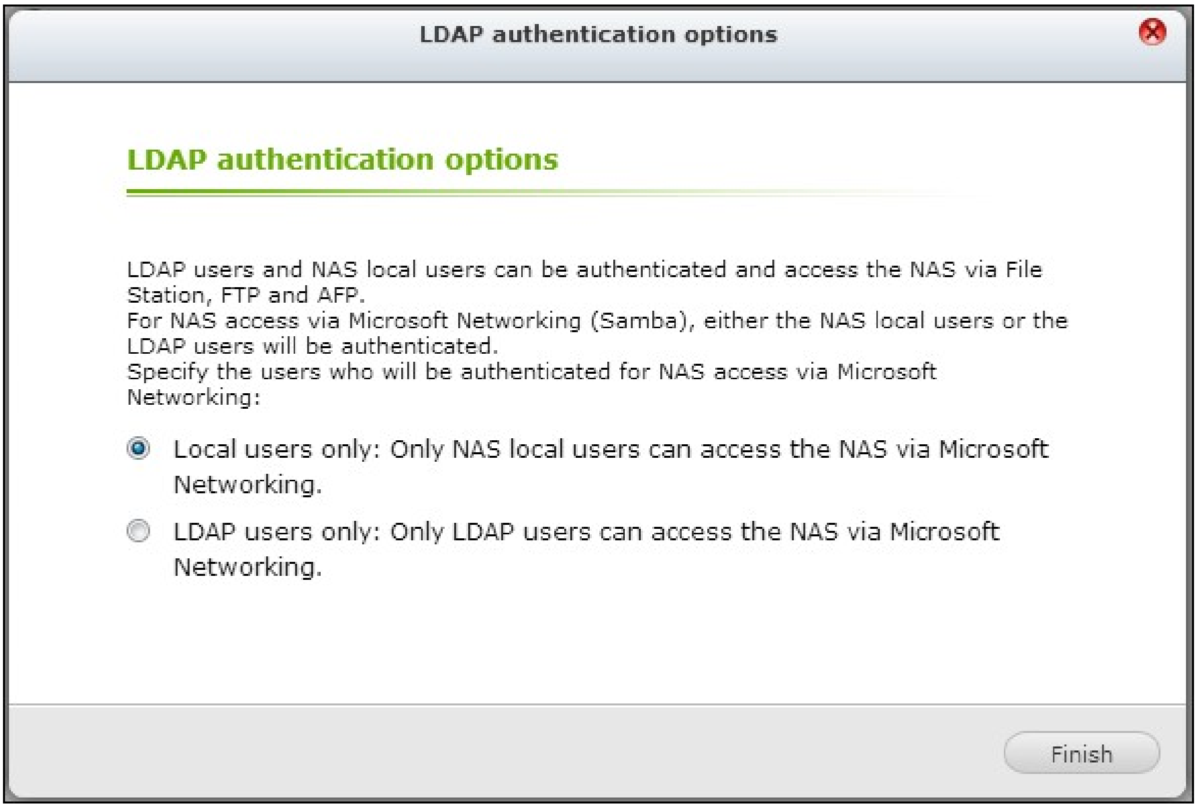
- LDAP Server Host: The host name or IP address of the LDAP server.
- LDAP Security: Specify how the NAS will communicate with the LDAP server:
  - ldap:// = Use a standard LDAP connection (default port: 389).
  - ldap:// (ldap + SSL) = Use an encrypted connection with SSL (default port: 686). This is usually used by older version of LDAP servers.
  - Ldap:// (ldap + TLS) = Use an encrypted connection with TLS (default port: 389). This is usually used by newer version of LDAP servers
- BASE DN: The LDAP domain. For example: dc=mydomain,dc=local
- Root DN: The LDAP root user. For example cn=admin, dc=mydomain,dc=local
- Password: The root user password.
- Users Base DN: The organization unit (OU) in which users are stored. For example: ou=people,dc=mydomain,dc=local
- Groups Base DN: The organization unit (OU) in which groups are stored. For example ou=group,dc=mydomain,dc=local

4. Click "Apply" to save the settings. Upon successful configuration, the NAS will be able to connect to the LDAP server.

5. Configure LDAP authentication options.

- If Microsoft Networking has been enabled (Network Services > Win/Mac/NFS > Microsoft Networking) when applying the LDAP settings, specify the users who can access the NAS via Microsoft Networking (Samba).
  - Local users only: Only the local NAS users can access the NAS via Microsoft Networking.
  - LDAP users only: Only the LDAP users can access the NAS via Microsoft Networking.

Note: Both the LDAP users and local NAS users can access the NAS via File Station, FTP, and AFP.



LDAP authentication options

LDAP authentication options

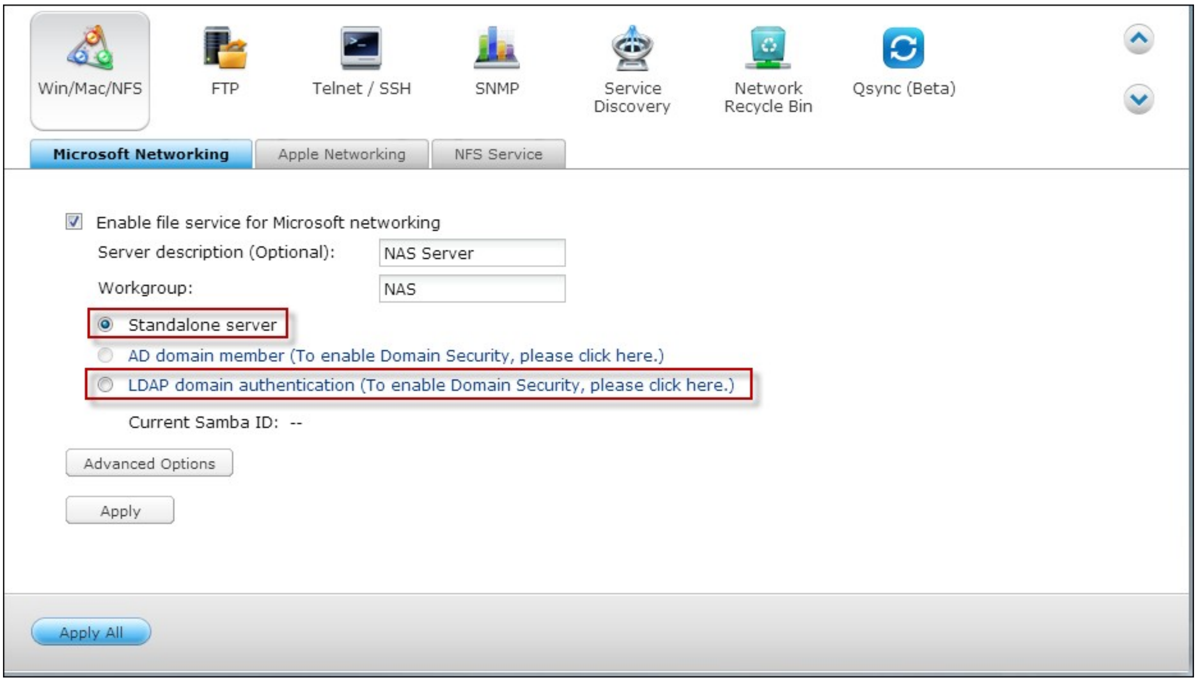
LDAP users and NAS local users can be authenticated and access the NAS via File Station, FTP and AFP.
For NAS access via Microsoft Networking (Samba), either the NAS local users or the LDAP users will be authenticated.
Specify the users who will be authenticated for NAS access via Microsoft Networking:

● Local users only: Only NAS local users can access the NAS via Microsoft Networking.

○ LDAP users only: Only LDAP users can access the NAS via Microsoft Networking.

- If Microsoft Networking is enabled after the NAS has already been connected to the LDAP server, select the authentication type for Microsoft Networking.
  - Standalone Server: Only local NAS users can access the NAS via Microsoft Networking.

- LDAP Domain Authentication: Only LDAP users can access the NAS via Microsoft Networking.



☑ Enable file service for Microsoft networking

Server description (Optional): NAS Server

Workgroup: NAS

● Standalone server

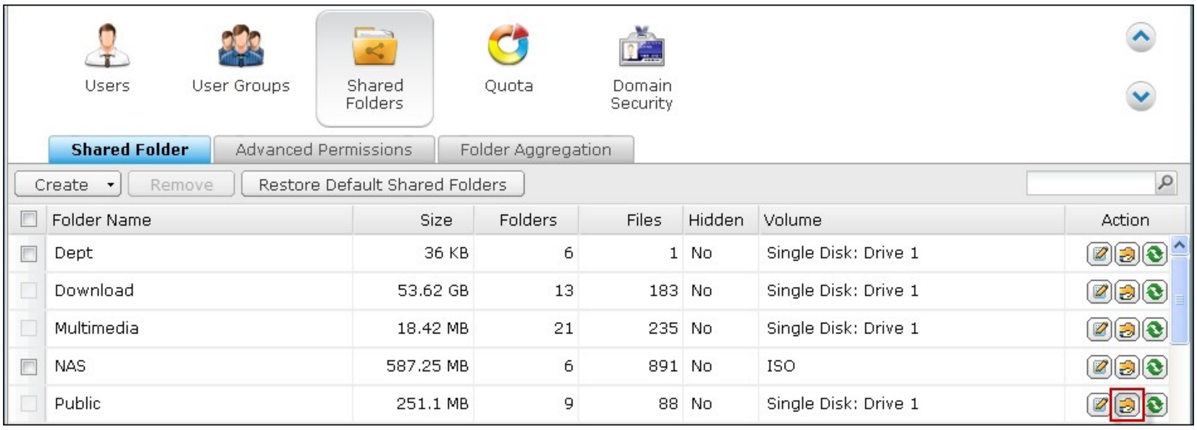
○ AD domain member (To enable Domain Security, please click here.)

○ LDAP domain authentication (To enable Domain Security, please click here.)

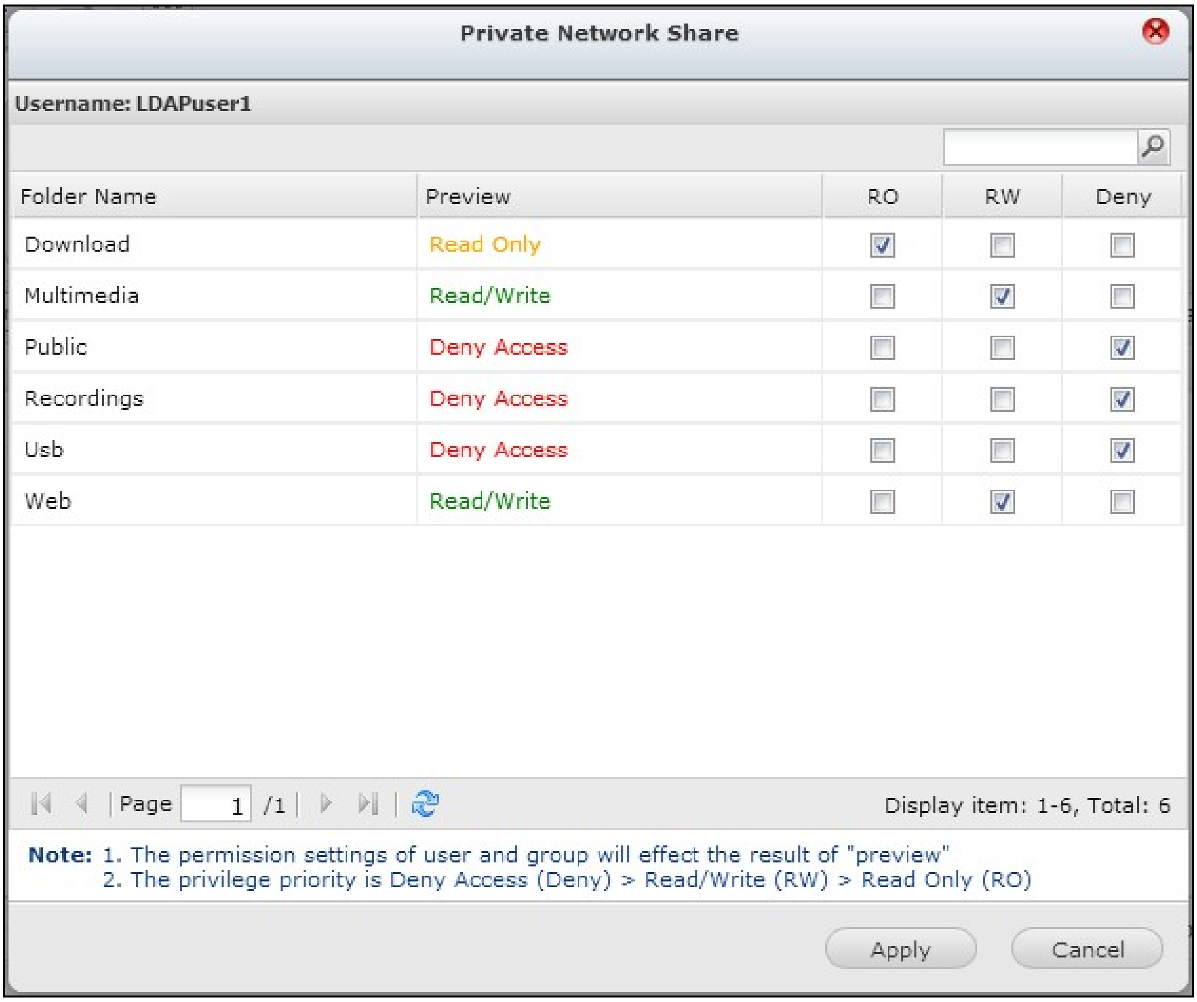
Current Samba ID: --

6. When the NAS is connected to an LDAP server, the administrator can:

- Go to “Privilege Settings” > “Users” and select “Domain Users” from the drop-down menu. The LDAP users list will be shown.
- Go to “Privilege Settings” > “User Groups” and select “Domain Groups” from the drop-down menu. The LDAP groups will be shown.
- Specify the folder permissions of the LDAP domain users or groups in “Privilege Settings” > “Shared Folders” > “Access Permissions” .



□	Folder Name	Size	Folders	Files	Hidden	Volume	Action
□	Dept	36 KB	6	1	No	Single Disk: Drive 1	
□	Download	53.62 GB	13	183	No	Single Disk: Drive 1	
□	Multimedia	18.42 MB	21	235	No	Single Disk: Drive 1	
□	NAS	587.25 MB	6	891	No	ISO	
□	Public	251.1 MB	9	88	No	Single Disk: Drive 1	



Private Network Share

Username: LDAPuser1

Folder Name	Preview	RO	RW	Deny
Download	Read Only	☑	□	□
Multimedia	Read/Write	□	☑	□
Public	Deny Access	□	□	☑
Recordings	Deny Access	□	□	☑
Usb	Deny Access	□	□	☑
Web	Read/Write	□	☑	□

Page 1 /1 Display item: 1-6, Total: 6

Note: 1. The permission settings of user and group will effect the result of "preview"
2. The privilege priority is Deny Access (Deny) > Read/Write (RW) > Read Only (RO)

Technical requirements of LDAP authentication with Microsoft Networking:

Required items to authenticate the LDAP users on Microsoft Networking (Samba):

1. a third party software to synchronize the password between LDAP and Samba in the LDAP server.
2. importing the Samba schema to the LDAP directory.

A.Third-party software:

Some software applications are available and allow management of the LDAP users, including Samba password. For example:

- LDAP Account Manager (LAM), with a Web-based interface, available at: http://www.ldap-account-manager.org/
- smbldap-tools (command line tool)
- webmin-ldap-useradmin - LDAP user administration module for Webmin.

B.Samba schema:

To import the samba schema to the LDAP server, please refer to the documentation or

FAQ of the LDAP server.
The samba.schema file is required and can be found in the directory examples/LDAP in the Samba source distribution.

Example for open-ldap in the Linux server where the LDAP server is running (it can be different depending on the Linux distribution):

Copy the samba schema:

```
zcat /usr/share/doc/samba-doc/examples/LDAP/samba.schema.gz > /etc/ldap/schema/
samba.schema
```

Edit /etc/ldap/slapd.conf (openldap server configuration file) and make sure the following lines are present in the file:

```
include /etc/ldap/schema/samba.schema
include /etc/ldap/schema/cosine.schema
include /etc/ldap/schema/inetorgperson.schema
include /etc/ldap/schema/nis.schema
```

Configuration examples:

The following are some configuration examples. They are not mandatory and need to be adapted to match the LDAP server configuration:

1. Linux OpenLDAP Server
   Base DN: dc=qnap,dc=com
   Root DN: cn=admin,dc=qnap,dc=com
   Users Base DN: ou=people,dc=qnap,dc=com
   Groups Base DN: ou=group,dc=qnap,dc=com

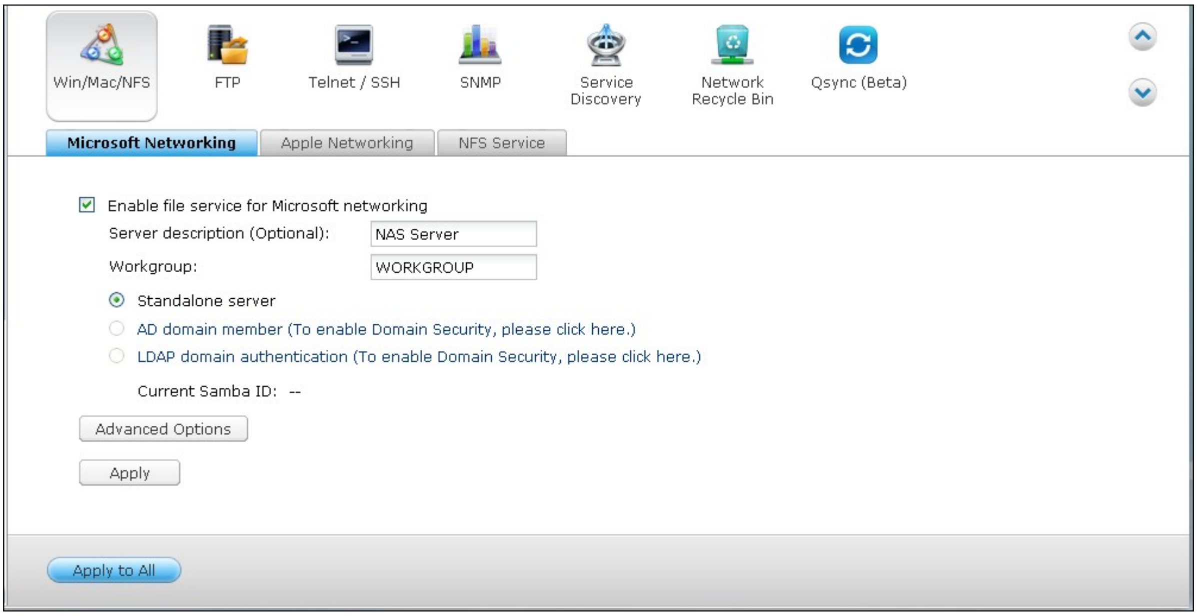
2. Mac Open Directory Server
   Base DN: dc=macserver,dc=qnap,dc=com
   Root DN: uid=root,cn=users,dc=macserver,dc=qnap,dc=com
   Users Base DN: cn=users,dc=macserver,dc=qnap,dc=com
   Groups Base DN: cn=groups,dc=macserver,dc=qnap,dc=com

6. Network Services

6.1 Win/Mac/NFS

Microsoft Networking

To allow access to the NAS on Microsoft Windows Network, enable file service for Microsoft networking. Specify also how the users will be authenticated.



☑ Enable file service for Microsoft networking

Server description (Optional): NAS Server

Workgroup: WORKGROUP

● Standalone server

○ AD domain member (To enable Domain Security, please click here.)

○ LDAP domain authentication (To enable Domain Security, please click here.)

Current Samba ID: --

Standalone Server

Use local users for authentication. The NAS will use the local user accounts information (created in "Privilege Settings" > "Users") to authenticate the users who access the NAS.

- Server Description (optional): Describe the NAS so that the users can easily identify the server on Microsoft Network.
- Workgroup: Specify the workgroup to which the NAS belongs. A workgroup name supports up to 15 characters but cannot contain: " + = / \ : | * ? < > ; [ ] % , `

AD Domain Member

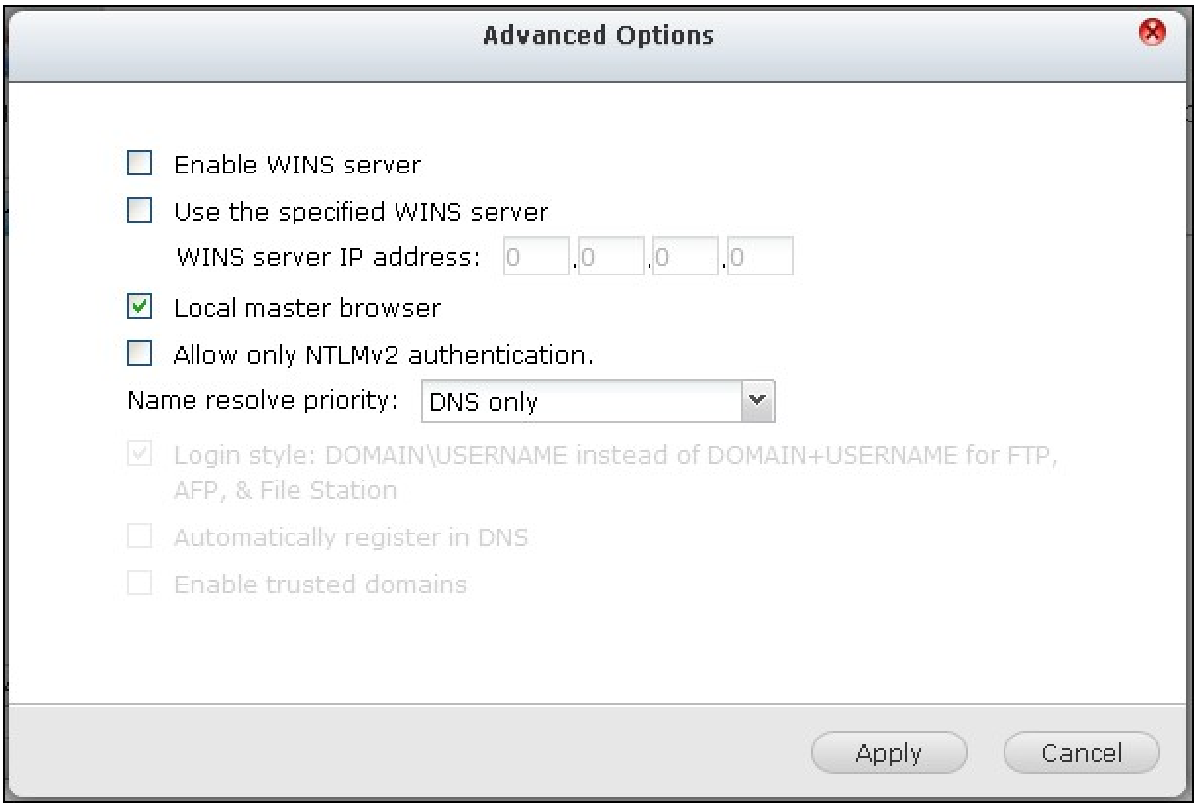
Use Microsoft Active Directory (AD) to authenticate the users. To use this option, enable Active Directory authentication in "Privilege Settings" > "Domain Security" and join the NAS to an Active Directory.

LDAP Domain Authentication

Use Lightweight Directory Access Protocol (LDAP) directory to authenticate the users.

To use this option, enable LDAP authentication and specify the settings in "Privilege Settings" > "Domain Security". When this option is enabled, you need to select either the local NAS users or the LDAP users can access the NAS via Microsoft Networking.

Advanced Options



Advanced Options

☐ Enable WINS server

☐ Use the specified WINS server

WINS server IP address: 0 . 0 . 0 . 0

☑ Local master browser

☐ Allow only NTLMv2 authentication.

Name resolve priority: DNS only

☑ Login style: DOMAIN\USERNAME instead of DOMAIN+USERNAME for FTP, AFP, & File Station

☐ Automatically register in DNS

☐ Enable trusted domains

WINS server:

If the local network has a WINS server installed, specify the IP address. The NAS will automatically register its name and IP address with WINS service. If you have a WINS server on your network and want to use this server, enter the WINS server IP. Do not turn on this option if you are not sure about the settings.

Local Domain Master:

A Domain Master Browser is responsible for collecting and recording resources and services available for each PC on the network or a workgroup of Windows. When you find the waiting time for connecting to the Network Neighborhood/My Network Places too long, it may be caused by failure of an existing master browser or a missing master browser on the network. If there is no master browser on your network, select the option "Domain Master" to configure the NAS as the master browser. Do not turn on this option if you are not sure about the settings.

Allow only NTLMv2 authentication:

NTLMv2 stands for NT LAN Manager version 2. When this option is turned on, login to the shared folders by Microsoft Networking will be allowed only with NTLMv2 authentication. If the option is turned off, NTLM (NT LAN Manager) will be used by default and NTLMv2 can be negotiated by the client. The default setting is disabled.

Name resolution priority:

You can select to use DNS server or WINS server to resolve client host names from IP addresses. When you set up your NAS to use a WINS server or to be a WINS server, you can choose to use DNS or WINS first for name resolution. When WINS is enabled, the default setting is "Try WINS then DNS". Otherwise, DNS will be used for name resolution by default.

Login style: DOMAIN\USERNAME instead of DOMAIN+USERNAME for FTP, AFP, and File Station

In an Active Directory environment, the default login formats for the domain users are:

- Windows shares: domain\username
- FTP: domain+username
- File Station: domain+username
- AFP: domain+username

When you turn on this option, the users can use the same login name format (domain\username) to connect to the NAS via AFP, FTP, and File Station.

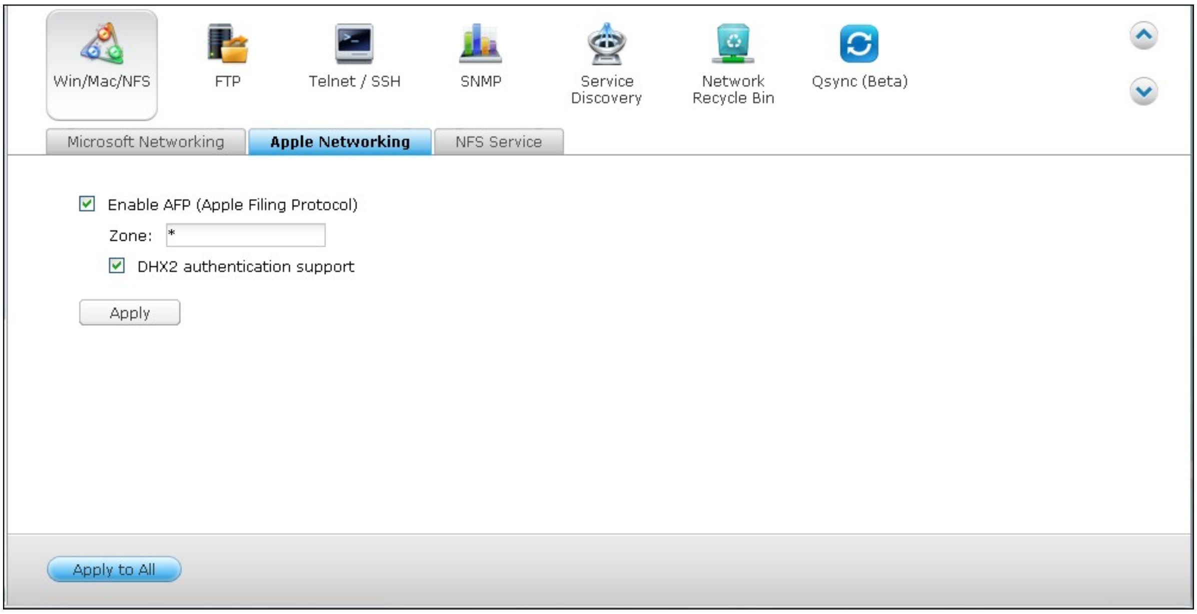
Automatically register in DNS: When this option is turned on and the NAS is joined to an Active Directory, the NAS will register itself automatically in the domain DNS server. This will create a DNS host entry for the NAS in the DNS server. If the NAS IP is changed, the NAS will automatically update the new IP in the DNS server.

Enable trusted domains: Select this option to load the users from trusted Active Directory domains and specify their access permissions to the NAS in "Privilege Settings" > "Shared Folders". (The domain trusts are set up in Active Directory only, not on the NAS.)

Apple Networking

To connect to the NAS from Mac, enable Apple Filing Protocol. If the AppleTalk network uses extended networks and is assigned with multiple zones, assign a zone name to the NAS. Enter an asterisk (*) to use the default setting. This setting is disabled by default.

To allow access to the NAS from Mac OS X 10.7 Lion, enable "DHX2 authentication support". Click "Apply" to save the settings.

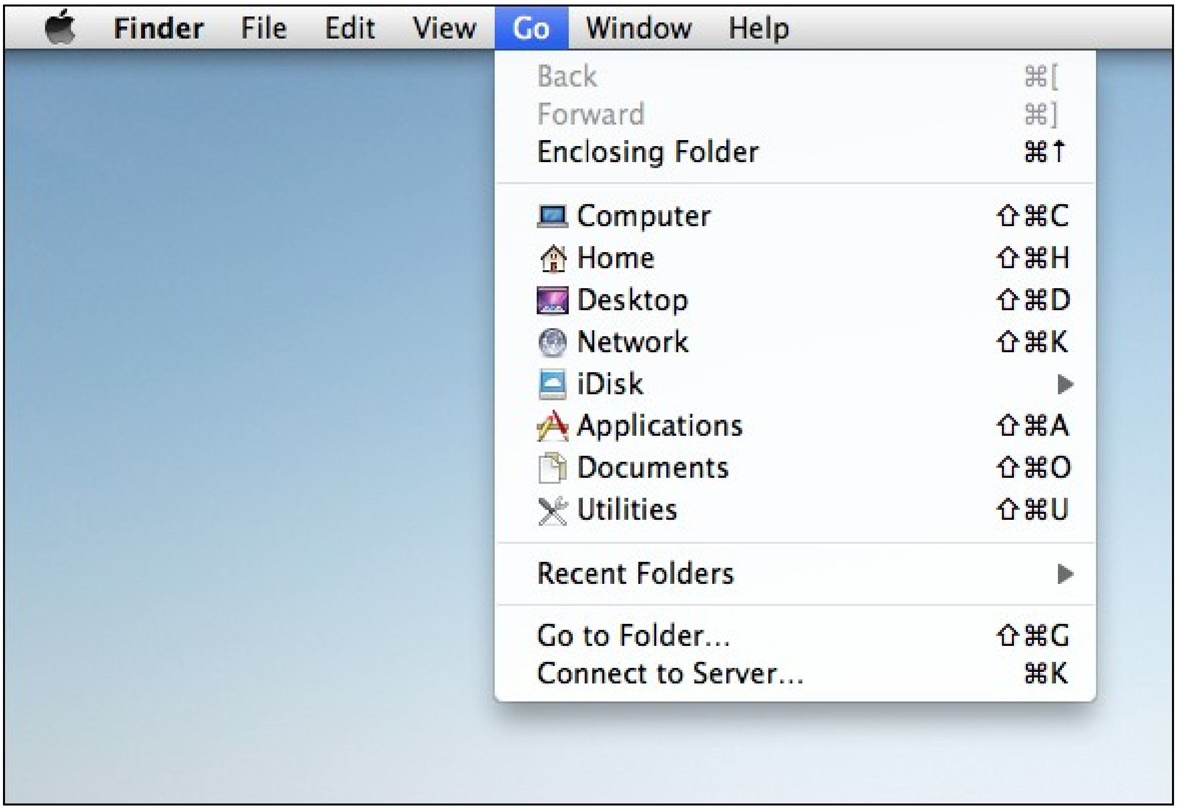


☑ Enable AFP (Apple Filing Protocol)

Zone: *

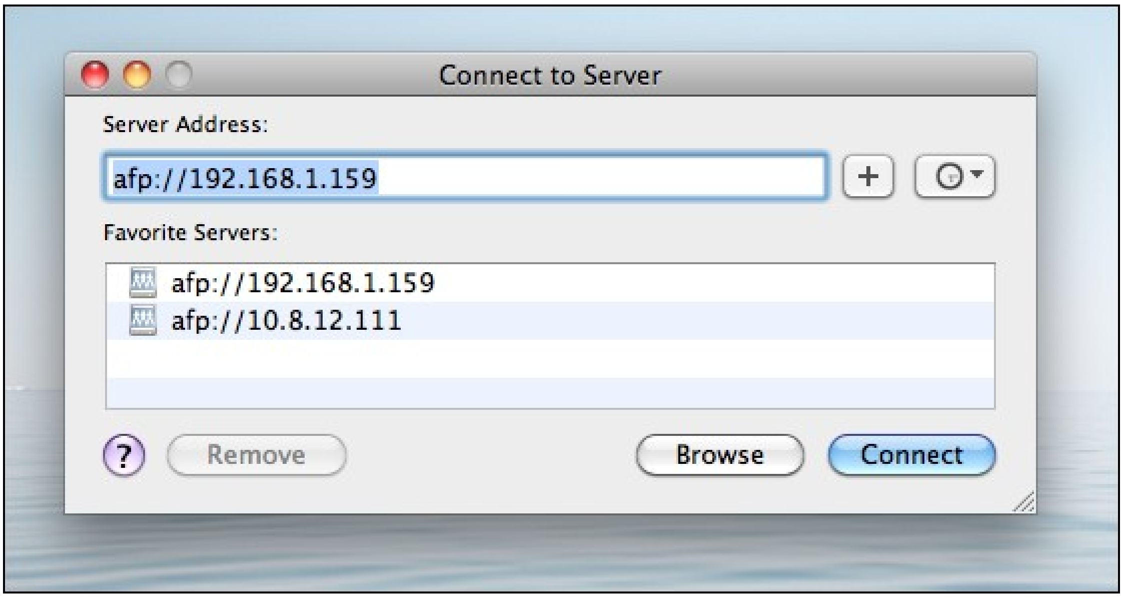
☑ DHX2 authentication support

You can use the Finder to connect to a shared folder from Mac. Go to "Go" > "Connect to Server", or simply use the default keyboard shortcut "Command+k".



Enter the connection information in the "Server Address" field, such as "afp://*YOUR_NAS_IP_OR_HOSTNAME*". Here are some examples:

- afp://10.8.12.111
- afp://NAS-559
- smb://192.168.1.159


Connect to Server

Server Address: afp://192.168.1.159

Favorite Servers:

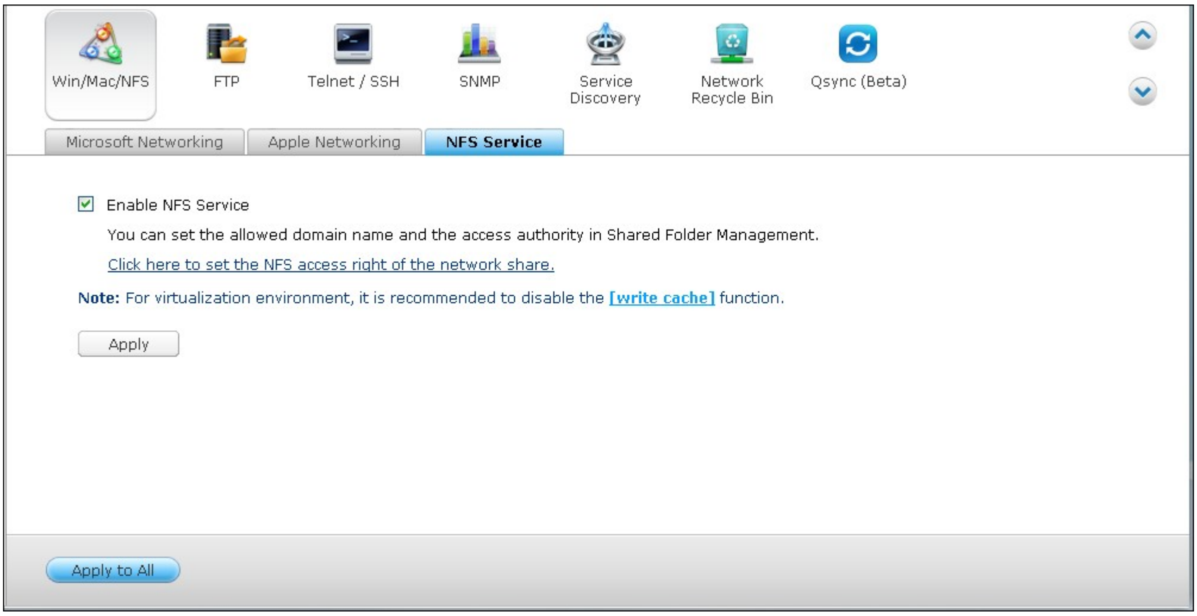
afp://192.168.1.159

afp://10.8.12.111

Note: Mac OS X supports both Apple Filing Protocol and Microsoft Networking. To connect to the NAS via Apple Filing Protocol, the server address should start with "afp://". To connect to the NAS via Microsoft Networking, please use "smb://".

NFS Service

To connect to the NAS from Linux, enable NFS service.



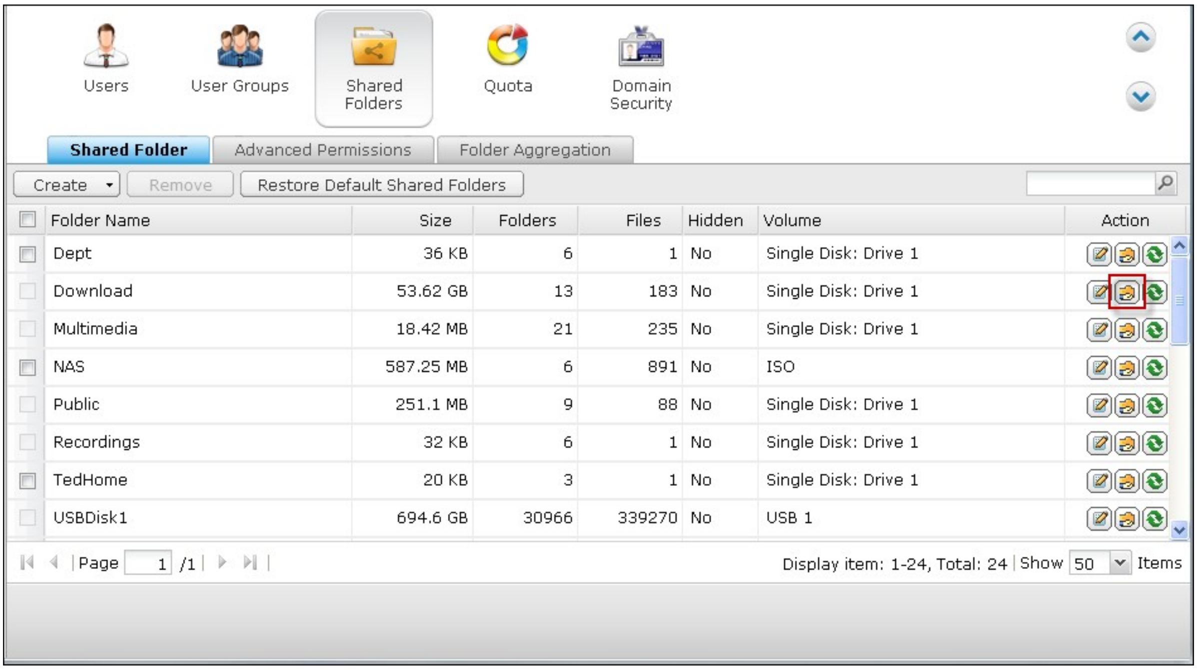
☑ Enable NFS Service

You can set the allowed domain name and the access authority in Shared Folder Management.

Click here to set the NFS access right of the network share.

Note: For virtualization environment, it is recommended to disable the [write cache] function.

To configure the NFS access right to the shared folders on the NAS, go to "Privilege Settings" > "Share Folders". Click the Access Permission button on the "Action" column.

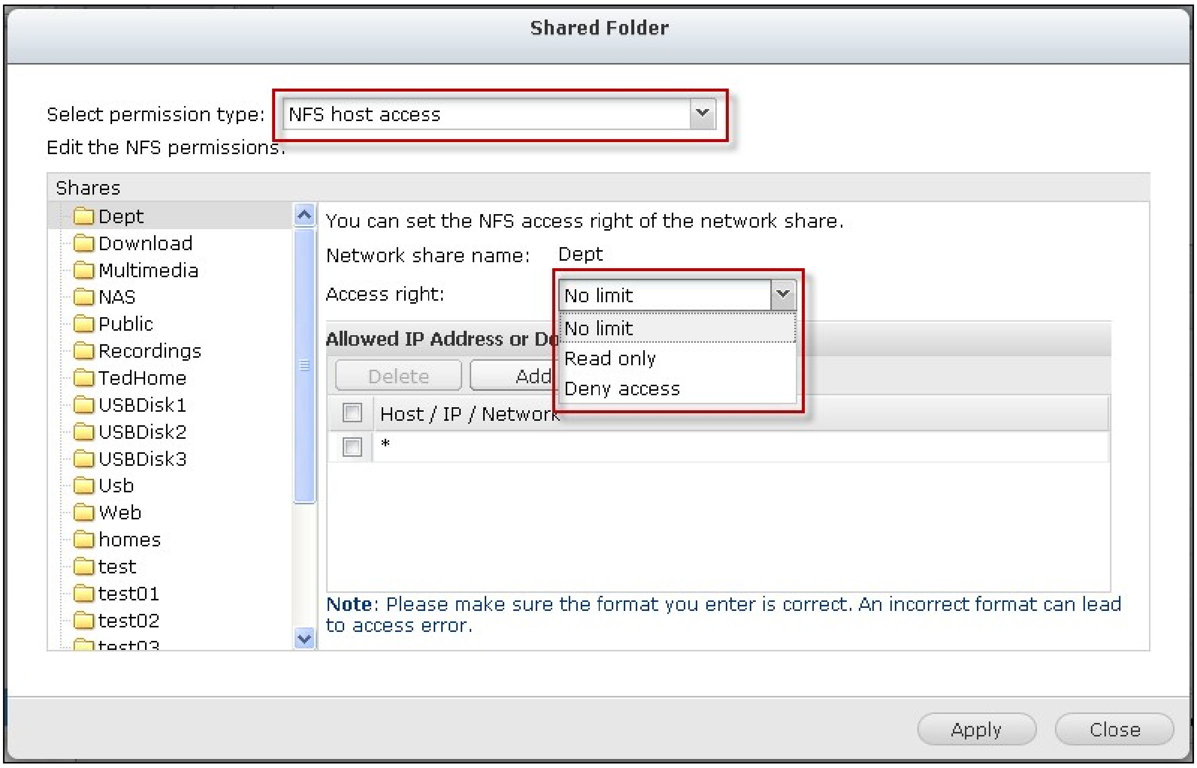


Folder Name	Size	Folders	Files	Hidden	Volume	Action
Dept	36 KB	6	1	No	Single Disk: Drive 1	
Download	53.62 GB	13	183	No	Single Disk: Drive 1	
Multimedia	18.42 MB	21	235	No	Single Disk: Drive 1	
NAS	587.25 MB	6	891	No	ISO	
Public	251.1 MB	9	88	No	Single Disk: Drive 1	
Recordings	32 KB	6	1	No	Single Disk: Drive 1	
TedHome	20 KB	3	1	No	Single Disk: Drive 1	
USBDisk1	694.6 GB	30966	339270	No	USB 1	

Page 1 /1 | Display item: 1-24, Total: 24 | Show 50 Items

Select NFS host access from the dropdown menu on top of the page and specify the access right. If you select "No limit" or "Read only", you can specify the IP address or domains that are allowed to connect to the folder by NFS.

- No limit: Allow users to create, read, write, and delete files or folders in the shared folder and any subdirectories.
- Read only: Allow users to read files in the shared folder and any subdirectories but they are not allowed to write, create, or delete any files.
- Deny access: Deny all access to the shared folder.



Shared Folder

Select permission type: NFS host access

Edit the NFS permissions.

You can set the NFS access right of the network share.

Network share name: Dept

Access right: No limit

Note: Please make sure the format you enter is correct. An incorrect format can lead to access error.

Connect to the NAS by NFS

On Linux, run the following command:

mount -t nfs <NAS IP>:/<Shared Folder Name> <Directory to Mount>

For example, if the IP address of your NAS is 192.168.0.1 and you want to link the shared folder “public” under the /mnt/pub directory, use the following command:

mount -t nfs 192.168.0.1:/public /mnt/pub

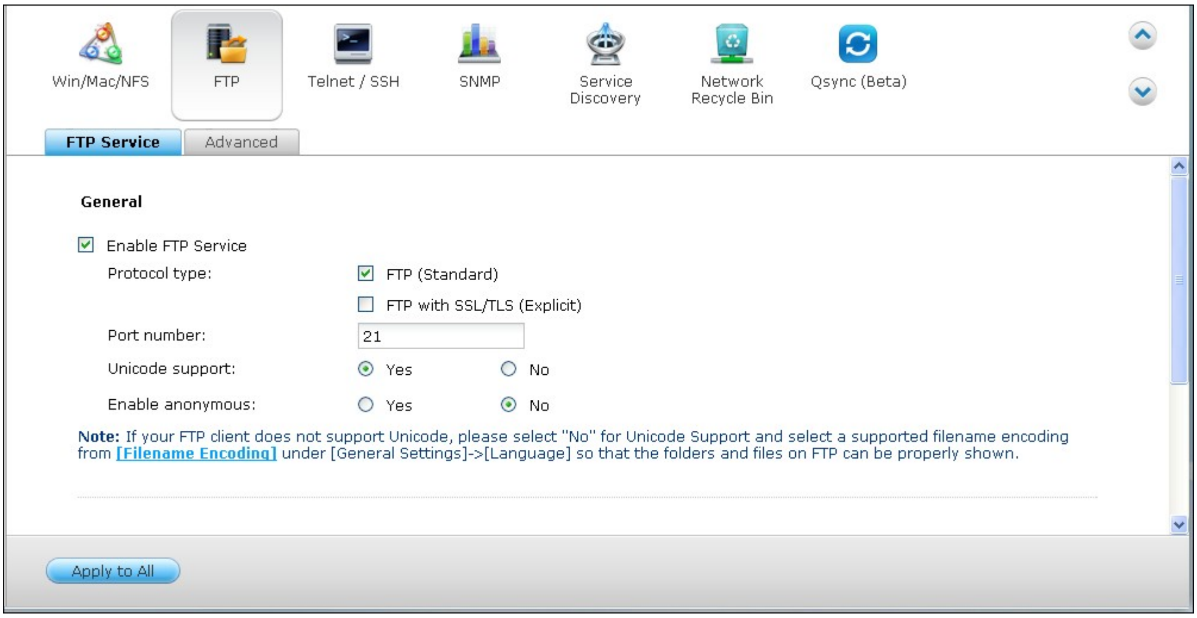
Note: You must login as the “root” user to initiate the above command.

Login as the user ID you define, you can use the mounted directory to connect to your shared files.

6.2 FTP

FTP Service

When you turn on FTP service, you can specify the port number and the maximum number of users that are allowed to connect to the NAS by FTP at the same time.



General

☑ Enable FTP Service

Protocol type: ☑ FTP (Standard)

□ FTP with SSL/TLS (Explicit)

Port number: 21

Unicode support: ● Yes ○ No

Enable anonymous: ○ Yes ● No

Note: If your FTP client does not support Unicode, please select "No" for Unicode Support and select a supported filename encoding from **[Filename Encoding]** under [General Settings]->[Language] so that the folders and files on FTP can be properly shown.

To use the FTP service of the NAS, enable this function. Open an IE browser and enter ftp://NAS IP. Enter the username and the password to login the FTP service.

Protocol Type:

Select to use standard FTP connection or SSL/TLS encrypted FTP. Select the correct protocol type in your client FTP software to ensure successful connection.

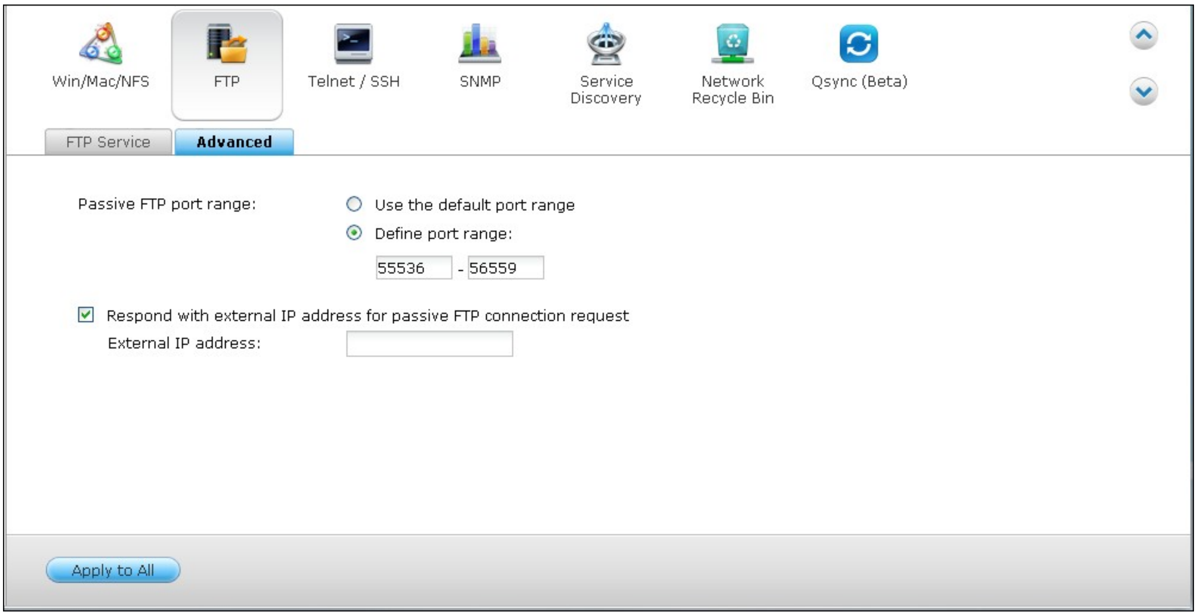
Unicode Support:

Turn on or off the Unicode support. The default setting is No. If your FTP client does not support Unicode, you are recommended to turn off this option and select the language you specify in "General Settings" > "Codepage" so that the file and folder names can be correctly shown. If your FTP client supports Unicode, enable Unicode support for both your client and the NAS.

Anonymous Login:

You can turn on this option to allow anonymous access to the NAS by FTP. The users can connect to the files and folders which are open for public access. If this option is turned off, the users must enter an authorized username and password to connect to the server.

Advanced



Passive FTP port range: ○ Use the default port range ● Define port range: 55536 - 56559

☑ Respond with external IP address for passive FTP connection request

External IP address:

Passive FTP Port Range:

You can use the default port range (55536-56559) or specify a port range larger than 1023. When using this function, make sure you have opened the ports on your router or firewall.

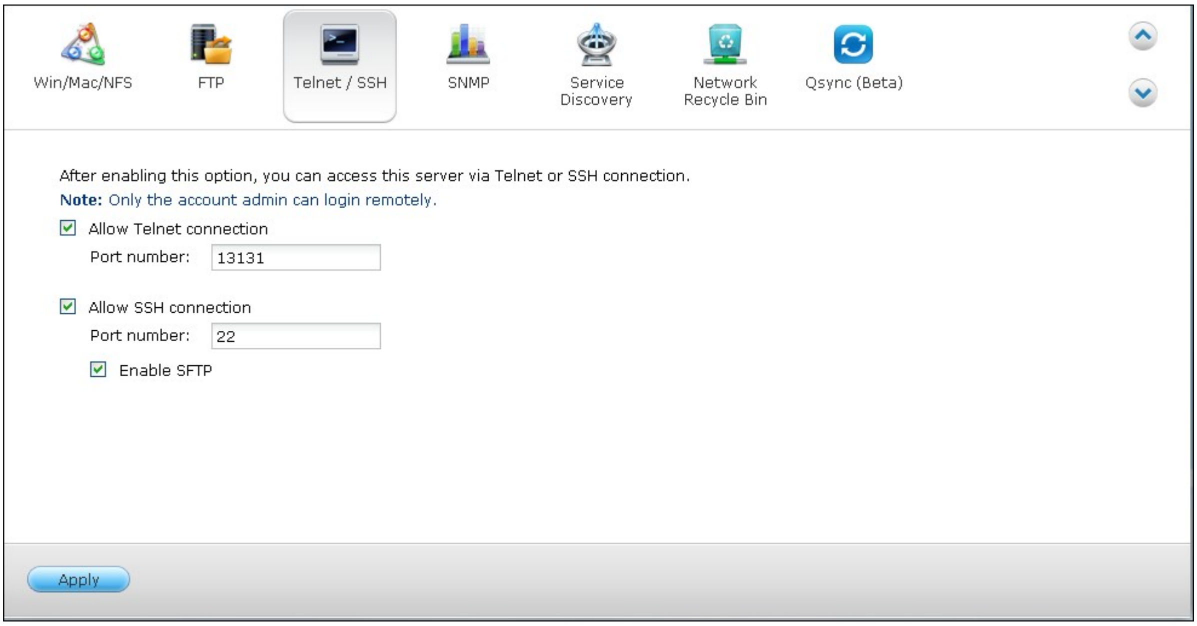
Respond with external IP address for passive FTP connection request:

When passive FTP connection is in use, the FTP server (NAS) is behind a router, and a remote computer cannot connect to the FTP server over the WAN, enable this function. When this option is turned on, the NAS replies the IP address you specify or automatically detects the external IP address so that the remote computer is able to connect to the FTP server.

6.3 Telnet/SSH

Turn on this option to connect to the NAS by Telnet or SSH encrypted connection (only the "admin" account can login remotely). Use Telnet or SSH connection clients, for example, putty for connection. Make sure the specified ports have been opened on the router or firewall.

To use SFTP (known as SSH File Transfer Protocol or Secure File Transfer Protocol), make sure the option "Allow SSH connection" has been turned on.



After enabling this option, you can access this server via Telnet or SSH connection.

Note: Only the account admin can login remotely.

☑ Allow Telnet connection

Port number: 13131

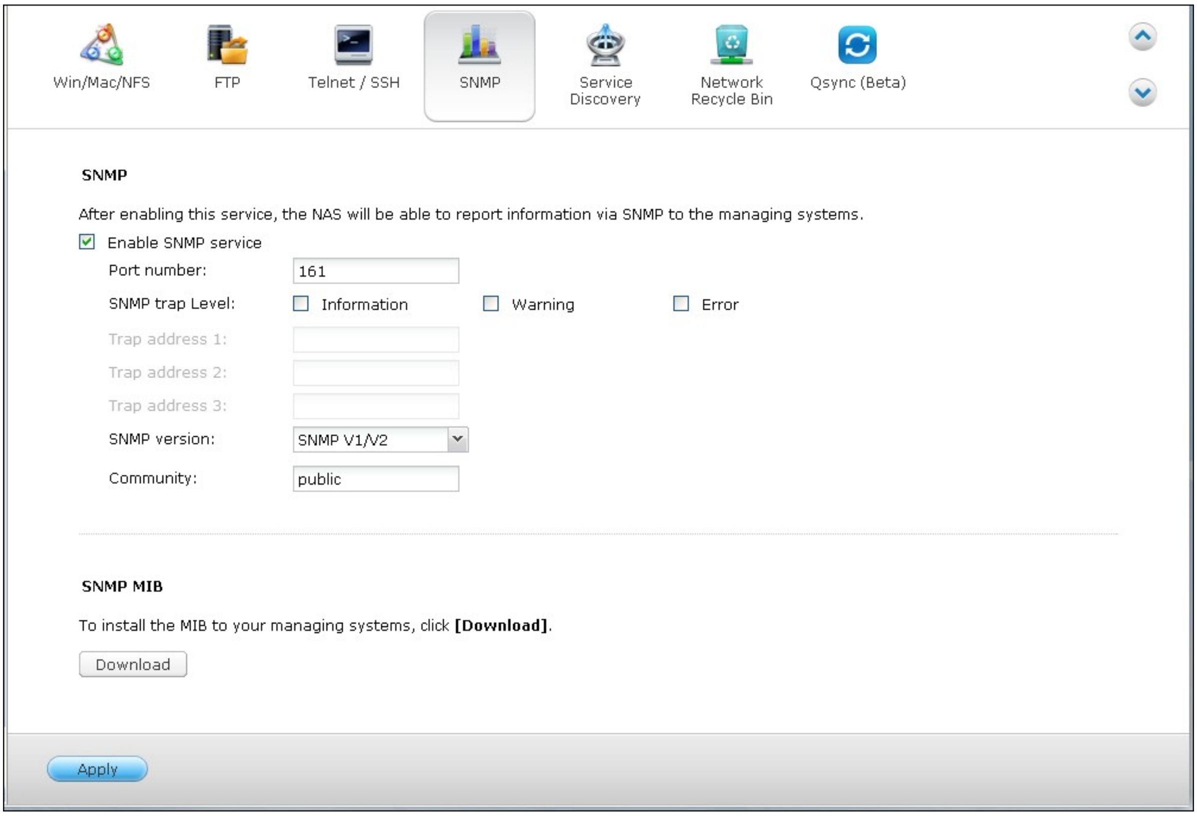
☑ Allow SSH connection

Port number: 22

☑ Enable SFTP

6.4 SNMP Settings

Enable SNMP (Simple Network Management Protocol) service on the NAS and enter the trap address of the SNMP management stations (SNMP manager), for example, PC with SNMP software installed. When an event, warning, or error occurs on the NAS, the NAS (SNMP agent) reports the real-time alert to the SNMP management stations.



SNMP

After enabling this service, the NAS will be able to report information via SNMP to the managing systems.

☑ Enable SNMP service

Port number: 161

SNMP trap Level: □ Information □ Warning □ Error

Trap address 1:

Trap address 2:

Trap address 3:

SNMP version: SNMP V1/V2

Community: public

SNMP MIB

To install the MIB to your managing systems, click **[Download]**.

The fields are described as below:

Field	Description
SNMP Trap Level	Select the information to be sent to the SNMP management stations.
Trap Address	The IP address of the SNMP manager. Specify maximum 3 trap addresses.
SNMP MIB (Management Information Base)	The MIB is a type of database in ASCII text format used to manage the NAS in the SNMP network. The SNMP manager uses the MIB to determine the values or understand the messages sent from the agent (NAS) within the network. You can download the MIB and view it with any word processor or text editor.

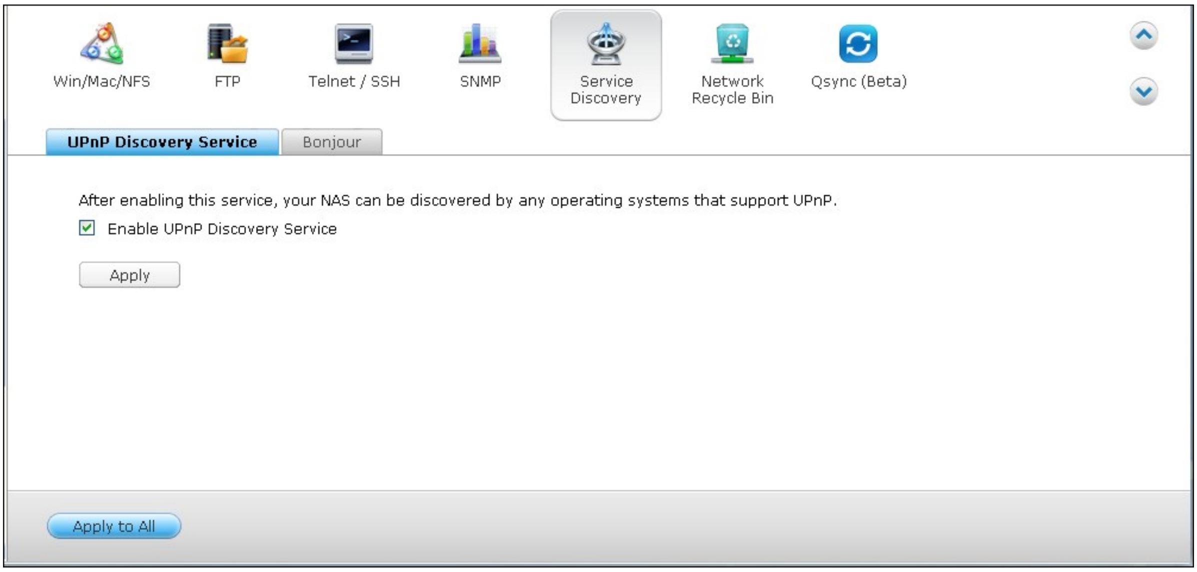
Community (SNMP V1/V2)	An SNMP community string is a text string that acts as a password. It is used to authenticate messages that are sent between the management station and the NAS. The community string is included in every packet that is transmitted between the SNMP manager and the SNMP agent.
SNMP V3	The NAS supports SNMP version 3. Specify the authentication and privacy settings if available.

6.5 Service Discovery

UPnP Discovery Service

When an UPnP device is added to the network, the UPnP discovery protocol allows the device to advertise its services to the control points on the network.

By enabling UPnP Discovery Service, the NAS can be discovered by any operating systems that support UPnP.

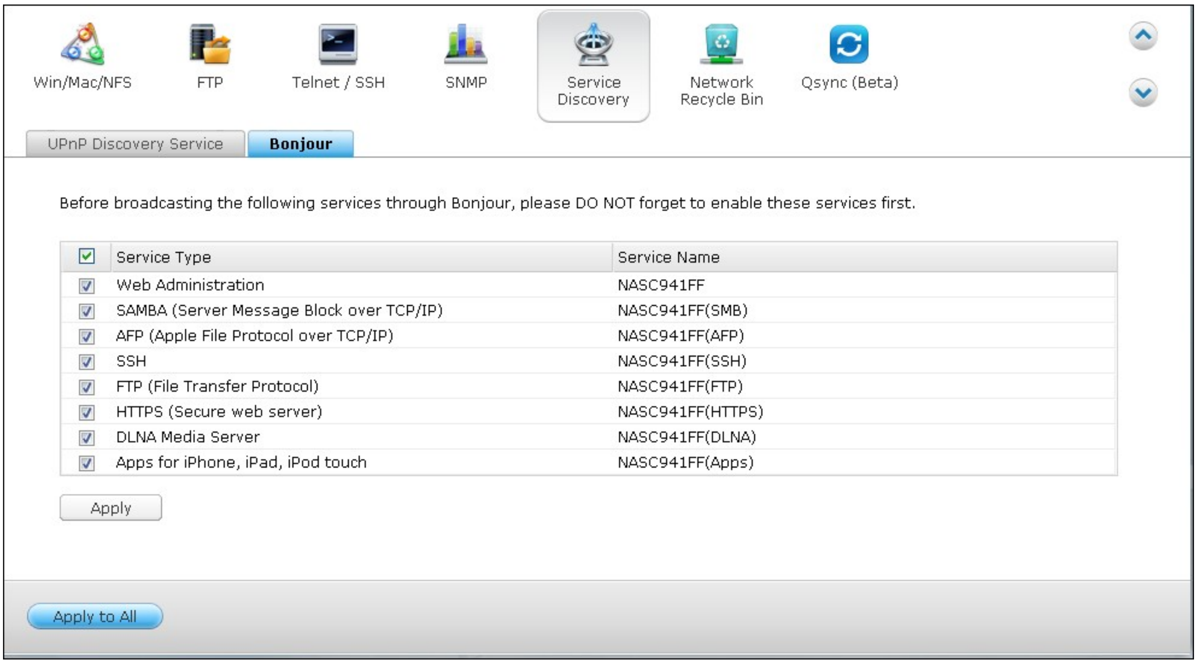


After enabling this service, your NAS can be discovered by any operating systems that support UPnP.

☑ Enable UPnP Discovery Service

Bonjour

By broadcasting the network service(s) with Bonjour, your Mac will automatically discover the network services, such as FTP, running on the NAS without the need to enter the IP addresses or configure the DNS servers.



Before broadcasting the following services through Bonjour, please DO NOT forget to enable these services first.

☑	Service Type	Service Name
☑	Web Administration	NASC941FF
☑	SAMBA (Server Message Block over TCP/IP)	NASC941FF(SMB)
☑	AFP (Apple File Protocol over TCP/IP)	NASC941FF(AFP)
☑	SSH	NASC941FF(SSH)
☑	FTP (File Transfer Protocol)	NASC941FF(FTP)
☑	HTTPS (Secure web server)	NASC941FF(HTTPS)
☑	DLNA Media Server	NASC941FF(DLNA)
☑	Apps for iPhone, iPad, iPod touch	NASC941FF(Apps)

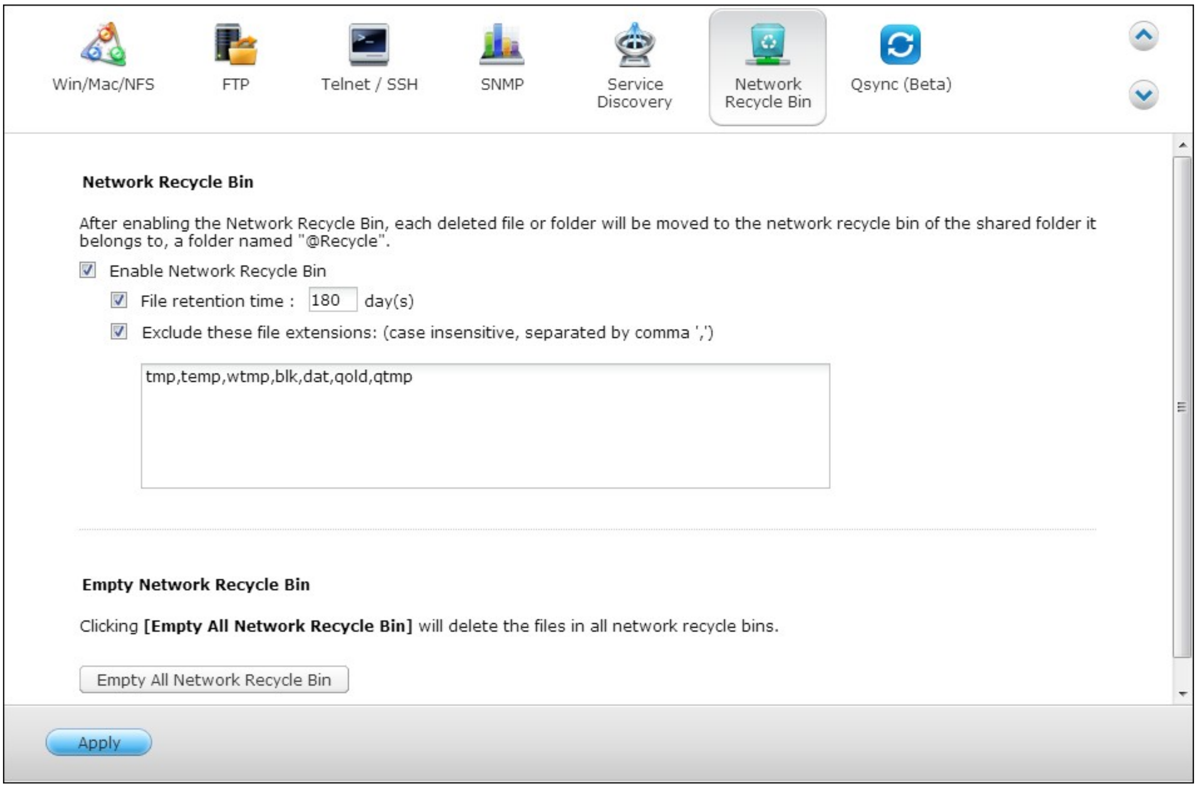
Note: You have to activate the services on their setup pages and then turn them on in this section so that the NAS will advertise this service with Bonjour.

6.6 Network Recycle Bin

The Network Recycle Bin keeps the deleted files on the NAS. Within each shared folder, a dedicated folder by the name @Recycle is created after this feature is enabled. Specify the number of days (1-180) to keep the deleted files and older files deleted will be deleted first. You may also specify the file extensions to be excluded from the bin. Click "Apply" and the NAS will create a shared folder "Network Recycle Bin" automatically. Note that this feature only supports file deletion via Samba, AFP and QNAP File Station.

Empty Network Recycle Bin

To delete all the files in the bin, click "Empty All Network Recycle Bin".



Network Recycle Bin

After enabling the Network Recycle Bin, each deleted file or folder will be moved to the network recycle bin of the shared folder it belongs to, a folder named "@Recycle".

☑ Enable Network Recycle Bin

☑ File retention time : 180 day(s)

☑ Exclude these file extensions: (case insensitive, separated by comma ',')

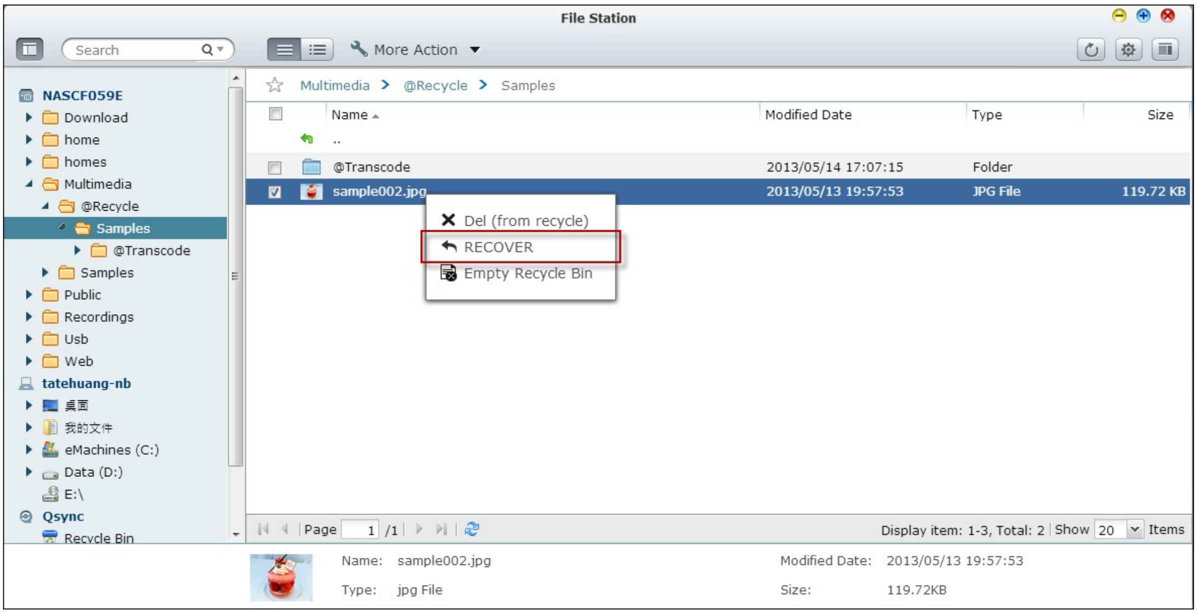
tmp,temp,wtmp,blk,dat,qold,qtmp

Empty Network Recycle Bin

Clicking **[Empty All Network Recycle Bin]** will delete the files in all network recycle bins.

Please note that this feature does not support virtual disks or external storage devices (external devices connected to the USB or eSATA port of the NAS.)

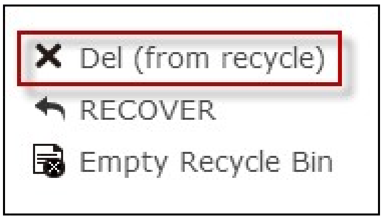
To recover deleted files from the Network Recycle Bin, right click the files in the @Recycle folder and select "RECOVER".



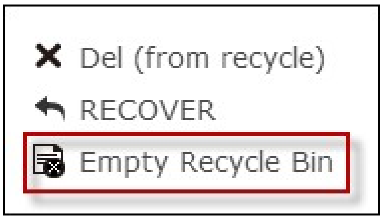
Name	Modified Date	Type	Size
..			
@Transcode	2013/05/14 17:07:15	Folder	
sample002.jpg	2013/05/13 19:57:53	JPG File	119.72 KB

Name: sample002.jpg
Type: jpg File
Modified Date: 2013/05/13 19:57:53
Size: 119.72KB

To permanently delete a file in the recycle bin, right click the file in the @Recycle folder and select “Del (from recycle)”.



To empty the recycle bin for an individual shared folder, right click inside the recycle bin and select “Empty Recycle Bin”.



6.7 Qsync

Qsync is a cloud based file synchronization service empowered by QNAP Turbo NAS. Simply add files to your local Qsync folder, and they will be available on your Turbo NAS and all its connected devices.

Before you start

Follow the 3 steps below before Qsync deployment.

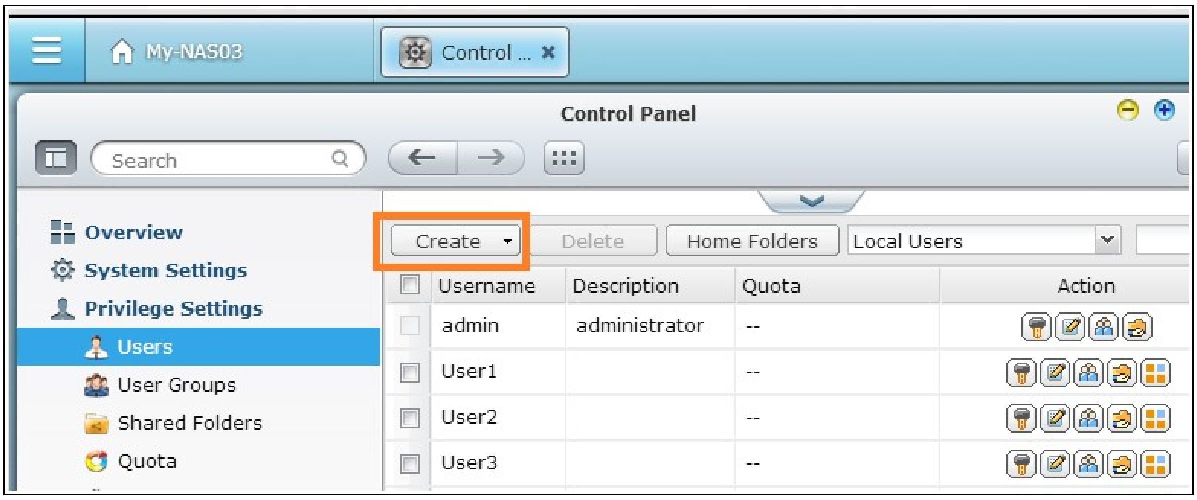
1. Create user accounts on the NAS,
2. Install Qsync on your computers and Qfile on your mobile devices,
3. Login the NAS (serving as a Qsync server) from your computers or mobile devices (referred to in this document as "Qsync clients".)

1. Create user accounts on the NAS

Please create user accounts for Qsync users.

For NAS administrator: Please go to "Control Panel" > "Privilege Settings" > "Users" > click "Create".

For NAS users: Please have the system administrator create an account for you.



Username	Description	Quota	Action
admin	administrator	--	
User1		--	
User2		--	
User3		--	

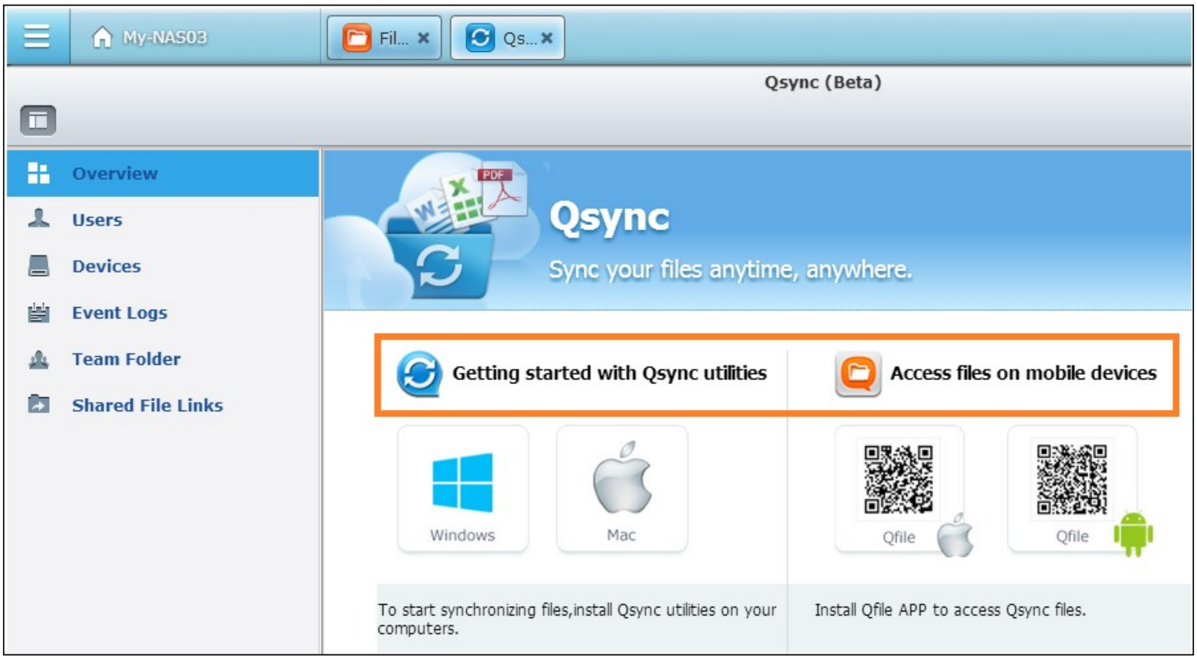
2. Install Qsync utility

Qsync will synchronize all chosen files on your computers or mobile devices.

Follow the instructions detailed on the "Overview" page to download the utility (Login the NAS > click the Qsync shortcut on the NAS Desktop > "Overview" page,) or download the utility from the QNAP website: "Support" > "Download" > "Utilities".

- For computers, please download the Qsync utility (available for Windows operating systems.)

- For mobile devices, please download and install Qfile (available for iOS or Android operating systems.)



To start synchronizing files,install Qsync utilities on your computers.

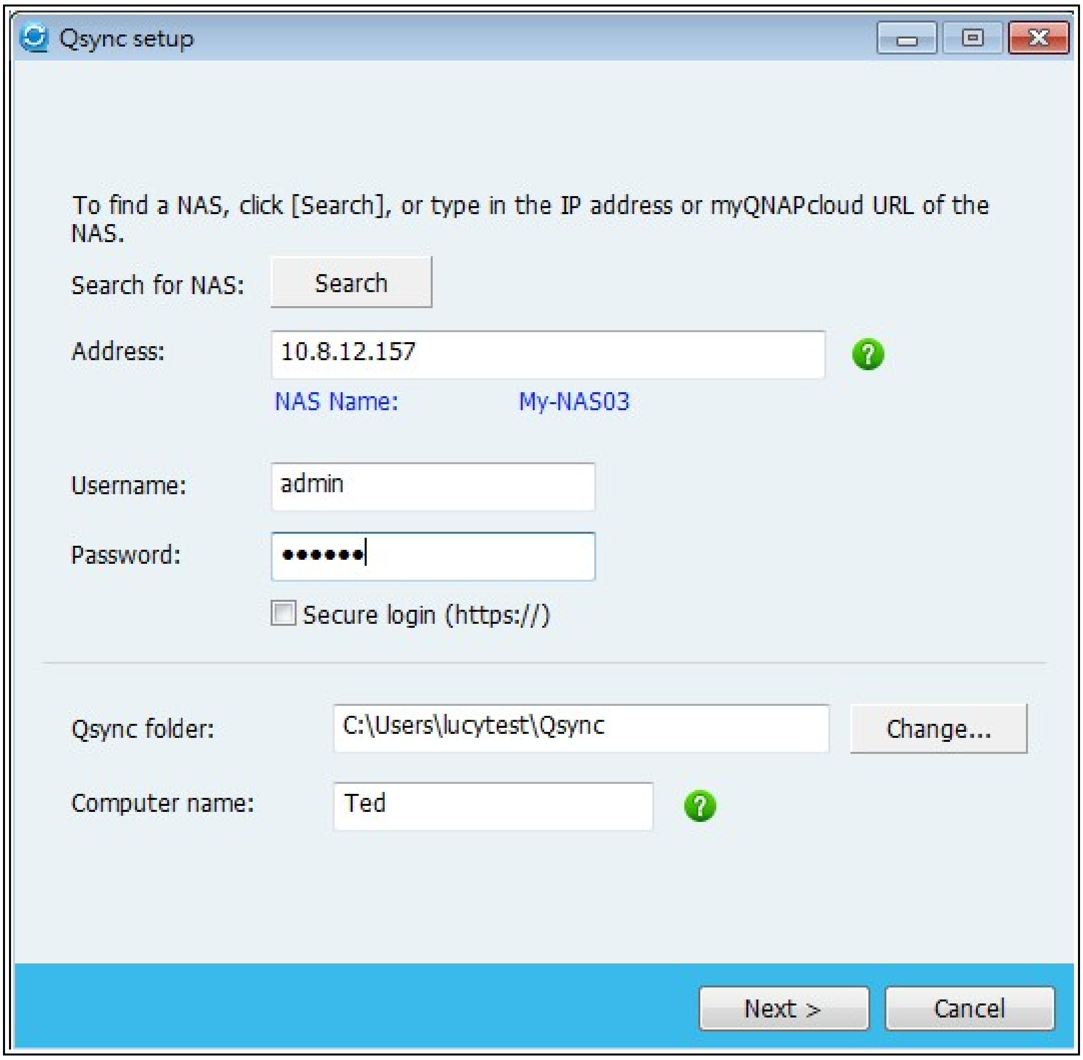
Install Qfile APP to access Qsync files.

3. Login the NAS

After installing the utility, enter the user ID and password and specify the designated NAS as the Qsync server.

To locate the NAS within a LAN environment, simply click "Search" or key in its IP address or name (e.g. IP address: 10.8.1.20 or 192.168.1.100).

To connect to a remote NAS (over the Internet,) please use your myQNAPcloud address to login (e.g. andy@myQNAPcloud.com).



To find a NAS, click [Search], or type in the IP address or myQNAPcloud URL of the NAS.

Search for NAS:

Address: 10.8.12.157

NAS Name: My-NAS03

Username: admin

Password: ••••••

□ Secure login (https://)

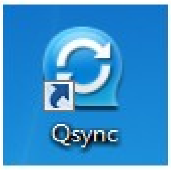
Qsync folder: C:\Users\lucytest\Qsync

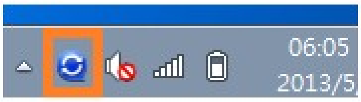
Computer name: Ted

Note: If the ports have been changed for NAS connection, please add the port number after the IP address; otherwise, please only enter an IP address. (Default port number: 8080)

Start using Qsync

Double click the Qsync shortcut on the Windows desktop to open the Qsync local folder. Click the Qsync icon on the taskbar at bottom right side of the screen to bring up the menu.





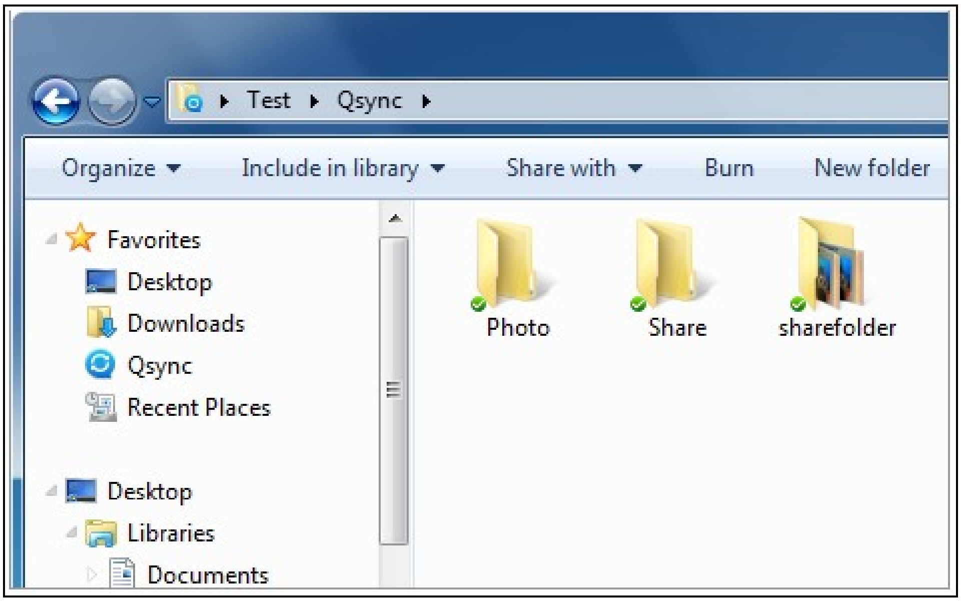
Now, copy or move your files to the local Qsync folder in one of your devices, the files will be copied to all your other devices (devices with Qsync installed and are connected to the NAS.)

From now on, there is no need to copy files back and forth between your PC and external devices or worry about the size of the files as you try to attach them to an email.

Synchronization

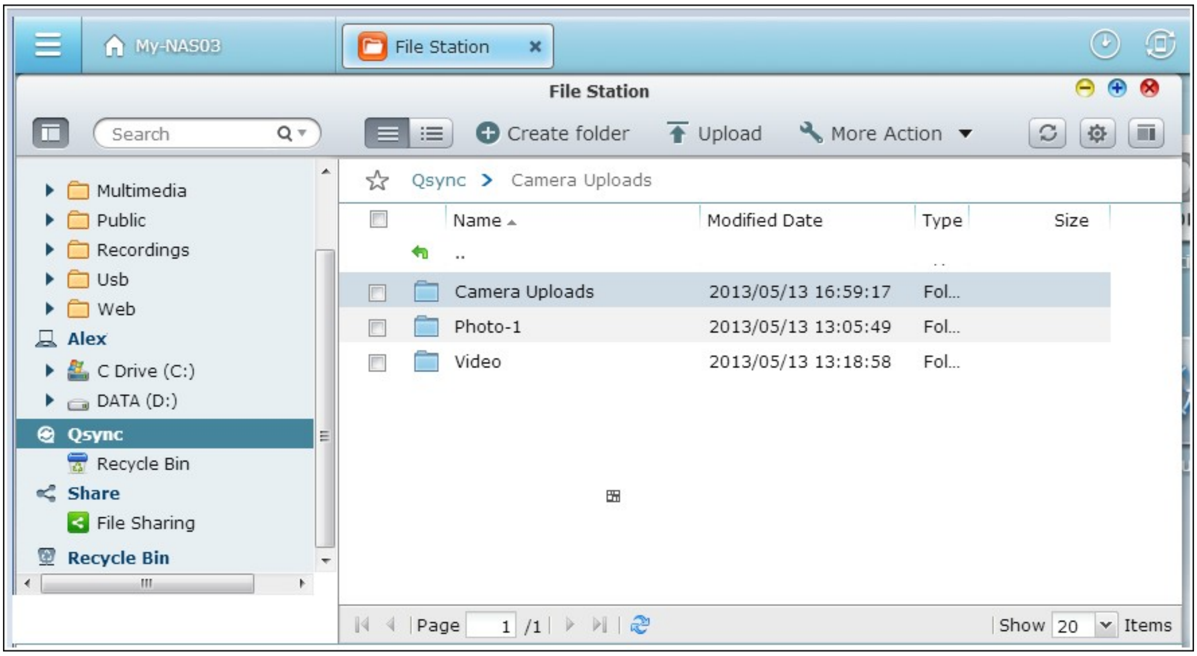
There are several methods you can synchronize your files. Qsync will automatically synchronize the files among your computers or mobile devices that have Qsync installed, and they will also be synchronized to the Qsync folder on the NAS.

1. For PCs, drag and drop files directly to the local Qsync folder.



2. For mobile devices (Qfile), copy or move files into the Qsync folder.

3. For the NAS, copy or move files to the Qsync folder via the File Station (web based file explorer).



Name	Modified Date	Type	Size
..		..	
Camera Uploads	2013/05/13 16:59:17	Fol...	
Photo-1	2013/05/13 13:05:49	Fol...	
Video	2013/05/13 13:18:58	Fol...	

Note:

- If files are “dragged and dropped” to the Qsync folder, they will be moved to the Qsync folder, instead of being copied into the folder, if the files and the Qsync folder are on the same disk drive. The behavior is the same as the Windows File Explore.
- The maximum size of a single file that Qsync can transmit is 50GB in a LAN.
- Qsync does not support SAMBA, FTP or AFP for files access. Please access files using the File Station or Qsync.
- Qfile can only synchronize the file list and does not download the files to a mobile device. Please download the files when you need them.

Offline editing

You can browse and edit your files offline, and once your device is online, Qsync will synchronize the files you edited offline for you automatically.

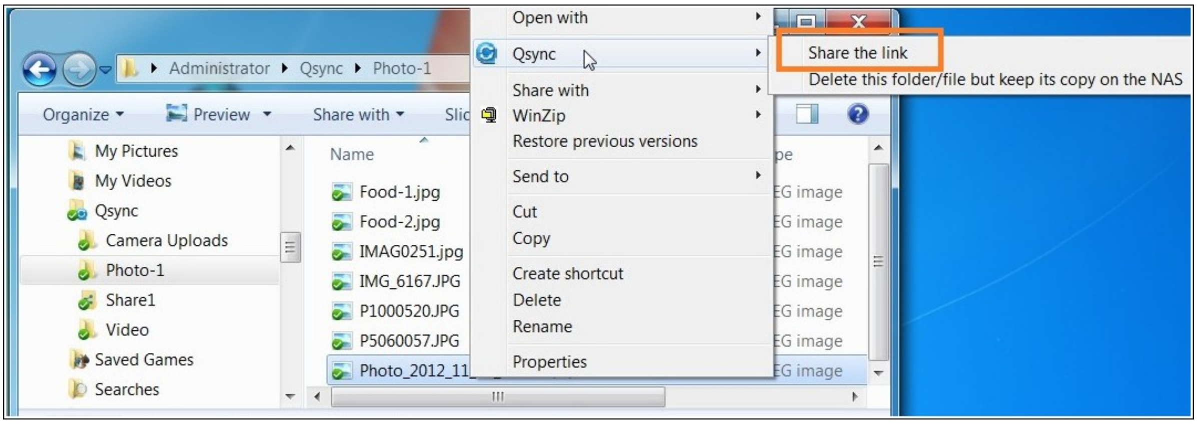
Sharing

Share files by download links

You can share files by sending file download links to those who haven't installed Qsync.

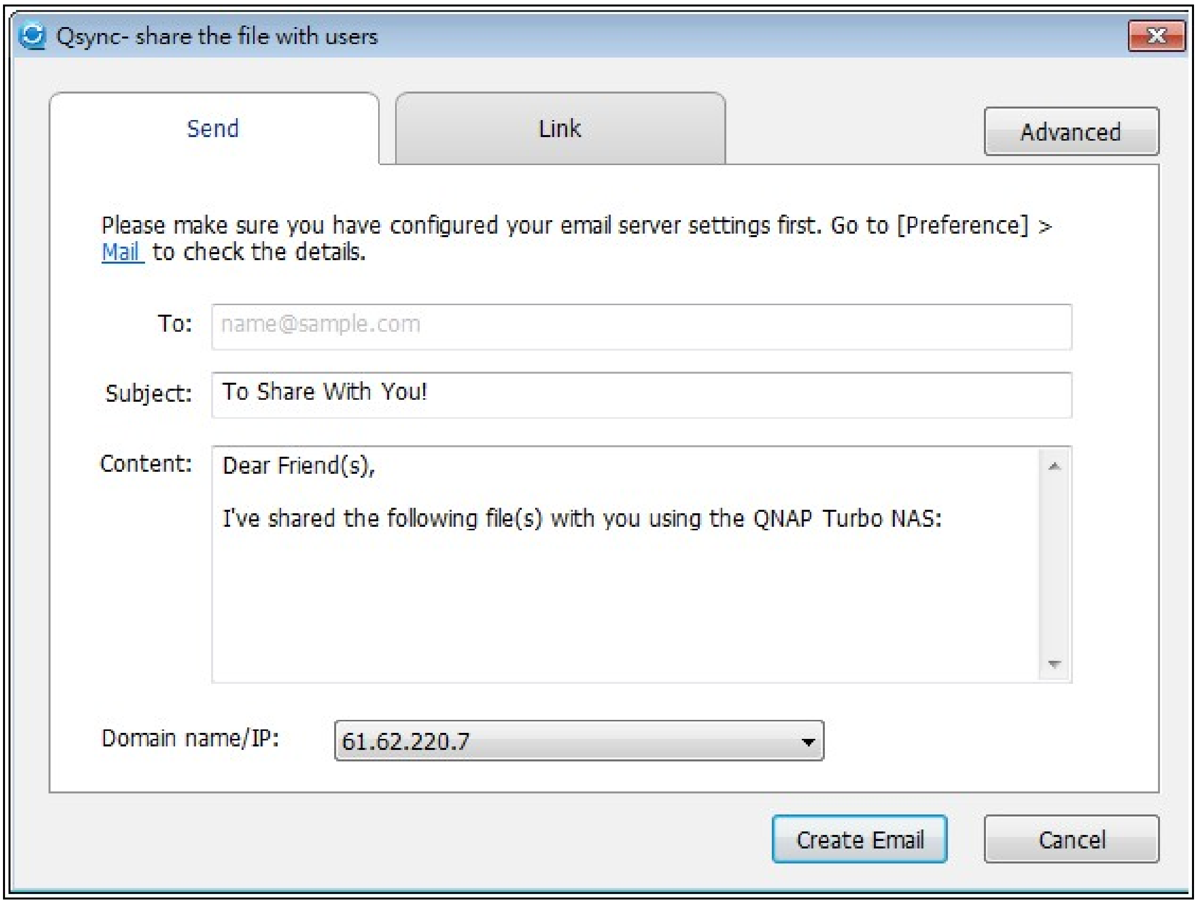
For Windows:

1. Right click the file that you would like to share in the local Qsync folder and click "Share the link".



2. Select to send the link via email or copy the link to others.

3. Click "Advanced" to check more options for the link, such as creating a SSL link, the expiration date, or password.



Please make sure you have configured your email server settings first. Go to [Preference] > Mail to check the details.

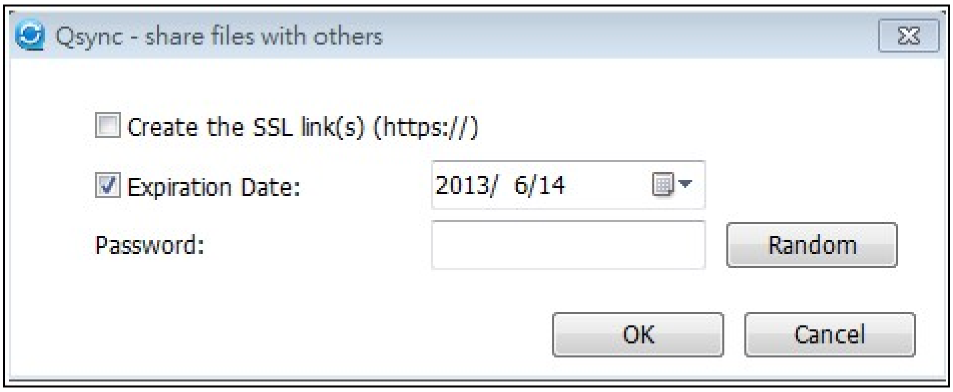
To: name@sample.com

Subject: To Share With You!

Content: Dear Friend(s),

I've shared the following file(s) with you using the QNAP Turbo NAS:

Domain name/IP: 61.62.220.7



□ Create the SSL link(s) (https://)

☑ Expiration Date: 2013/ 6/14

Password:

For the NAS, right click the file that you would like to share in the Qsync folder within the File Station and click "Share".

For mobile devices, launch the Qfile to share the file in the Qsync folder by clicking the icon to the right and click "Share".

The file recipients can click the link or copy and paste it to a web browser to download the file.

Share folders with a group

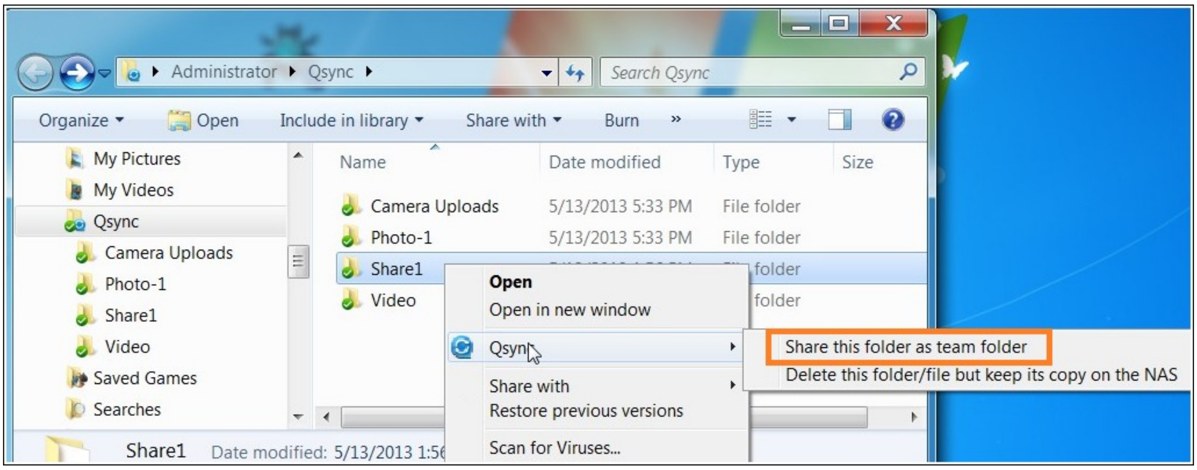
You can share a folder with a user group. If any member from the group shares the files in the folder, other members can receive the file.

Steps:

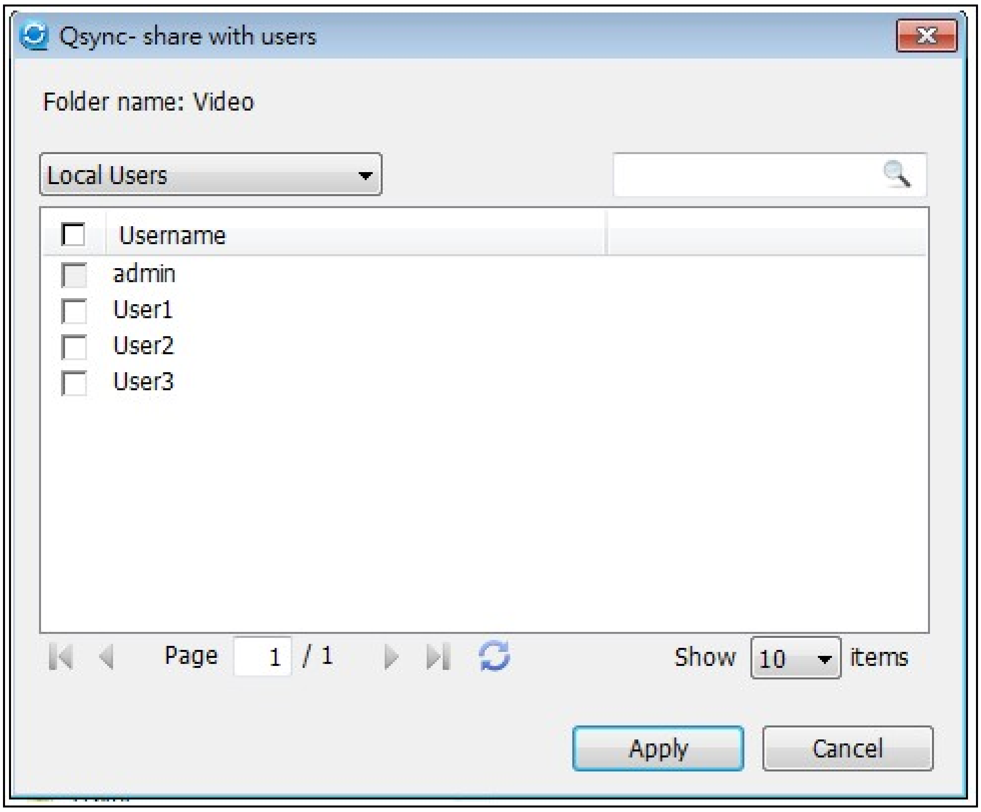
1. Create user accounts in the NAS for each group member.

2. Have the Qsync utility installed on each member's device.

3. Right click the folder that you would like to share in the local Qsync folder and click "Share this folder as a team folder".



4. Select users from the list of local or domain users.



Qsync- share with users

Folder name: Video

Local Users

□	Username
□	admin
□	User1
□	User2
□	User3

All members in the group will receive a file sharing invitation. Once accepted, the group members can start to access this shared folder.

Note:

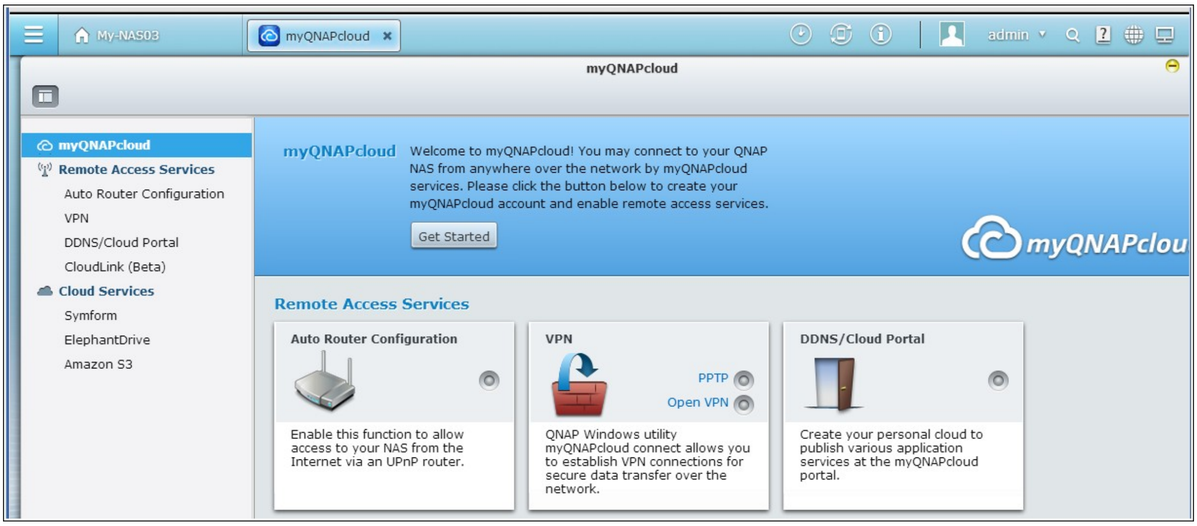
- The team folder will only take effect after users you send the invitation to accept the invitation.
- Users cannot share the team folders which are shared from others again.

Remote access

Access the NAS over the Internet

To connect to a remote NAS (over the Internet), the administrator is required to configure the device name for the NAS in "myQNAPcloud" first (Login the NAS> NAS Desktop > click the myQNAPcloud shortcut.)

Next, notify the users about the myQNAPcloud web address for their remote access. You can then use the myQNAPcloud address to login the remote NAS. (e.g. andy@myQNAPcloud.com)



Welcome to myQNAPcloud! You may connect to your QNAP NAS from anywhere over the network by myQNAPcloud services. Please click the button below to create your myQNAPcloud account and enable remote access services.

Enable this function to allow access to your NAS from the Internet via an UPnP router.

QNAP Windows utility myQNAPcloud connect allows you to establish VPN connections for secure data transfer over the network.

Create your personal cloud to publish various application services at the myQNAPcloud portal.

Note:

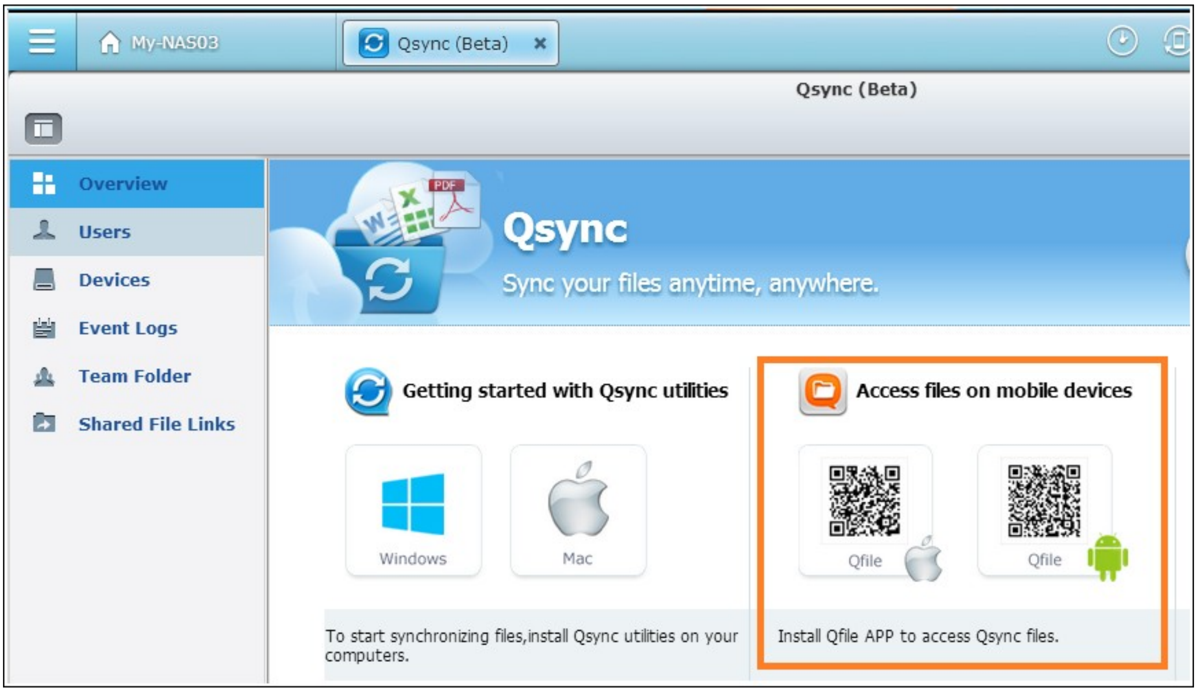
- The connection with the NAS over the Internet will take longer, when compared to a LAN environment.
- As you switch back to a LAN environment where your NAS is located, please connect to the NAS again through LAN, instead of the myQNAPcloud service for better connection quality.
- For better performance on file transmission, it is recommended to configure port forwarding on the router if possible.

Synchronize photos and videos automatically

Qsync can synchronize your photos and videos on mobile devices to the Qsync folder across all Qsync clients automatically.

Steps:

1. Install Qfile on your mobile devices by following instructions outlined in the Qsync page on the NAS or find it on the App Store.



To start synchronizing files,install Qsync utilities on your computers.

Install Qfile APP to access Qsync files.

2. Launch Qfile.

3. Click "Settings" on the bottom right side of the screen.

4. Scroll down and look for "Auto upload from photo gallery" and click "Set up now".

5. Select a NAS to upload photos and videos to.

6. Select the folder.

7. Select "Use default setting" (/Qsync/Camera Uploads) or select "Set up manually" to set the path.

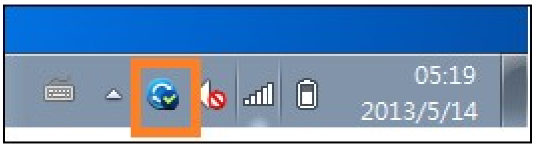
8. Select if you want to upload all photos from the photo gallery immediately.

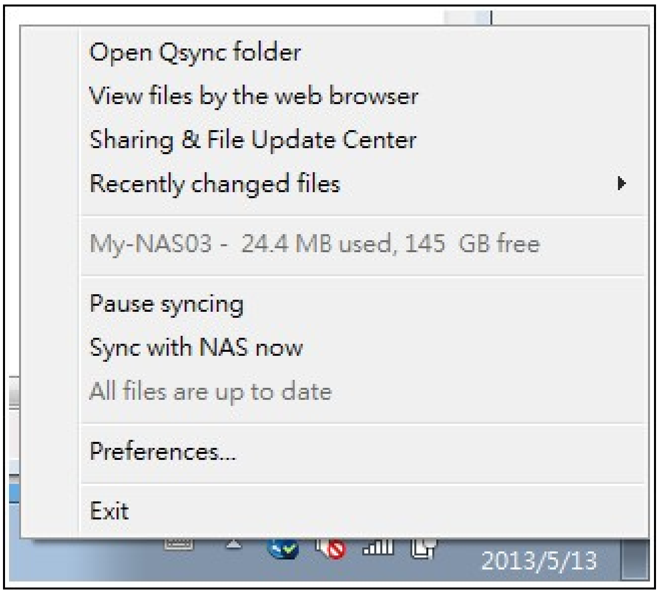
9. You can check the checkbox "Limit to Wi-Fi" to upload files through Wi-Fi and avoid possible expenses associated with the 3G usage.

10. The uploaded files will be synchronized to the Camera Uploads folder under the Qsync folder on Qsync client devices.

Note: If files uploaded before are deleted from the Camera Uploads folder, the Qfile will not upload those copies in the photo library again.

Click the Qsync icon on the taskbar to see the management functions:

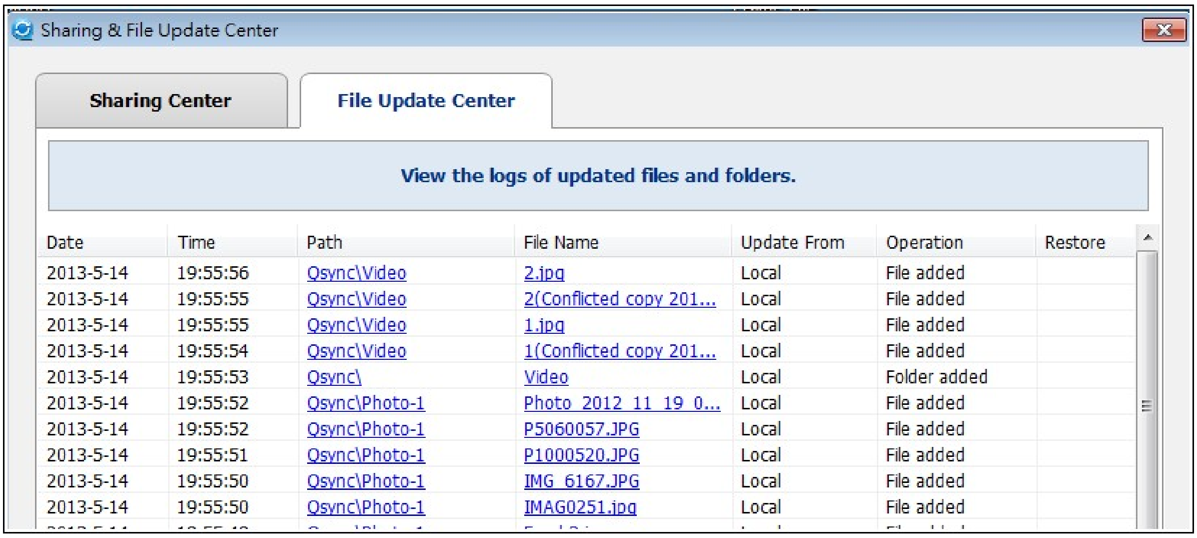




1. Add files and view the synchronization result on the NAS:
   a. Open the Qsync folder: Open the Qsync folder to add files,
   b. View files by the web browser: Open the File Station (web based file explorer) and browse files in the Qsync folder on the NAS.

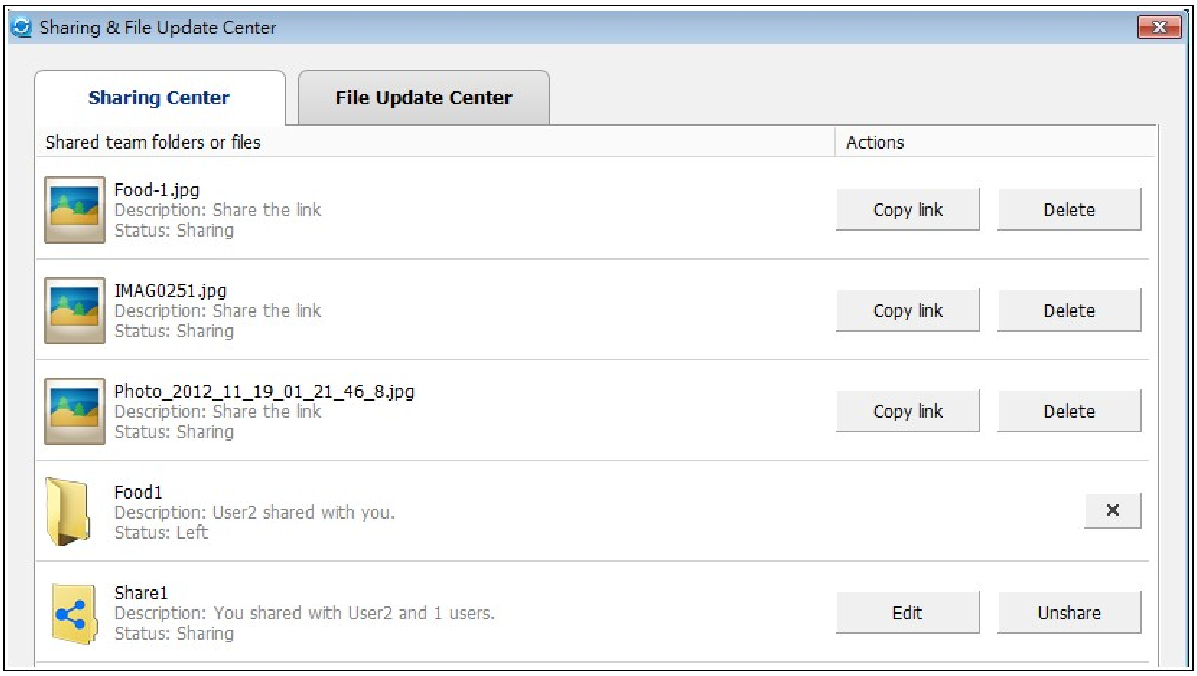
2. Control synchronization progress:
   a. Pause syncing / Resume syncing: Click to pause or resume file synchronization,
   b. Sync with NAS now: Force Qsync to scan again and refresh the synchronization list.

3. Information for syncing and sharing:
   a. Sharing & File Update Center
      i. File Update Center: List the file or folder update logs.
      ii. Sharing Center: List the folders or files shared with others. Users can choose to accept or decline the team folders. However, users cannot share team folders that are shared by others.
   b. Recently changed files: List the recently updated files.



View the logs of updated files and folders.

Date	Time	Path	File Name	Update From	Operation	Restore
2013-5-14	19:55:56	Qsync\Video	2.jpg	Local	File added	
2013-5-14	19:55:55	Qsync\Video	2(Conflicted copy 201...	Local	File added	
2013-5-14	19:55:55	Qsync\Video	1.jpg	Local	File added	
2013-5-14	19:55:54	Qsync\Video	1(Conflicted copy 201...	Local	File added	
2013-5-14	19:55:53	Qsync\	Video	Local	Folder added	
2013-5-14	19:55:52	Qsync\Photo-1	Photo_2012_11_19_0...	Local	File added	
2013-5-14	19:55:52	Qsync\Photo-1	P5060057.JPG	Local	File added	
2013-5-14	19:55:51	Qsync\Photo-1	P1000520.JPG	Local	File added	
2013-5-14	19:55:50	Qsync\Photo-1	IMG_6167.JPG	Local	File added	
2013-5-14	19:55:50	Qsync\Photo-1	IMAG0251.jpg	Local	File added	



Food-1.jpg
Description: Share the link
Status: Sharing

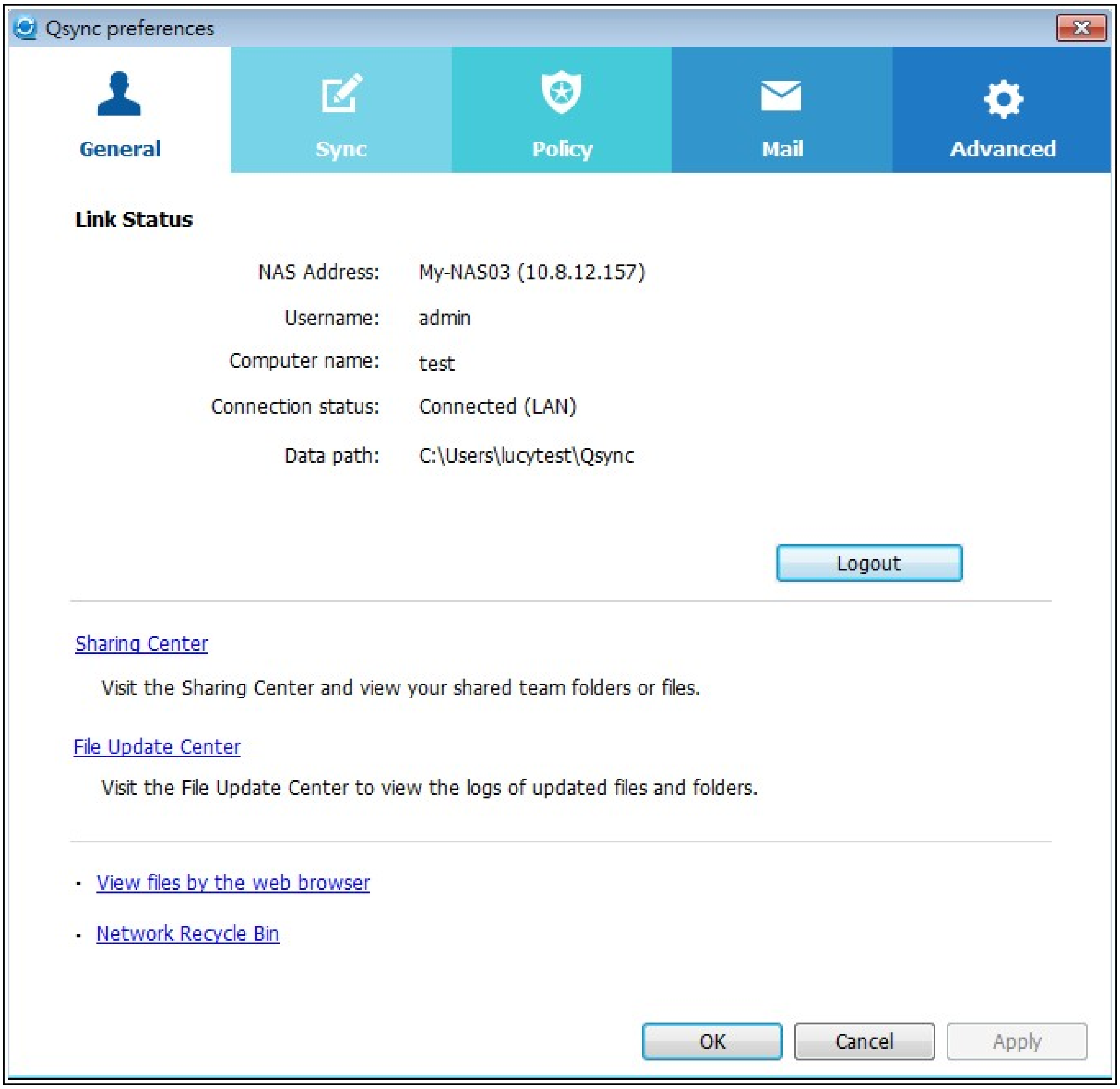
IMAG0251.jpg
Description: Share the link
Status: Sharing

Photo_2012_11_19_01_21_46_8.jpg
Description: Share the link
Status: Sharing

Food1
Description: User2 shared with you.
Status: Left

Share1
Description: You shared with User2 and 1 users.
Status: Sharing

4. Preference:
   a. General:
      i. Link Status: Show the current status. Click "Logout" to change users.
      ii. Network Recycle Bin: Browse or recover files deleted from the Qsync folder.



Link Status

NAS Address: My-NAS03 (10.8.12.157)

Username: admin

Computer name: test

Connection status: Connected (LAN)

Data path: C:\Users\lucytest\Qsync

Sharing Center

Visit the Sharing Center and view your shared team folders or files.

File Update Center

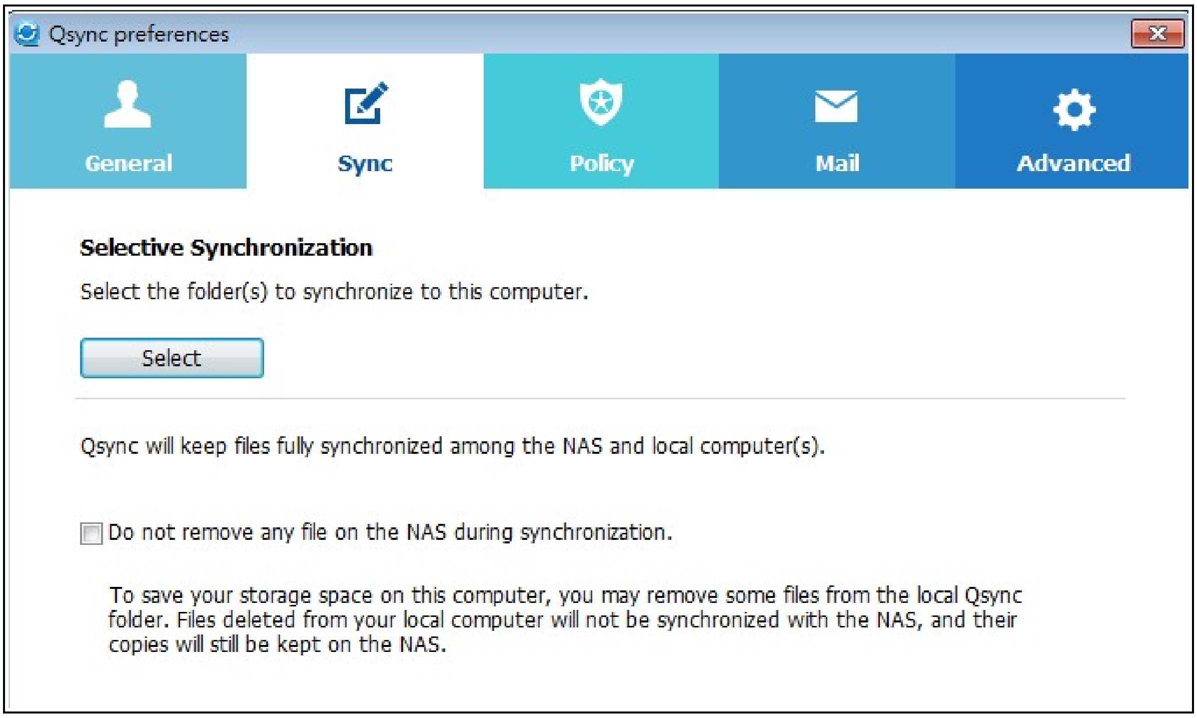
Visit the File Update Center to view the logs of updated files and folders.

- View files by the web browser
- Network Recycle Bin

b. Sync:

i. Selective Synchronization: Select the folder to synchronize to the computers.

ii. Do not remove any files on the NAS when synchronizing: You can remove files within the local Qsync folder, and files deleted from your computer will not be synchronized with the NAS. The NAS still keeps copies of the deleted files.



Selective Synchronization

Select the folder(s) to synchronize to this computer.

Select

Qsync will keep files fully synchronized among the NAS and local computer(s).

□ Do not remove any file on the NAS during synchronization.

To save your storage space on this computer, you may remove some files from the local Qsync folder. Files deleted from your local computer will not be synchronized with the NAS, and their copies will still be kept on the NAS.

c. Policy:

i. Conflict Policies: The policies for handling the name conflicts between the Qsync server (NAS) and clients after it is back online from its disconnection:

(1).Rename the local file(s),

(2).Rename the remote NAS file(s),

(3).Replace local files with remote NAS file(s),

(4).or Replace remote NAS files with local file(s).

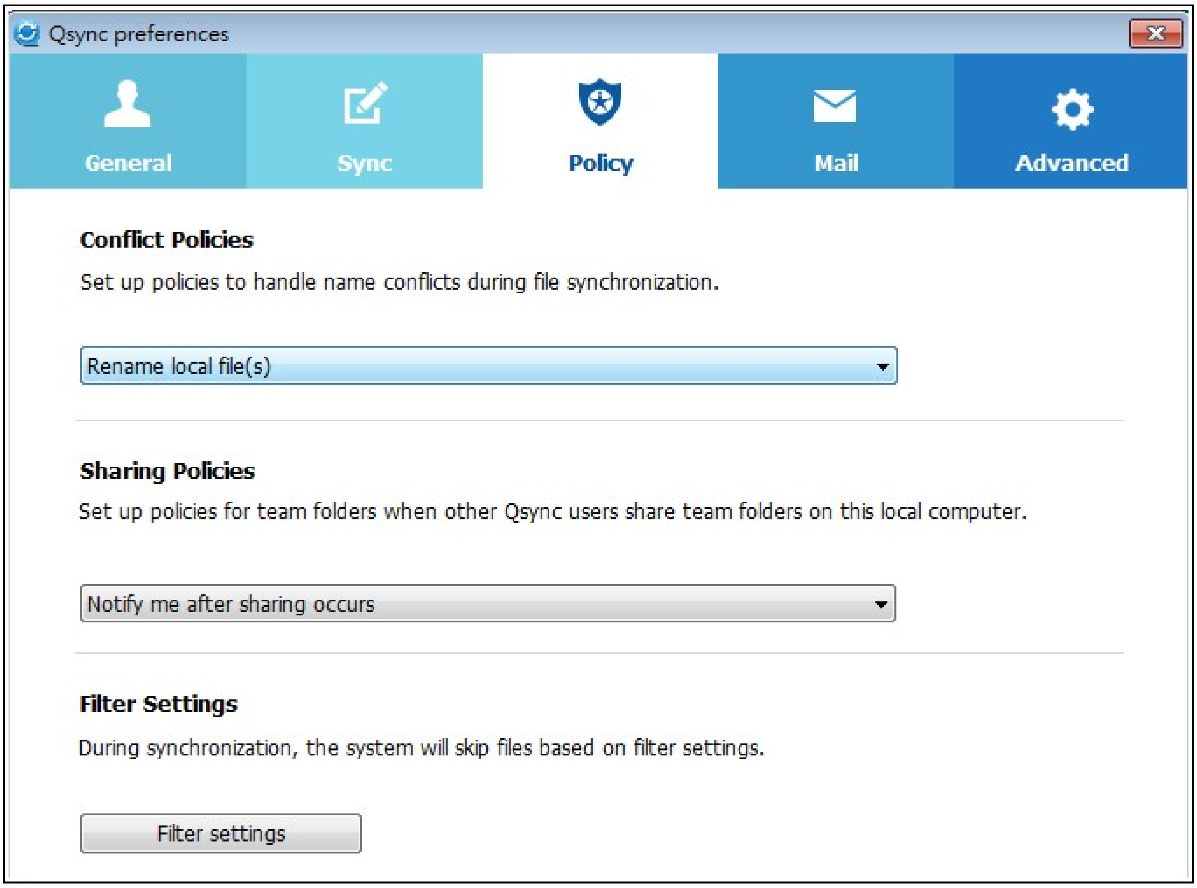
ii. Sharing Policies: The policies of the team folders when other Qsync users share them to this local computer:

(1).Always reject sharing,

(2).Automatically accept sharing, or

(3).Send a notification message once sharing occurs.

iii. Filter Settings: During file synchronization, Qsync will not synchronize the types of files specified in filter settings.



Conflict Policies

Set up policies to handle name conflicts during file synchronization.

Rename local file(s)

Sharing Policies

Set up policies for team folders when other Qsync users share team folders on this local computer.

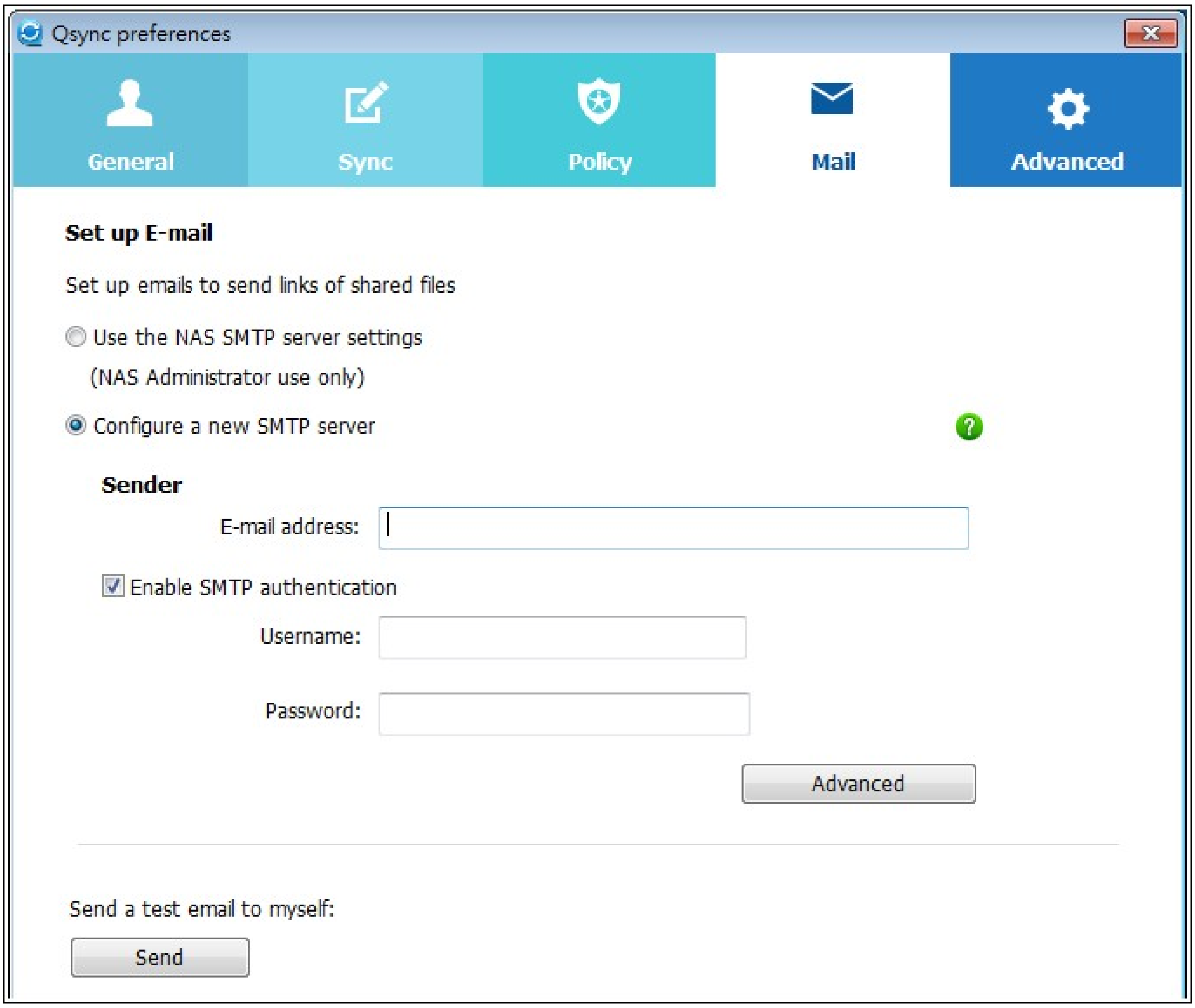
Notify me after sharing occurs

Filter Settings

During synchronization, the system will skip files based on filter settings.

d. Email:

i. Set up E-mail: Set up an email account for sharing file links. You can use the NAS SMTP server settings (for NAS administrators only) or configure a new SMTP server.



Set up E-mail

Set up emails to send links of shared files

○ Use the NAS SMTP server settings
(NAS Administrator use only)

● Configure a new SMTP server

Sender

E-mail address:

☑ Enable SMTP authentication

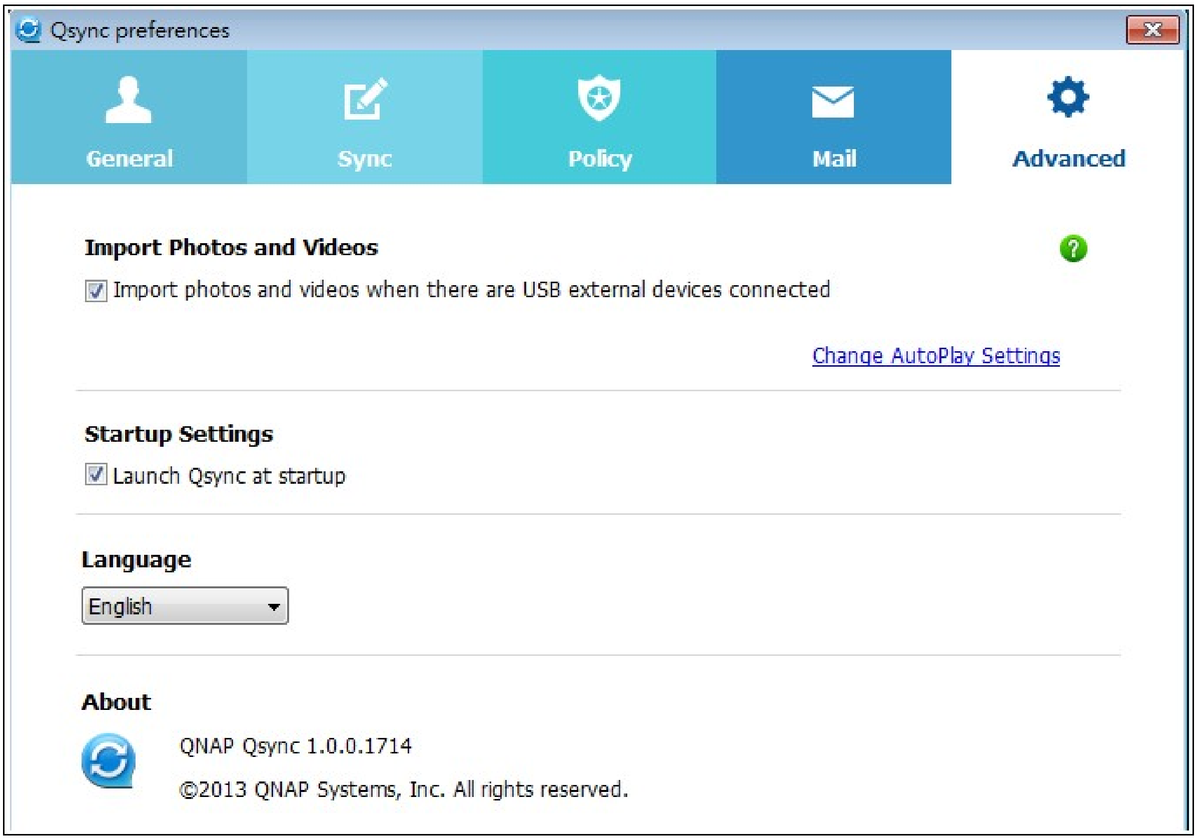
Username:

Password:

Send a test email to myself:

e. Advanced:

   i. Import photos and videos: Import photos and videos when an USB external device is connected. This feature only applies to photos and videos located in the DCIM folder in the root directory of the USB external device.



Import Photos and Videos

☑ Import photos and videos when there are USB external devices connected

Change AutoPlay Settings

Startup Settings

☑ Launch Qsync at startup

Language

English ▾

About

QNAP Qsync 1.0.0.1714

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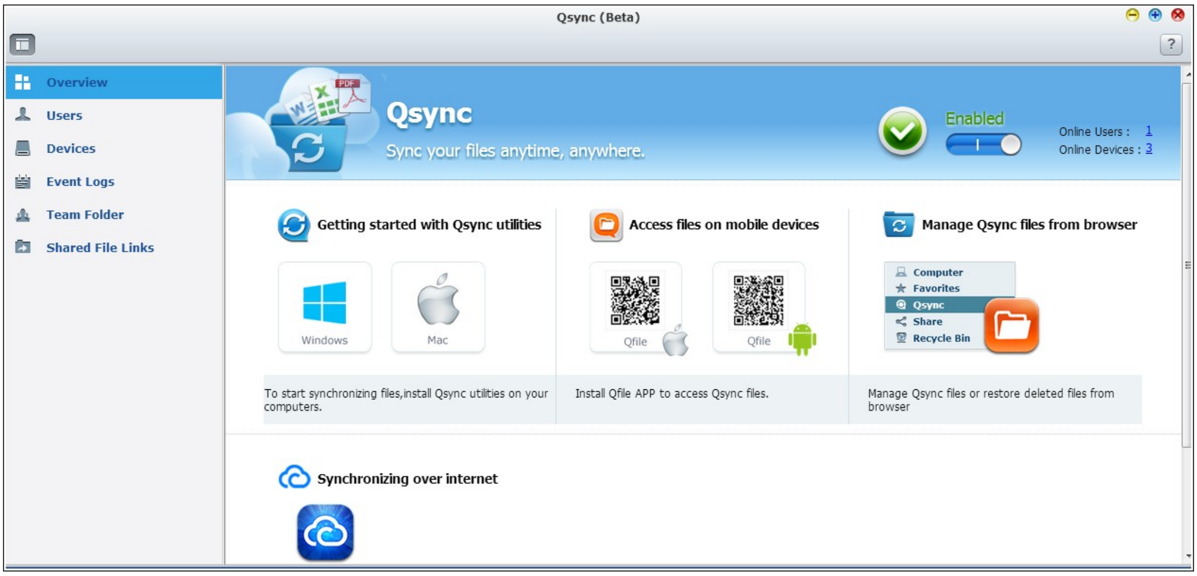
Managing or monitoring Qsync status via web browser

Login the NAS via a web browser and click the Qsync button.

1. Overview: Provide links to install the utility and to File Station and list the total number of online users and devices. You can also choose to enable or disable the Qsync service (for administrators only.)

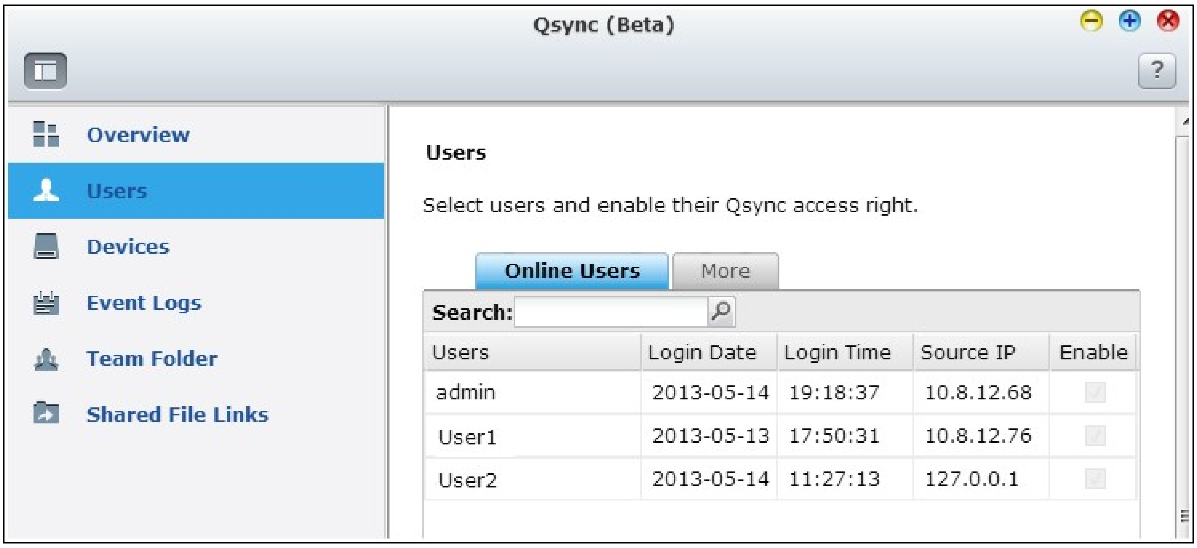


To start synchronizing files,install Qsync utilities on your computers.

Install Qfile APP to access Qsync files.

Manage Qsync files or restore deleted files from browser

2. Users: List information of online users, and you can manage the Qsync service for users (for administrators only.)



Users

Select users and enable their Qsync access right.

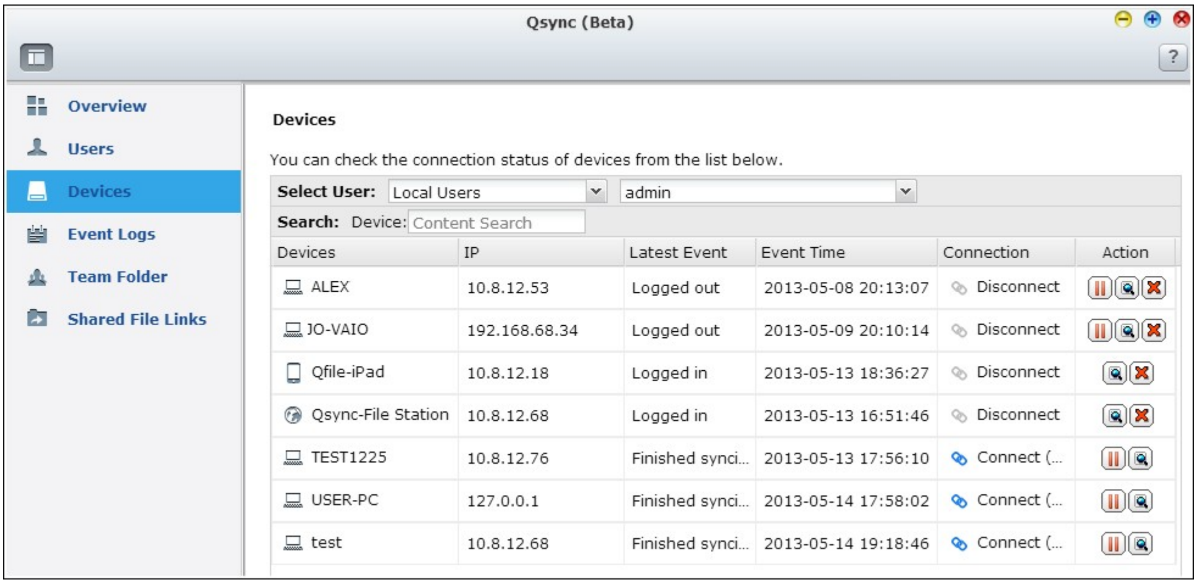
Users	Login Date	Login Time	Source IP	Enable
admin	2013-05-14	19:18:37	10.8.12.68	☑
User1	2013-05-13	17:50:31	10.8.12.76	☑
User2	2013-05-14	11:27:13	127.0.0.1	☑

3. Devices: List the status of connected devices and you can choose to allow or terminate connection of the devices.

i. If users login from their PC, the name of the device will be shown as their computer name.

ii. If users login from Qfile, the name of the device will be shown as “Qfile-Android ” or “Qfile-iPhone”.

iii. If users move or copy files to the Qsync folder in the File Station, the name of the device will be shown as “Qsync-File Station”.



Devices

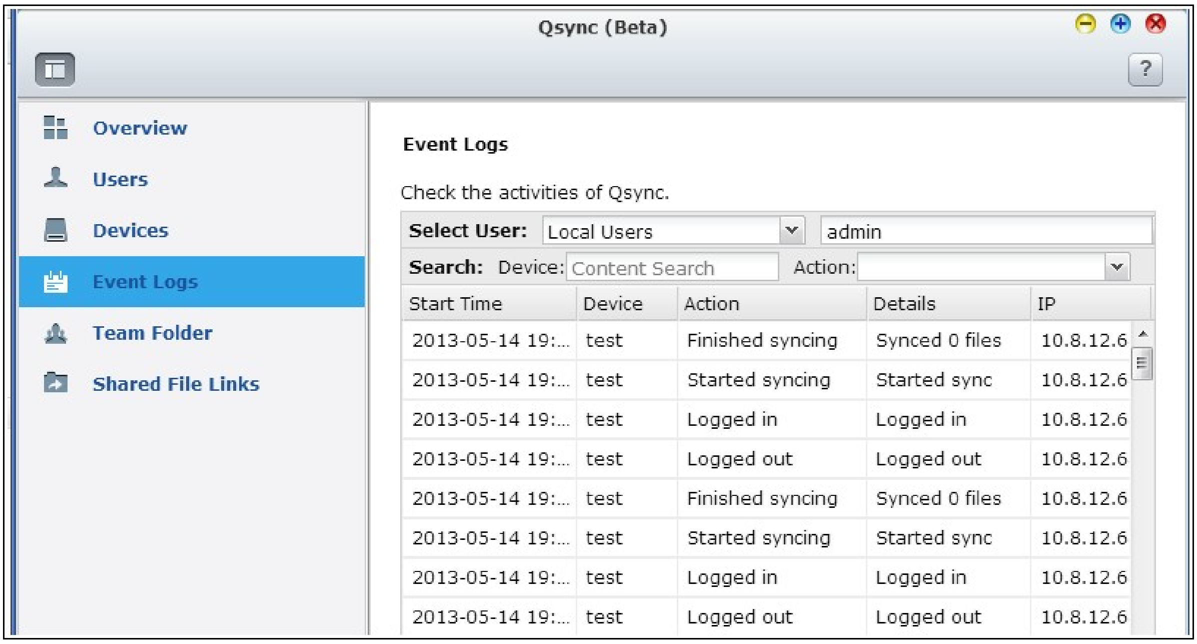
You can check the connection status of devices from the list below.

Select User: Local Users | admin

Search: Device: Content Search

Devices	IP	Latest Event	Event Time	Connection	Action
ALEX	10.8.12.53	Logged out	2013-05-08 20:13:07	Disconnect	
JO-VAIO	192.168.68.34	Logged out	2013-05-09 20:10:14	Disconnect	
Qfile-iPad	10.8.12.18	Logged in	2013-05-13 18:36:27	Disconnect	
Qsync-File Station	10.8.12.68	Logged in	2013-05-13 16:51:46	Disconnect	
TEST1225	10.8.12.76	Finished synci...	2013-05-13 17:56:10	Connect (...	
USER-PC	127.0.0.1	Finished synci...	2013-05-14 17:58:02	Connect (...	
test	10.8.12.68	Finished synci...	2013-05-14 19:18:46	Connect (...	

4. Event Logs: List the activity details by each user.



Event Logs

Check the activities of Qsync.

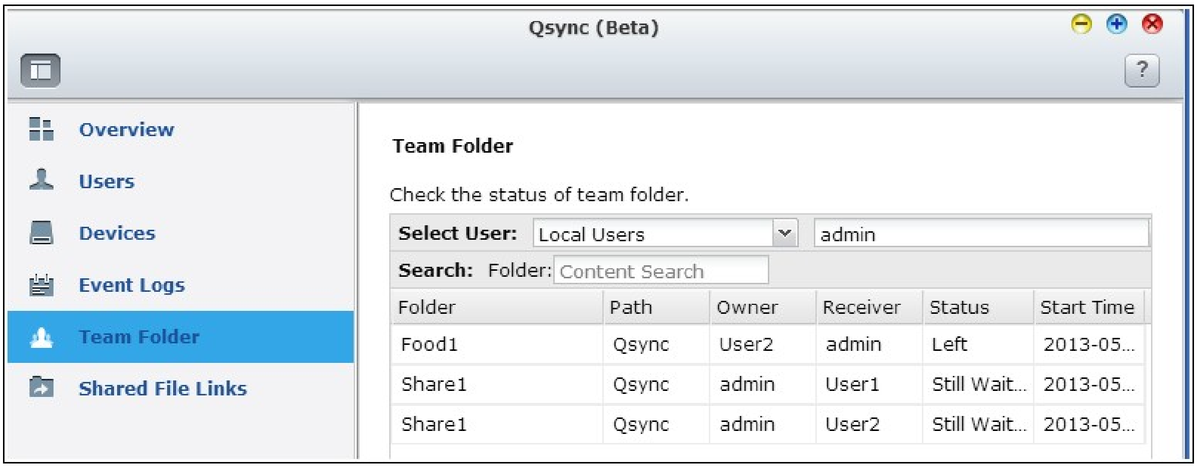
Select User: Local Users | admin

Search: Device: Content Search Action:

Start Time	Device	Action	Details	IP
2013-05-14 19:...	test	Finished syncing	Synced 0 files	10.8.12.6
2013-05-14 19:...	test	Started syncing	Started sync	10.8.12.6
2013-05-14 19:...	test	Logged in	Logged in	10.8.12.6
2013-05-14 19:...	test	Logged out	Logged out	10.8.12.6
2013-05-14 19:...	test	Finished syncing	Synced 0 files	10.8.12.6
2013-05-14 19:...	test	Started syncing	Started sync	10.8.12.6
2013-05-14 19:...	test	Logged in	Logged in	10.8.12.6
2013-05-14 19:...	test	Logged out	Logged out	10.8.12.6

5. Team folder: List the status of the team folder, including folders that you shared

and are shared by others.



Team Folder

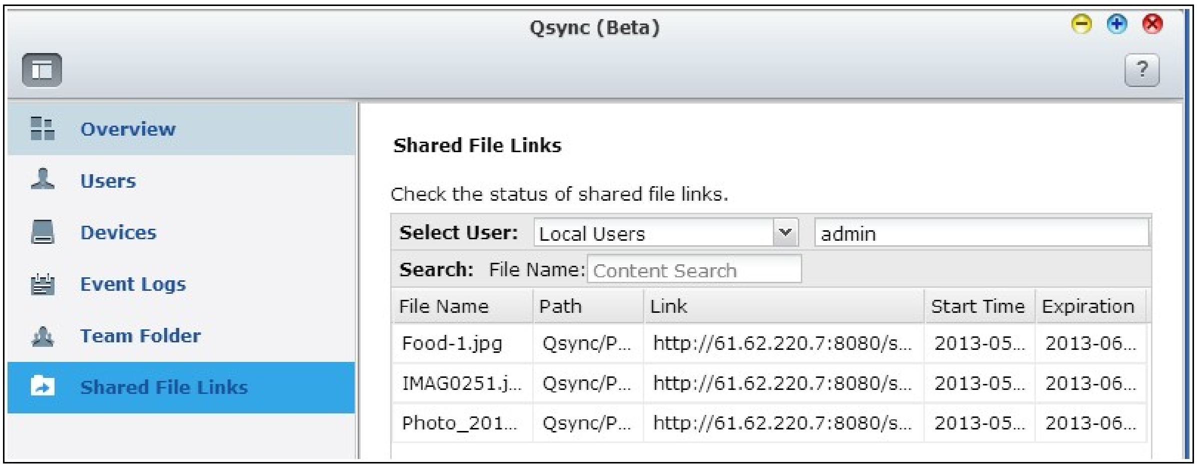
Check the status of team folder.

Select User: Local Users admin

Search: Folder: Content Search

Folder	Path	Owner	Receiver	Status	Start Time
Food1	Qsync	User2	admin	Left	2013-05...
Share1	Qsync	admin	User1	Still Wait...	2013-05...
Share1	Qsync	admin	User2	Still Wait...	2013-05...

6. Shared File Links: List the status of shared links.



Shared File Links

Check the status of shared file links.

Select User: Local Users admin

Search: File Name: Content Search

File Name	Path	Link	Start Time	Expiration
Food-1.jpg	Qsync/P...	http://61.62.220.7:8080/s...	2013-05...	2013-06...
IMAG0251.j...	Qsync/P...	http://61.62.220.7:8080/s...	2013-05...	2013-06...
Photo_201...	Qsync/P...	http://61.62.220.7:8080/s...	2013-05...	2013-06...

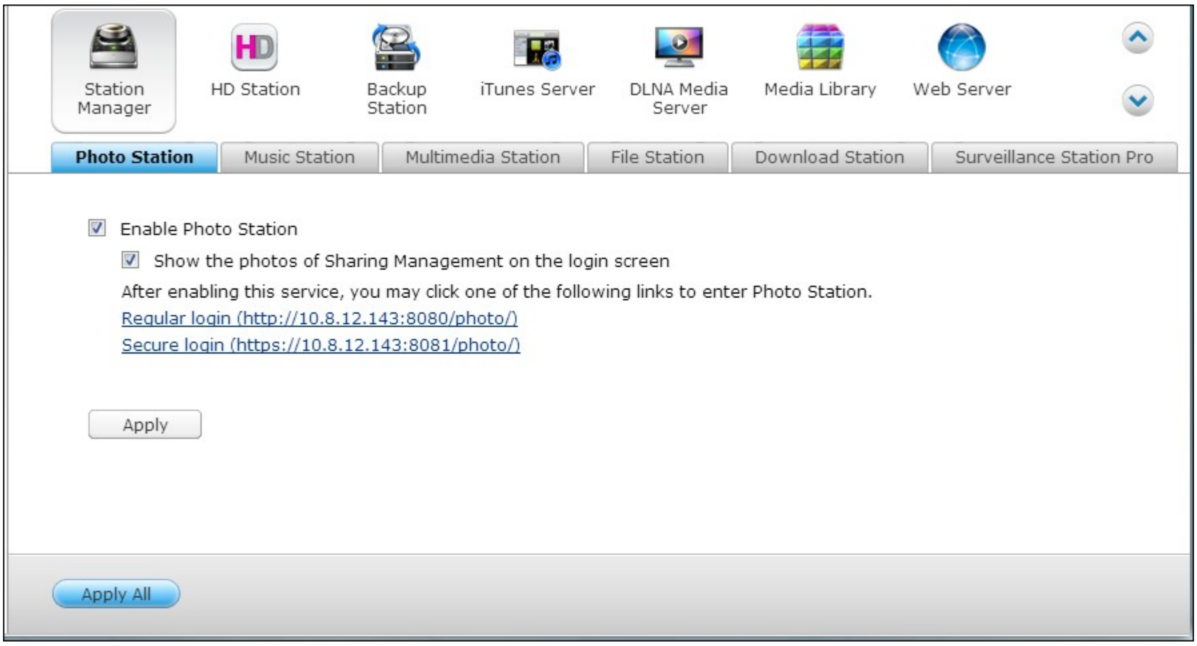
7. Applications

7.1 Station Manager

The Station Manager is an integrated control panel for all QNAP Stations and they can be enabled or disabled here.

Photo Station

Check "Enable Photo Station" to enable this station and click the links below to directly login to the application.



☑ Enable Photo Station

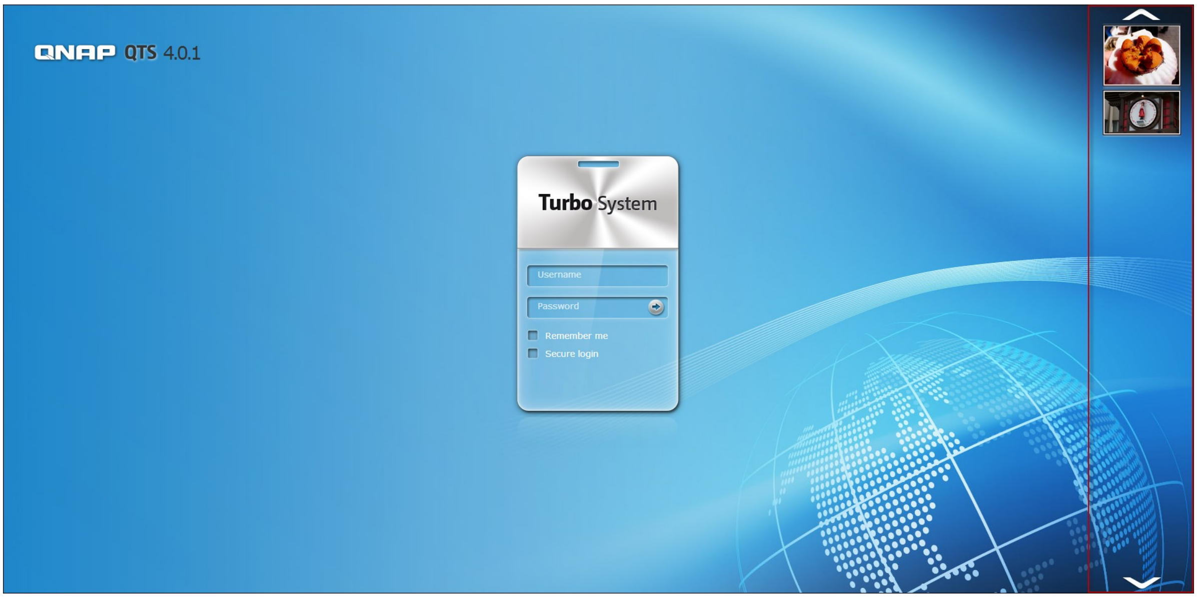
☑ Show the photos of Sharing Management on the login screen

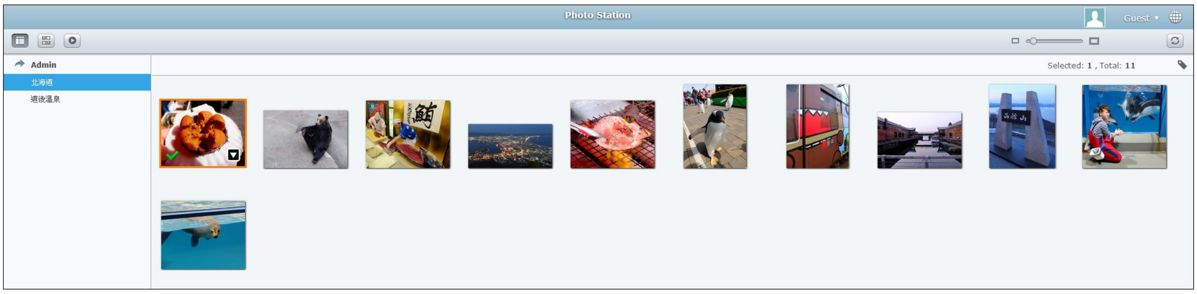
After enabling this service, you may click one of the following links to enter Photo Station.

Regular login (http://10.8.12.143:8080/photo/)

Secure login (https://10.8.12.143:8081/photo/)

Check "Show the photos of Sharing Management on the login screen" to display photo albums on the login page. This will allow users to directly view the photos of the chosen album as a guest.





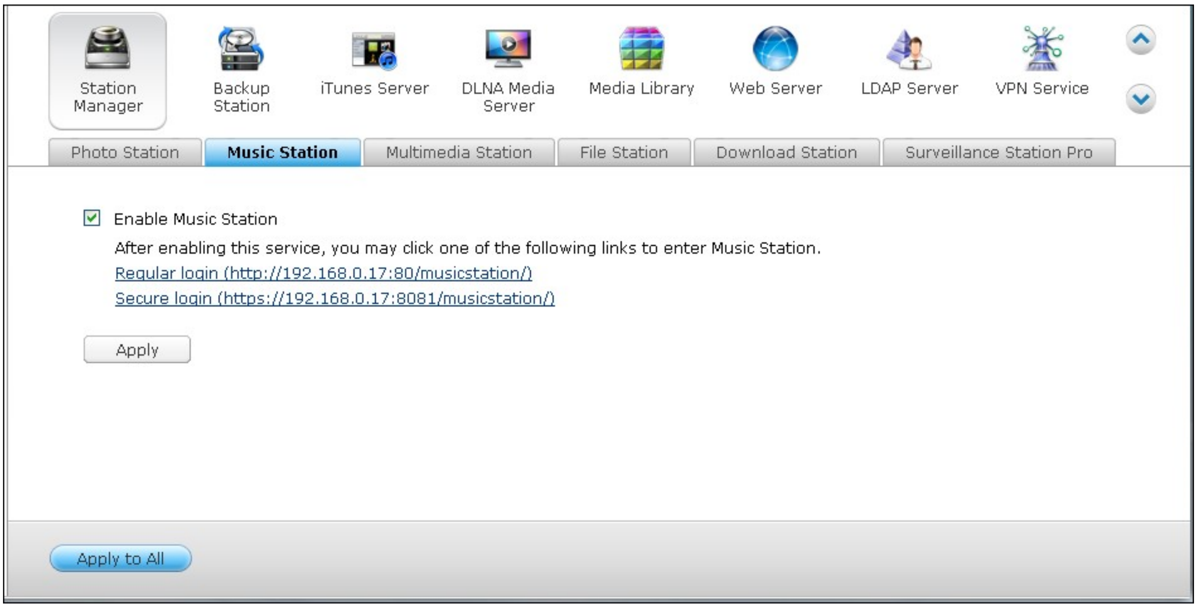
Please note that the Photo Station can only be launched after it is enabled in the Station Manager.

For details on the Photo Station, please refer to the chapter on Photo Station 623.

Note: Photo Station 2 will remain installed after the NAS firmware is upgraded to QTS 4.0.

Music Station

Check "Enable Music Station" to enable this station and click the links below to directly login to the application.



☑ Enable Music Station

After enabling this service, you may click one of the following links to enter Music Station.

Regular login (http://192.168.0.17:80/musicstation/)

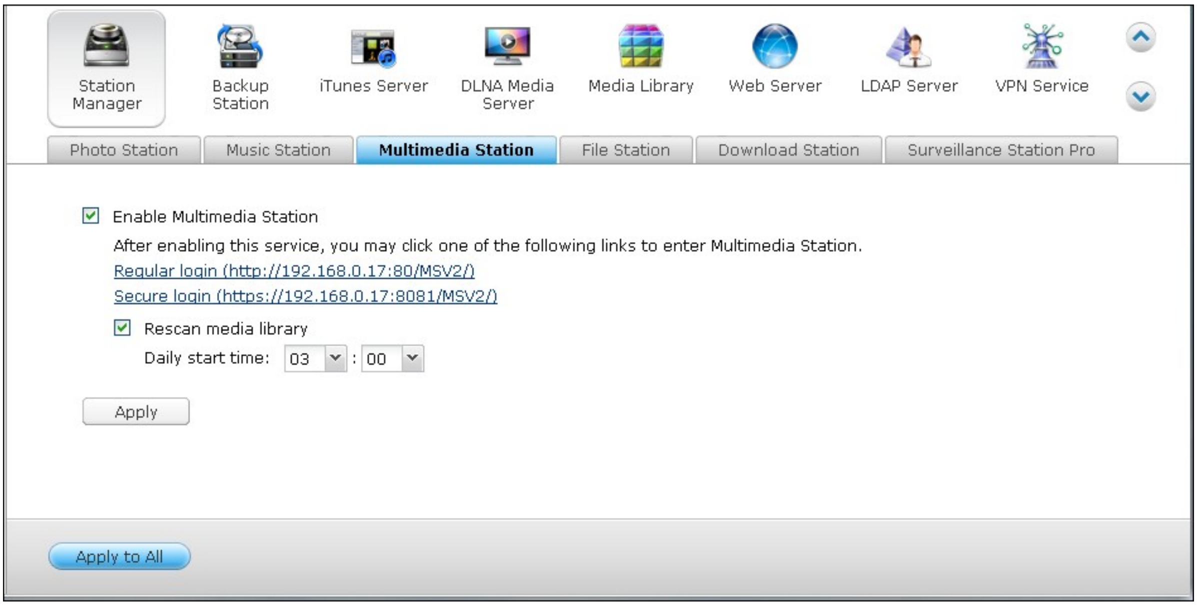
Secure login (https://192.168.0.17:8081/musicstation/)

Please note that the Music Station can only be launched after it is enabled in the Station Manager.

For details on the Music Station, please refer to the chapter on Music Station 638.

Multimedia Station

Check “Enable Multimedia Station” to enable this station and click the links below to directly login to the application.



☑ Enable Multimedia Station

After enabling this service, you may click one of the following links to enter Multimedia Station.

Regular login (http://192.168.0.17:80/MSV2/)

Secure login (https://192.168.0.17:8081/MSV2/)

☑ Rescan media library

Daily start time: 03 : 00

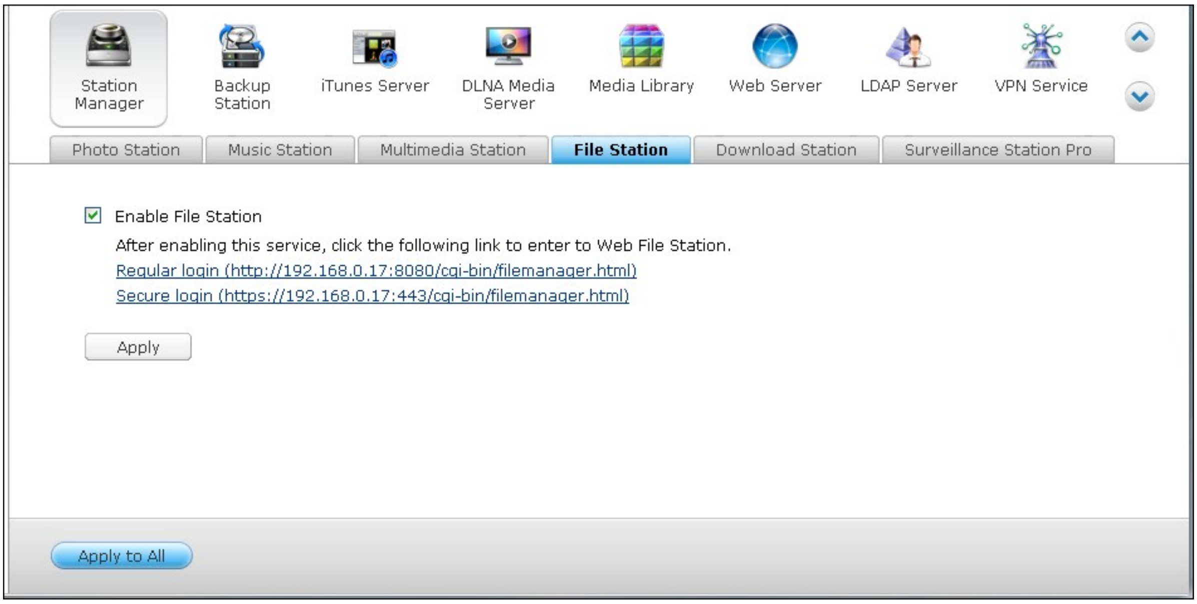
To schedule routine scans on the Media Library, check “Rescan Media Library” and specify the start time for the daily scan.

Please note that the Music Station can only be launched after it is enabled in the Station Manager.

For details on the Multimedia Station, please refer to the chapter on Multimedia Station 644.

File Station

Check “Enable File Station” to enable this station and click the links below to directly login into the application.



☑ Enable File Station

After enabling this service, click the following link to enter to Web File Station.

Regular login (http://192.168.0.17:8080/cgi-bin/filemanager.html)

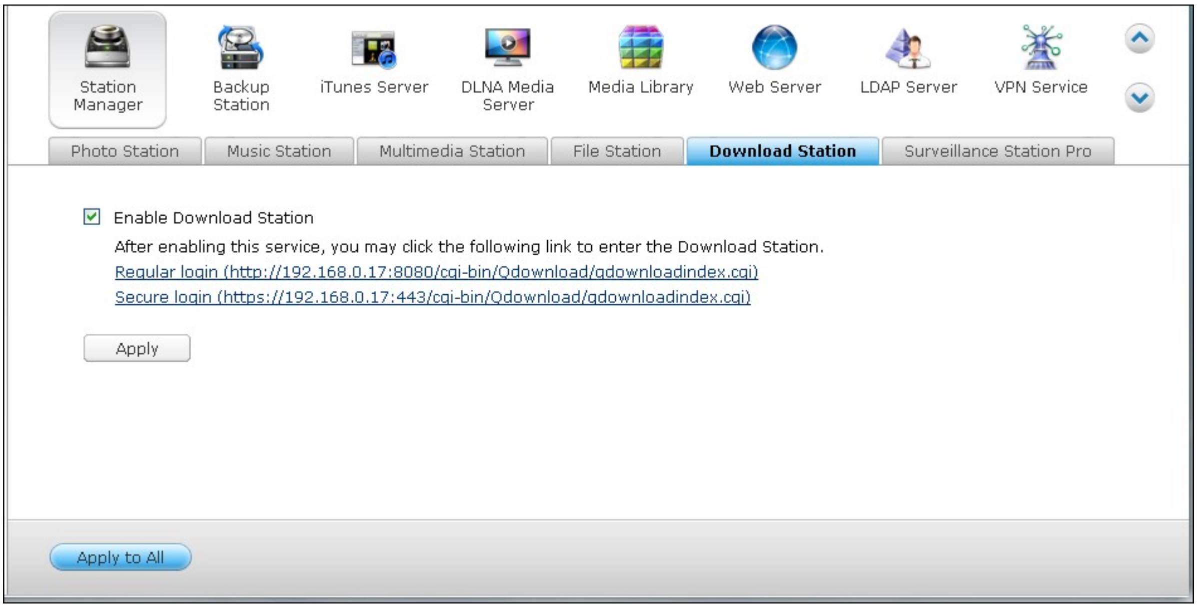
Secure login (https://192.168.0.17:443/cgi-bin/filemanager.html)

Please note that the File Station can only be launched after it is enabled in the Station Manager.

For details on the File Station, please refer to the chapter on File Station 599.

Download Station

Check “Enable Download Station” to enable this station and click the links below to directly login to the application.



☑ Enable Download Station

After enabling this service, you may click the following link to enter the Download Station.

Regular login (http://192.168.0.17:8080/cgi-bin/Qdownload/qdownloadindex.cgi)

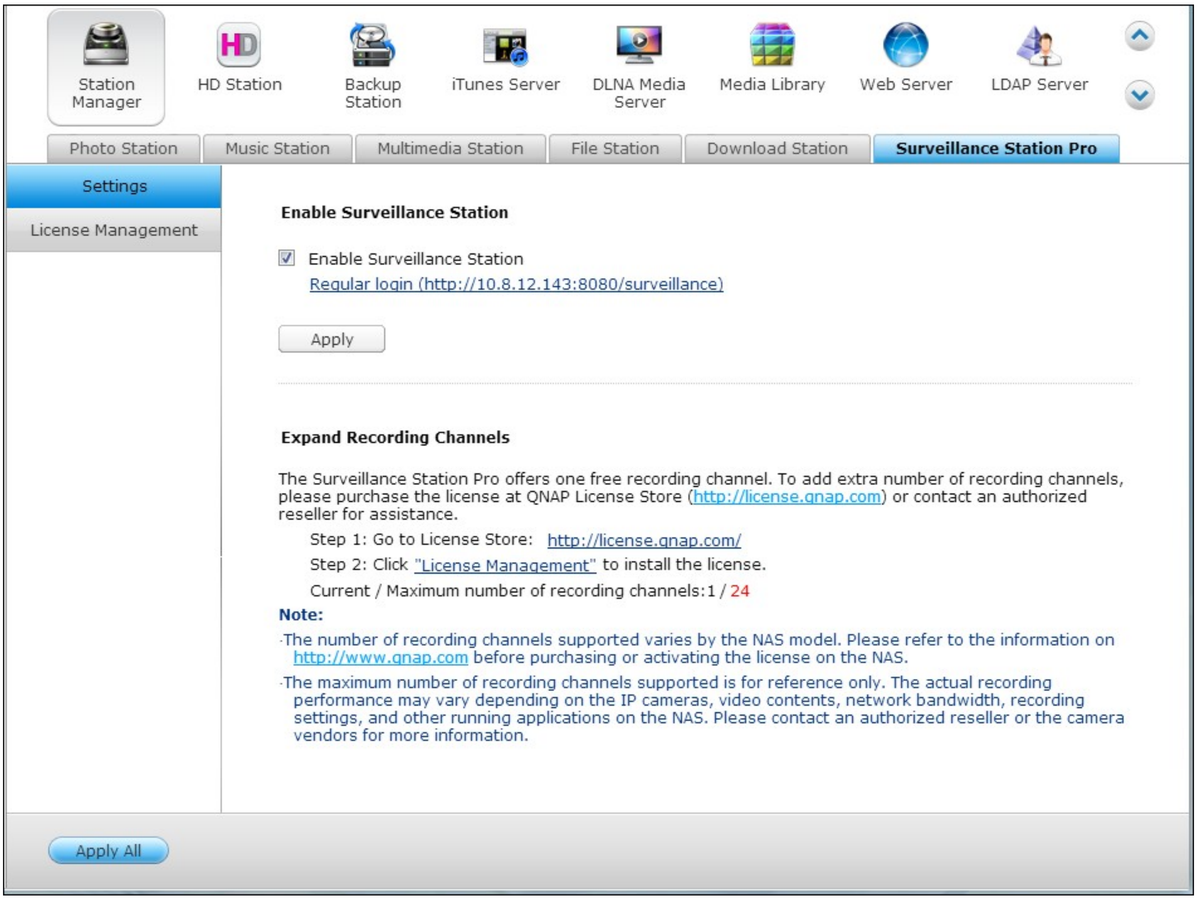
Secure login (https://192.168.0.17:443/cgi-bin/Qdownload/qdownloadindex.cgi)

Please note that the Download Station can only be launched after it is enabled in the Station Manager.

For details on the Download Station, please refer to the chapter on Download Station 672.

Surveillance Station Pro

Check "Enable Surveillance Station" under "Settings" to enable this station and click the links below to directly login to the application.



Enable Surveillance Station

☑ Enable Surveillance Station
Regular login (http://10.8.12.143:8080/surveillance)

Expand Recording Channels

The Surveillance Station Pro offers one free recording channel. To add extra number of recording channels, please purchase the license at QNAP License Store (http://license.qnap.com) or contact an authorized reseller for assistance.

Step 1: Go to License Store: http://license.qnap.com/
Step 2: Click "License Management" to install the license.
Current / Maximum number of recording channels:1 / 24

Note:

·The number of recording channels supported varies by the NAS model. Please refer to the information on http://www.qnap.com before purchasing or activating the license on the NAS.

·The maximum number of recording channels supported is for reference only. The actual recording performance may vary depending on the IP cameras, video contents, network bandwidth, recording settings, and other running applications on the NAS. Please contact an authorized reseller or the camera vendors for more information.

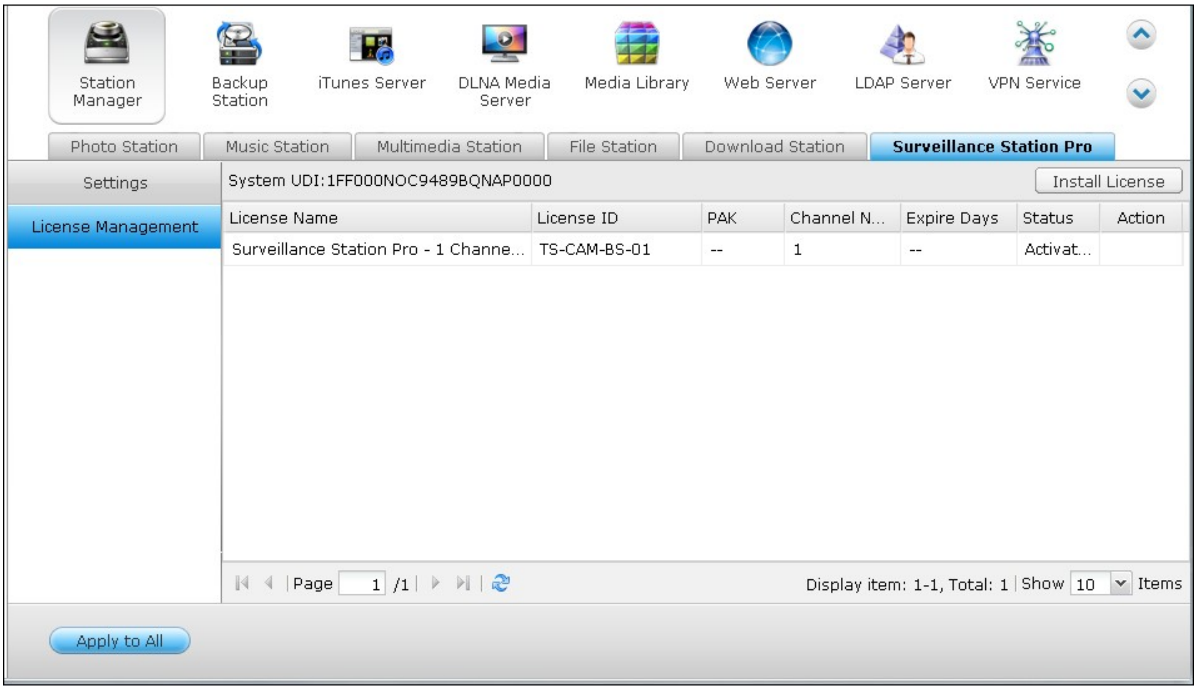
The Surveillance Station Pro offers one free recording channel. To add extra recording channels, please purchase the license at QNAP License Store (http://license.qnap.com) or contact the authorized reseller at your region for details.

Note:

- The number of recording channels supported varies by the NAS model. Please refer to the QNAP License Store (http://license.qnap.com/) for details before purchasing or activating the license on the NAS.
- The maximum number of recording channels supported is for reference only. The actual recording performance may vary depending on the IP cameras, video contents, network bandwidth, recording settings, and other applications running on the NAS. Please contact an authorized reseller or camera vendors for more information.

- For step-by-step tutorial on adding extra channels, please refer to the QNAP website (Resource > Tutorials > “How to support additional recording channels on Surveillance Station Pro?”).
- Windows users are advised to use IE 10, Chrome or Firefox for live view and playback operations.
- Mac users are recommended to use QNAP Surveillance Client for Mac for live view and playback operations. QNAP Surveillance Client for Mac can be downloaded at http://www.qnap.com/download.

To check on license details, switch to the “License Management” page.



System UDI:1FF000NOC9489BQNAP0000

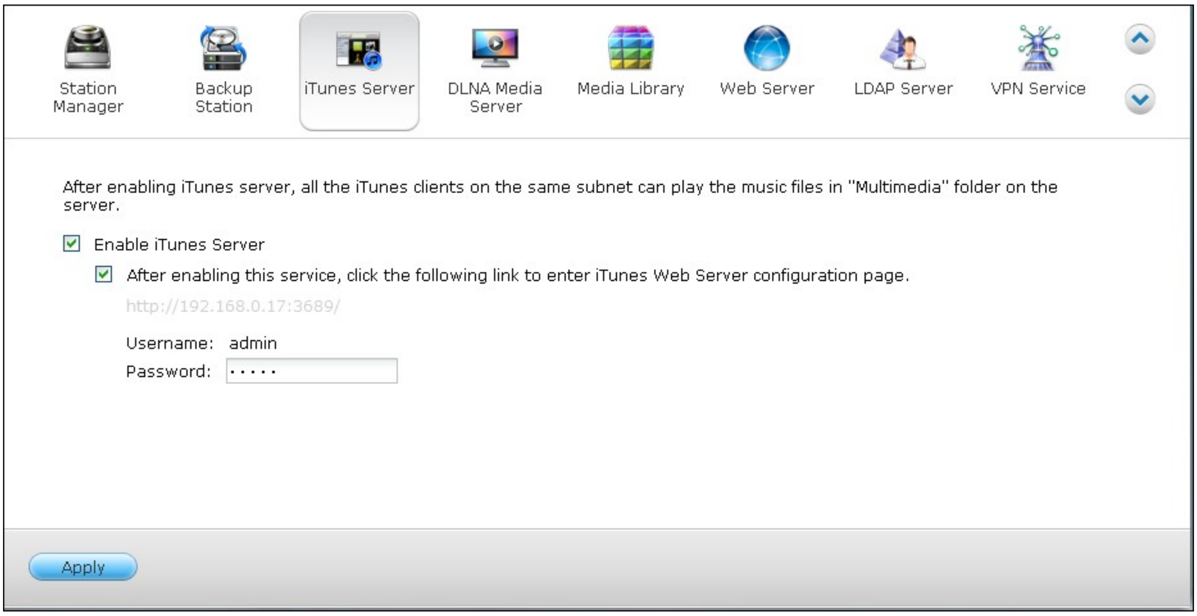
License Name	License ID	PAK	Channel N...	Expire Days	Status	Action
Surveillance Station Pro - 1 Channe...	TS-CAM-BS-01	--	1	--	Activat...	

Page 1 /1 Display item: 1-1, Total: 1 Show 10 Items

7.2 iTunes Server

The MP3 files on the Qmultimedia/Multimedia folder of the NAS can be shared to iTunes by this service. All the computers with iTunes installed on LAN are able to find, browse, and play the shared music files on the NAS.

To use iTunes Server, install iTunes (www.apple.com/itunes/) on your computer. Enable this feature and then upload the music files to the Qmultimedia/Multimedia folder of the NAS.



After enabling iTunes server, all the iTunes clients on the same subnet can play the music files in "Multimedia" folder on the server.

☑ Enable iTunes Server

☑ After enabling this service, click the following link to enter iTunes Web Server configuration page.

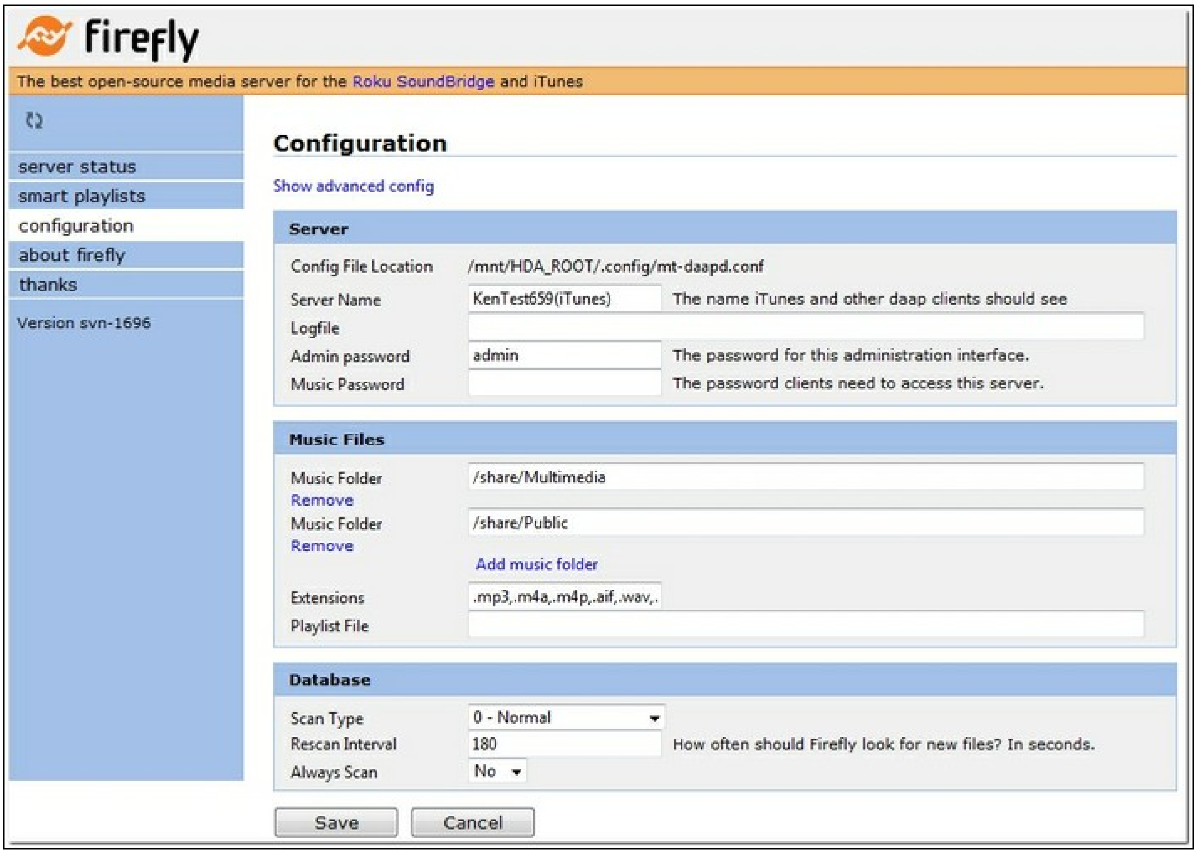
http://192.168.0.17:3689/

Username: admin

Password: •••••

Note: iTunes Server may be disabled or hidden on the following business models: TS-x70U, TS-x79 Pro and TS-x79U. To enable iTunes server, please refer to "System Administration" in the General Settings 87 section.

To configure the iTunes server settings and add smart playlists, login the web page of iTunes server:
http://NAS-IP:3689/index.html



Configuration

Show advanced config

Server

Config File Location /mnt/HDA_ROOT/.config/mt-daapd.conf
Server Name KenTest659(iTunes) The name iTunes and other daap clients should see
Logfile
Admin password admin The password for this administration interface.
Music Password The password clients need to access this server.

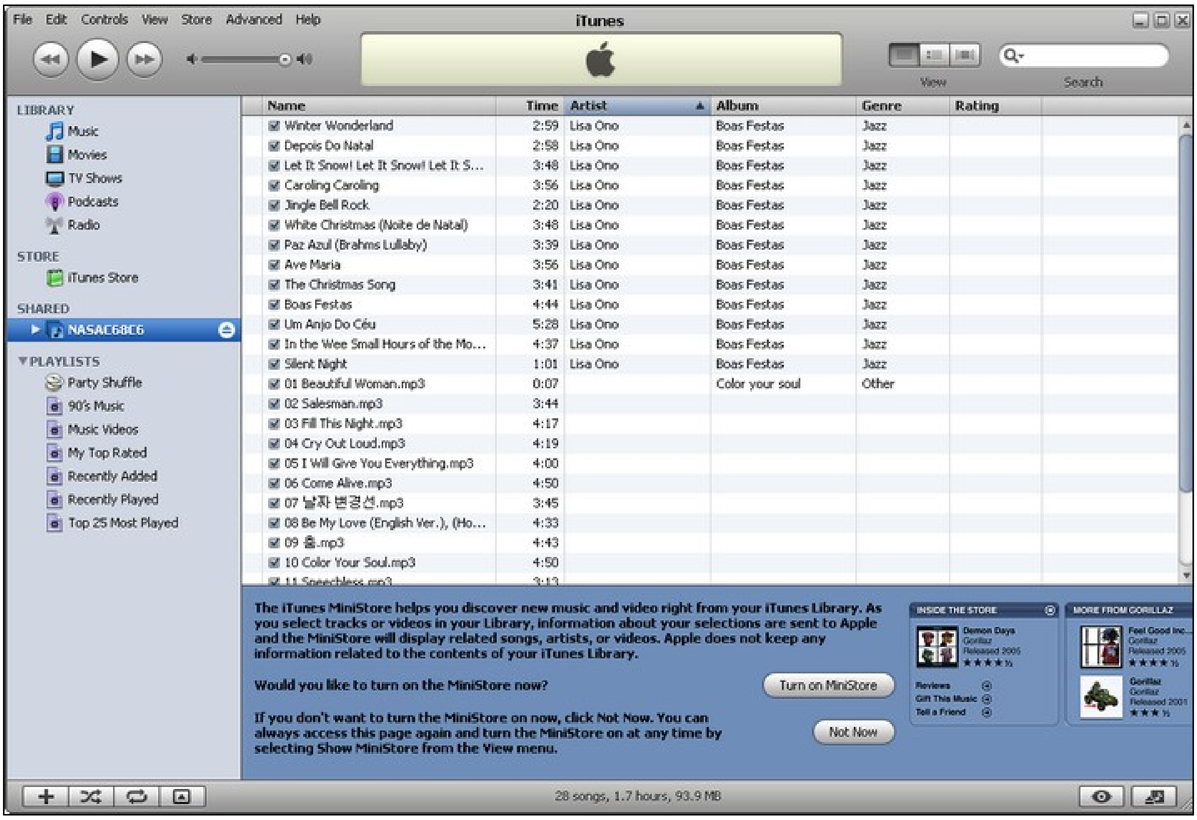
Music Files

Music Folder /share/Multimedia
Remove
Music Folder /share/Public
Remove
Add music folder
Extensions .mp3,.m4a,.m4p,.aif,.wav,.
Playlist File

Database

Scan Type 0 - Normal
Rescan Interval 180 How often should Firefly look for new files? In seconds.
Always Scan No

Connect the PC and the NAS to the same LAN and run iTunes on the PC. Find the NAS name under “SHARED” and start to play the music files or playlists.



Name	Time	Artist	Album	Genre	Rating
☑ Winter Wonderland	2:59	Lisa Ono	Boas Festas	Jazz	
☑ Depois Do Natal	2:58	Lisa Ono	Boas Festas	Jazz	
☑ Let It Snow! Let It Snow! Let It S...	3:48	Lisa Ono	Boas Festas	Jazz	
☑ Caroling Caroling	3:56	Lisa Ono	Boas Festas	Jazz	
☑ Jingle Bell Rock	2:20	Lisa Ono	Boas Festas	Jazz	
☑ White Christmas (Noite de Natal)	3:48	Lisa Ono	Boas Festas	Jazz	
☑ Paz Azul (Brahms Lullaby)	3:39	Lisa Ono	Boas Festas	Jazz	
☑ Ave Maria	3:56	Lisa Ono	Boas Festas	Jazz	
☑ The Christmas Song	3:41	Lisa Ono	Boas Festas	Jazz	
☑ Boas Festas	4:44	Lisa Ono	Boas Festas	Jazz	
☑ Um Anjo Do Céu	5:28	Lisa Ono	Boas Festas	Jazz	
☑ In the Wee Small Hours of the Mo...	4:37	Lisa Ono	Boas Festas	Jazz	
☑ Silent Night	1:01	Lisa Ono	Boas Festas	Jazz	
☑ 01 Beautiful Woman.mp3	0:07		Color your soul	Other	
☑ 02 Salesman.mp3	3:44				
☑ 03 Fill This Night.mp3	4:17				
☑ 04 Cry Out Loud.mp3	4:19				
☑ 05 I Will Give You Everything.mp3	4:00				
☑ 06 Come Alive.mp3	4:50				
☑ 07 날짜 변경선.mp3	3:45				
☑ 08 Be My Love (English Ver.), (Ho...	4:33				
☑ 09 술.mp3	4:43				
☑ 10 Color Your Soul.mp3	4:50				
☑ 11 Speechless.mp3	3:13				

The iTunes MiniStore helps you discover new music and video right from your iTunes Library. As you select tracks or videos in your Library, information about your selections are sent to Apple and the MiniStore will display related songs, artists, or videos. Apple does not keep any information related to the contents of your iTunes Library.

Would you like to turn on the MiniStore now?

If you don't want to turn the MiniStore on now, click Not Now. You can always access this page again and turn the MiniStore on at any time by selecting Show MiniStore from the View menu.

28 songs, 1.7 hours, 93.9 MB

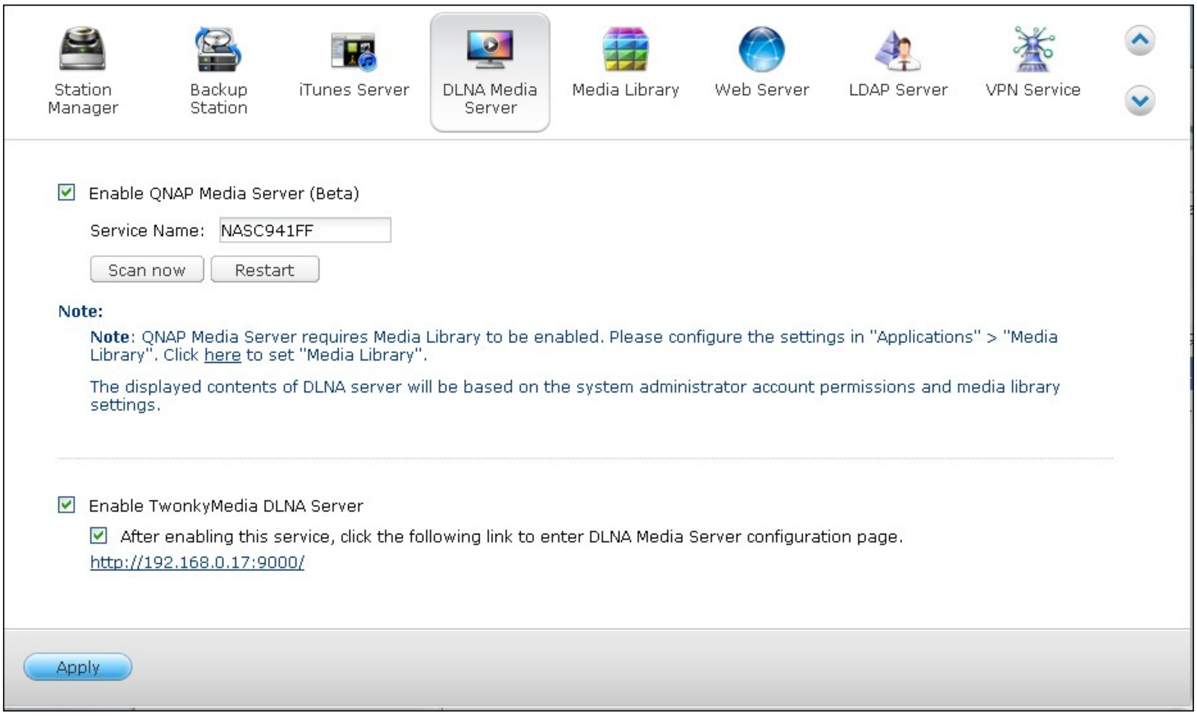
7.3 DLNA Media Server

QNAP Turbo NAS supports two types of DLNA Media Servers: QNAP Media Server and Twonky Media DLNA Server.

QNAP Media Server is developed by QNAP, while Twonky Media DLNA Server is a third party media server.

To allow DLNA media player to access and play the multimedia contents on the NAS via QNAP Media Server, enable QNAP Media Server and configure the Media Library for QNAP Media Server.

To allow DLNA media players to access and play the multimedia contents on the NAS via the Twonky Media DLNA Server, enable it and click the link (http://NAS IP:9000/) to enter the configuration page of the TwonkyMedia DLNA DLNA Media Server.



☑ Enable QNAP Media Server (Beta)

Service Name: NASC941FF

Scan now | Restart

Note:

Note: QNAP Media Server requires Media Library to be enabled. Please configure the settings in "Applications" > "Media Library". Click here to set "Media Library".

The displayed contents of DLNA server will be based on the system administrator account permissions and media library settings.

☑ Enable TwonkyMedia DLNA Server

☑ After enabling this service, click the following link to enter DLNA Media Server configuration page.

http://192.168.0.17:9000/

Click the link http://NAS IP:9000/. Go to "TwonkyMedia Settings" > "Basic Setup" to configure the basic server settings.

The contents on the Qmultimedia or Multimedia folder of the NAS will be shared to the digital media players by default. You can go to "Basic Setup" > "Sharing" > "Content Locations" to change the folder or add more folders.

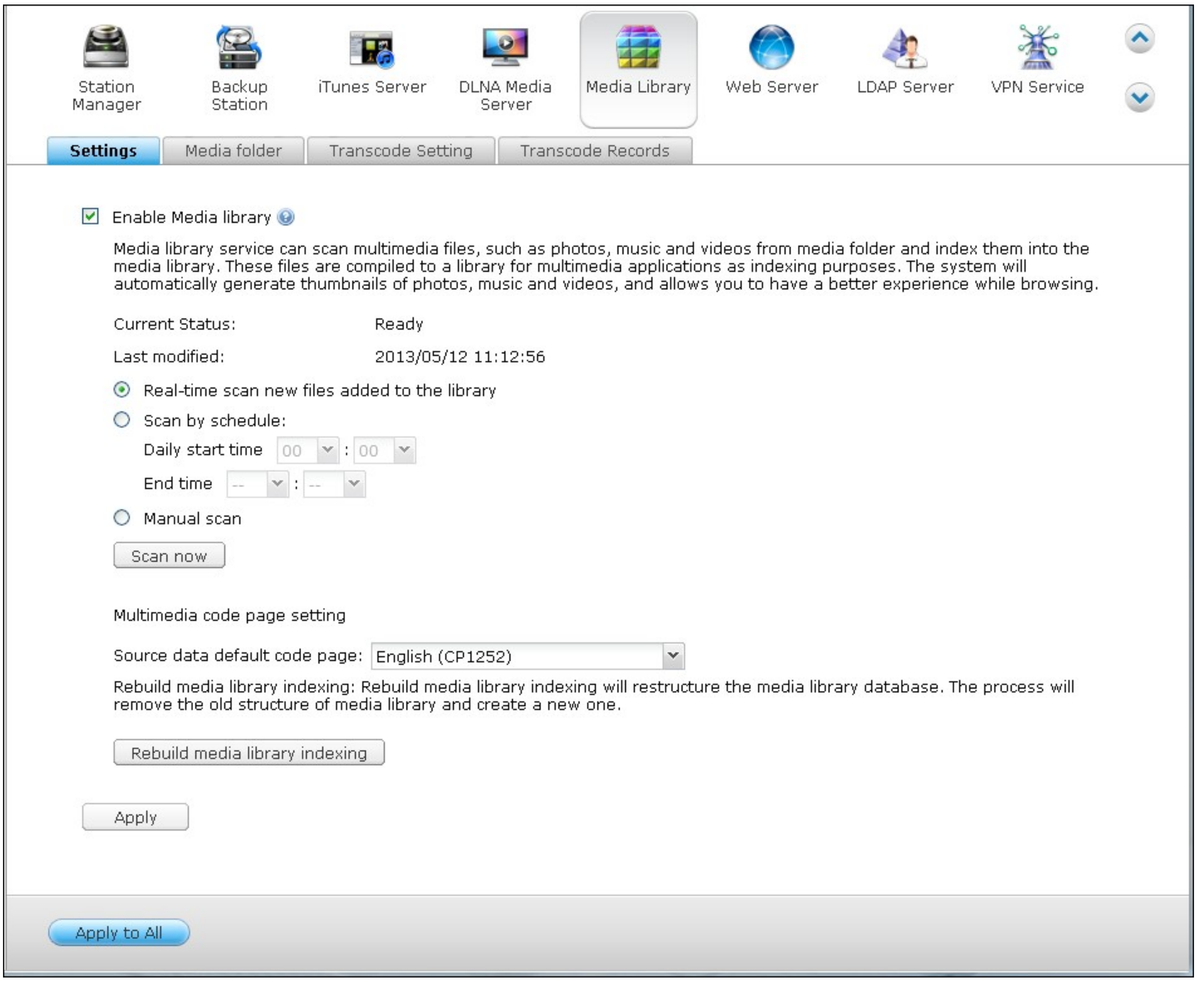
After configuring the settings, you can upload MP3, photos, or video files to the specified folders on the NAS.

Note: If you upload multimedia files to the default folder but the files are not shown on Media Player, click “Rescan content directories” or “Restart server” on the Media Server configuration page.

7.4 Media Library

The Media Library service can scan multimedia files, such as photos, music and videos from designated media folders and index them into the media library for their display in multimedia applications. Thumbnails of photos, music and videos will be automatically generated to enhance your user experience as you browse through multimedia files in their corresponding applications.

Settings



☑ Enable Media library

Media library service can scan multimedia files, such as photos, music and videos from media folder and index them into the media library. These files are compiled to a library for multimedia applications as indexing purposes. The system will automatically generate thumbnails of photos, music and videos, and allows you to have a better experience while browsing.

Current Status: Ready

Last modified: 2013/05/12 11:12:56

● Real-time scan new files added to the library

○ Scan by schedule:

Daily start time 00 : 00

End time -- : --

○ Manual scan

Scan now

Multimedia code page setting

Source data default code page: English (CP1252)

Rebuild media library indexing: Rebuild media library indexing will restructure the media library database. The process will remove the old structure of media library and create a new one.

Rebuild media library indexing

Apply

Apply to All

Check the "Enable Media Library" to enable this service.

Note:

- iTunes Server may be disabled or hidden on the following business models: x70U, x79 Pro and x79U. To enable iTunes server, please refer to "System Administration" in the General Settings 87 section.

- If the media library is not enabled, services like the Photo Station and Music Station, as well as the DLNA Media Server will not function properly.

Scan Setting:

Three options are provided for the media scan:

- Real-time scan: New files are scanned in real time as soon as they are added to the media folders.
- Scan by schedule: Here you can specify the start and end time for the scan, and it will be conducted automatically on a daily basis.
- Manual Scan: The scan only starts when “Scan now” is clicked.

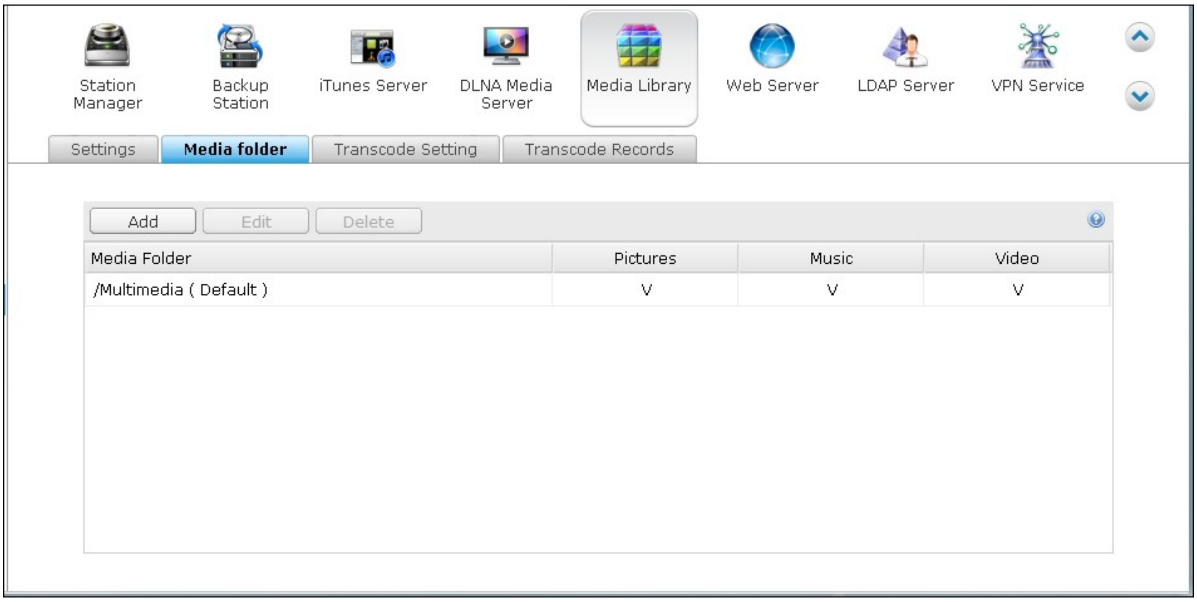
Multimedia code page setting:

Change this setting to the corresponding code page for non UTF media files for the NAS to display correct information in the associated applications.

Rebuild media library indexing:

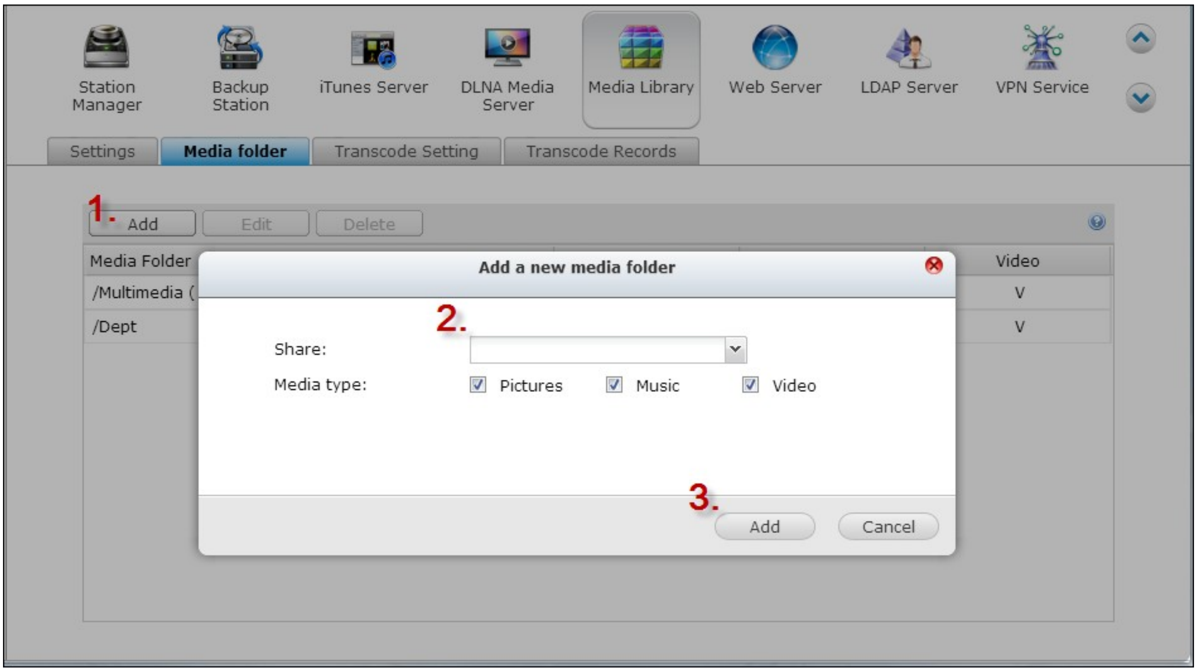
By rebuilding the media library, the NAS will scan the specified media folders and replace the existing library with a new library.

Media Folder



Media Folder	Pictures	Music	Video
/Multimedia (Default)	V	V	V

By default, there are two folders which will be scanned for multimedia files (Multimedia and Home). Click "Add" to add another folder to your media library.



Share:

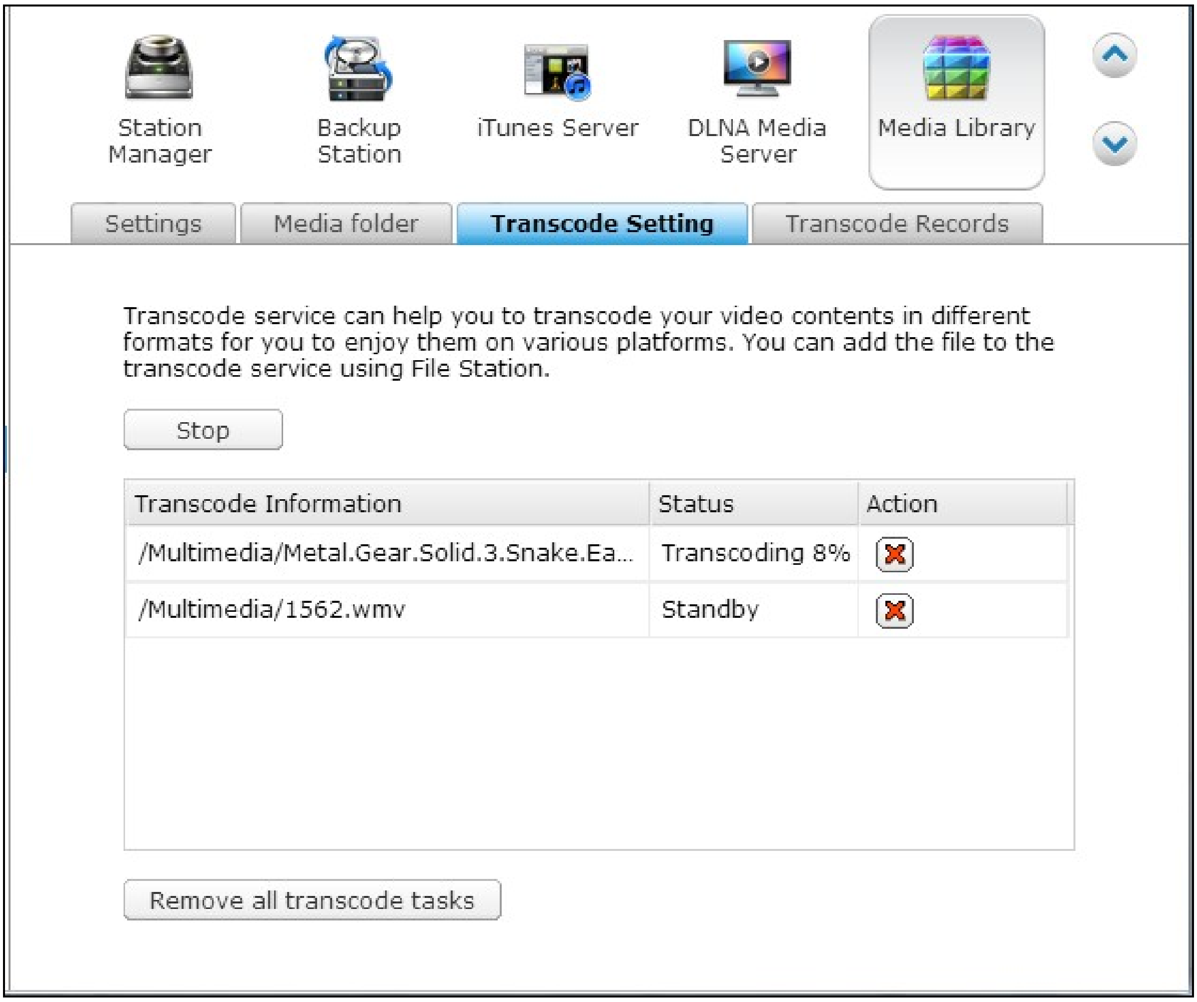
Media type: ☑ Pictures ☑ Music ☑ Video

The types of files which will be scanned include pictures, music or videos. Click "Add" to confirm the settings.

Click "Edit" to change the scanned file types and folder, and "Delete" to remove media folders from the list.

Transcode Setting

All ongoing transcoding tasks can be managed here. The transcoding service is enabled by default and can transcode video files to H.264 format (with MP4 extension) which can be played by most media players or smart phones. The video files will be converted into 240p, 360p and 720p resolutions for different devices.



Transcode service can help you to transcode your video contents in different formats for you to enjoy them on various platforms. You can add the file to the transcode service using File Station.

Transcode Information	Status	Action
/Multimedia/Metal.Gear.Solid.3.Snake.Ea...	Transcoding 8%	☒
/Multimedia/1562.wmv	Standby	☒

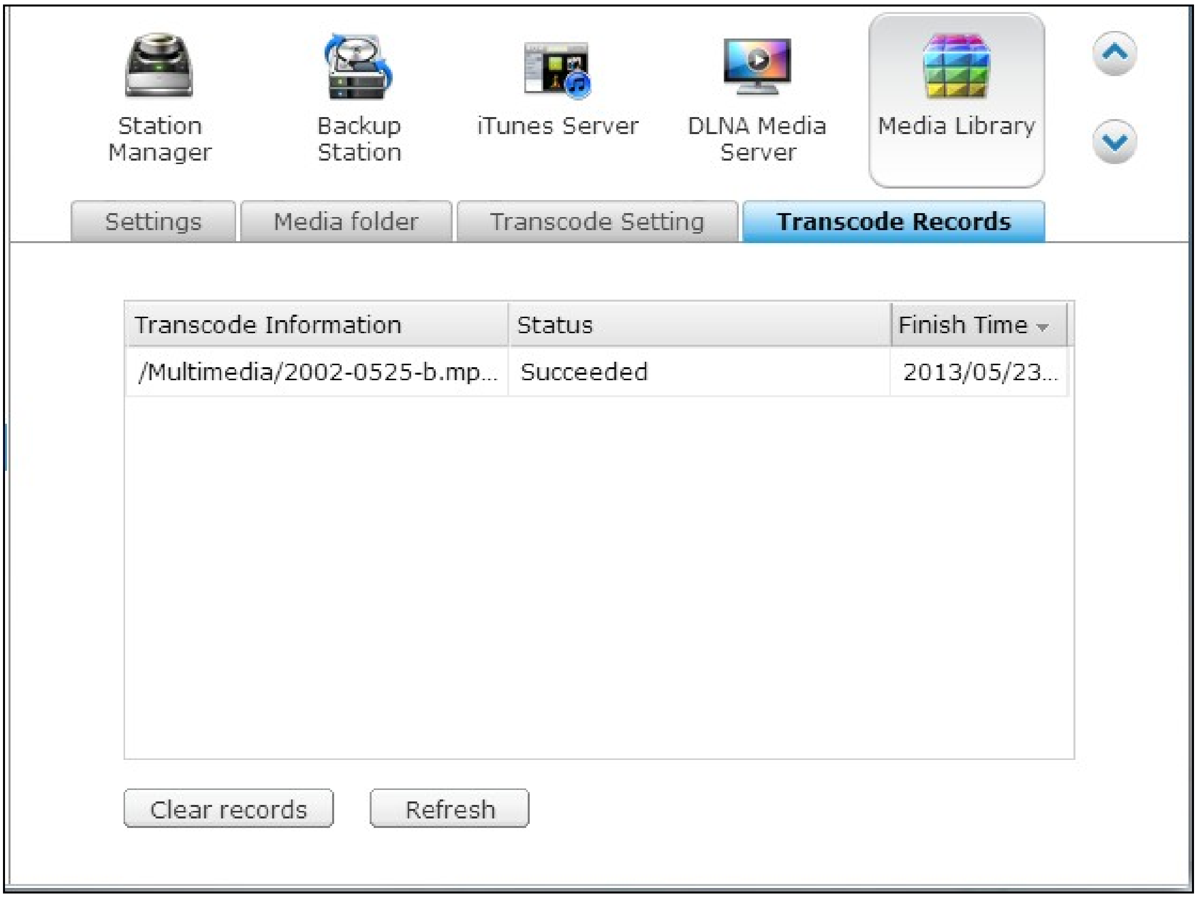
Click "Stop" to suspend all ongoing tasks in the list. Click "Remove all transcode tasks" to remove all tasks from the list.

Adjust the order each task is executed by clicking on ⬇|⬆ under the Action column and ☒ to remove the selected task from the list.

Note: You can manually add the files to transcode from the File Station.

Transcode Records

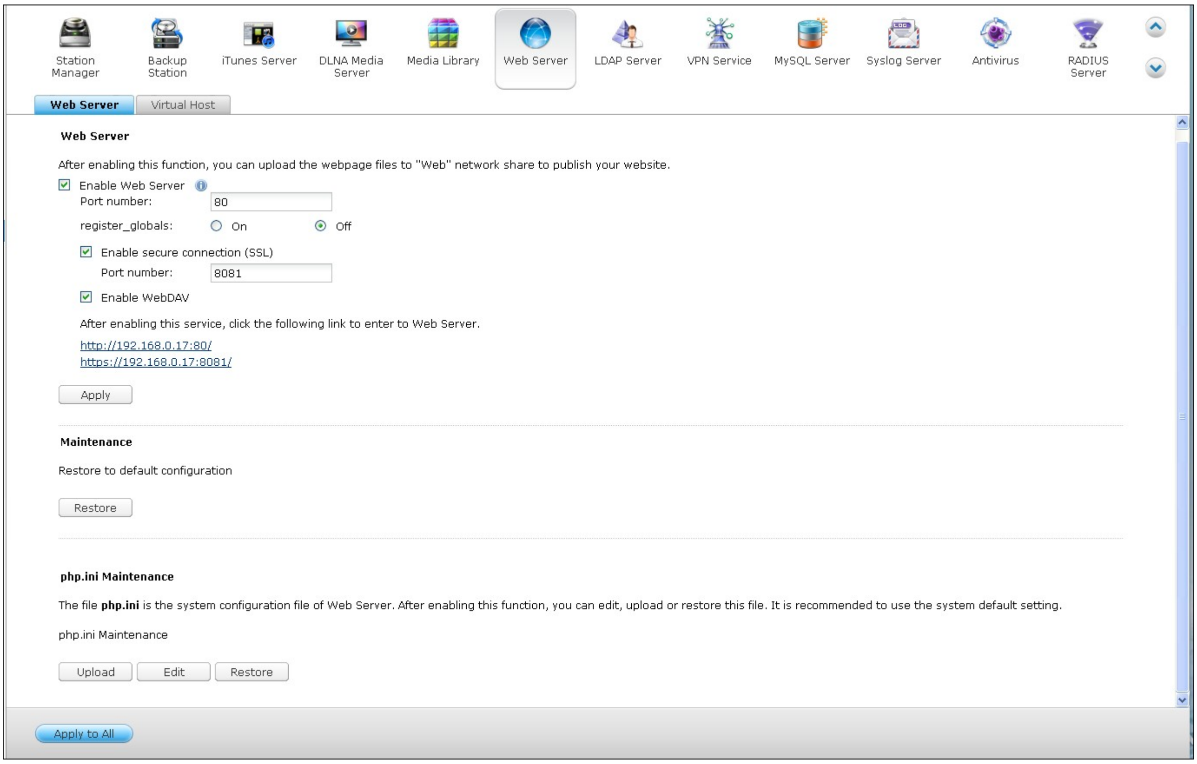
A list of transcoded video files, their status and the time the transcoding task is finished are listed here. Click "Clear records" to clear the history and "Refresh" to refresh the list.



Transcode Information	Status	Finish Time
/Multimedia/2002-0525-b.mp...	Succeeded	2013/05/23...

Web Server

The NAS supports Web Server for web sites creation and management. It also supports Joomla!, PHP and MySQL/SQLite to establish an interactive website.



Web Server

After enabling this function, you can upload the webpage files to "Web" network share to publish your website.

☑ Enable Web Server
Port number: 80
register_globals: ○ On ● Off
☑ Enable secure connection (SSL)
Port number: 8081
☑ Enable WebDAV

After enabling this service, click the following link to enter to Web Server.
http://192.168.0.17:80/
https://192.168.0.17:8081/

Apply

Maintenance

Restore to default configuration

Restore

php.ini Maintenance

The file **php.ini** is the system configuration file of Web Server. After enabling this function, you can edit, upload or restore this file. It is recommended to use the system default setting.

php.ini Maintenance

Upload Edit Restore

Apply to All

To use the Web Server, follow the steps below.

1. Enable the service and enter the port number. The default number is 80.

2. Configure other settings:
   a. Configure register_globals: Select to enable or disable register_globals. The setting is disabled by default. When the web program prompts you to enable php register_globals, enable this option. However, for system security concern, it is recommended to turn this option off.
   b. Maintenance: Click “Restore” to restore web server configuration to default.
   c. php.ini Maintenance: Select the option “php.ini Maintenance” and choose to upload, edit or restore php.ini.

3. Secure Connection (SSL): Enter the port number for SSL connection.

4. Upload the HTML files to the shared folder (Qweb/Web) on the NAS. The file index.html, index.htm or index.php will be the home path of your web page.

5. You can access the web page you upload by entering http://NAS IP/ in the web browser. Note that when Web Server is enabled, you have to enter http://NAS IP:8080 in your web browser to access the login page of the NAS.

Note:

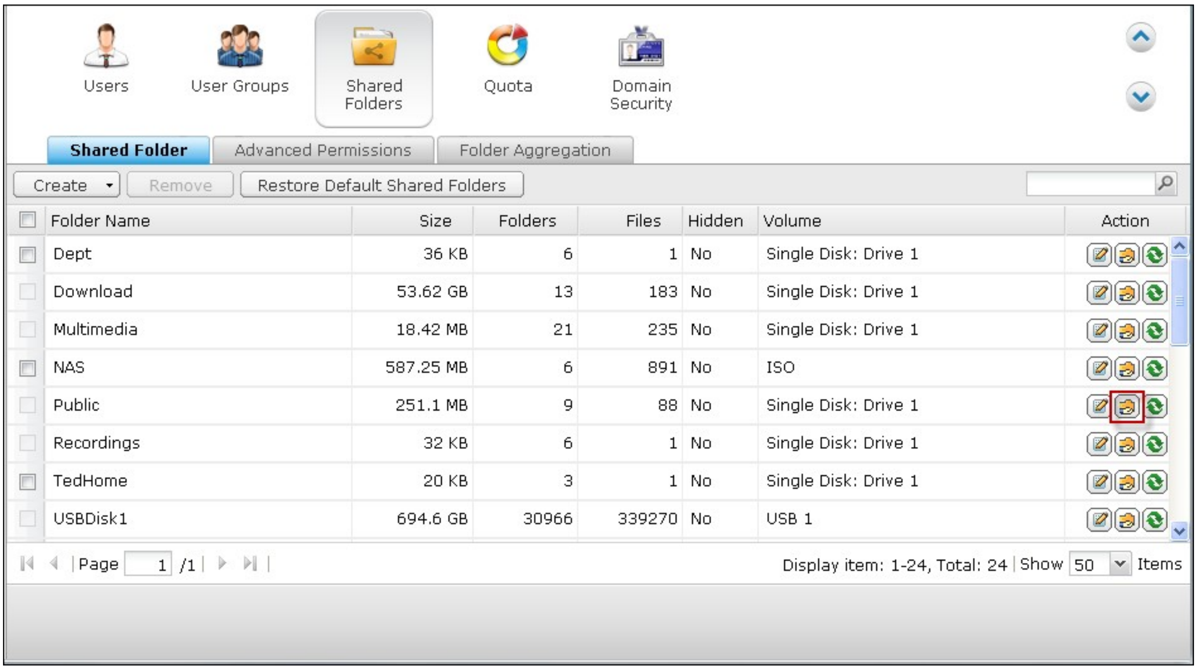
- Please be reminded that Please note that after the Web Server is disabled, all relevant applications, including the Music Station, Photo Station, Happy Get, or QAirplay will become unavailable.
- To use PHP mail(), go to "System Settings" > "Notification" > "SMTP Server" and configure the SMTP server settings.

WebDAV

WebDAV (Web-based Distributed Authoring and Versioning) is a set of extensions to the HTTP(S) protocol that allow the users to edit and manage the files collaboratively on the remote World Wide Web servers. After turning on this function, you can map theshared folders of your NAS as the network drives of a remote PC over the Internet. To edit the access right settings, go to "Privilege Settings" > "Shared Folders" page.

Note: Currently, the WebDAV feature supports NAS user accounts only and AD and LDAP user accounts are not supported.

To map a shared folder on the NAS as a network drive of your PC, turn on WebDAV and follow the steps below.
Go to "Privilege Settings" > "Shared Folders". Click the "Access Permission" button for the designated folder under the "Action" column .

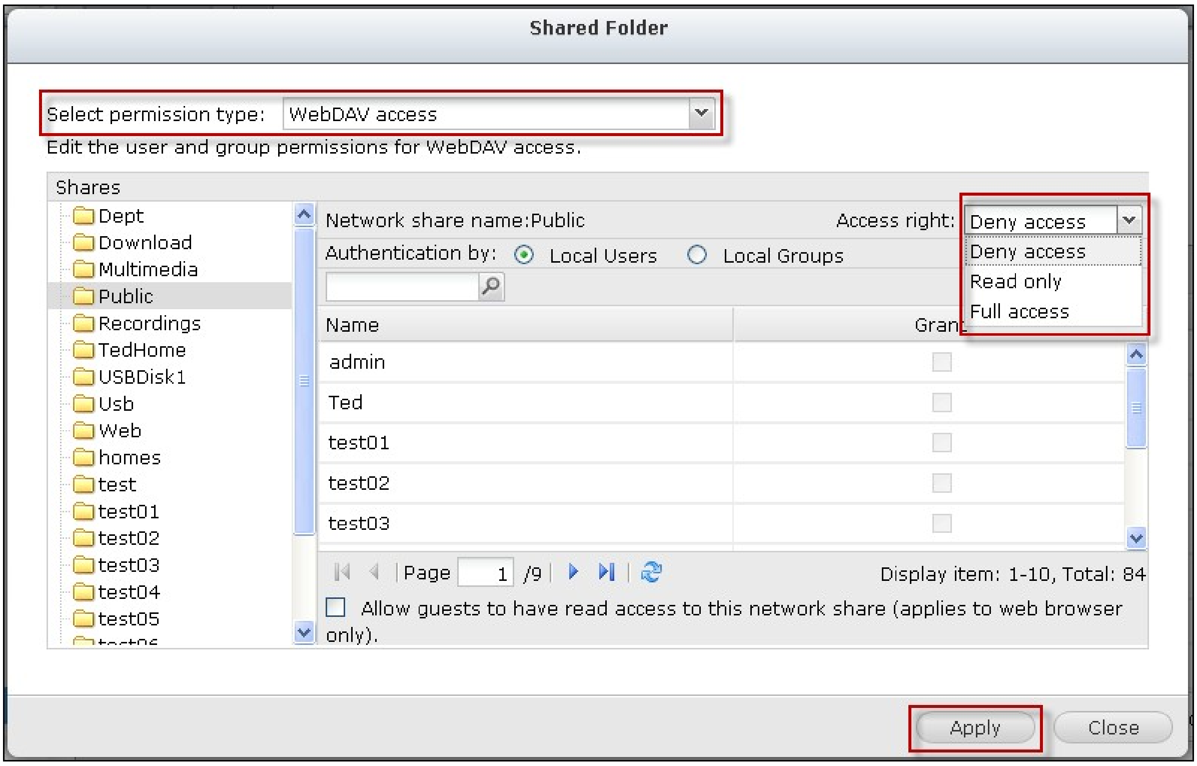


□	Folder Name	Size	Folders	Files	Hidden	Volume	Action
□	Dept	36 KB	6	1	No	Single Disk: Drive 1	
□	Download	53.62 GB	13	183	No	Single Disk: Drive 1	
□	Multimedia	18.42 MB	21	235	No	Single Disk: Drive 1	
□	NAS	587.25 MB	6	891	No	ISO	
□	Public	251.1 MB	9	88	No	Single Disk: Drive 1	
□	Recordings	32 KB	6	1	No	Single Disk: Drive 1	
□	TedHome	20 KB	3	1	No	Single Disk: Drive 1	
□	USBDisk1	694.6 GB	30966	339270	No	USB 1	

Page 1 /1

Display item: 1-24, Total: 24 | Show 50 Items

Select "WebDAV access" from the dropdown menu on top of the page and specify the access right. Choose the authentication level or scroll down to search for the account to grant its access rights. Click "Apply" and all settings are complete.



Shared Folder

Select permission type: WebDAV access

Edit the user and group permissions for WebDAV access.

Network share name:Public

Access right: Deny access

Authentication by: ● Local Users ○ Local Groups

Name	Grant
admin	□
Ted	□
test01	□
test02	□
test03	□

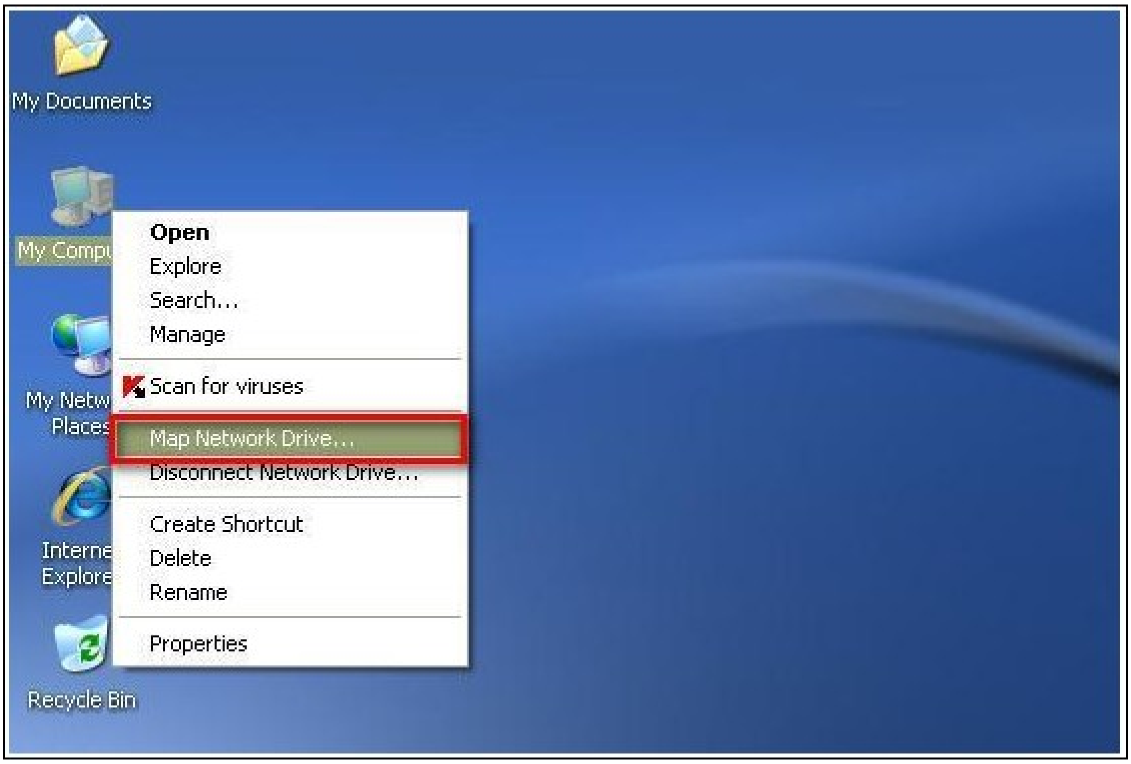
Page 1 /9 Display item: 1-10, Total: 84

□ Allow guests to have read access to this network share (applies to web browser only).

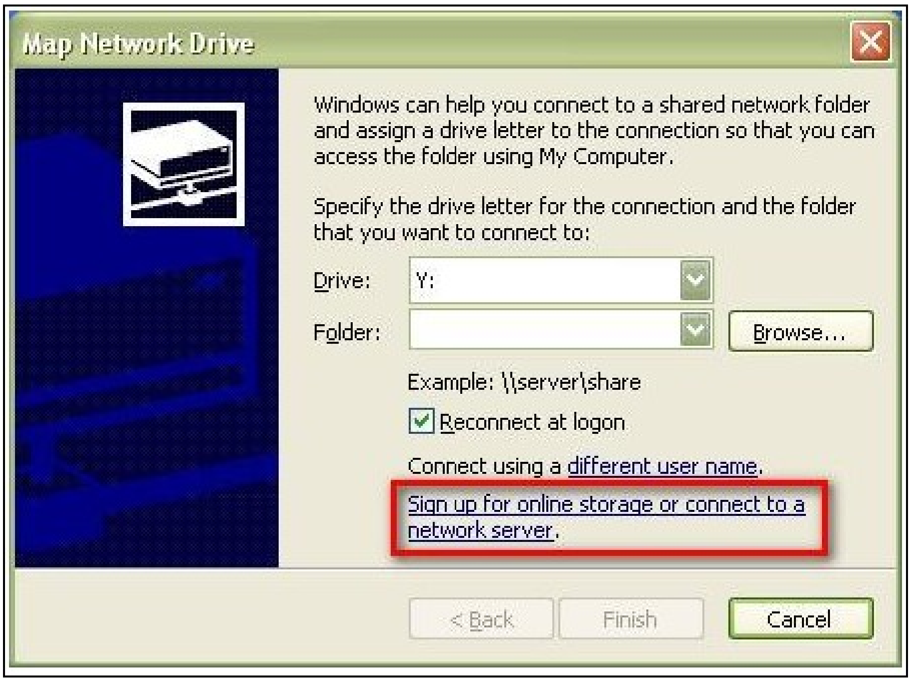
Next, mount the shared folders of the NAS as the shared folders on your operating systems by WebDAV.

Windows XP:

1. Right click "My Computer" and select "Map Network Drive…"



2. Click "Sign up for online storage or connect to a network server".



Windows can help you connect to a shared network folder and assign a drive letter to the connection so that you can access the folder using My Computer.

Specify the drive letter for the connection and the folder that you want to connect to:

Drive: Y:

Folder:

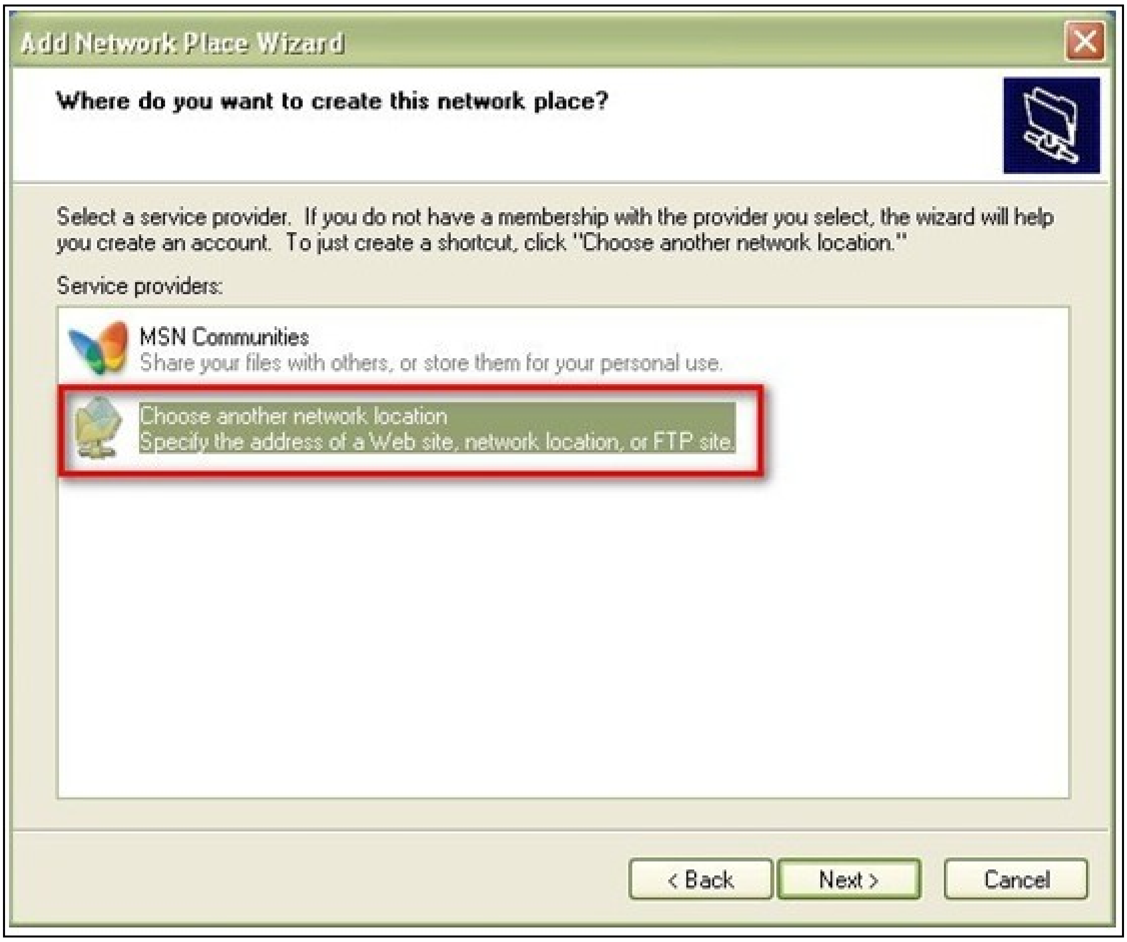
Example: \\server\share

☑ Reconnect at logon

Connect using a different user name.

Sign up for online storage or connect to a network server.

3. Select "Choose another network location".



Where do you want to create this network place?

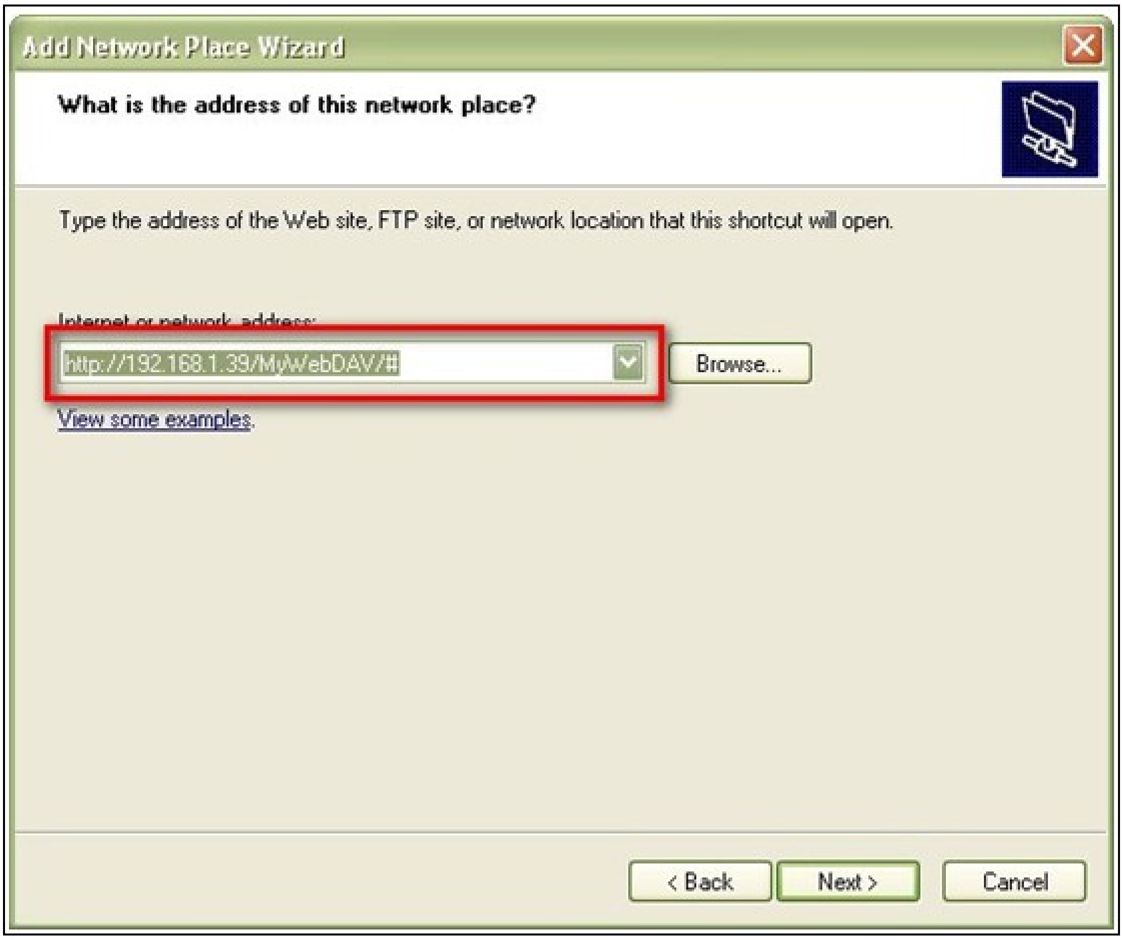
Select a service provider. If you do not have a membership with the provider you select, the wizard will help you create an account. To just create a shortcut, click "Choose another network location."

Service providers:

MSN Communities
Share your files with others, or store them for your personal use.

Choose another network location
Specify the address of a Web site, network location, or FTP site.

4. Enter the URL of your NAS with the folder name. Note that you should put a "#" key at the end of the URL. Click "Next". Format: http://NAS_IP_or_HOST_NAME/SHARE_FOLDER_NAME/#



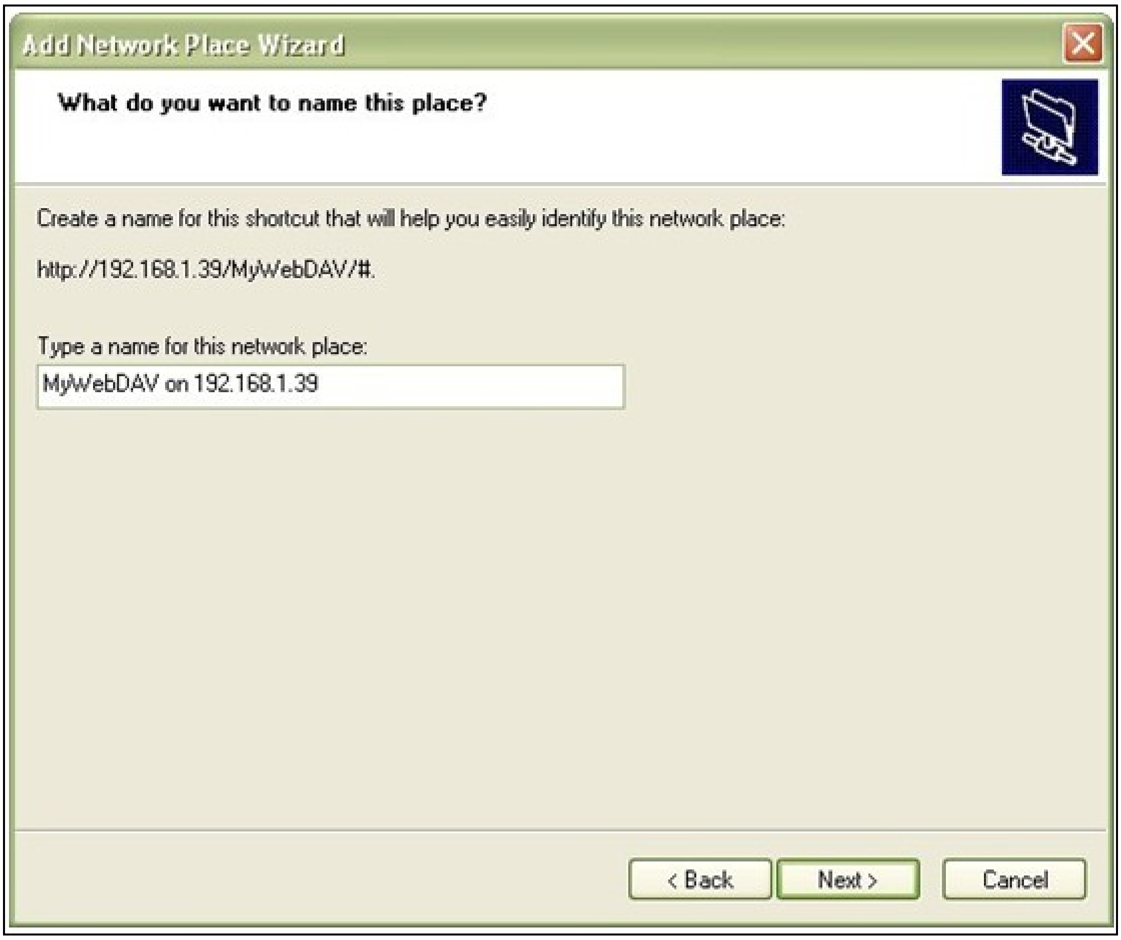
Add Network Place Wizard
What is the address of this network place?
Type the address of the Web site, FTP site, or network location that this shortcut will open.
Internet or network address:

http://192.168.1.39/MyWebDAV/#

Browse...
View some examples.
< Back
Next >
Cancel

5. Enter the username and password which has the WebDAV access right to connect to the folder.

6. Type a name for this network place.



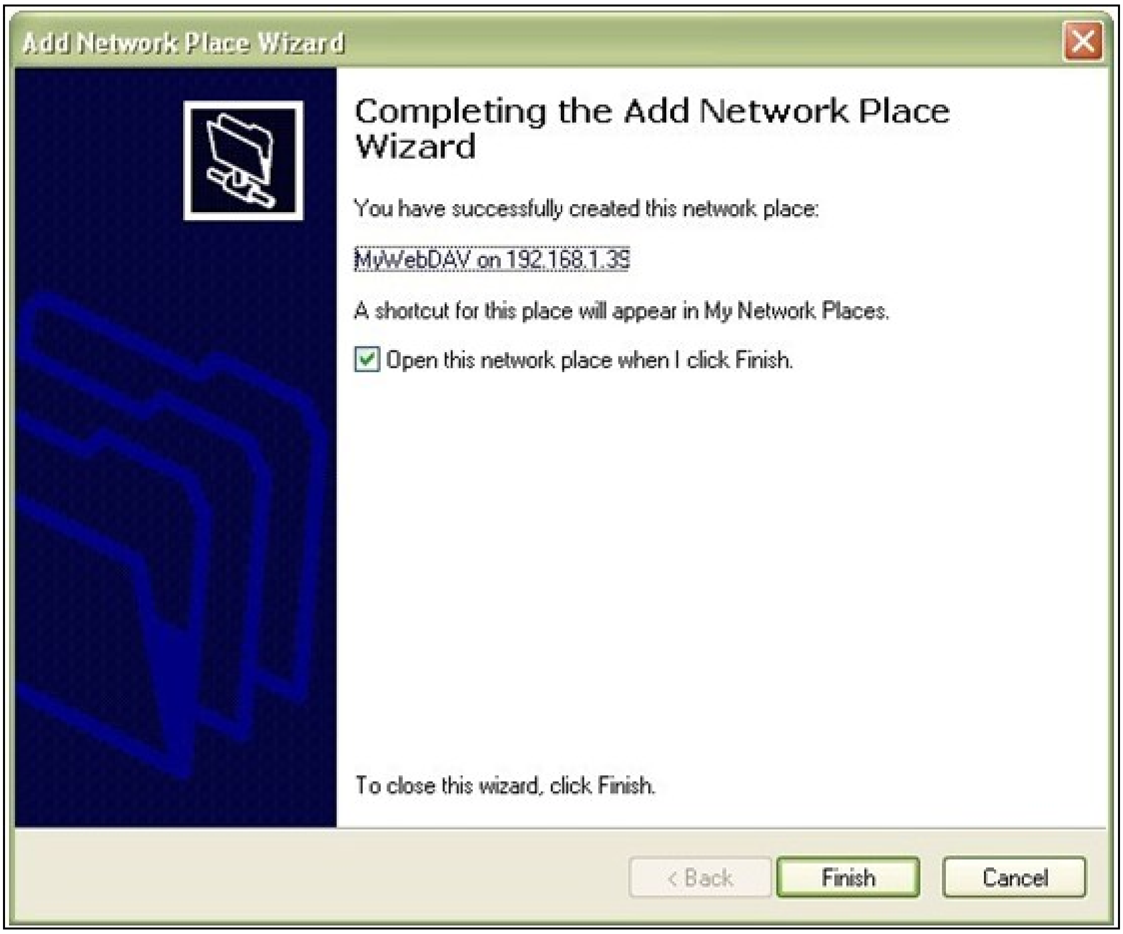
What do you want to name this place?

Create a name for this shortcut that will help you easily identify this network place:

http://192.168.1.39/MyWebDAV/#.

Type a name for this network place:
MyWebDAV on 192.168.1.39

7. The network place has been created and is ready to be used.


Add Network Place Wizard

Completing the Add Network Place Wizard

You have successfully created this network place:

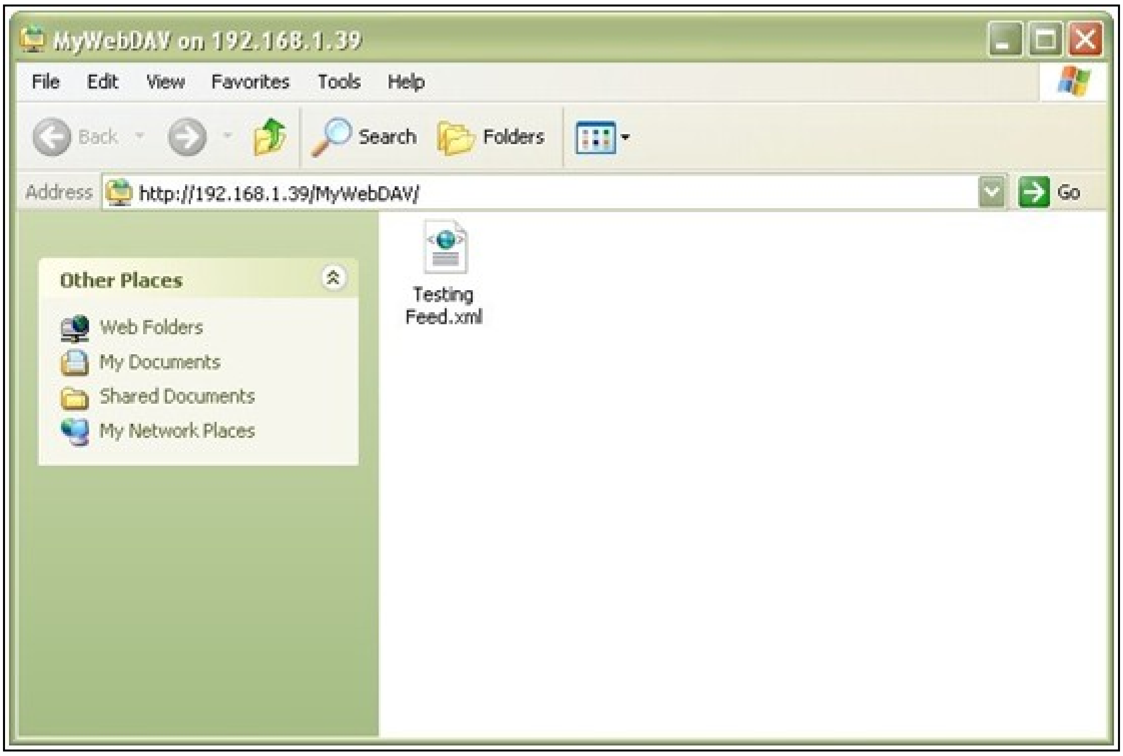
MyWebDAV on 192.168.1.39

A shortcut for this place will appear in My Network Places.

☑ Open this network place when I click Finish.

To close this wizard, click Finish.

8. Now you can connect to this folder anytime through WebDAV. A shortcut has also been created in "My Network Places".

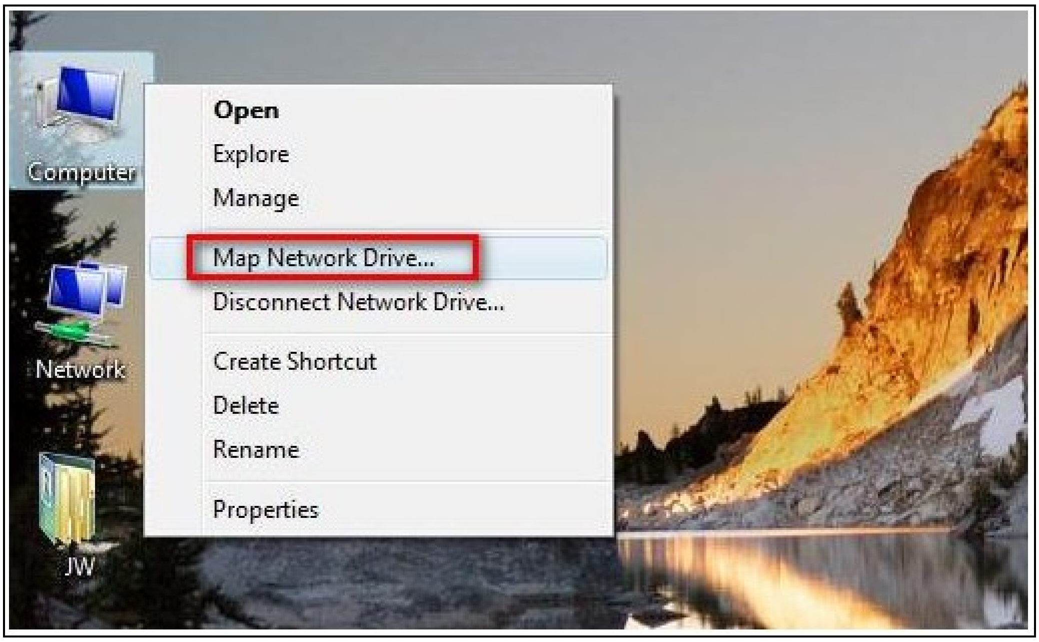

MyWebDAV on 192.168.1.39

Address: http://192.168.1.39/MyWebDAV/

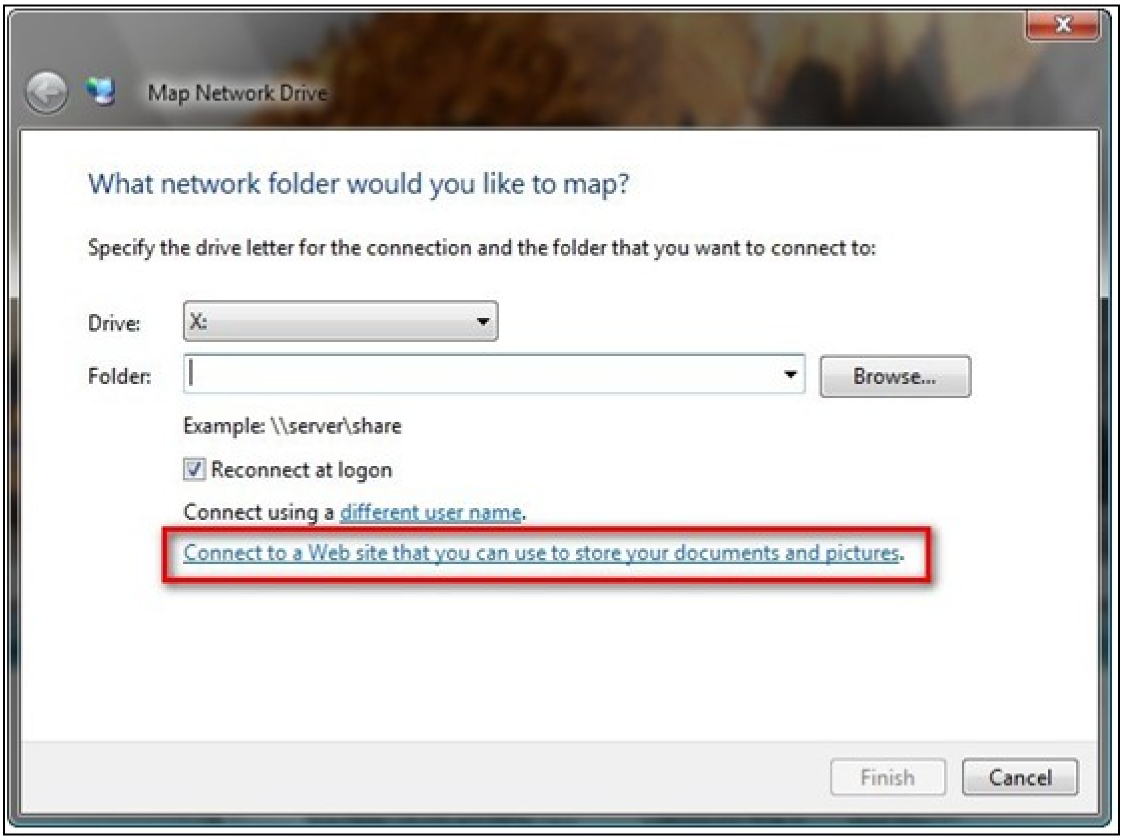
Windows Vista

If you are using Windows Vista, you might need to install the "Software Update for Web Folders (KB907306)". This update is for 32-bit Windows OS only. http://www.microsoft.com/downloads/details.aspx?FamilyId=17c36612-632e-4c04-9382-987622ed1d64&displaylang=en

1. Right click "Computer" and select "Map Network Drive…"



2. Click "Connect to a Web site that you can use to store your documents and pictures".



What network folder would you like to map?

Specify the drive letter for the connection and the folder that you want to connect to:

Drive: X:

Folder:

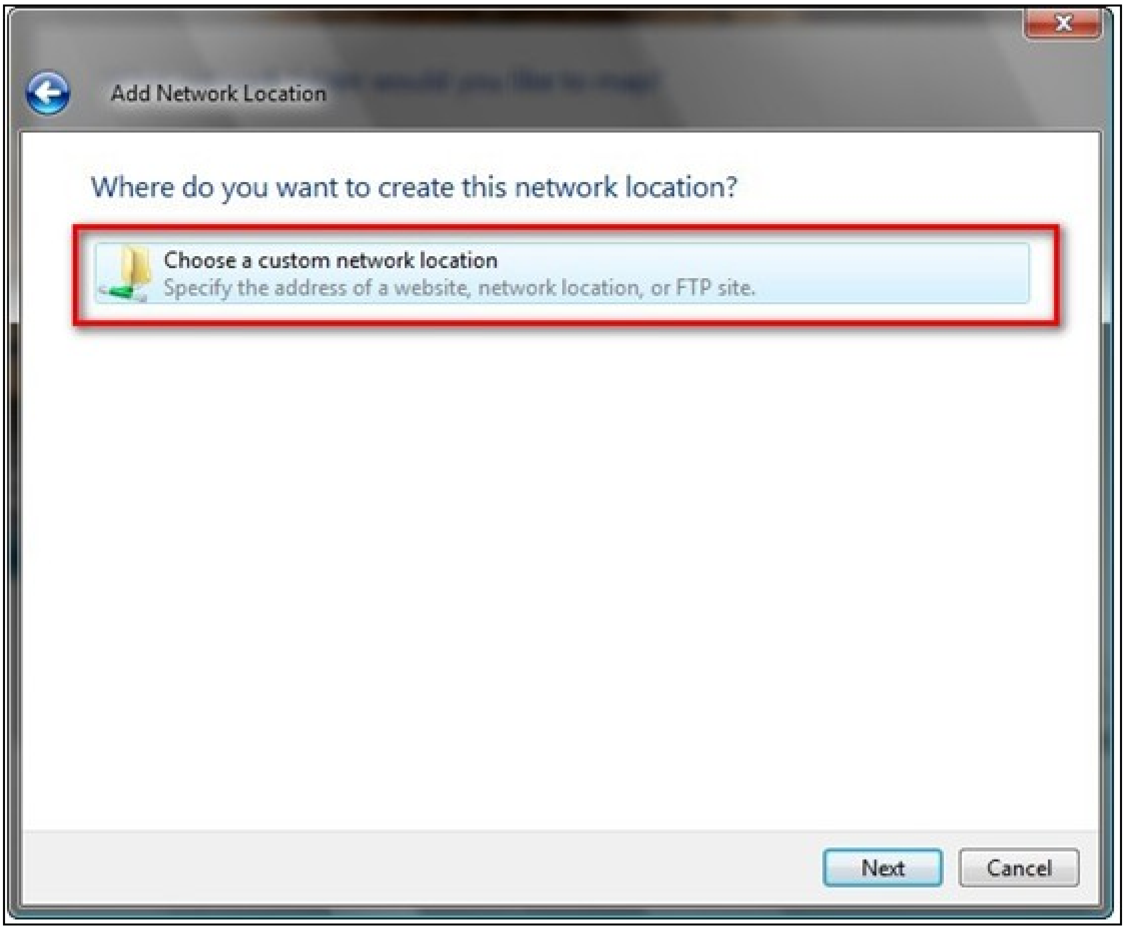
Example: \\server\share

☑ Reconnect at logon

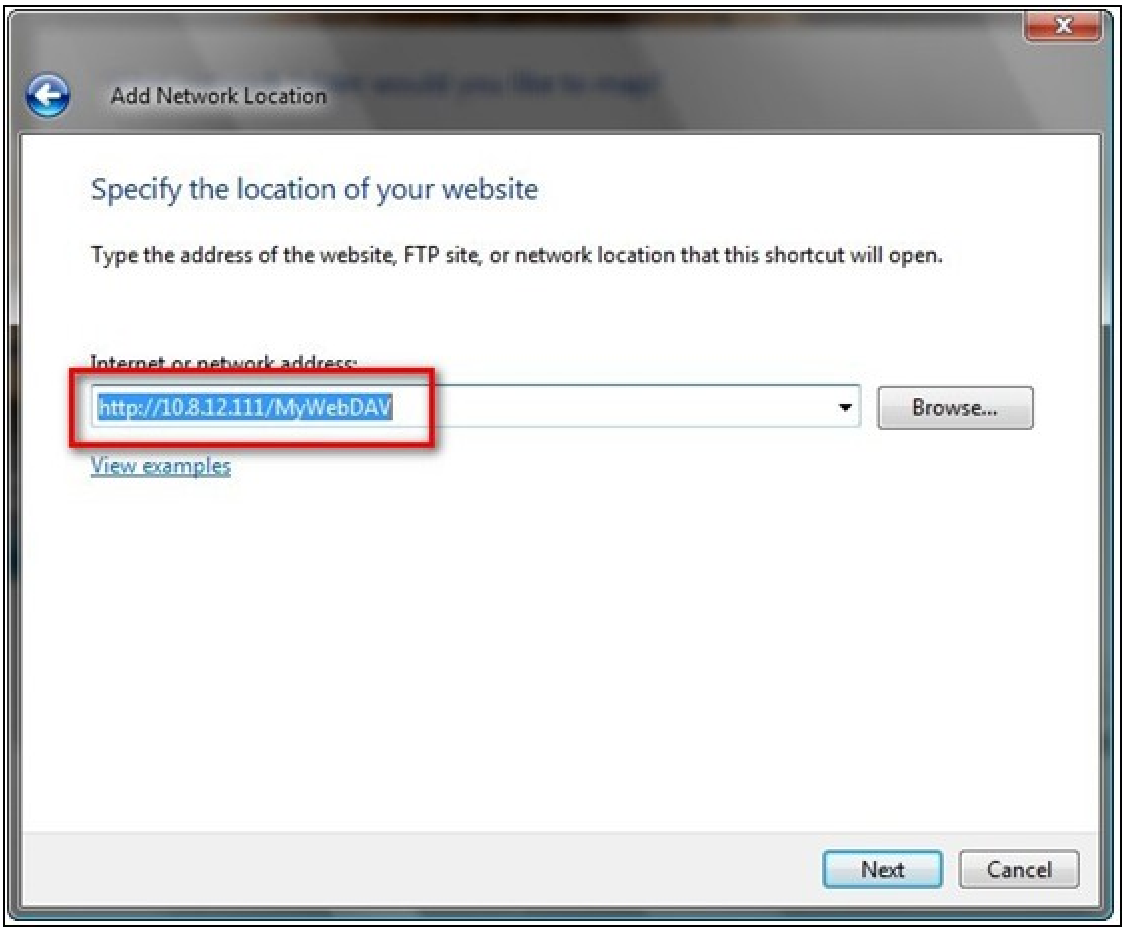
Connect using a different user name.

Connect to a Web site that you can use to store your documents and pictures.

3. Select "Choose a custom network location".


Add Network Location
Where do you want to create this network location?
Choose a custom network location
Specify the address of a website, network location, or FTP site.
Next
Cancel

4. Enter the URL of your NAS with the folder name.
   Format: http://NAS_IP_or_HOST_NAME/SHARE_FOLDER_NAME



Add Network Location

Specify the location of your website

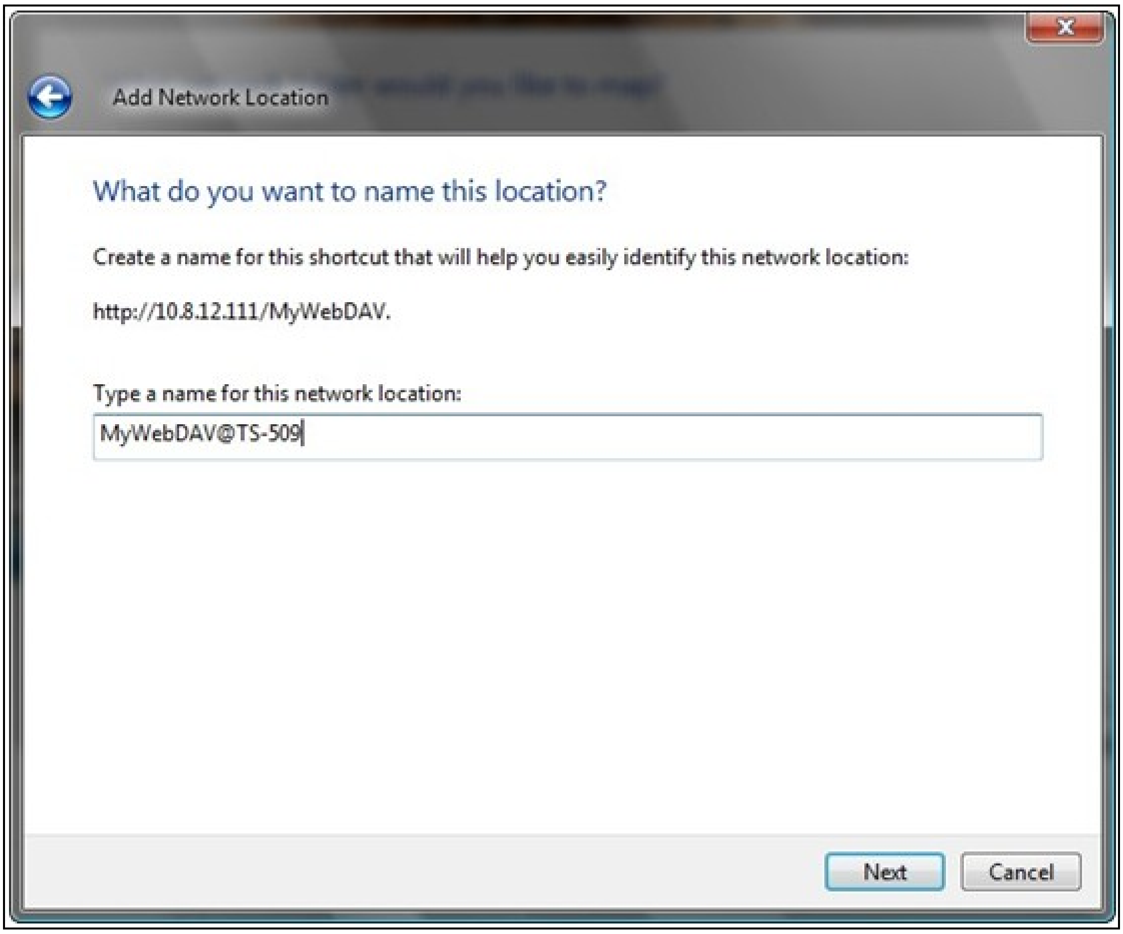
Type the address of the website, FTP site, or network location that this shortcut will open.

Internet or network address:

http://10.8.12.111/MyWebDAV

5. Enter the username and password which has the WebDAV access right to connect to this folder.

6. Type a name for this network location.



What do you want to name this location?

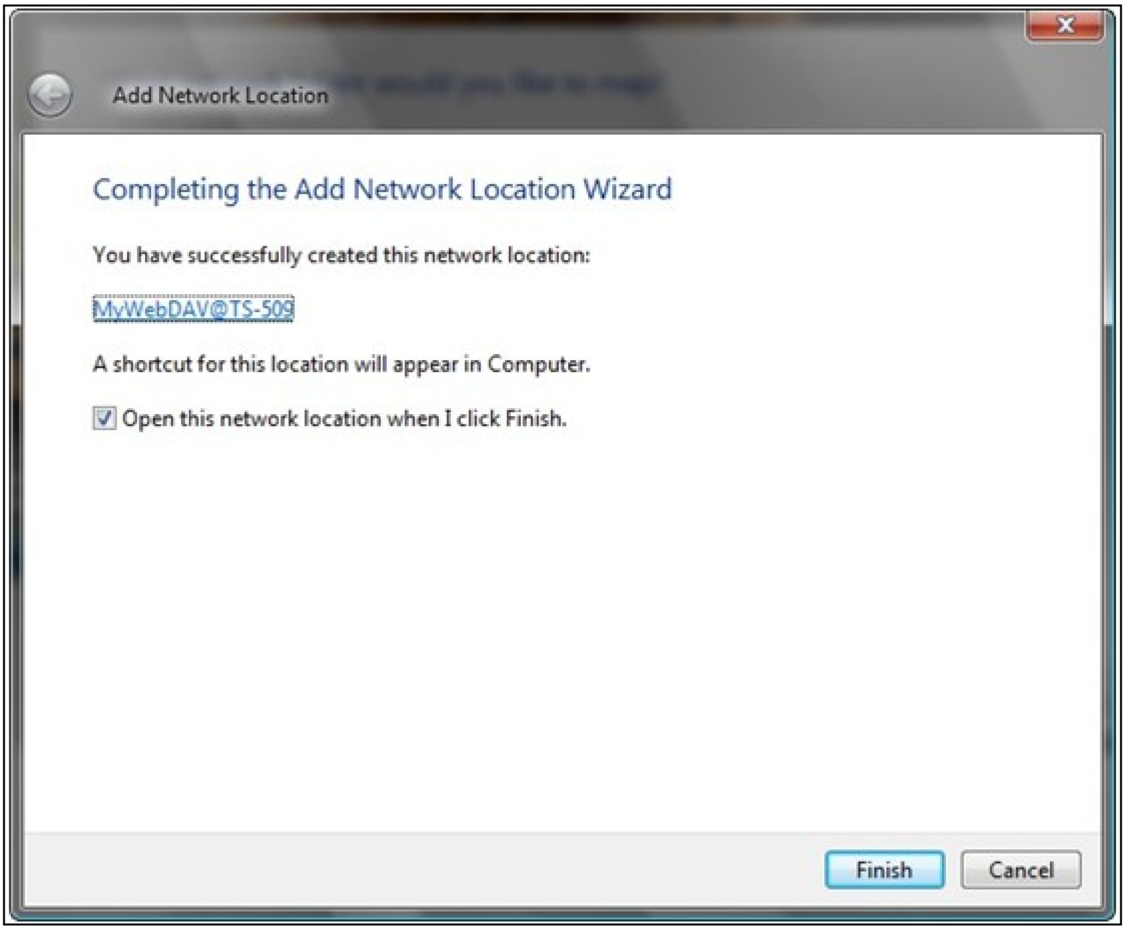
Create a name for this shortcut that will help you easily identify this network location:

http://10.8.12.111/MyWebDAV.

Type a name for this network location:

MyWebDAV@TS-509

7. The Web folder has been successfully created.



Completing the Add Network Location Wizard

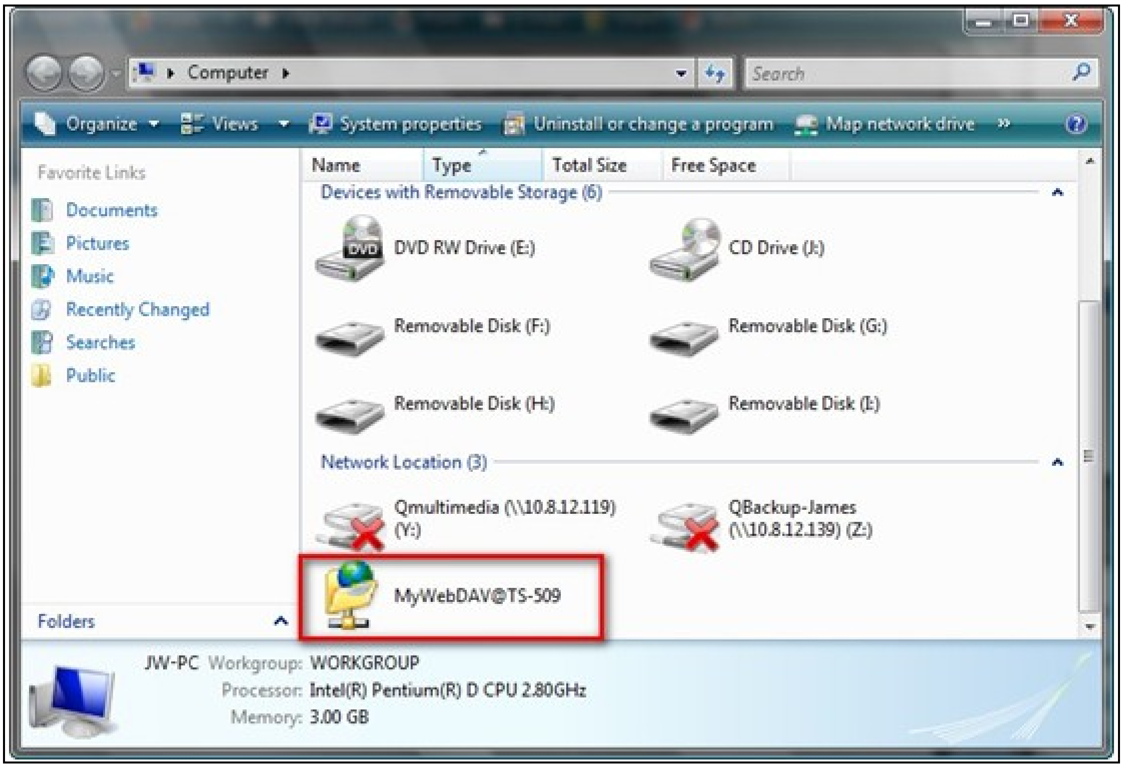
You have successfully created this network location:

MyWebDAV@TS-509

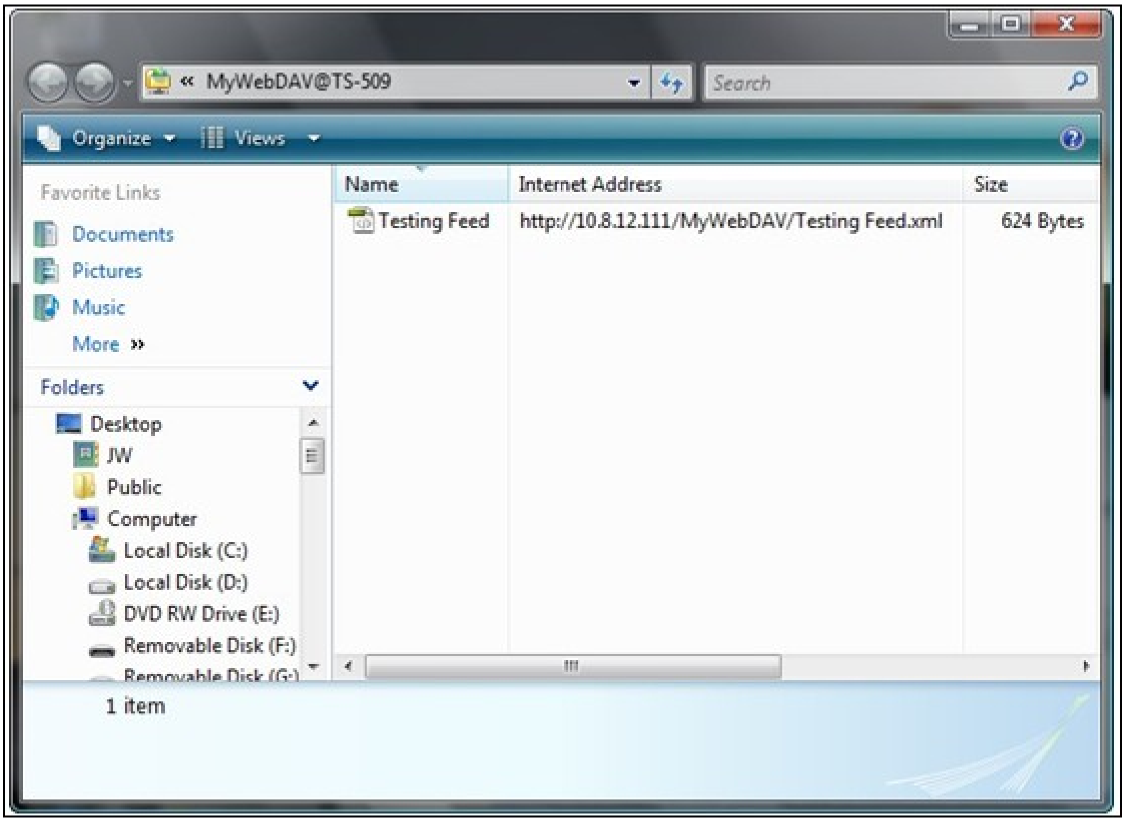
A shortcut for this location will appear in Computer.

☑ Open this network location when I click Finish.

8. You can locate the web folder in the "Network Location" section in "Computer".



9. You can connect to the folder though this link via HTTP/WebDAV.



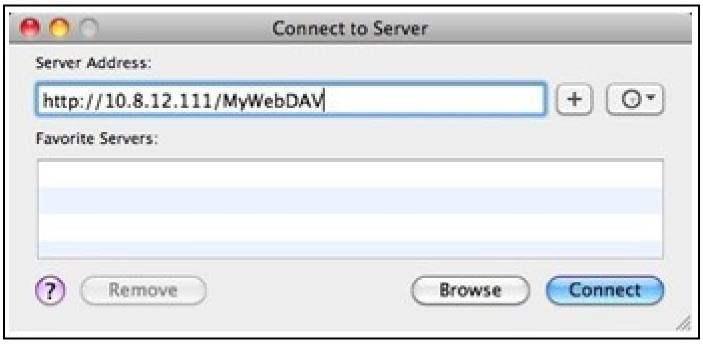
Name	Internet Address	Size
Testing Feed	http://10.8.12.111/MyWebDAV/Testing Feed.xml	624 Bytes

Mac OS X

Follow the steps below to connect to your NAS via WebDAV on Mac OS X.

Client Operating System: Mac OS X Snow Leopard (10.6.1)

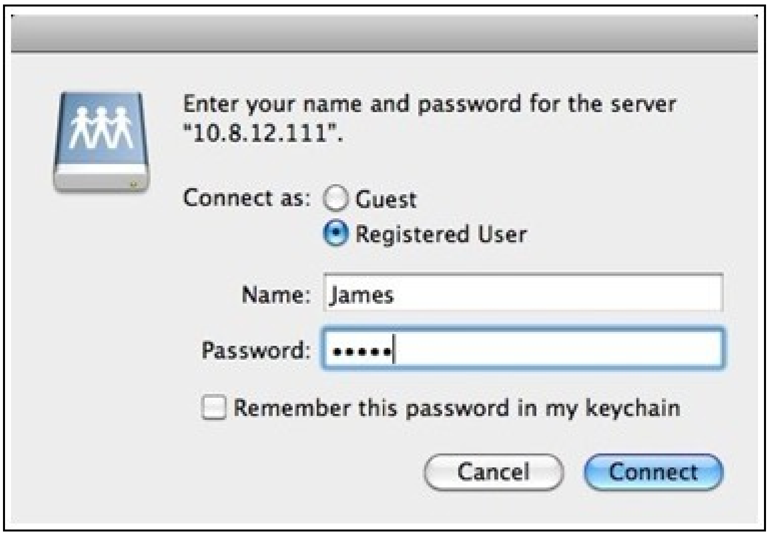
1. Open "Finder" > "Connect to Server", and enter the URL of the folder.
   Format: http://NAS_IP_or_HOST_NAME/SHARE_FOLDER_NAME



Connect to Server

Server Address: http://10.8.12.111/MyWebDAV

2. Enter the username and password which has the WebDAV access right to connect to this folder.



Enter your name and password for the server "10.8.12.111".

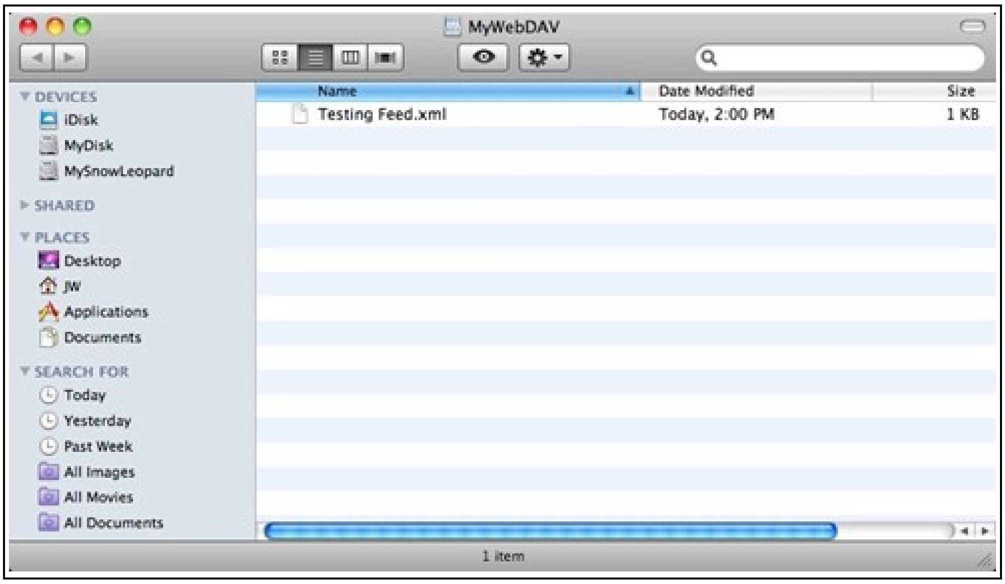
Connect as: ○ Guest
● Registered User

Name: James

Password: •••••

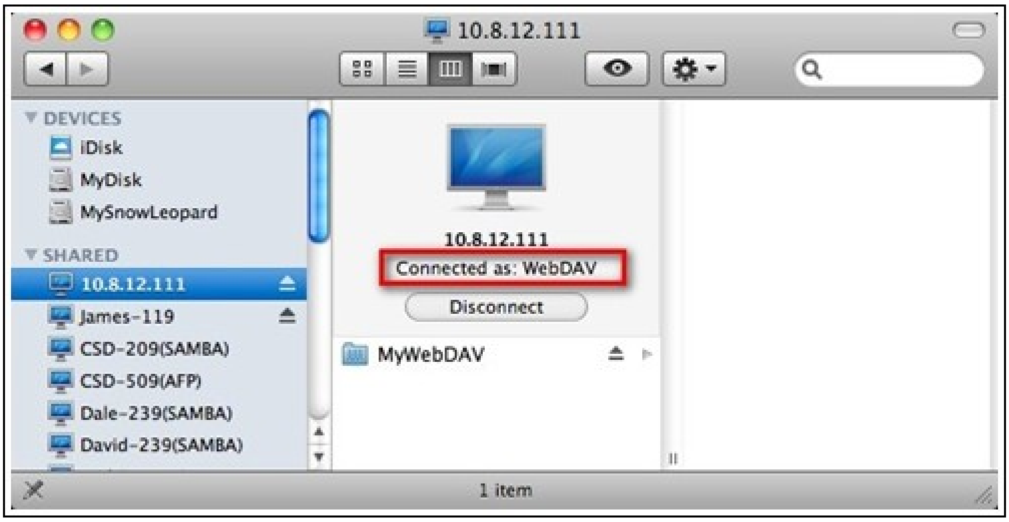
□ Remember this password in my keychain

3. You can connect to the folder through this link via HTTP/WebDAV.



Name	Date Modified	Size
Testing Feed.xml	Today, 2:00 PM	1 KB

4. You can also find the mount point in the "SHARED" category in Finder and make it one of the login items.



Connected as: WebDAV

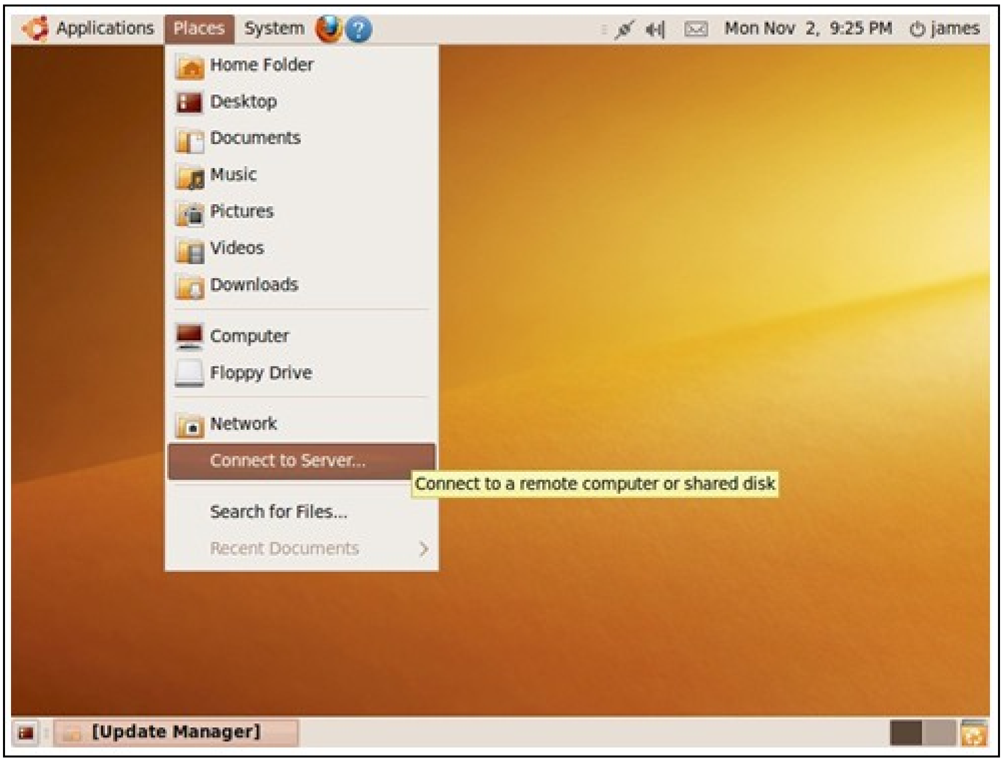
Note that the instructions above are based on Mac OS X 10.6, and can be applied to 10.4 or later.

Ubuntu

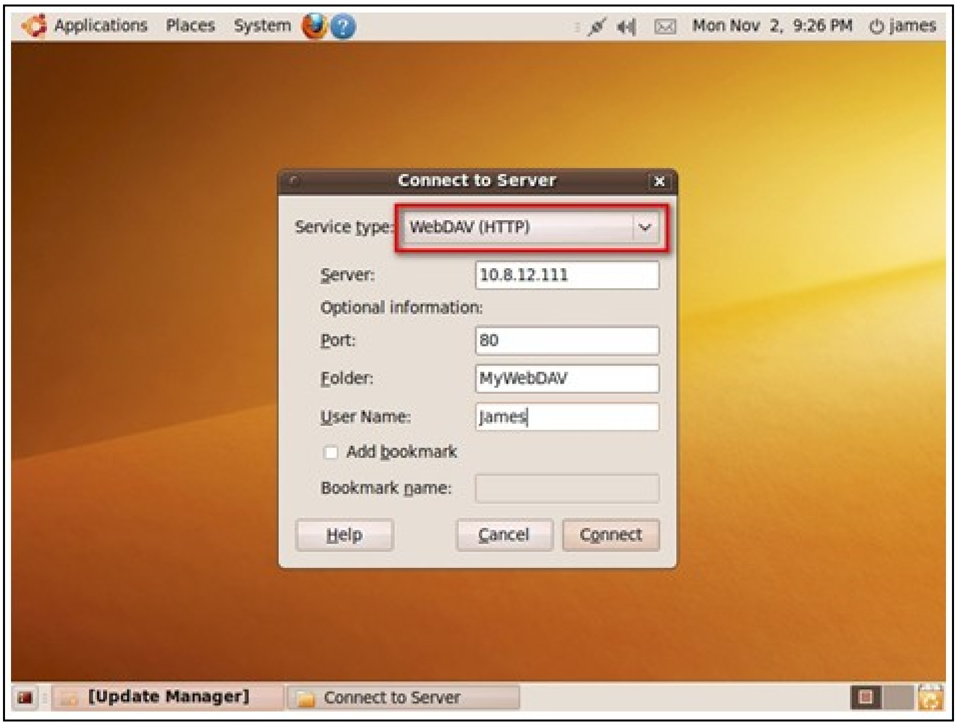
Follow the steps below to connect to your NAS via WebDAV on Ubuntu.

Client Operating System: Ubuntu 9.10 Desktop

1. Open "Places" > "Connect to Server…"



2. Select "WebDAV (HTTP)" or "Secure WebDAV (HTTPS)" for the Service type according to your NAS settings and enter your host information. Enter the username and password which has the WebDAV access right to connect to this folder. Click "Connect" to initialize the connection.



Service type: WebDAV (HTTP)

Server: 10.8.12.111

Optional information:

Port: 80

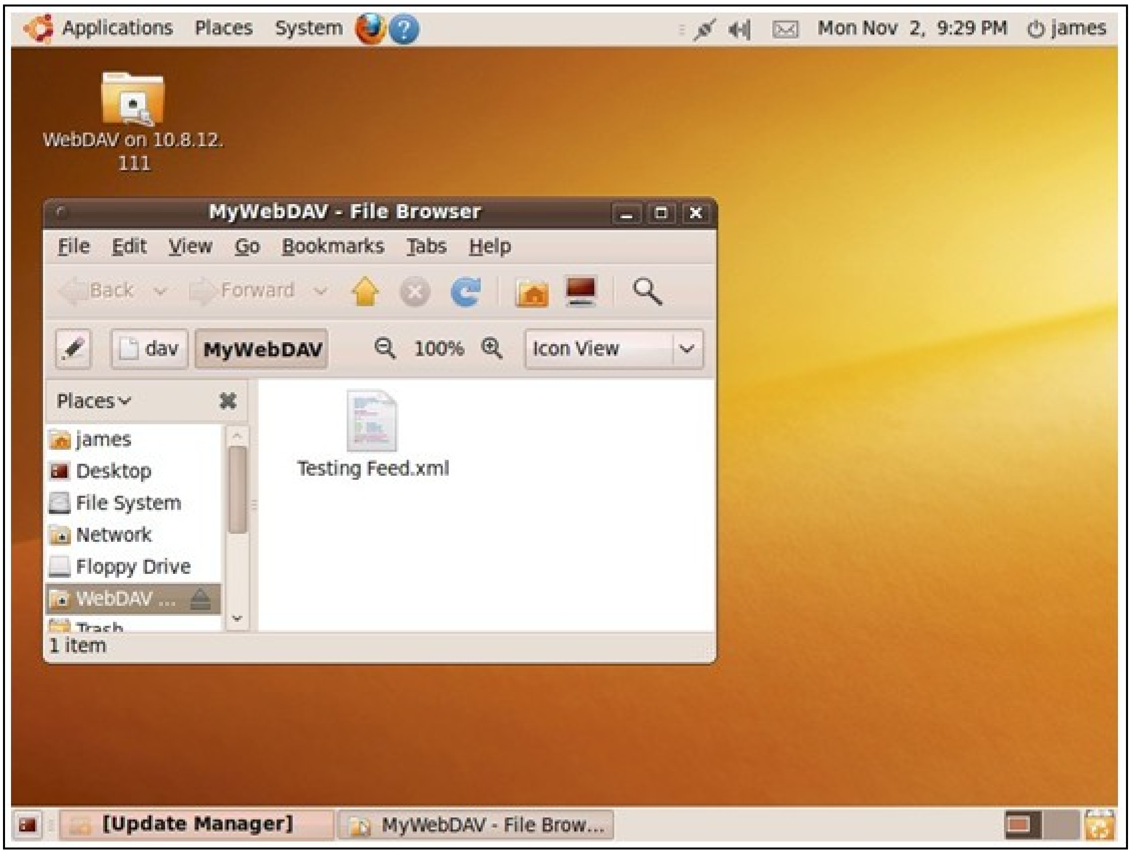
Folder: MyWebDAV

User Name: James

□ Add bookmark

Bookmark name:

3. This WebDAV connection has been established successfully, a linked folder will be created on the desktop automatically.



MySQL Management

Install phpMyAdmin software and save the program files in the Web or Qweb share of the NAS. You can change the folder name and connect to the database by entering the URL in the browser.

Note: The default username of MySQL is "root". The password is "admin". Please change your root password immediately after logging in to the phpMyAdmin management interface.

SQLite Management

Follow the steps below or refer to the INSTALL file in the downloaded SQLiteManager-*. tar.gz? to install SQLiteManager.

1. Unpack the downloaded file SQLiteManager-*.tar.gz.

2. Upload the unpacked folder SQLiteManager-* to \\NAS IP\Web\ or \\NASIP\Qweb.

3. Open a web browser and go to http://NAS IP/SQLiteManager-*/.
   ?: The symbol "*" refers to the version number of SQLiteManager.

7.5.1 Virtual Host

Virtual host is a web server technique that provides the capability to host more than one domain (website) on one physical host offers a cost-effective solution for personal and small business with such need. You can host multiple websites (maximum 32) on the NAS with this feature.

In this tutorial we will use the information provided in the table below as the reference guide.

Host name	**WAN/LAN IP and port**	**Document root**	**Demo web application**
site1.mysite.com	WAN IP: 111.222.333.444 LAN IP: 10.8.12.45 (NAS) Port: 80 (NAS)	/Qweb/site1_mysite	Joomla!
site2.mysite.com		/Qweb/site2_mysite	WordPress
www.mysite2.com		/Qweb/ www_mysite2	phpBB3

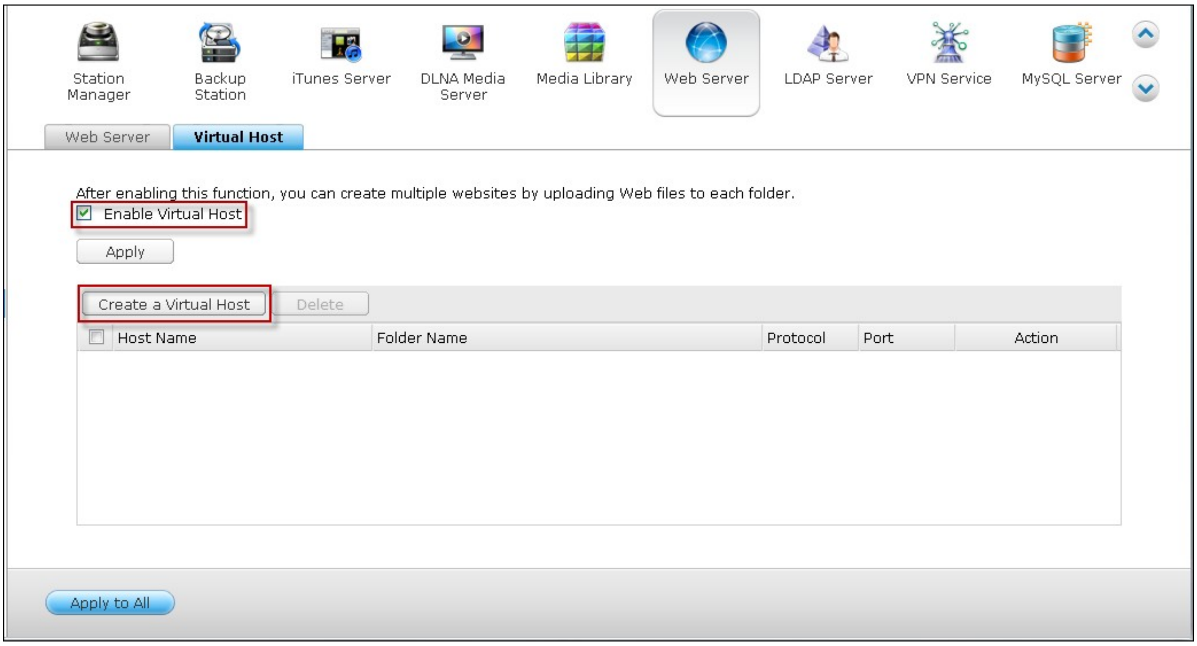
Before you start, make sure you have checked the following items:

- Web Server: Enable Web Server in "Applications" > "Web Server".
- DNS records: The host name must point to the WAN IP of your NAS and you can normally configure this from your DNS service providers.
- Port forwarding: If the web server listens on port 80 you need to configure port forwarding on your router to allow inbound traffic from port 80 to the LAN IP (10.8.12.45) of your NAS.
- SSL certificate import: If you are going to enable SSL connection for the website and intend to use your own trusted SSL certificates you may import the certificate from within the administration backend under "System Settings" > "Security" > "Certificate & Private Key".

Follow the steps below to use virtual host.

1. Select "Enable Virtual Host" and click "Apply".

2. Click "Create a Virtual Host".



After enabling this function, you can create multiple websites by uploading Web files to each folder.

☑ Enable Virtual Host

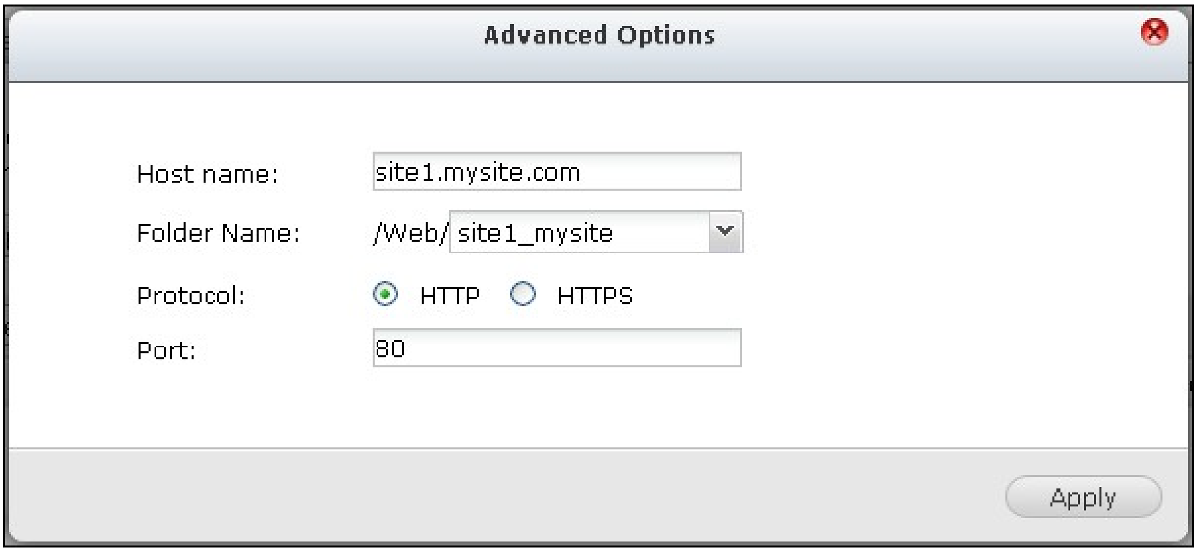
□	Host Name	Folder Name	Protocol	Port	Action

3. Enter the host name and specify the folder (under Web or Qweb) where the web files will be uploaded to.

4. Specify the protocol (HTTP or HTTPS) for connection. If you select HTTPS, make sure the option “Enable Secure Connection (SSL)” in Web Server has been turned on.

5. Specify the port number for connection.

6. Click “Apply”.



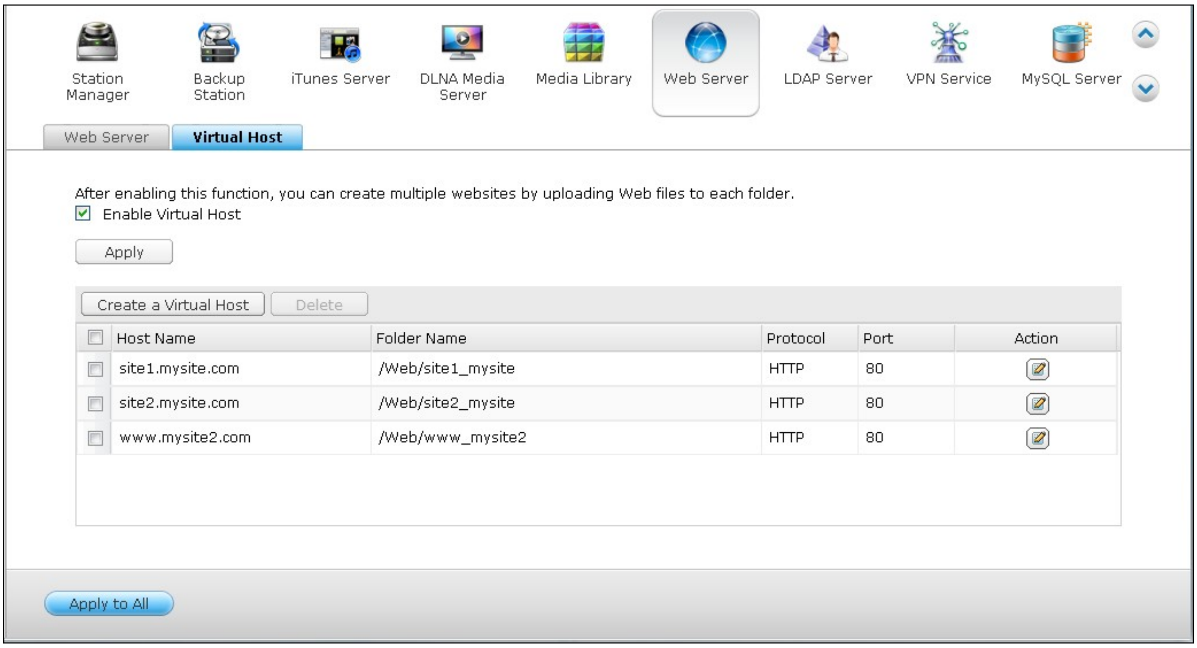
Host name: site1.mysite.com

Folder Name: /Web/ site1_mysite

Protocol: ● HTTP ○ HTTPS

Port: 80

7. Continue to enter the information for the rest of the sites you want to host on the NAS.

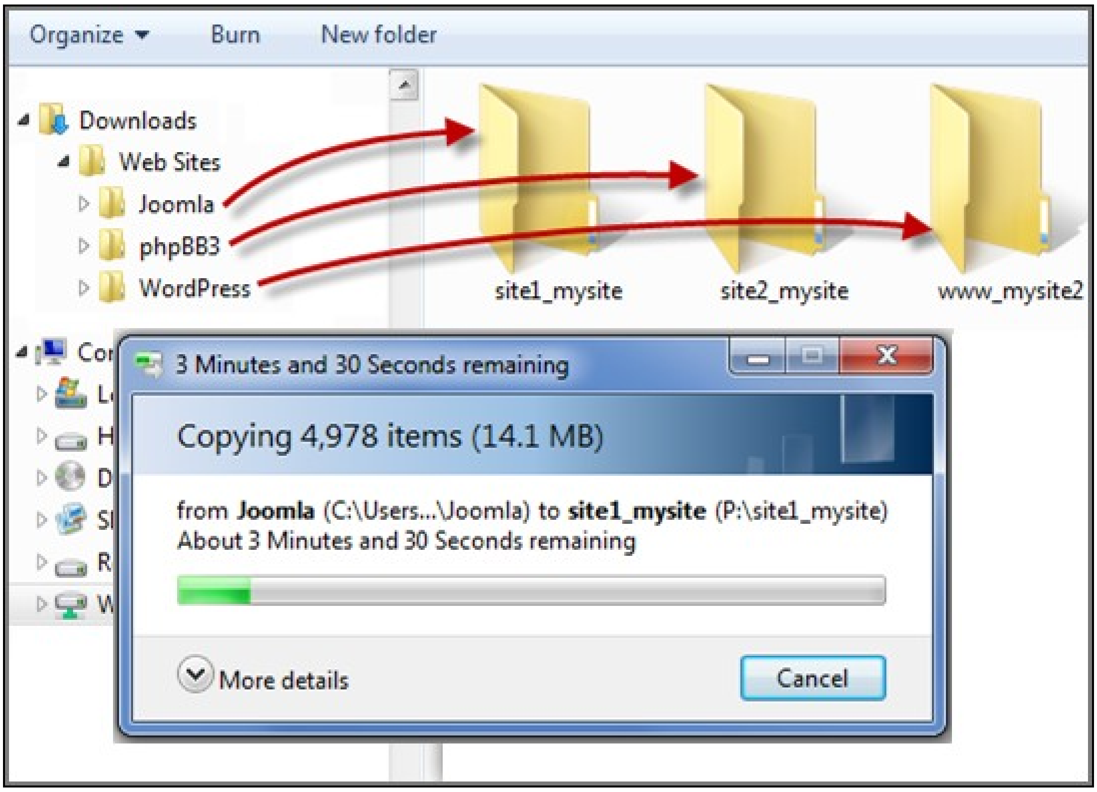


After enabling this function, you can create multiple websites by uploading Web files to each folder.

☑ Enable Virtual Host

□	Host Name	Folder Name	Protocol	Port	Action
□	site1.mysite.com	/Web/site1_mysite	HTTP	80	
□	site2.mysite.com	/Web/site2_mysite	HTTP	80	
□	www.mysite2.com	/Web/www_mysite2	HTTP	80	

8. Create a folder for each website (site1_mysite, site2_mysite, and www_mysite2) and start transferring the website files to the corresponding folders.



3 Minutes and 30 Seconds remaining

Copying 4,978 items (14.1 MB)

from **Joomla** (C:\Users...\Joomla) to **site1_mysite** (P:\site1_mysite)
About 3 Minutes and 30 Seconds remaining

Once the files transfers complete point your web browser to the websites by http:// NAS_host_name or https://NAS_host_name according to your settings. In this example, the URLs are:

http://site1.mysite.com

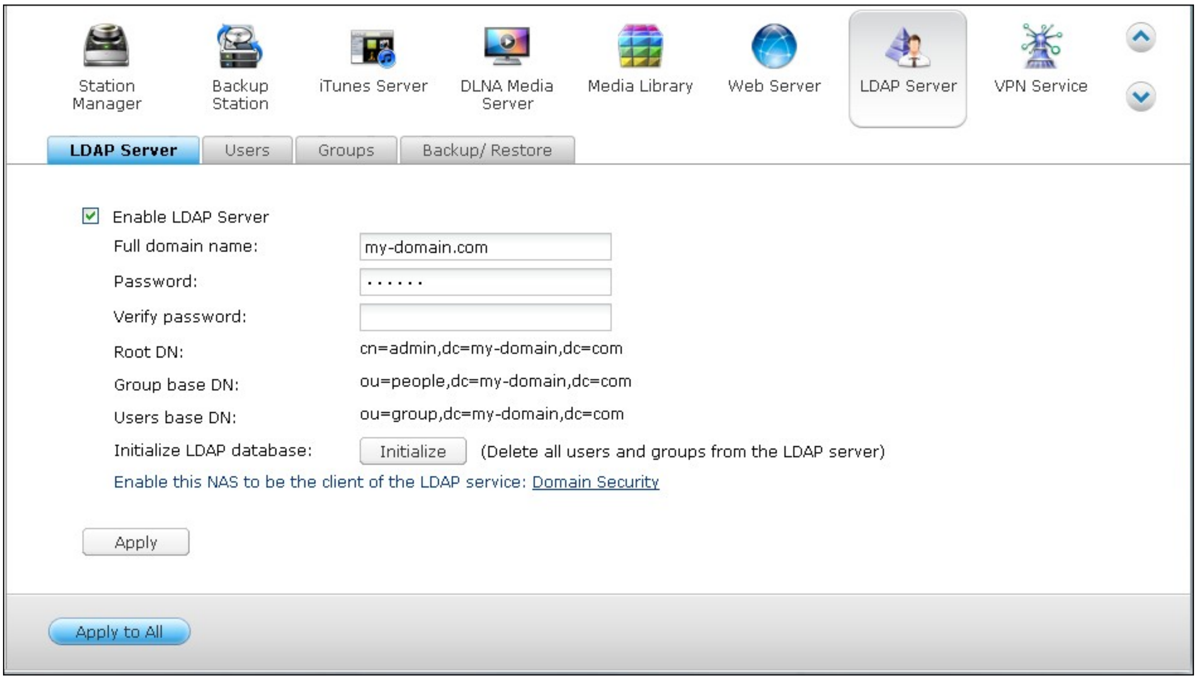
http://site2.mysite.com
http://www.mysite2.com

You should see the Joomla!, phpBB3, and WordPress web pages, respectively.

7.6 LDAP Server

The LDAP server of the NAS allows the administrator to create users to access multiple NAS servers with the same username and password. Follow the instructions below to configure the LDAP server.

1. Enable LDAP Server: Login the NAS as "admin". Go to "Applications" > "LDAP Server" and enable LDAP server. Enter the full LDAP domain name and the password for the LDAP server, then click "Apply".



☑ Enable LDAP Server

Full domain name: my-domain.com

Password: ······

Verify password:

Root DN: cn=admin,dc=my-domain,dc=com

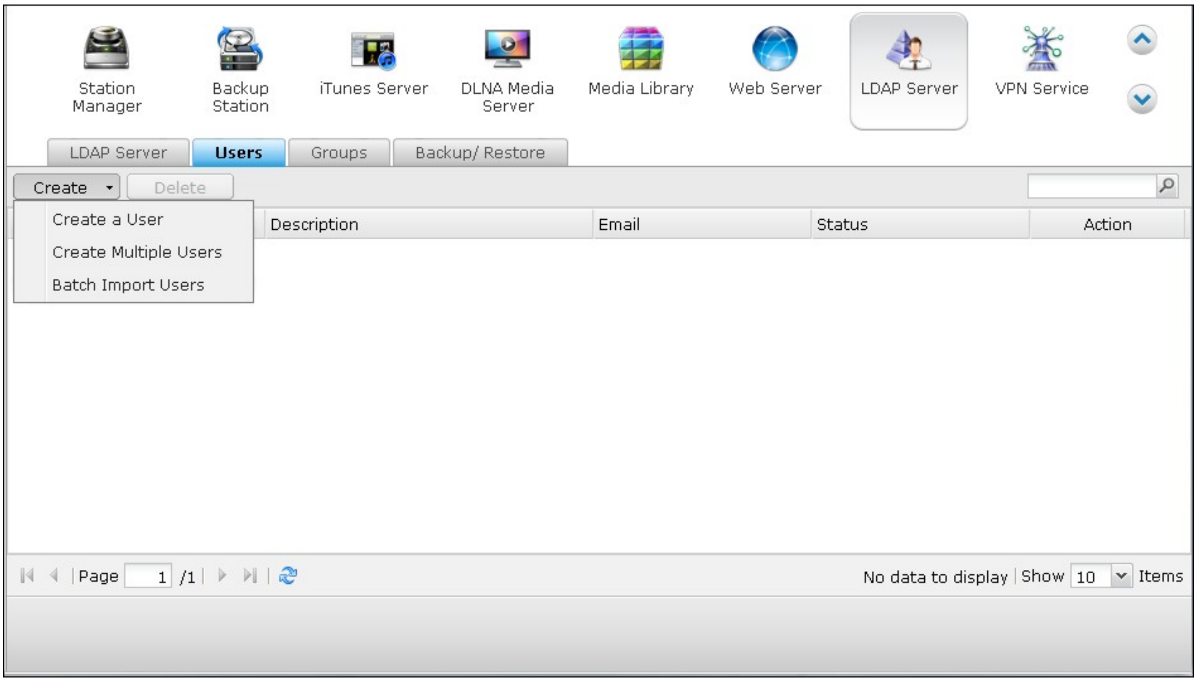
Group base DN: ou=people,dc=my-domain,dc=com

Users base DN: ou=group,dc=my-domain,dc=com

Initialize LDAP database: Initialize (Delete all users and groups from the LDAP server)

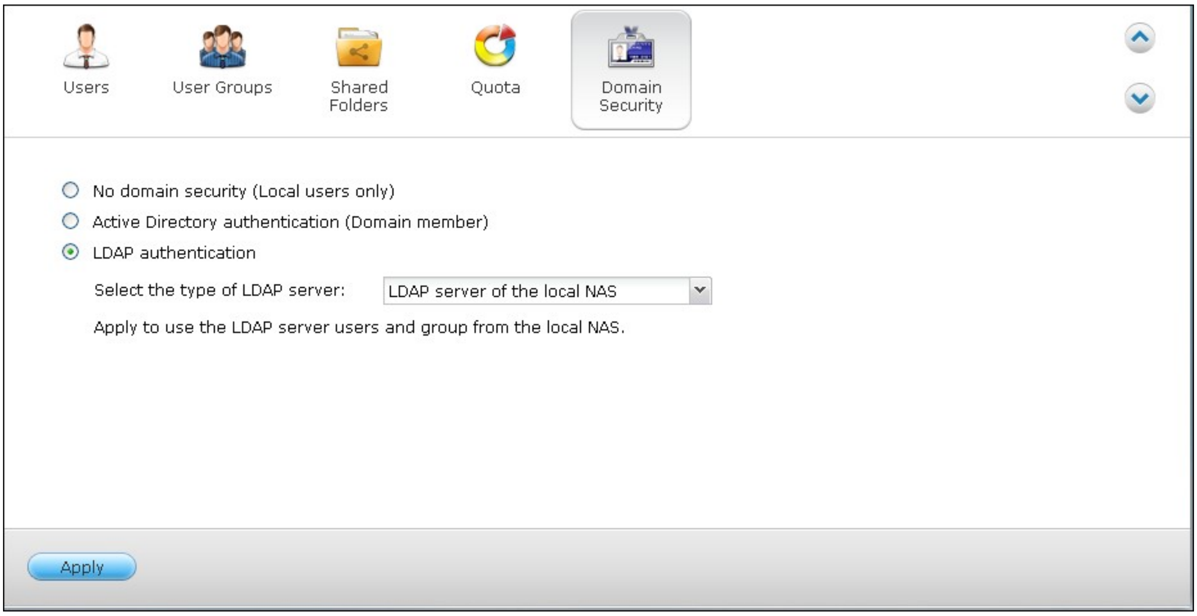
Enable this NAS to be the client of the LDAP service: Domain Security

2. Create LDAP Users: Under the "Users" tab, click "Create a User" or "Create Multiple Users" or "Batch Import Users". Follow the instructions of the wizard to create the LDAP users.



Once you have created the LDAP users, the NAS can be joined to the domain. You can set the permissions of the LDAP users and allow them to be authenticated by the NAS.

3. Join a NAS to LDAP Domain: To allow the LDAP users to connect to the NAS, join the NAS to the LDAP domain. Go to "Privilege Settings" > "Domain Security". Select "LDAP authentication" and choose "LDAP server of local NAS" as the server type. Then click "Apply".



○ No domain security (Local users only)
○ Active Directory authentication (Domain member)
● LDAP authentication

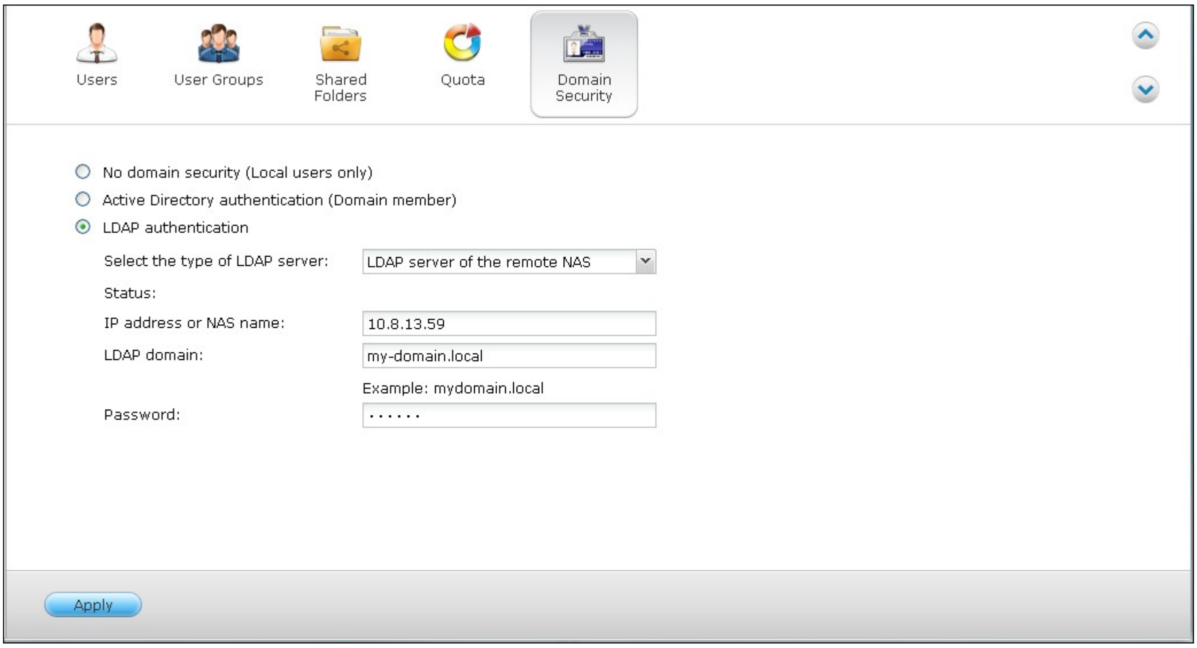
Select the type of LDAP server: LDAP server of the local NAS

Apply to use the LDAP server users and group from the local NAS.

The NAS is now a client of the LDAP server. To view the domain users or groups, go to "Privilege Settings" > "Users" or "User Groups", then select "Domain Users" or "Domain

Groups”. You can also set the folder permission for the domain users or groups.

4. Join a Second NAS to LDAP Domain: You can join multiple NAS servers to the same LDAP domain and allow the LDAP users to connect to the NAS servers using the same login credentials. To join another NAS to the LDAP domain, login the NAS and go to “Privilege Settings” > “Domain Security”. Select “LDAP authentication” and then “LDAP server of a remote NAS” as the server type. Enter the DNS name or IP address of the remote NAS, the name of the LDAP domain that you created previously, and enter the LDAP server password. Click “Apply”.



○ No domain security (Local users only)
○ Active Directory authentication (Domain member)
● LDAP authentication

Select the type of LDAP server: LDAP server of the remote NAS

Status:

IP address or NAS name: 10.8.13.59

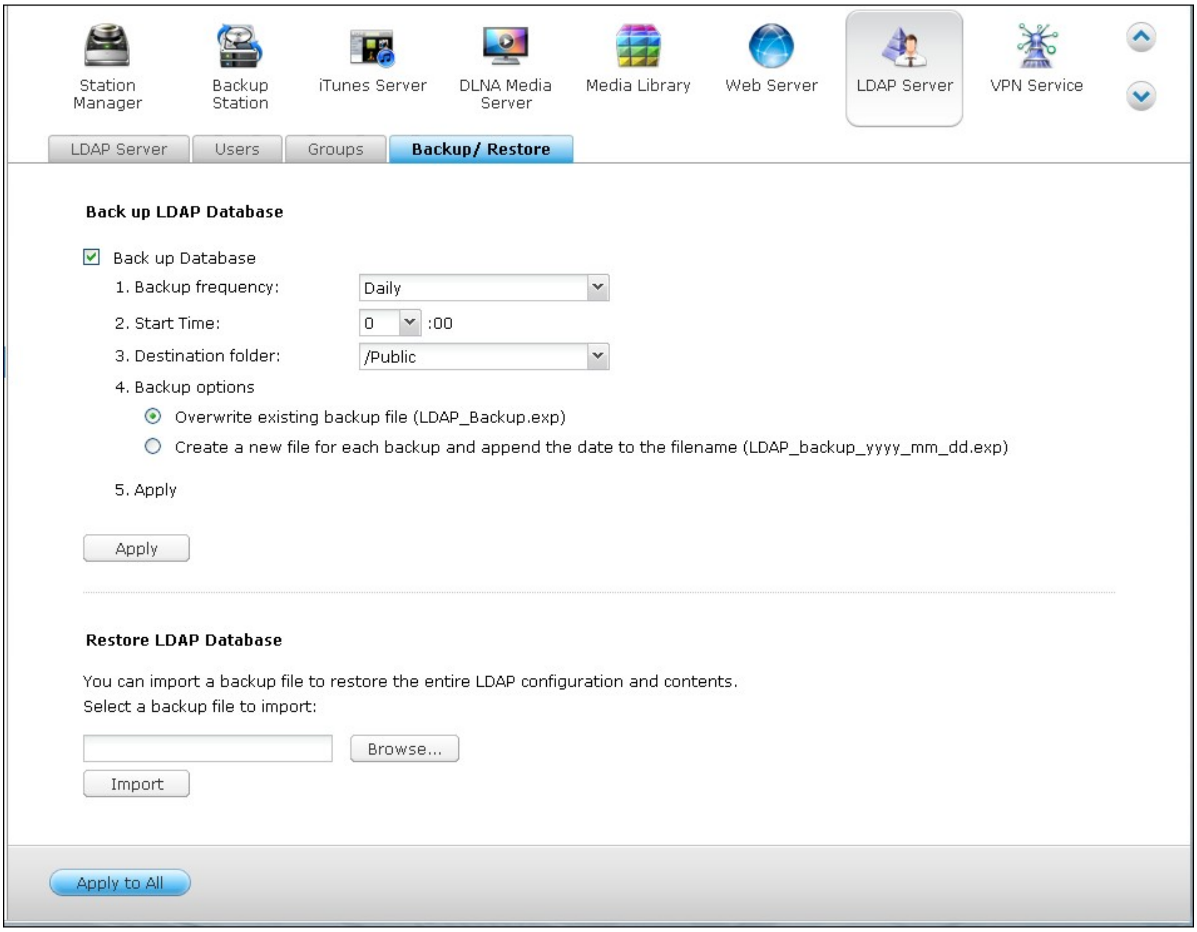
LDAP domain: my-domain.local

Example: mydomain.local

Password: ······

Back up/Restore LDAP Database

To back up the LDAP database on the NAS, select "Back up Database" and specify the backup frequency, destination folder on the NAS and other options. To restore an LDAP database, browse to select the *.exp file and click "Import". Click "Apply" to apply the settings.



Back up LDAP Database

☑ Back up Database

1. Backup frequency: Daily
2. Start Time: 0 :00
3. Destination folder: /Public
4. Backup options
   - ● Overwrite existing backup file (LDAP_Backup.exp)
   - ○ Create a new file for each backup and append the date to the filename (LDAP_backup_yyyy_mm_dd.exp)
5. Apply

Restore LDAP Database

You can import a backup file to restore the entire LDAP configuration and contents.
Select a backup file to import:

Note:

- If the name of a user is changed in the LDAP server, it is necessary to assign the folder permission again on the NAS.
- To avoid account conflicts, please do not create NAS local user accounts that already exist in the LDAP directory.

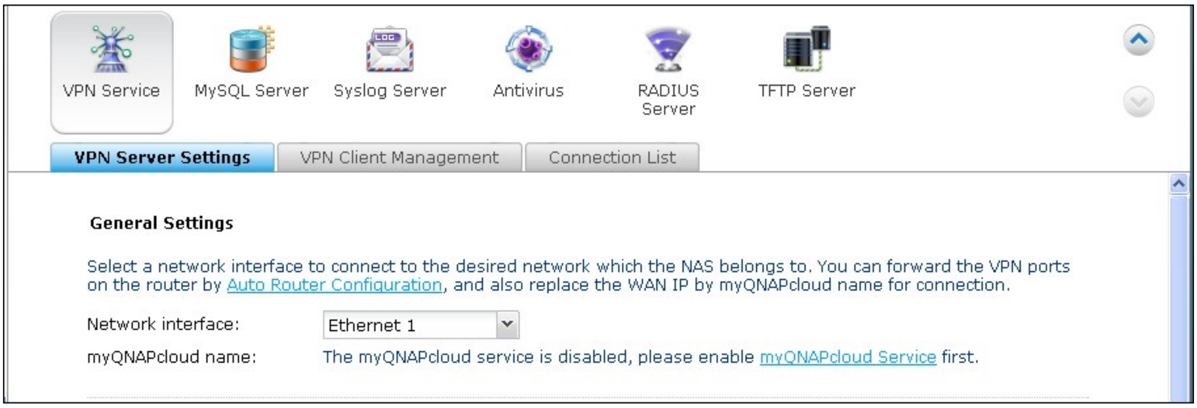
7.7 VPN Service

The NAS supports Virtual Private Network (VPN) service for users to access the NAS and resources on a private network from the Internet. Follow the instructions below for the first time setup of the VPN service on the NAS.

1. Select a network interface to connect
2. Enable PPTP or OpenVPN service
3. Configure port forwarding by auto router configuration
4. Register myQNAPcloud service
5. Add VPN users
6. Connect to the private network by a VPN client

VPN Service Setup

1. Select a network interface to connect: Login the NAS as "admin" and go to "Applications" > "VPN Service" > "VPN Server Settings". Under "General Settings", select a network interface to connect to the desired network which the NAS belongs to.



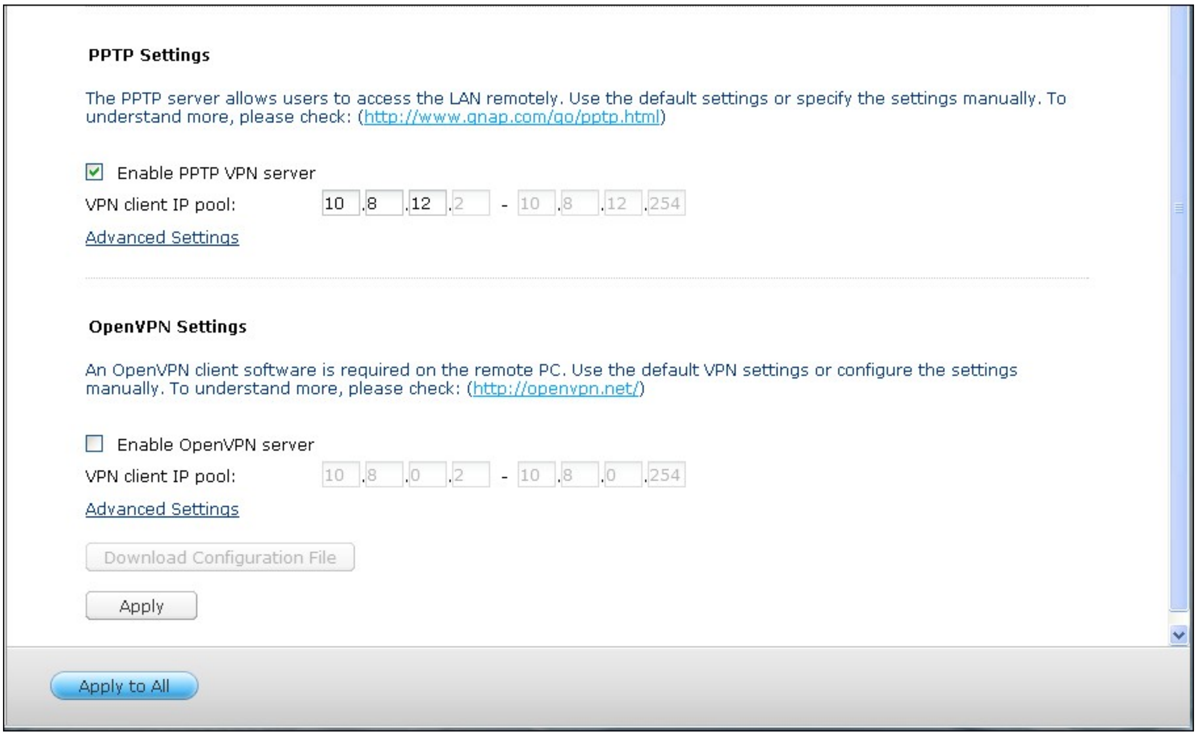
General Settings

Select a network interface to connect to the desired network which the NAS belongs to. You can forward the VPN ports on the router by Auto Router Configuration, and also replace the WAN IP by myQNAPcloud name for connection.

Network interface: Ethernet 1

myQNAPcloud name: The myQNAPcloud service is disabled, please enable myQNAPcloud Service first.

2. Enable PPTP or OpenVPN service: The NAS supports PPTP and OpenVPN for VPN connection. Select either one option and configure the settings.



PPTP Settings

The PPTP server allows users to access the LAN remotely. Use the default settings or specify the settings manually. To understand more, please check: (http://www.qnap.com/go/pptp.html)

☑ Enable PPTP VPN server

VPN client IP pool: 10 .8 .12 .2 - 10 .8 .12 .254

OpenVPN Settings

An OpenVPN client software is required on the remote PC. Use the default VPN settings or configure the settings manually. To understand more, please check: (http://openvpn.net/)

☐ Enable OpenVPN server

VPN client IP pool: 10 .8 .0 .2 - 10 .8 .0 .254

PPTP: Point-to-Point Tunneling Protocol (PPTP) is one of the most commonly used methods for VPN connection. It is natively supported by Windows, Mac, Linux, Android, and iPhone.

Note: The default NAS IP is 10.0.0.1 under PPTP VPN connection.

OpenVPN: OpenVPN is an open source VPN solution which utilizes SSL encryption for secure connection. To connect to the OpenVPN server, OpenVPN client must be installed on your PC. Click "Download Configuration File" to download the VPN client settings, certificate/key and installation guide from the NAS and upload the files to the OpenVPN client.

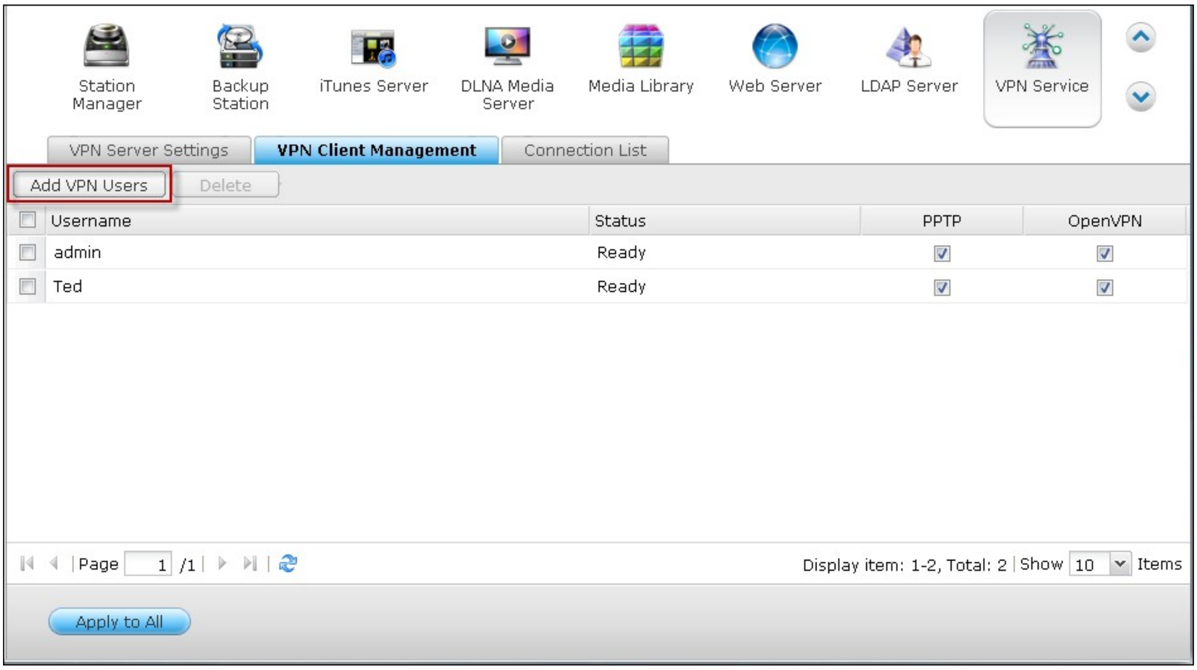
Note: Upload the configuration file to the OpenVPN client every time the OpenVPN settings, myQNAPcloud name, or the secure certificate is changed.

3. Configure port forwarding by auto router configuration: The NAS supports auto port forwarding for UPnP (Universal Plug-and-Play network protocol) routers. Go to "myQNAPcloud" > "Auto Router Configuration" to enable UPnP port forwarding and open the ports of the PPTP or OpenVPN service on the router.

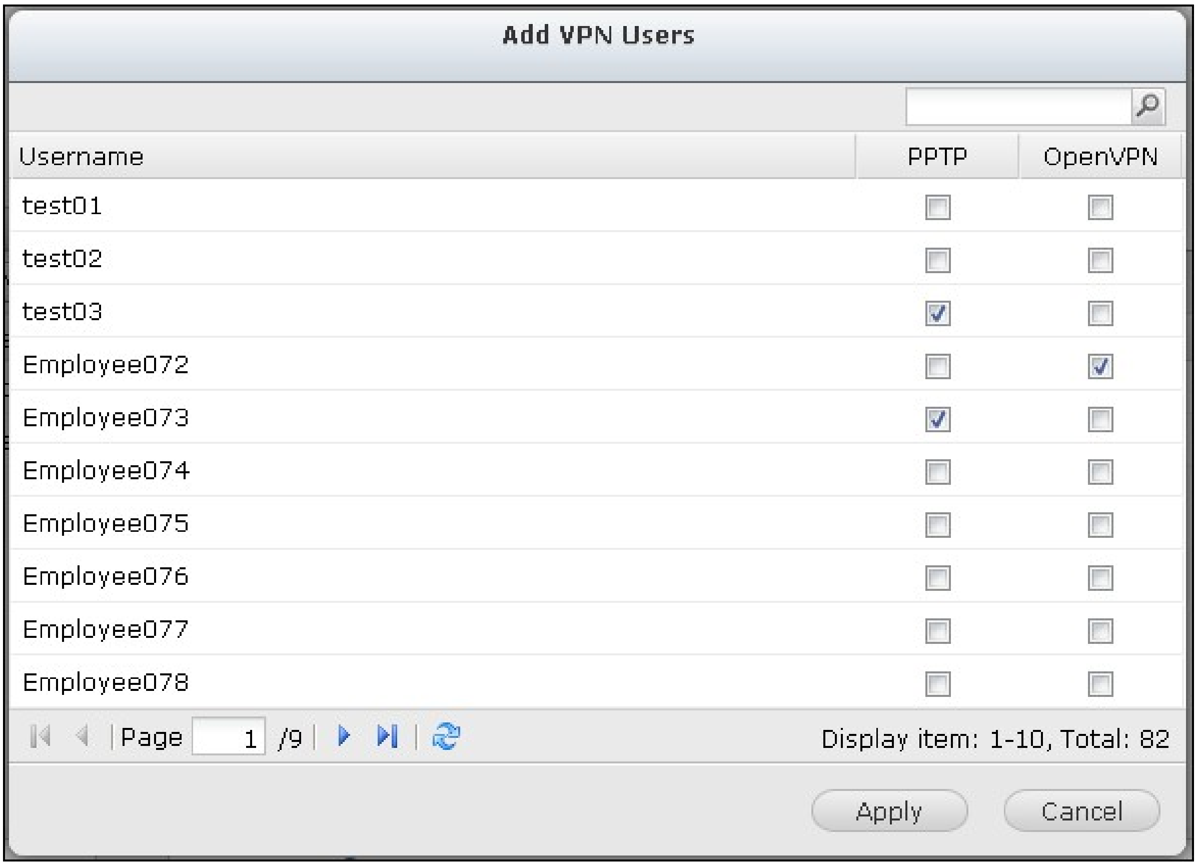
Note: To connect to the PPTP server on the Internet, the PPTP passthrough options on some routers have to be opened. PPTP uses only port TCP-1723; forward this port manually if your router does not support UPnP.

4. Register myQNAPcloud service: You can connect to the NAS by WAN IP or myQNAPcloud name. To configure myQNAPcloud service, check the chapter on myQNAPcloud Service or visit myQNAPcloud (http://www.qnap.com/pro_application.asp?ap_id=637).

5. Add VPN users: Go to "Applications" > "VPN Service" > "VPN Client Management", click "Add VPN Users". The local NAS users will be listed. Select the users who are allowed to use the VPN service and their connection method (PPTP, OpenVPN, or both). Click "Add".



☐ Username	Status	PPTP	OpenVPN
☐ admin	Ready	☑	☑
☐ Ted	Ready	☑	☑



Add VPN Users

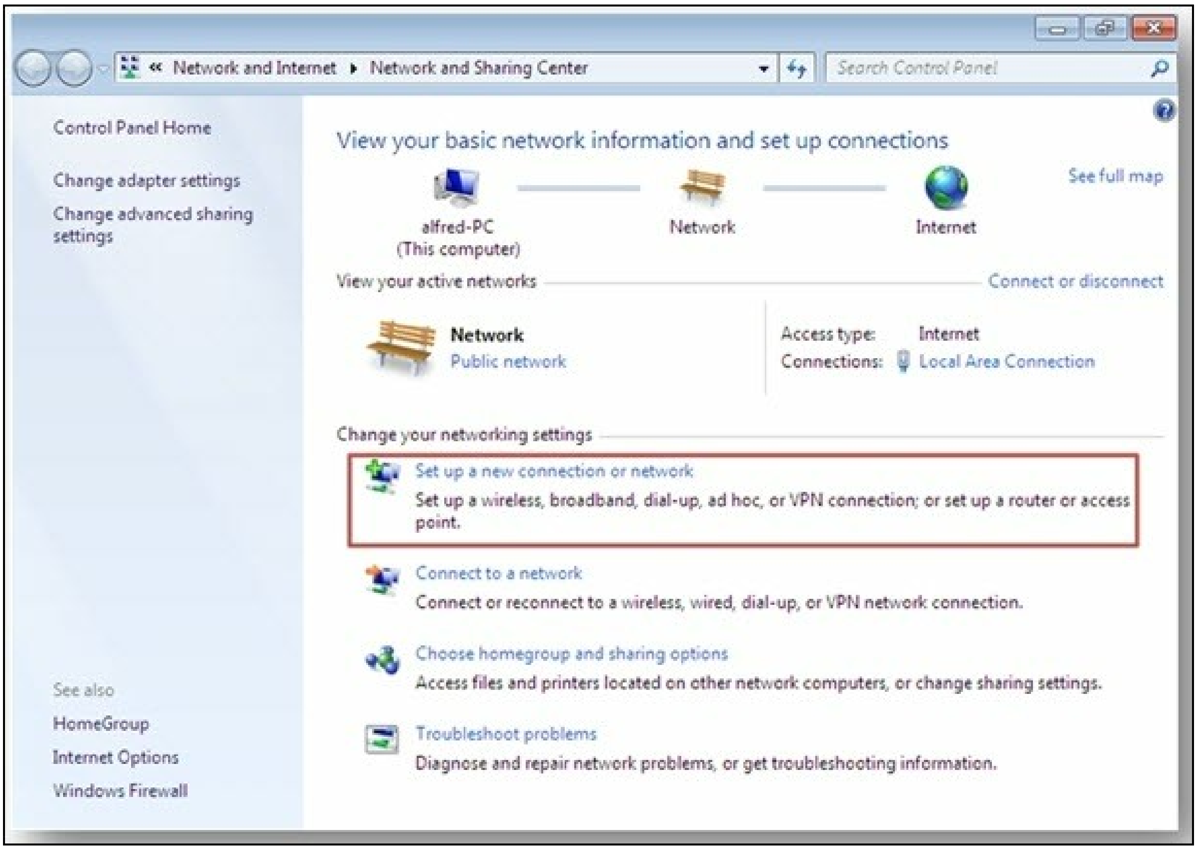
Username	PPTP	OpenVPN
test01	□	□
test02	□	□
test03	☑	□
Employee072	□	☑
Employee073	☑	□
Employee074	□	□
Employee075	□	□
Employee076	□	□
Employee077	□	□
Employee078	□	□

6. Connect to the private network by a VPN client: Now you can use your VPN client to connect to the NAS via the VPN service.

VPN Client Setup

PPTP on Windows 7

1. Go to “Control Panel” > “Network and Sharing Center”. Select “Set up a new connection or network”.



View your basic network information and set up connections

View your active networks

Change your networking settings

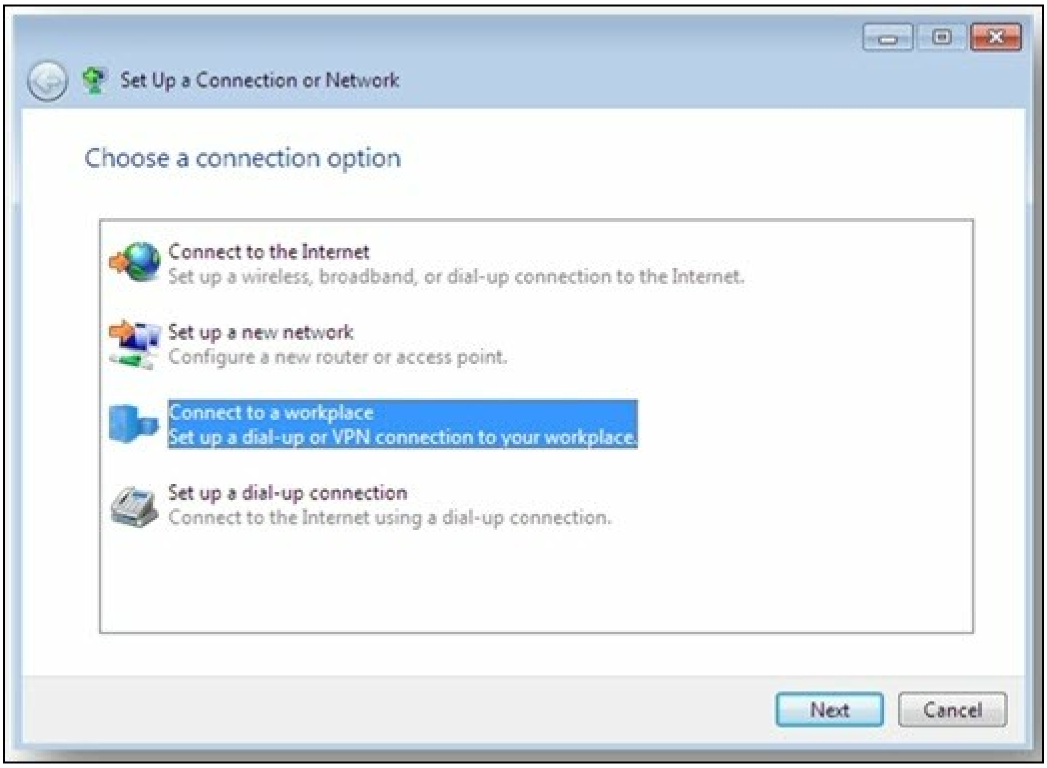
Set up a new connection or network
Set up a wireless, broadband, dial-up, ad hoc, or VPN connection; or set up a router or access point.

Connect to a network
Connect or reconnect to a wireless, wired, dial-up, or VPN network connection.

Choose homegroup and sharing options
Access files and printers located on other network computers, or change sharing settings.

Troubleshoot problems
Diagnose and repair network problems, or get troubleshooting information.

2. Select “Connect to a workplace” and click “Next”.



Set Up a Connection or Network

Choose a connection option

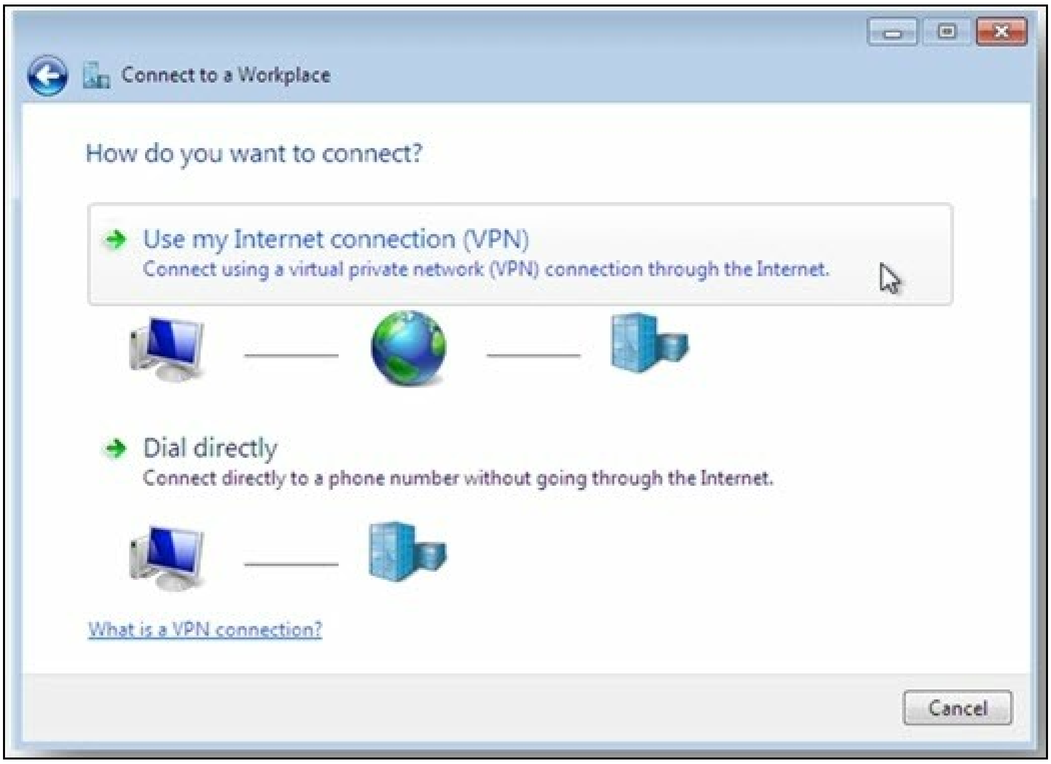
Connect to the Internet
Set up a wireless, broadband, or dial-up connection to the Internet.

Set up a new network
Configure a new router or access point.

Connect to a workplace
Set up a dial-up or VPN connection to your workplace.

Set up a dial-up connection
Connect to the Internet using a dial-up connection.

3. Select "Use my Internet connection (VPN)".



Connect to a Workplace

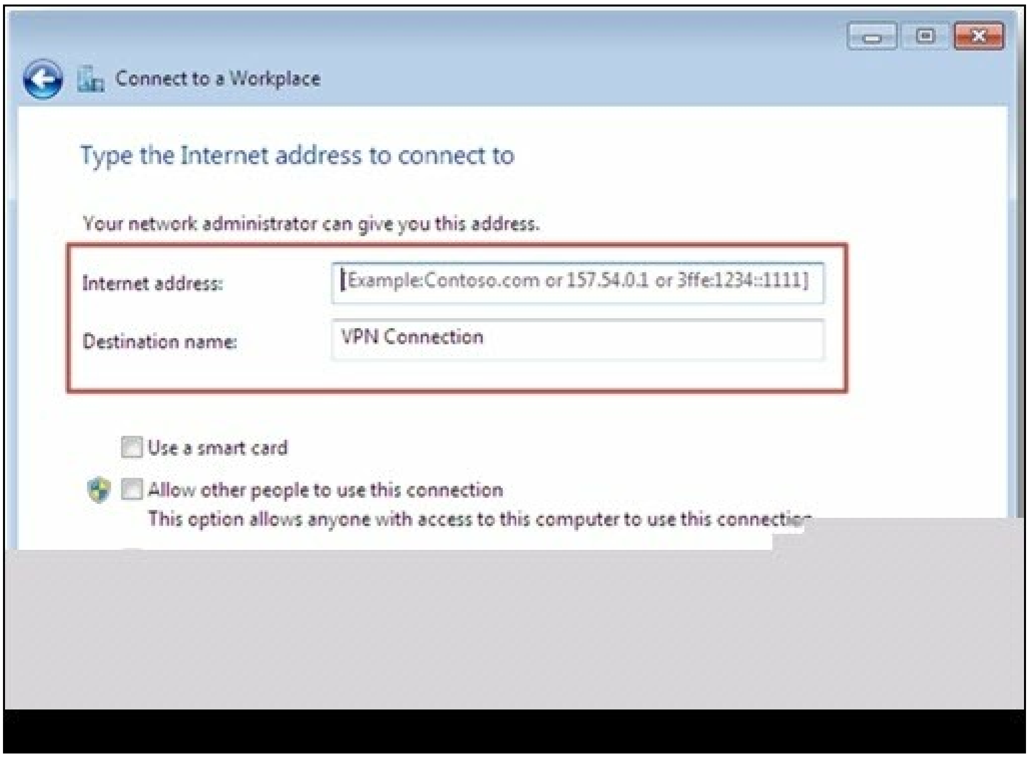
How do you want to connect?

Use my Internet connection (VPN)
Connect using a virtual private network (VPN) connection through the Internet.

Dial directly
Connect directly to a phone number without going through the Internet.

What is a VPN connection?

4. Enter the MyQNAPcloud name or the WAN IP of the NAS and enter a name of the connection. Then click "Next".



Type the Internet address to connect to

Your network administrator can give you this address.

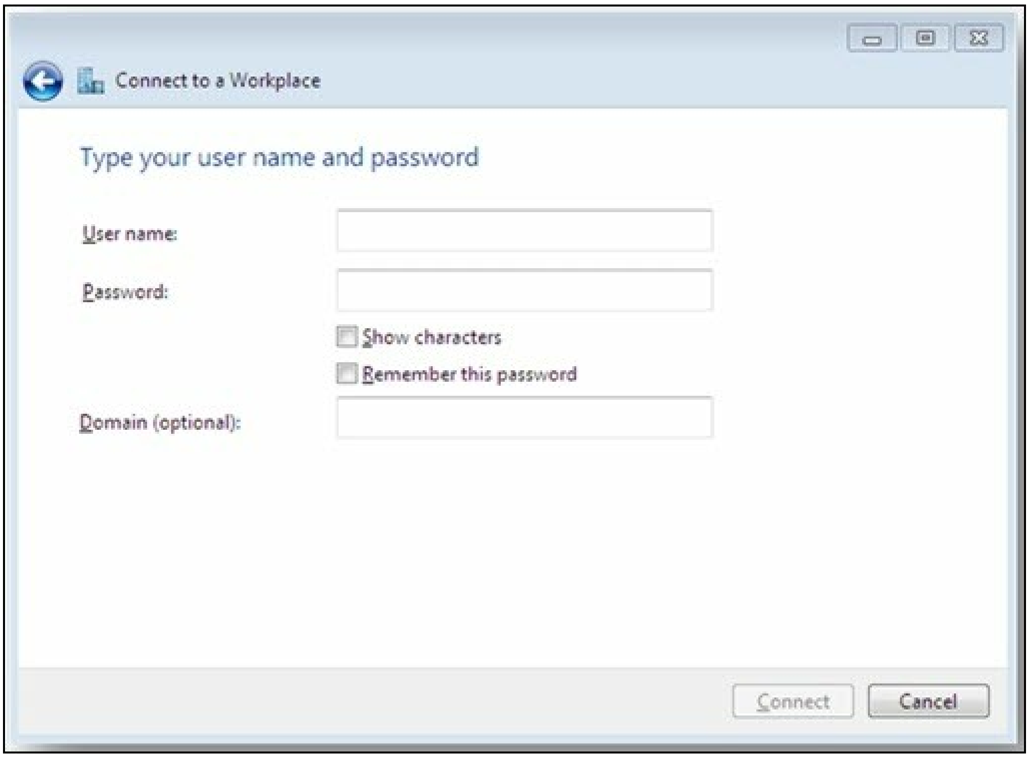
Internet address: [Example:Contoso.com or 157.54.0.1 or 3ffe:1234::1111]

Destination name: VPN Connection

□ Use a smart card

□ Allow other people to use this connection
This option allows anyone with access to this computer to use this connectio

5. Enter your username and password which is added from the NAS for VPN access. Click "Connect".



Type your user name and password

User name:

Password:

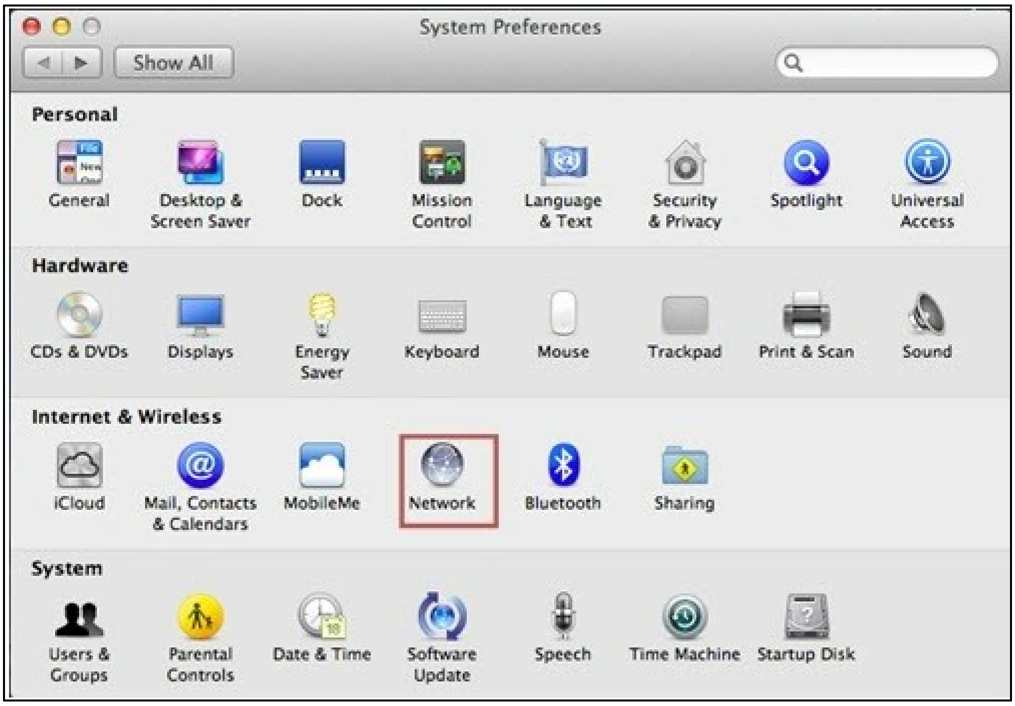
□ Show characters

□ Remember this password

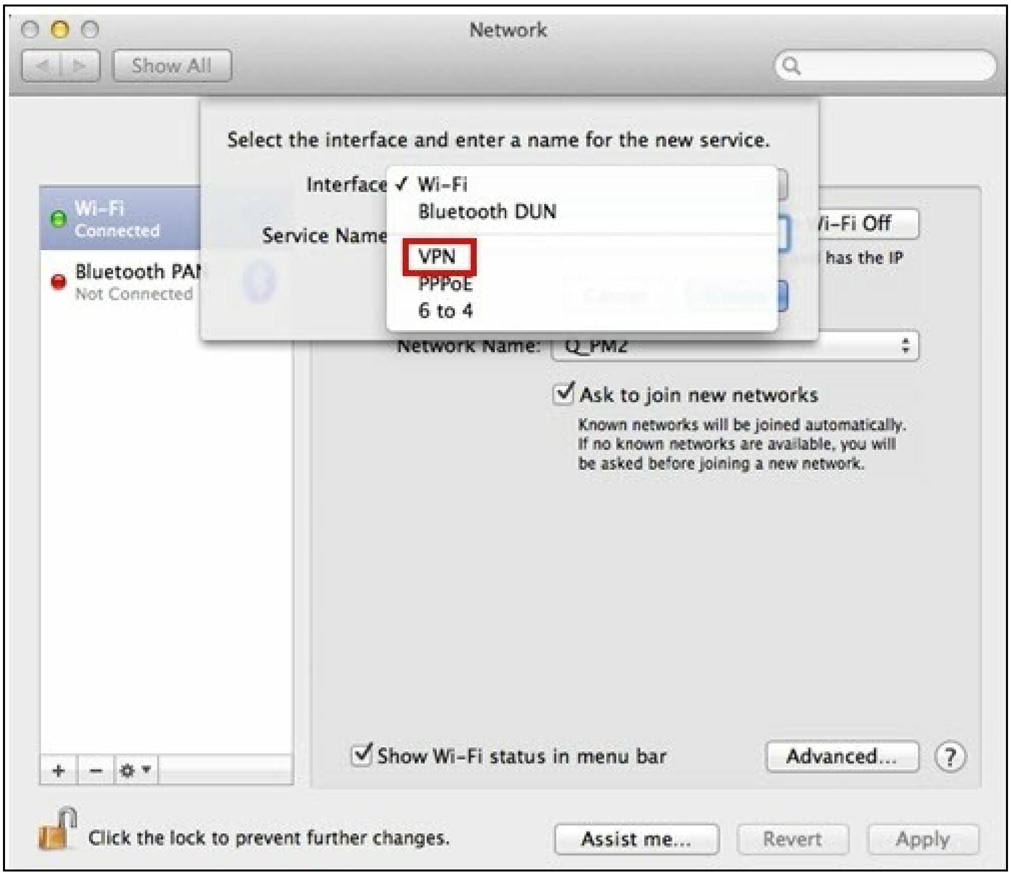
Domain (optional):

PPTP on Mac OS X 10.7

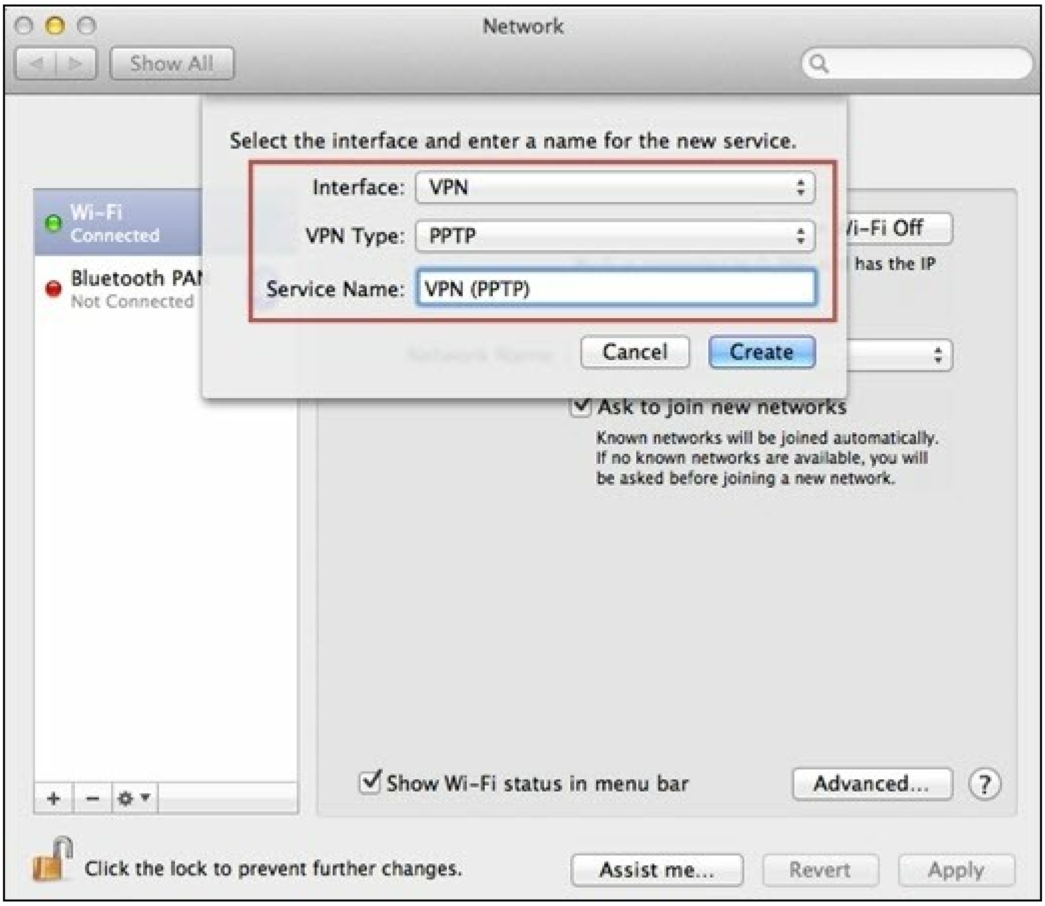
1. Choose “Apple menu” > “System Preferences”, and click “Network”.



2. Click “Add (+)” at the bottom of the list, and choose “VPN” as the interface.


Network
Show All
Select the interface and enter a name for the new service.
Interface ✓ Wi-Fi
Bluetooth DUN
Service Name
VPN
PPPoE
6 to 4
Wi-Fi
Connected
Bluetooth PAN
Not Connected
Wi-Fi Off
has the IP
Network Name: Q_PM2
☑ Ask to join new networks
Known networks will be joined automatically. If no known networks are available, you will be asked before joining a new network.
☑ Show Wi-Fi status in menu bar
Advanced...
?
Click the lock to prevent further changes.
Assist me...
Revert
Apply

3. Choose the VPN type according to the settings of the NAS to connect. Enter the service name.



Select the interface and enter a name for the new service.

Interface: VPN

VPN Type: PPTP

Service Name: VPN (PPTP)

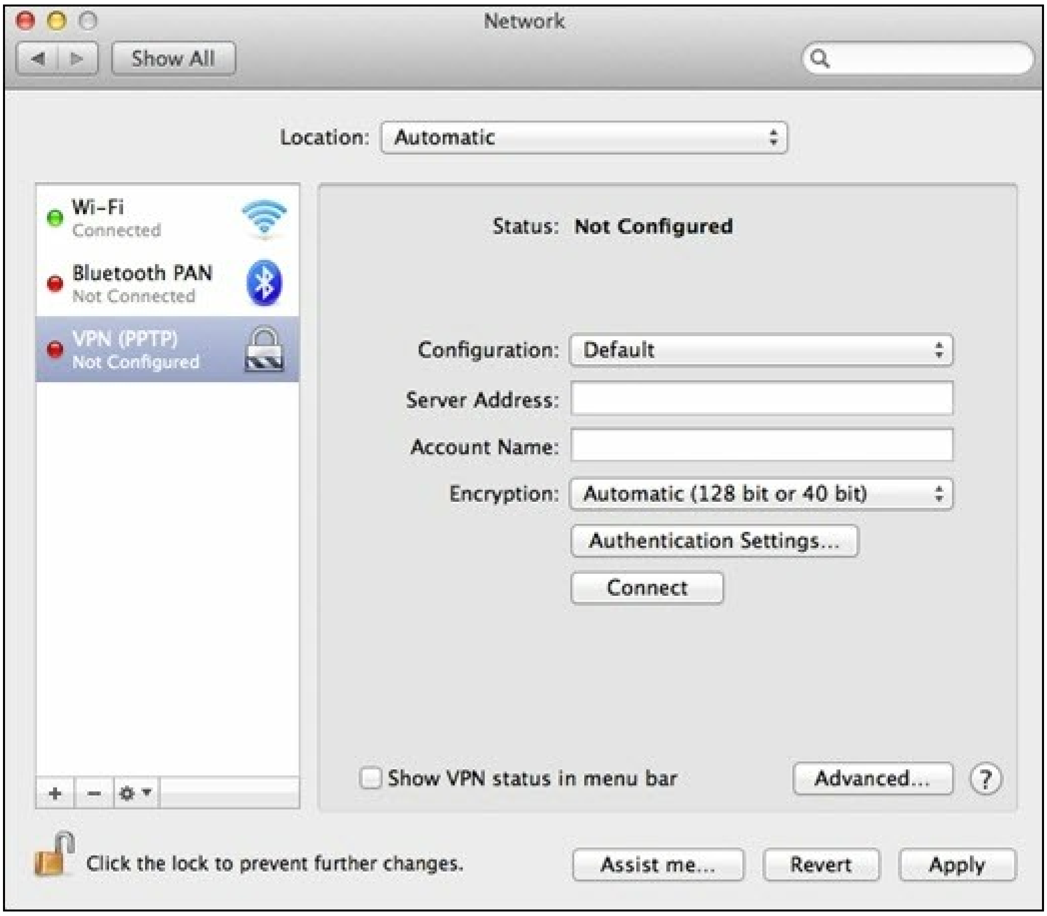
☑ Ask to join new networks

Known networks will be joined automatically. If no known networks are available, you will be asked before joining a new network.

☑ Show Wi-Fi status in menu bar

Click the lock to prevent further changes.

4. In “Server Address”, enter the myQNAPcloud name or the WAN IP of the NAS. In “Account Name”, enter your username which is added from the NAS.



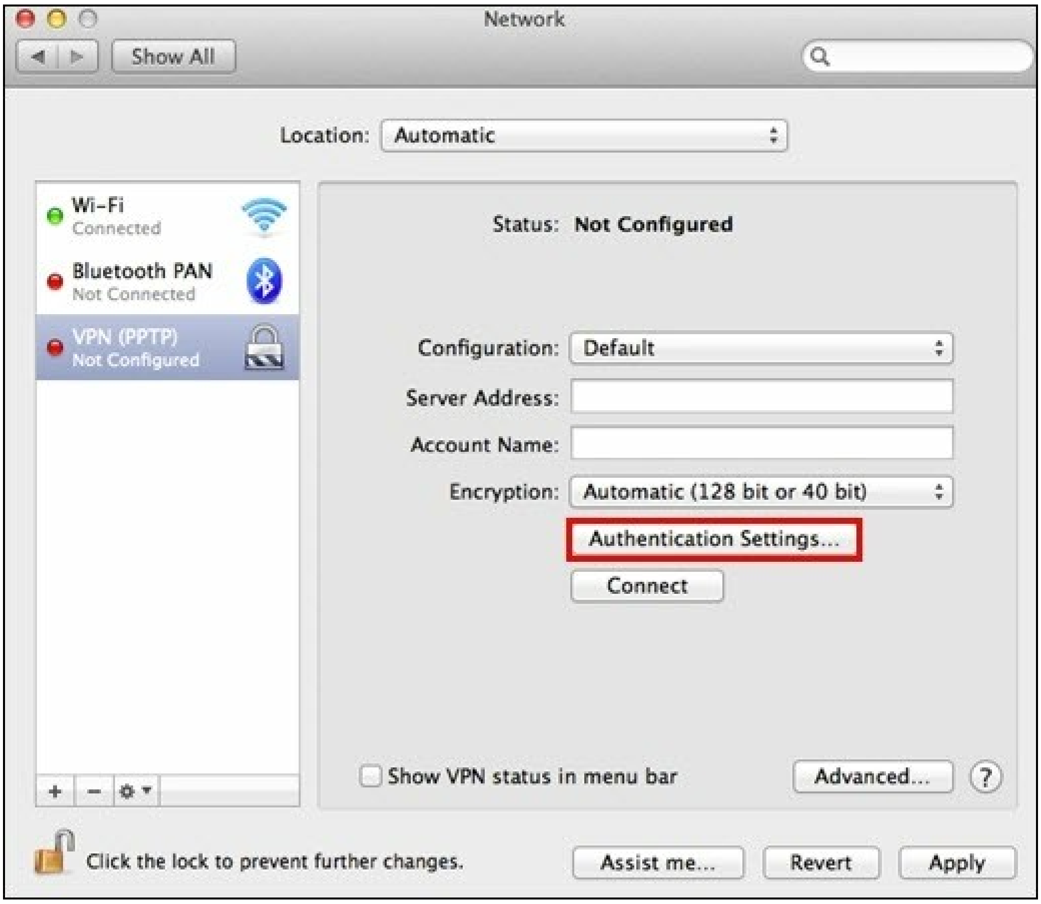
Location: Automatic

Status: Not Configured

Configuration: Default

Encryption: Automatic (128 bit or 40 bit)

5. Click "Authentication Settings", and enter the user authentication information given by the network administrator.



Location: Automatic

Status: Not Configured

Configuration: Default

Server Address:

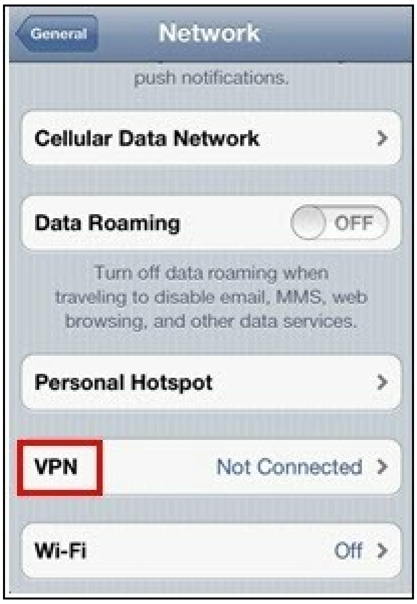
Account Name:

Encryption: Automatic (128 bit or 40 bit)

6. After entering the user authentication information, click “OK”, and then click “Connect”.

PPTP on iOS 5

1. Go to “Settings” > “General” > “Network”, select “VPN”.



push notifications.

Cellular Data Network

Data Roaming OFF

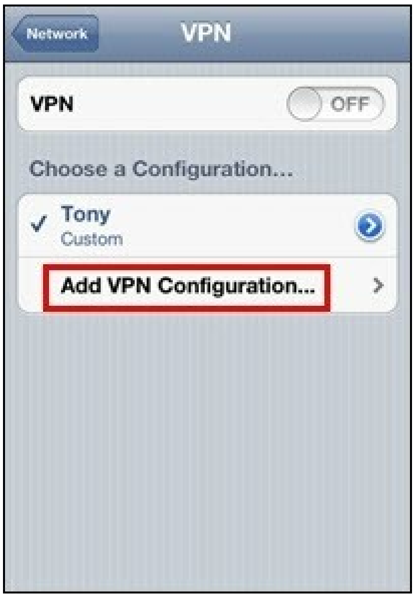
Turn off data roaming when traveling to disable email, MMS, web browsing, and other data services.

Personal Hotspot

VPN Not Connected

Wi-Fi Off

2. Select “Add VPN Configuration”.



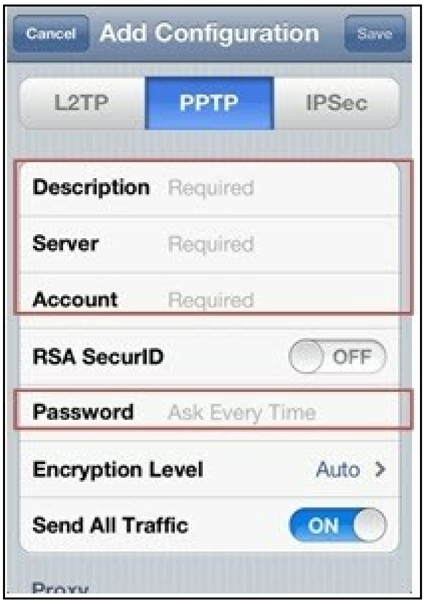
VPN OFF

Choose a Configuration...

✓ Tony
Custom

Add VPN Configuration...

3. Select “PPTP”, and enter the Description, Server, Account, and Password for the connection.



Description Required

Server Required

Account Required

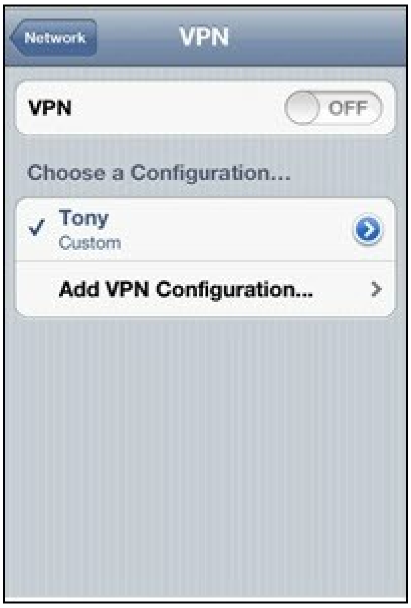
RSA SecurID OFF

Password Ask Every Time

Encryption Level Auto >

Send All Traffic ON

4. Return to “Settings” > “General” > “Network” > “VPN”, and enable “VPN”.



VPN OFF

Choose a Configuration...

✓ Tony
Custom

OpenVPN on Windows

1. Download OpenVPN from http://openvpn.net/index.php/open-source/downloads.html

2. Install OpenVPN client on Windows. The default installation directory is C:\Program Files\OpenVPN.

3. Run OpenVPN GUI as administrator.

4. Download OpenVPN configuration file and certificate from the NAS ("Applications" > "VPN Service" > "VPN Server Settings" > "OpenVPN Settings")

5. Edit openvpn.ovpn and replace "OPENVPN_SERVER_IP" with the OpenVPN server IP.

6. Put "ca.crt" and "openvpn.ovpn" into the configuration folder under OpenVPN configuration subdirectory (C:\Program Files\OpenVPN\config).

Note: If the OpenVPN client is running on Windows 7, add the firewall rules in the advanced settings of OpenVPN.

OpenVPN on Linux

1. Download OpenVPN from http://openvpn.net/index.php/open-source/downloads.htm

2. Install OpenVPN client on Linux.

3. Download OpenVPN configuration file and certificate from the NAS ("Applications" > "VPN Service" > "VPN Server Settings" > "OpenVPN Settings").

4. Edit openvpn.ovpn and replace "OPENVPN_SERVER_IP" with OpenVPN server IP.

5. Put "ca.crt" and "openvpn.ovpn" into the configuration folder under OpenVPN configuration subdirectory.

6. Run OpenVPN.

OpenVPN on Mac

1. Download the disk image of OpenVPN client from http://code.google.com/p/tunnelblick/

2. Launch Tunnelblick.

3. Download OpenVPN configuration file and certificate from the NAS (“Applications” > “VPN Service” > “VPN Server Settings” > “OpenVPN Settings”).

4. Edit openvpn.ovpn and replace OPENVPN_SERVER_IP (alfred.myqnapnas.com) with OpenVPN server IP.

5. Put “ca.crt” and “openvpn.ovpn” into the configuration folder under OpenVPN configuration subdirectory.

6. Run OpenVPN.

7.8 MySQL Server

Note: To use this feature on the TS-x39/509/809 series, please update the system firmware with the image file enclosed in the product CD or download the latest system firmware from http://www.qnap.com.

You can enable MySQL Server as the website database.

Enable TCP/IP Networking:

You can enable this option to configure MySQL server of the NAS as a database server of another web server in remote site through Internet connection. When you disable this option, your MySQL server will only be configured as local database server for the web server of the NAS.

After enabling remote connection, assign a port for the remote connection service of MySQL server. The default port is 3306.

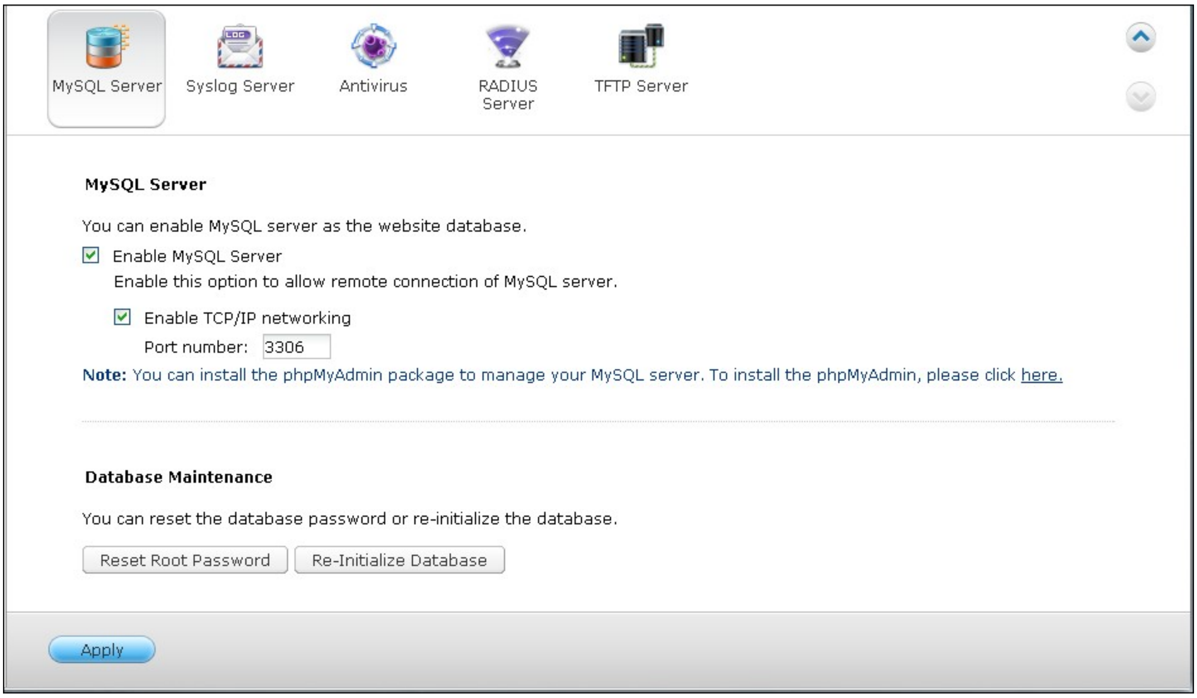
After the first-time installation of the NAS, a folder phpMyAdmin is created in the Qweb/ Web network folder. You can enter http://NAS IP/phpMyAdmin/ in the web browser to enter the phpMyAdmin page and manage the MySQL database.

Note:

- Do not delete the phpMyAdmin folder. You can rename this folder but the link on the MySQL server page will not be updated. To connect to the renamed folder, you can enter the link http://NAS IP/renamed folder in the web browser.
- The phpMyAdmin folder is created after the first-time installation. When you update the firmware, the folder remains unchanged.

Database Maintenance:

- Reset root password: Execute this function to reset the password of MySQL root as "admin".
- Re-initialize database: Execute this function to delete all the data on MySQL database.



MySQL Server

You can enable MySQL server as the website database.

☑ Enable MySQL Server

Enable this option to allow remote connection of MySQL server.

☑ Enable TCP/IP networking

Port number: 3306

Note: You can install the phpMyAdmin package to manage your MySQL server. To install the phpMyAdmin, please click here.

Database Maintenance

You can reset the database password or re-initialize the database.

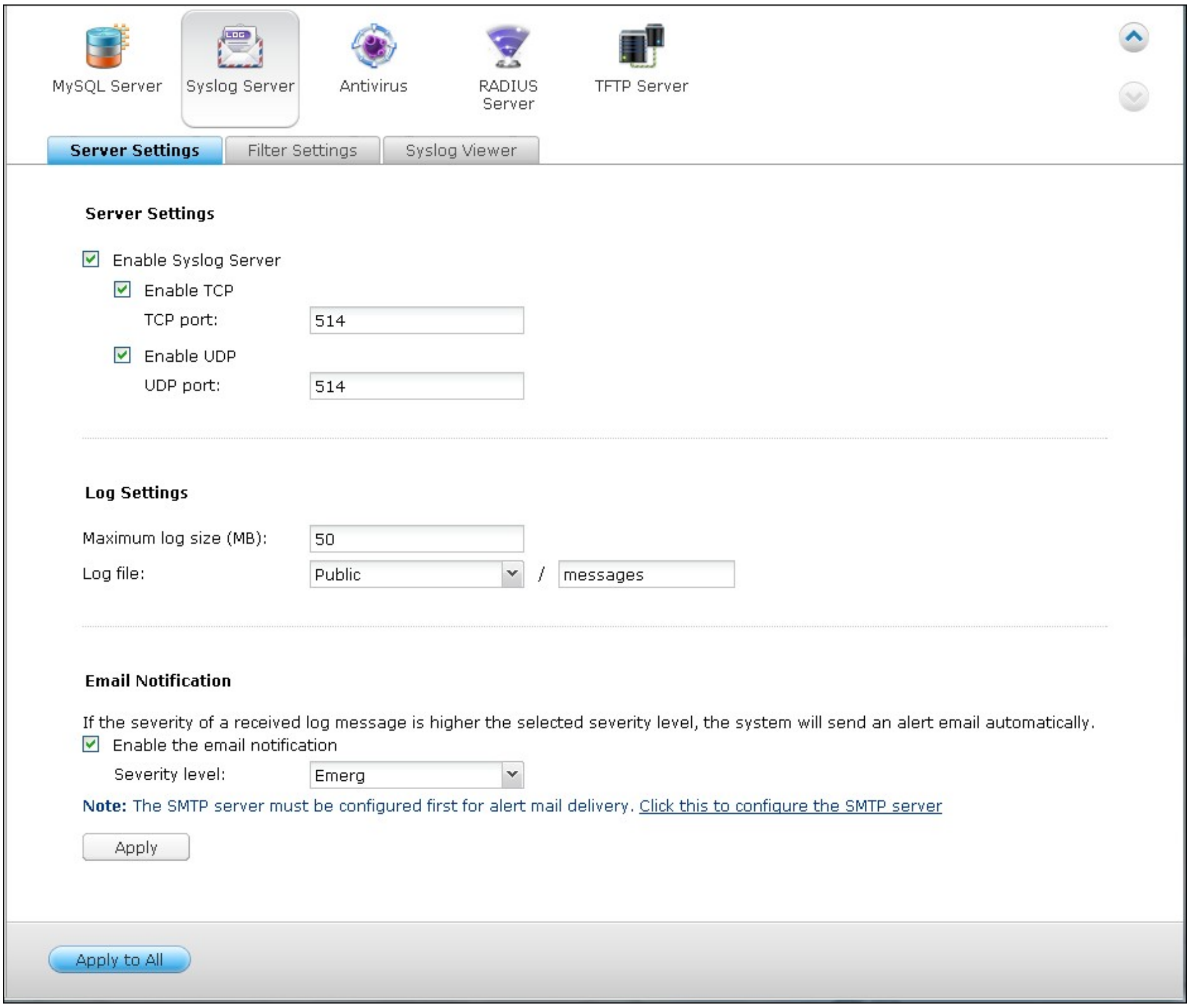
7.9 Syslog Server

Server Settings

To configure the NAS as a Syslog server and allow it to receive Syslog messages from the clients, enable Syslog Server. Select the protocols (TCP and/or UDP) the NAS uses to receive Syslog messages. Specify the port numbers if necessary or use the default port number 514. Click "Apply" to save the settings. After enabling the NAS as a Syslog server, enter the NAS IP as the Syslog server IP on the Syslog clients to receive the Syslog messages from them.

Log Settings

Specify the maximum log size (1-100 MB) of the Syslog messages, the location (NAS shared folder) to which the logs will be saved, and the file name. Once the logs have reached the maximum size, the log file will be automatically archived and renamed with the archive date as MyLogFile_yyyy_mm_dd, for example MyLogFile_2011_12_31. If multiple log files are archived on the same day, the file will be named as MyLogFile_yyyy_mm_dd.[number]. For example, MyLogFile_2011_12_31.1, MyLogFile_2011_12_31.2, and so on. Click "Apply" to save the settings.



Server Settings

☑ Enable Syslog Server

☑ Enable TCP

TCP port: 514

☑ Enable UDP

UDP port: 514

Log Settings

Maximum log size (MB): 50

Log file: Public / messages

Email Notification

If the severity of a received log message is higher the selected severity level, the system will send an alert email automatically.

☑ Enable the email notification

Severity level: Emerg

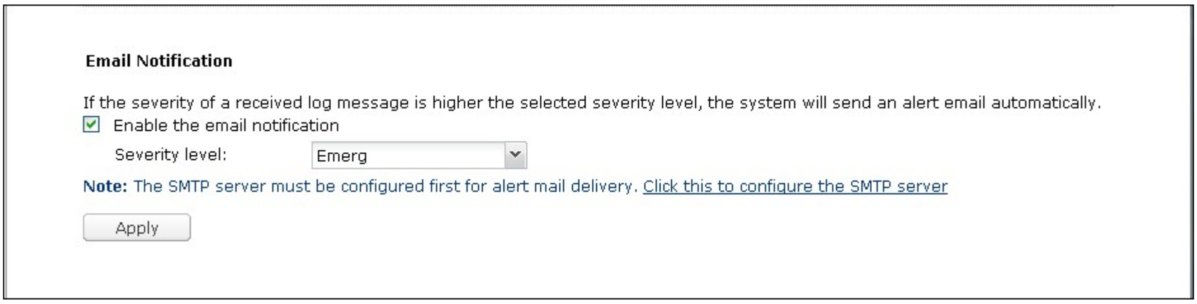
Note: The SMTP server must be configured first for alert mail delivery. Click this to configure the SMTP server

Email Notification:

The NAS supports sending email alert to dedicated email addresses (maximum 2, configured in “System Settings” > “Notification” > “Alert Notification”) when the severity of the received Syslog messages match the specified level. To use this feature, configure the SMTP server settings in “System Settings” > “Notification” > “SMTP Server”. Next, enable email notification and select the severity level in “Applications” > “Syslog Server” > “Server Settings”. Click “Apply” to save the settings.

Severity	**Level (smallest number the highest)**	**Description**
Emerg	0	Emergency: the system is unusable. Alert emails will be sent when Syslog messages of levels 0-4 are received.
Alert	1	Alert: immediate action required.

		Alert emails will be sent when Syslog messages of levels 1-4 are received.
Crit	2	Critical: critical conditions. Alert emails will be sent when Syslog messages of levels 2-4 are received.
Err	3	Error: error conditions. Alert emails will be sent when Syslog messages of levels 3-4 are received.
Warning	4	Warning: warning conditions. Alert emails will be sent when Syslog messages of level 4 are received.



Email Notification

If the severity of a received log message is higher the selected severity level, the system will send an alert email automatically.

☑ Enable the email notification

Severity level: Emerg

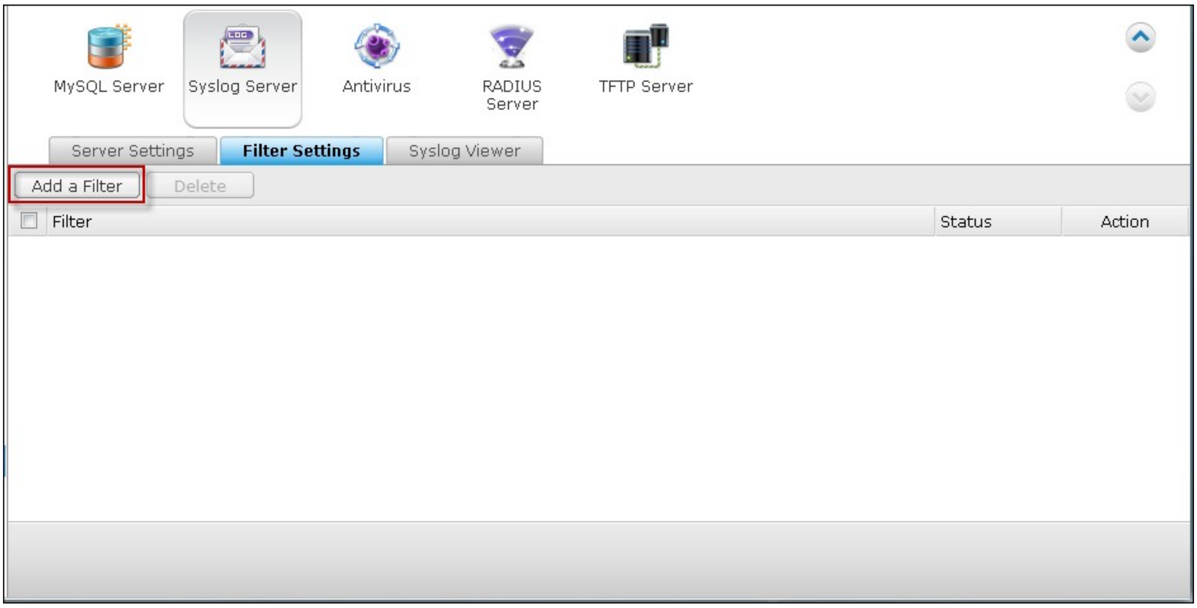
Note: The SMTP server must be configured first for alert mail delivery. Click this to configure the SMTP server

Filter Settings

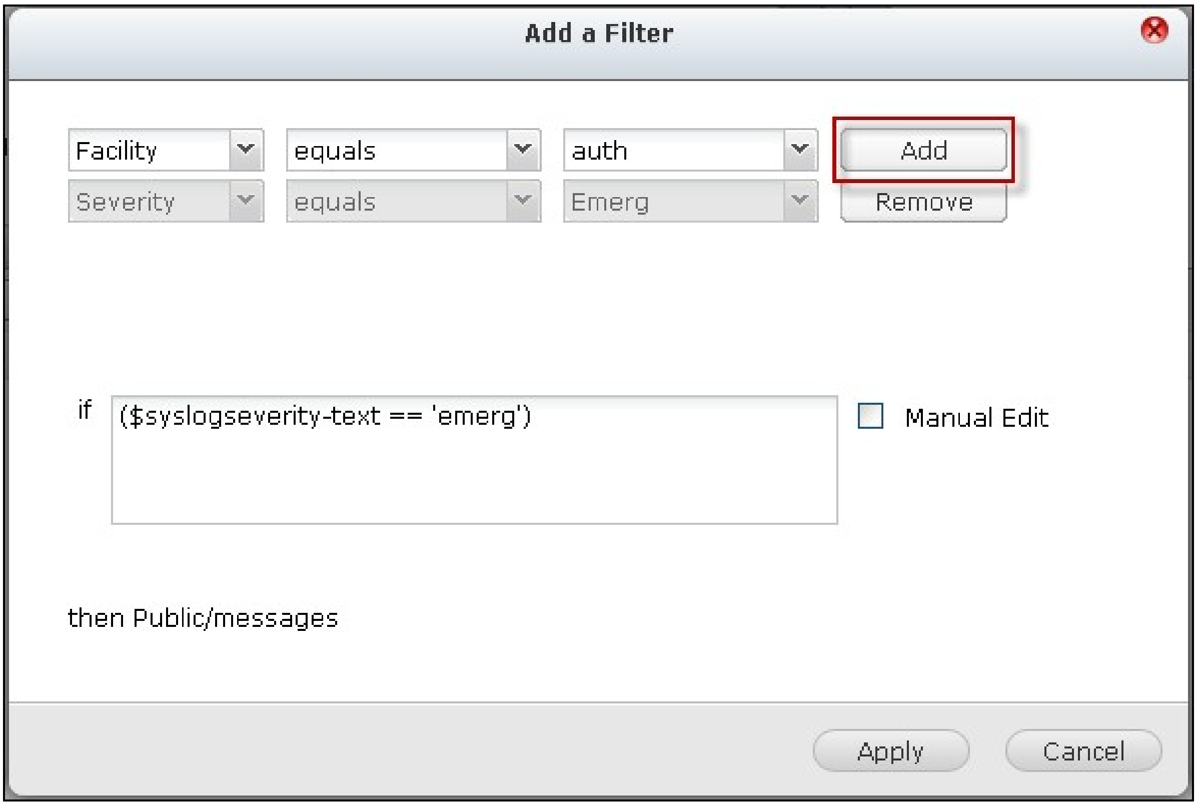
This feature should only be operated by system administrators who are familiar with Syslog filters.

Follow the steps below to create Syslog filters for the NAS to receive Syslog messages that match the criteria.

1. Click "Add a Filter".



2. Define the filter settings and click "Add". To edit the filters or add the filters manually, click "Manual Edit" and modify the contents in the dialog. Click "Apply" to save the filter.



Add a Filter

Facility | equals | auth

Severity | equals | Emerg

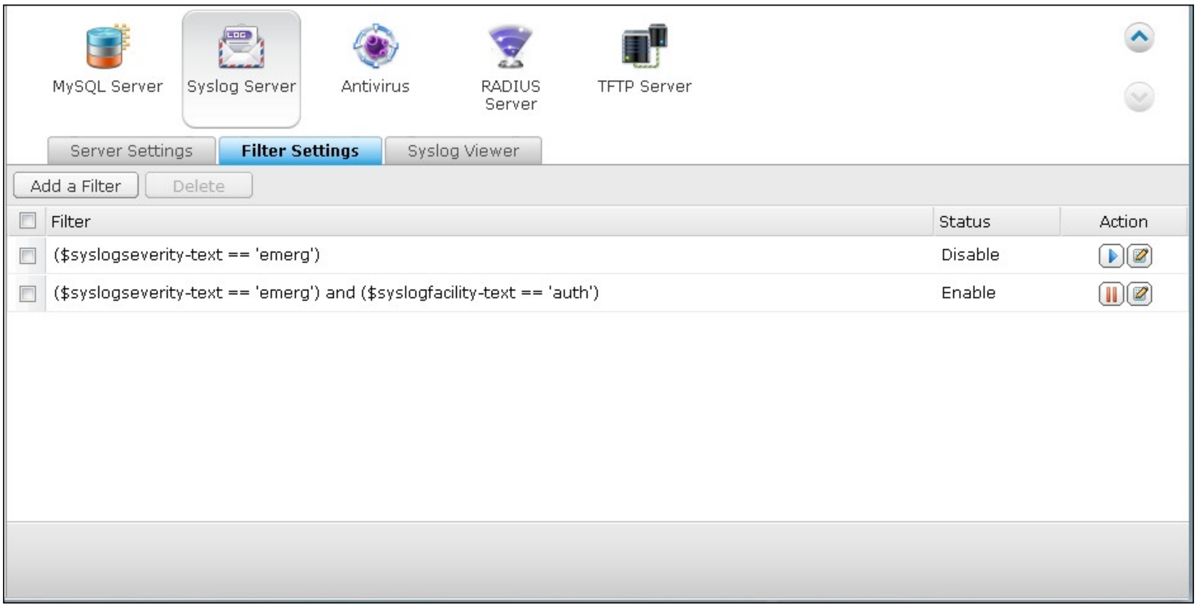
if ($syslogseverity-text == 'emerg')

□ Manual Edit

then Public/messages

3. The filters will be shown on the list. The NAS will only receive the Syslog messages that match the filters which are in use.

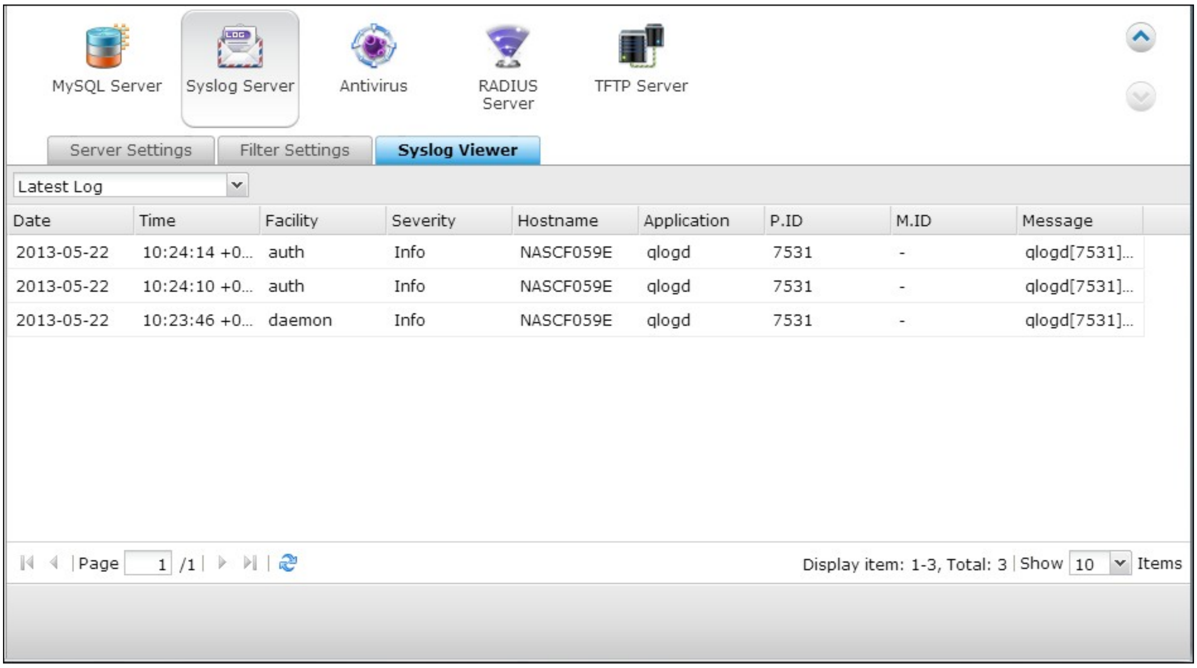
Button	**Description**
▶	Enable a filter
⏸	Disable a filter
✎	Edit the filter settings
Delete	Delete one or more filters



□	Filter	Status	Action
□	($syslogseverity-text == 'emerg')	Disable	▶ ✎
□	($syslogseverity-text == 'emerg') and ($syslogfacility-text == 'auth')	Enable	❚❚ ✎

Syslog Viewer

Use the web-based Syslog viewer to view the available Syslog messages on the NAS. Select to view the latest logs or the logs in a particular archived file. The log files can be accessed on the directory configured in “Syslog Server” > “Server Settings” > “Log Settings”.



Date	Time	Facility	Severity	Hostname	Application	P.ID	M.ID	Message
2013-05-22	10:24:14 +0...	auth	Info	NASCF059E	qlogd	7531	-	qlogd[7531]...
2013-05-22	10:24:10 +0...	auth	Info	NASCF059E	qlogd	7531	-	qlogd[7531]...
2013-05-22	10:23:46 +0...	daemon	Info	NASCF059E	qlogd	7531	-	qlogd[7531]...

7.10 Antivirus

Overview

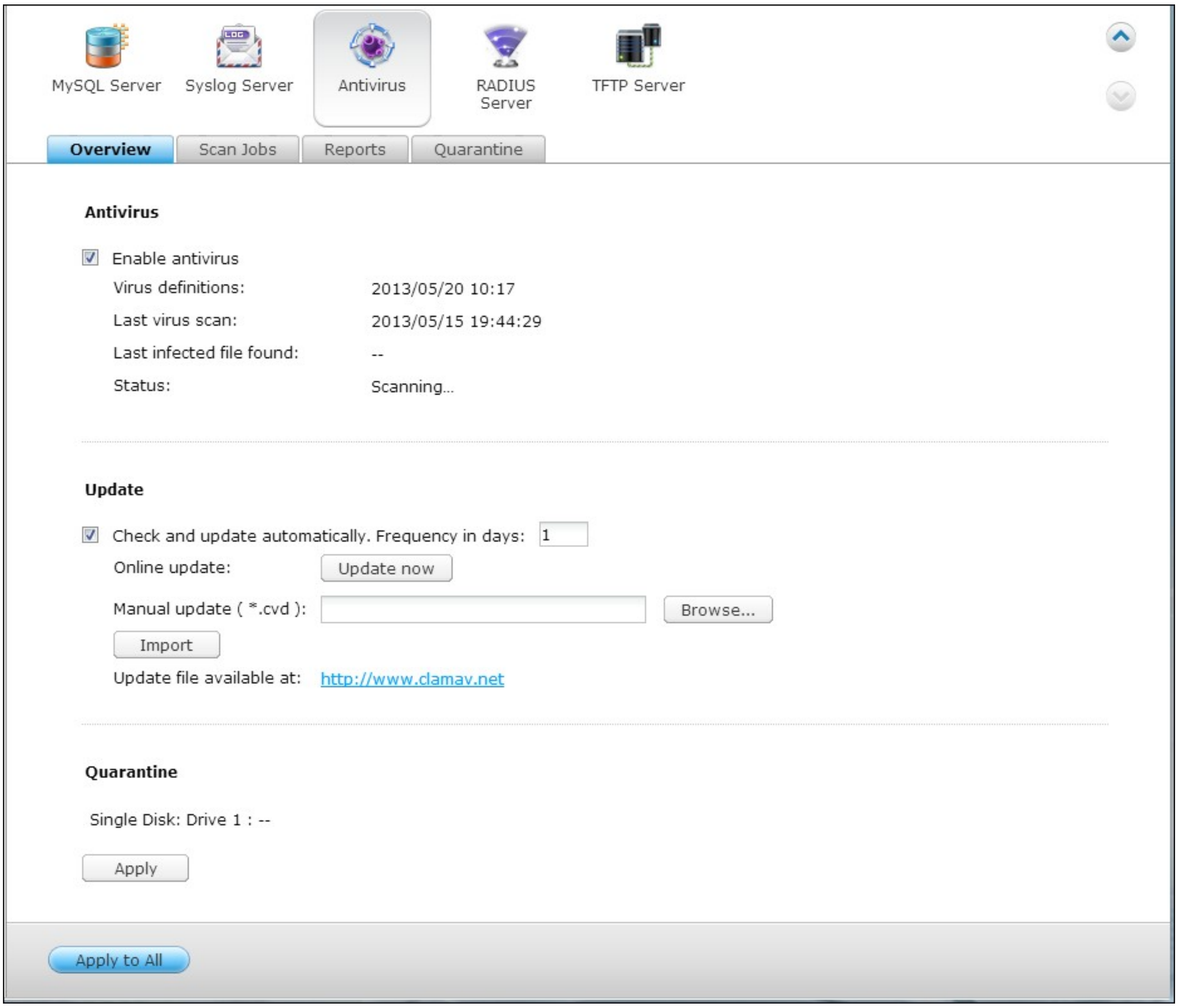
Use the antivirus feature to scan the NAS manually or on recurring schedule and delete, quarantine, or report files infected by viruses, malware, Trojans, and other malicious threats. To use this feature, select "Enable antivirus" and click "Apply".

Update:

Select "Check and update automatically" and specify the interval in days to update the antivirus definitions automatically. Click "Update Now" next to online update to update the antivirus definitions immediately. Users can also download the update files from http://www.clamav.net and update the antivirus definitions manually.
The NAS must be connected to the Internet to use this feature.

Quarantine:

View the quarantine information of the disk volumes on the NAS. For the details, go to "Applications" > "Antivirus" > "Quarantine".



Antivirus

☑ Enable antivirus

Virus definitions: 2013/05/20 10:17

Last virus scan: 2013/05/15 19:44:29

Last infected file found: --

Status: Scanning...

Update

☑ Check and update automatically. Frequency in days: 1

Online update: Update now

Manual update (*.cvd): Browse...

Import

Update file available at: http://www.clamav.net

Quarantine

Single Disk: Drive 1 : --

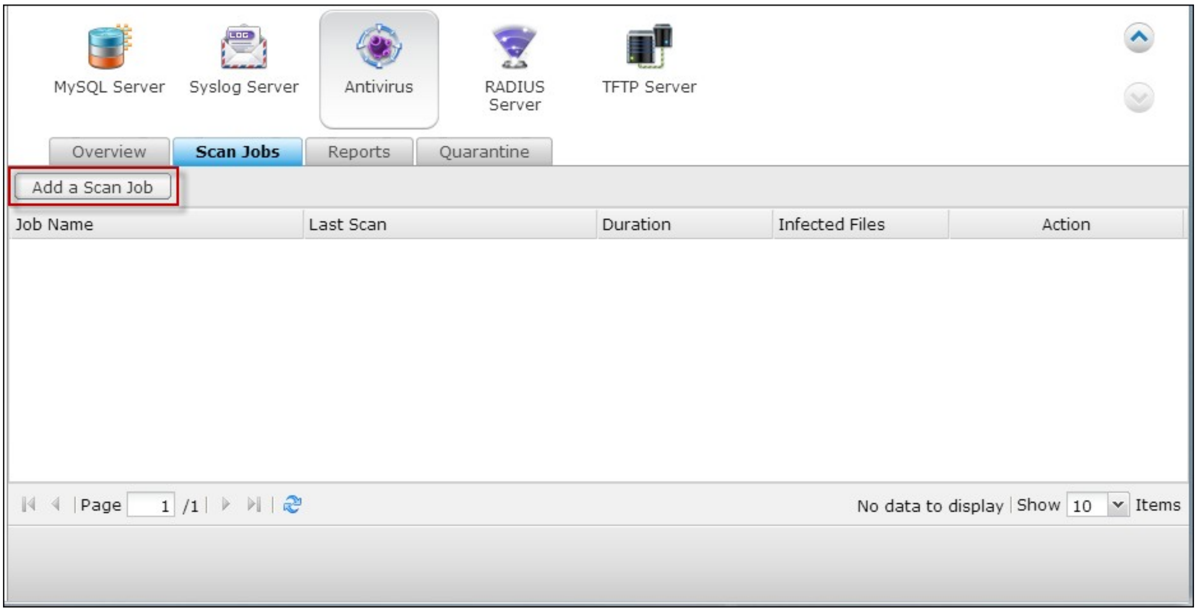
Apply

Apply to All

Scan Jobs

The NAS supports manual and scheduled scanning of all or specific shared folders. Up to 64 schedules can be created and maximum 5 scan jobs can run concurrently. To create a scan job, follow the steps below.

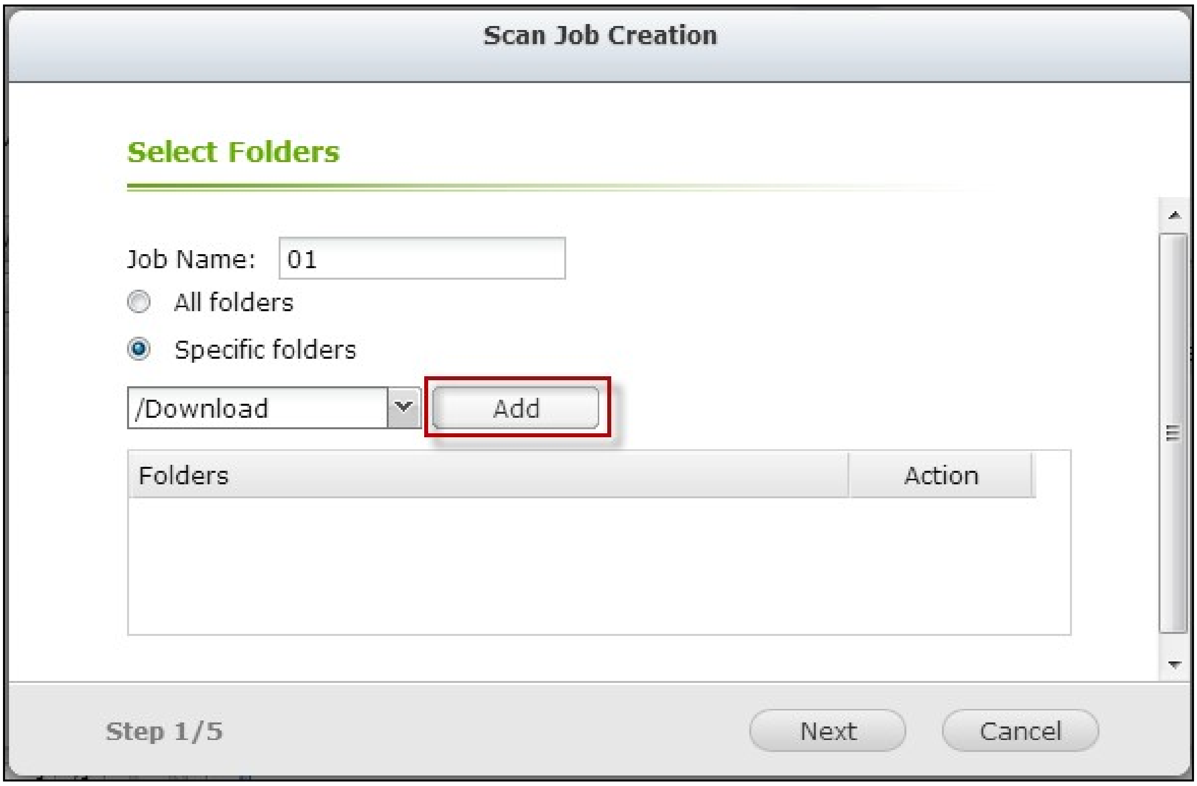
1. Go to "Applications" > "Antivirus" > "Scan Jobs". Click "Add a Scan Job".



Job Name	Last Scan	Duration	Infected Files	Action

Page 1 /1 No data to display Show 10 Items

2. Enter the job name and select the shared folders to scan. To scan a specific shared folder, select the share and click "Add".



Scan Job Creation

Select Folders

Job Name: 01

○ All folders

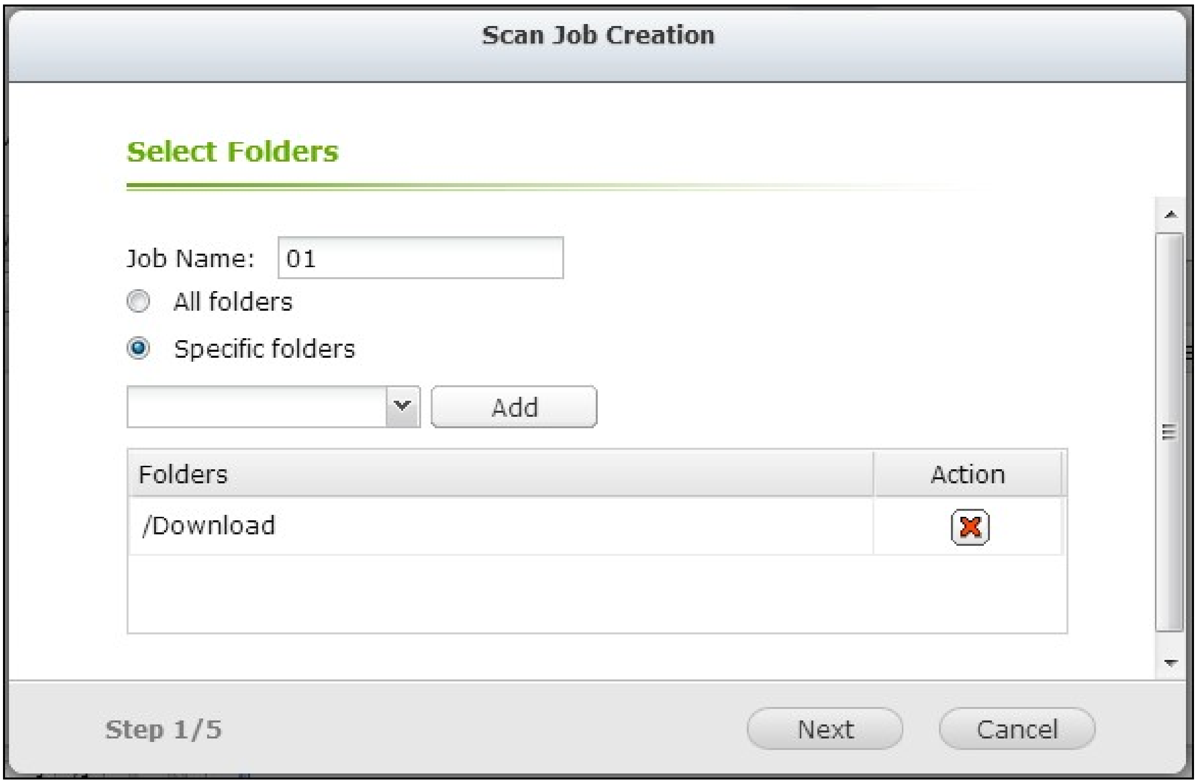
● Specific folders

/Download

Folders	Action

Step 1/5

3. Multiple shared folders can be selected. To remove a shared folder, click ☒ next to the share name. Click "Next".



Scan Job Creation

Select Folders

Job Name: 01

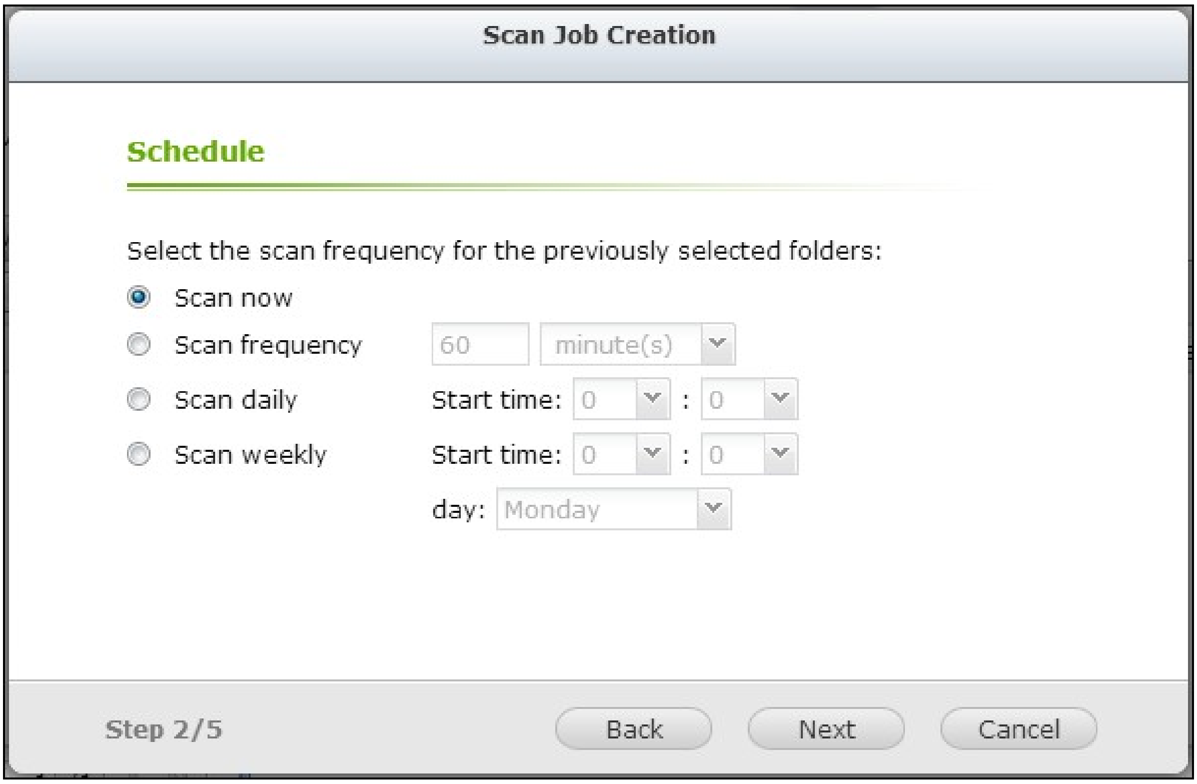
○ All folders

● Specific folders

Folders	Action
/Download	☒

Step 1/5

4. Define the schedule for the scan job. Click “Next”.



Schedule

Select the scan frequency for the previously selected folders:

● Scan now

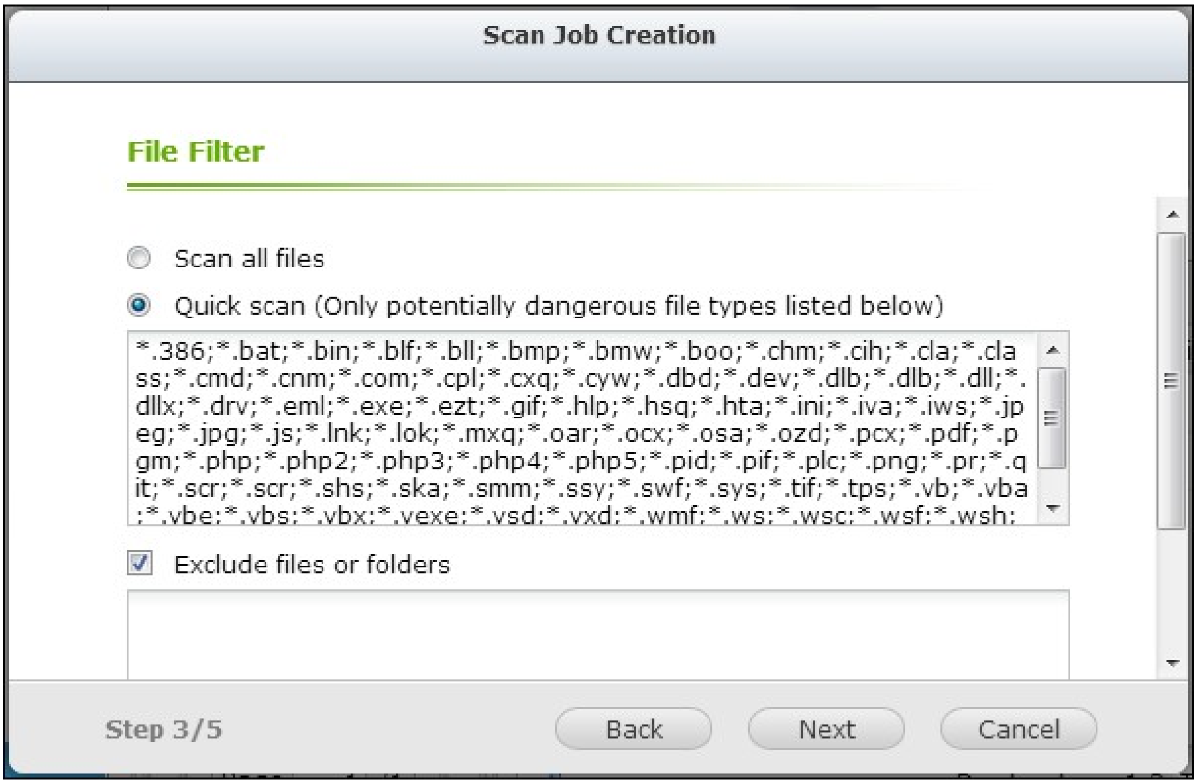
○ Scan frequency 60 minute(s)

○ Scan daily Start time: 0 : 0

○ Scan weekly Start time: 0 : 0

day: Monday

5. Select to scan all the files in the shared folder(s) or quick scan to scan only potentially dangerous files. Select “Exclude files or folders” and specify a file, a folder, or a file extension to be excluded from the virus scan. Separate each entry by a space in the same line or enter one entry per line. For example:
   /Public/testfile.txt
   /Download
   *.log
   *.exe *.com
   *.txt
   Click “Next”.



File Filter

○ Scan all files

● Quick scan (Only potentially dangerous file types listed below)

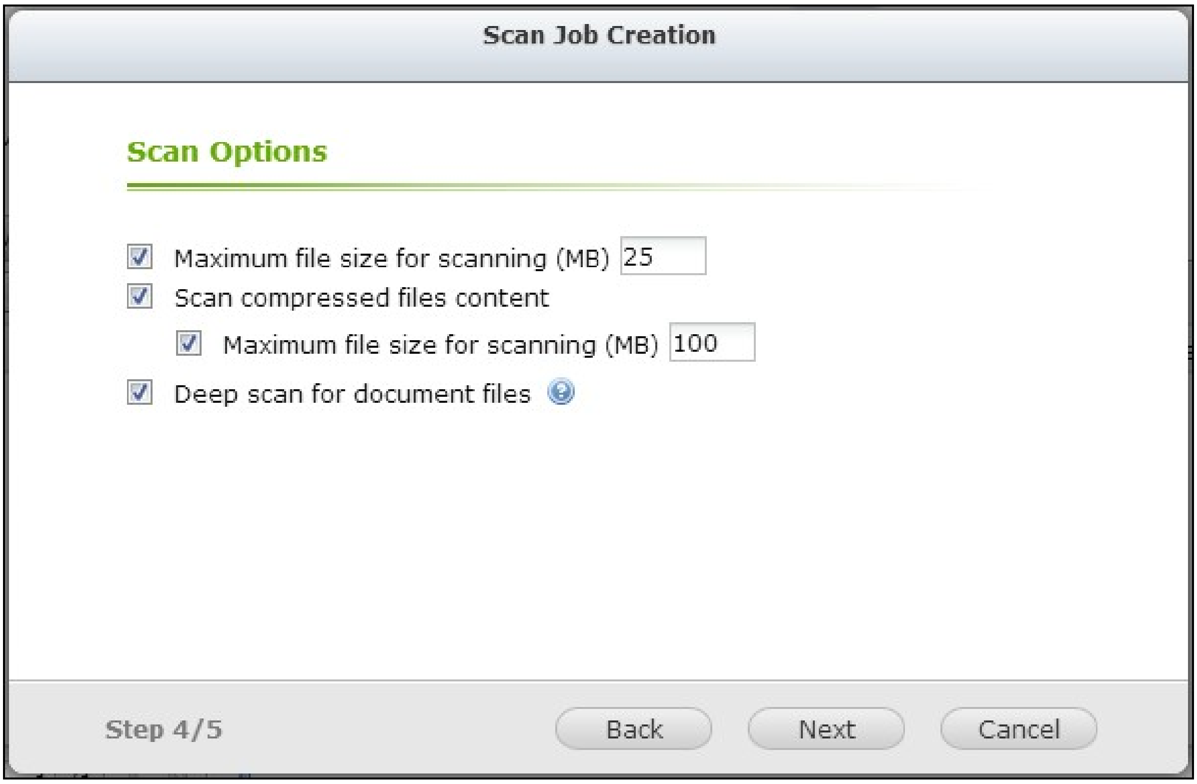
```
*.386;*.bat;*.bin;*.blf;*.bll;*.bmp;*.bmw;*.boo;*.chm;*.cih;*.cla;*.cla
ss;*.cmd;*.cnm;*.com;*.cpl;*.cxq;*.cyw;*.dbd;*.dev;*.dlb;*.dlb;*.dll;*.
dllx;*.drv;*.eml;*.exe;*.ezt;*.gif;*.hlp;*.hsq;*.hta;*.ini;*.iva;*.iws;*.jp
eg;*.jpg;*.js;*.lnk;*.lok;*.mxq;*.oar;*.ocx;*.osa;*.ozd;*.pcx;*.pdf;*.p
gm;*.php;*.php2;*.php3;*.php4;*.php5;*.pid;*.pif;*.plc;*.png;*.pr;*.q
it;*.scr;*.scr;*.shs;*.ska;*.smm;*.ssy;*.swf;*.sys;*.tif;*.tps;*.vb;*.vba
;*.vbe;*.vbs;*.vbx;*.vexe;*.vsd;*.vxd;*.wmf;*.ws;*.wsc;*.wsf;*.wsh;
```

☑ Exclude files or folders

6. Enable other scan options:

- Specify the maximum file size (1-4096 MB) allowed for scanning.
- To scan compressed files in the shared folder(s), enable "Scan compressed files". Specify the maximum amount of data (1-4096 MB) in an archive file for scanning if applicable.
- To scan MS Office and Mac Office files, RTF, PDF, and HTML files, select "Deep scan for document files".

Click "Next".



Scan Job Creation

Scan Options

☑ Maximum file size for scanning (MB) 25

☑ Scan compressed files content

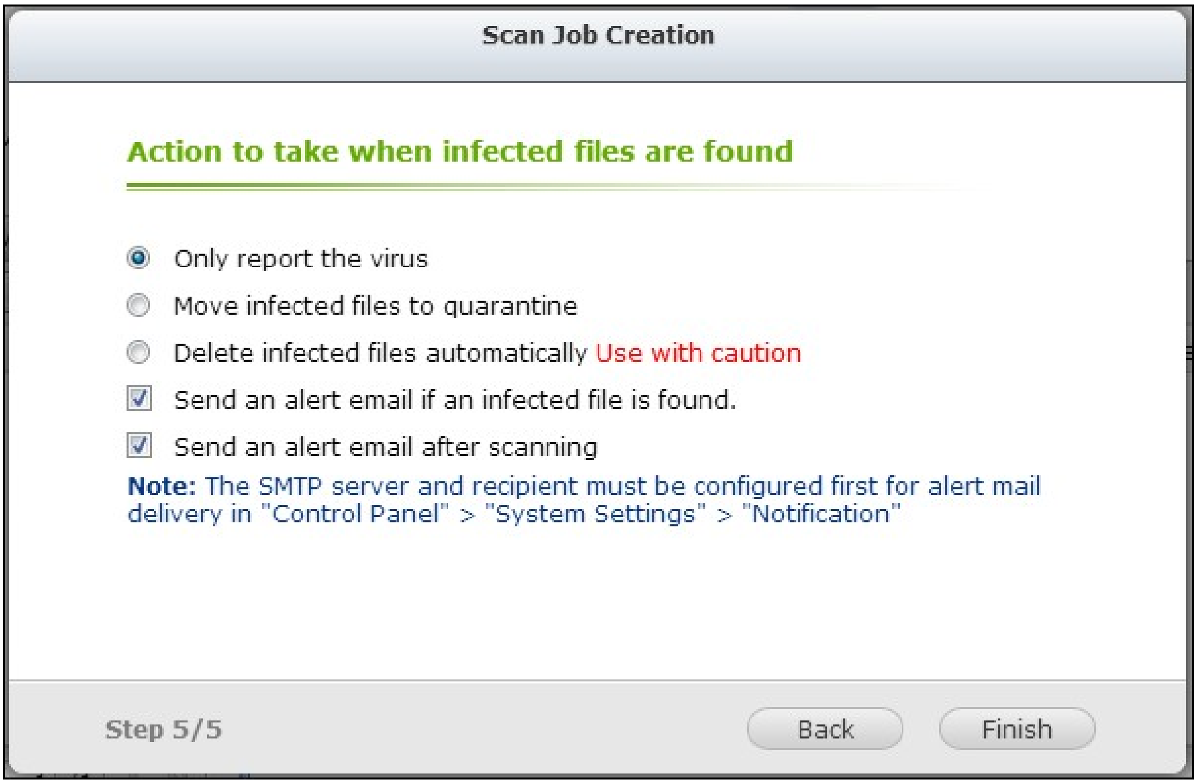
☑ Maximum file size for scanning (MB) 100

☑ Deep scan for document files

7. Specify the actions to take when infected files are found.

- Only report the virus: The virus scan reports are recorded under the “Reports” tab. No actions will be done to the infected files.
- Move infected files to quarantine: The infected files will be quarantined and cannot be accessed from the original shared folders. Users can view the virus scan reports under the “Reports” tab and delete/restore the infected files under the “Quarantine” tab.
- Delete infected files automatically: **Note that The infected files will be deleted and cannot be recovered.**

To receive an alert email when an infected file is found or after scanning has completed, configure the SMTP server settings in “System Settings” > “Notification” > “SMTP Server”. Click “Finish” to create the scan job.



Scan Job Creation

Action to take when infected files are found

● Only report the virus

○ Move infected files to quarantine

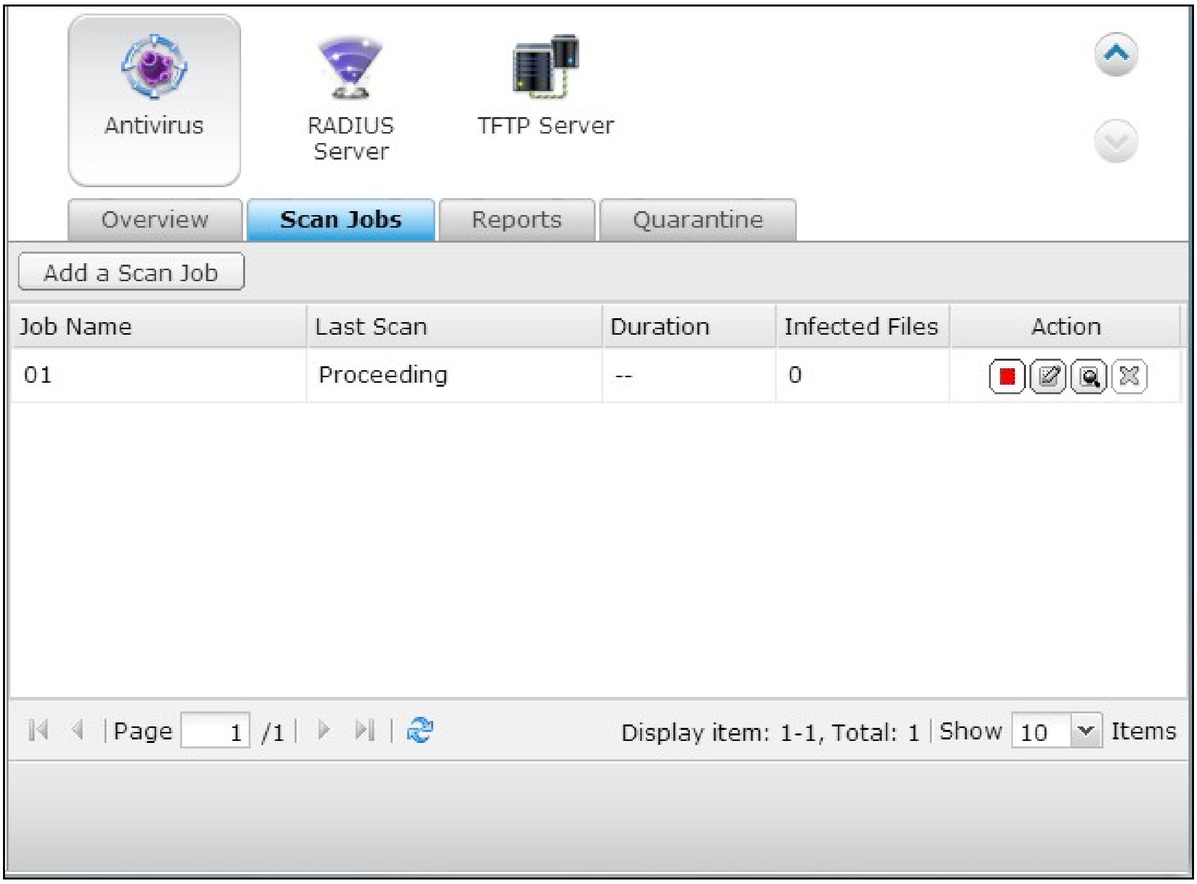
○ Delete infected files automatically Use with caution

☑ Send an alert email if an infected file is found.

☑ Send an alert email after scanning

Note: The SMTP server and recipient must be configured first for alert mail delivery in "Control Panel" > "System Settings" > "Notification"

8. The scan job will run according to the specified schedule.



Job Name	Last Scan	Duration	Infected Files	Action
01	Proceeding	--	0	

Button	Description
▶	Run the scan job now.
■	Stop the scan job.
✎	Edit the scan job settings.
🔍	Download the last virus scan summary. The file can be opened by a text editor, such as WordPad.
✖	Delete the scan job.

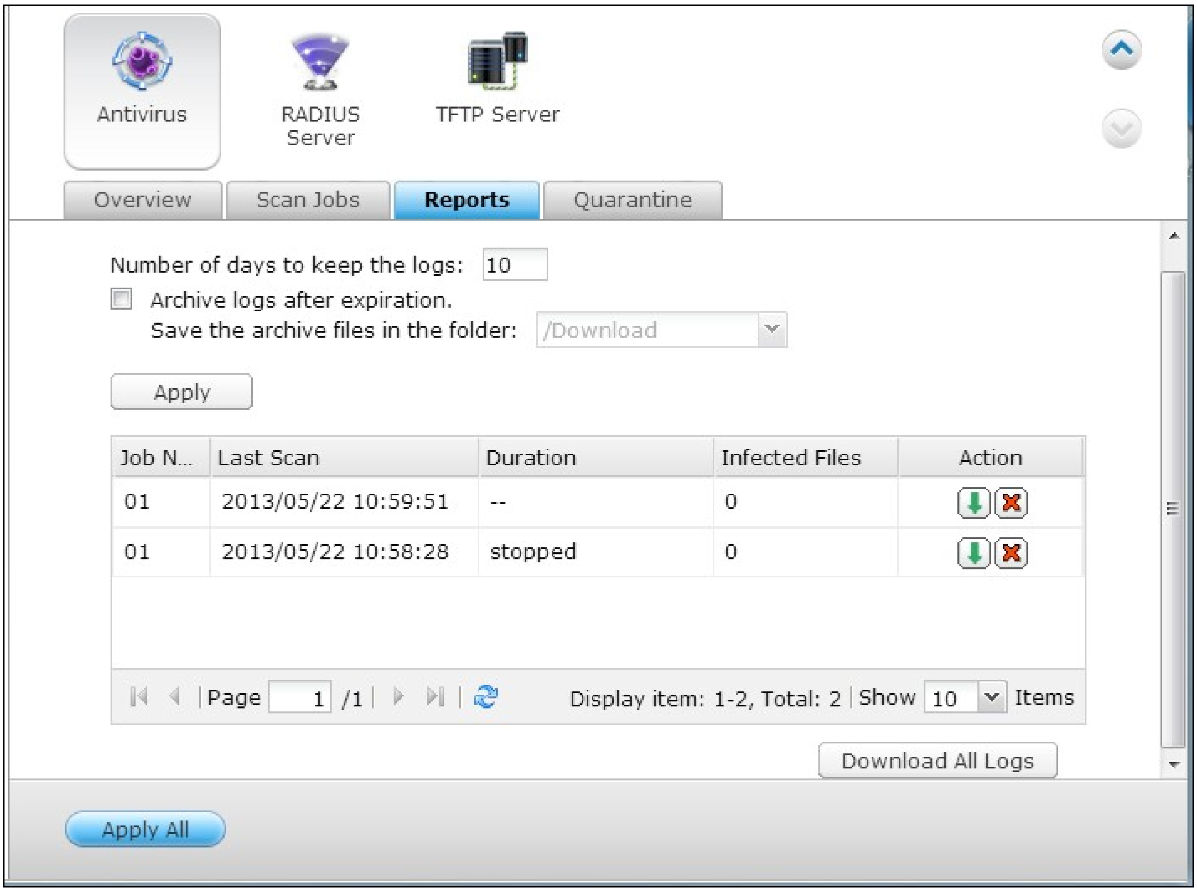
Reports

View or download the reports of the latest scan jobs on the NAS.

Button	Description
⬇	Download the virus scan report. The file can be opened by a text editor, such as WordPad.
☒	Delete an entry on the list.
DOWNLOAD	Download all the virus scan logs on the list as a zip file.

Report options

- Specify the number of days (1-999) to keep the logs
- Enable the option "Archive logs after expiration" and specify the shared folder to save the logs once the number of days to keep the logs has been reached. Click "Apply All" to save the changes.



Number of days to keep the logs: 10

□ Archive logs after expiration.

Save the archive files in the folder: /Download

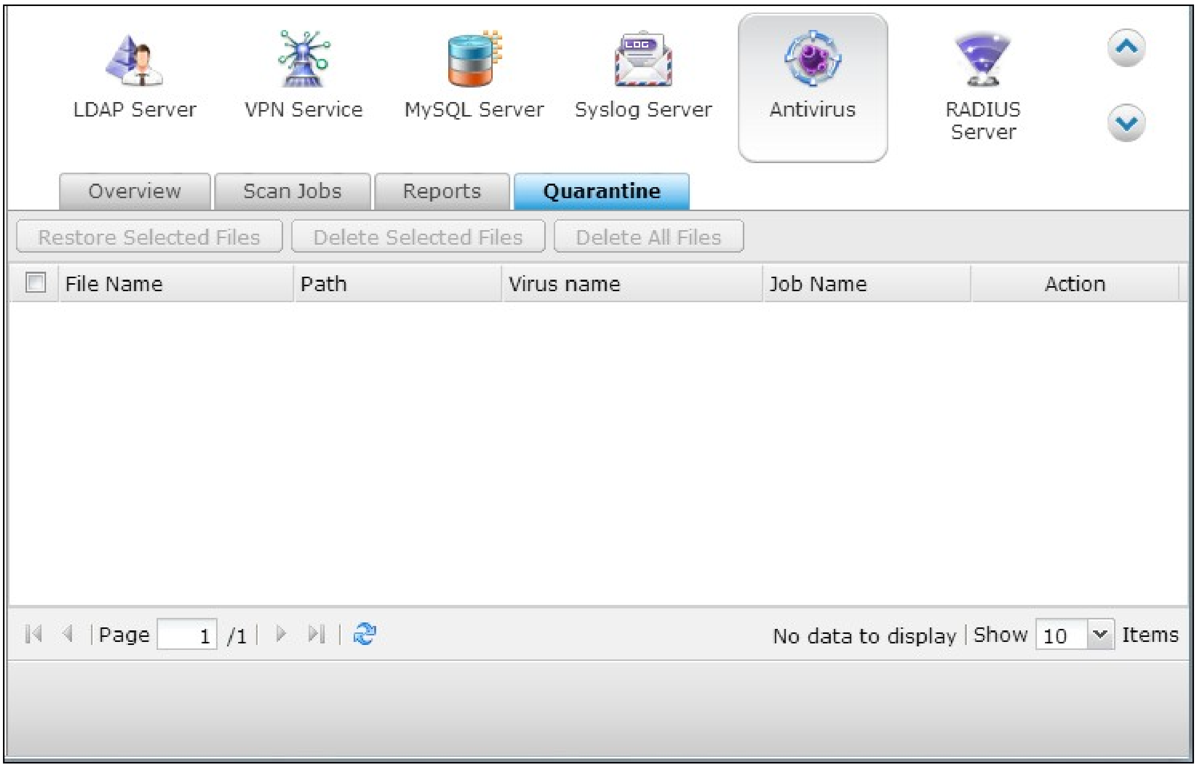
Job N...	Last Scan	Duration	Infected Files	Action
01	2013/05/22 10:59:51	--	0	⬇ ☒
01	2013/05/22 10:58:28	stopped	0	⬇ ☒

Page 1 /1 Display item: 1-2, Total: 2 Show 10 Items

Quarantine

This page shows the quarantined files on the NAS. Users can manually delete or restore the quarantined files, or restore and add the files to the exclude list.

Button	Description
☒	Delete an infected file. The file cannot be recovered.
↩	Restore an infected file to its original shared folder.
↩🔍	Restore an infected file and add the file into the exclude list (scan filter).
Restore Selected Files	Restore multiple files on the list.
Delete Selected Files	Delete multiple files on the list. The files cannot be recovered.
Delete All Files	Delete all the files on the list. The files cannot be recovered.

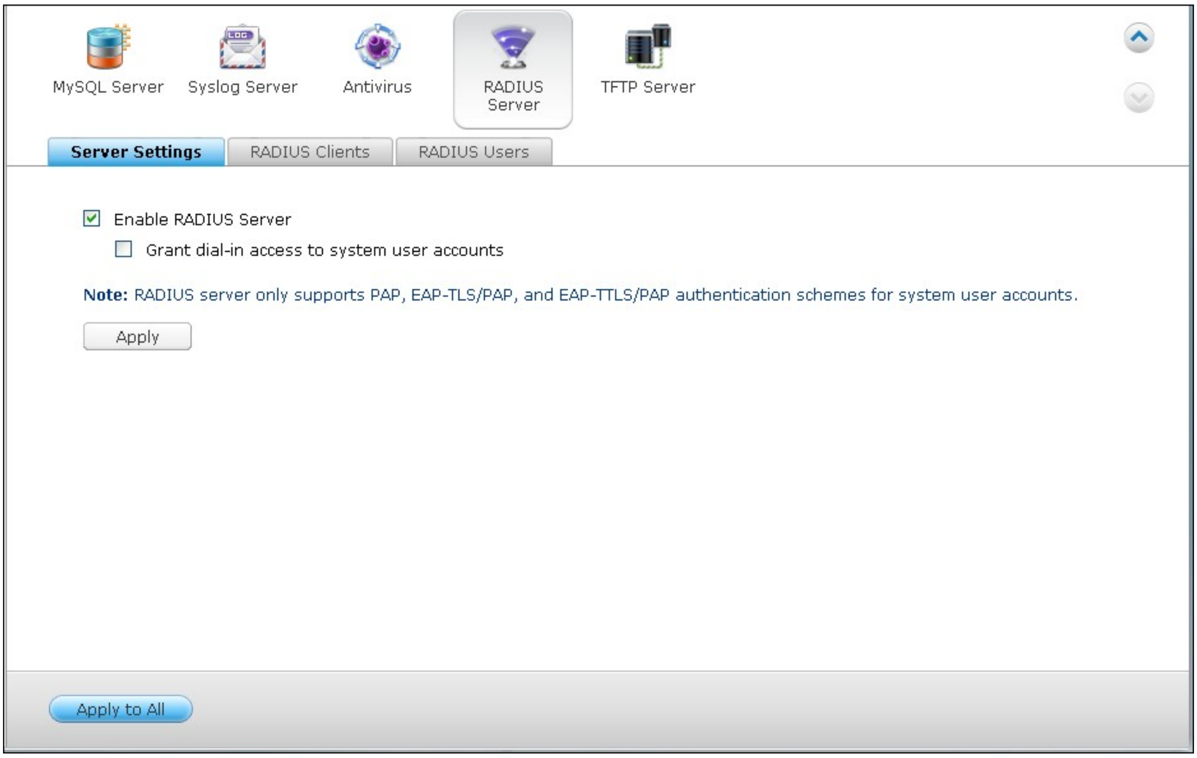


7.11 RADIUS Server

The NAS can be configured as a RADIUS (Remote Authentication Dial In User Service) server to provide centralized authentication, authorization, accounting management for computers to connect and use a network service.

To use this feature, follow the steps below:

1. Enable RADIUS Server on the NAS in "RADIUS Server" > "Server Settings". Click "Apply".

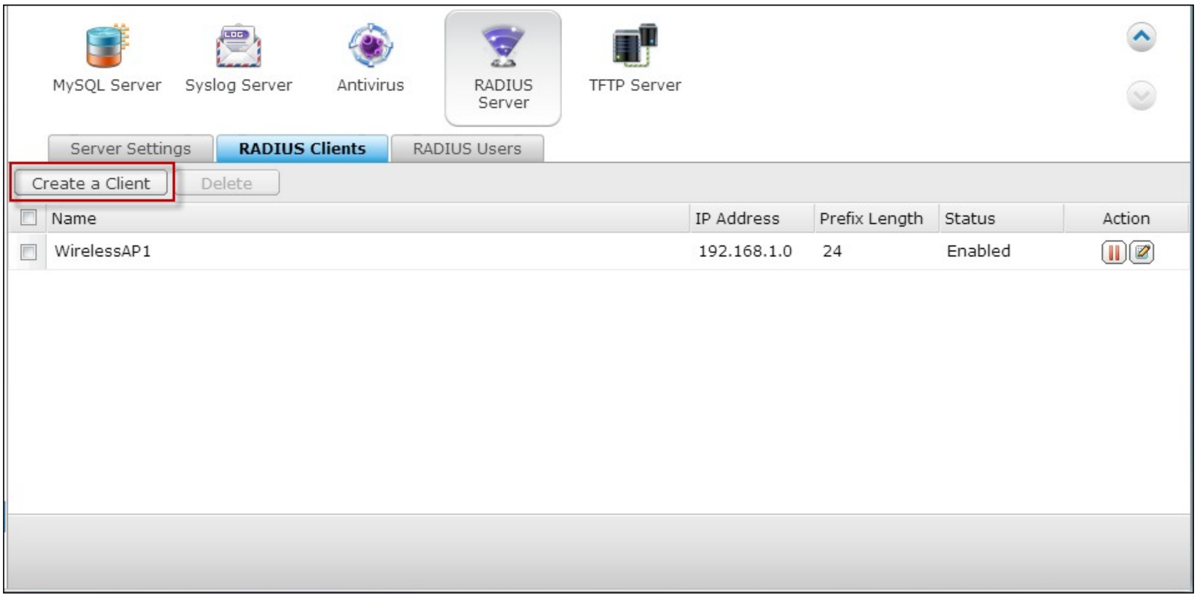


☑ Enable RADIUS Server

□ Grant dial-in access to system user accounts

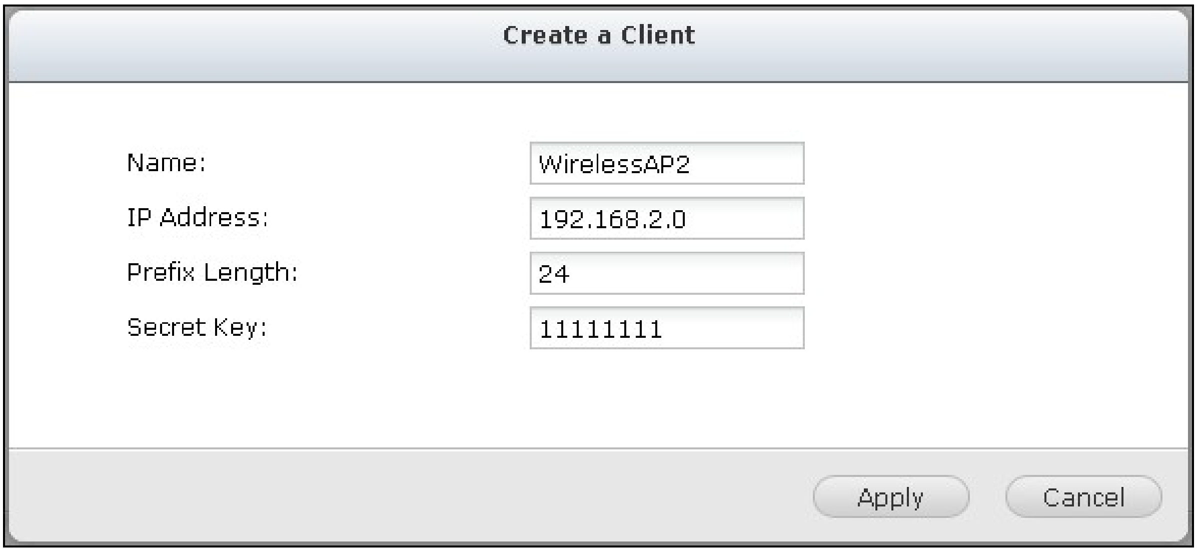
Note: RADIUS server only supports PAP, EAP-TLS/PAP, and EAP-TTLS/PAP authentication schemes for system user accounts.

2. Add RADIUS clients, such as Wi-Fi access points and VPN, on the NAS in "RADIUS Server" > "RADIUS Clients". Up to 10 RADIUS clients are supported. Click "Create a Client".



□	Name	IP Address	Prefix Length	Status	Action
□	WirelessAP1	192.168.1.0	24	Enabled	

3. Enter the client information and click “Apply”.



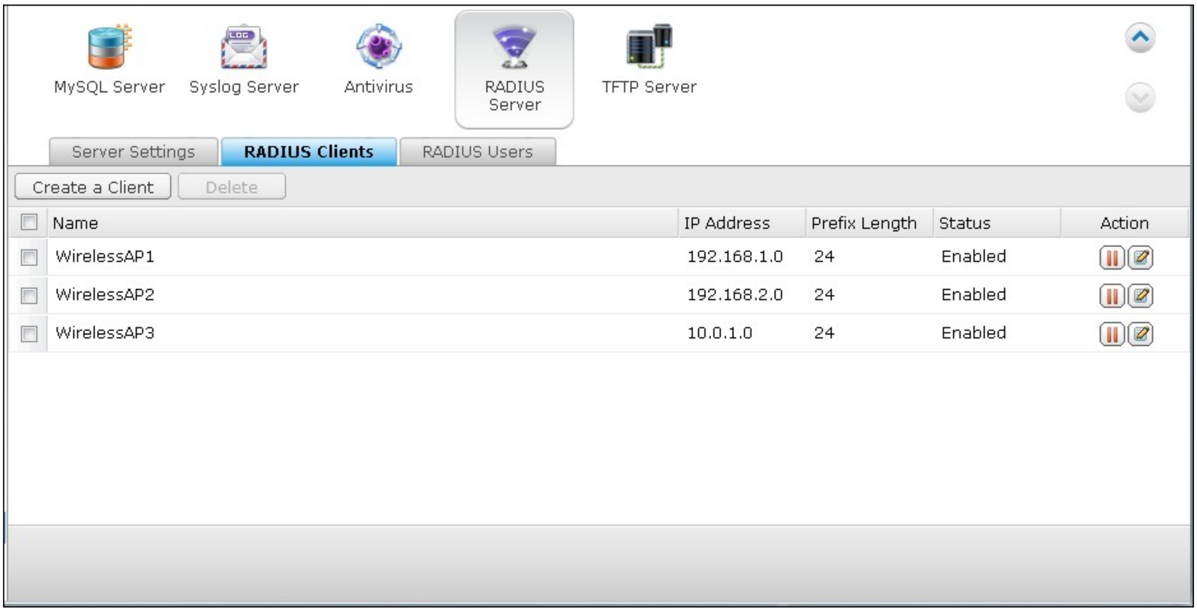
Name: WirelessAP2

IP Address: 192.168.2.0

Prefix Length: 24

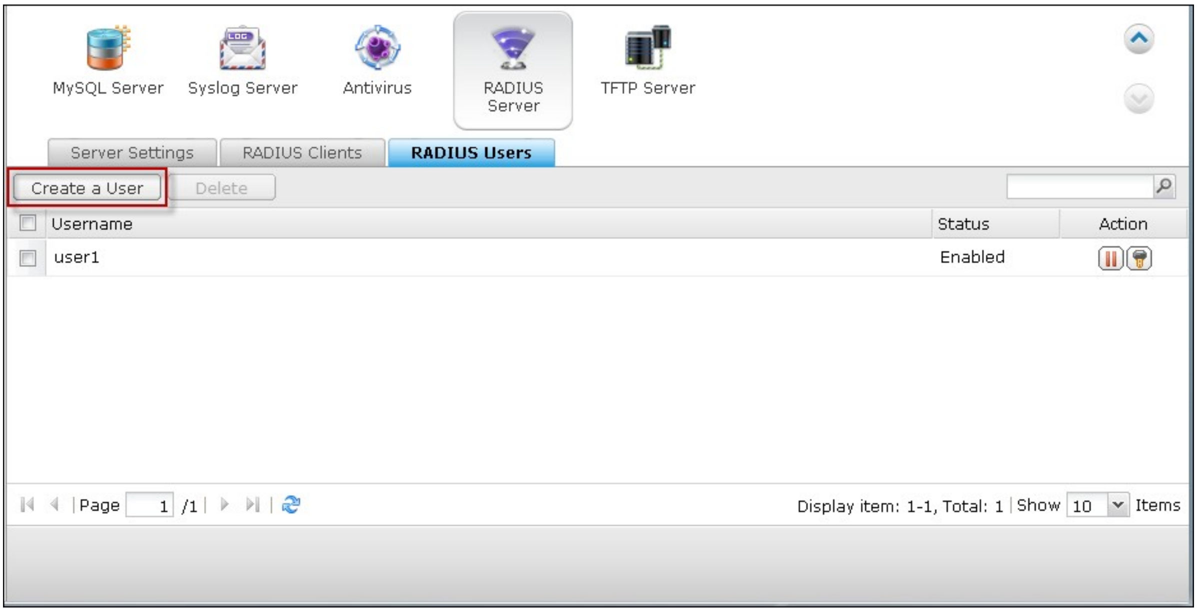
Secret Key: 11111111

4. The clients are shown on the list.



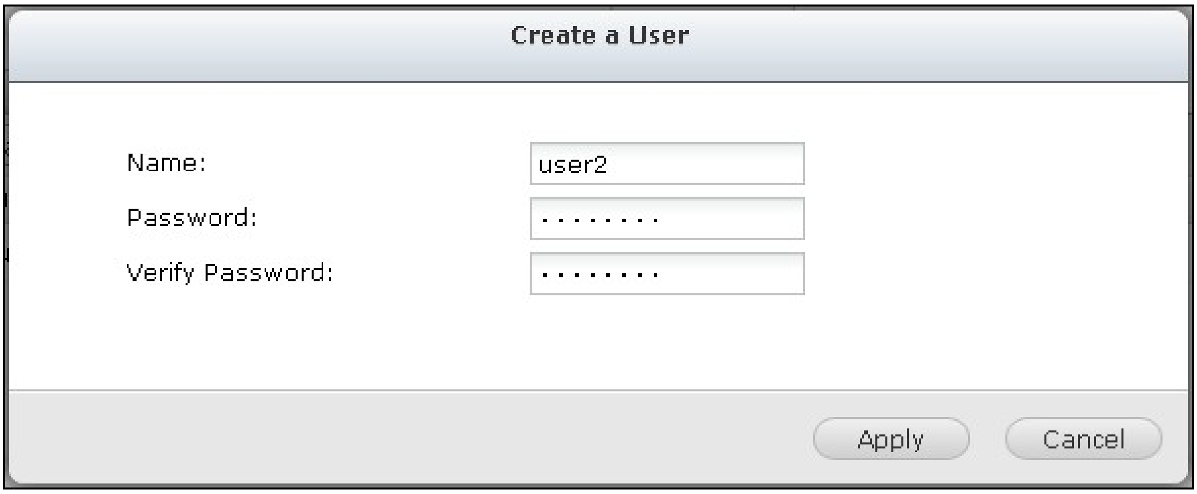
□	Name	IP Address	Prefix Length	Status	Action
□	WirelessAP1	192.168.1.0	24	Enabled	
□	WirelessAP2	192.168.2.0	24	Enabled	
□	WirelessAP3	10.0.1.0	24	Enabled	

5. Create RADIUS users and their password in "RADIUS Server" > "RADIUS Users". The users will be authenticated when trying to access the network through the RADIUS clients. The maximum number of RADIUS users the NAS supports is the same as the maximum number of local NAS users supported. See http://docs.qnap.com/nas/en/index.html?users.htm for details. Click "Create a User".



□	Username	Status	Action
□	user1	Enabled	

6. Enter the username and password. The username supports alphabets (a-z and A-Z) and numbers (0-9) only. The password must be 8-32 characters (a-z, A-Z, and 0-9 only). Click "Apply".



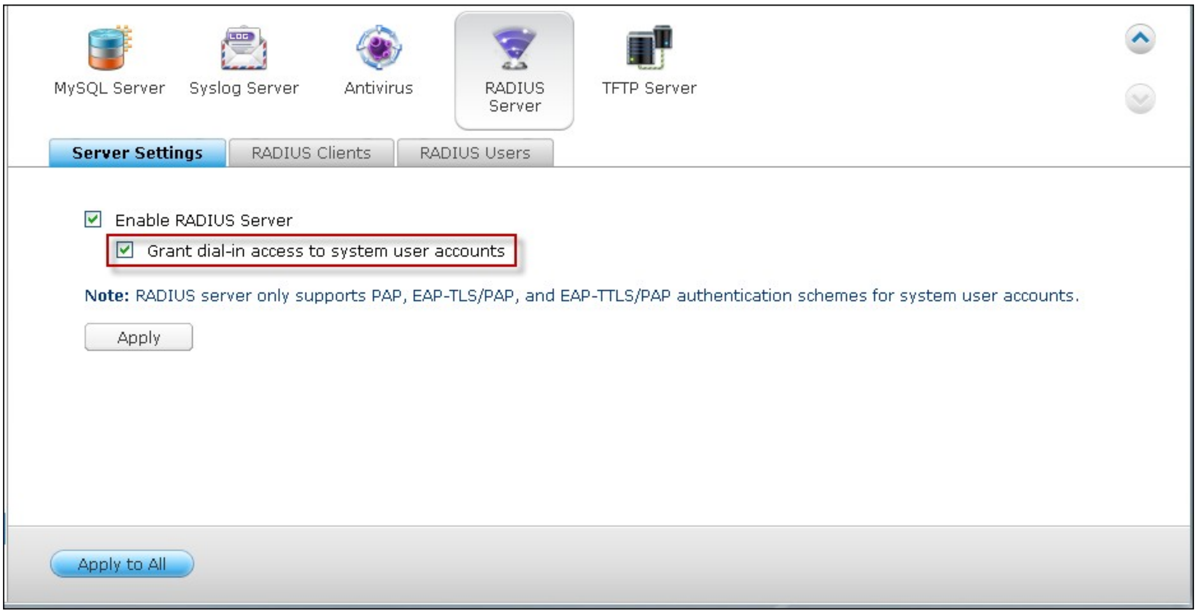
Create a User

Name: user2

Password: ········

Verify Password: ········

7. Specify to grant dial-in access to local NAS users. Enable this option to allow the local NAS users to access the network services through the RADIUS clients using their NAS login name and password. Click "Apply".



☑ Enable RADIUS Server

☑ Grant dial-in access to system user accounts

Note: RADIUS server only supports PAP, EAP-TLS/PAP, and EAP-TTLS/PAP authentication schemes for system user accounts.

Note: The RADIUS server only supports PAP, EAP-TLS/PAP, and EAP-TTLS/PAP authentication for local NAS user accounts.

7.12 TFTP Server

Configure the NAS as a TFTP (Trivial File Transfer Protocol) server for configuration management of network devices and remote network booting of computers for system imaging or recovery. TFTP is a file transfer protocol with the functionality of a very basic form of FTP. TFTP does not provide user authentication and cannot be connected by a standard FTP client.

Follow the steps below to use this feature:

1. Select "Enable TFTP Server".

2. The default UDP port for file transfer is 69. Change the port number only when necessary.

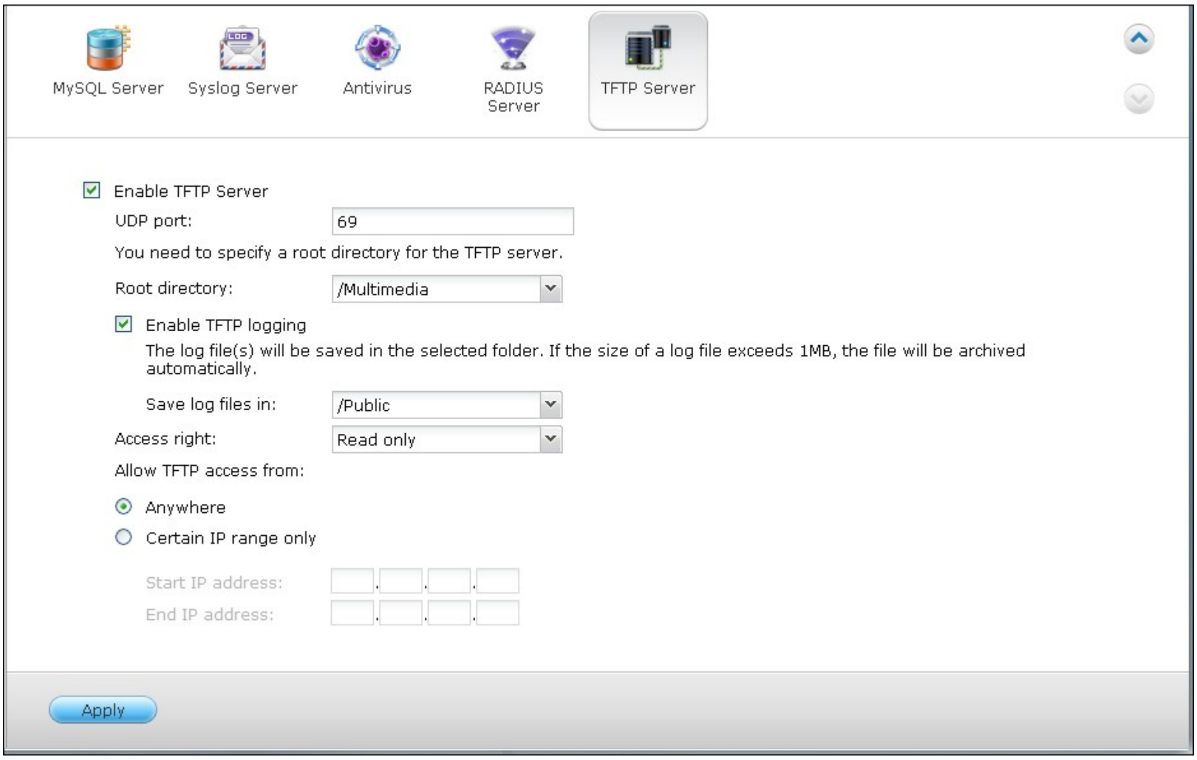
3. Specify a folder on the NAS as the root directory of the TFTP server.

4. Enable TFTP Logging: Enable this option and specify the directory to save the TFTP log file (opentftpd.log). It is recommended to view the log file by Microsoft Excel or WordPad on Windows OS or by TextEdit on Mac OS.

5. Assign read only or full access to the clients.

6. Restrict the TFTP client access by specifying the IP address range or select "Anywhere" to allow any TFTP client access.

7. Click "Apply".



☑ Enable TFTP Server

UDP port: 69

You need to specify a root directory for the TFTP server.

Root directory: /Multimedia

☑ Enable TFTP logging

The log file(s) will be saved in the selected folder. If the size of a log file exceeds 1MB, the file will be archived automatically.

Save log files in: /Public

Access right: Read only

Allow TFTP access from:

● Anywhere

○ Certain IP range only

Start IP address:

End IP address:

8. QNAP Applications

8.1 Backup Station

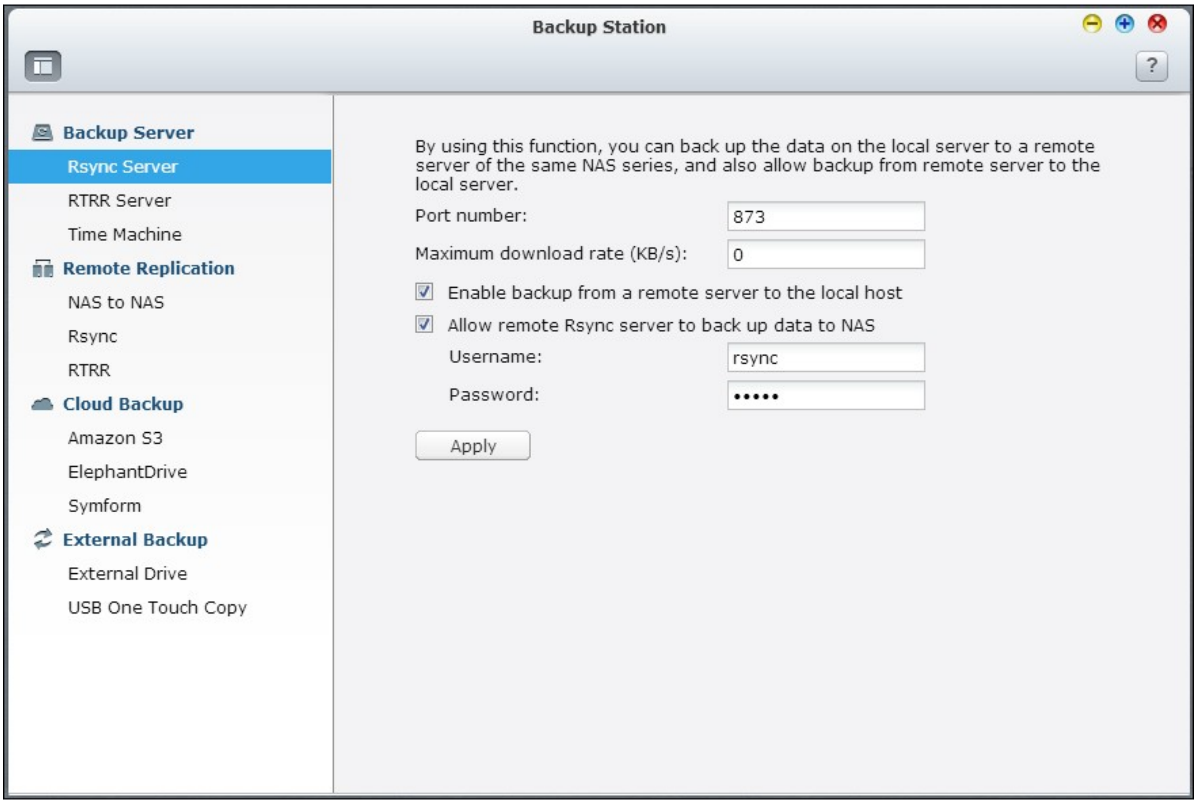
8.1.1 Backup Server

Rsync Server

Enable Rsync server to configure the NAS as a backup server for data backup from a remote Rsync server or NAS server. The default port number for remote replication via Rsync is 873. Specify the maximum download rate for bandwidth control. 0 means unlimited.

Enable backup from a remote server to the local host:
Select this option to allow data backup from a remote server (NAS) to the local server (NAS).

Allow remote Rsync server to back up data to the NAS:
Select this option to allow data backup from an Rsync server to the local server (NAS). Enter the username and password to authenticate the Rsync server which attempts to back up data to the NAS.



By using this function, you can back up the data on the local server to a remote server of the same NAS series, and also allow backup from remote server to the local server.

Port number: 873

Maximum download rate (KB/s): 0

☑ Enable backup from a remote server to the local host

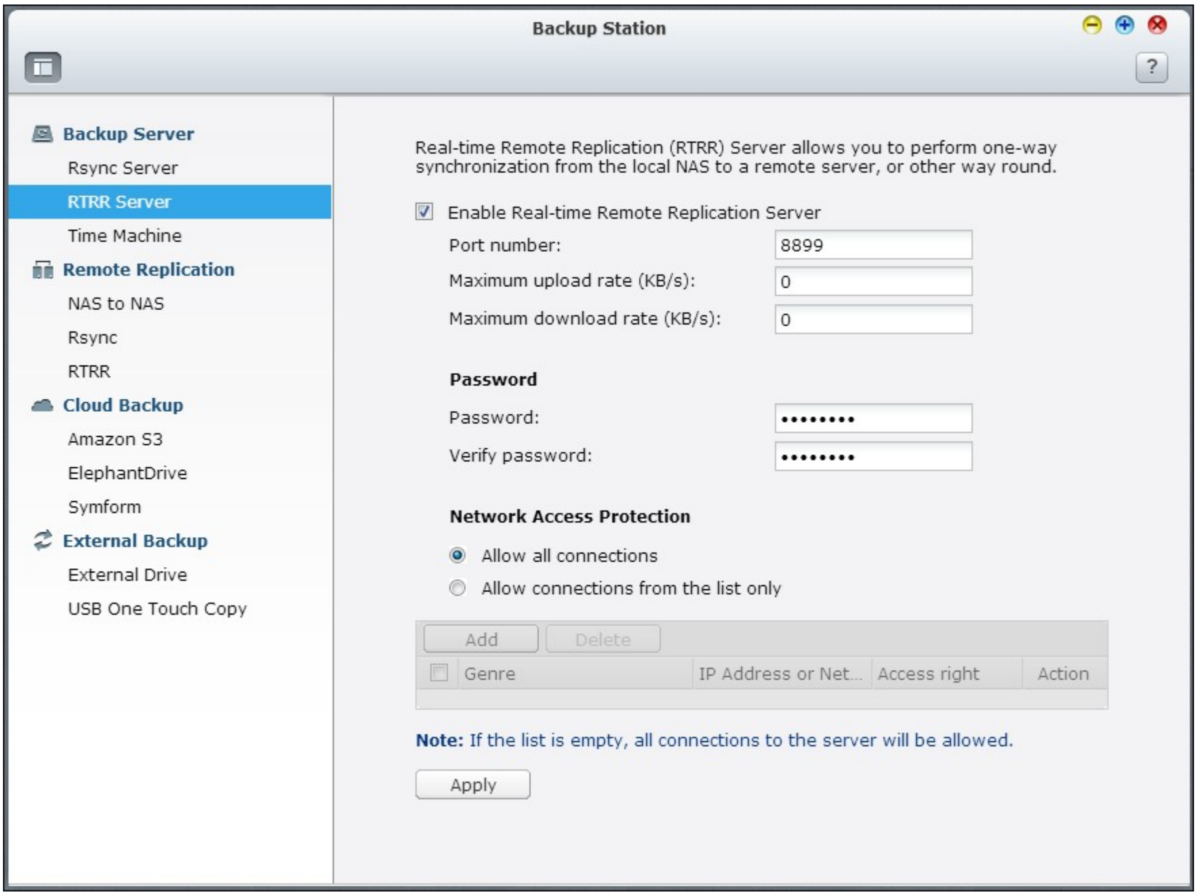
☑ Allow remote Rsync server to back up data to NAS

Username: rsync

Password: •••••

RTRR Server

To allow real-time or schedule data replication from a remote server to the local NAS, select "Enable Real-time Remote Replication Server". You can specify the port number for remote replication. The default port number is 8899. Specify the maximum upload and download rate for bandwidth control. 0 means unlimited. To allow only authenticated access to back up data to the local NAS, specify the access password. The client server will be prompted to enter the password to back up data to the NAS via RTRR.



Real-time Remote Replication (RTRR) Server allows you to perform one-way synchronization from the local NAS to a remote server, or other way round.

☑ Enable Real-time Remote Replication Server

Port number: 8899

Maximum upload rate (KB/s): 0

Maximum download rate (KB/s): 0

Password

Password: ••••••••

Verify password: ••••••••

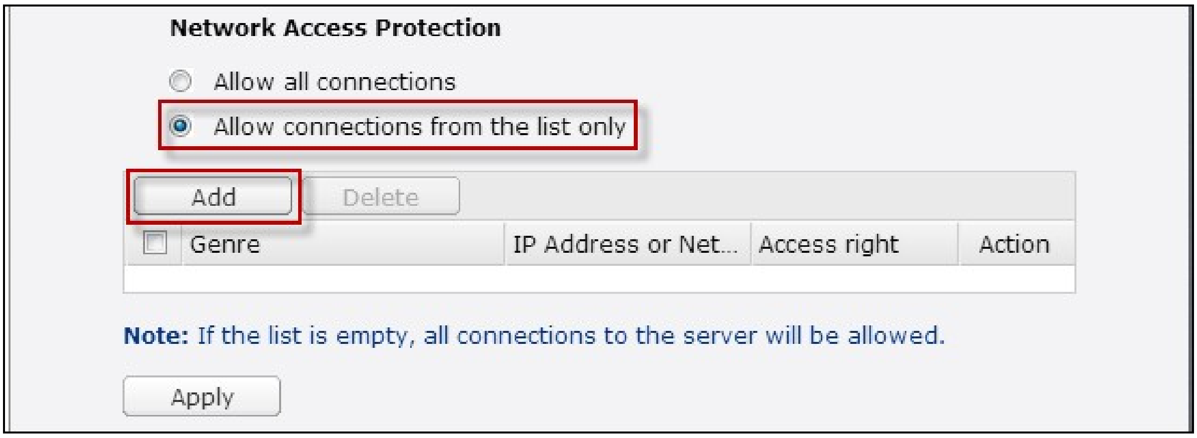
Network Access Protection

● Allow all connections

○ Allow connections from the list only

Note: If the list is empty, all connections to the server will be allowed.

You can specify the IP addresses or host names which are allowed to access the NAS for remote replication. Up to 10 rules can be configured. To allow all connections, select "Allow all connections". To specify the IP addresses or host names, select "Allow connections from the list only" and click "Add".


Network Access Protection

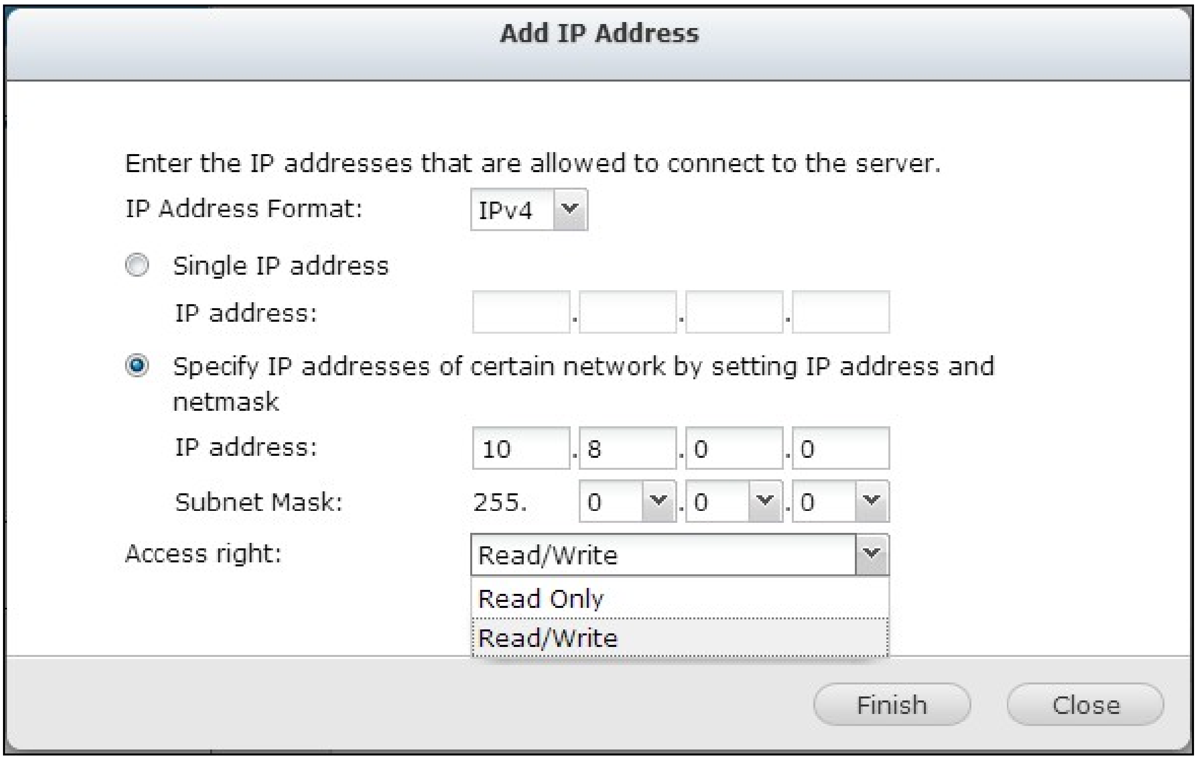
○ Allow all connections

● Allow connections from the list only

□	Genre	IP Address or Net...	Access right	Action

Note: If the list is empty, all connections to the server will be allowed.

Enter an IP address or specify a range of IP addresses by entering the IP and subnet mask. Select the access right "Read Only" or "Read/Write". By selecting "Read/Write", the client server is allowed to delete the files on the local NAS. Click "Finish" to exit.


Add IP Address

Enter the IP addresses that are allowed to connect to the server.

IP Address Format: IPv4

○ Single IP address

IP address: . . .

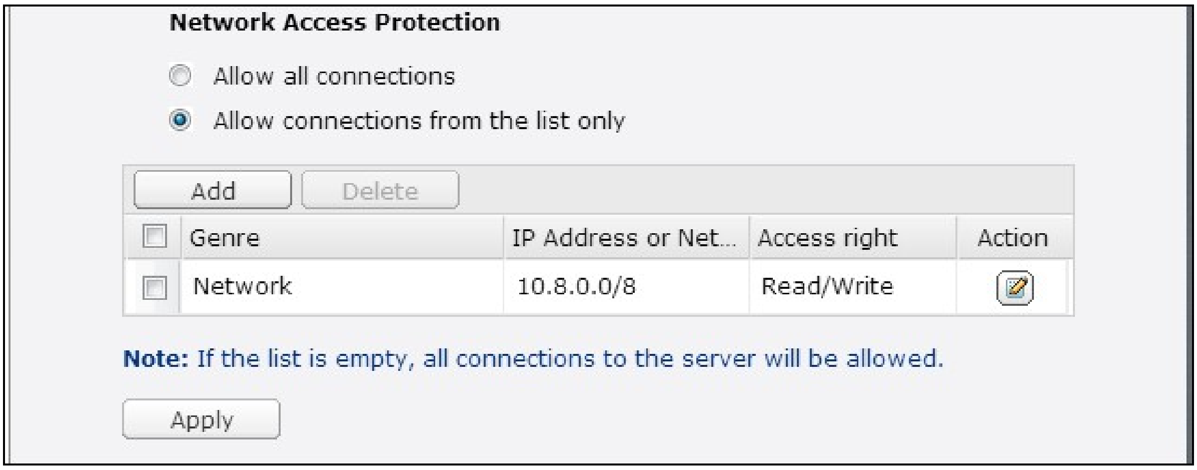
● Specify IP addresses of certain network by setting IP address and netmask

IP address: 10 . 8 . 0 . 0

Subnet Mask: 255. 0 . 0 . 0

Access right: Read/Write

After saving the access rule, click "Apply" and the NAS will restart to apply the settings.



Network Access Protection

○ Allow all connections

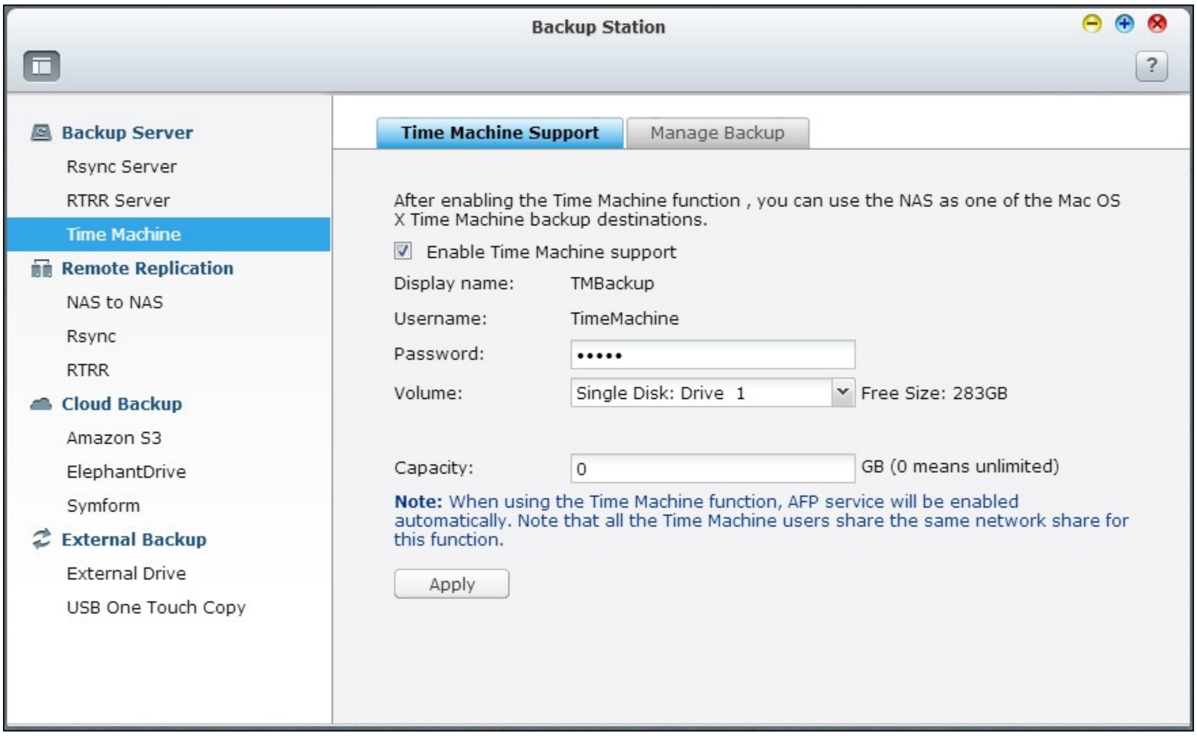
● Allow connections from the list only

□	Genre	IP Address or Net...	Access right	Action
□	Network	10.8.0.0/8	Read/Write	✎

Note: If the list is empty, all connections to the server will be allowed.

Time Machine

You can enable Time Machine support to use the NAS as a backup destination of multiple Mac by the Time Machine feature on OS X.



After enabling the Time Machine function , you can use the NAS as one of the Mac OS X Time Machine backup destinations.

☑ Enable Time Machine support

Display name: TMBackup

Username: TimeMachine

Password: •••••

Volume: Single Disk: Drive 1 Free Size: 283GB

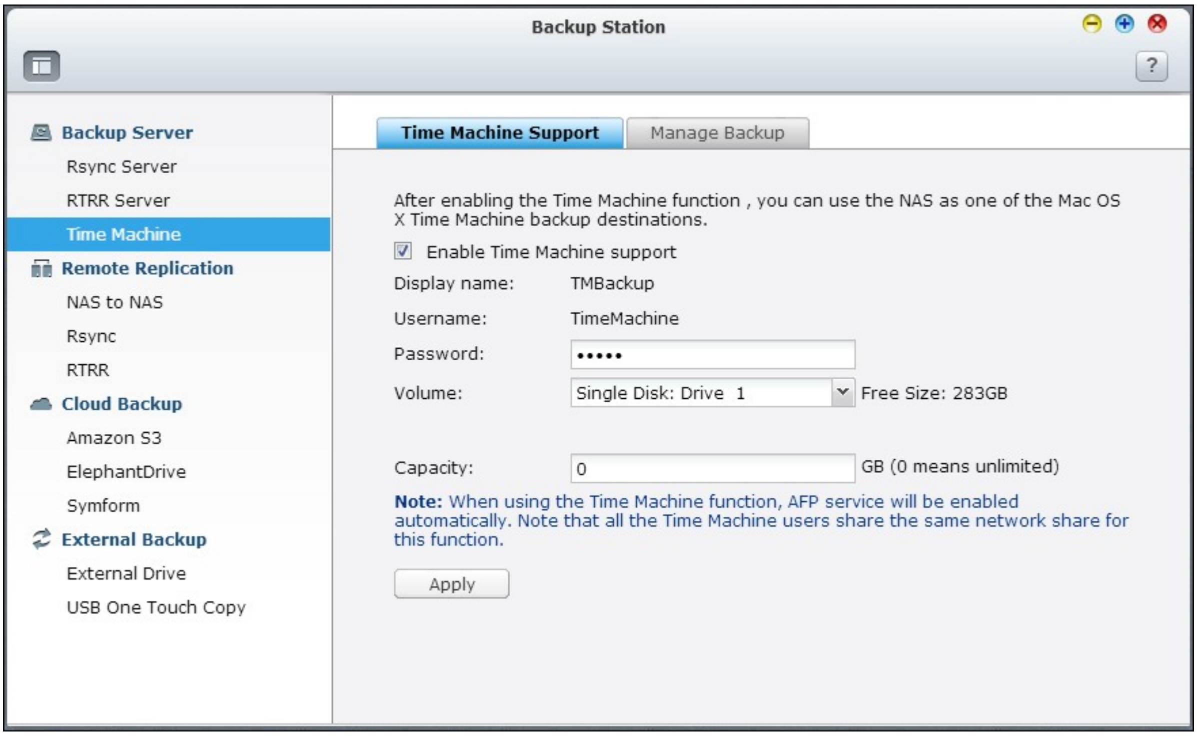
Capacity: 0 GB (0 means unlimited)

Note: When using the Time Machine function, AFP service will be enabled automatically. Note that all the Time Machine users share the same network share for this function.

To use this function, follow the steps below.

Configure the settings on the NAS:

1. Enable Time Machine support.



After enabling the Time Machine function , you can use the NAS as one of the Mac OS X Time Machine backup destinations.

☑ Enable Time Machine support

Display name: TMBackup

Username: TimeMachine

Password: •••••

Volume: Single Disk: Drive 1 Free Size: 283GB

Capacity: 0 GB (0 means unlimited)

Note: When using the Time Machine function, AFP service will be enabled automatically. Note that all the Time Machine users share the same network share for this function.

2. Enter the Time Machine password. The password is empty by default.

3. Select a volume on the NAS as the backup destination.

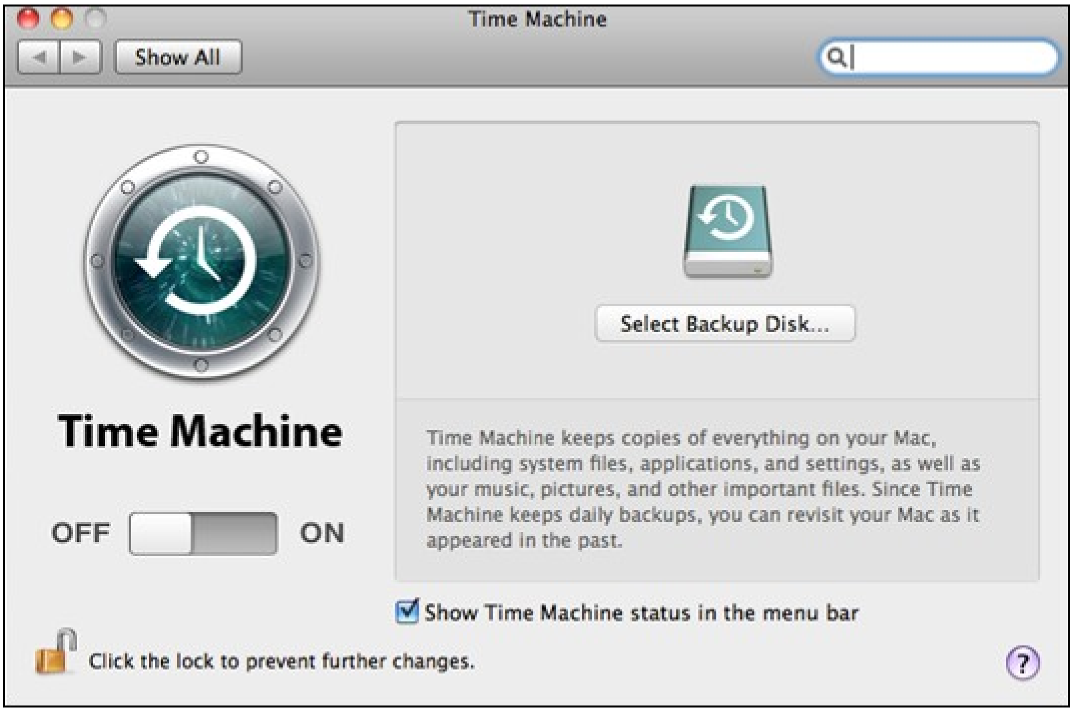
4. Enter the storage capacity that Time Machine backup is allowed to use. The maximum value is 4095GB. To specify a larger capacity, please enter 0 (unlimited).

5. Click "Apply" to save the settings.

All the Time Machine users share the same shared folder for this function.

Configure the backup settings on Mac:

1. Open Time Machine on your Mac and click "Select Backup Disk".

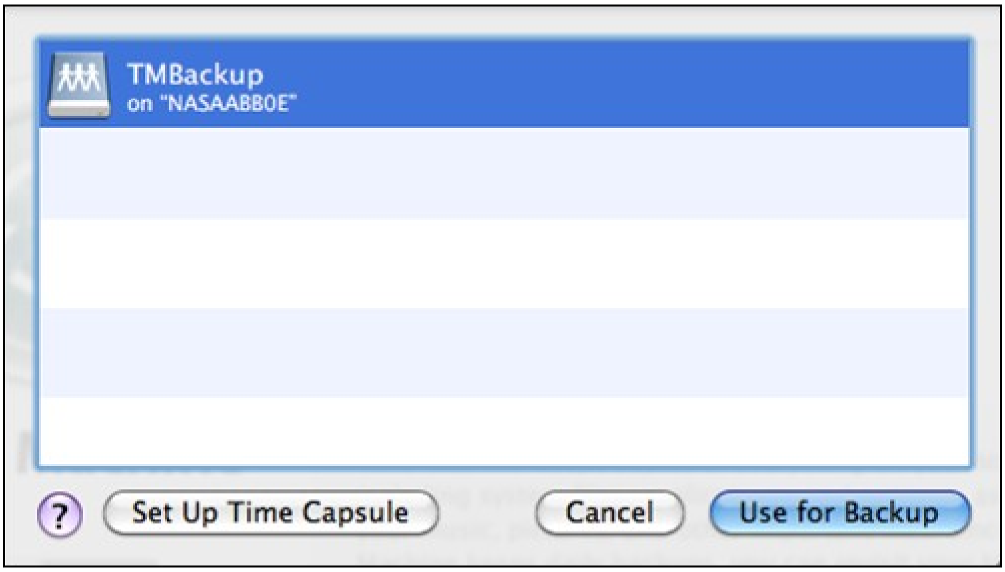


Time Machine keeps copies of everything on your Mac, including system files, applications, and settings, as well as your music, pictures, and other important files. Since Time Machine keeps daily backups, you can revisit your Mac as it appeared in the past.

☑ Show Time Machine status in the menu bar

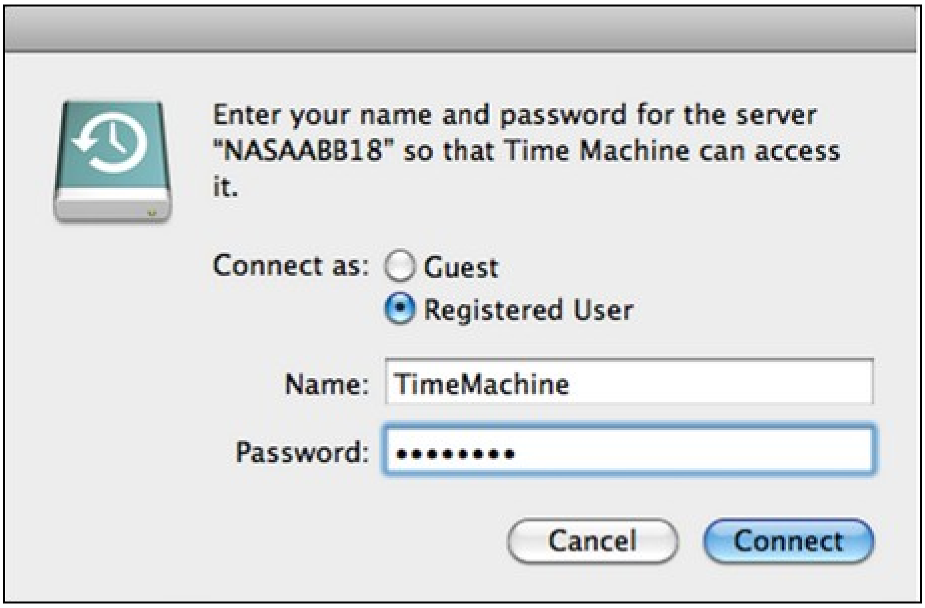
Click the lock to prevent further changes.

2. Select the TMBackup on your NAS from the list and click "Use for Backup".



3. Enter the username and password to login the QNAP NAS. Then click "Connect".

- Registered username: TimeMachine
- Password: The password you have configured on the NAS. It is empty by default.



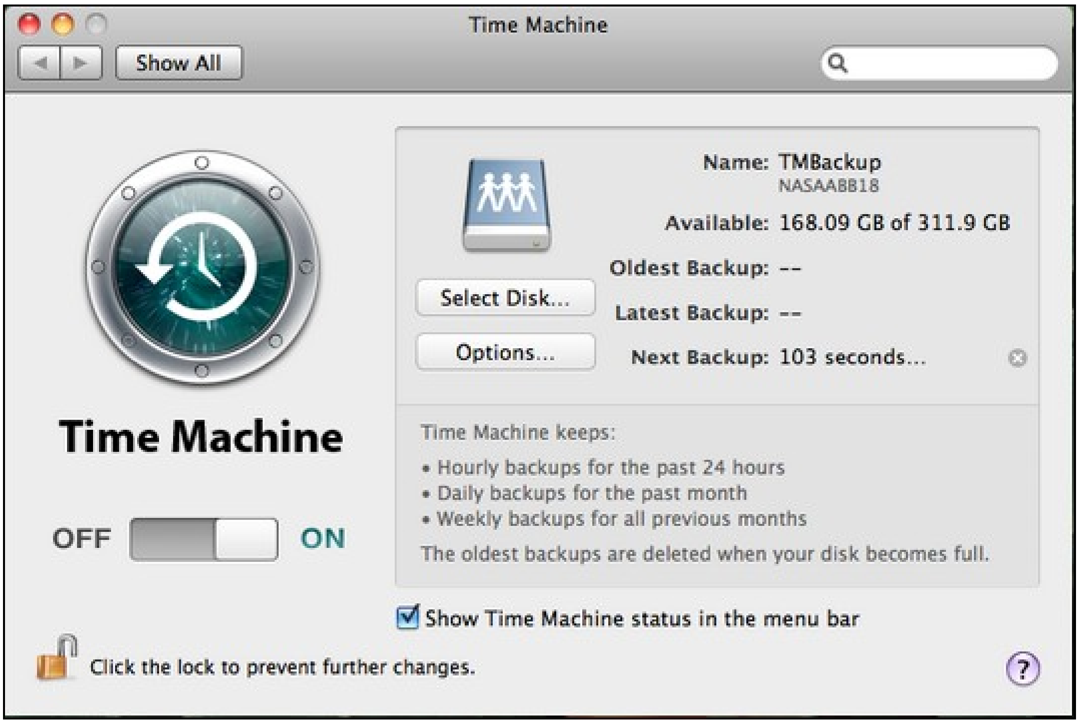
Enter your name and password for the server "NASAABB18" so that Time Machine can access it.

Connect as: ○ Guest
● Registered User

Name: TimeMachine

Password: •••••••••

4. Upon successful connection, the Time Machine is switched “ON”. The available space for backup is shown and the backup will start in 120 seconds.



Time Machine

Name: TMBackup
NASAABB18

Available: 168.09 GB of 311.9 GB

Oldest Backup: --

Latest Backup: --

Next Backup: 103 seconds...

Time Machine keeps:

- Hourly backups for the past 24 hours
- Daily backups for the past month
- Weekly backups for all previous months

The oldest backups are deleted when your disk becomes full.

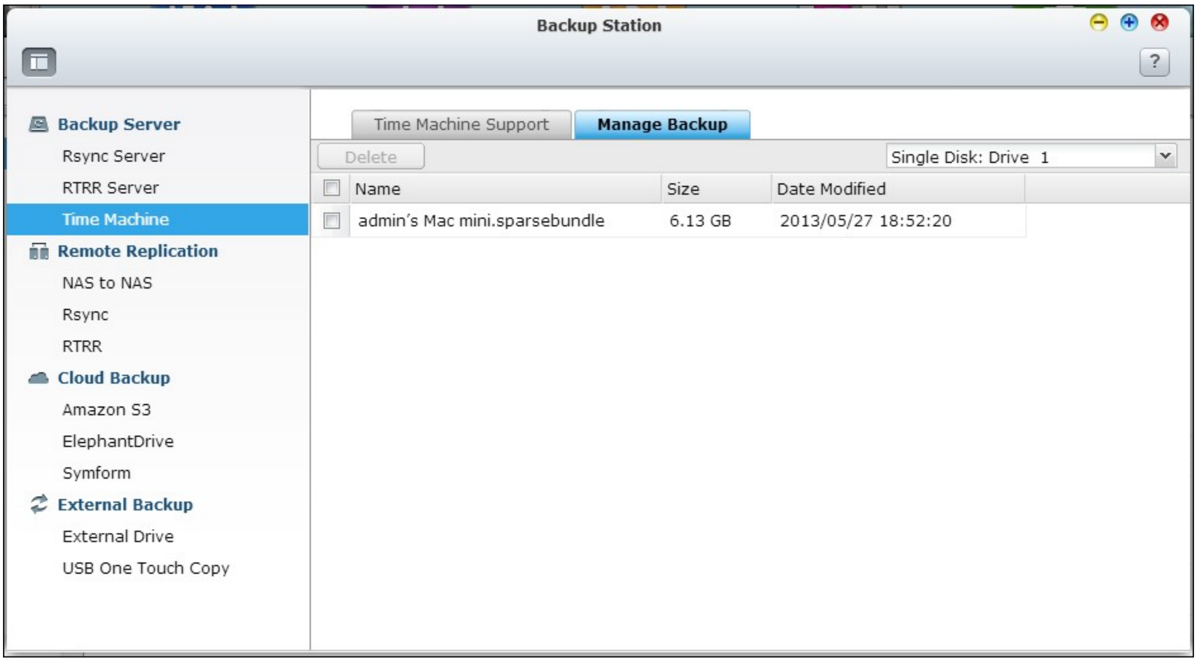
☑ Show Time Machine status in the menu bar

Click the lock to prevent further changes.

The first time backup may take more time according to the data size on Mac. To recover the data to the Mac OS, see the tutorial on http://www.apple.com.

Manage Backup

You can manage the existing backup on this page.



□	Name	Size	Date Modified
□	admin's Mac mini.sparsebundle	6.13 GB	2013/05/27 18:52:20

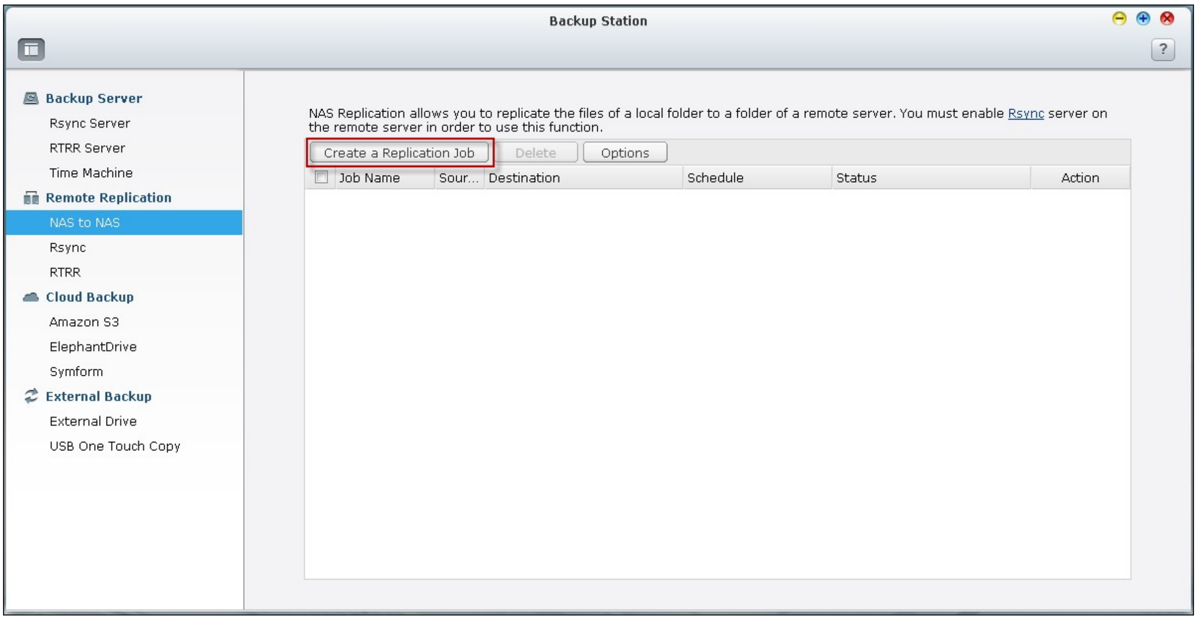
- Volume (drop down menu on top right side of the screen): Display Time Machine backup tasks stored in the volume.
- Name: The name of the Time Machine backup (the sparse bundle disk image which was created by Time Machine).
- Size: Size of this Time Machine backup.
- Date Modified: Last modified date of this Time Machine backup.
- Delete: Delete the selected Time Machine backup.

8.1.2 *Remote Replication*

NAS to NAS and Rsync

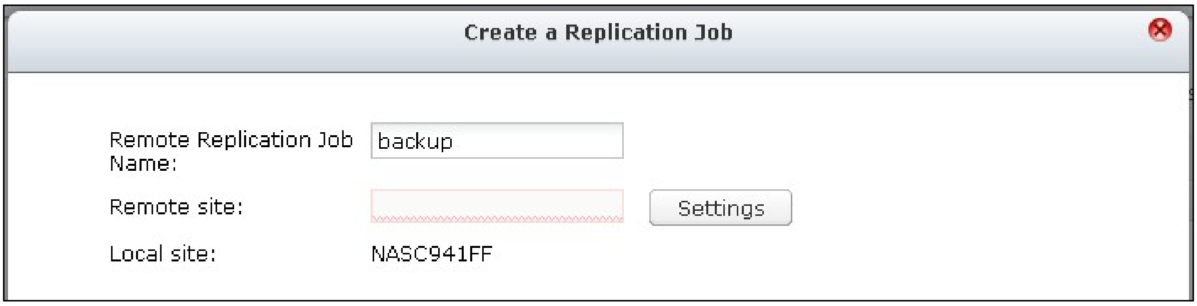
The NAS data can be backed up to a remote NAS or Rsync server by Rsync remote replication. If the backup destination is a NAS, go to "Main Menu" > "Backup Station" > "Rsync Server" and enable the remote NAS as an Rsync backup server.

1. To create a replication job, click "Create a Replication Job".



NAS Replication allows you to replicate the files of a local folder to a folder of a remote server. You must enable Rsync server on the remote server in order to use this function.

2. Specify the server type, NAS or Rsync server, of the remote server. Enter a job name. Click "Next".

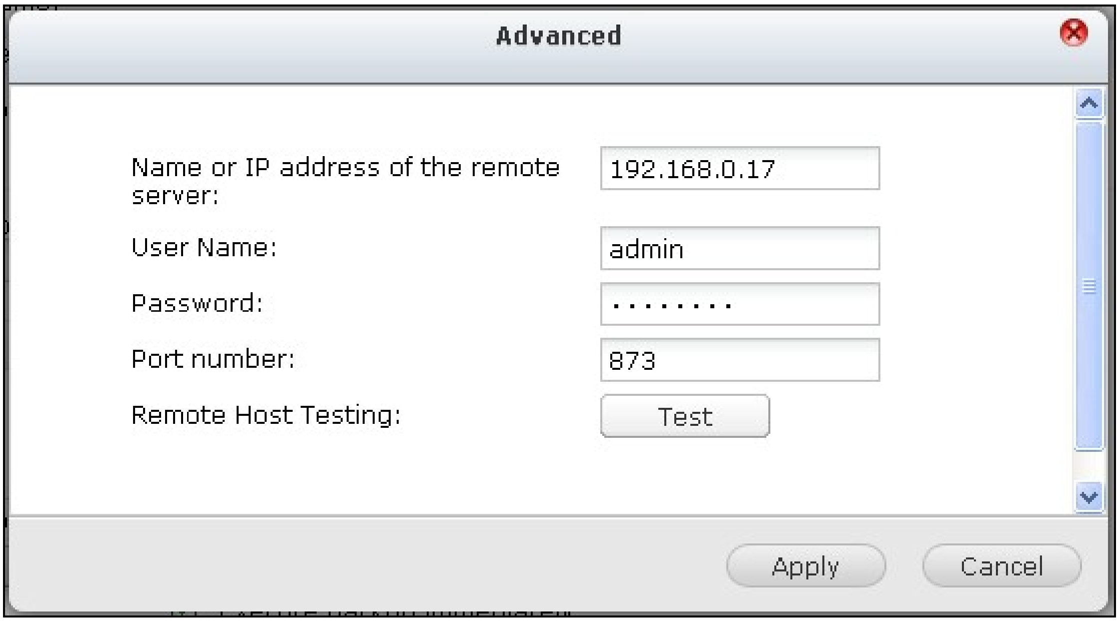


Remote Replication Job Name: backup

Remote site:

Local site: NASC941FF

3. Enter the IP address, port number, username and password to login the remote server. The default port number is 873. Note that the login username must have read/write access to the remote server and sufficient quota limit on the server. Click "Test" to verify the connection. Then click "Apply".



Advanced

Name or IP address of the remote server: 192.168.0.17

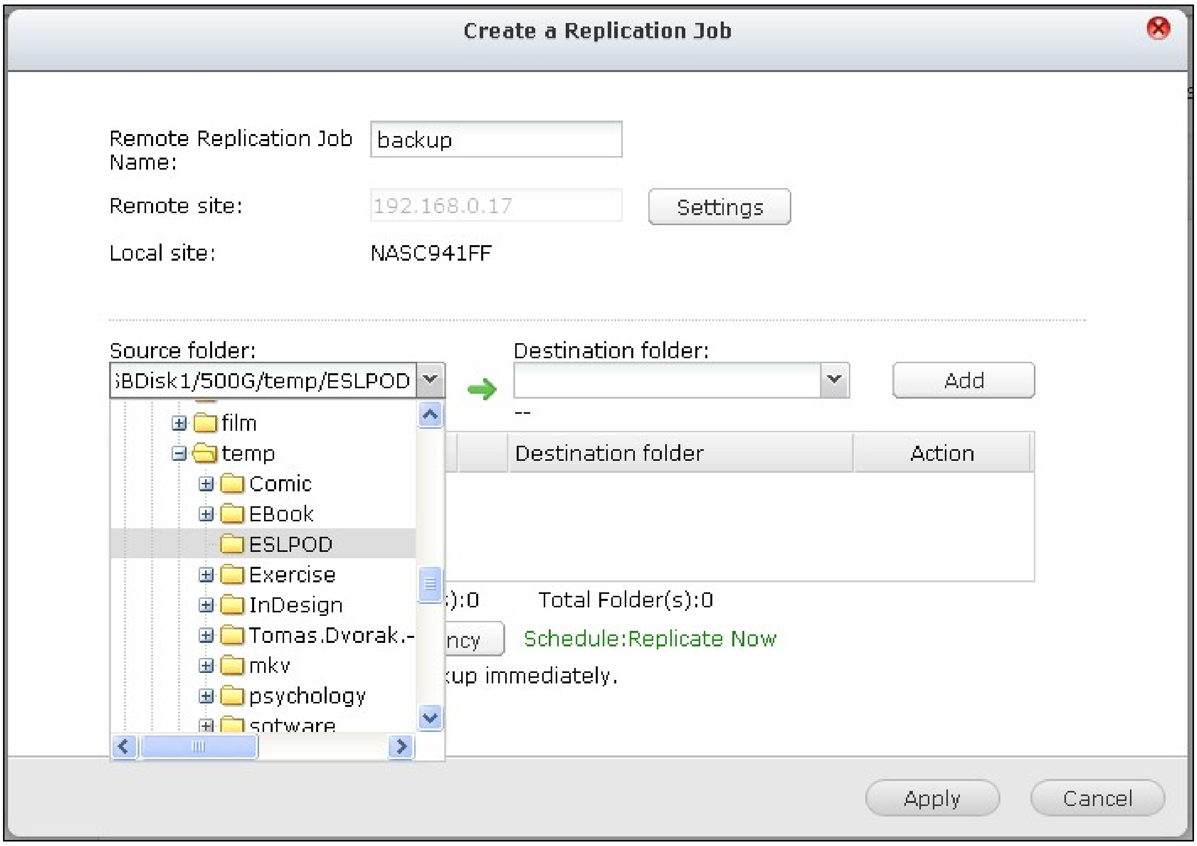
User Name: admin

Password: ········

Port number: 873

Remote Host Testing: Test

4. Specify the local folder by clicking the Source folder box. After expanding and locating the folder, double click the folder to set it as the directory where the data will be replicated from.



Create a Replication Job

Remote Replication Job Name: backup

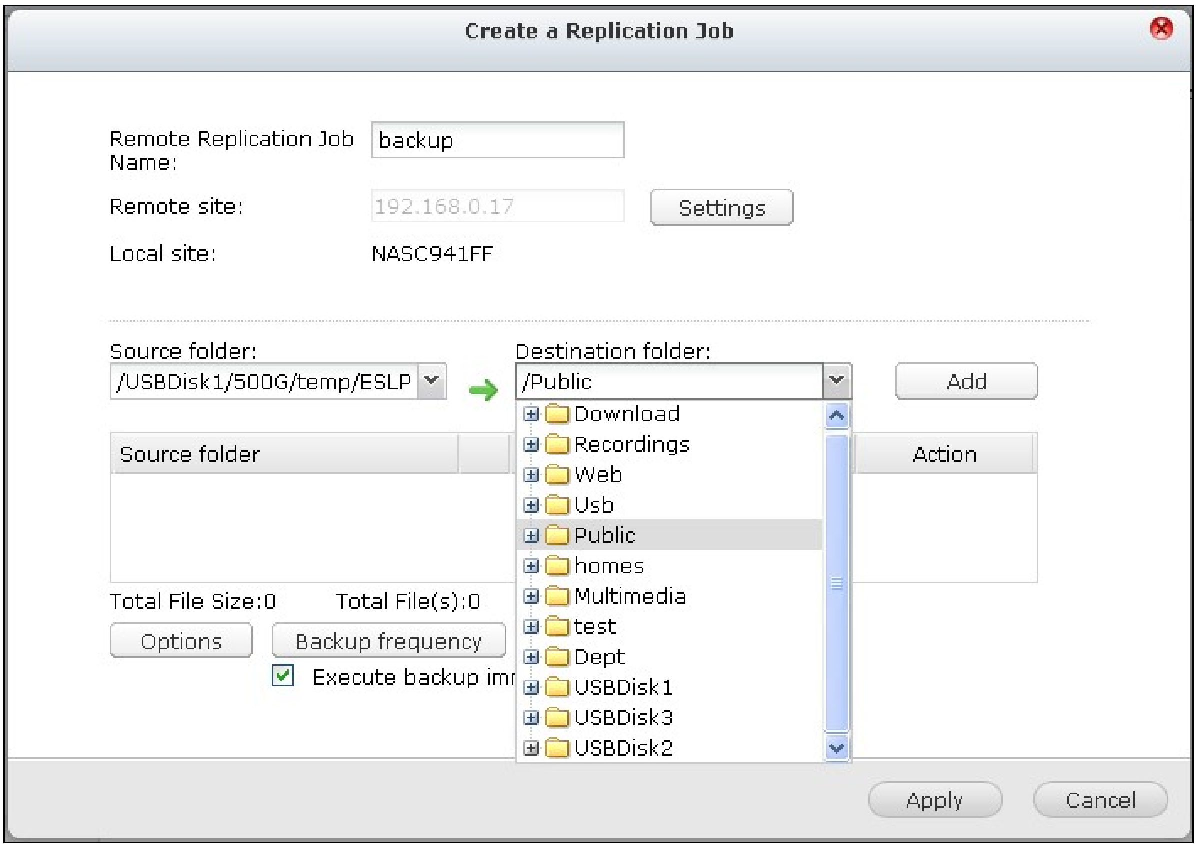
Remote site: 192.168.0.17

Local site: NASC941FF

Source folder: ;BDisk1/500G/temp/ESLPOD

Destination folder:

5. Specify the destination folder Destination folder box. Locate the folder in the folder tree and double click the folder to set it as the directory where the data will be replicated to. And, click "Add" to add this pair of replication folders.



Create a Replication Job

Remote Replication Job Name: backup

Remote site: 192.168.0.17

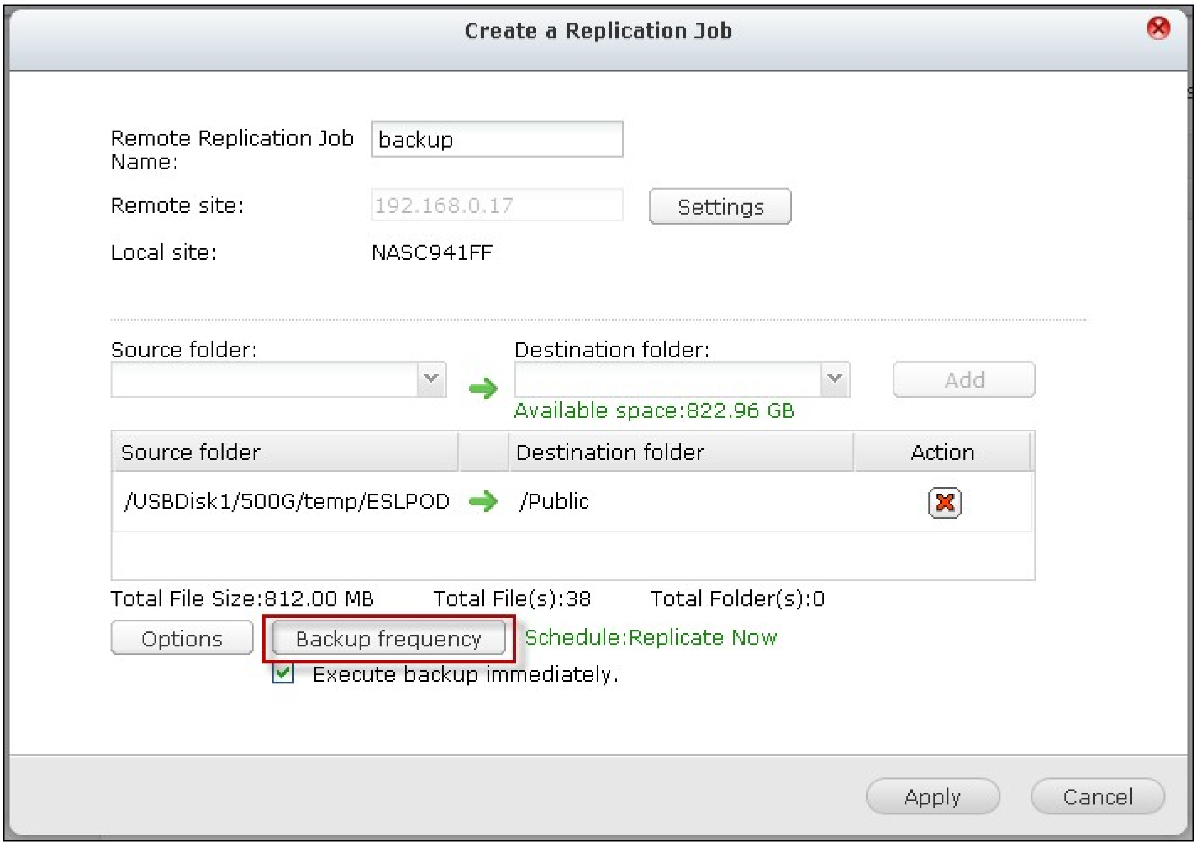
Local site: NASC941FF

Source folder: /USBDisk1/500G/temp/ESLP

Destination folder: /Public

Note: The order of selecting the source and destination folders can be changed. The above is just an example.

6. Click "Backup frequency" to configure the backup frequency.



Create a Replication Job

Remote Replication Job Name: backup

Remote site: 192.168.0.17 Settings

Local site: NASC941FF

Source folder: Destination folder: Add

Available space:822.96 GB

Source folder		Destination folder	Action
/USBDisk1/500G/temp/ESLPOD	→	/Public	☒

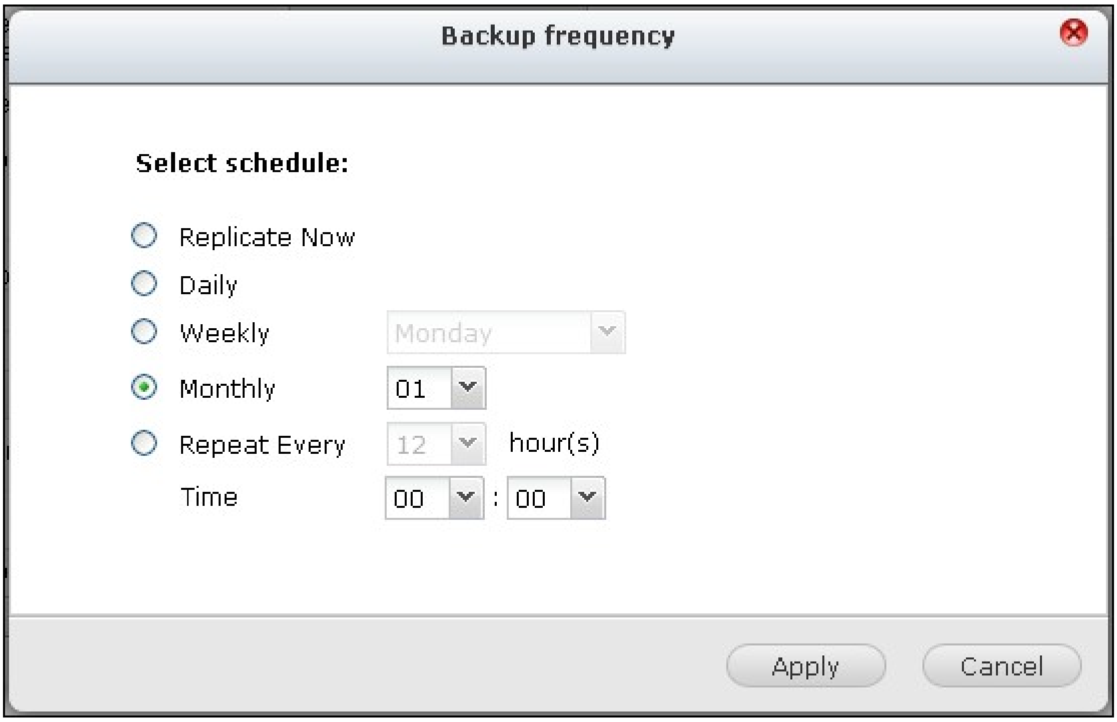
Total File Size:812.00 MB Total File(s):38 Total Folder(s):0

Options Backup frequency Schedule:Replicate Now

☑ Execute backup immediately.

Apply Cancel

Select to replicate the data immediately or specify the backup schedule.



Backup frequency

Select schedule:

○ Replicate Now

○ Daily

○ Weekly Monday

● Monthly 01

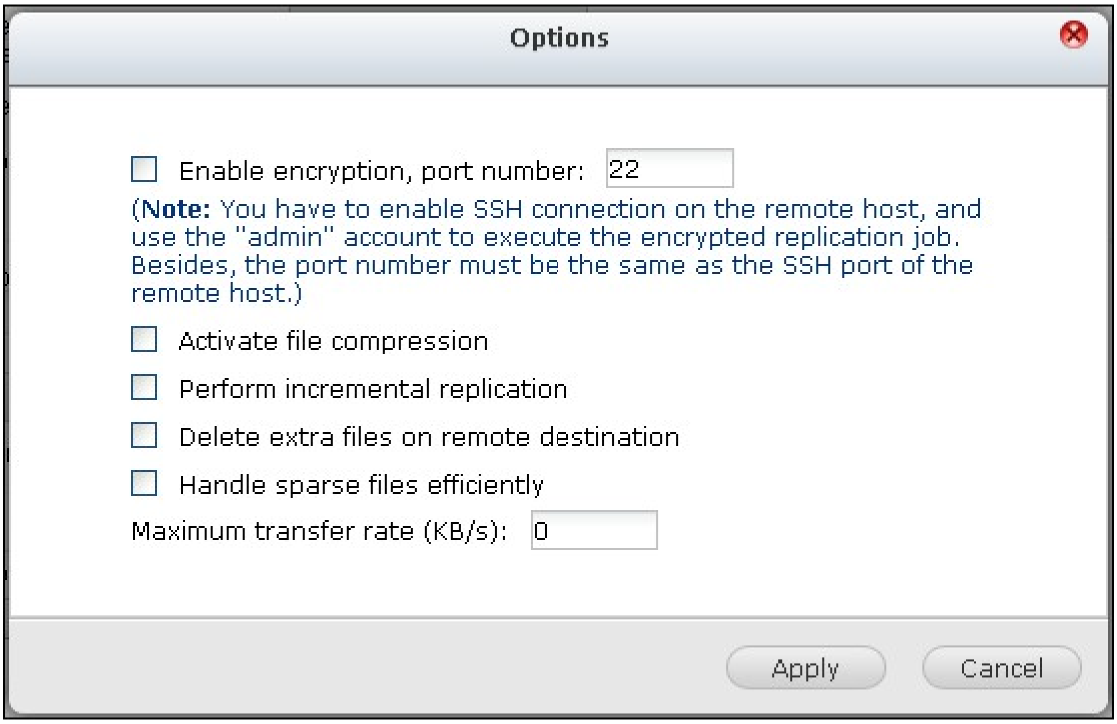
○ Repeat Every 12 hour(s)

Time 00 : 00

Apply Cancel

7. Specify other options as follows for the remote replication job by clicking the "Options" button and click "Apply".

- Enable encryption: Select this option to execute encrypted remote replication. Note that you must turn on "Allow SSH connection" in "Network Services > "Telnet/SSH" and specify the same port number for SSH and encrypted remote replication.
- Activate file compression: Turn on this option to allow file compression during the data transfer process. This option is recommended for low bandwidth environment or remote replication over WAN.
- Perform incremental replication: When this option is turned on, after the first-time replication, the NAS will only back up the files that have been changed since the last backup. The files of the same name, size, and modified time will not be copied again. You are recommended to turn on this option for the replication job which will be executed for more than once in order to shorten the backup time.
- Delete extra files on remote destination: Select the option to synchronize the source data with the destination data (one-way synchronization). Extra files on the destination will be deleted. Source data will remain unchanged.
- Handle sparse files efficiently: A sparse file is a type of computer file that contains large blocks of zero-byte data. Turning on this option may reduce the time required for remote replication.



Options

□ Enable encryption, port number: 22

(**Note:** You have to enable SSH connection on the remote host, and use the "admin" account to execute the encrypted replication job. Besides, the port number must be the same as the SSH port of the remote host.)

□ Activate file compression

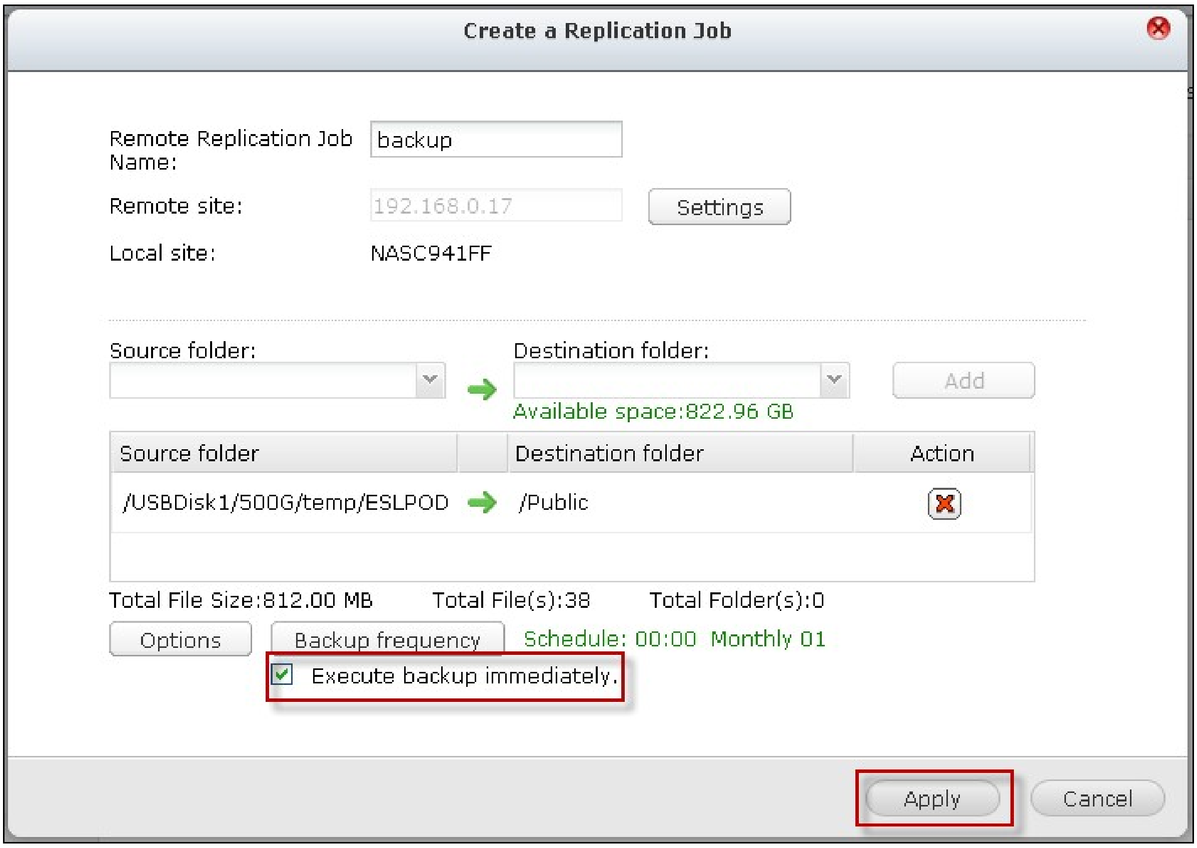
□ Perform incremental replication

□ Delete extra files on remote destination

□ Handle sparse files efficiently

Maximum transfer rate (KB/s): 0

8. Click "Apply". If you select the "Execute backup immediately" option, the replication task will start at once. Otherwise, it will be performed according to your schedule. Note that the job is recursive. Do not turn off the local NAS and the remote server when remote replication is running.



Create a Replication Job

Remote Replication Job Name: backup

Remote site: 192.168.0.17 Settings

Local site: NASC941FF

Source folder: → Destination folder: Add

Available space:822.96 GB

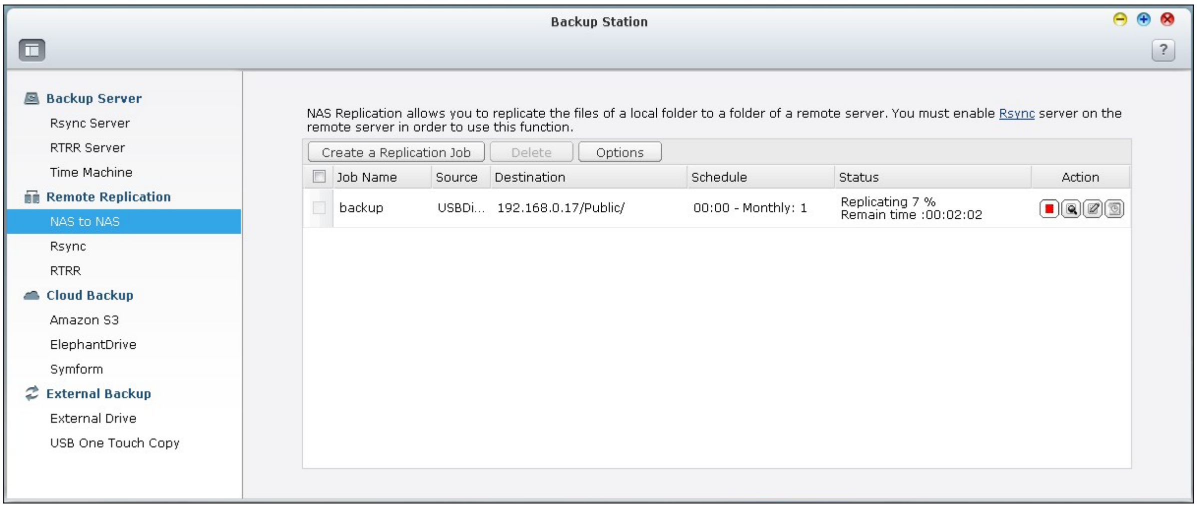
Source folder		Destination folder	Action
/USBDisk1/500G/temp/ESLPOD	→	/Public	☒

Total File Size:812.00 MB Total File(s):38 Total Folder(s):0

Options Backup frequency Schedule: 00:00 Monthly 01

☑ Execute backup immediately.

Apply Cancel



Backup Station

NAS Replication allows you to replicate the files of a local folder to a folder of a remote server. You must enable Rsync server on the remote server in order to use this function.

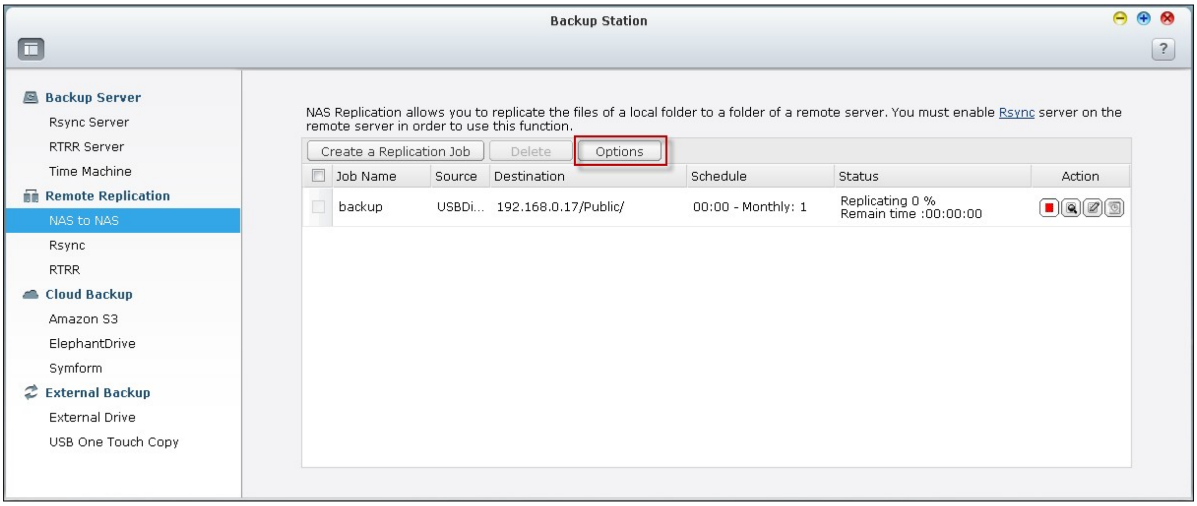
Create a Replication Job Delete Options

□	Job Name	Source	Destination	Schedule	Status	Action
□	backup	USBDi...	192.168.0.17/Public/	00:00 - Monthly: 1	Replicating 7 % Remain time :00:02:02	

Icon	Description
▶	Start a replication job immediately.
■	Stop a running replication job.
🔍	View Rsync logs (replication results).
✎	Edit a replication job.
⊘	Disable replication schedule.

🕒	Enable replication schedule.

To configure the timeout and retry settings of the replications jobs, click “Options”.

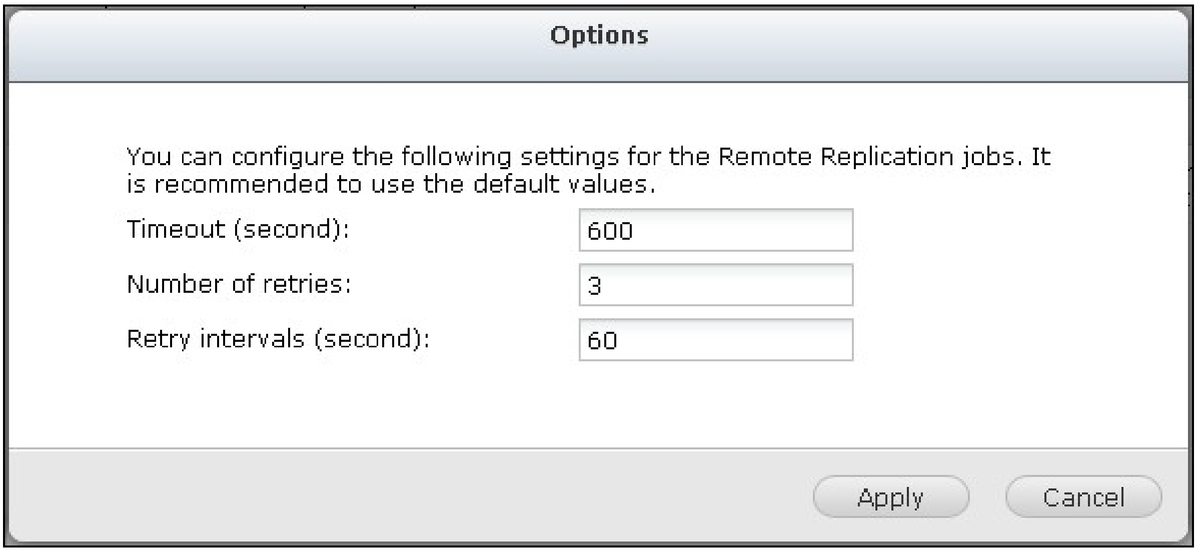


NAS Replication allows you to replicate the files of a local folder to a folder of a remote server. You must enable Rsync server on the remote server in order to use this function.

□	Job Name	Source	Destination	Schedule	Status	Action
□	backup	USBDi...	192.168.0.17/Public/	00:00 - Monthly: 1	Replicating 0 % Remain time :00:00:00	

- Timeout (second): Specify a timeout value for each replication job. This is the maximum number of seconds to wait until a replication job is cancelled if no data has been received.
- Number of retries: Specify the number of times the NAS should try to execute a replication job should it fail.
- Retry intervals (second): Specify the number of seconds to wait in between each retry.

For example, if you entered 600 seconds for timeout, 3 retries, and 60 seconds for retry intervals, a replication job will timeout in 600 seconds if no data is received. The NAS will wait for 60 seconds and try to execute the job a second time. If the job timed out again, the NAS wait for another 60 seconds and retry for a third time.



You can configure the following settings for the Remote Replication jobs. It is recommended to use the default values.

Timeout (second): 600

Number of retries: 3

Retry intervals (second): 60

RTRR

Real-time Remote Replication (RTRR) provides real-time or scheduled data replication between the local NAS and a remote NAS, an FTP server, or an external drive, or replication between two local folders. In real-time mode, the source folder will be monitored and any files that are new, changed, and renamed will be replicated to the target folder immediately. In scheduled mode, the source folder will be replicated to the target folder according to the pre-defined schedule.

If the backup destination is a NAS, you must first enable RTRR server ("Main Menu" > "Backup Station" > "RTRR Server") or FTP service ("Main Menu" > "Control Panel" > "Network Services" > "FTP") on the remote NAS.

NAS models	**Firmware**	**Maximum number of replication jobs supported**
Intel-based NAS	Prior to v3.5.0	64*
	v3.5.0 or above	32*
ARM-based (Non Intel-based) NAS	Prior to v3.5.0	RTRR replication not supported.
	v3.5.0 or above	8*

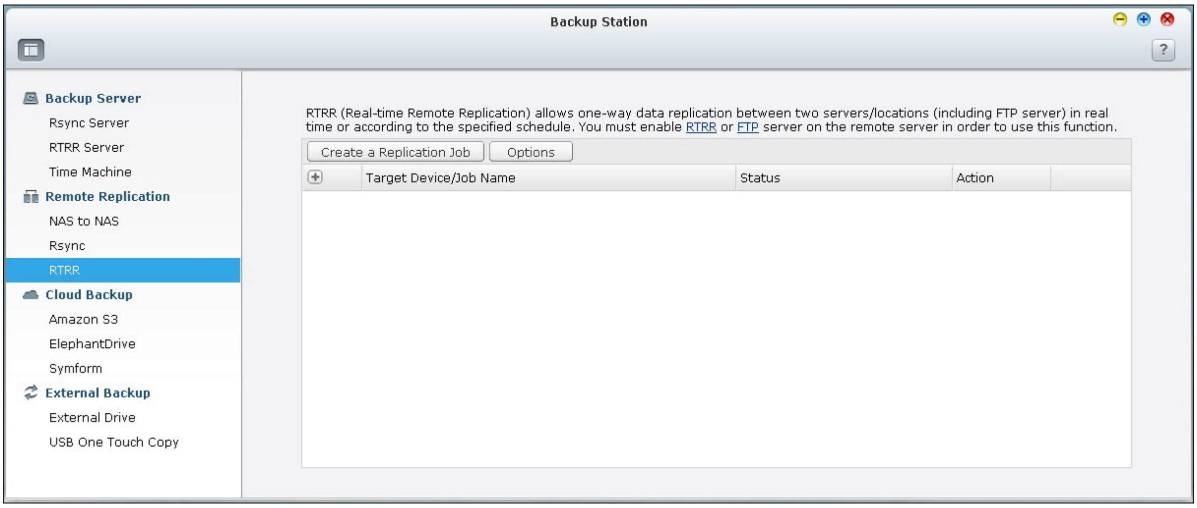
*Each job supports maximum 5 folder pairs.

If your NAS models are not listed below, please visit http://www.qnap.com for details.

Intel-based NAS	TS-x39 series, TS-x59 series, TS-x69 series, TS-509, TS-809, TS-809 Pro, TS-809U-RP, SS-439 Pro, SS-839 Pro, TS-x59 Pro+, TS-879 Pro, TS-1079 Pro, TS-879U-RP, TS-EC879U-RP, TS-1279U-RP, TS-EC1279U-RP
ARM-based (Non Intel-based) NAS	TS-x10, TS-x12, TS-x19 series

Follow the steps below to create a replication job.

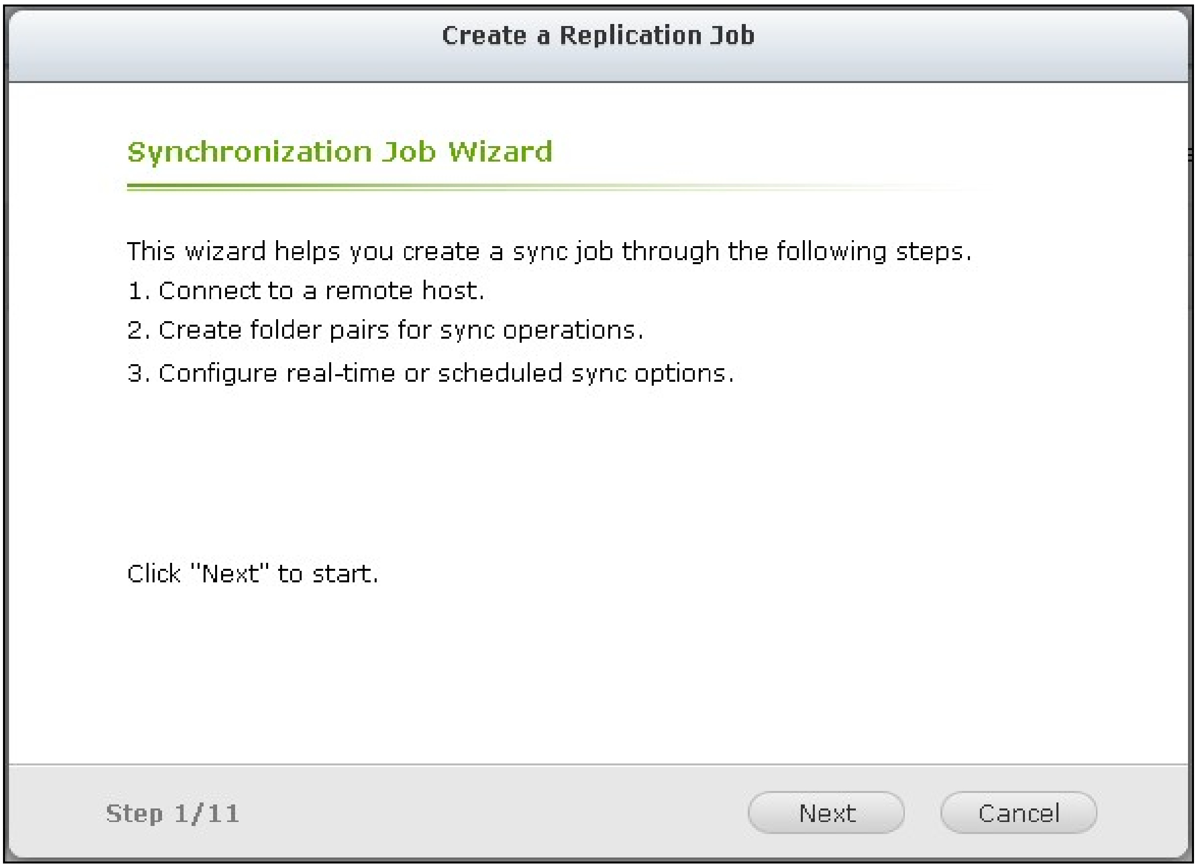
1. To create a real-time or scheduled remote replication, click "Create a Replication Job".



RTRR (Real-time Remote Replication) allows one-way data replication between two servers/locations (including FTP server) in real time or according to the specified schedule. You must enable RTRR or FTP server on the remote server in order to use this function.

Target Device/Job Name	Status	Action

2. When the wizard shows up, click "Next".



Synchronization Job Wizard

This wizard helps you create a sync job through the following steps.
1. Connect to a remote host.
2. Create folder pairs for sync operations.
3. Configure real-time or scheduled sync options.

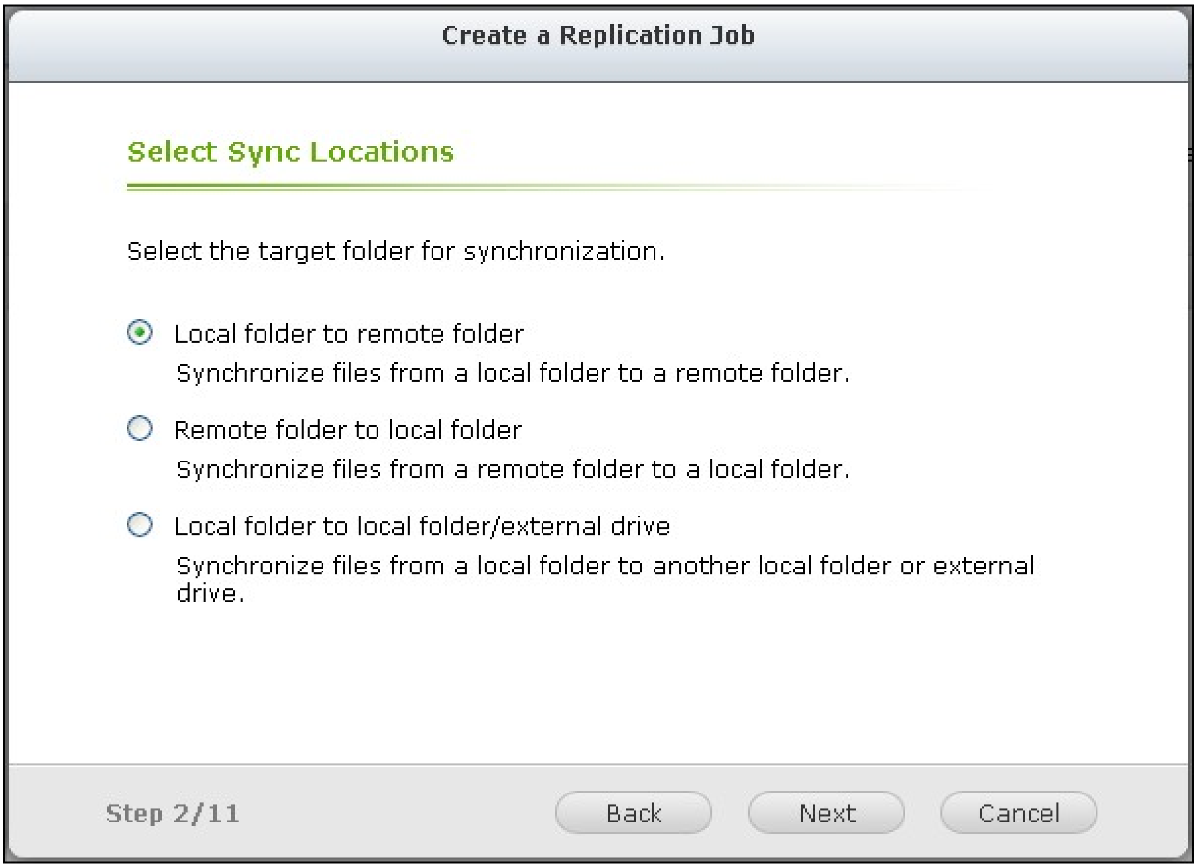
Click "Next" to start.

3. Select the synchronization locations. Make sure the destination device has been formatted and folders have been created. The NAS supports:

- Synchronize data from a local folder to a remote folder (NAS or FTP server)
- Synchronize data from a remote folder (NAS or FTP server) to a local folder

- Synchronize data from a local folder to another local folder or an external drive

Click "Next".



Select Sync Locations

Select the target folder for synchronization.

● Local folder to remote folder
Synchronize files from a local folder to a remote folder.

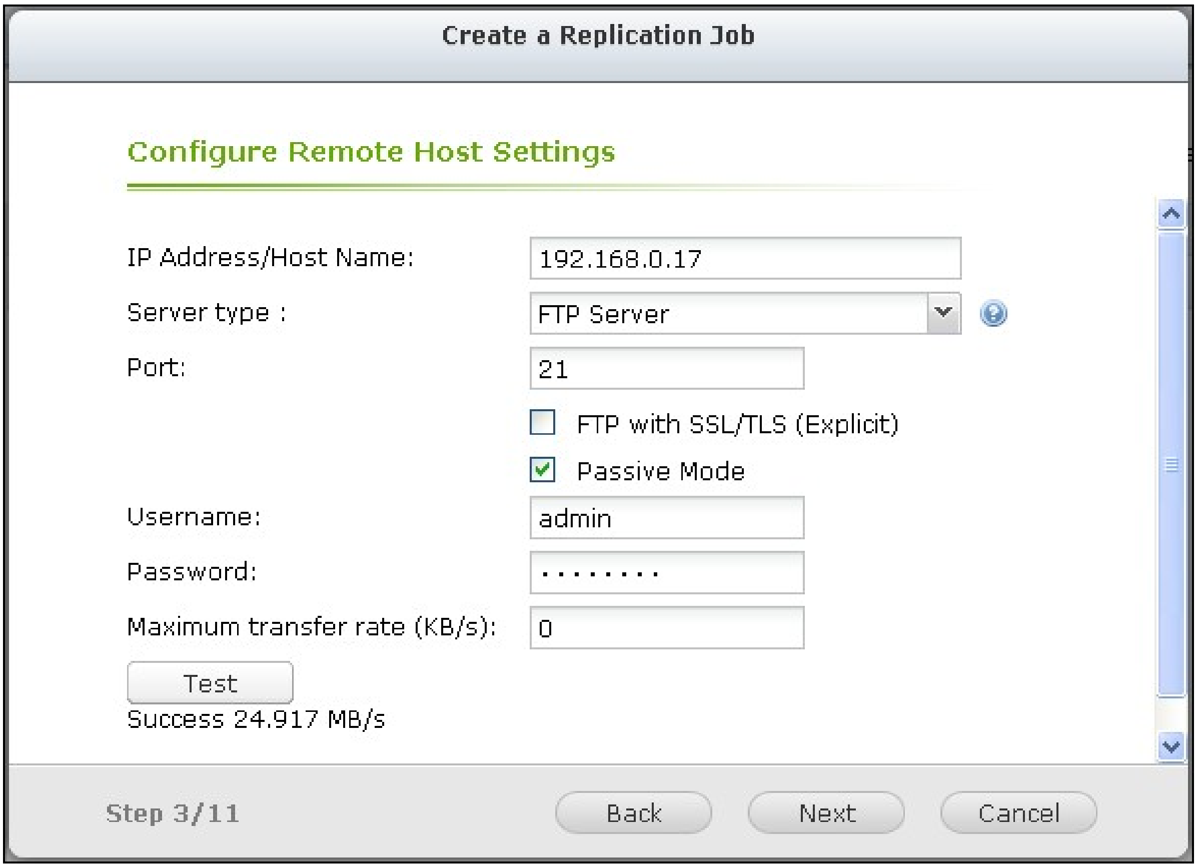
○ Remote folder to local folder
Synchronize files from a remote folder to a local folder.

○ Local folder to local folder/external drive
Synchronize files from a local folder to another local folder or external drive.

4. Enter the IP address or host name. Select the server type (FTP server or NAS server with RTRR service enabled).

Remote replication to FTP server

Specify the port number and if you want to enable FTP with SSL/TLS (Explicit) for encrypted data transfer. If the FTP server is behind a firewall, enable passive mode. Enter the username and password with read/write access to the server. Click “Next”.



Create a Replication Job

Configure Remote Host Settings

IP Address/Host Name: 192.168.0.17

Server type : FTP Server

Port: 21

□ FTP with SSL/TLS (Explicit)

☑ Passive Mode

Username: admin

Password: ·········

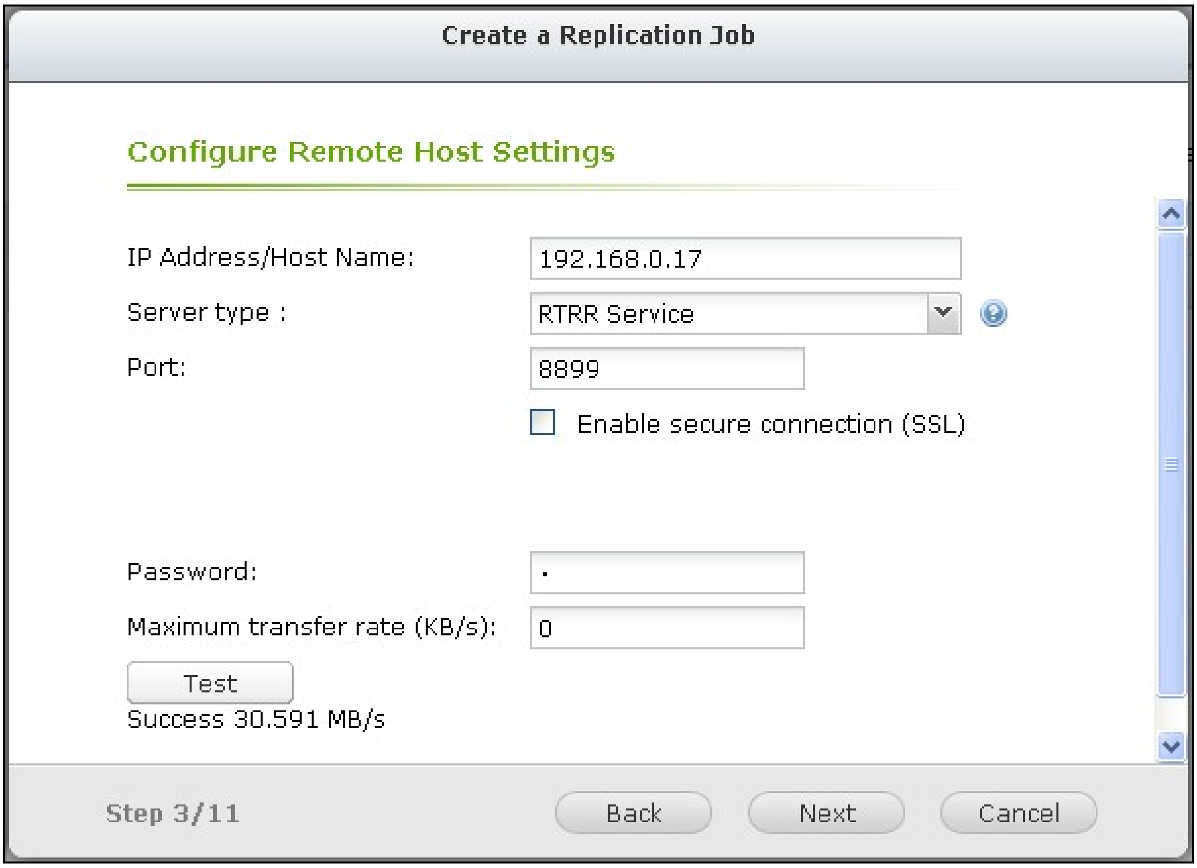
Maximum transfer rate (KB/s): 0

Success 24.917 MB/s

Step 3/11

Remote replication to NAS with RTRR service

Enter the IP address of the RTRR service-enabled server. Specify the connection port and select whether or not to enable secure connection. The default port number for remote replication via RTRR is 8899. Enter the password for RTRR connection. Click "Next".



Create a Replication Job

Configure Remote Host Settings

IP Address/Host Name: 192.168.0.17

Server type : RTRR Service

Port: 8899

□ Enable secure connection (SSL)

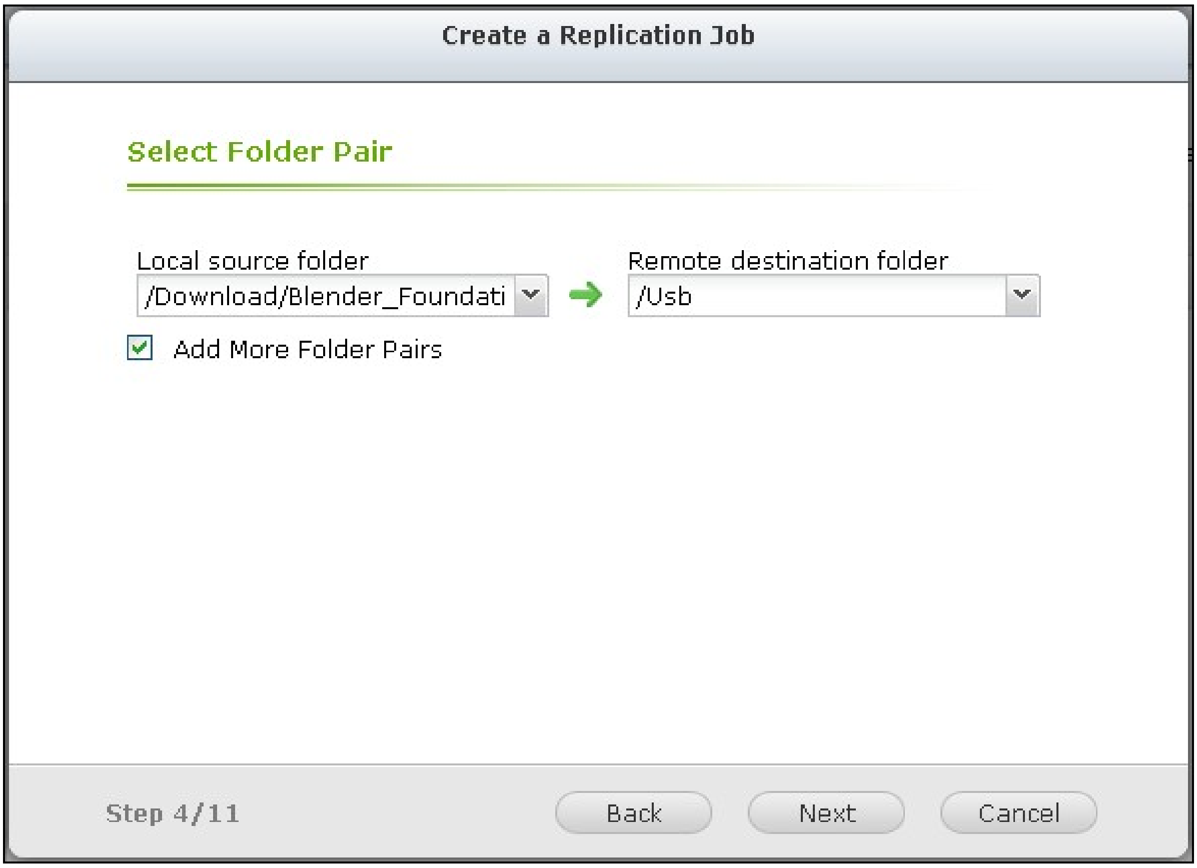
Password: ·

Maximum transfer rate (KB/s): 0

Test

Success 30.591 MB/s

5. Select the folder pair for data synchronization.



Create a Replication Job

Select Folder Pair

Local source folder: /Download/Blender_Foundati

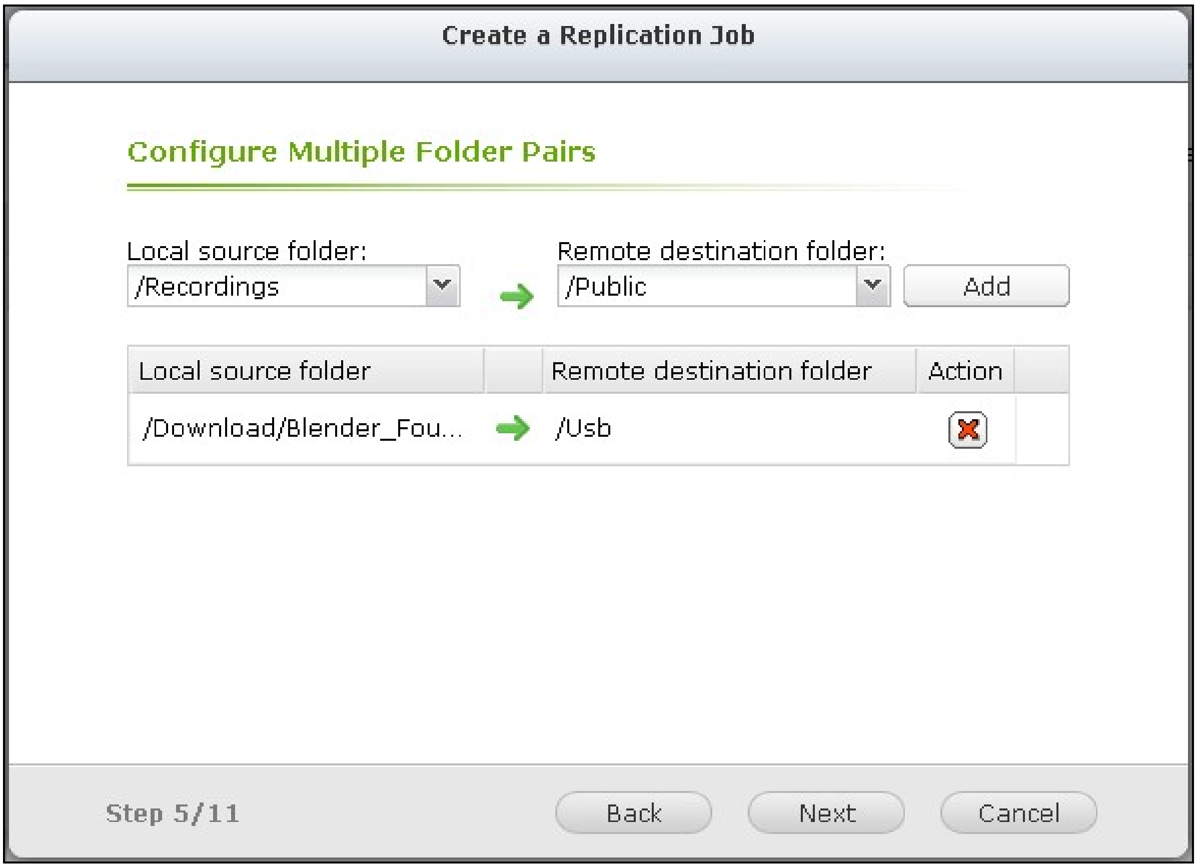
Remote destination folder: /Usb

☑ Add More Folder Pairs

Step 4/11

Note: If a folder or its parent folder or child folder has been selected as the source or destination in a folder pair of a replication job, you cannot select the folder as the source or destination of another folder pair of the same job.

6. Each sync job supports maximum 5 folder pairs. Select more folder pairs and click “Add”. Click “Next”.


Create a Replication Job

Configure Multiple Folder Pairs

Local source folder: /Recordings

Remote destination folder: /Public

Local source folder		Remote destination folder	Action
/Download/Blender_Fou...	→	/Usb	☒

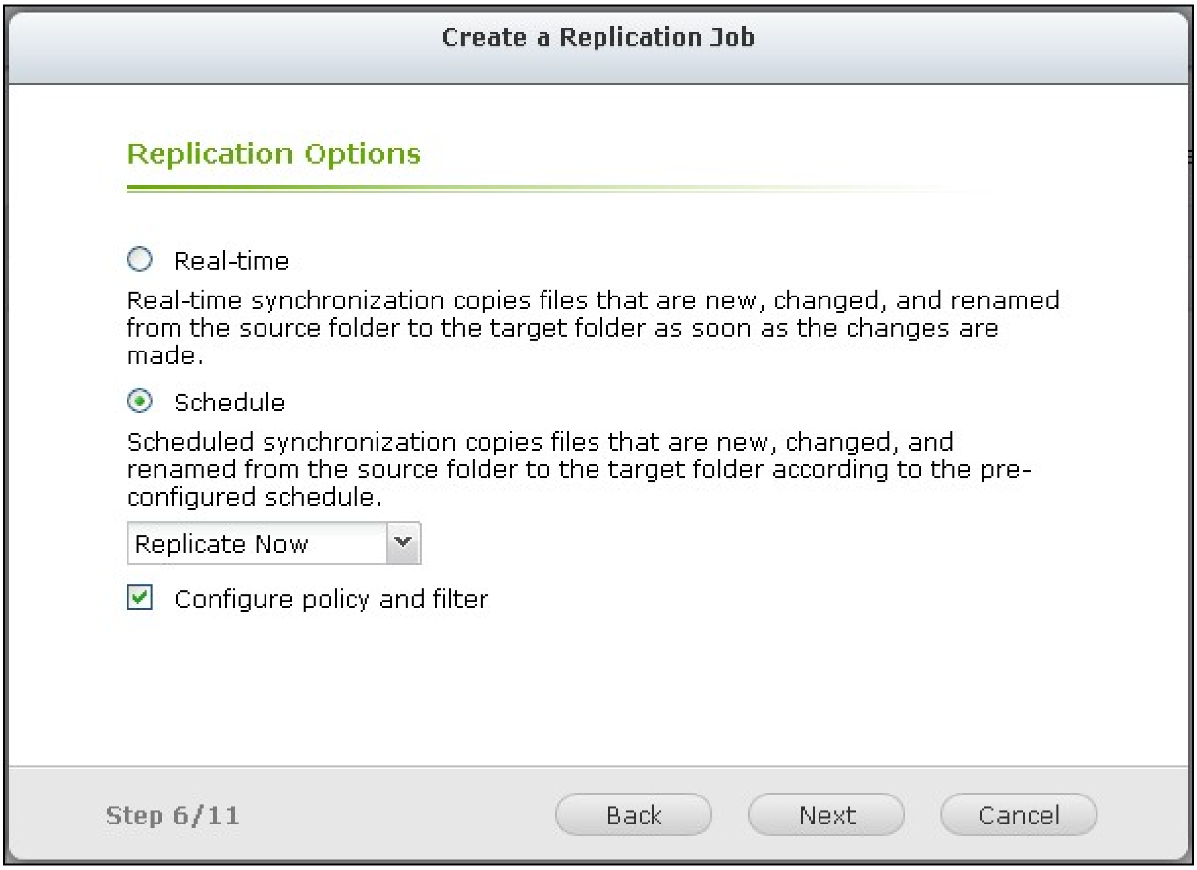
7. Choose between real-time and scheduled synchronization. Real-time synchronization copies files that are new, changed, and renamed from the source folder to the target folder as soon as the changes are made after the first-time backup.

Note: RTRR does not support bi-directional synchronization in the current version. The folder pair cannot be synchronized between two NAS servers in real-time mode. To synchronize the data between the folder pair of two NAS servers, please use scheduled backup.

Scheduled synchronization copies files from the source folder to the target folder according to the pre-configured schedule. The options are:

- Replicate Now: Replicate data immediately.
- Periodically: Enter the time interval in hour and minute that the backup should be executed. The minimum time interval is 5 minutes.
- Hourly: Specify the minute when an hourly backup should be executed, e.g. enter 01 to execute backup each first minute of every hour, 1:01, 2:01, 3:01...

- Daily: Specify the time when a daily backup should be executed, e.g. 02:02 every day.
- Weekly: Select a day of the week and the time when a weekly backup should be executed.
- Monthly: Select a day of the month and the time when a monthly backup should be executed.



Create a Replication Job

Replication Options

○ Real-time

Real-time synchronization copies files that are new, changed, and renamed from the source folder to the target folder as soon as the changes are made.

● Schedule

Scheduled synchronization copies files that are new, changed, and renamed from the source folder to the target folder according to the pre-configured schedule.

Replicate Now

☑ Configure policy and filter

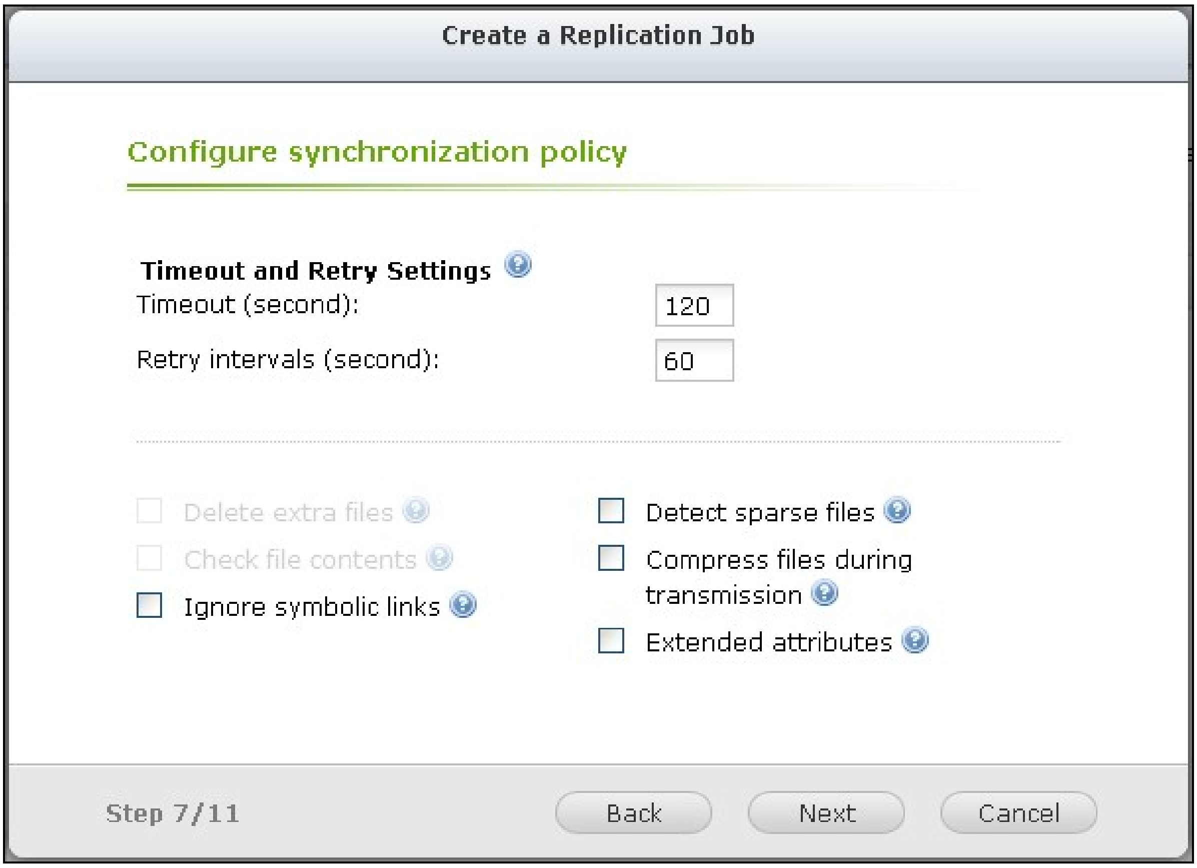
Step 6/11

8. To configure synchronization policy, select "Configure policy and filter" and click "Next".

   Select whether or not to enable the following options:

- Delete extra files: Delete extra files in the target folder. Deletions made on the source folder will be repeated on the target folder. This option is not available for real-time synchronization.
- Detect sparse files: Select this option to ignore files of null data.
- Check file contents: Specify to examine file contents, date, size, and name to determine if two files are identical. This option is not available for real-time synchronization.
- Compress files during transmissions: Specify whether or not the files should be compressed for synchronization operations. Note that more CPU resources will be consumed.

- Ignore symbolic links: Select this option to ignore symbolic links in the pair folder.
- Extended attributes: Select this option to keep the information in extended attributes.
- Timeout and retry settings: Specify the timeout period and retry settings if a synchronization operation fails.



Configure synchronization policy

Timeout and Retry Settings

Timeout (second): 120

Retry intervals (second): 60

□ Delete extra files

□ Check file contents

□ Ignore symbolic links

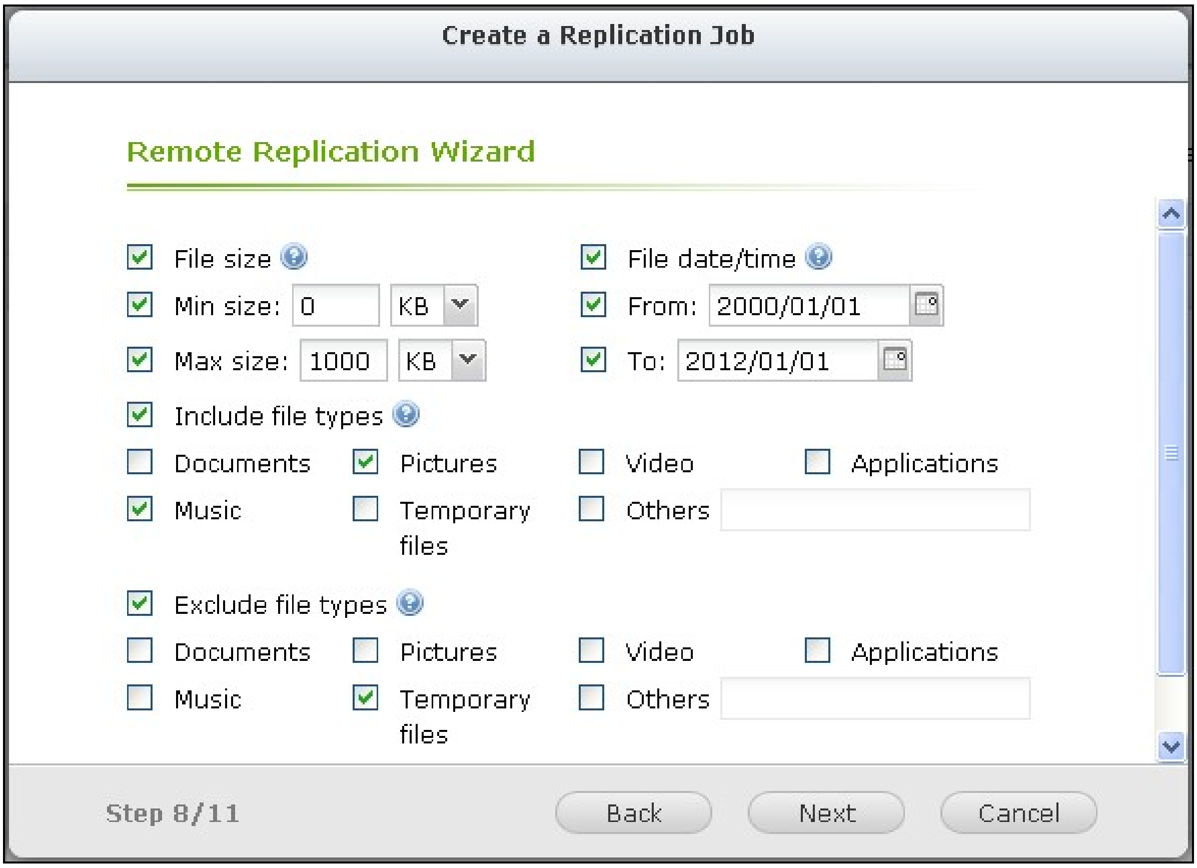
□ Detect sparse files

□ Compress files during transmission

□ Extended attributes

9. Specify the file size, file types to include/exclude, and file date/time to filter data synchronization.

- File size: Specify the minimum and maximum size of the files to be replicated.
- Include file types: Specify the file types to be replicated.
- Exclude file types: Specify the file types to be excluded for replication.
- File date/time: Specify the date and time of the files to be replicated.



Create a Replication Job

Remote Replication Wizard

☑ File size

☑ Min size: 0 KB

☑ Max size: 1000 KB

☑ File date/time

☑ From: 2000/01/01

☑ To: 2012/01/01

☑ Include file types

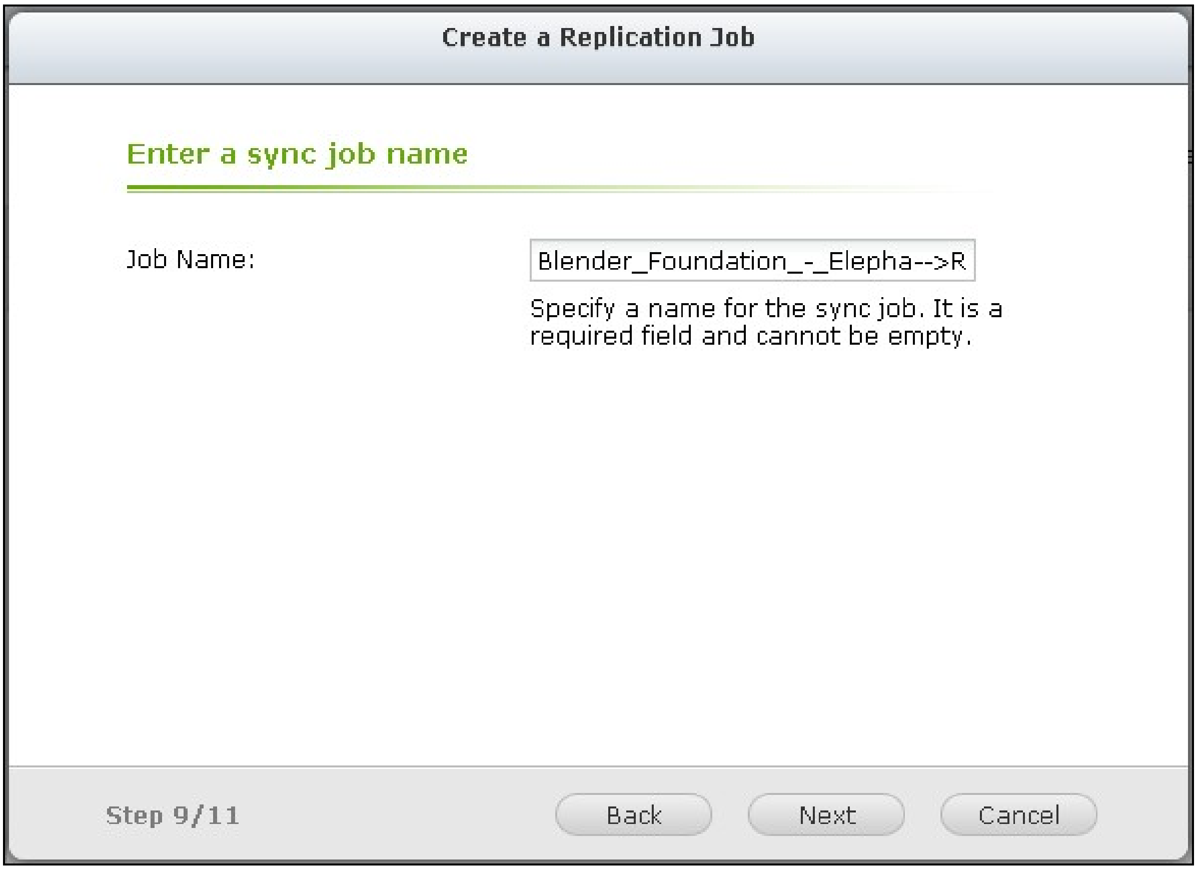
□ Documents	☑ Pictures	□ Video	□ Applications
☑ Music	□ Temporary files	□ Others	

☑ Exclude file types

□ Documents	□ Pictures	□ Video	□ Applications
□ Music	☑ Temporary files	□ Others	

Step 8/11

10. Enter a job name. Click “Next”.



Create a Replication Job

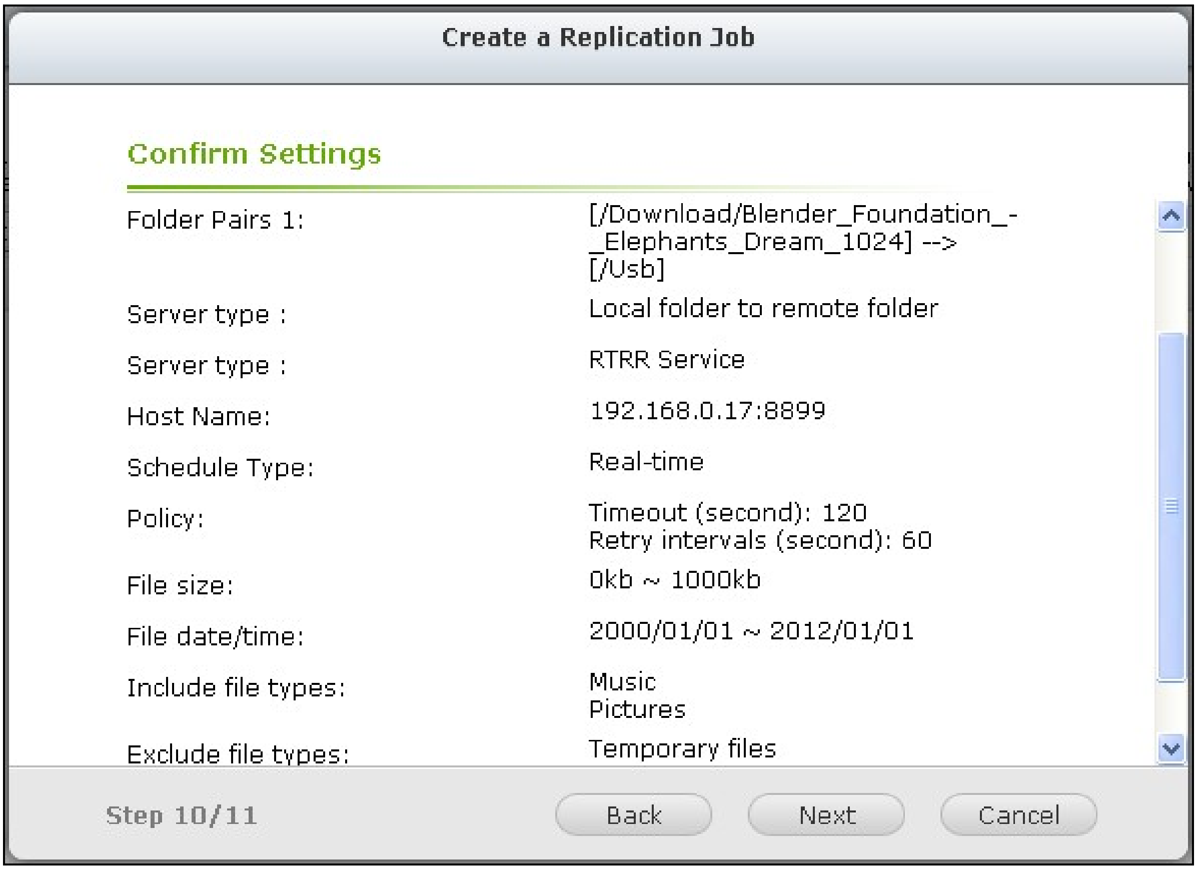
Enter a sync job name

Job Name: Blender_Foundation_-_Elepha-->R

Specify a name for the sync job. It is a required field and cannot be empty.

Step 9/11

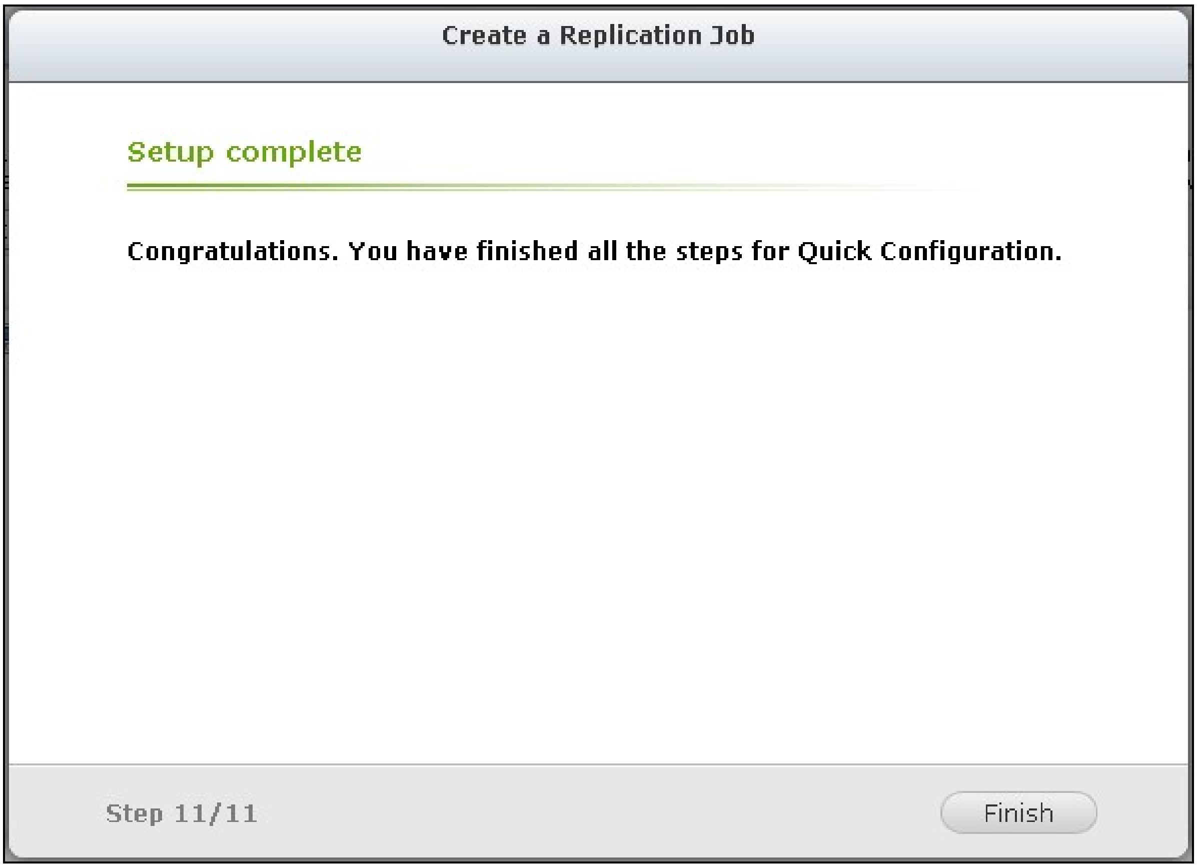
11. Confirm the settings and click "Next".



Confirm Settings

Folder Pairs 1:	[/Download/Blender_Foundation_-_Elephants_Dream_1024] --> [/Usb]
Server type :	Local folder to remote folder
Server type :	RTRR Service
Host Name:	192.168.0.17:8899
Schedule Type:	Real-time
Policy:	Timeout (second): 120 Retry intervals (second): 60
File size:	0kb ~ 1000kb
File date/time:	2000/01/01 ~ 2012/01/01
Include file types:	Music Pictures
Exclude file types:	Temporary files

12. Click "Finish" to exit the wizard.

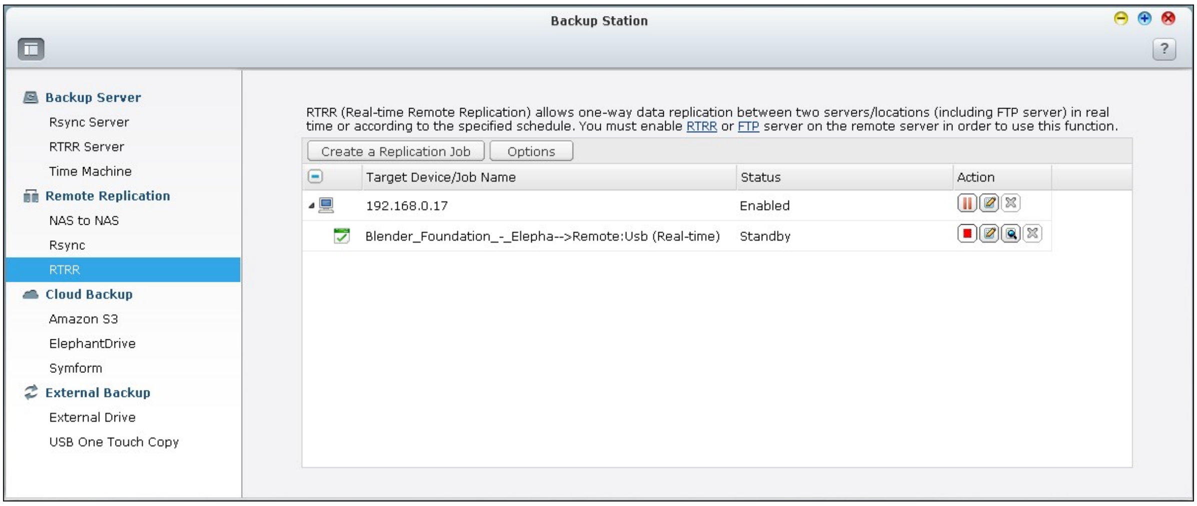


Create a Replication Job

Setup complete

Congratulations. You have finished all the steps for Quick Configuration.

Step 11/11



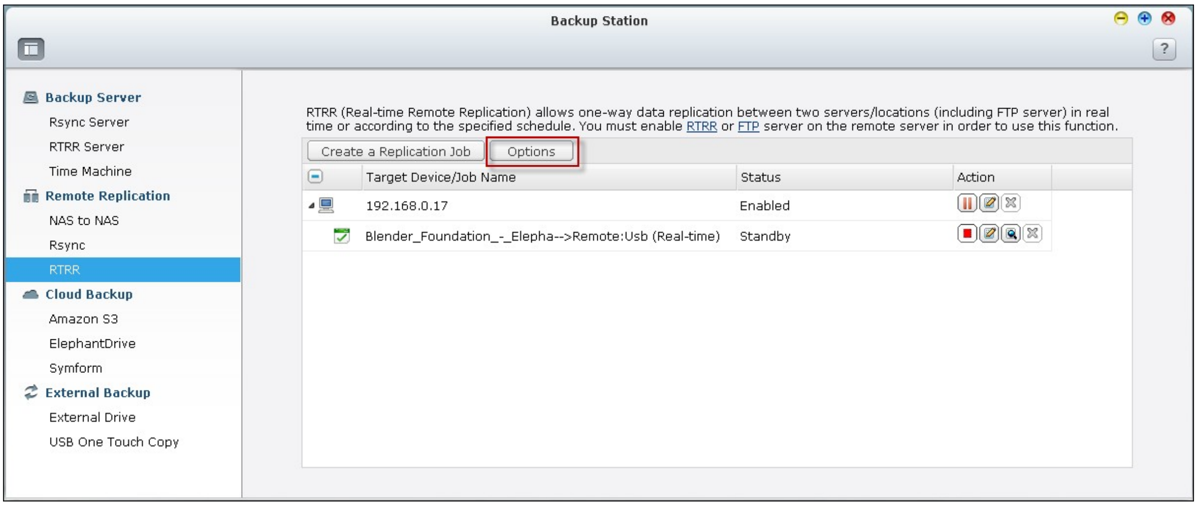
RTRR (Real-time Remote Replication) allows one-way data replication between two servers/locations (including FTP server) in real time or according to the specified schedule. You must enable RTRR or FTP server on the remote server in order to use this function.

Target Device/Job Name	Status	Action
192.168.0.17	Enabled	⏸ ✎ ✕
Blender_Foundation_-_Elepha-->Remote:Usb (Real-time)	Standby	■ ✎ 🔍 ✕

Icon	Description
▶	Enable connection to a remote server. Start a replication job.
⏸	Stop connection to a remote server or external drive.
■	Stop a replication job.
🔍	View job status and logs; download logs.

✎	Edit the connection settings of a remote server. Edit the settings of a replication job.
☒	Delete connection settings to a remote server. Delete a replication job. This button is available only after a replication job is stopped or the connection to the remote server is stopped.

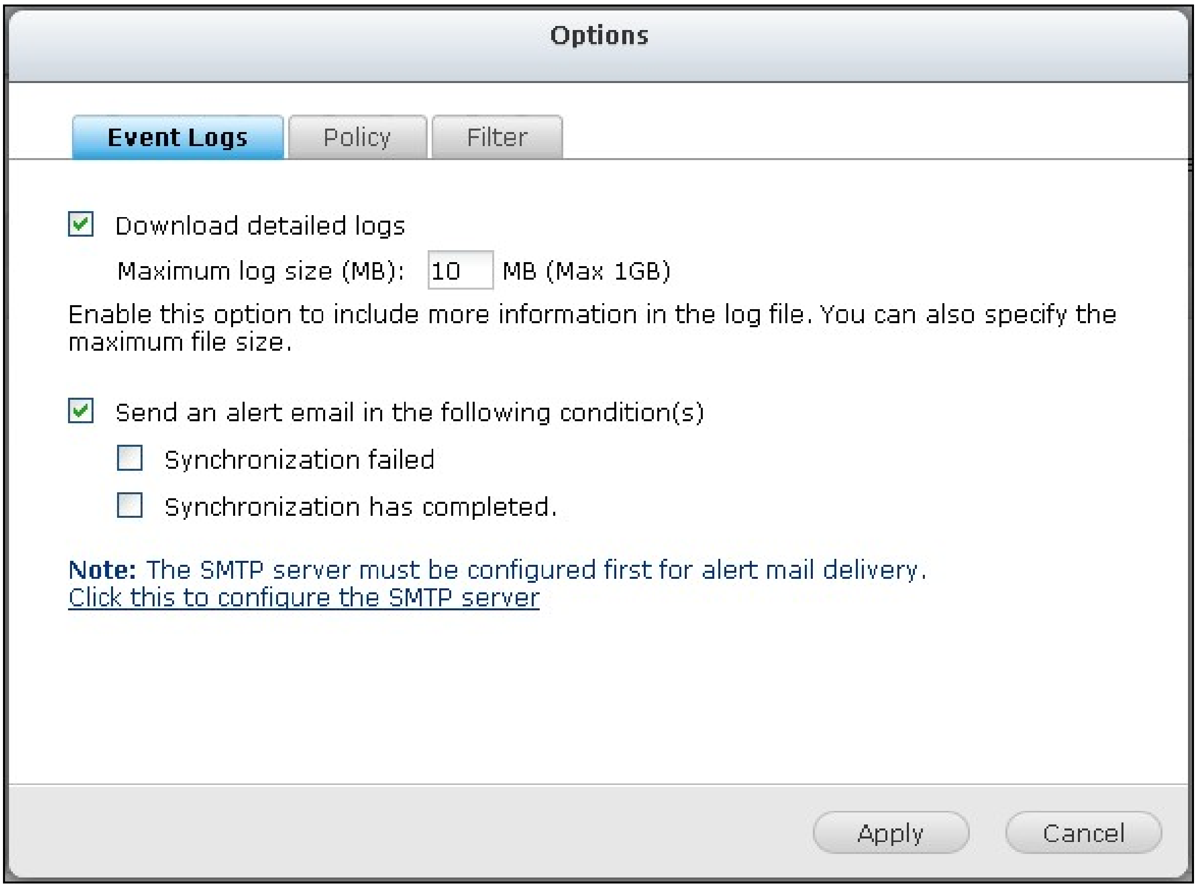
To edit the replication job properties, click “Options”.



RTRR (Real-time Remote Replication) allows one-way data replication between two servers/locations (including FTP server) in real time or according to the specified schedule. You must enable RTRR or FTP server on the remote server in order to use this function.

Target Device/Job Name	Status	Action
192.168.0.17	Enabled	
Blender_Foundation_-_Elepha-->Remote:Usb (Real-time)	Standby	

Under “Event Logs” you can select to enable “Download Detailed Logs” and specify the maximum file size of the log file. You can also select to send an email alert when synchronization fails or completes. Note that the SMTP server settings must be properly set up on the NAS (“System Settings” > “Notification”).



☑ Download detailed logs

Maximum log size (MB): 10 MB (Max 1GB)

Enable this option to include more information in the log file. You can also specify the maximum file size.

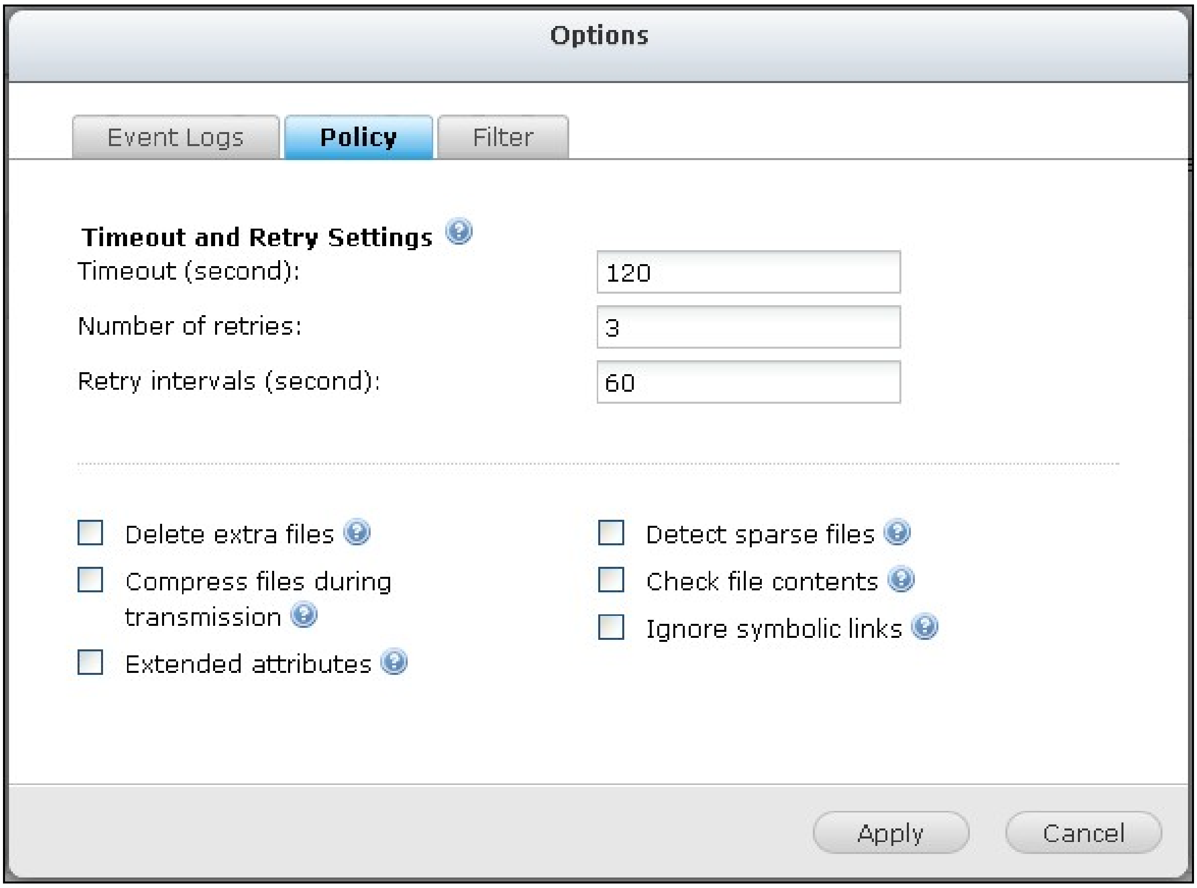
☑ Send an alert email in the following condition(s)

□ Synchronization failed

□ Synchronization has completed.

Note: The SMTP server must be configured first for alert mail delivery.
Click this to configure the SMTP server

Specify the replication policy in "Policy" and filter settings in "Filter". These will become the default settings for all RTRR replication jobs.



Timeout and Retry Settings

Timeout (second): 120

Number of retries: 3

Retry intervals (second): 60

□ Delete extra files

□ Compress files during transmission

□ Extended attributes

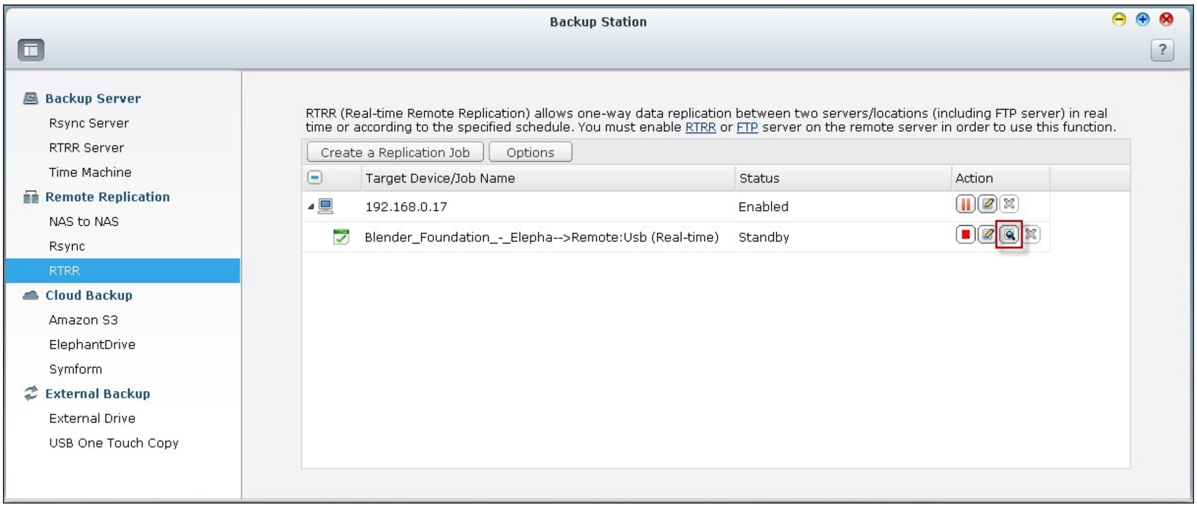
□ Detect sparse files

□ Check file contents

□ Ignore symbolic links

Download replication job logs

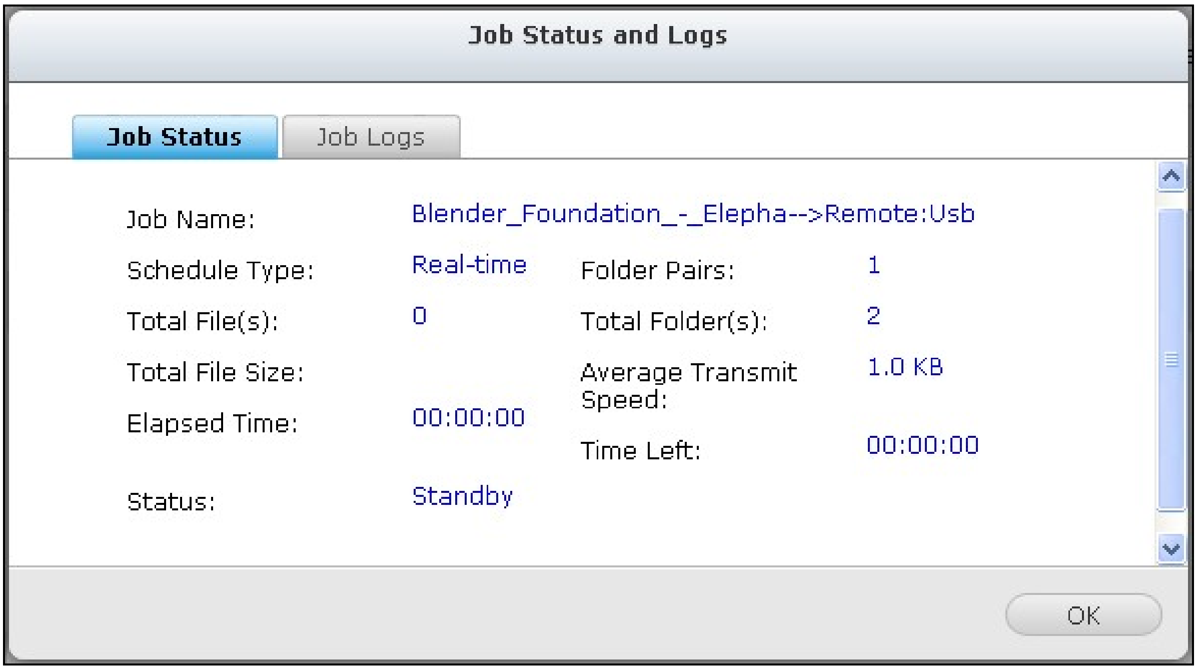
To view the status and logs of a replication job, click 🔍.



RTRR (Real-time Remote Replication) allows one-way data replication between two servers/locations (including FTP server) in real time or according to the specified schedule. You must enable RTRR or FTP server on the remote server in order to use this function.

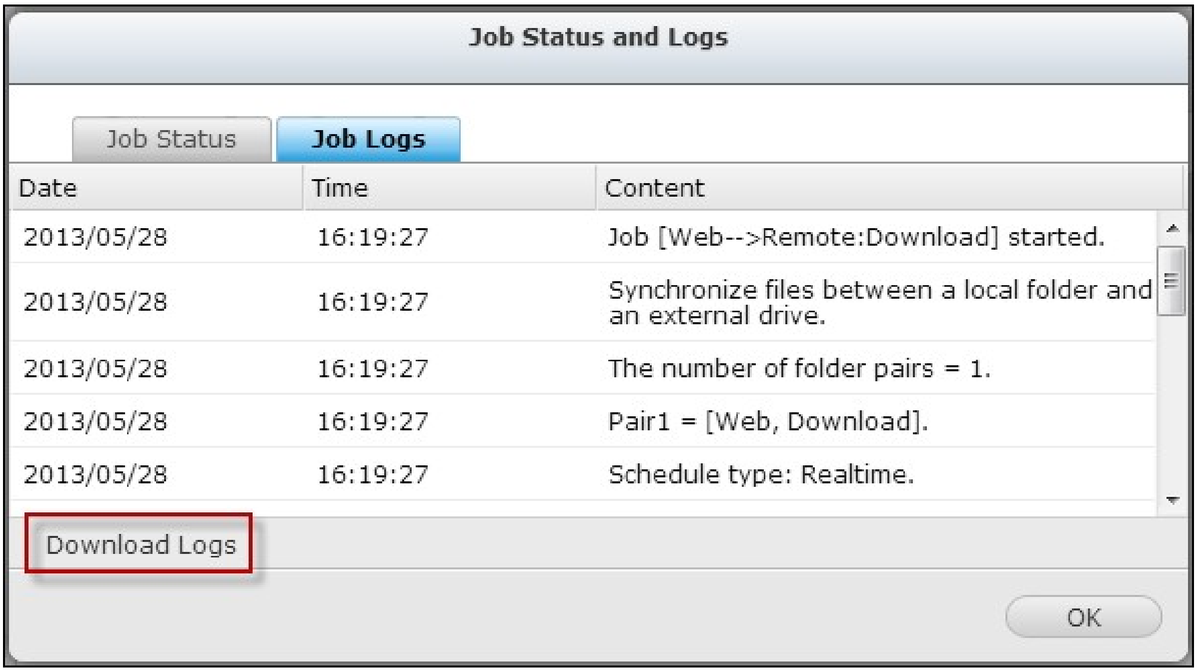
Target Device/Job Name	Status	Action
192.168.0.17	Enabled	
Blender_Foundation_-_Elepha-->Remote:Usb (Real-time)	Standby	

You can view the details of a replication job.



Job Name:	Blender_Foundation_-_Elepha-->Remote:Usb		
Schedule Type:	Real-time	Folder Pairs:	1
Total File(s):	0	Total Folder(s):	2
Total File Size:		Average Transmit Speed:	1.0 KB
Elapsed Time:	00:00:00	Time Left:	00:00:00
Status:	Standby		

You can view the job logs or download the logs by clicking “Download Logs”. The log file can be opened by Microsoft Excel or other text editor software. Note that this button is only available after you have enabled “Download Detailed Logs” in “Options” > “Event Logs” and executed the replication job once.



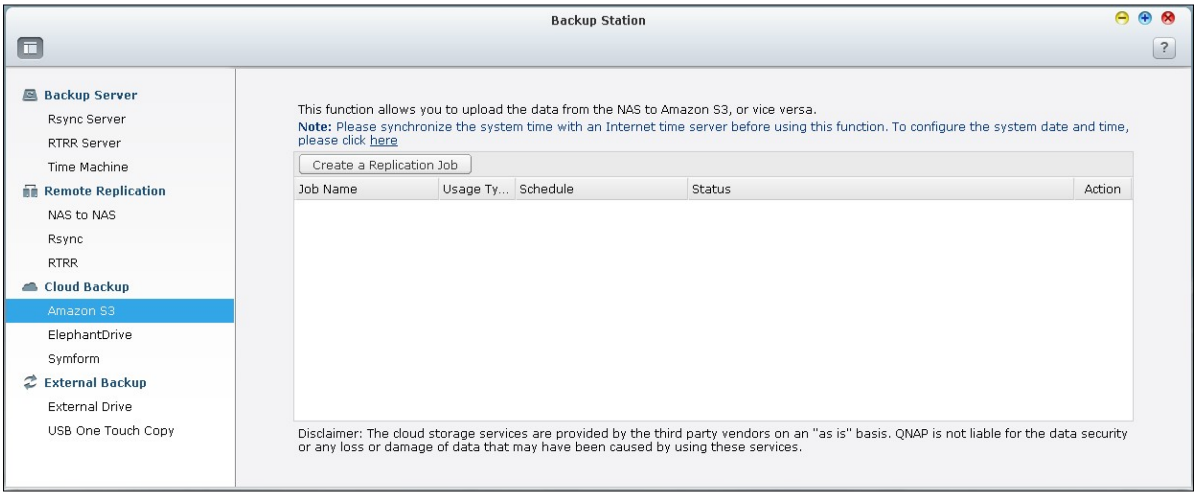
Date	Time	Content
2013/05/28	16:19:27	Job [Web-->Remote:Download] started.
2013/05/28	16:19:27	Synchronize files between a local folder and an external drive.
2013/05/28	16:19:27	The number of folder pairs = 1.
2013/05/28	16:19:27	Pair1 = [Web, Download].
2013/05/28	16:19:27	Schedule type: Realtime.

8.1.3 Cloud Backup

Amazon S3

Amazon S3 (Simple Storage Service) is an online storage web service offered by AWS (Amazon Web Services). It provides a simple web services interface that can be used to store and retrieve the data from anywhere on the web. With Amazon S3, you can upload the data from your NAS to Amazon S3 or download the data from Amazon S3 to your NAS.

Note that you need to register an AWS account from http://aws.amazon.com and pay for the service. After signing up for an account, you need to create at least one bucket (root folder) on Amazon S3 by an Amazon S3 application. We recommend the Mozilla Firefox add-on "S3Fox" for beginners.



This function allows you to upload the data from the NAS to Amazon S3, or vice versa.

Note: Please synchronize the system time with an Internet time server before using this function. To configure the system date and time, please click here

Job Name	Usage Ty...	Schedule	Status	Action

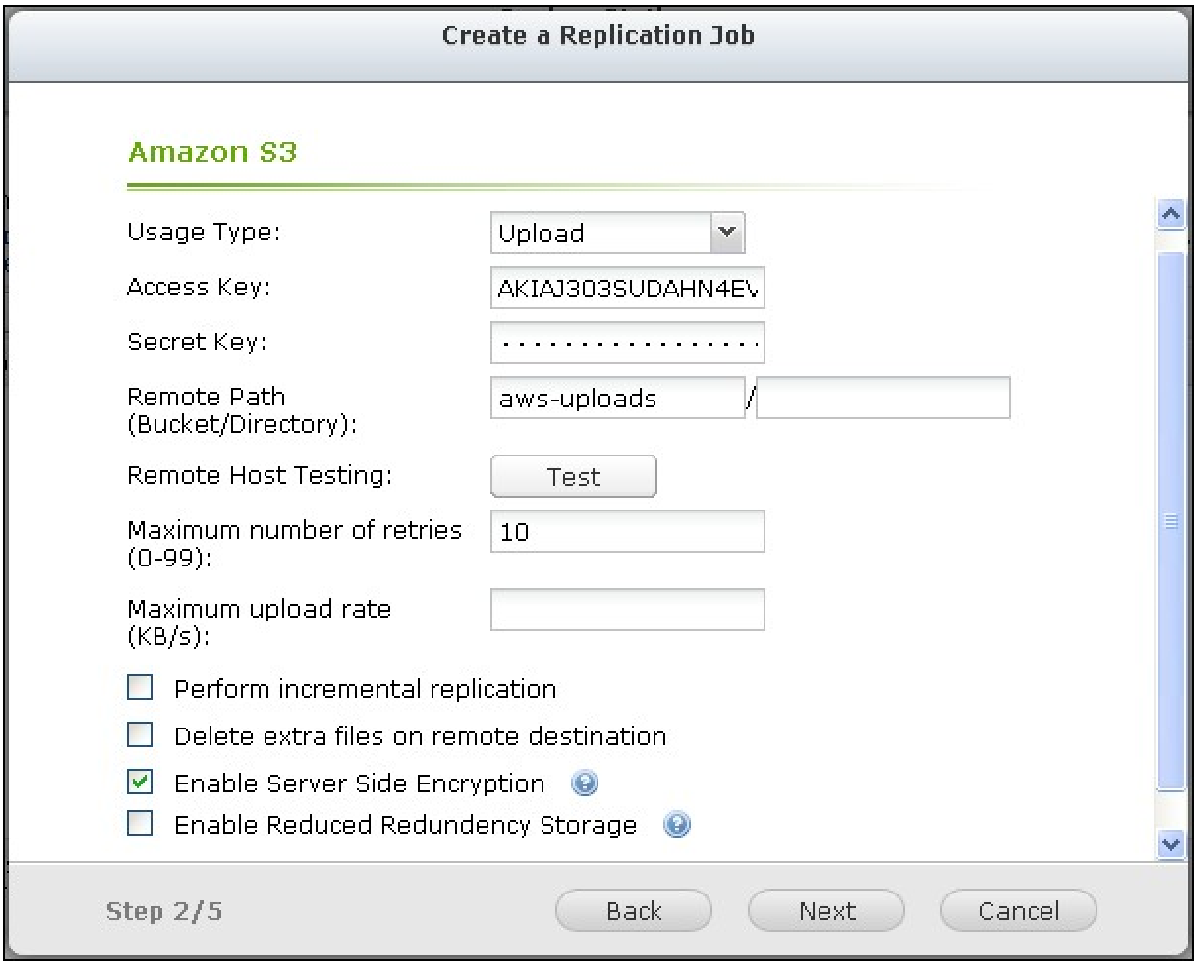
Disclaimer: The cloud storage services are provided by the third party vendors on an "as is" basis. QNAP is not liable for the data security or any loss or damage of data that may have been caused by using these services.

After setting up the Amazon S3 account, follow the steps below to back up the data to or retrieve the data from Amazon S3 using the NAS.

1. Click "Create a Replication Job".

2. Enter the remote replication job name.

3. Select the usage type: "Upload" or "Download" and enter other settings. A bucket is the root directory on Amazon S3. You can test the connection to the remote host testing by clicking "Test". Other settings are optional.



Create a Replication Job

Amazon S3

Usage Type: Upload

Access Key: AKIAJ303SUDAHN4EV

Secret Key: ················

Remote Path (Bucket/Directory): aws-uploads /

Remote Host Testing:

Maximum number of retries (0-99): 10

Maximum upload rate (KB/s):

☐ Perform incremental replication

☐ Delete extra files on remote destination

☑ Enable Server Side Encryption

☐ Enable Reduced Redundency Storage

Step 2/5

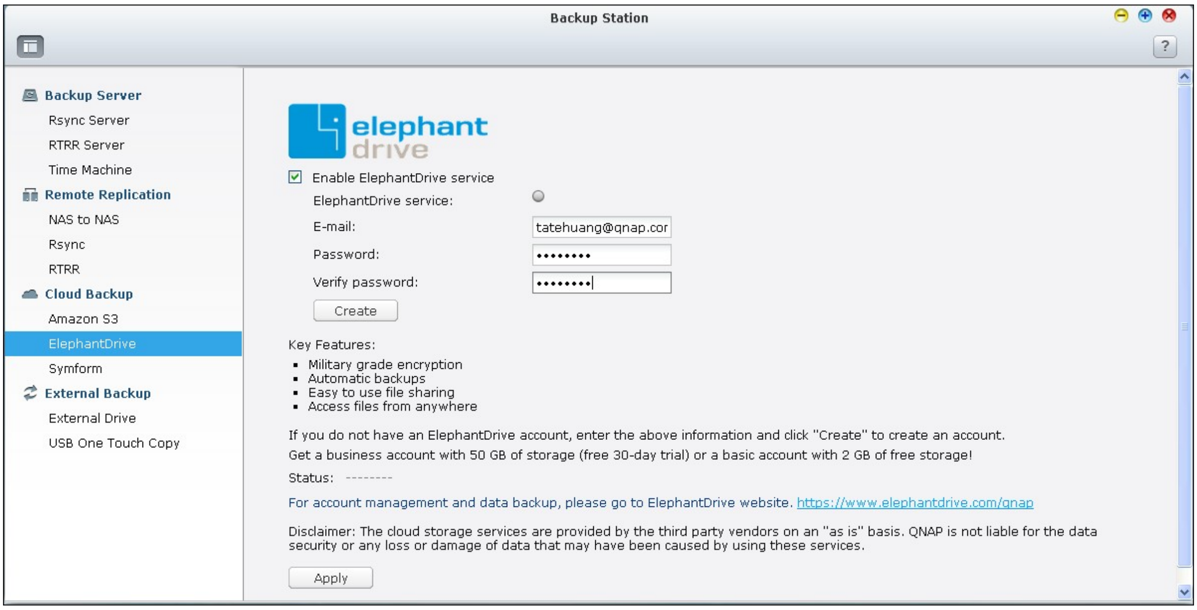
4. Specify the local directory on the NAS for replication.

5. Enter the replication schedule.

6. Click “Finish”. The replication job will be executed according to your schedule.

ElephantDrive

To use ElephantDrive Service, select “Enable ElephantDrive Service”. Enter your email and password for the ElephantDrive service. If you do not have an account, enter the information and click “Create”.



☑ Enable ElephantDrive service

ElephantDrive service: ○

E-mail: tatehuang@qnap.cor

Password: ••••••••

Verify password: ••••••••

Key Features:

- Military grade encryption
- Automatic backups
- Easy to use file sharing
- Access files from anywhere

If you do not have an ElephantDrive account, enter the above information and click "Create" to create an account.
Get a business account with 50 GB of storage (free 30-day trial) or a basic account with 2 GB of free storage!

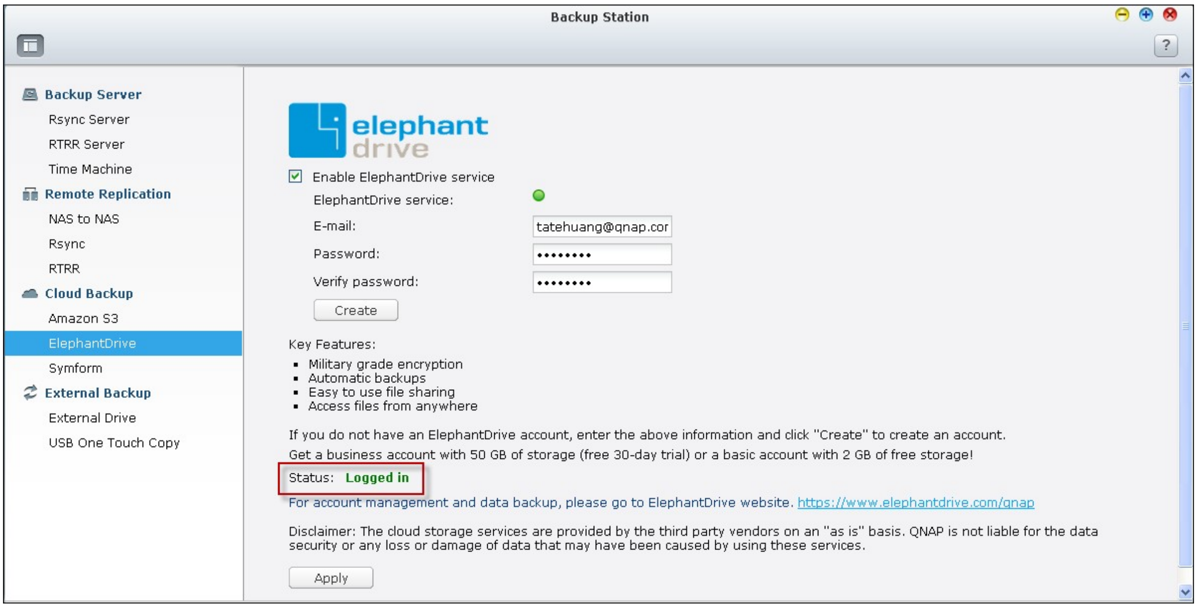
Status: --------

For account management and data backup, please go to ElephantDrive website. https://www.elephantdrive.com/qnap

Disclaimer: The cloud storage services are provided by the third party vendors on an "as is" basis. QNAP is not liable for the data security or any loss or damage of data that may have been caused by using these services.

Click “OK” to confirm.

After creating an account, click “Apply”. The NAS will help you login the ElephantDrive service.
After you have logged in ElephantDrive service on the NAS, you can go to ElephantDrive website (http://www.elephantdrive.com/qnap) and manage the backup.



☑ Enable ElephantDrive service

ElephantDrive service: ●

E-mail: tatehuang@qnap.cor

Password: ••••••••

Verify password: ••••••••

Key Features:

- Military grade encryption
- Automatic backups
- Easy to use file sharing
- Access files from anywhere

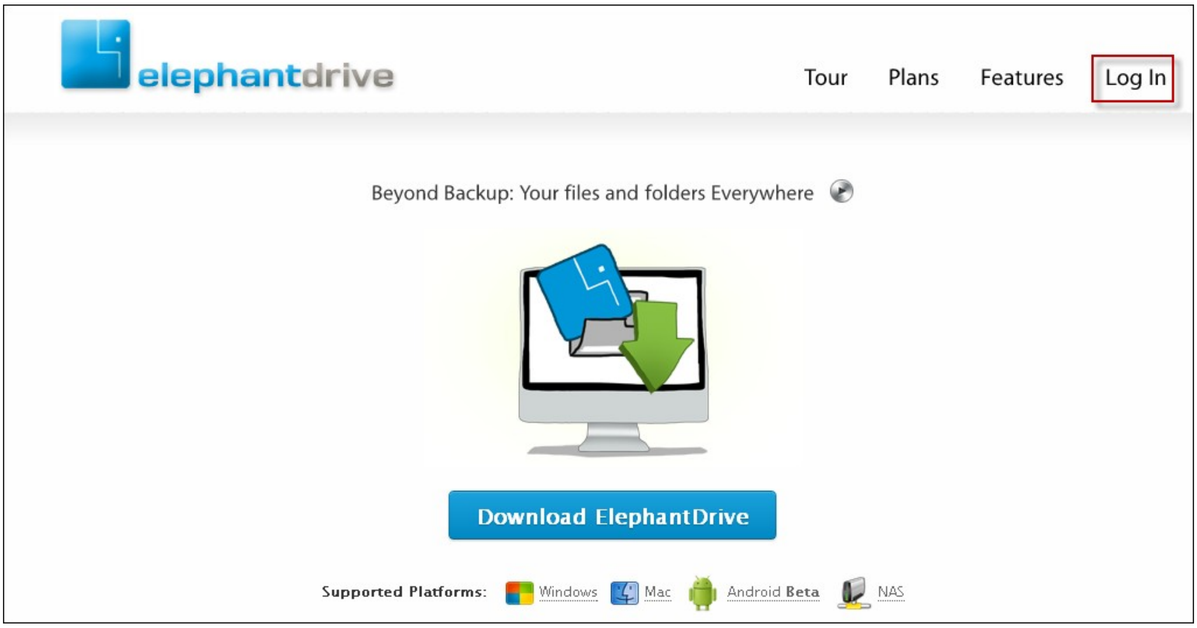
If you do not have an ElephantDrive account, enter the above information and click "Create" to create an account.
Get a business account with 50 GB of storage (free 30-day trial) or a basic account with 2 GB of free storage!

Status: Logged in

For account management and data backup, please go to ElephantDrive website. https://www.elephantdrive.com/qnap

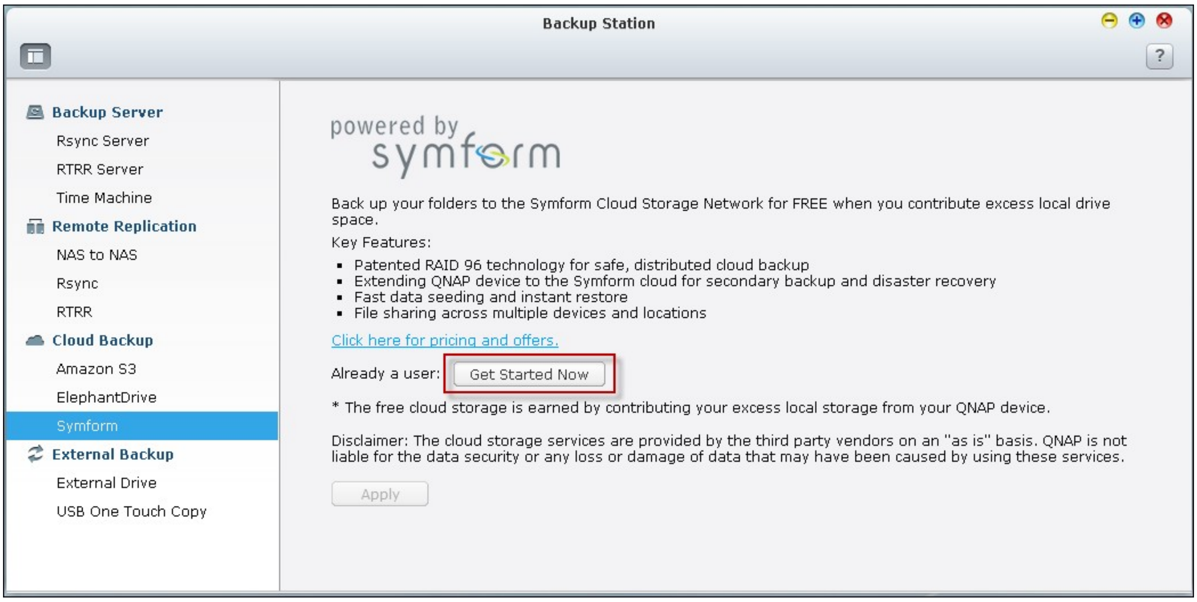
Disclaimer: The cloud storage services are provided by the third party vendors on an "as is" basis. QNAP is not liable for the data security or any loss or damage of data that may have been caused by using these services.

Login your ElephantDrive account. You can manage the backup and restore jobs on the website (https://www.elephantdrive.com/qnap).



Symform

To use Symform cloud backup, go to "Backup Station> Cloud Backup > Symform". Click "Get Started Now" to install Symform. The NAS will download, verify, and install the package automatically.



Back up your folders to the Symform Cloud Storage Network for FREE when you contribute excess local drive space.

Key Features:

- Patented RAID 96 technology for safe, distributed cloud backup
- Extending QNAP device to the Symform cloud for secondary backup and disaster recovery
- Fast data seeding and instant restore
- File sharing across multiple devices and locations

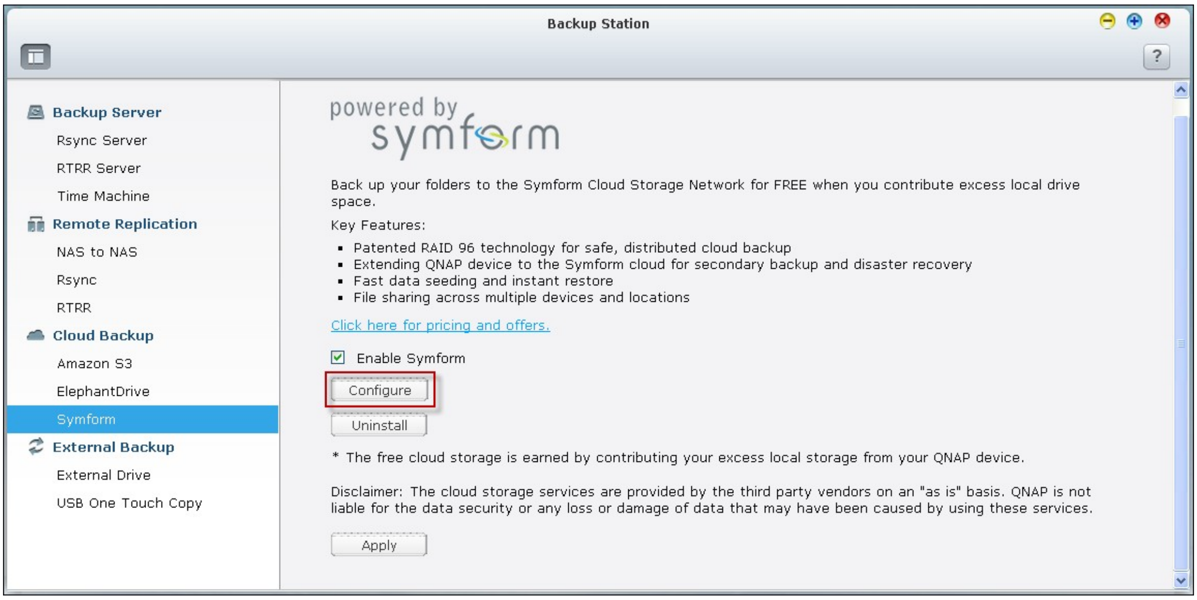
Click here for pricing and offers.

Already a user: Get Started Now

* The free cloud storage is earned by contributing your excess local storage from your QNAP device.

Disclaimer: The cloud storage services are provided by the third party vendors on an "as is" basis. QNAP is not liable for the data security or any loss or damage of data that may have been caused by using these services.

Click "Configure".



Back up your folders to the Symform Cloud Storage Network for FREE when you contribute excess local drive space.

Key Features:

- Patented RAID 96 technology for safe, distributed cloud backup
- Extending QNAP device to the Symform cloud for secondary backup and disaster recovery
- Fast data seeding and instant restore
- File sharing across multiple devices and locations

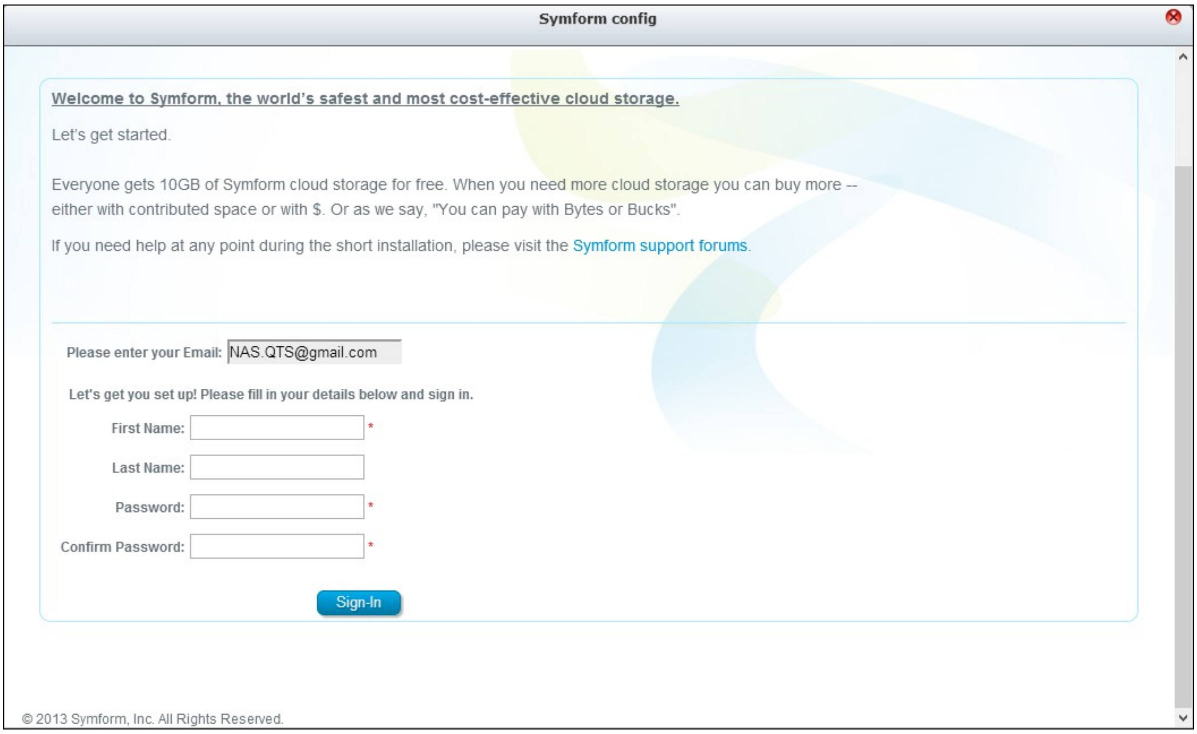
Click here for pricing and offers.

☑ Enable Symform

* The free cloud storage is earned by contributing your excess local storage from your QNAP device.

Disclaimer: The cloud storage services are provided by the third party vendors on an "as is" basis. QNAP is not liable for the data security or any loss or damage of data that may have been caused by using these services.

Enter your email address and click "Sign-In" to activate Symform on the NAS. An activation code will be sent to this address.



Symform config

Welcome to Symform, the world's safest and most cost-effective cloud storage.

Let's get started.

Everyone gets 10GB of Symform cloud storage for free. When you need more cloud storage you can buy more -- either with contributed space or with $. Or as we say, "You can pay with Bytes or Bucks".

If you need help at any point during the short installation, please visit the Symform support forums.

Please enter your Email: NAS.QTS@gmail.com

Let's get you set up! Please fill in your details below and sign in.

First Name: *

Last Name:

Password: *

Confirm Password: *

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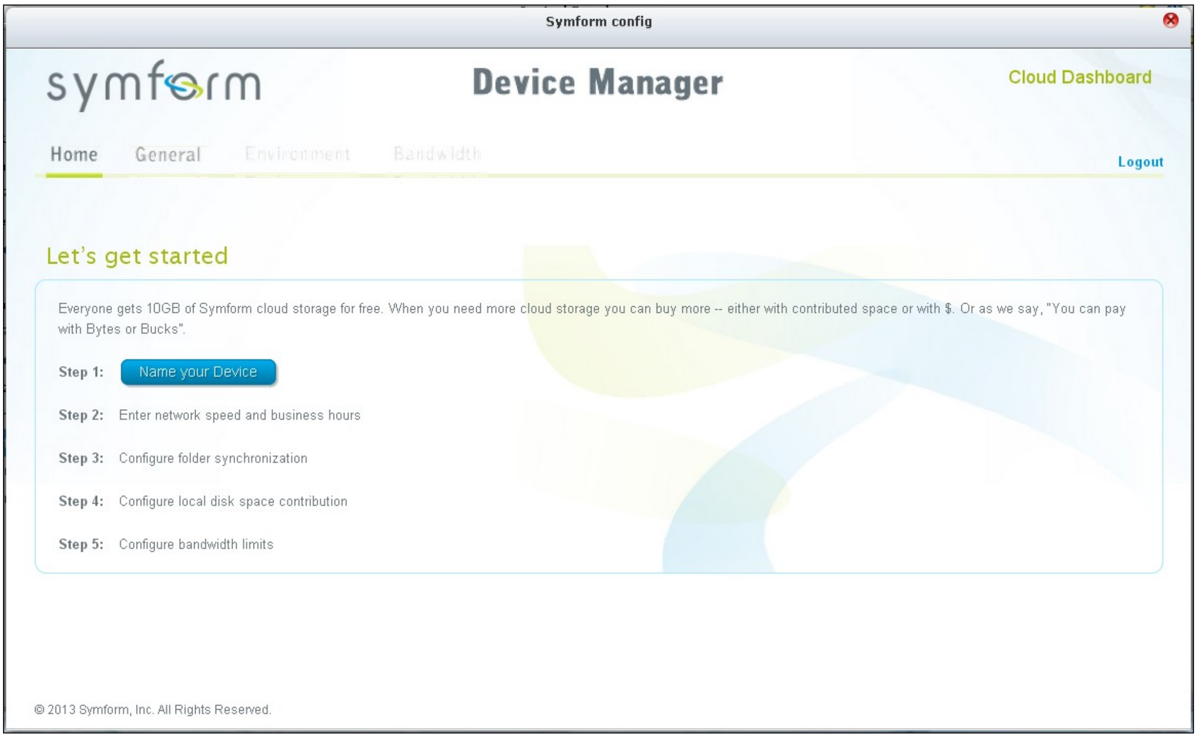
Check your email to get the activation code and finish the setup.

Configure Symform according to the instructions.



Symform config

Let's get started

Everyone gets 10GB of Symform cloud storage for free. When you need more cloud storage you can buy more -- either with contributed space or with $. Or as we say, "You can pay with Bytes or Bucks".

Step 1: Name your Device

Step 2: Enter network speed and business hours

Step 3: Configure folder synchronization

Step 4: Configure local disk space contribution

Step 5: Configure bandwidth limits

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When done, the folders chosen during the setup will be backed up to Symform Storage Cloud.

After Symform is activated, you will be able to see the device configuration. Click “Cloud Dashboard” to have access to Symform Cloud Dashboard and check the status of all the devices that are running Symform Storage Cloud.

Note about Symform service:

- Web administration interface TCP port: 59234
- Contribution TCP port: Defined randomly during Symform setup and can be changed if necessary.
- All TCP outbound ports are mandatory.
- The hard drive standby function of the NAS may not work when contribution is in use, because Symform service always reads and writes data on the hard drives.
- Symform with contribution requires network bandwidth. If contribution is enabled, there will always be communication between the NAS and Symform Cloud. This may cause network utilization and the bandwidth can be limited as needed.

8.1.4 External Backup

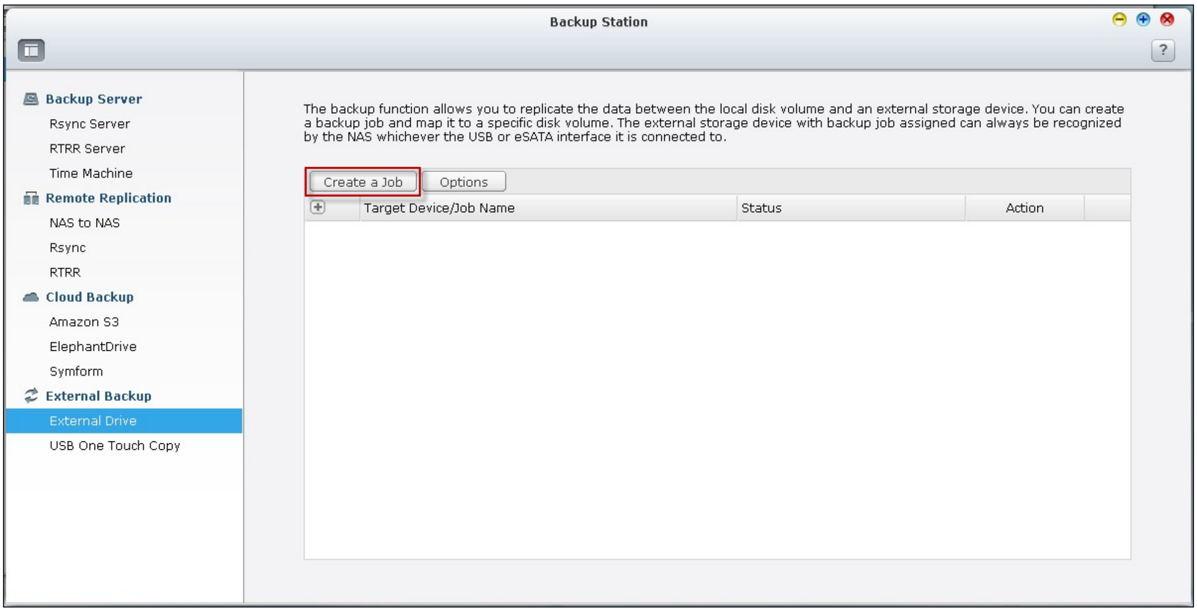
External Drive

The NAS supports real-time and scheduled data backup between the internal disks volumes on the NAS and external USB/eSATA storage devices. To use this feature, follow the steps below.

> **Note:** If an external storage device is encrypted by the NAS, make sure it is unlocked in "External Device" > "External Storage" before creating any backup jobs.

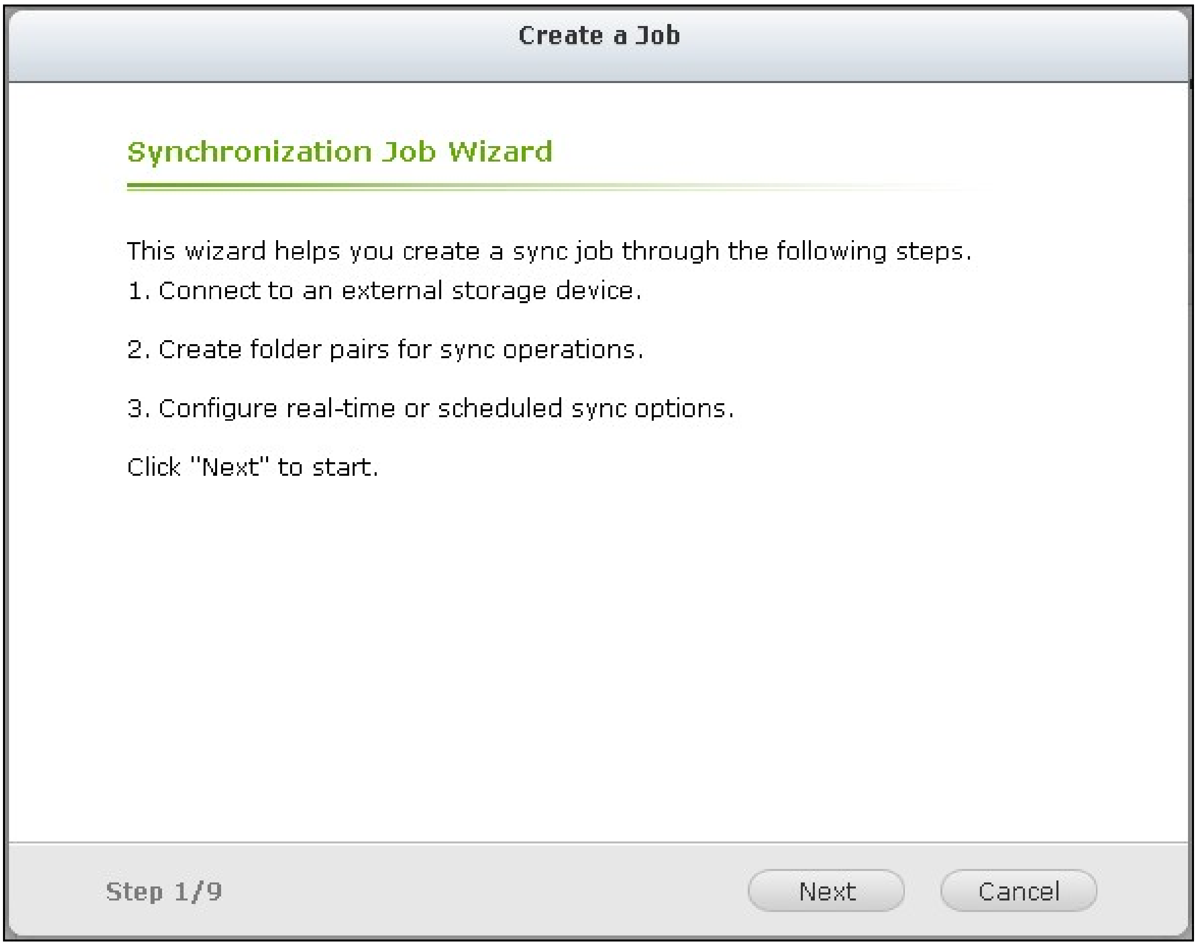
1. Connect one or more external storage devices to the USB or eSATA (if available) interfaces of the NAS.

2. Click "Create a new job".



The backup function allows you to replicate the data between the local disk volume and an external storage device. You can create a backup job and map it to a specific disk volume. The external storage device with backup job assigned can always be recognized by the NAS whichever the USB or eSATA interface it is connected to.

3. When the wizard is shown, read the instructions carefully and click "Next".



Create a Job

Synchronization Job Wizard

This wizard helps you create a sync job through the following steps.
1. Connect to an external storage device.

2. Create folder pairs for sync operations.

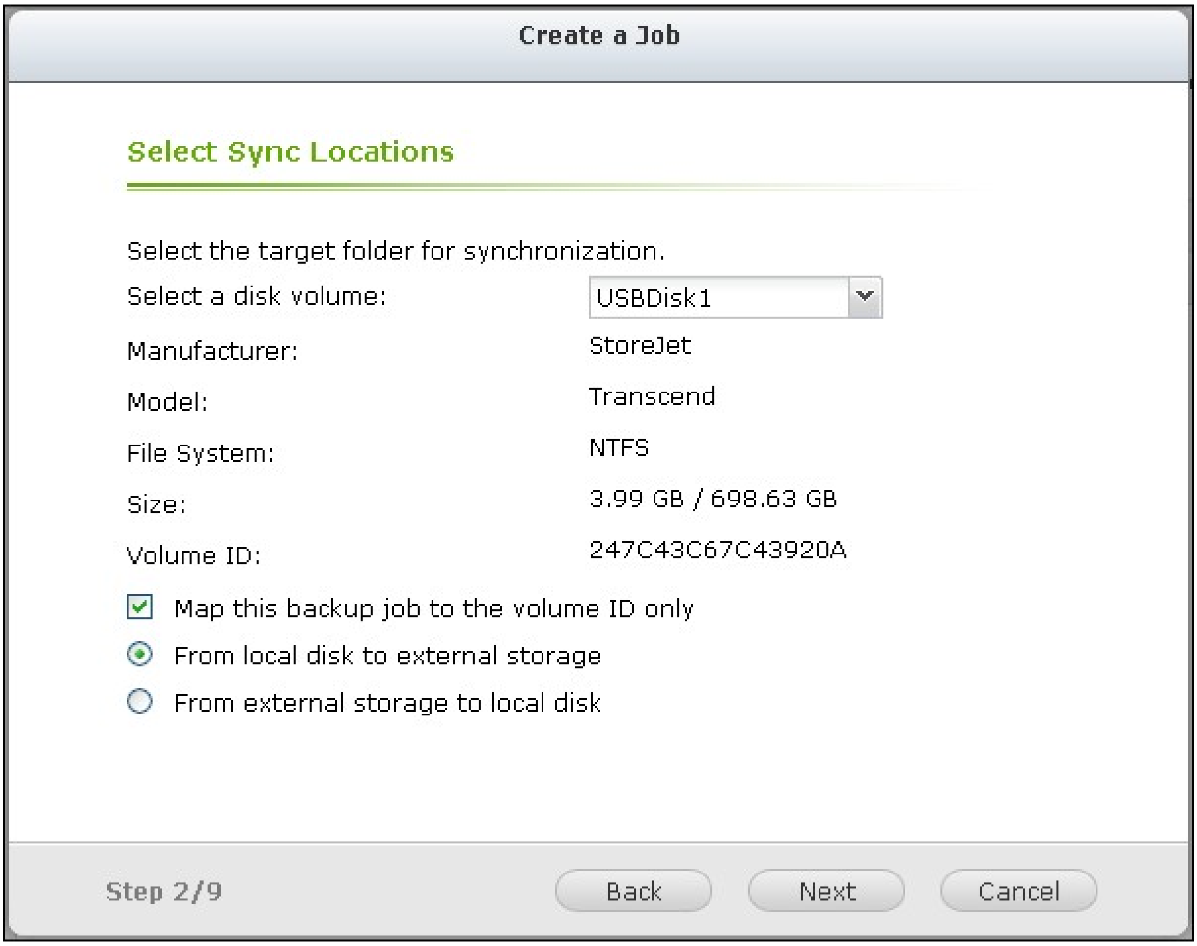
3. Configure real-time or scheduled sync options.

Click "Next" to start.

Step 1/9

4. Select the backup locations.
   a. Select an external disk volume* from the drop-down menu. The NAS supports EXT3, EXT4, FAT, NTFS, and HFS+ file systems. The general information of the storage device will be shown.
   b. Select “Map this backup job to the volume ID only” to map the backup job to this particular external storage device. The NAS will recognize the device and execute the backup job according to the settings automatically every time it is connected to the NAS via any USB/eSATA interface.
   c. Select to back up the data from local disk volume to the external storage or vice versa.
   d. Click “Next”.

*Multiple partitions on the external storage device will be recognized as individual disk volumes.



Create a Job

Select Sync Locations

Select the target folder for synchronization.

Select a disk volume:	USBDisk1
Manufacturer:	StoreJet
Model:	Transcend
File System:	NTFS
Size:	3.99 GB / 698.63 GB
Volume ID:	247C43C67C43920A

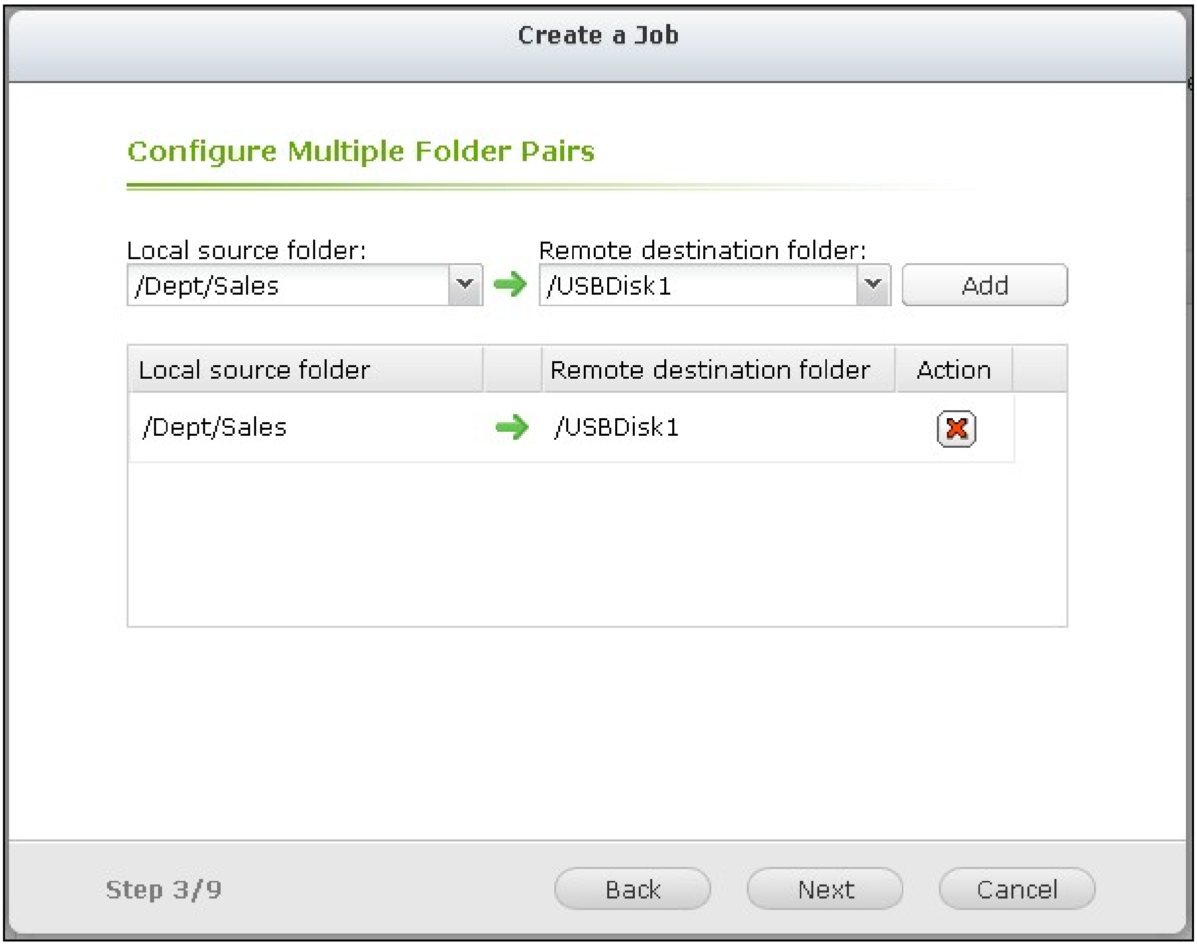
☑ Map this backup job to the volume ID only

● From local disk to external storage

○ From external storage to local disk

Step 2/9

5. Select the source and destination folders for backup. Then click “Add”. Up to 5 folder pairs can be created. Click “Next”.



Create a Job

Configure Multiple Folder Pairs

Local source folder: /Dept/Sales → Remote destination folder: /USBDisk1

Local source folder		Remote destination folder	Action
/Dept/Sales	→	/USBDisk1	☒

Step 3/9

Note: If a folder or its parent folder or child folder has been selected as the source or destination in a folder pair of a backup job, the same folder cannot be selected as the source or destination of another folder pair of the same backup job.

6. Choose between real-time and scheduled backup. Real-time backup copies files that are new, changed, and renamed from the source folder to the target folder as soon as the changes are made after the first-time backup.

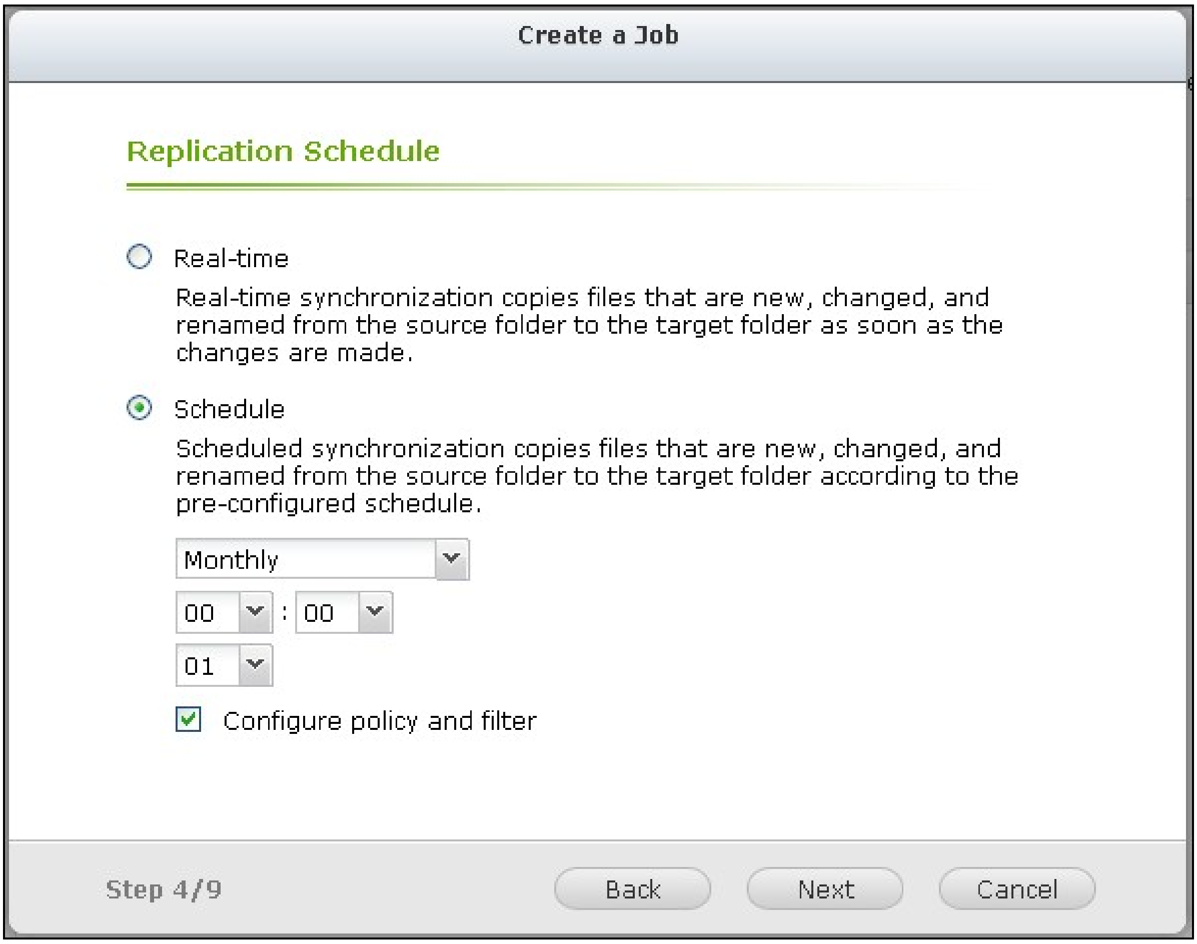
Scheduled backup copies files from the source folder to the target folder according to the schedule. The options are:

- Replicate Now: Copy the data immediately.
- Periodically: Enter the time interval in hour and minute that the backup job should be executed. The minimum time interval is 5 minutes.
- Hourly: Select the minute when an hourly backup should be executed, e.g. select 01 to execute the backup job every first minute of an hour, 1:01, 2:01, 3:01...
- Daily: Specify the time when a daily backup should be executed, e.g. 02:02 every day.
- Weekly: Select a day of the week and the time when a weekly backup should be

executed.

- Monthly: Select a day of the month and the time when a monthly backup should be executed.
- Auto-Backup: Execute data backup automatically every time the device is connected and detected by the NAS.

To configure the backup policy and filter settings, select “Configure policy and filter”. Click “Next”.



Create a Job

Replication Schedule

○ Real-time

Real-time synchronization copies files that are new, changed, and renamed from the source folder to the target folder as soon as the changes are made.

● Schedule

Scheduled synchronization copies files that are new, changed, and renamed from the source folder to the target folder according to the pre-configured schedule.

Monthly

00 : 00

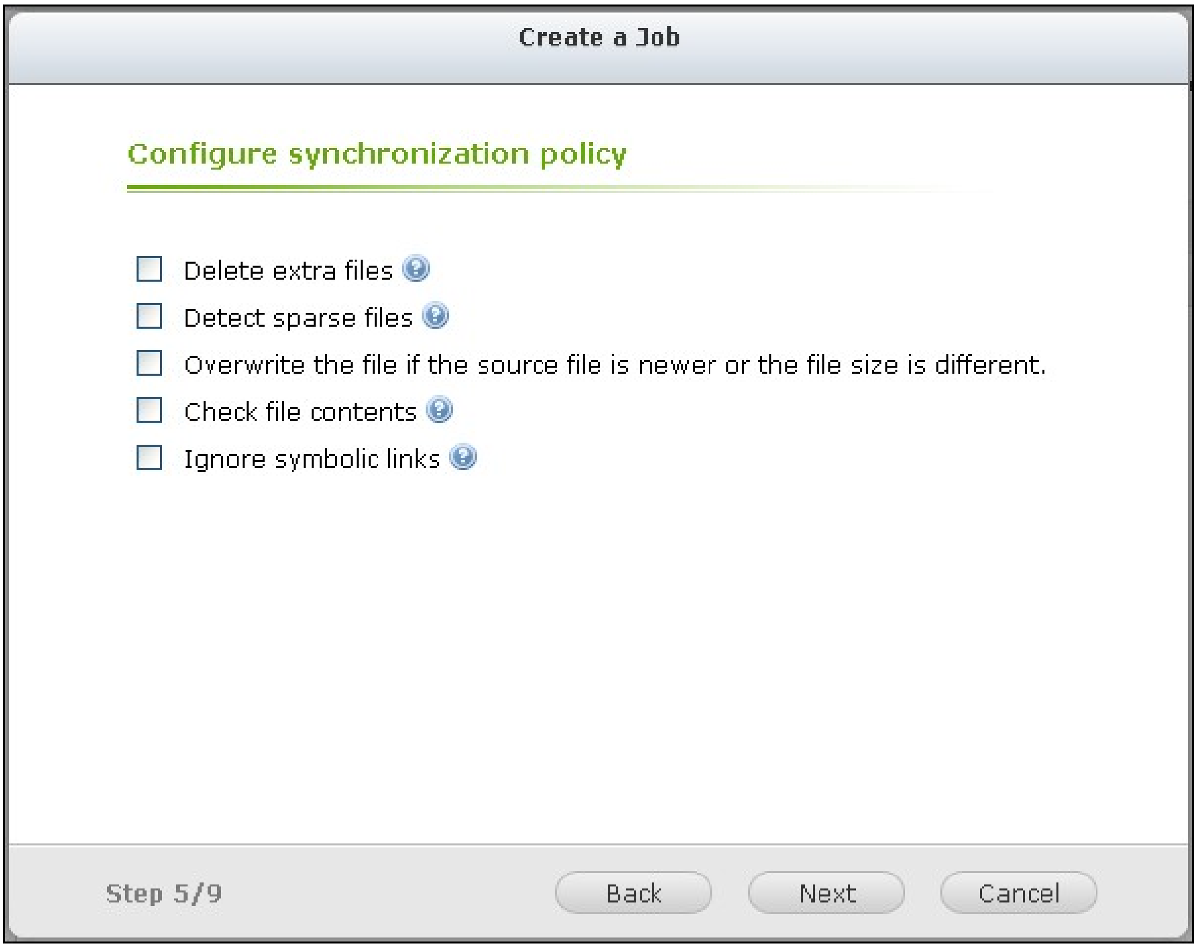
01

☑ Configure policy and filter

Step 4/9

7. Select whether or not to enable the following options:

- Delete extra files: Delete extra files in the target folder. Deletions made on the source folder will be repeated on the target folder. This option is not available for real-time data backup.
- Detect sparse files: Select this option to ignore files of null data.
- Overwrite the file if the source file is newer or the file size is different ·
- Check file contents: Examine the file contents, date, size, and name to determine if two files are identical. This option is not available for real-time data backup.
- Ignore symbolic links: Select this option to ignore symbolic links in the pair folder.



Create a Job

Configure synchronization policy

□ Delete extra files

□ Detect sparse files

□ Overwrite the file if the source file is newer or the file size is different.

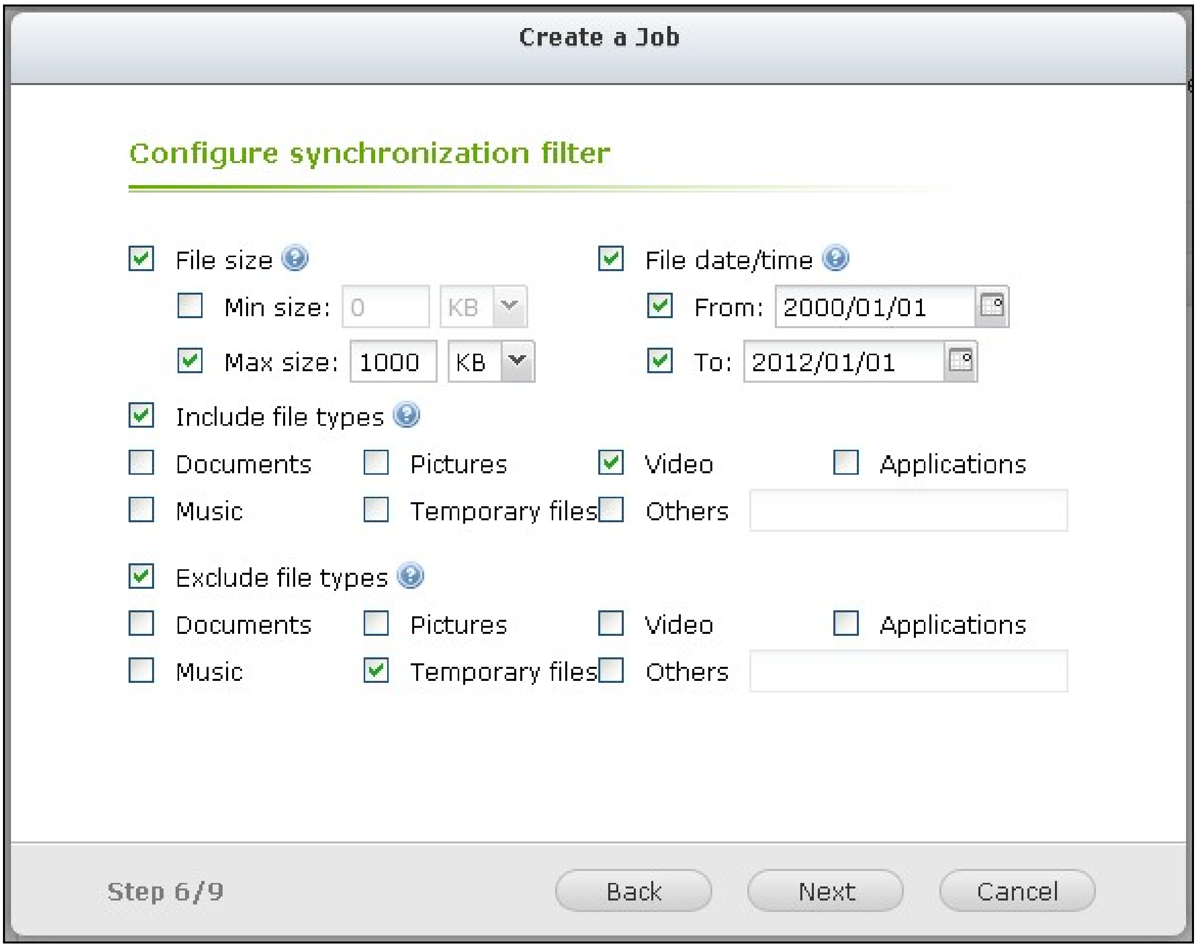
□ Check file contents

□ Ignore symbolic links

Step 5/9

8. Create filters for the backup job.

- File size: Specify the minimum and maximum size of the files to be copied.
- File date/time: Specify the date and time of the files to be copied.
- Include file types: Specify the file types to be copied.
- Exclude file types: Specify the file types to be excluded for data copy.



Create a Job

Configure synchronization filter

☑ File size

□ Min size: 0 KB

☑ Max size: 1000 KB

☑ File date/time

☑ From: 2000/01/01

☑ To: 2012/01/01

☑ Include file types

□ Documents □ Pictures ☑ Video □ Applications

□ Music □ Temporary files □ Others

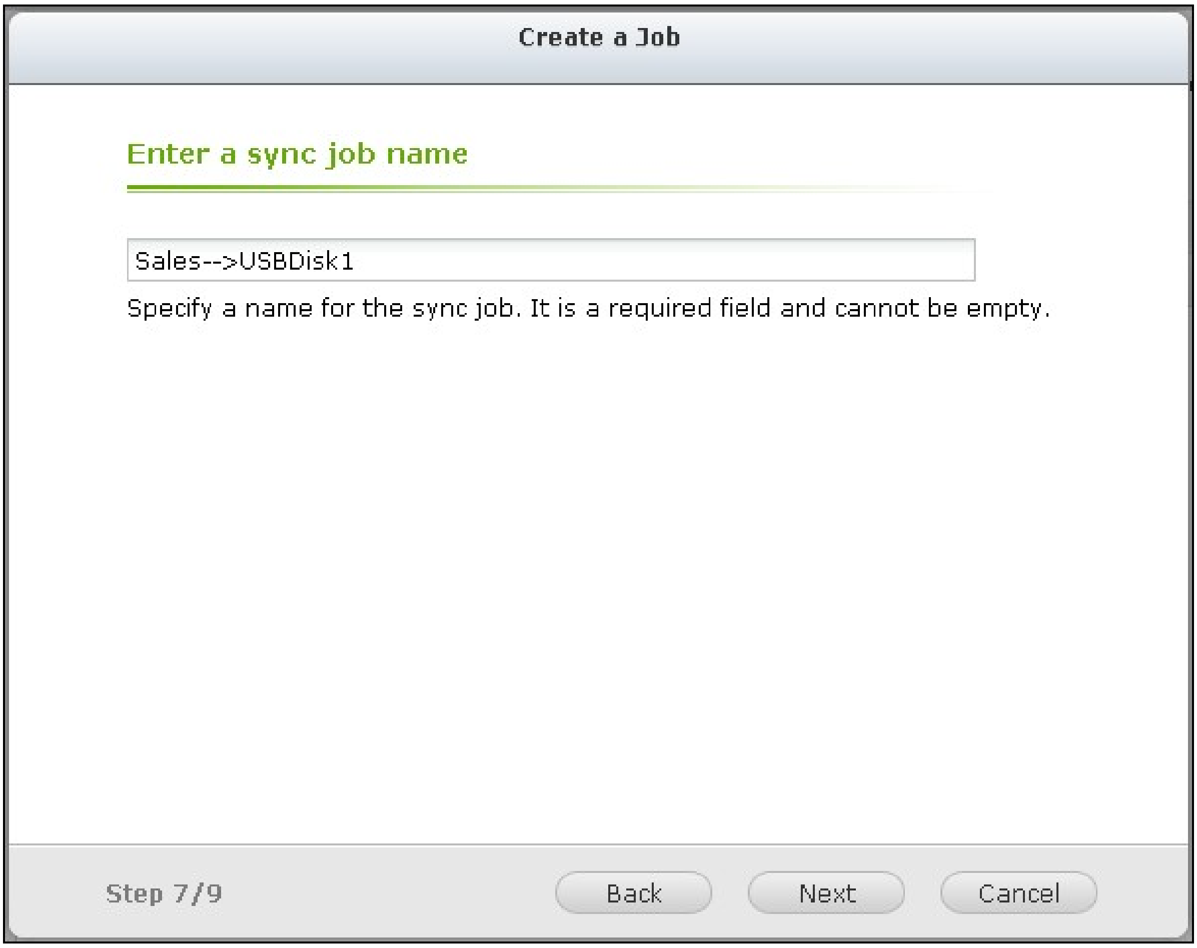
☑ Exclude file types

□ Documents □ Pictures □ Video □ Applications

□ Music ☑ Temporary files □ Others

Step 6/9

9. Enter a name for the backup job. A job name supports up to 63 characters; it cannot start or end with a space. Click “Next”.

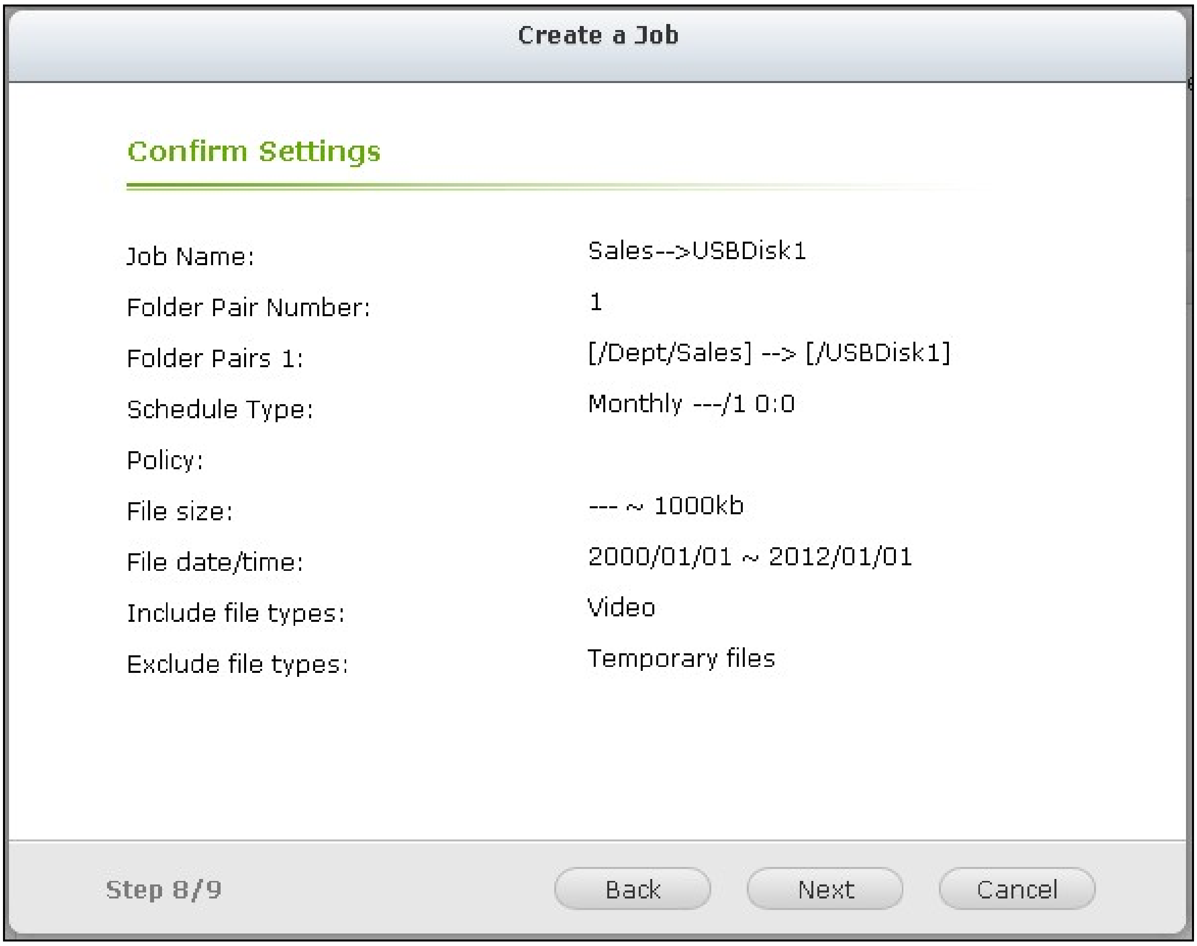


Enter a sync job name

Sales-->USBDisk1

Specify a name for the sync job. It is a required field and cannot be empty.

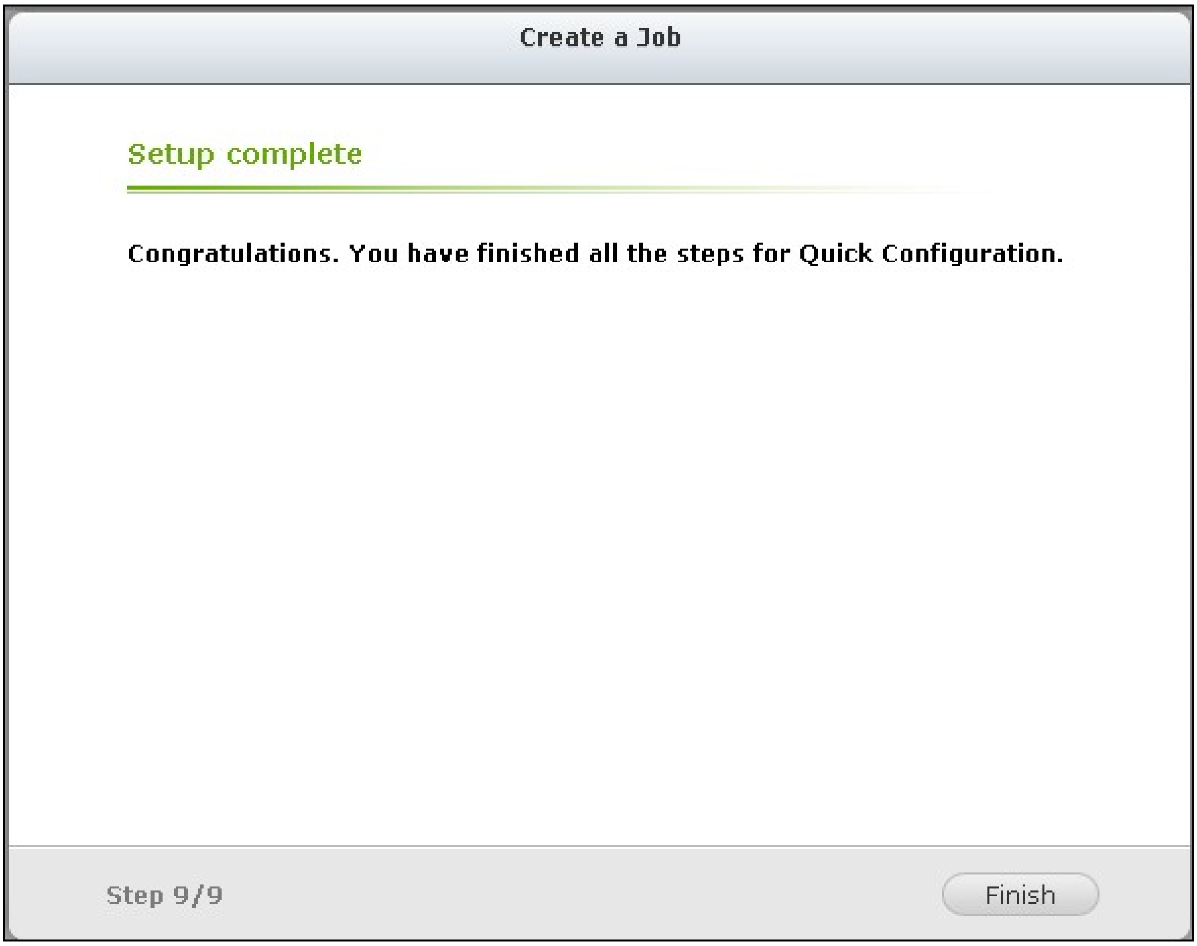
10. Confirm the settings and click “Next”.



Confirm Settings

Job Name:	Sales-->USBDisk1
Folder Pair Number:	1
Folder Pairs 1:	[/Dept/Sales] --> [/USBDisk1]
Schedule Type:	Monthly ---/1 0:0
Policy:	
File size:	--- ~ 1000kb
File date/time:	2000/01/01 ~ 2012/01/01
Include file types:	Video
Exclude file types:	Temporary files

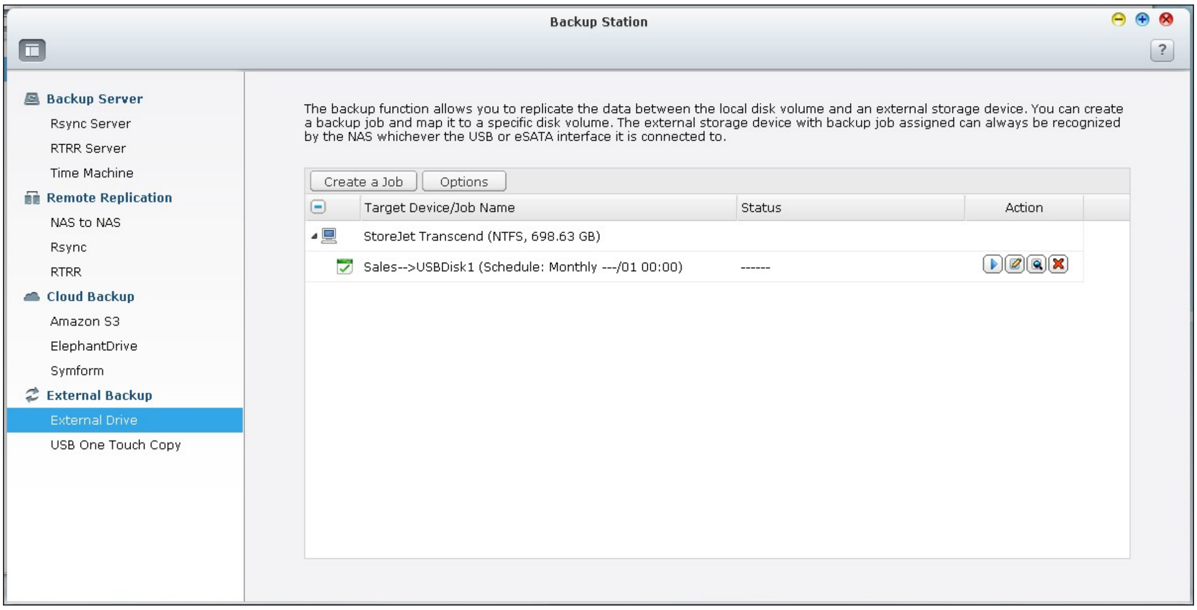
11. Click “Finish” to exit the wizard.



Setup complete

Congratulations. You have finished all the steps for Quick Configuration.

12. The backup job and the status will be shown on the list.



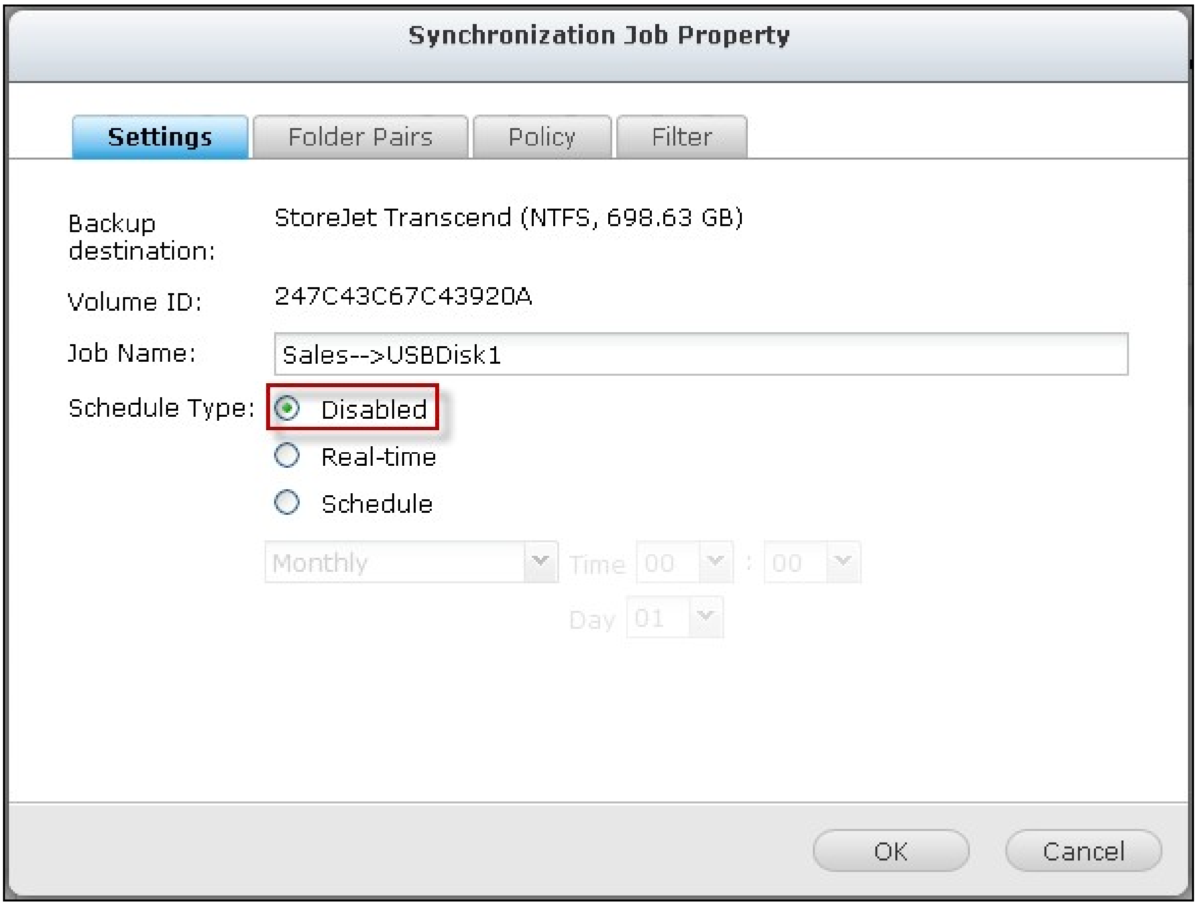
The backup function allows you to replicate the data between the local disk volume and an external storage device. You can create a backup job and map it to a specific disk volume. The external storage device with backup job assigned can always be recognized by the NAS whichever the USB or eSATA interface it is connected to.

Target Device/Job Name	Status	Action
StoreJet Transcend (NTFS, 698.63 GB)		
Sales-->USBDisk1 (Schedule: Monthly ---/01 00:00)	------	

Button	Description

▶	Start a backup job.
■	Stop a backup job.
✎	Edit the settings of a backup job.
🔍	View the job status and logs. Download the logs of a backup job.
✖	Delete a backup job. This button is available only after a backup job is stopped.

To disable the backup schedule of a backup job, click ✎ and select "Disabled" under "Settings" > "Schedule Type" and click "OK".



Synchronization Job Property

Backup destination: StoreJet Transcend (NTFS, 698.63 GB)

Volume ID: 247C43C67C43920A

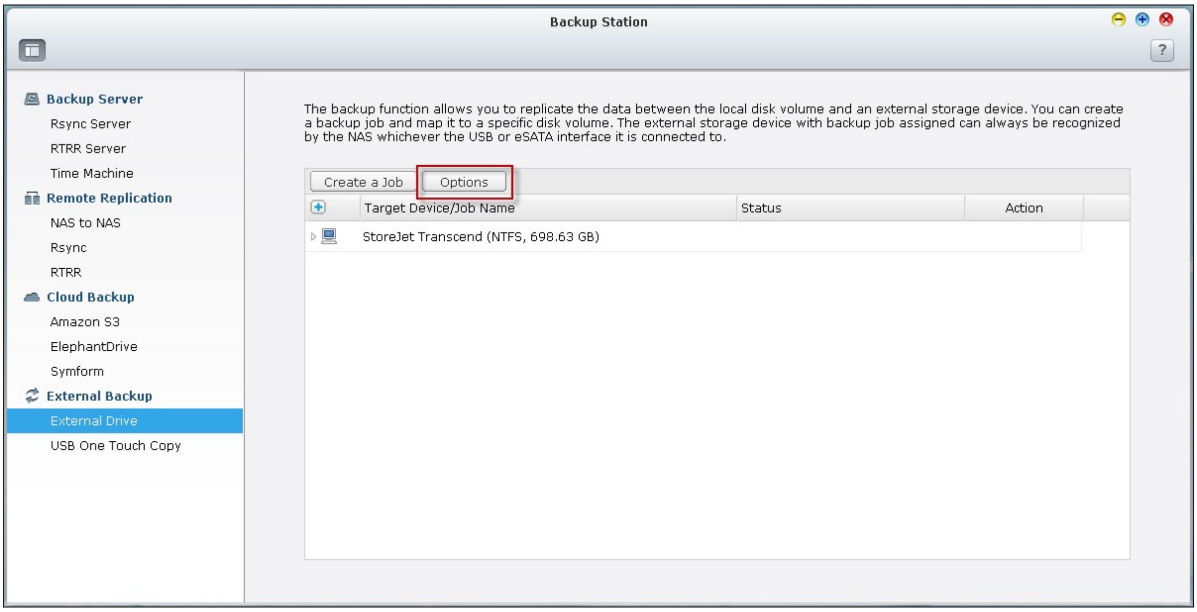
Job Name: Sales-->USBDisk1

Schedule Type: ● Disabled ○ Real-time ○ Schedule

Monthly Time 00 : 00 Day 01

Default Backup Job Settings

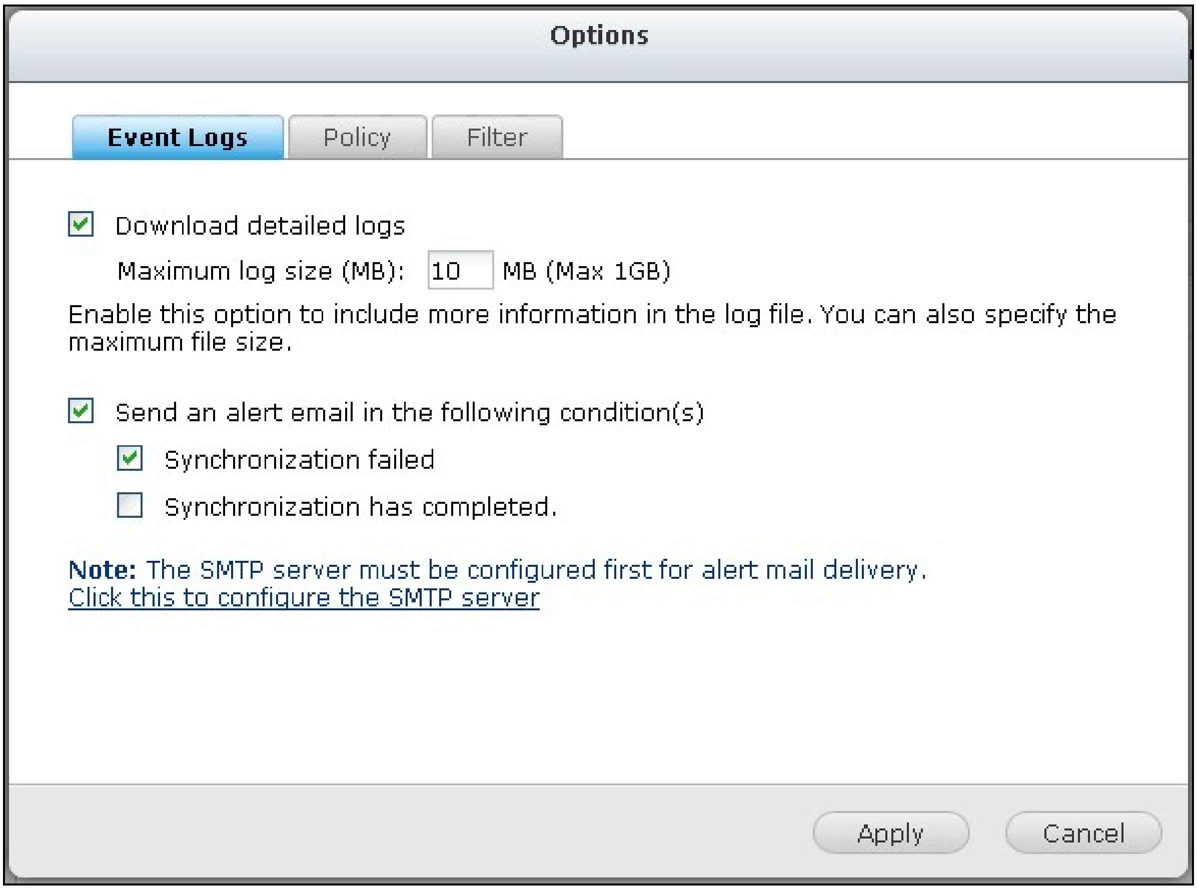
To edit the default backup job properties, click "Options".



The backup function allows you to replicate the data between the local disk volume and an external storage device. You can create a backup job and map it to a specific disk volume. The external storage device with backup job assigned can always be recognized by the NAS whichever the USB or eSATA interface it is connected to.

Target Device/Job Name	Status	Action
StoreJet Transcend (NTFS, 698.63 GB)		

Under "Event Logs" you can select to enable "Download Detailed Logs" and specify the maximum file size of the log file. Select to send an email alert when a backup job fails or completes. Note that the SMTP server settings must be properly set up in "System Settings" > "Notification".



☑ Download detailed logs

Maximum log size (MB): 10 MB (Max 1GB)

Enable this option to include more information in the log file. You can also specify the maximum file size.

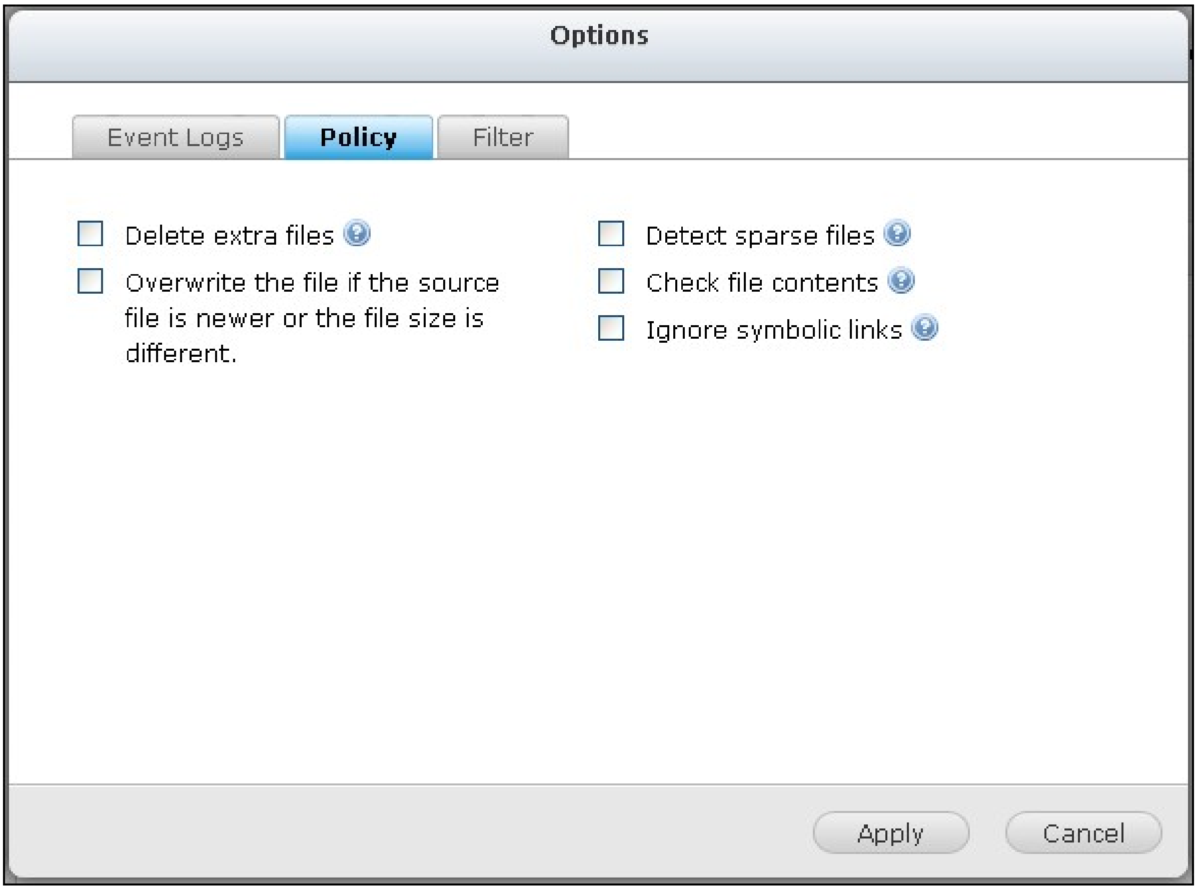
☑ Send an alert email in the following condition(s)

☑ Synchronization failed

□ Synchronization has completed.

Note: The SMTP server must be configured first for alert mail delivery.
Click this to configure the SMTP server

Specify the backup policy in "Policy" and filter settings in "Filter". These will become the default settings for all the backup jobs.



Options

Event Logs | **Policy** | Filter

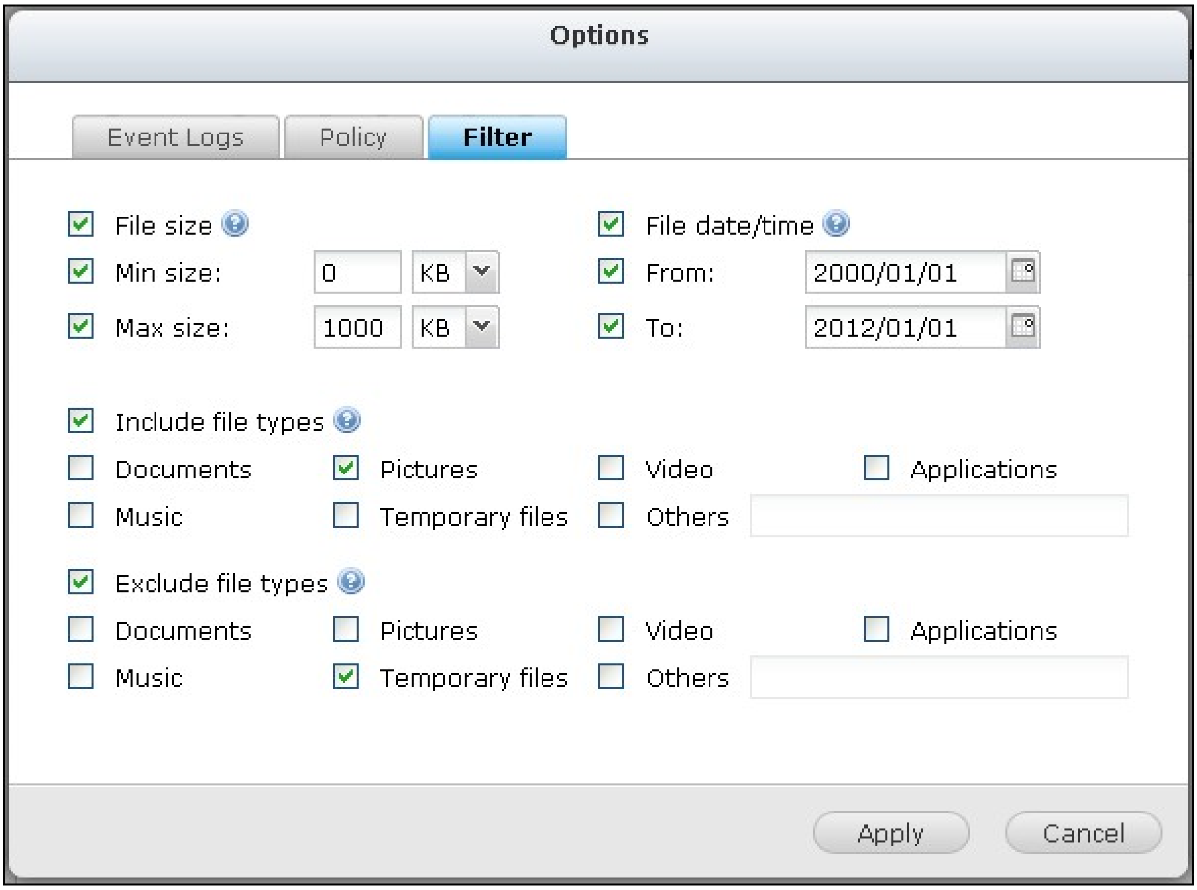
□ Delete extra files

□ Overwrite the file if the source file is newer or the file size is different.

□ Detect sparse files

□ Check file contents

□ Ignore symbolic links



☑ File size

☑ Min size: 0 KB

☑ Max size: 1000 KB

☑ File date/time

☑ From: 2000/01/01

☑ To: 2012/01/01

☑ Include file types

□ Documents ☑ Pictures □ Video □ Applications

□ Music □ Temporary files □ Others

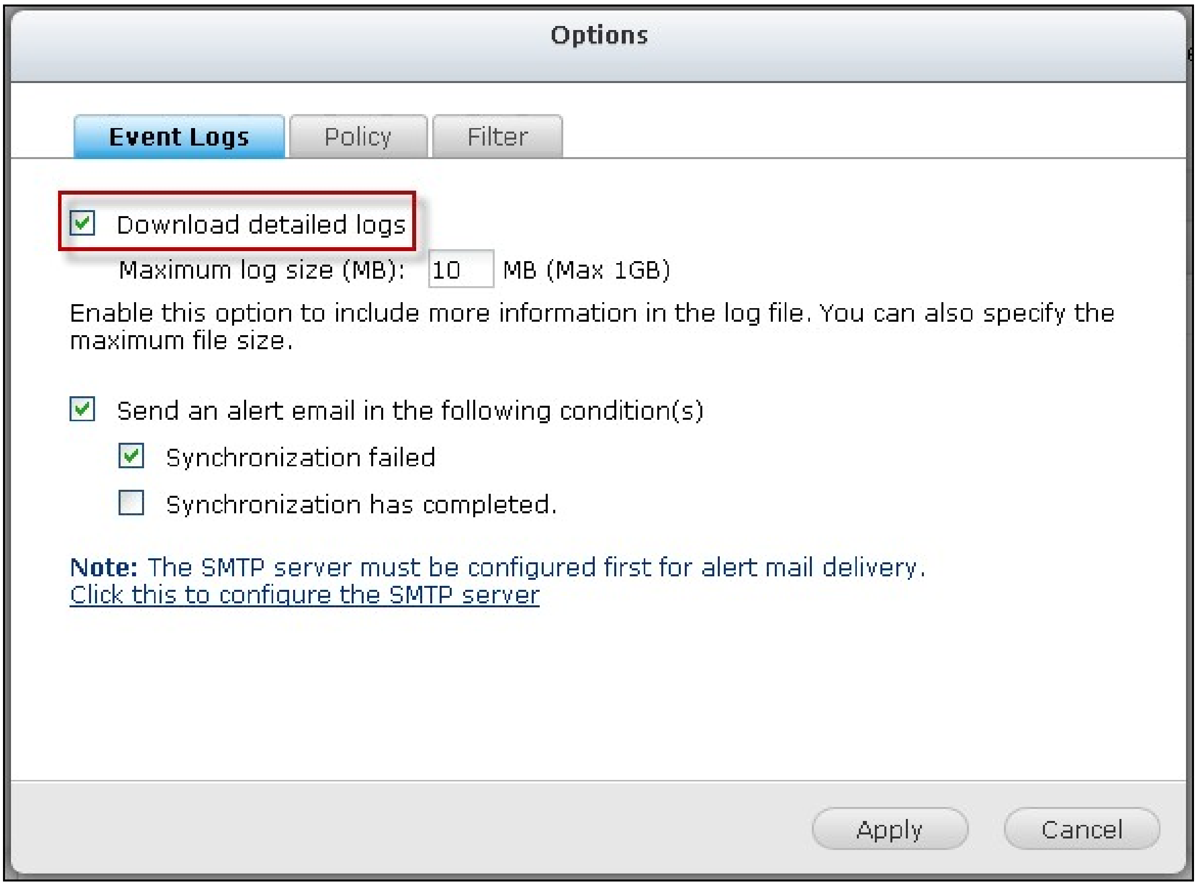
☑ Exclude file types

□ Documents □ Pictures □ Video □ Applications

□ Music ☑ Temporary files □ Others

Download Backup Logs

1. To download the logs of a backup job, make sure the option "Download Detailed Logs" in "Options" > "Event Logs" has been enabled.



☑ Download detailed logs

Maximum log size (MB): 10 MB (Max 1GB)

Enable this option to include more information in the log file. You can also specify the maximum file size.

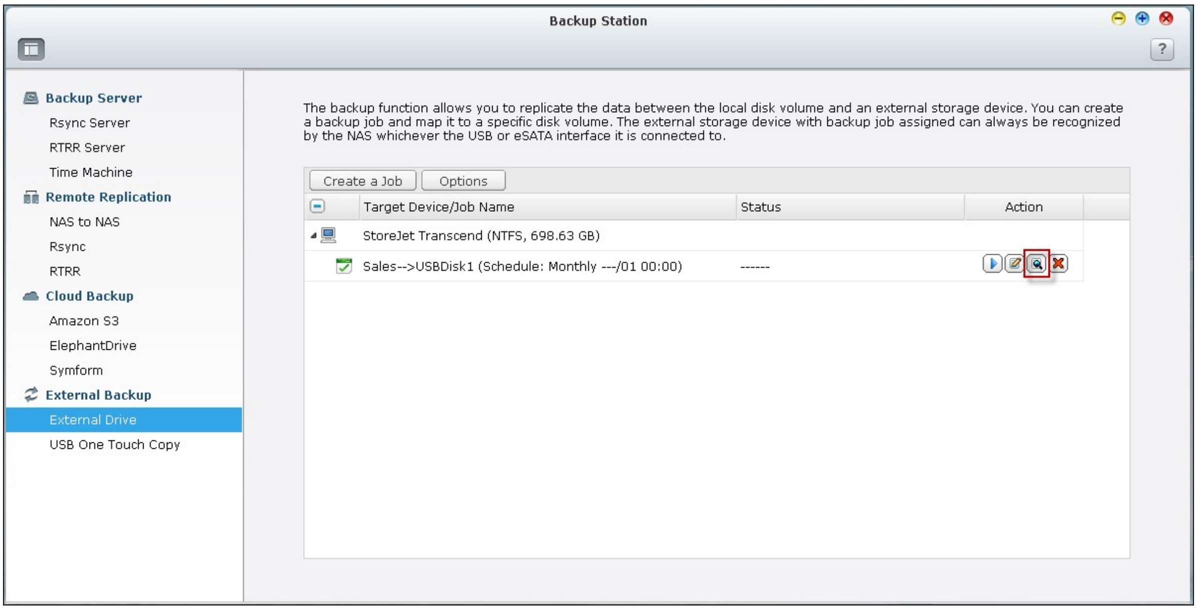
☑ Send an alert email in the following condition(s)

☑ Synchronization failed

□ Synchronization has completed.

Note: The SMTP server must be configured first for alert mail delivery.
Click this to configure the SMTP server

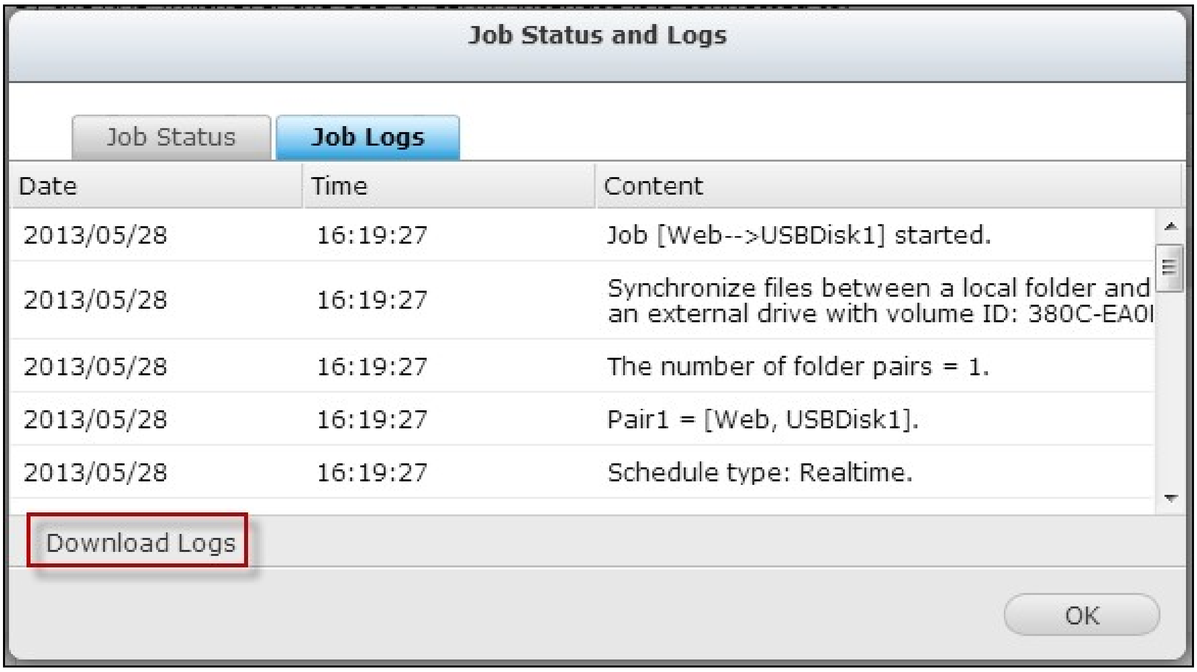
2. Click 🔍 in “Action” column of a backup job.



The backup function allows you to replicate the data between the local disk volume and an external storage device. You can create a backup job and map it to a specific disk volume. The external storage device with backup job assigned can always be recognized by the NAS whichever the USB or eSATA interface it is connected to.

Target Device/Job Name	Status	Action
StoreJet Transcend (NTFS, 698.63 GB)		
Sales-->USBDisk1 (Schedule: Monthly ---/01 00:00)	------	

3. Go to “Job Logs” and click “Download Logs”. The log file can be opened by Microsoft Excel or any other text editor software. Note that this button is only available after you have enabled “Download Detailed Logs” in “Options” > “Event Logs” and executed the backup job once.



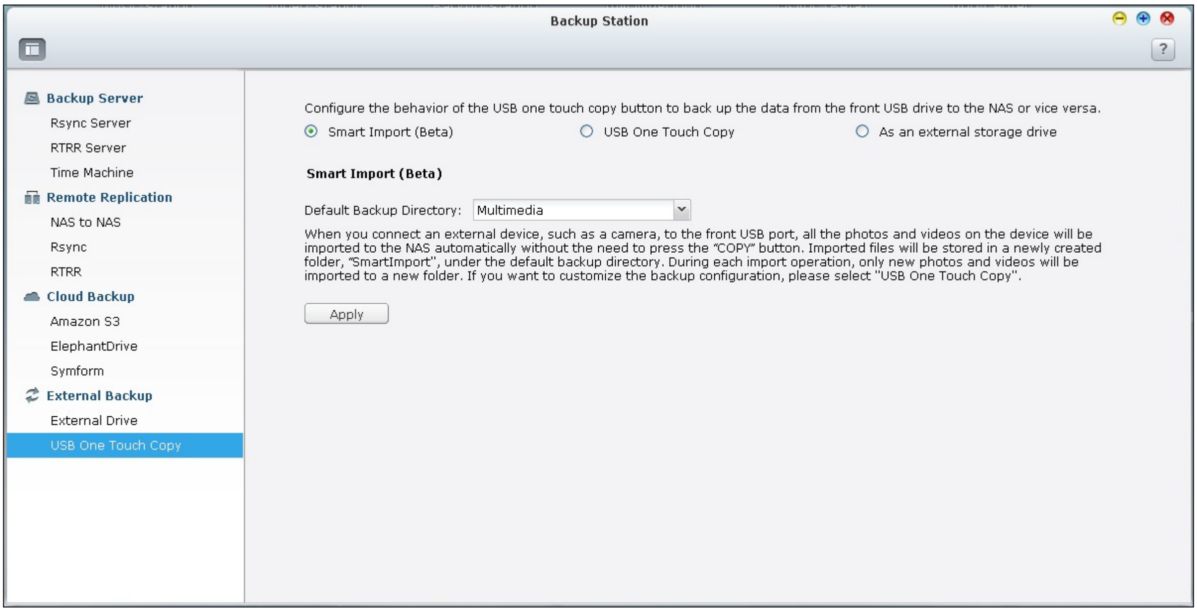
Date	Time	Content
2013/05/28	16:19:27	Job [Web-->USBDisk1] started.
2013/05/28	16:19:27	Synchronize files between a local folder and an external drive with volume ID: 380C-EA0I
2013/05/28	16:19:27	The number of folder pairs = 1.
2013/05/28	16:19:27	Pair1 = [Web, USBDisk1].
2013/05/28	16:19:27	Schedule type: Realtime.

USB One Touch Copy

Enable the USB one touch copy button to back up data from the front USB drive to the NAS or vice versa. This feature is not supported by TS-809U-RP, TS-879U-RP, TS-EC879U-RP, TS-1279U-RP, TS-EC1279U-RP.

Smart Import (Beta)

When users connect an external device, such as a camera, to the front USB port, all photos and videos on the device will be imported to the NAS automatically without pressing the “Copy” button. Imported files will be stored in “SmartImport,” a newly created folder, under the default backup directory. During each import, only new photos and videos will be imported to a new folder.



Configure the behavior of the USB one touch copy button to back up the data from the front USB drive to the NAS or vice versa.

● Smart Import (Beta) ○ USB One Touch Copy ○ As an external storage drive

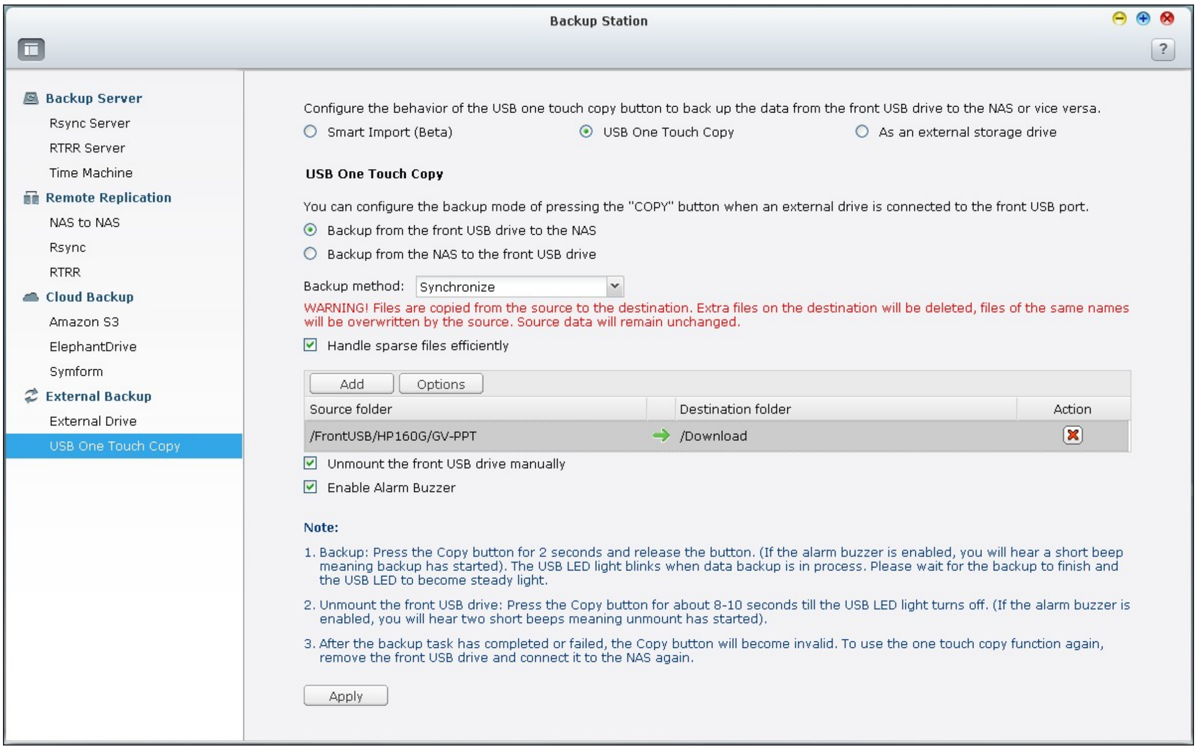
Smart Import (Beta)

Default Backup Directory: Multimedia

When you connect an external device, such as a camera, to the front USB port, all the photos and videos on the device will be imported to the NAS automatically without the need to press the "COPY" button. Imported files will be stored in a newly created folder, "SmartImport", under the default backup directory. During each import operation, only new photos and videos will be imported to a new folder. If you want to customize the backup configuration, please select "USB One Touch Copy".

For customized backup configuration, please select "USB One Touch Copy."

USB One Touch Copy



Configure the behavior of the USB one touch copy button to back up the data from the front USB drive to the NAS or vice versa.

○ Smart Import (Beta) ● USB One Touch Copy ○ As an external storage drive

USB One Touch Copy

You can configure the backup mode of pressing the "COPY" button when an external drive is connected to the front USB port.

● Backup from the front USB drive to the NAS

○ Backup from the NAS to the front USB drive

Backup method: Synchronize

WARNING! Files are copied from the source to the destination. Extra files on the destination will be deleted, files of the same names will be overwritten by the source. Source data will remain unchanged.

☑ Handle sparse files efficiently

Source folder		Destination folder	Action
/FrontUSB/HP160G/GV-PPT	→	/Download	☒

☑ Unmount the front USB drive manually

☑ Enable Alarm Buzzer

Note:

1. Backup: Press the Copy button for 2 seconds and release the button. (If the alarm buzzer is enabled, you will hear a short beep meaning backup has started). The USB LED light blinks when data backup is in process. Please wait for the backup to finish and the USB LED to become steady light.
2. Unmount the front USB drive: Press the Copy button for about 8-10 seconds till the USB LED light turns off. (If the alarm buzzer is enabled, you will hear two short beeps meaning unmount has started).
3. After the backup task has completed or failed, the Copy button will become invalid. To use the one touch copy function again, remove the front USB drive and connect it to the NAS again.

- Backup direction: From the front USB drive to the NAS or vice versa.
- Backup method:

A. Create directory: A new directory will be created on the destination and the source data will be copied to this directory. The new directory will be named as the backup date (YYYYMMDD). If there are two or more backups on the same day, the directory will be named with YYYYMMDD-1, YYYYMMDD-2... and so on.

B. Copy: Back up data to the destination share. If the same file exists, the destination file will be overwritten.

C. Synchronize: Back up data to the destination share and clear the redundant files. If the same file exists, the destination file will be overwritten.

> **Note:** If there are multiple partitions on the source storage device, a new folder will be created for each partition on the destination as the backup folder. The backup folder will be named with the backup date and the partition number, *YYYYMMDD*-1 for partition 1, *YYYYMMDD*-2 for partition 2... and so on. If the source storage device contains only one partition, the backup folder will be named as *YYYYMMDD* only.

- Handle sparse files efficiently: A sparse file is a type of computer file that contains large blocks of zero-byte data. Turn on this option may reduce the time required for backup.
- Source and destination folders: Specify the folder pairs for backup and click "Add". Maximum 9 folder pairs can be added.
- Options: Click "Options" to set up notification of the backup jobs by email, SMS, or instant messaging (IM).
- Unmount the front USB drive manually: When enabled, users can press the Copy button for about 8–10 seconds until the USB LED light turns off and remove the front USB drive from the NAS.
- Enable the alarm buzzer:

1. One short beep: Backup has started.
2. Two short beeps: The front USB drive is being unmounted.

Data copy by front USB port

The NAS supports instant data copy backup from the external USB device to the NAS or the other way round by the front one touch copy button. To use this function, follow the steps below:

1. Make sure a hard drive is installed and formatted on the NAS. The default shared folder Qusb/Usb has been created.

2. Turn on the NAS.

3. Configure the behavior of the Copy button on "Backup Station" > "USB One Touch

Copy" page.

4. Connect the USB device, for example, digital camera or flash, to the front USB port of the NAS.

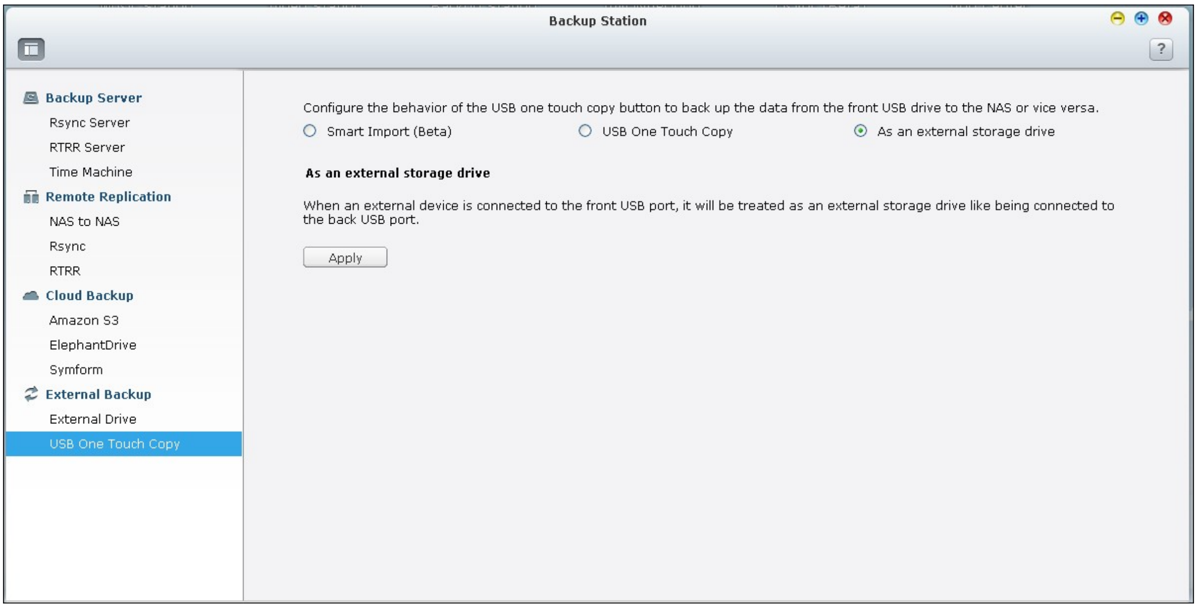
5. Press the Copy button once. The data will be copied according to your settings on the NAS.

Note: Incremental backup is used for this feature. After the first time data backup, the NAS only copies the changed files since the last backup.

Caution: Files are copied from the source to the destination. Extra files on the destination will be deleted; files of the same names will be overwritten by the source. Source data will remain unchanged.

As an external storage drive

When an external device is connected to the front USB port, it will be identified as an external storage drive connected to the port.



Configure the behavior of the USB one touch copy button to back up the data from the front USB drive to the NAS or vice versa.

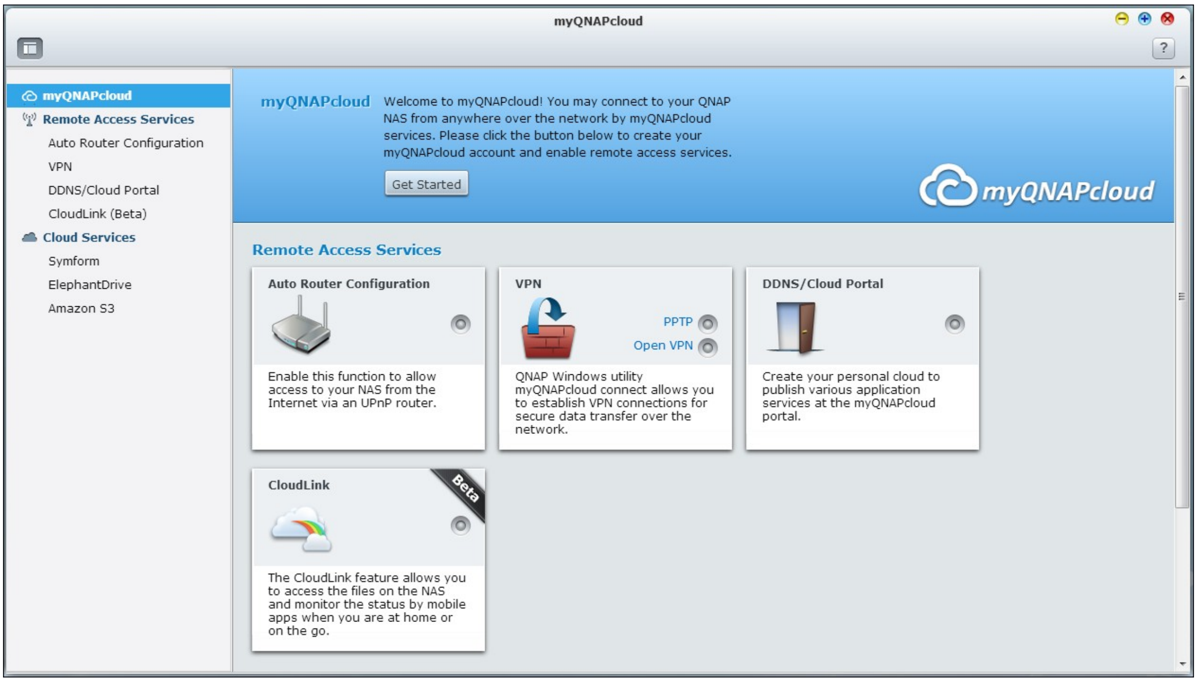
○ Smart Import (Beta) ○ USB One Touch Copy ● As an external storage drive

As an external storage drive

When an external device is connected to the front USB port, it will be treated as an external storage drive like being connected to the back USB port.

8.2 myQNAPcloud Service

The myQNAPcloud service is a function which provides host name registration, mapping of the dynamic NAS IP to a domain name, and auto port mapping of UPnP router on the local network. Use the myQNAPcloud wizard to register a unique host name for the NAS, configure automatic port forwarding on the UPnP router, and publish NAS services for remote access over the Internet.



Welcome to myQNAPcloud! You may connect to your QNAP NAS from anywhere over the network by myQNAPcloud services. Please click the button below to create your myQNAPcloud account and enable remote access services.

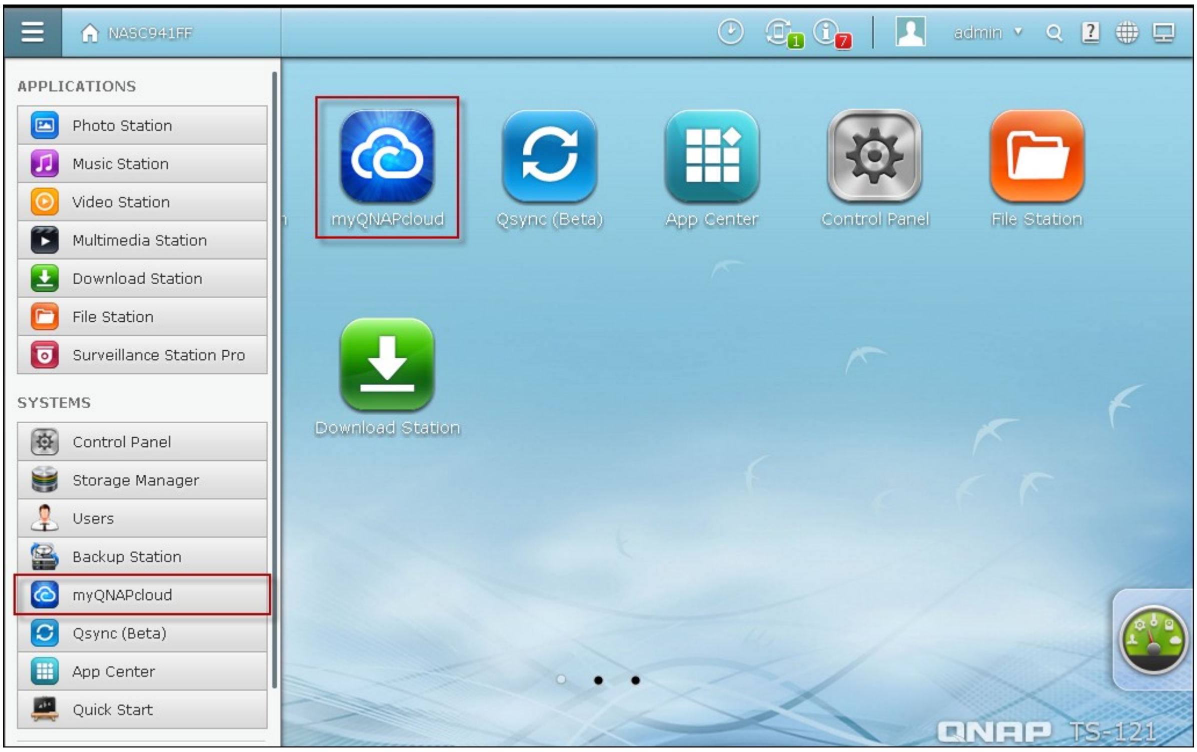
Auto Router Configuration: Enable this function to allow access to your NAS from the Internet via an UPnP router.

VPN: QNAP Windows utility myQNAPcloud connect allows you to establish VPN connections for secure data transfer over the network.

DDNS/Cloud Portal: Create your personal cloud to publish various application services at the myQNAPcloud portal.

CloudLink: The CloudLink feature allows you to access the files on the NAS and monitor the status by mobile apps when you are at home or on the go.

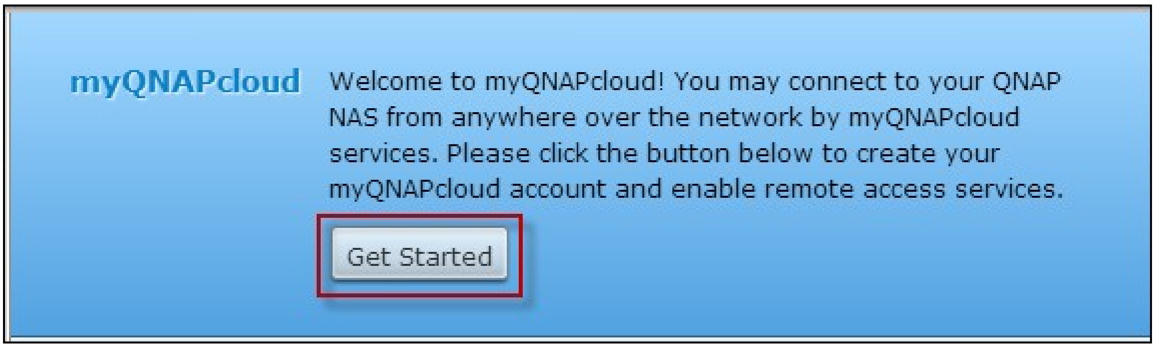
To use the myQNAPcloud service, make sure the NAS has been connected to an UPnP router and the Internet and click the myQNAPcloud shortcut from the NAS Desktop or Main Menu.


NASC941FF
admin
APPLICATIONS
Photo Station
Music Station
Video Station
Multimedia Station
Download Station
File Station
Surveillance Station Pro
SYSTEMS
Control Panel
Storage Manager
Users
Backup Station
myQNAPcloud
Qsync (Beta)
App Center
Quick Start
myQNAPcloud
Qsync (Beta)
App Center
Control Panel
File Station
Download Station
QNAP TS-121

myQNAPcloud wizard

The first time you use the myQNAPcloud service, you are recommended to use the myQNAPcloud wizard to complete the settings. Follow the steps below:

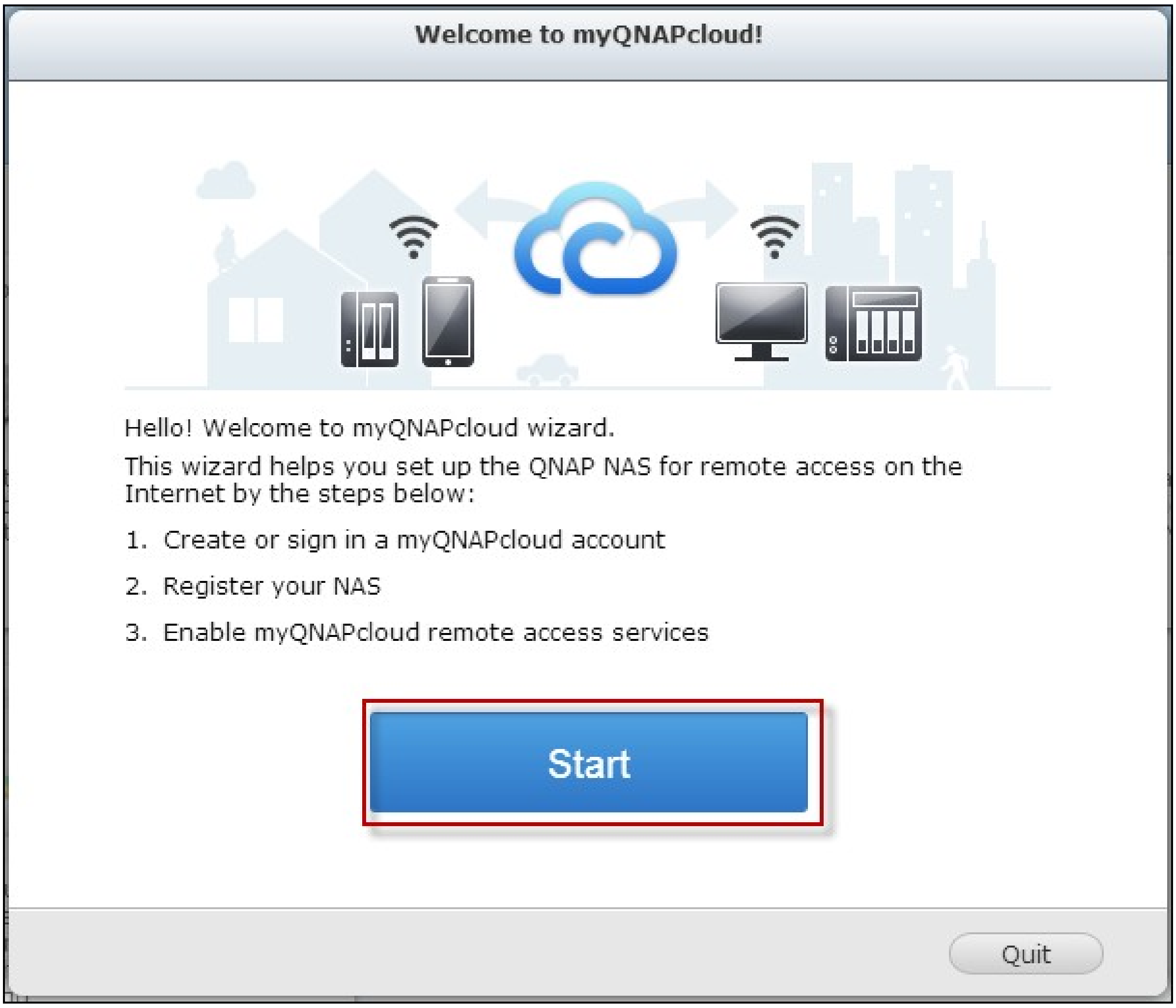
1. Click "Get Started" to use the wizard.



myQNAPcloud

Welcome to myQNAPcloud! You may connect to your QNAP NAS from anywhere over the network by myQNAPcloud services. Please click the button below to create your myQNAPcloud account and enable remote access services.

2. Click "Start".



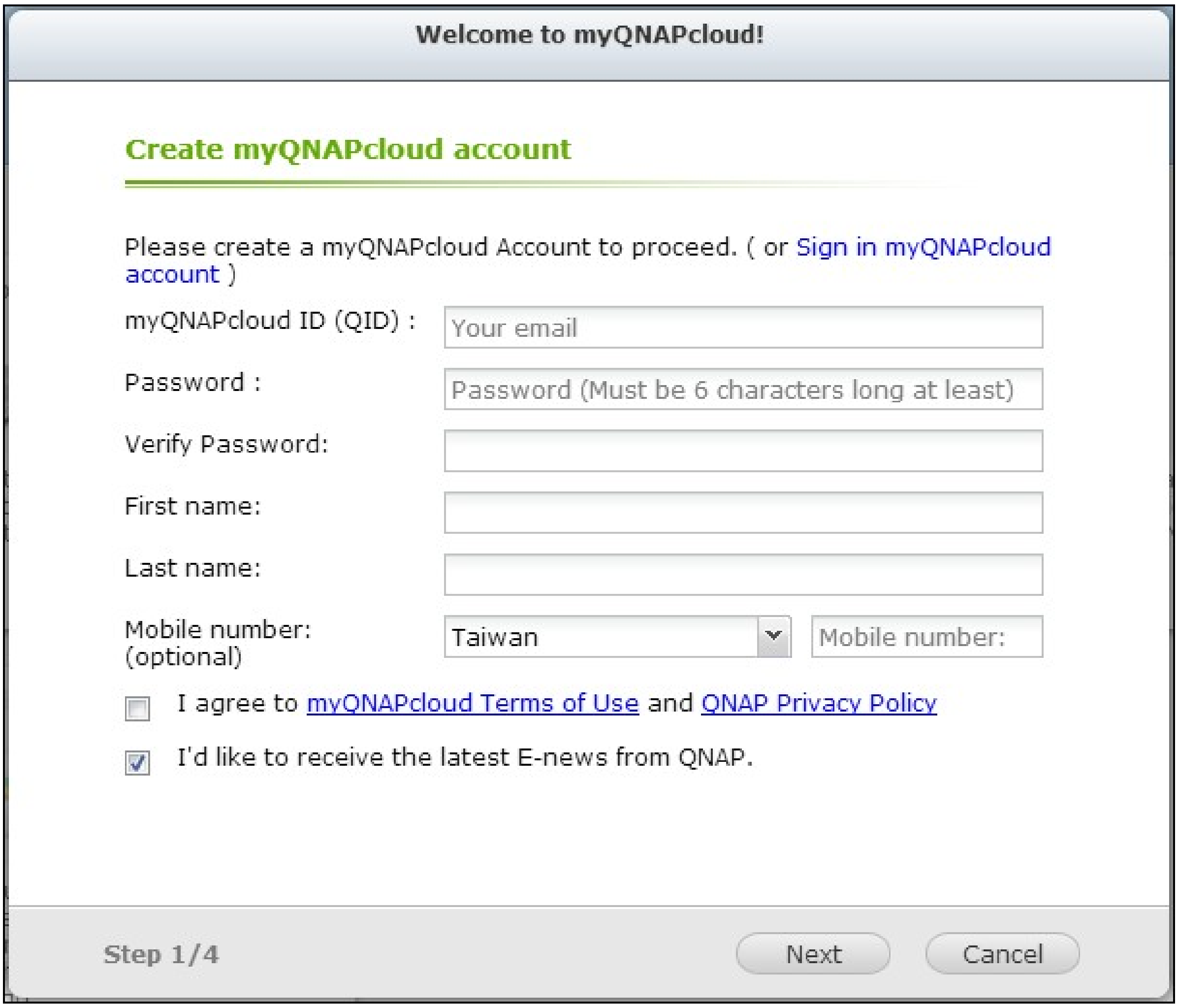
Welcome to myQNAPcloud!

Hello! Welcome to myQNAPcloud wizard.

This wizard helps you set up the QNAP NAS for remote access on the Internet by the steps below:

1. Create or sign in a myQNAPcloud account
2. Register your NAS
3. Enable myQNAPcloud remote access services

3. Fill out all required fields, agree to the terms and conditions and click “Next” to create a myQNAPcloud account (or, click “Sign in myQNAPcloud account” to login to your myQNAPcloud account if you already have an account.)



Welcome to myQNAPcloud!

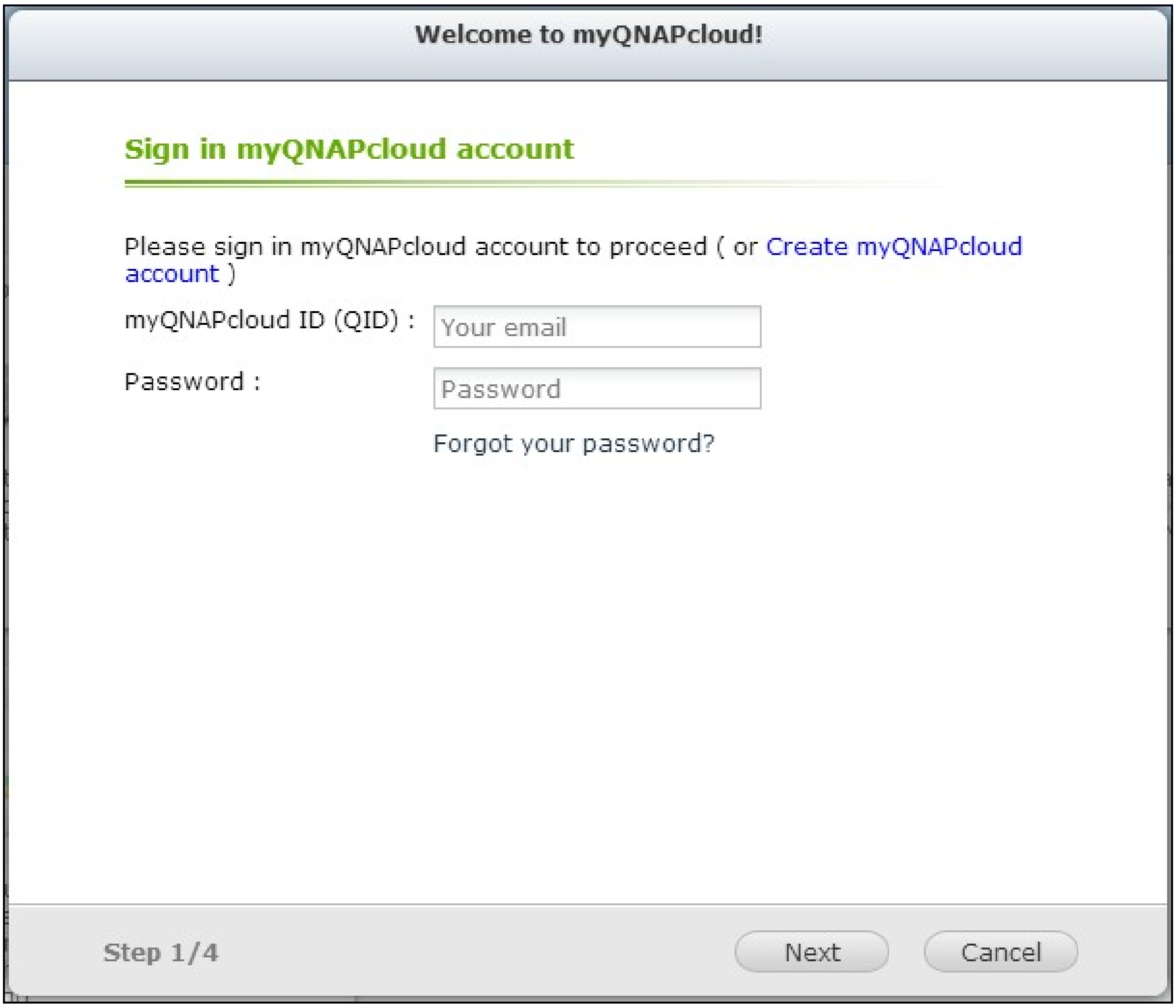
Create myQNAPcloud account

Please create a myQNAPcloud Account to proceed. (or Sign in myQNAPcloud account)

myQNAPcloud ID (QID) :	Your email
Password :	Password (Must be 6 characters long at least)
Verify Password:	
First name:	
Last name:	
Mobile number: (optional)	Taiwan / Mobile number:

□ I agree to myQNAPcloud Terms of Use and QNAP Privacy Policy

☑ I'd like to receive the latest E-news from QNAP.



Welcome to myQNAPcloud!

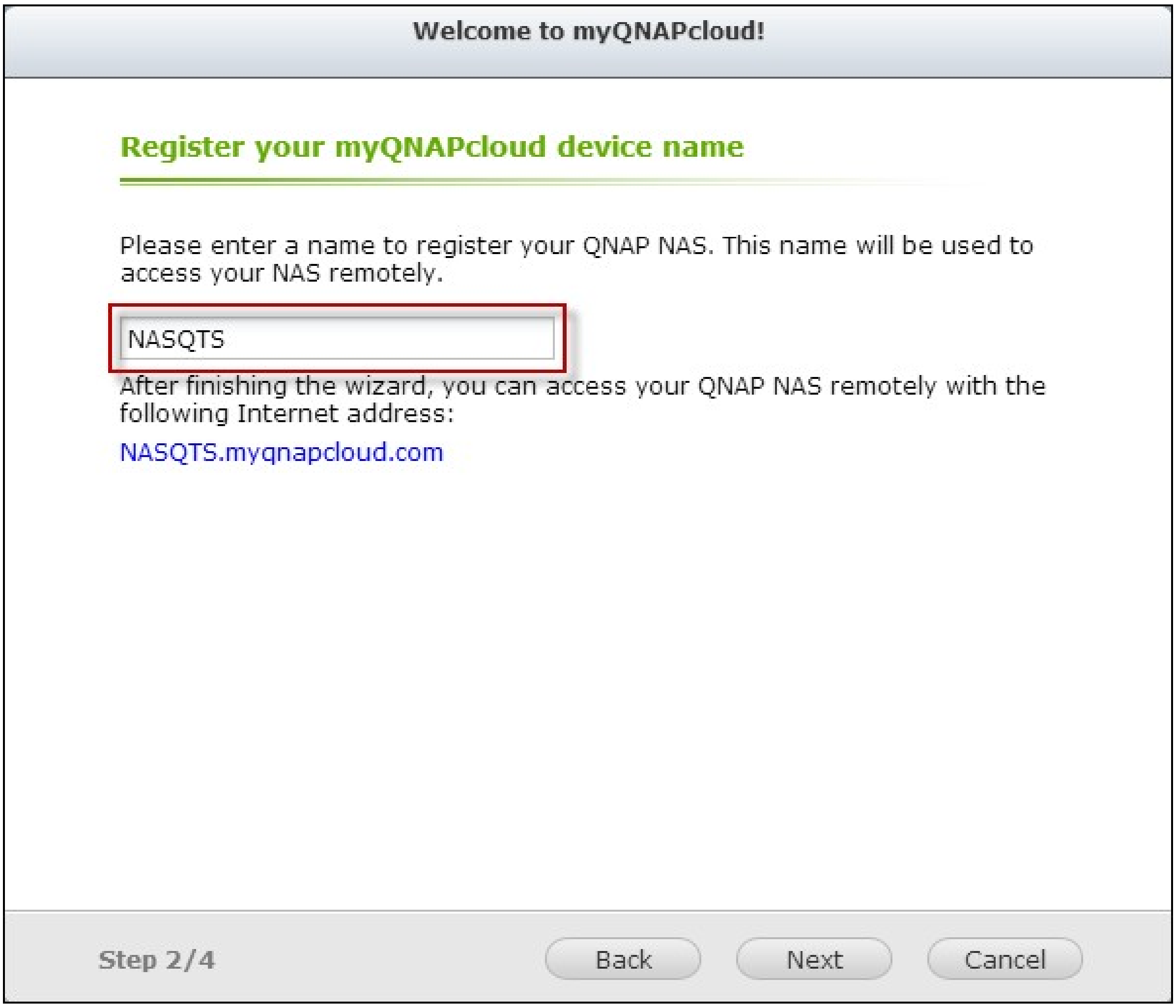
Sign in myQNAPcloud account

Please sign in myQNAPcloud account to proceed (or Create myQNAPcloud account)

myQNAPcloud ID (QID) : Your email

Password : Password

4. Enter a name to register your NAS and click “Next”.



Welcome to myQNAPcloud!

Register your myQNAPcloud device name

Please enter a name to register your QNAP NAS. This name will be used to access your NAS remotely.

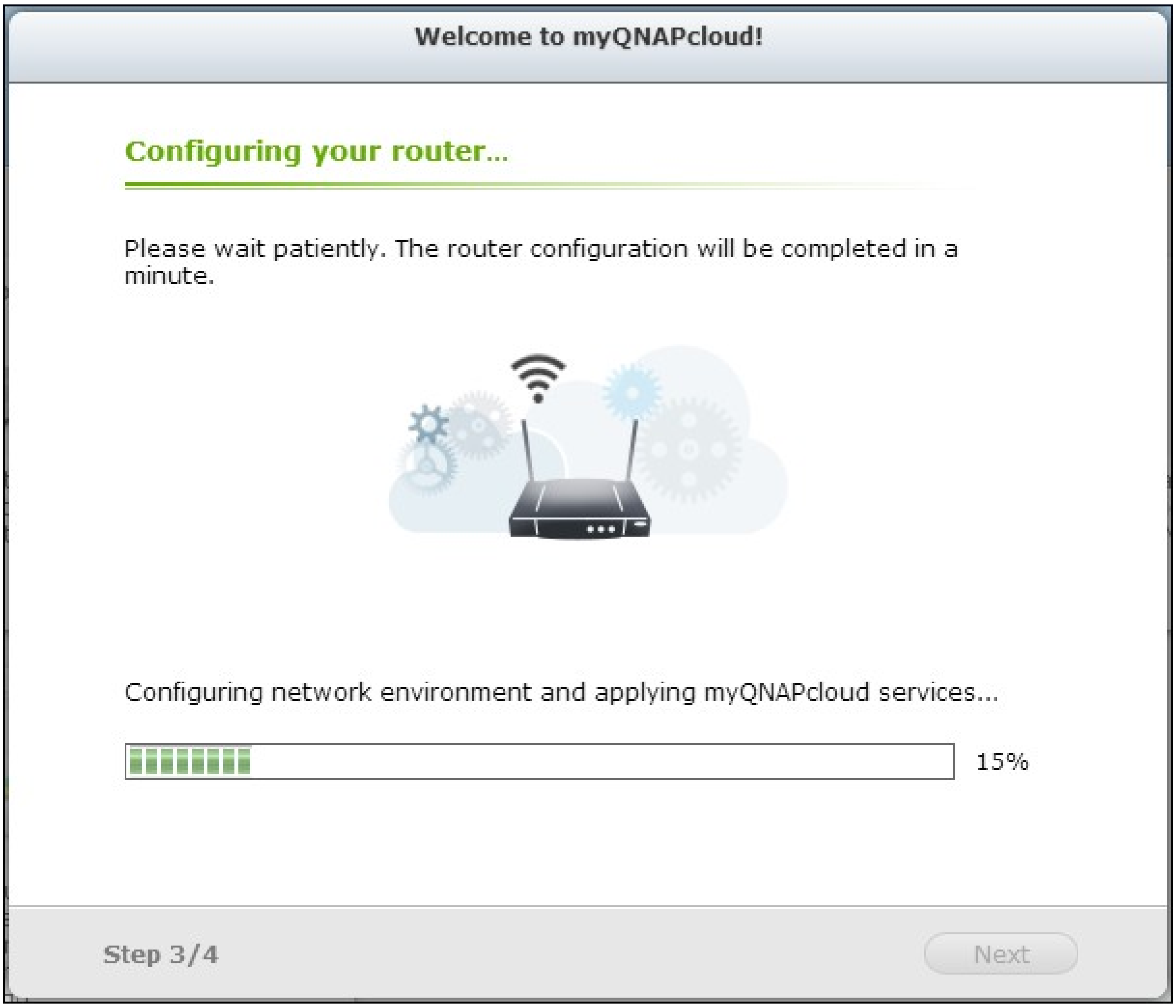
NASQTS

After finishing the wizard, you can access your QNAP NAS remotely with the following Internet address:

NASQTS.myqnapcloud.com

Step 2/4

5. The wizard will configure your router automatically.



Welcome to myQNAPcloud!

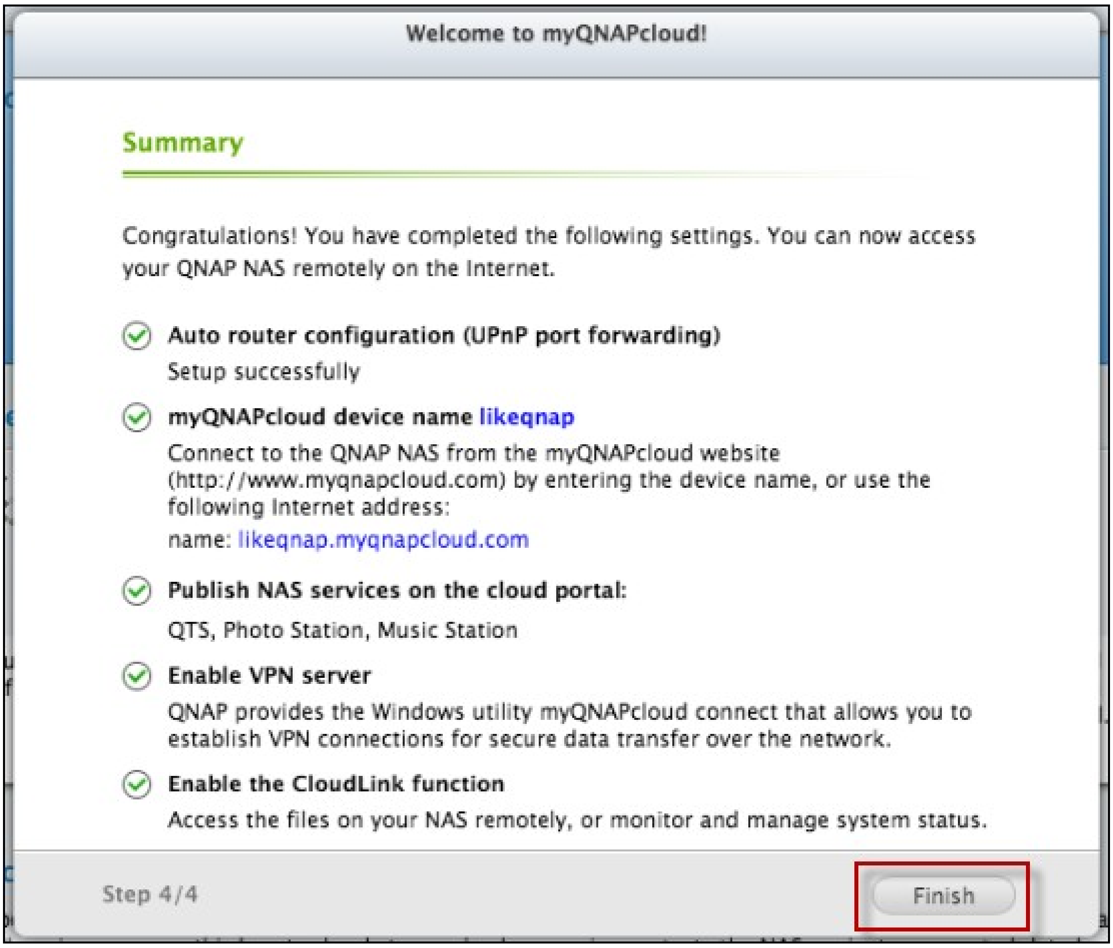
Configuring your router...

Please wait patiently. The router configuration will be completed in a minute.

Configuring network environment and applying myQNAPcloud services...

15%

6. Review the summary page and click “Finish” to complete the wizard.



Welcome to myQNAPcloud!

Summary

Congratulations! You have completed the following settings. You can now access your QNAP NAS remotely on the Internet.

✓ **Auto router configuration (UPnP port forwarding)**

Setup successfully

✓ **myQNAPcloud device name likeqnap**

Connect to the QNAP NAS from the myQNAPcloud website (http://www.myqnapcloud.com) by entering the device name, or use the following Internet address:

name: likeqnap.myqnapcloud.com

✓ **Publish NAS services on the cloud portal:**

QTS, Photo Station, Music Station

✓ **Enable VPN server**

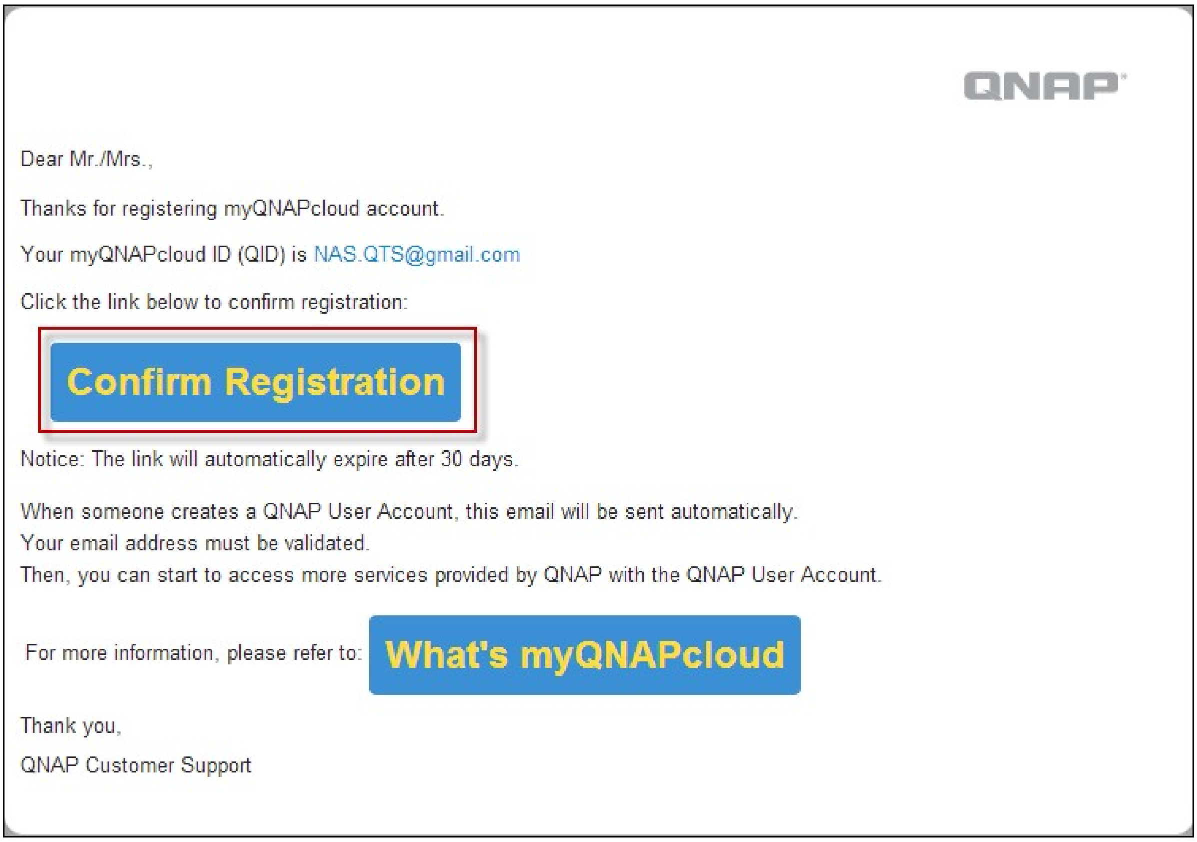
QNAP provides the Windows utility myQNAPcloud connect that allows you to establish VPN connections for secure data transfer over the network.

✓ **Enable the CloudLink function**

Access the files on your NAS remotely, or monitor and manage system status.

Step 4/4

7. If any of the settings is unsuccessful, follow the instructions provided to troubleshoot the issues. After the wizard is finished, a confirmation email will be sent to the email account specified. Click "Confirm Registration" from the email and proceed to complete the registration process.



Dear Mr./Mrs.,

Thanks for registering myQNAPcloud account.

Your myQNAPcloud ID (QID) is NAS.QTS@gmail.com

Click the link below to confirm registration:

Notice: The link will automatically expire after 30 days.

When someone creates a QNAP User Account, this email will be sent automatically.
Your email address must be validated.
Then, you can start to access more services provided by QNAP with the QNAP User Account.

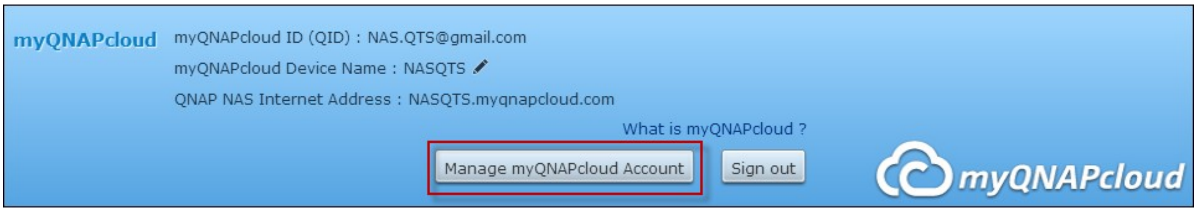
For more information, please refer to:

Thank you,

QNAP Customer Support

Manage and configure your myQNAPcloud account

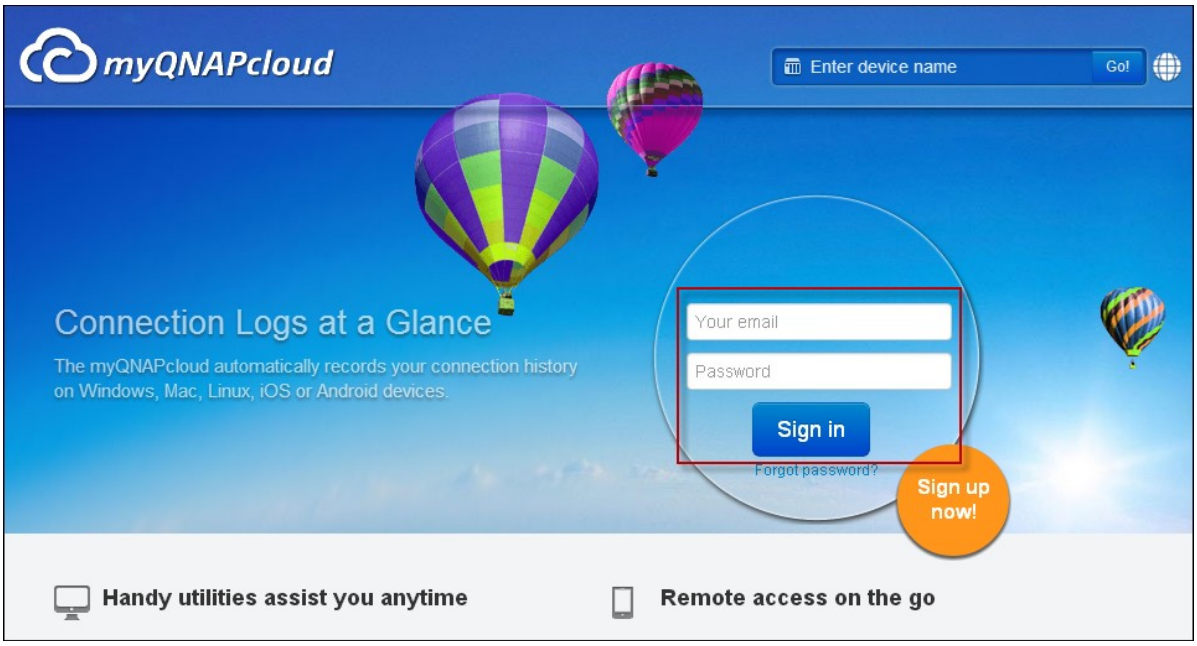
Click "Manage myQNAPcloud Account" on top of the page after launching myQNAPcloud or log into your account at http://www.myqnapcloud.com.



myQNAPcloud ID (QID) : NAS.QTS@gmail.com

myQNAPcloud Device Name : NASQTS

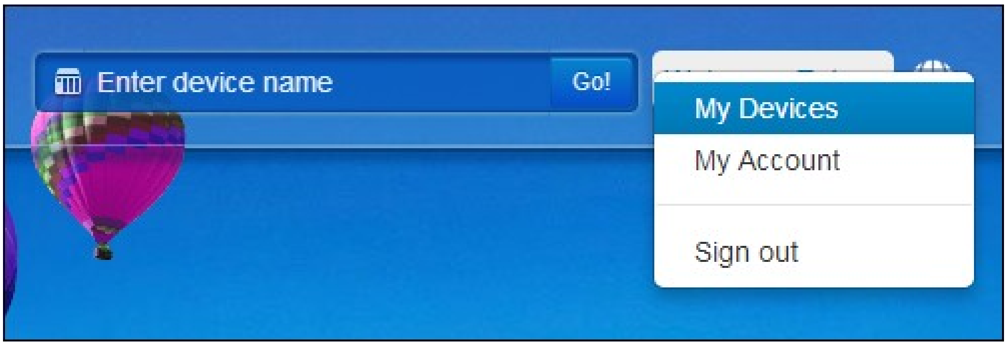
QNAP NAS Internet Address : NASQTS.myqnapcloud.com

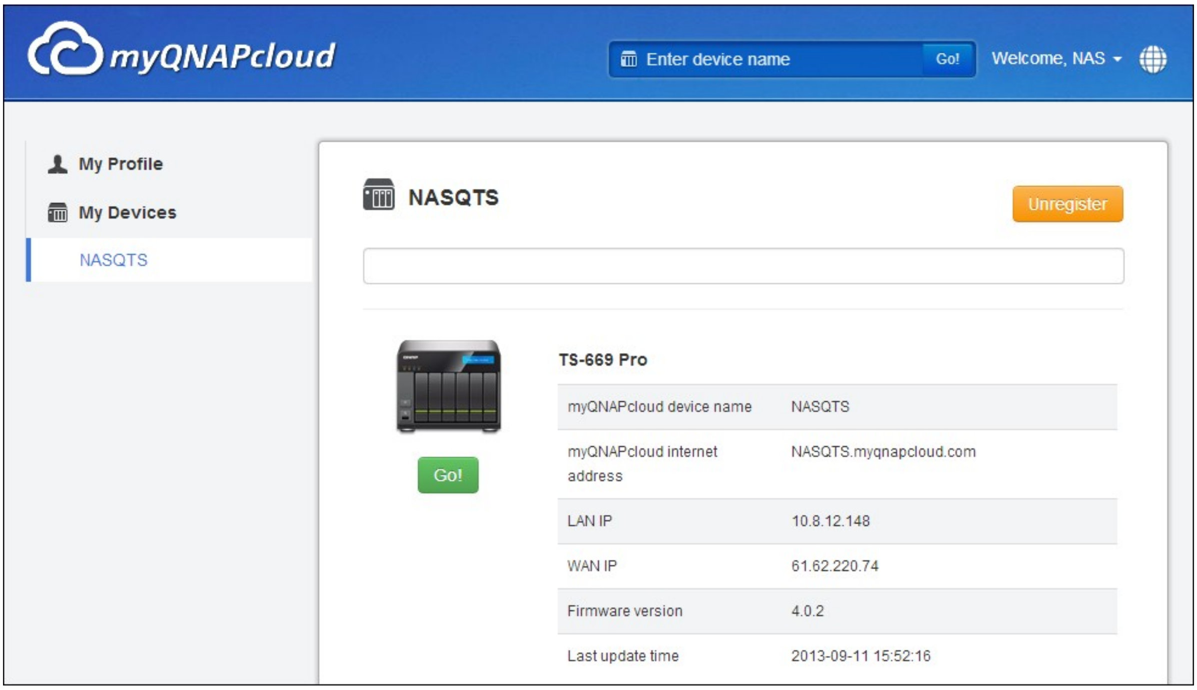


Connection Logs at a Glance

The myQNAPcloud automatically records your connection history on Windows, Mac, Linux, iOS or Android devices.

Click your login ID next to the "Enter device name" box and select "My Devices" from the drop down menu to review your device details, including the name, DDNS address, LAN and WAN IP.



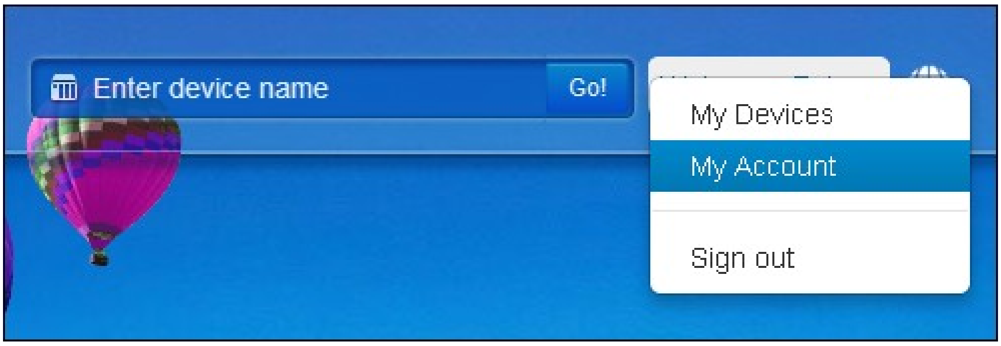


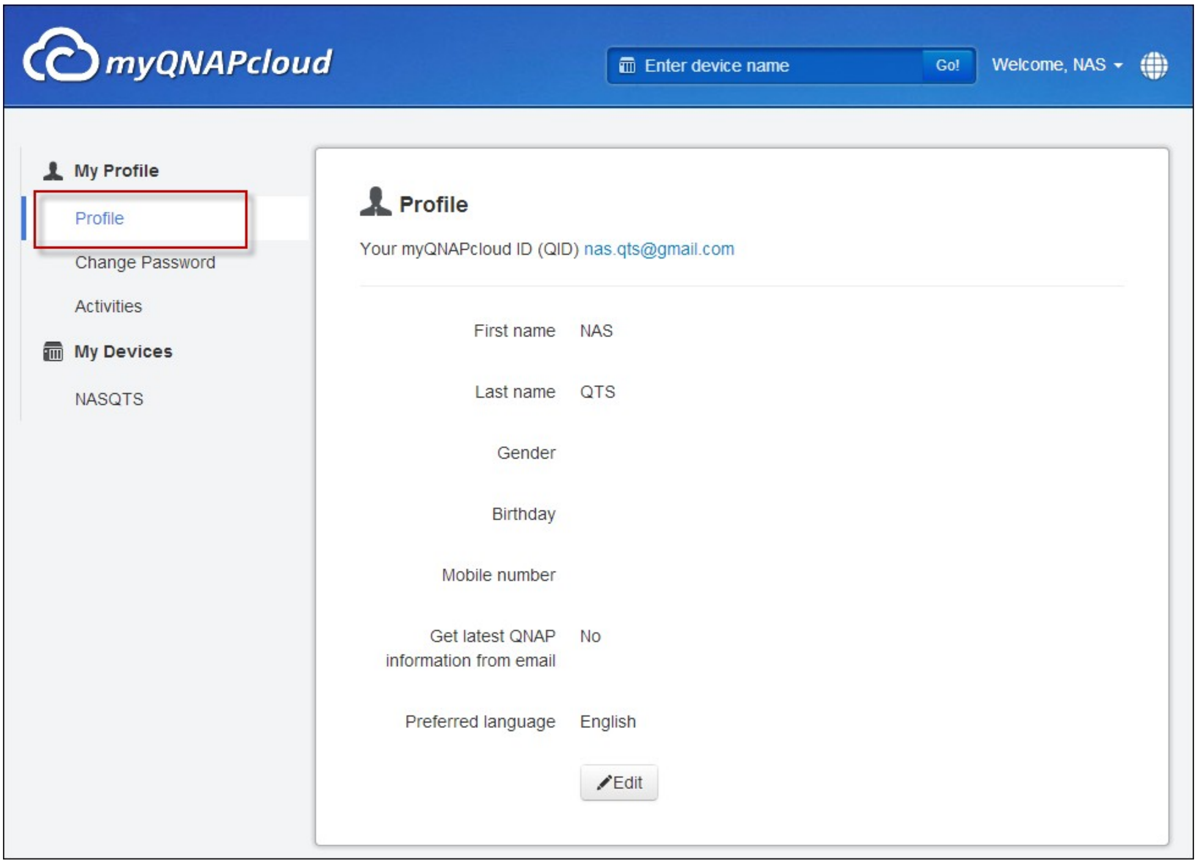
NASQTS

TS-669 Pro

myQNAPcloud device name	NASQTS
myQNAPcloud internet address	NASQTS.myqnapcloud.com
LAN IP	10.8.12.148
WAN IP	61.62.220.74
Firmware version	4.0.2
Last update time	2013-09-11 15:52:16

Or, select "My Account" to check your profile, change your password and monitor your account activity.

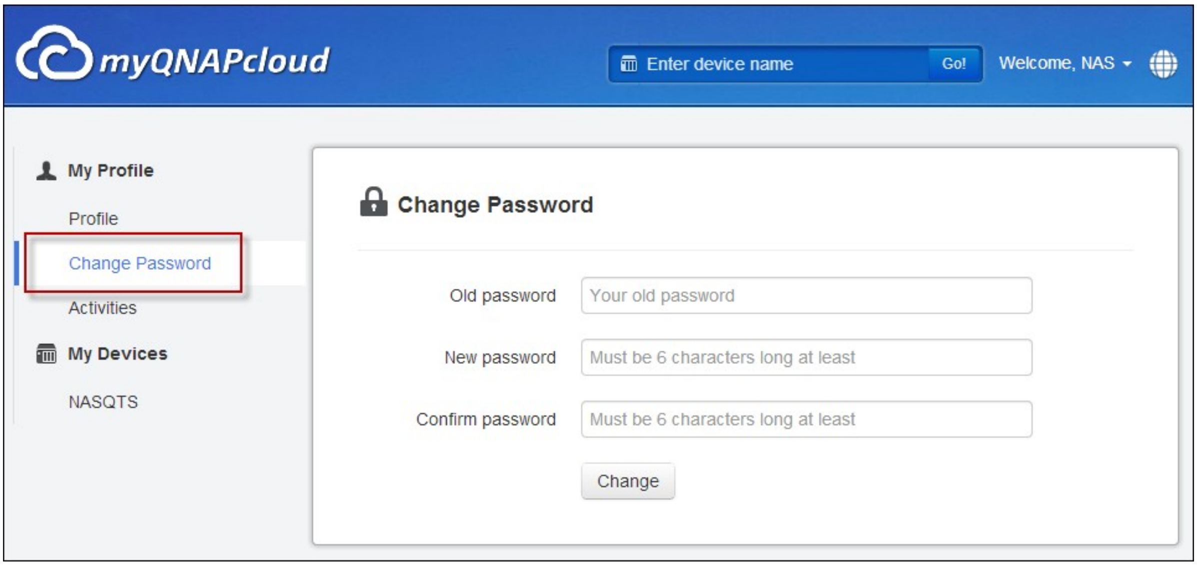




Profile

Your myQNAPcloud ID (QID) nas.qts@gmail.com

First name	NAS
Last name	QTS
Gender	
Birthday	
Mobile number	
Get latest QNAP information from email	No
Preferred language	English

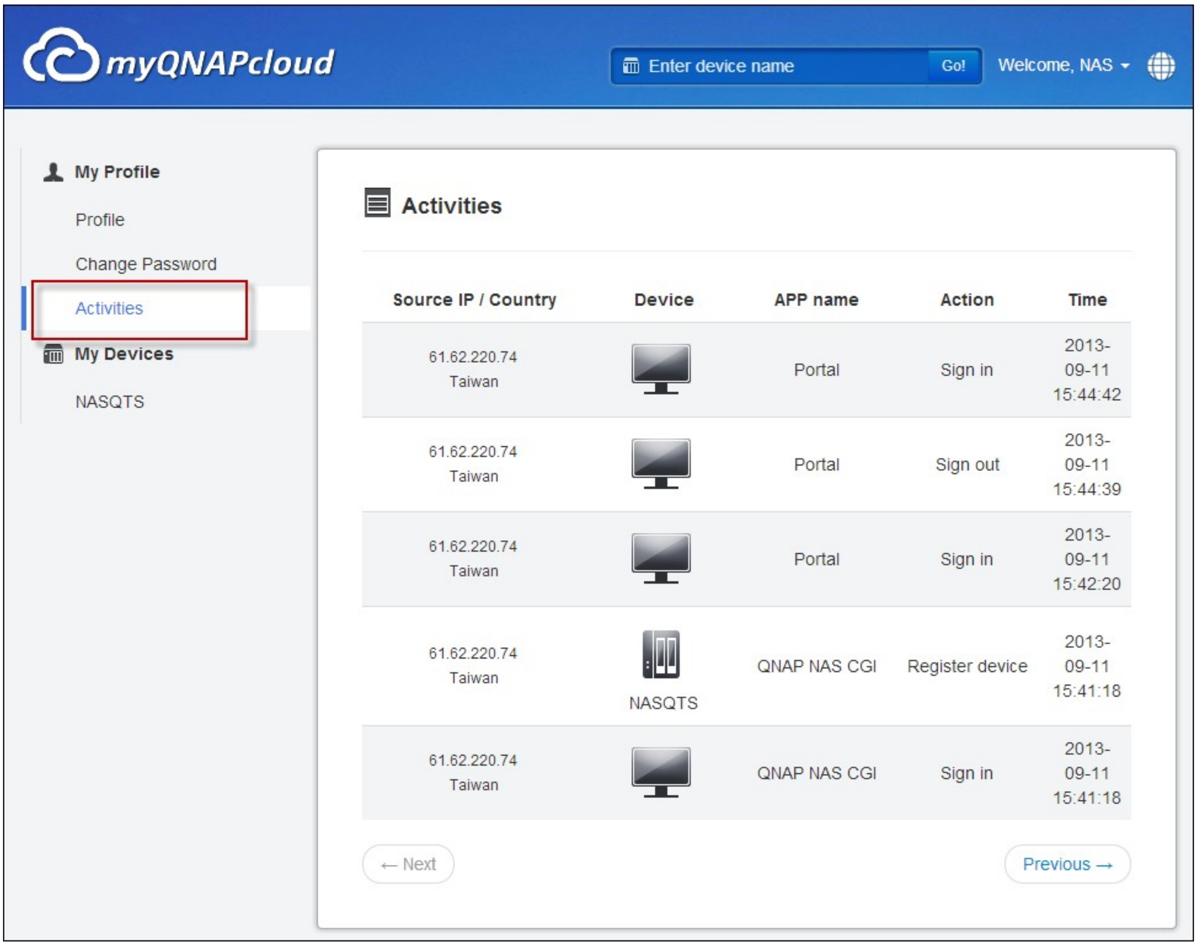


Change Password

Old password: Your old password

New password: Must be 6 characters long at least

Confirm password: Must be 6 characters long at least

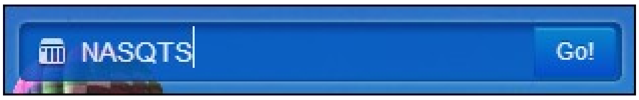


Activities

Source IP / Country	Device	APP name	Action	Time
61.62.220.74 Taiwan	🖥	Portal	Sign in	2013-09-11 15:44:42
61.62.220.74 Taiwan	🖥	Portal	Sign out	2013-09-11 15:44:39
61.62.220.74 Taiwan	🖥	Portal	Sign in	2013-09-11 15:42:20
61.62.220.74 Taiwan	NASQTS	QNAP NAS CGI	Register device	2013-09-11 15:41:18
61.62.220.74 Taiwan	🖥	QNAP NAS CGI	Sign in	2013-09-11 15:41:18

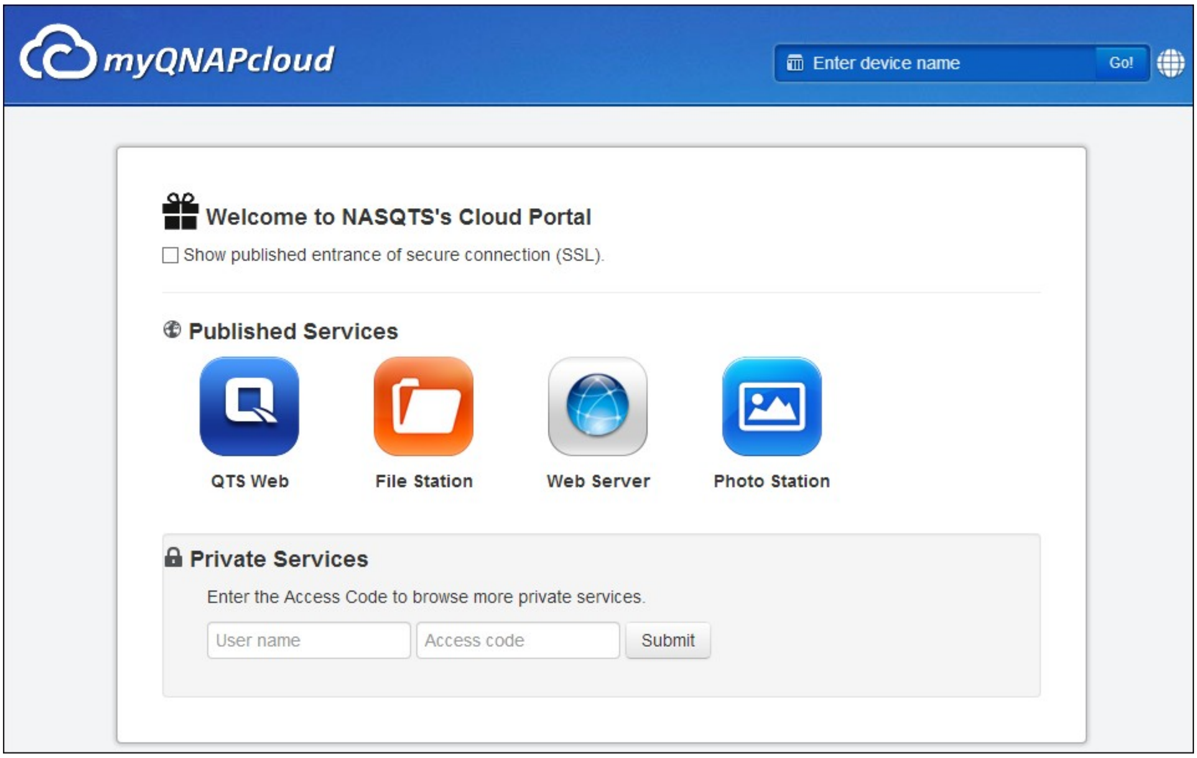
Access NAS services via the myQNAPcloud website

To access the NAS services via the myQNAPcloud website, specify the NAS you registered with in the search box and click "Go!".



NASQTS

The published public NAS services will be listed.



Welcome to NASQTS's Cloud Portal

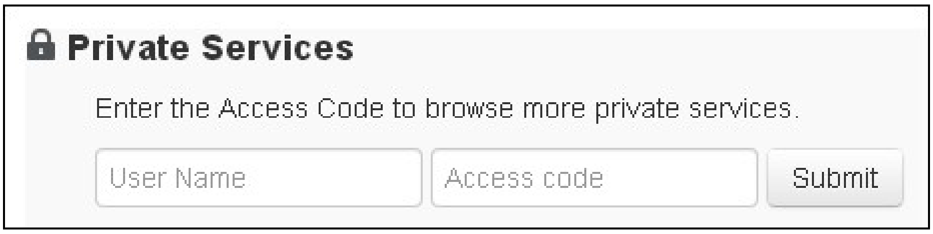
□ Show published entrance of secure connection (SSL).

Published Services

Private Services

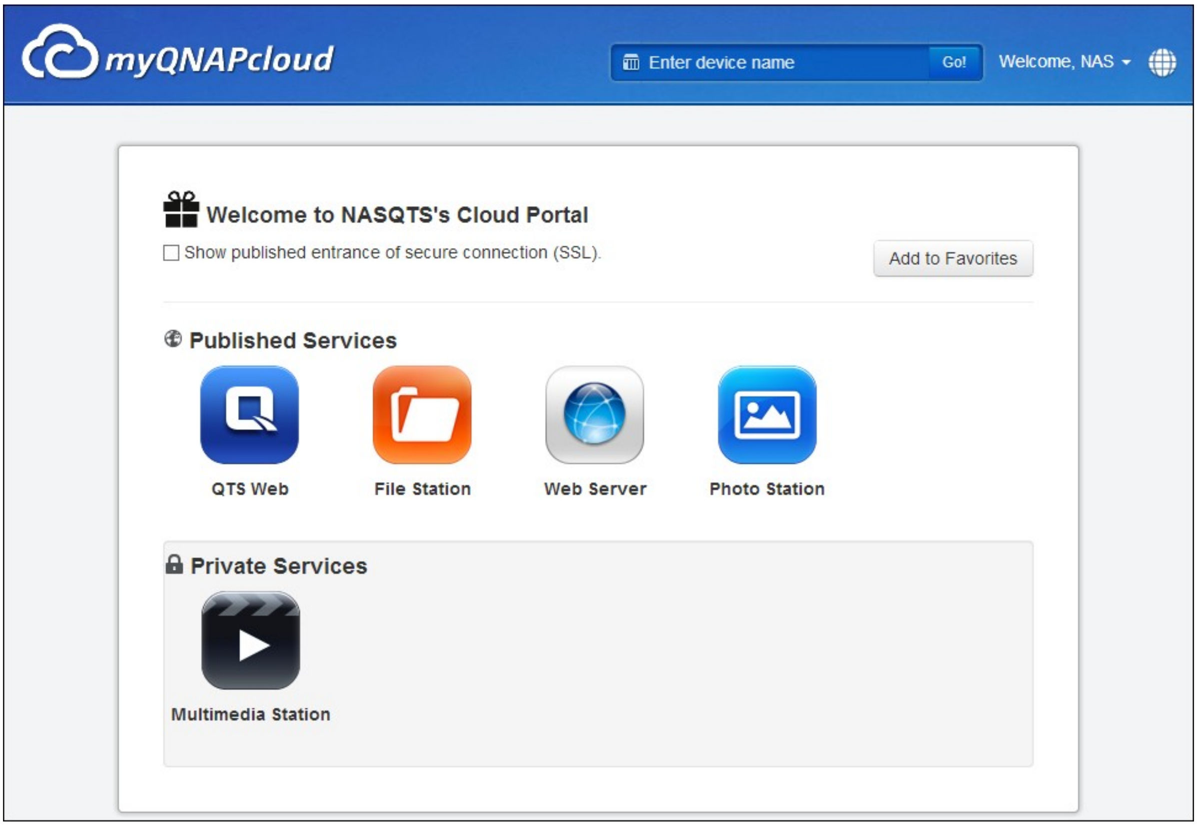
Enter the Access Code to browse more private services.

Enter the access code to browse private services.



Private Services

Enter the Access Code to browse more private services.



Welcome to NASQTS's Cloud Portal

□ Show published entrance of secure connection (SSL).

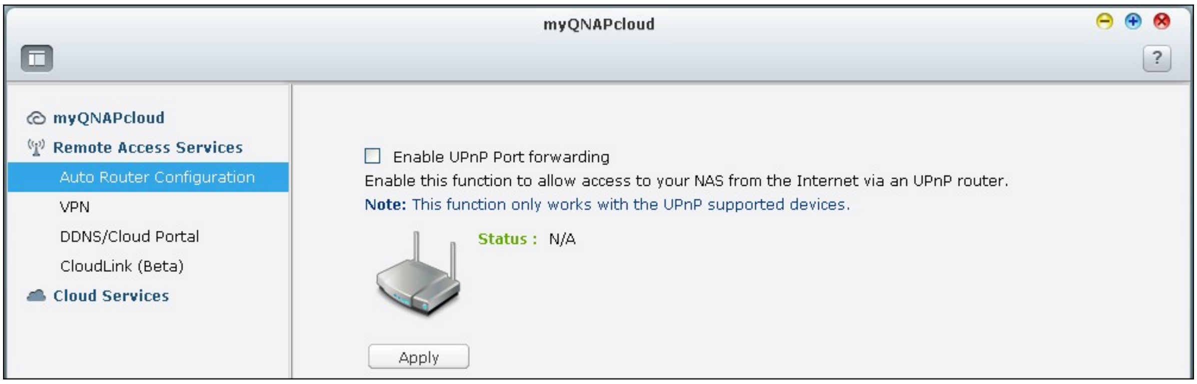
Published Services

Private Services

Note: For configuration on private NAS services, please refer to the DDNS/Cloud Portal section later in this chapter.

Auto Router Configuration

In "Remote Access Services" > "Auto Router Configuration", you can enable or disable UPnP port forwarding. When this option is enabled, your NAS is accessible from the Internet via the UPnP router.



□ Enable UPnP Port forwarding

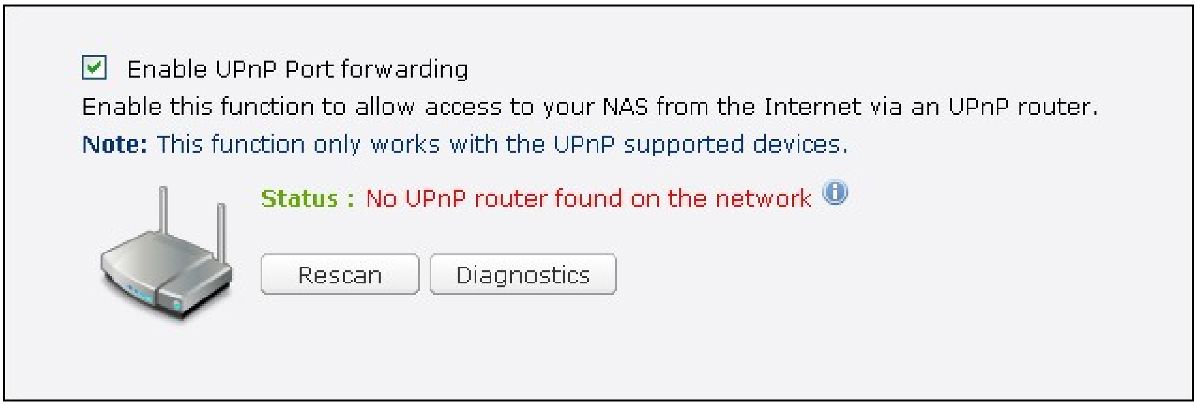
Enable this function to allow access to your NAS from the Internet via an UPnP router.

Note: This function only works with the UPnP supported devices.

Status : N/A

Note: If there is more than one routers on the network, only the one which is set as the default gateway of the NAS will be detected.

Click "Rescan" to detect the router if no UPnP router is found on the local network and "Diagnostics" to check the diagnostic logs.

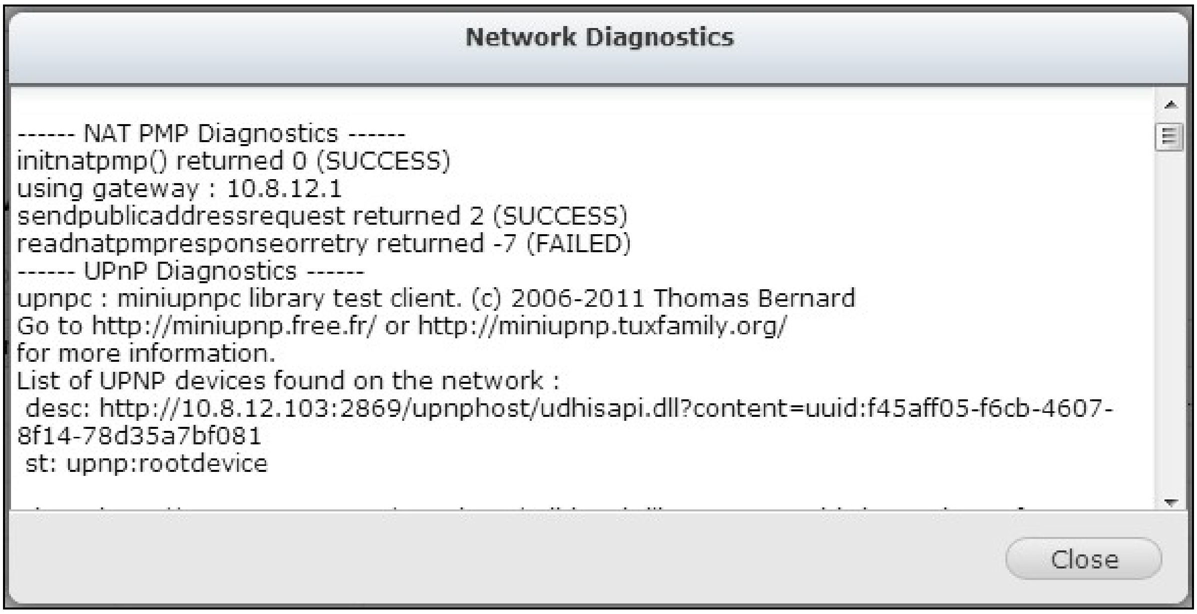


☑ Enable UPnP Port forwarding

Enable this function to allow access to your NAS from the Internet via an UPnP router.

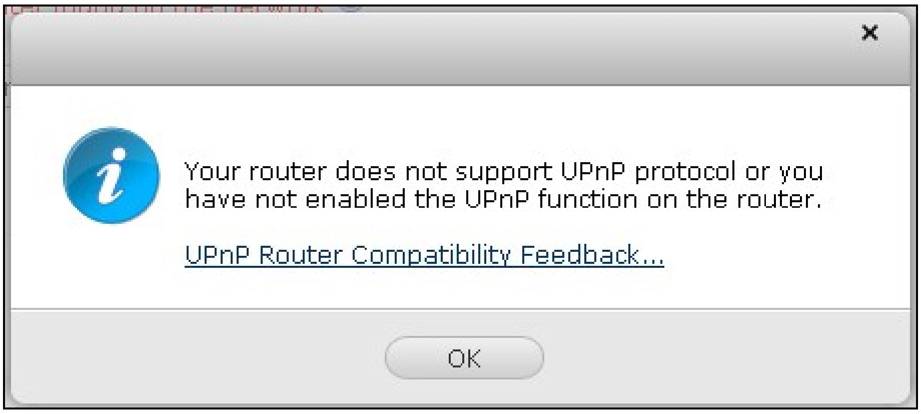
Note: This function only works with the UPnP supported devices.

Status : No UPnP router found on the network



```
------ NAT PMP Diagnostics ------
initnatpmp() returned 0 (SUCCESS)
using gateway : 10.8.12.1
sendpublicaddressrequest returned 2 (SUCCESS)
readnatpmpresponseorretry returned -7 (FAILED)
------ UPnP Diagnostics ------
upnpc : miniupnpc library test client. (c) 2006-2011 Thomas Bernard
Go to http://miniupnp.free.fr/ or http://miniupnp.tuxfamily.org/
for more information.
List of UPNP devices found on the network :
 desc: http://10.8.12.103:2869/upnphost/udhisapi.dll?content=uuid:f45aff05-f6cb-4607-
8f14-78d35a7bf081
 st: upnp:rootdevice
```

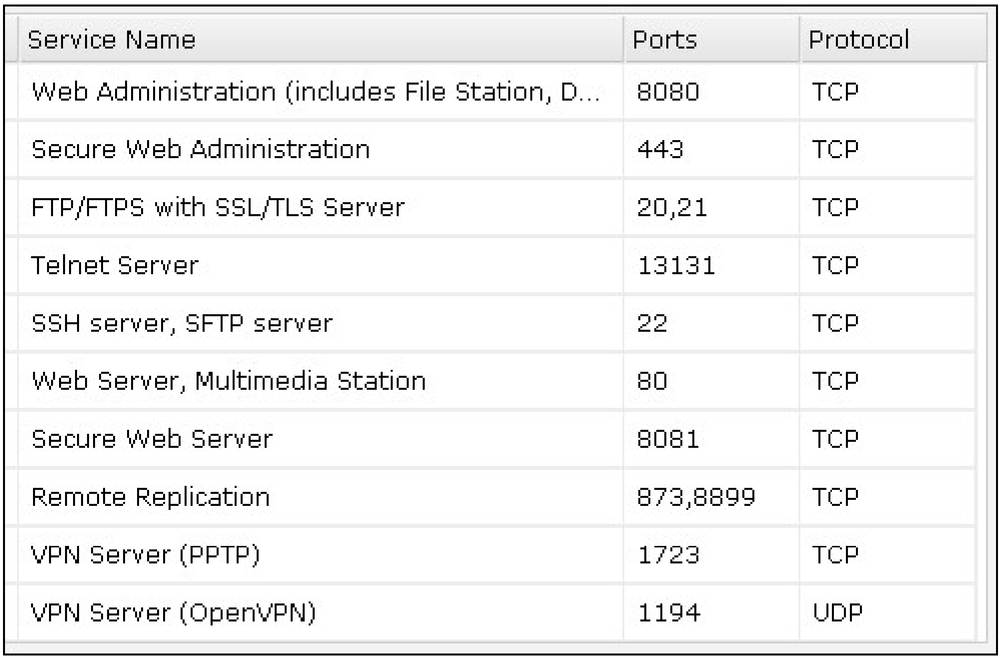
If the UPnP router is incompatible with the NAS, click ⓘ and then click "UPnP Router Compatibility Feedback..." (http://www.qnap.com/go/compatibility_router.html) to contact the technical support.



Your router does not support UPnP protocol or you have not enabled the UPnP function on the router.

UPnP Router Compatibility Feedback...

Select the NAS services to be allowed for remote access. Click "Apply to Router". The NAS will configure the port forwarding on the UPnP router automatically. You will then be able to access the NAS services from the Internet.



Service Name	Ports	Protocol
Web Administration (includes File Station, D...	8080	TCP
Secure Web Administration	443	TCP
FTP/FTPS with SSL/TLS Server	20,21	TCP
Telnet Server	13131	TCP
SSH server, SFTP server	22	TCP
Web Server, Multimedia Station	80	TCP
Secure Web Server	8081	TCP
Remote Replication	873,8899	TCP
VPN Server (PPTP)	1723	TCP
VPN Server (OpenVPN)	1194	UDP

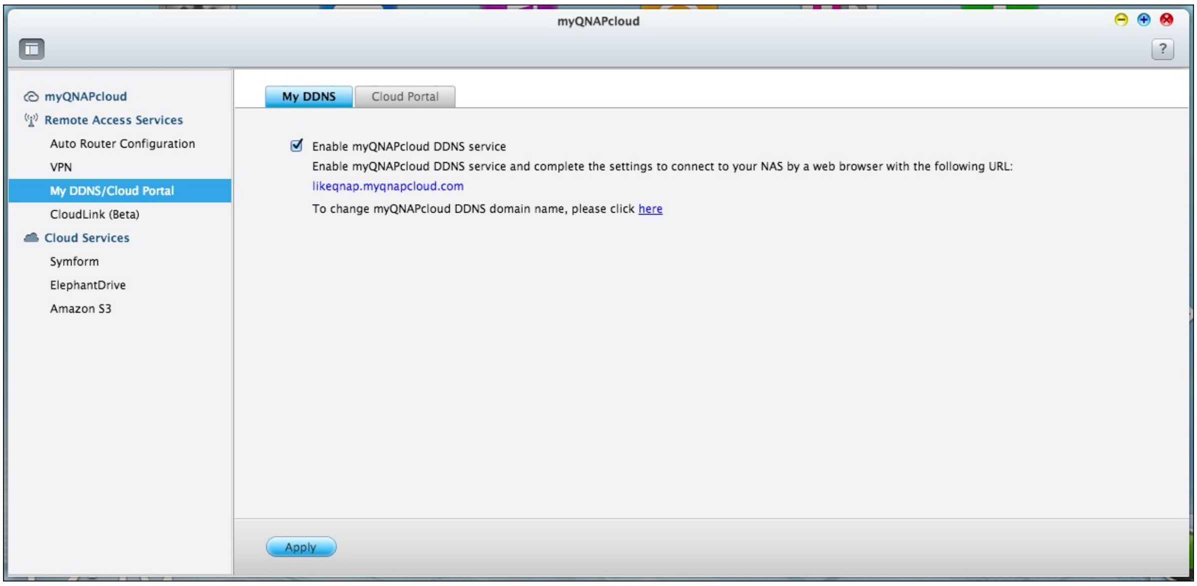
Note:

- If more than two NAS are connected to one UPnP router, please specify a different port for each NAS. If the router does not support UPnP, users are required to configure port forwarding manually on the router. Please refer to the links below:
- Application note: http://www.qnap.com/go/notes.html
- FAQ: http://www.qnap.com/faq
- UPnP router compatibility list: http://www.qnap.com/UPnP_Router_Compatibility_List

DDNS/Cloud Portal

With the Cloud Portal, web-based NAS services such as web administration, Web Server, Multimedia Server, and File Station, can be published to http://www.myqnapcloud.com. By enabling the NAS services in this step, they are opened for remote access even if they are not published.

Enable the My DDNS service in "Remote Access Service" and the NAS will notify the myQNAPcloud server automatically if the WAN IP address of the NAS has changed. To use the myQNAPcloud service, make sure the NAS has been connected to an UPnP router and the Internet.



☑ Enable myQNAPcloud DDNS service

Enable myQNAPcloud DDNS service and complete the settings to connect to your NAS by a web browser with the following URL:

likeqnap.myqnapcloud.com

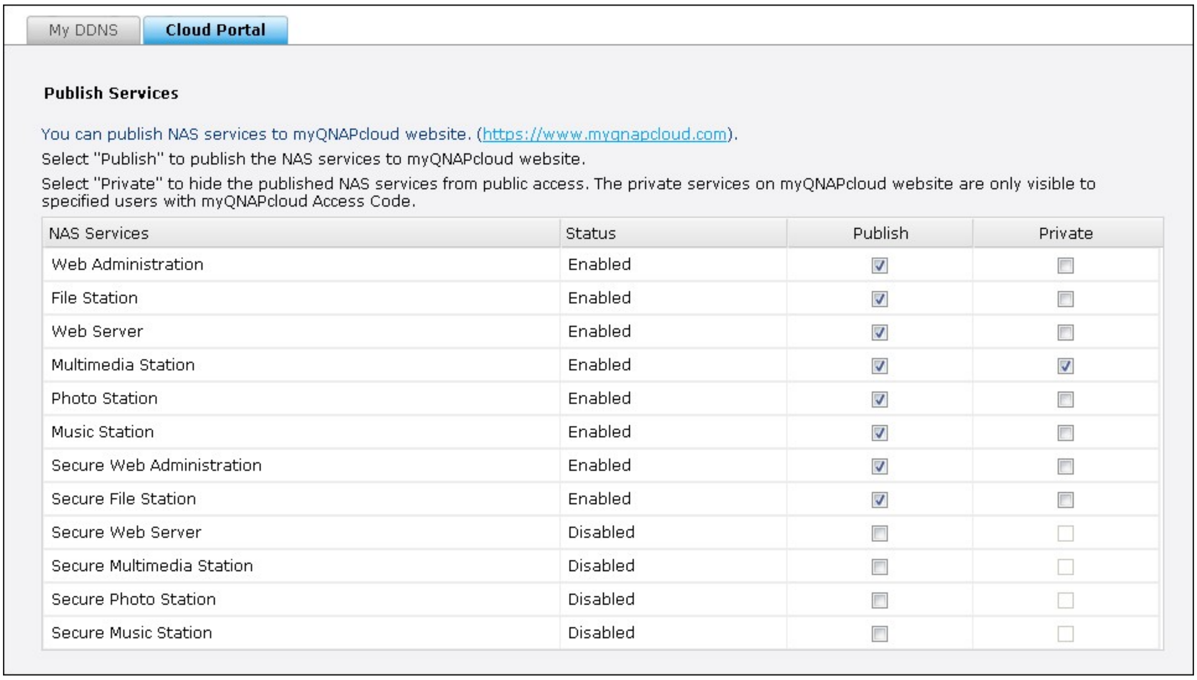
To change myQNAPcloud DDNS domain name, please click here

Note:

- The myQNAPcloud name of each QNAP NAS is unique. One myQNAPcloud name can only be used with one NAS.
- A registered myQNAPcloud name will expire in 120 days if your NAS remains offline within the period. Once the name is expired, it will be released for new registration by other users.

In "Remote Access Services" > "DDNS/Cloud Portal" > "Cloud Portal", the web-based NAS services are shown. Select "Publish" to publish the NAS services to myQNAPcloud website. Select "Private" to hide the published NAS services from public access. The private services on the myQNAPcloud website are only visible to specified users with the myQNAPcloud access code.

Note that if a disabled NAS service is published, the service will not be accessible even the corresponding icon is shown on myQNAPcloud website (http://www.myQNAPcloud.com).

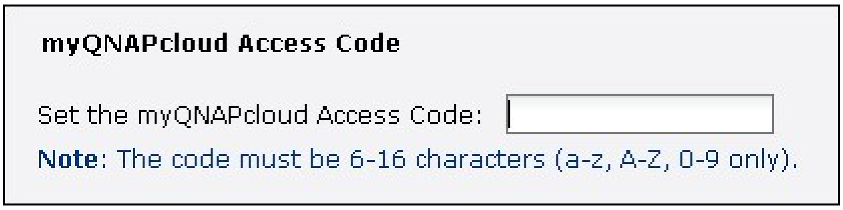


Publish Services

You can publish NAS services to myQNAPcloud website. (https://www.myqnapcloud.com).
Select "Publish" to publish the NAS services to myQNAPcloud website.
Select "Private" to hide the published NAS services from public access. The private services on myQNAPcloud website are only visible to specified users with myQNAPcloud Access Code.

NAS Services	Status	Publish	Private
Web Administration	Enabled	☑	□
File Station	Enabled	☑	□
Web Server	Enabled	☑	□
Multimedia Station	Enabled	☑	☑
Photo Station	Enabled	☑	□
Music Station	Enabled	☑	□
Secure Web Administration	Enabled	☑	□
Secure File Station	Enabled	☑	□
Secure Web Server	Disabled	□	□
Secure Multimedia Station	Disabled	□	□
Secure Photo Station	Disabled	□	□
Secure Music Station	Disabled	□	□

Set myQNAPcloud Access Code: Enter a code of 6-16 characters (a-z, A-Z, 0-9 only). The code is required when NAS users attempt to view the private NAS services on the myQNAPCloud website.

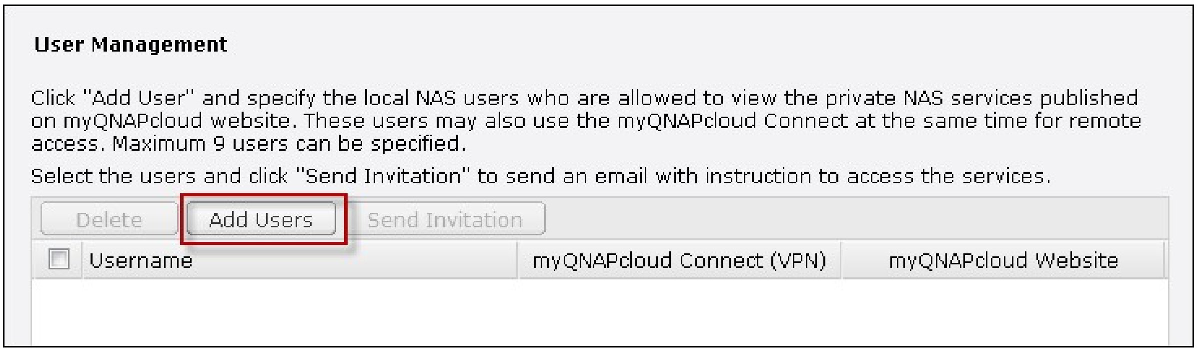


myQNAPcloud Access Code

Set the myQNAPcloud Access Code:

Note: The code must be 6-16 characters (a-z, A-Z, 0-9 only).

Click "Add Users" and specify maximum 9 local NAS users who are allowed to view the private NAS services published on the myQNAPcloud website.



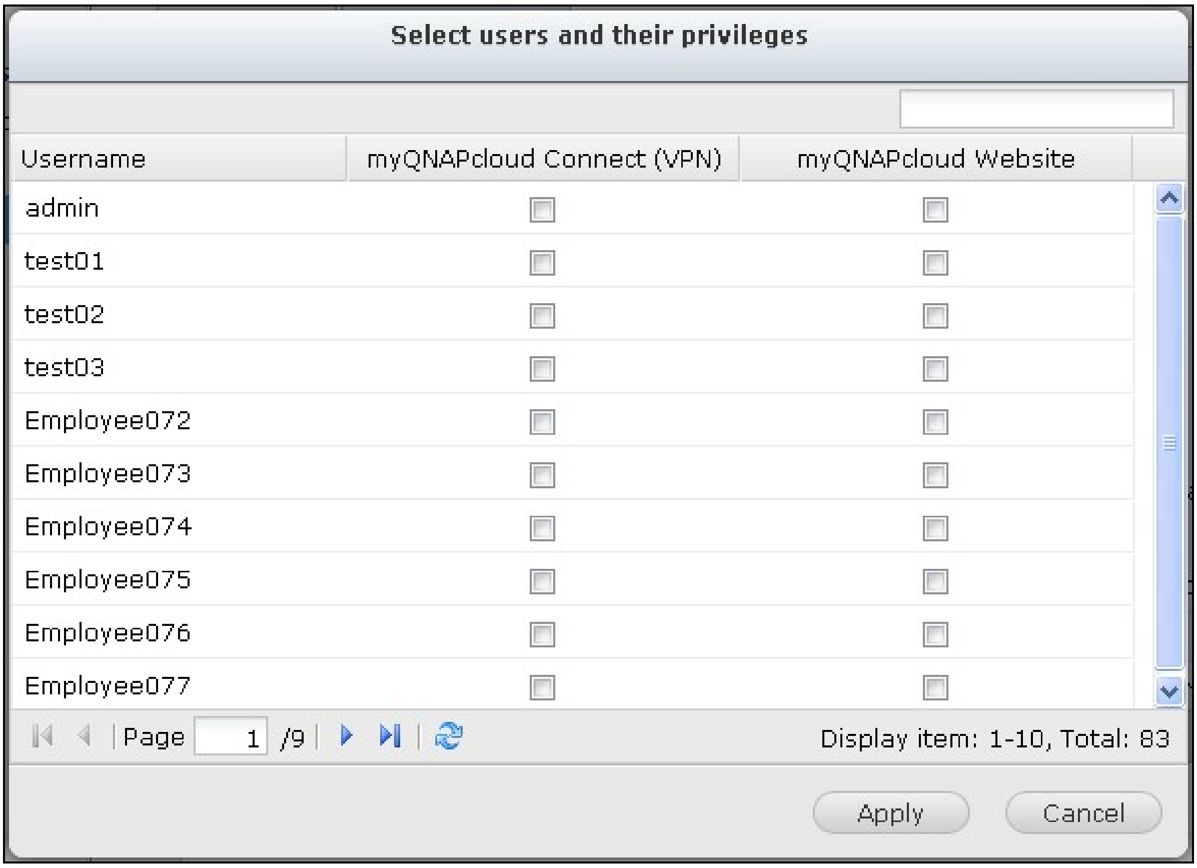
User Management

Click "Add User" and specify the local NAS users who are allowed to view the private NAS services published on myQNAPcloud website. These users may also use the myQNAPcloud Connect at the same time for remote access. Maximum 9 users can be specified.

Select the users and click "Send Invitation" to send an email with instruction to access the services.

□	Username	myQNAPcloud Connect (VPN)	myQNAPcloud Website

Select the connection method: the myQNAPcloud Connect (VPN) utility and/or myQNAPcloud website. Click “Apply”.



Select users and their privileges

Username	myQNAPcloud Connect (VPN)	myQNAPcloud Website
admin	□	□
test01	□	□
test02	□	□
test03	□	□
Employee072	□	□
Employee073	□	□
Employee074	□	□
Employee075	□	□
Employee076	□	□
Employee077	□	□

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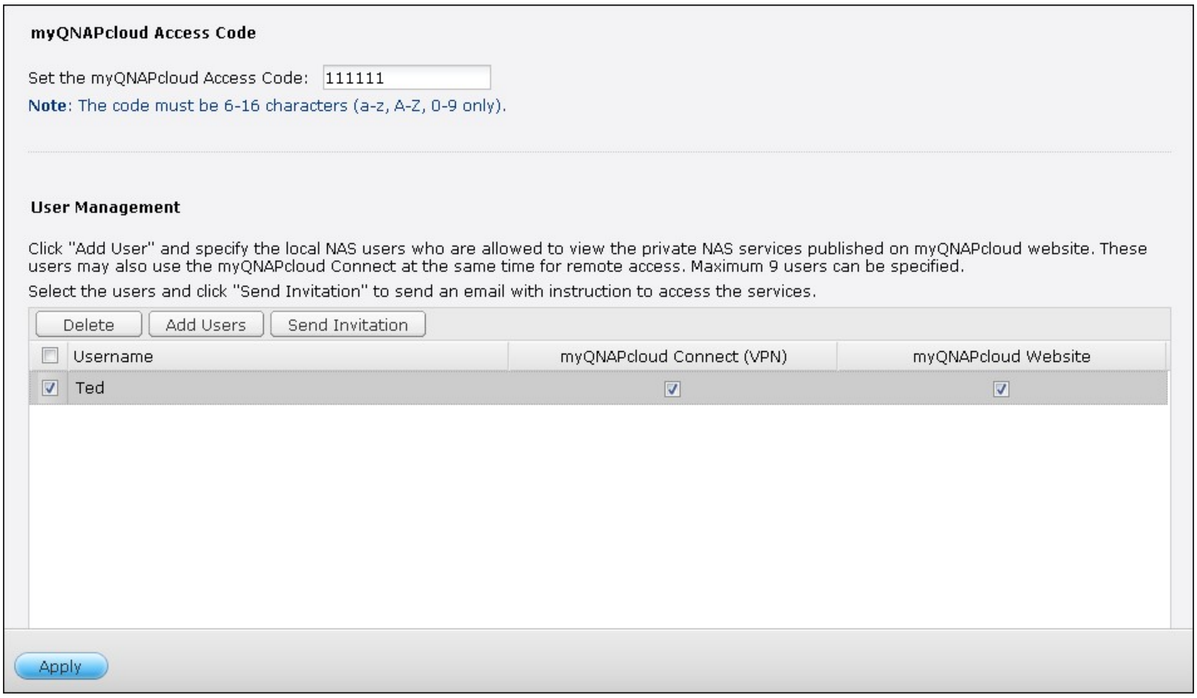
Display item: 1-10, Total: 83

Click “Apply” to save the settings.



myQNAPcloud Access Code

Set the myQNAPcloud Access Code: 111111

Note: The code must be 6-16 characters (a-z, A-Z, 0-9 only).

User Management

Click "Add User" and specify the local NAS users who are allowed to view the private NAS services published on myQNAPcloud website. These users may also use the myQNAPcloud Connect at the same time for remote access. Maximum 9 users can be specified.

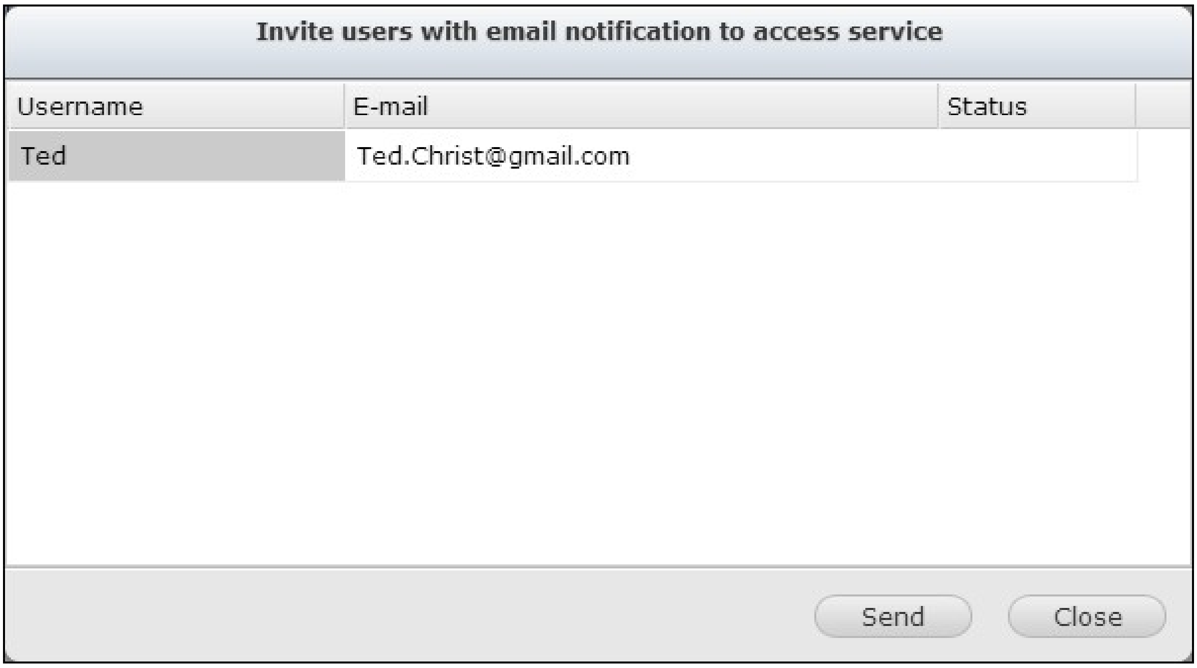
Select the users and click "Send Invitation" to send an email with instruction to access the services.

□	Username	myQNAPcloud Connect (VPN)	myQNAPcloud Website
☑	Ted	☑	☑

To send the instructions of the myQNAPcloud service to users via email, select the user (s) and click the “Send Invitation” button.

Note: To use this function, the mail server settings must be properly configured in “System Settings” > “Notification” > “SMTP Server”.

Enter the email address. Click “Send”.

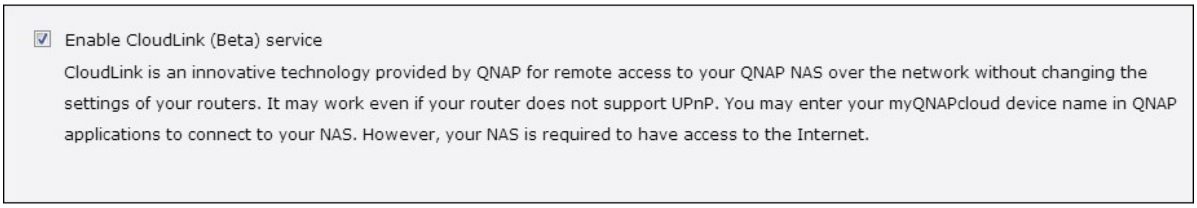


Invite users with email notification to access service

Username	E-mail	Status
Ted	Ted.Christ@gmail.com	

CloudLink (Beta)

The CloudLink is a new service provided by QNAP for remote access to your QNAP NAS over the network without changing the settings of your router, even if UPnP is not supported. Check "Enable CloudLink (Beta) service" to enable this service.



☑ Enable CloudLink (Beta) service

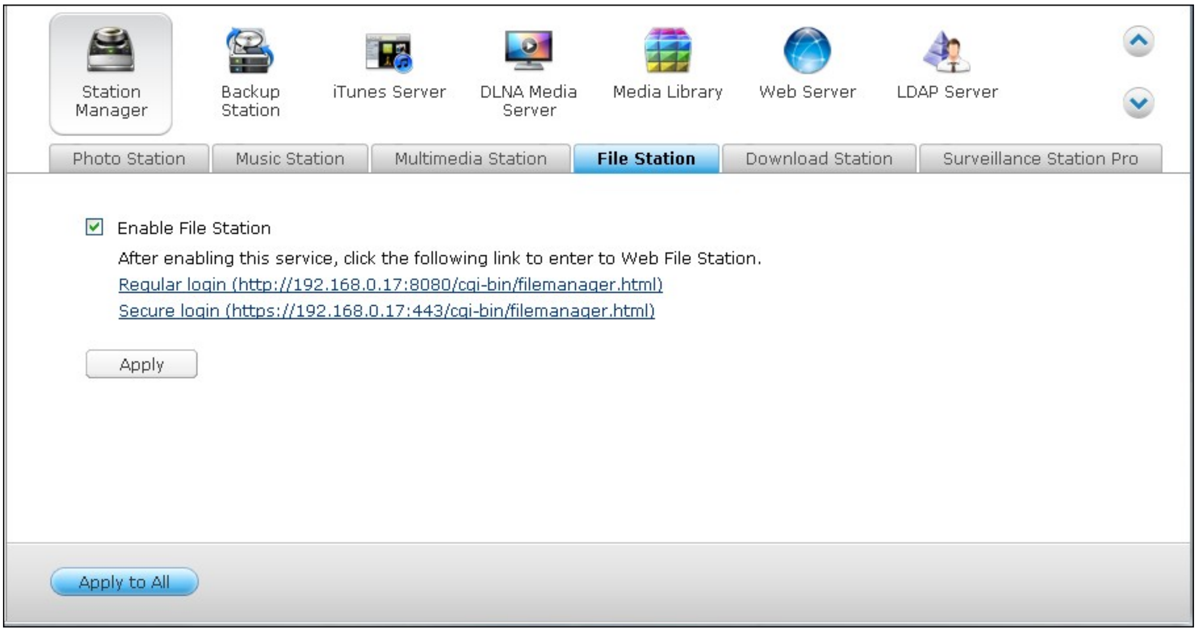
CloudLink is an innovative technology provided by QNAP for remote access to your QNAP NAS over the network without changing the settings of your routers. It may work even if your router does not support UPnP. You may enter your myQNAPcloud device name in QNAP applications to connect to your NAS. However, your NAS is required to have access to the Internet.

8.3 File Station

The File Station allows the users to access the NAS on the Internet and manage the files by a web browser.

Before getting started

Enable the service in "Control Panel" > "Applications" > "Station Manager". Click the link on the page to access the File Station.



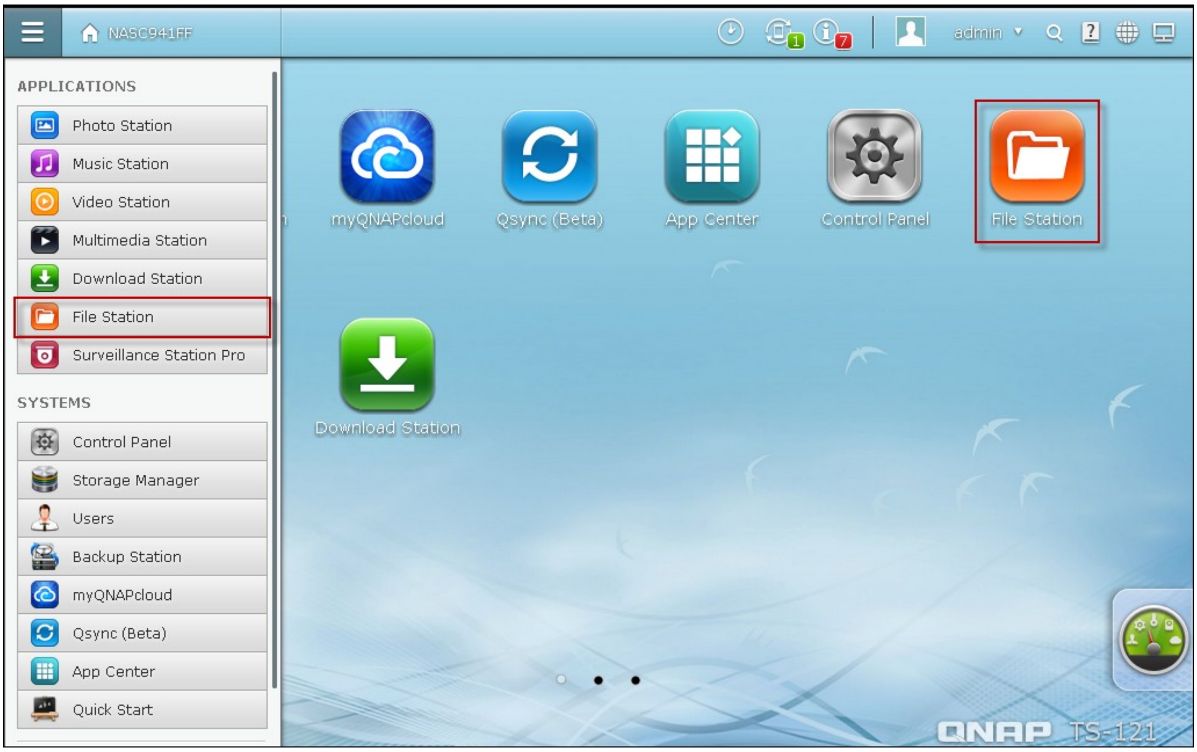
☑ Enable File Station

After enabling this service, click the following link to enter to Web File Station.

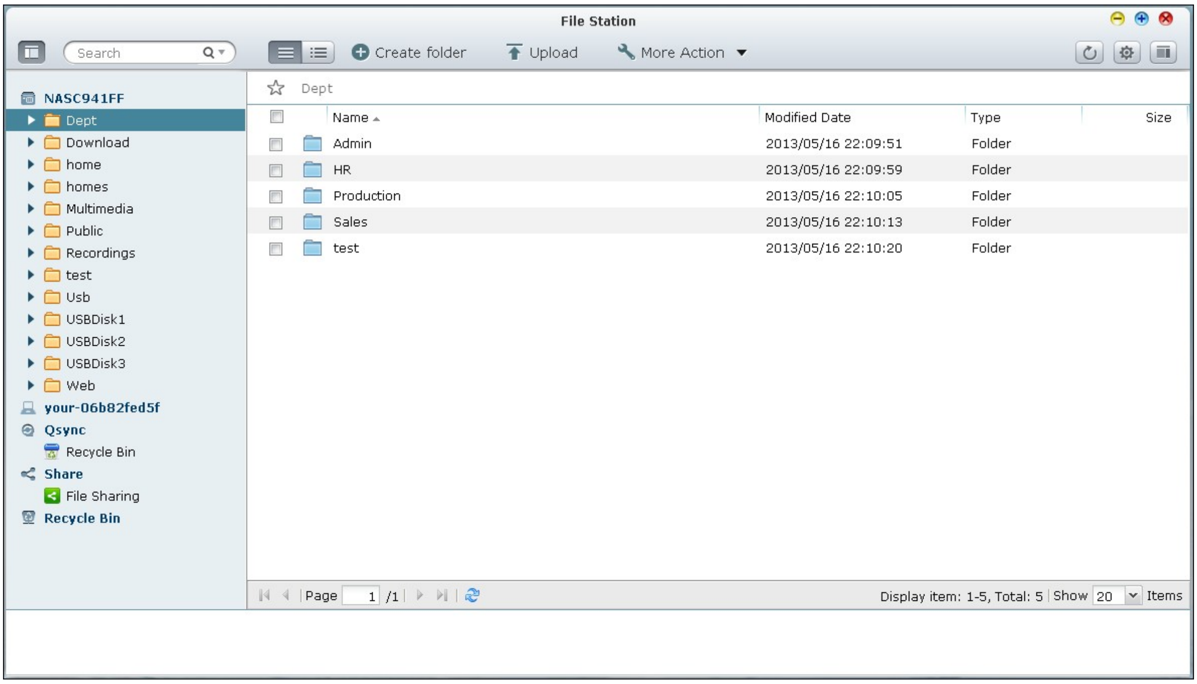
Regular login (http://192.168.0.17:8080/cgi-bin/filemanager.html)

Secure login (https://192.168.0.17:443/cgi-bin/filemanager.html)

The File Station can be launched from the Main Menu or the File Station icon on the Desktop.



You can upload, download, rename, move, copy, or delete the files and folder on the NAS.



Name	Modified Date	Type	Size
Admin	2013/05/16 22:09:51	Folder	
HR	2013/05/16 22:09:59	Folder	
Production	2013/05/16 22:10:05	Folder	
Sales	2013/05/16 22:10:13	Folder	
test	2013/05/16 22:10:20	Folder	

Uploading files

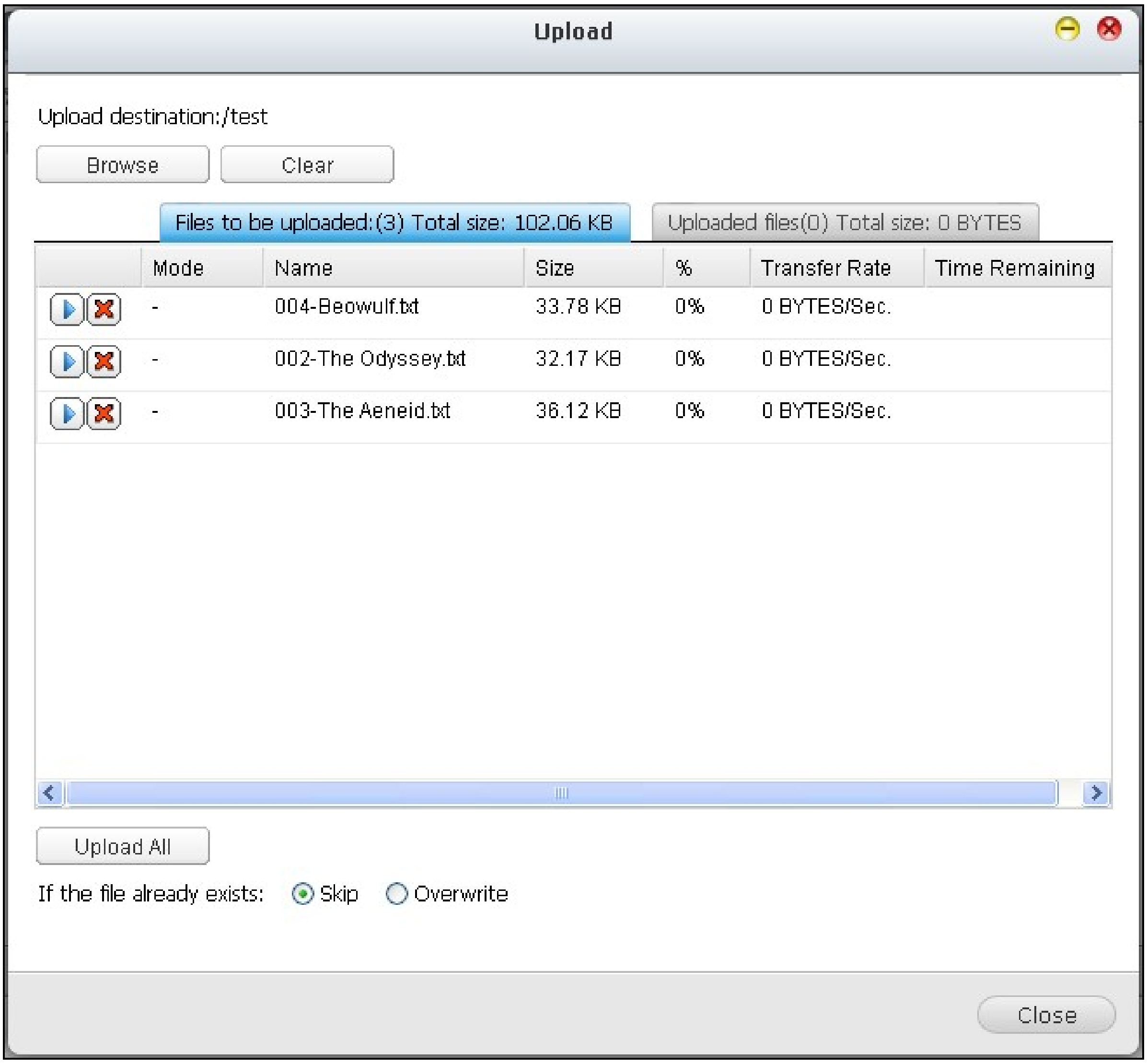
To use this feature, install Adobe Flash plug-in for your web browser.

1. Select a folder and click Upload.

2. Click “Browse” to select the file(s).

3. Select to skip or overwrite the existing file(s) in the folder.

4. Click ▶ to upload a file or “Upload All” to upload all the selected files.


Upload
Browse
Clear
Files to be uploaded:(3) Total size: 102.06 KB
Uploaded files(0) Total size: 0 BYTES
Upload All
Close

Upload destination:/test

	Mode	Name	Size	%	Transfer Rate	Time Remaining
▶ ☒	-	004-Beowulf.txt	33.78 KB	0%	0 BYTES/Sec.	
▶ ☒	-	002-The Odyssey.txt	32.17 KB	0%	0 BYTES/Sec.	
▶ ☒	-	003-The Aeneid.txt	36.12 KB	0%	0 BYTES/Sec.	

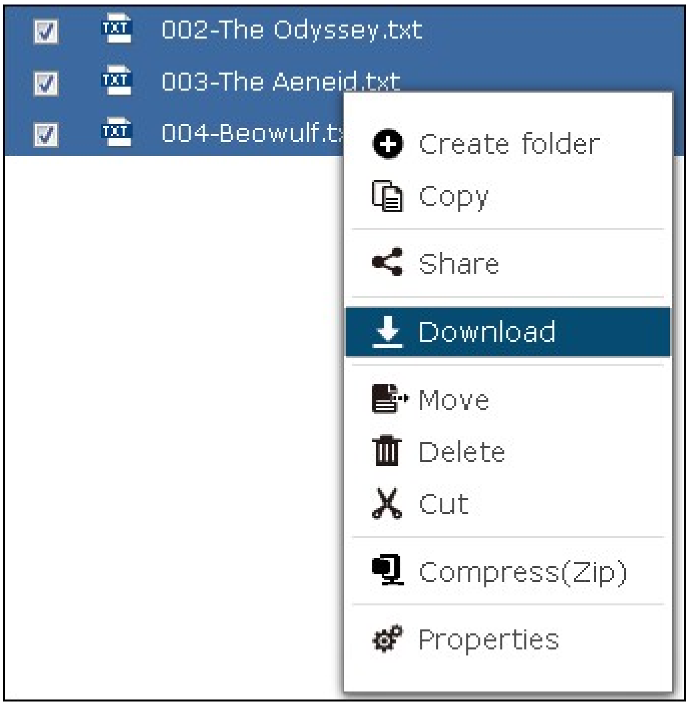
If the file already exists: ● Skip ○ Overwrite

Note: The maximum size of a file that can be uploaded to the NAS by the File Station is 2GB without JAVA plug-in.

Downloading files

1. Select a file or folder to download.

2. Right click the mouse and select "Download" to download the file. Please note that if all files within a folder are selected, they will be compressed and downloaded as a zip file.



Creating folders

1. Select a shared folder or folder in which you want to create a new folder.

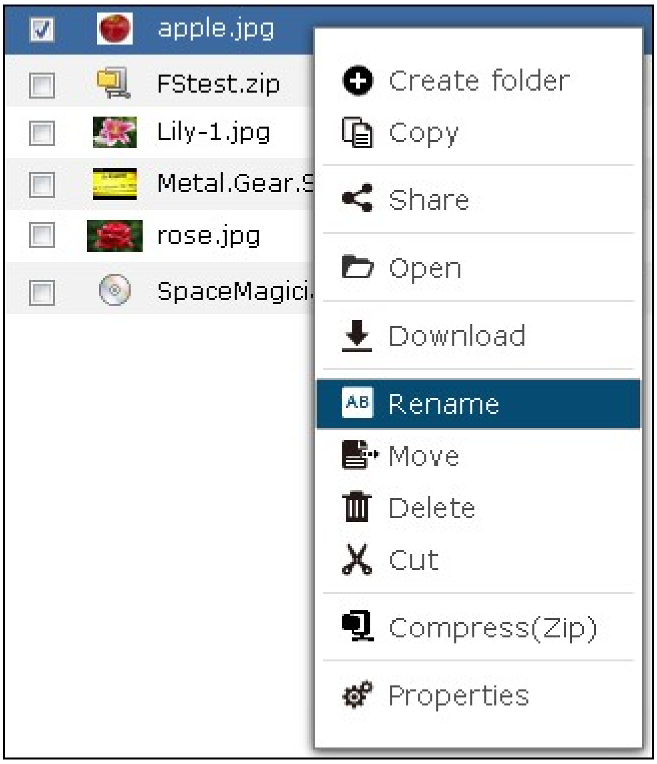
2. Click .

3. Enter the name of the new folder and click "OK".

Renaming files or folders:

1. Select a file or folder to rename.

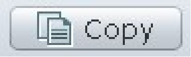
2. Right click the mouse and select "Rename" to rename the file.



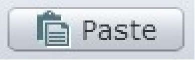
3. Enter the new file or folder name and click "OK".

Copying files or folders

1. Select the files or folders to copy.

2. Click .

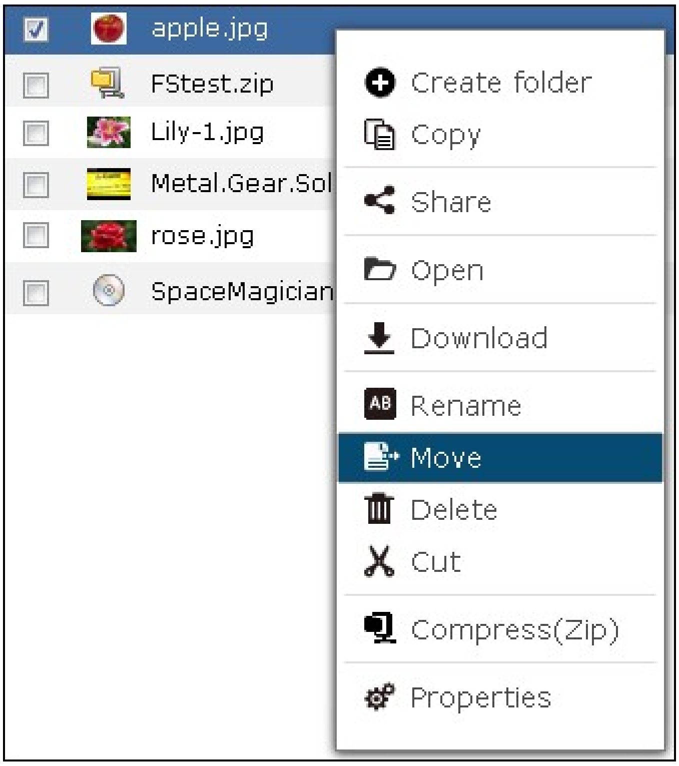
3. Click the destination folder.

4. Click  and confirm to copy the files or folders.

Moving files or folders

1. Select the files or folders to move.

2. Right click the mouse and select “Move”.

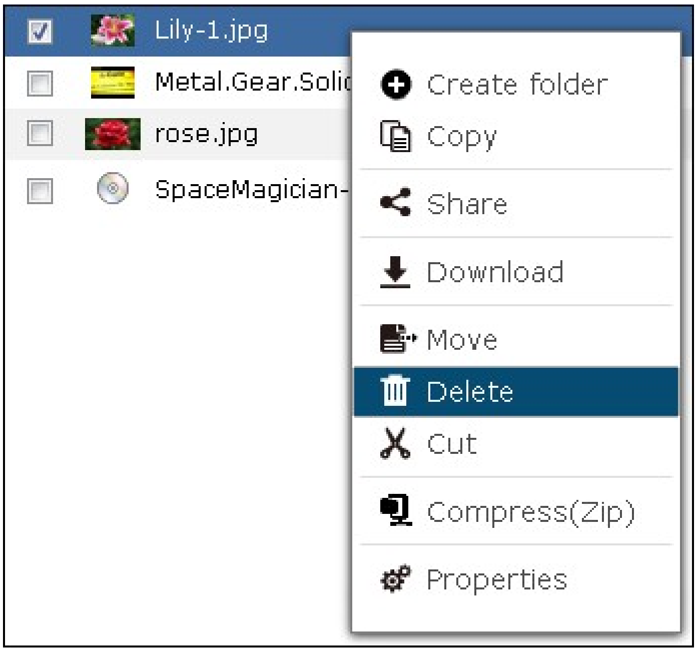


3. Select the destination folder. Click “OK”.

Deleting files or folders

1. Select a file or folder to delete.

2. Right click the mouse and select “Delete”.

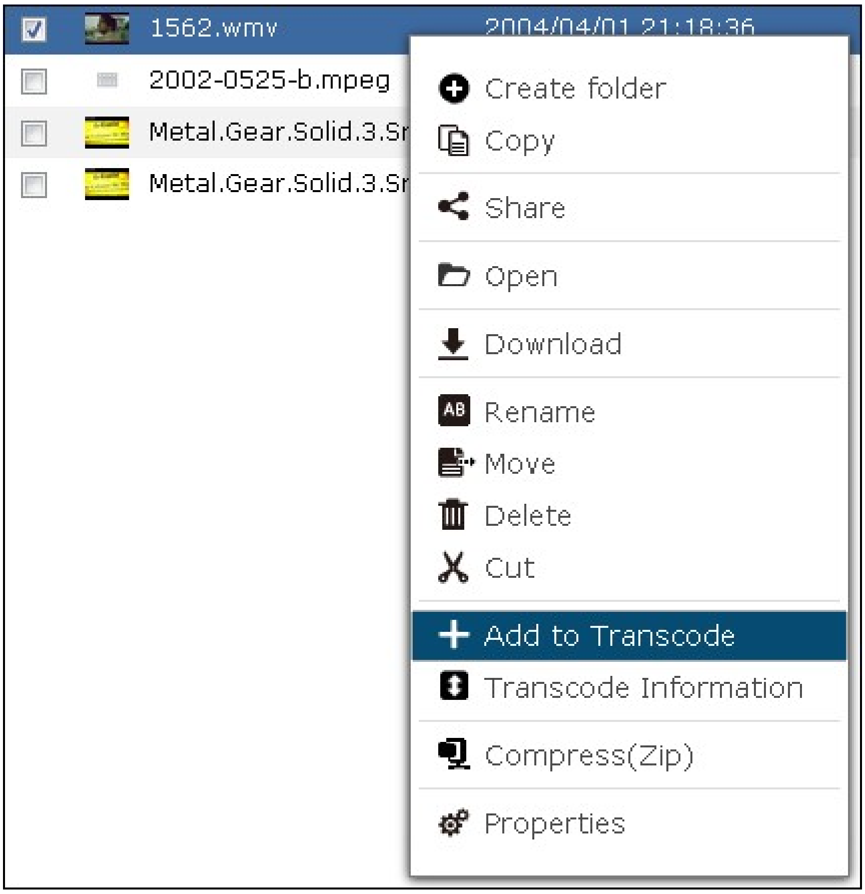


3. Confirm to delete the file or folder.

Transcoding files

1. Select a media file.

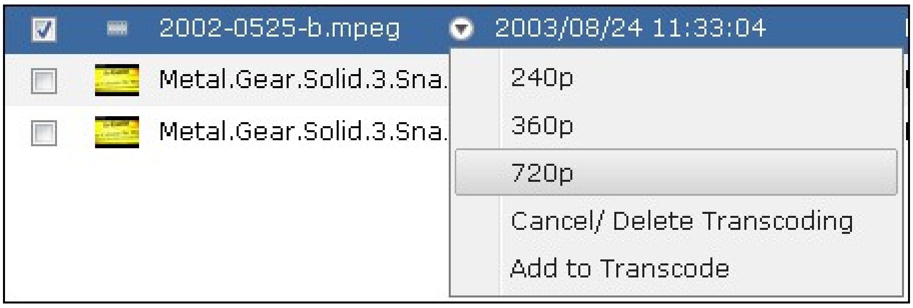
2. Right click the mouse and select "Add to Transcode".



3. Confirm to transcode the file.

Playing media files

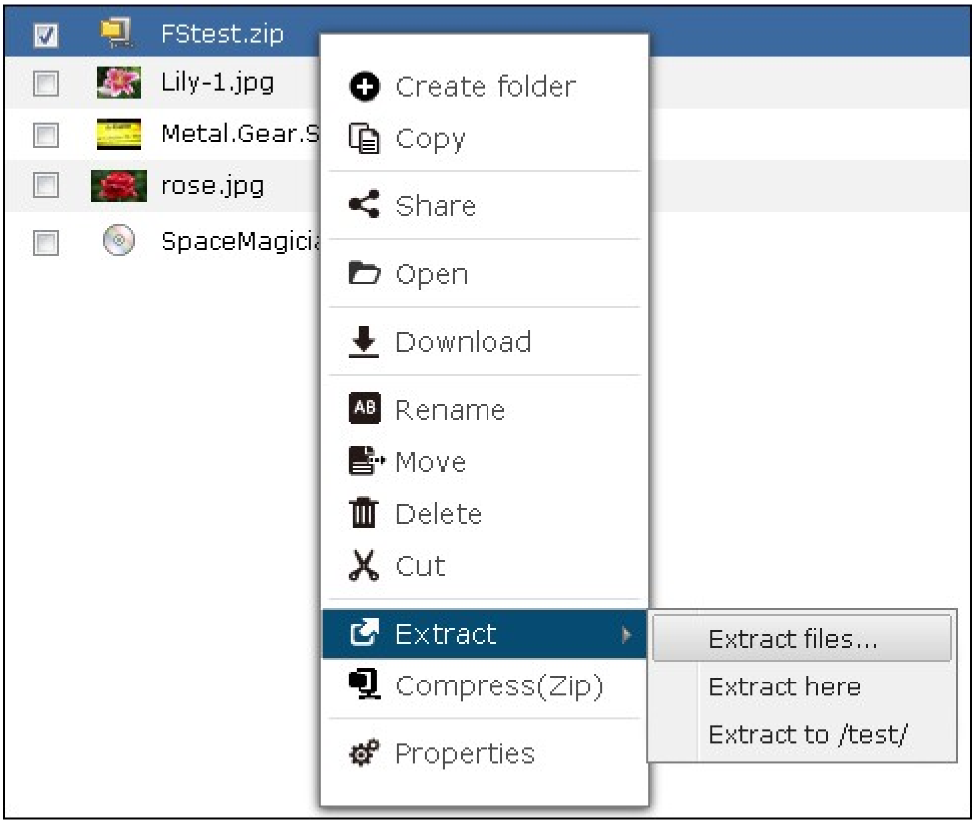
1. To play a media file in different resolutions, left click the media file and select a desired resolution.



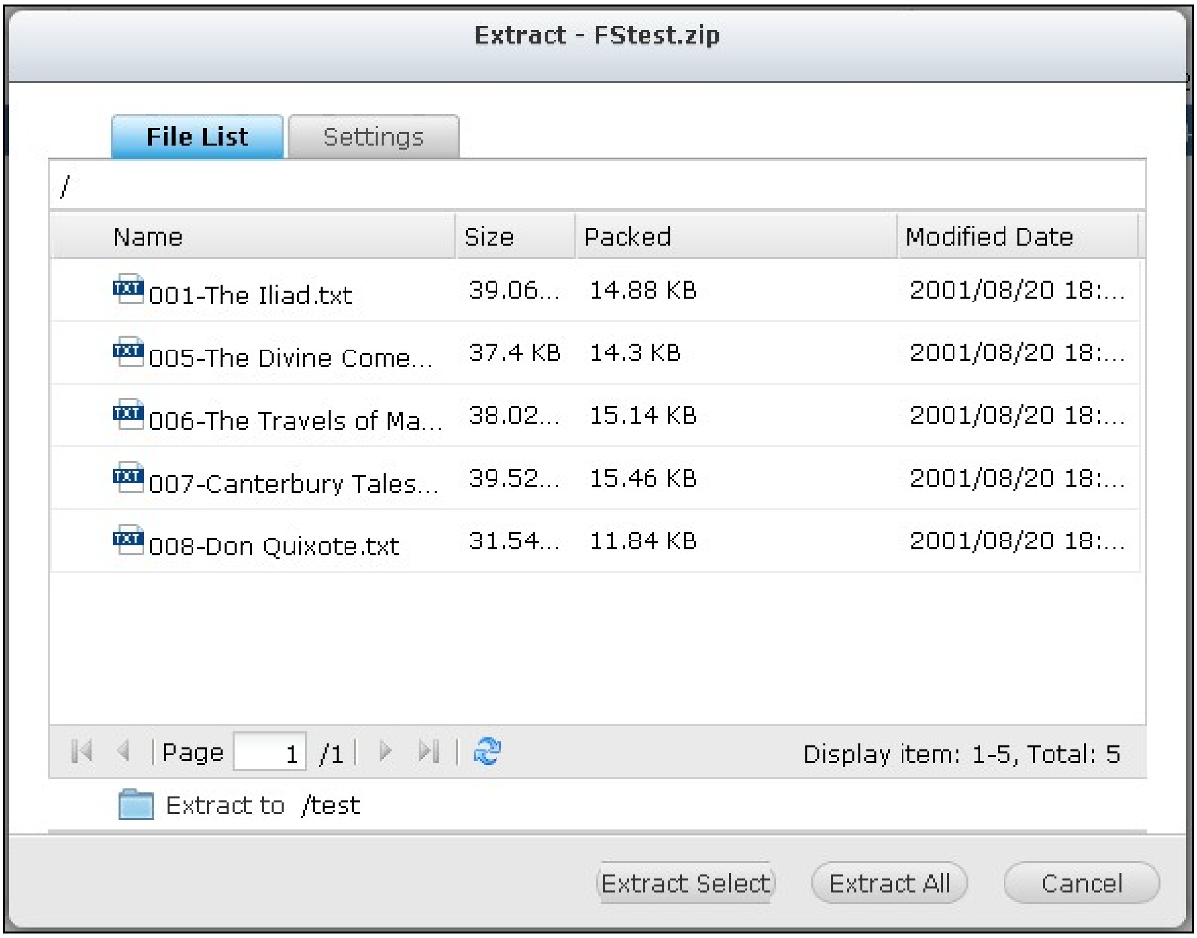
2. The built-in QNAP Media Viewer will open to play the file.

Extracting files

1. To extract a zipped file on the NAS, right click the zipped file and select “Extract”.



2. Select the files to extract and configure the extraction settings.



Name	Size	Packed	Modified Date
001-The Iliad.txt	39.06...	14.88 KB	2001/08/20 18:...
005-The Divine Come...	37.4 KB	14.3 KB	2001/08/20 18:...
006-The Travels of Ma...	38.02...	15.14 KB	2001/08/20 18:...
007-Canterbury Tales...	39.52...	15.46 KB	2001/08/20 18:...
008-Don Quixote.txt	31.54...	11.84 KB	2001/08/20 18:...

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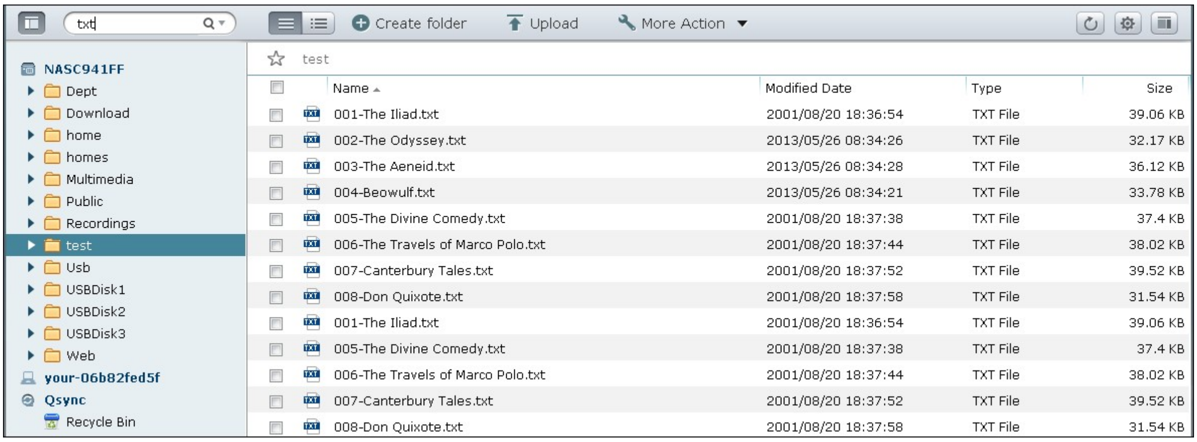
Display item: 1-5, Total: 5

Extract to /test

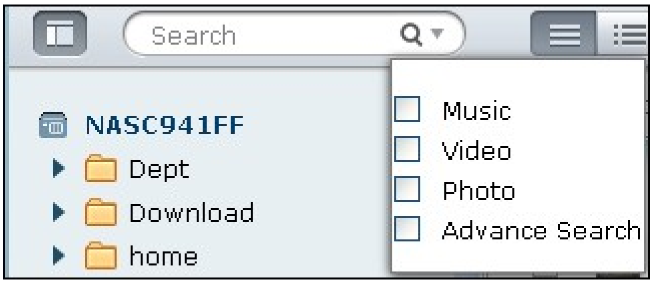
File/Folder search

The File Station supports smart search of files, sub-folders, and folders on the NAS. You can search a file or folder by all or part of the file or folder name, or by the file extension, for example, AVI, MP3.



Name	Modified Date	Type	Size
001-The Iliad.txt	2001/08/20 18:36:54	TXT File	39.06 KB
002-The Odyssey.txt	2013/05/26 08:34:26	TXT File	32.17 KB
003-The Aeneid.txt	2013/05/26 08:34:28	TXT File	36.12 KB
004-Beowulf.txt	2013/05/26 08:34:21	TXT File	33.78 KB
005-The Divine Comedy.txt	2001/08/20 18:37:38	TXT File	37.4 KB
006-The Travels of Marco Polo.txt	2001/08/20 18:37:44	TXT File	38.02 KB
007-Canterbury Tales.txt	2001/08/20 18:37:52	TXT File	39.52 KB
008-Don Quixote.txt	2001/08/20 18:37:58	TXT File	31.54 KB
001-The Iliad.txt	2001/08/20 18:36:54	TXT File	39.06 KB
005-The Divine Comedy.txt	2001/08/20 18:37:38	TXT File	37.4 KB
006-The Travels of Marco Polo.txt	2001/08/20 18:37:44	TXT File	38.02 KB
007-Canterbury Tales.txt	2001/08/20 18:37:52	TXT File	39.52 KB
008-Don Quixote.txt	2001/08/20 18:37:58	TXT File	31.54 KB

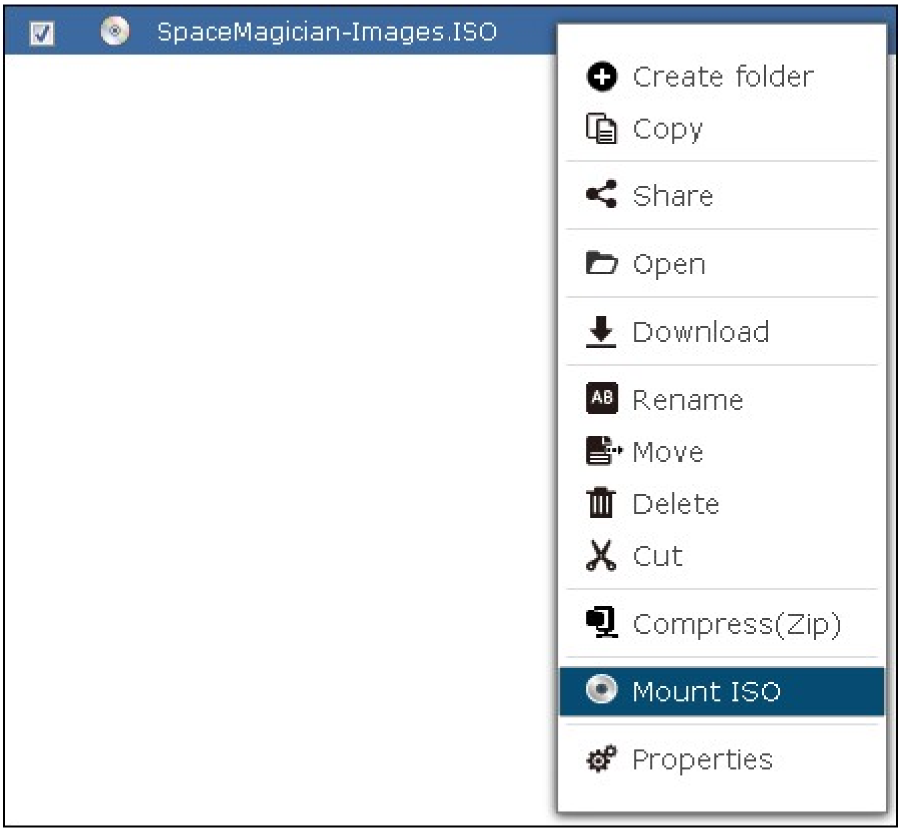
click the down arrow in the search box to reveal additional options. Check "Music", "Video", "Photo" to list corresponding files within the folder or specify detailed criteria in the advanced search (such as file size or type.)



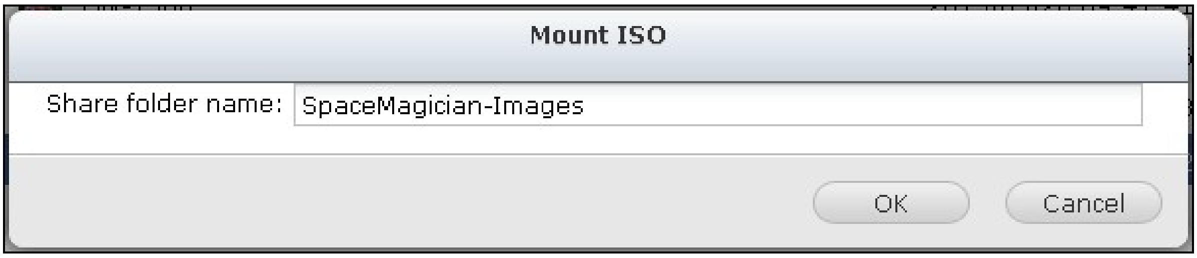
Mount ISO Shares

To mount an ISO file on the NAS as a shared folder, follow the steps below:

Locate the ISO file on the NAS. Right click the file and select "Mount ISO".

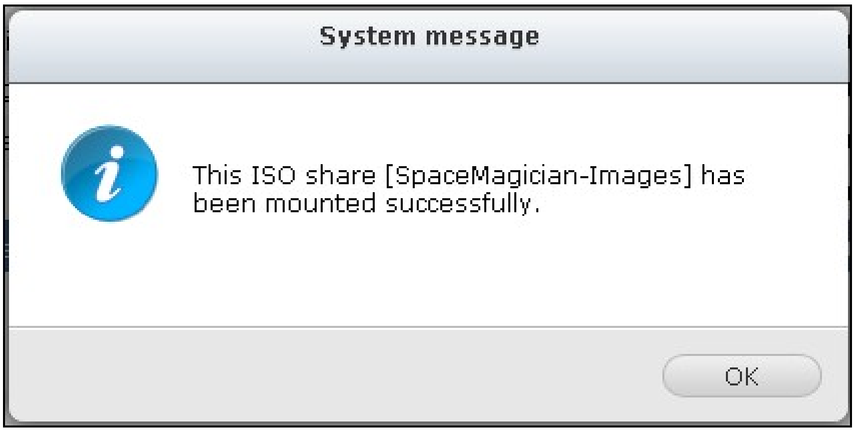


Enter the share name and click "OK".



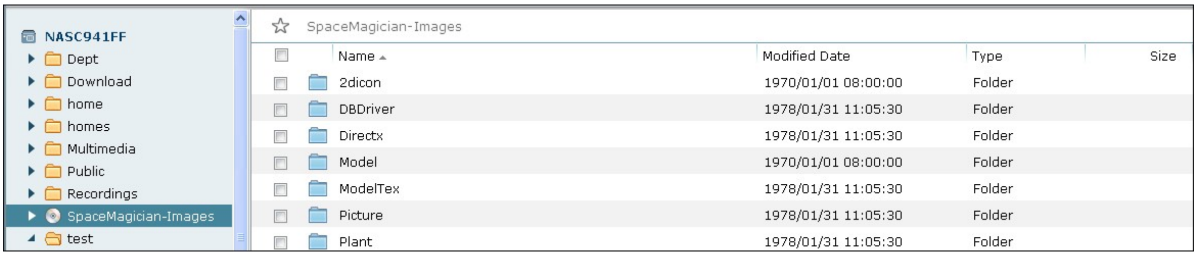
Share folder name: SpaceMagician-Images

Click "OK" to confirm.



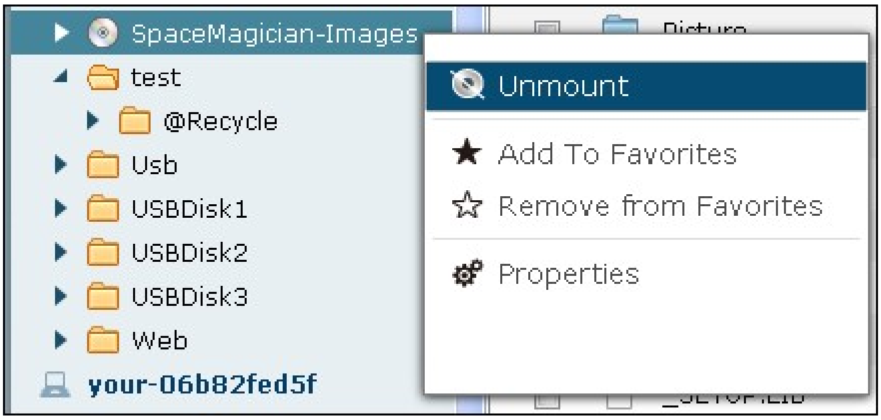
This ISO share [SpaceMagician-Images] has been mounted successfully.

The ISO share will appear on the folder list. You can access the contents of the ISO image file. You can login the NAS web interface with an administrator account and specify the access rights of the users in “Privilege Settings” > “Share Folders”.



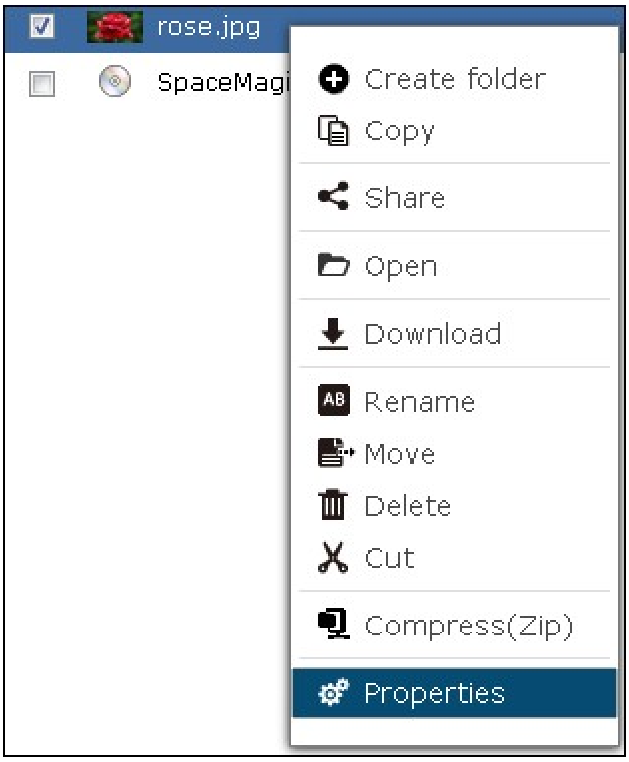
Name	Modified Date	Type	Size
2dicon	1970/01/01 08:00:00	Folder	
DBDriver	1978/01/31 11:05:30	Folder	
Directx	1978/01/31 11:05:30	Folder	
Model	1970/01/01 08:00:00	Folder	
ModelTex	1978/01/31 11:05:30	Folder	
Picture	1978/01/31 11:05:30	Folder	
Plant	1978/01/31 11:05:30	Folder	

To unmount the share, right click the folder name and select “Unmount”. Click “Yes” to confirm.



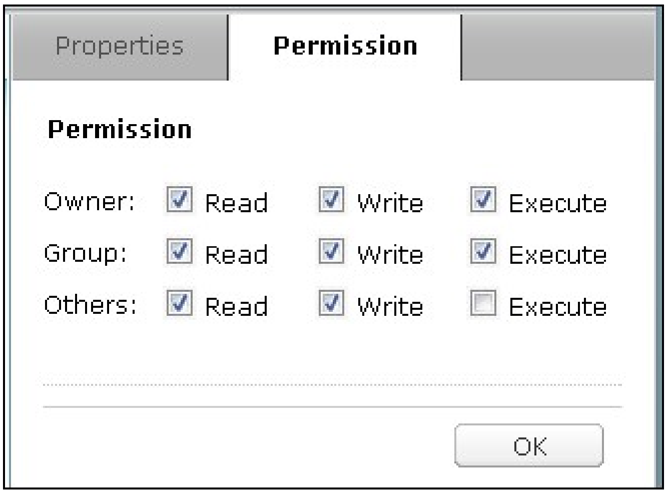
Set file/folder level permission

You can set file or folder level permissions on the NAS by the File Station. Right click a file or folder and select "Properties".



If the "Advanced Folder Permissions" option is disabled in "Privilege Settings" > "Shared Folder" > "Advanced Permissions", the following settings will be shown. Define the Read, Write, and Execute access rights for Owner, Group, and Others.

- Owner: Owner of file or folder.
- Group: Group owner of the file or folder.
- Others: Any other (local or domain member) users who are not the owner or a member of the group owner.



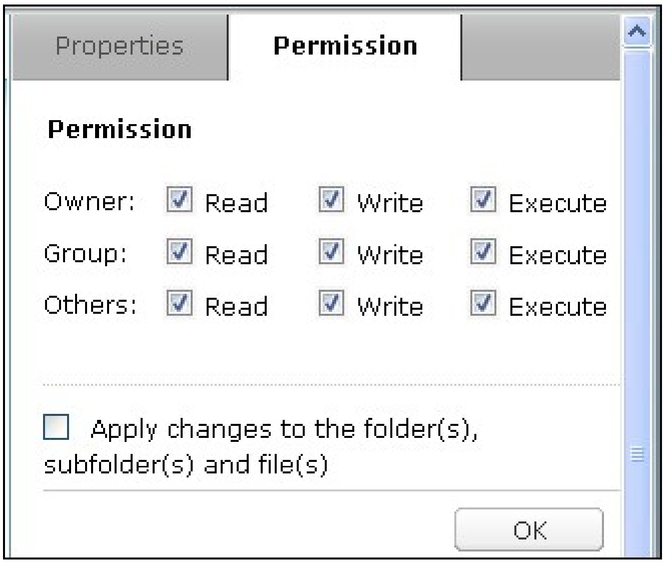
Permission

Owner: ☑ Read ☑ Write ☑ Execute

Group: ☑ Read ☑ Write ☑ Execute

Others: ☑ Read ☑ Write □ Execute

If a folder is selected, you can choose "Apply changes to folder(s), subfolder(s) and file (s)" to apply the settings to all the files and subfolders within the selected folder. Click "OK" to confirm.



Permission

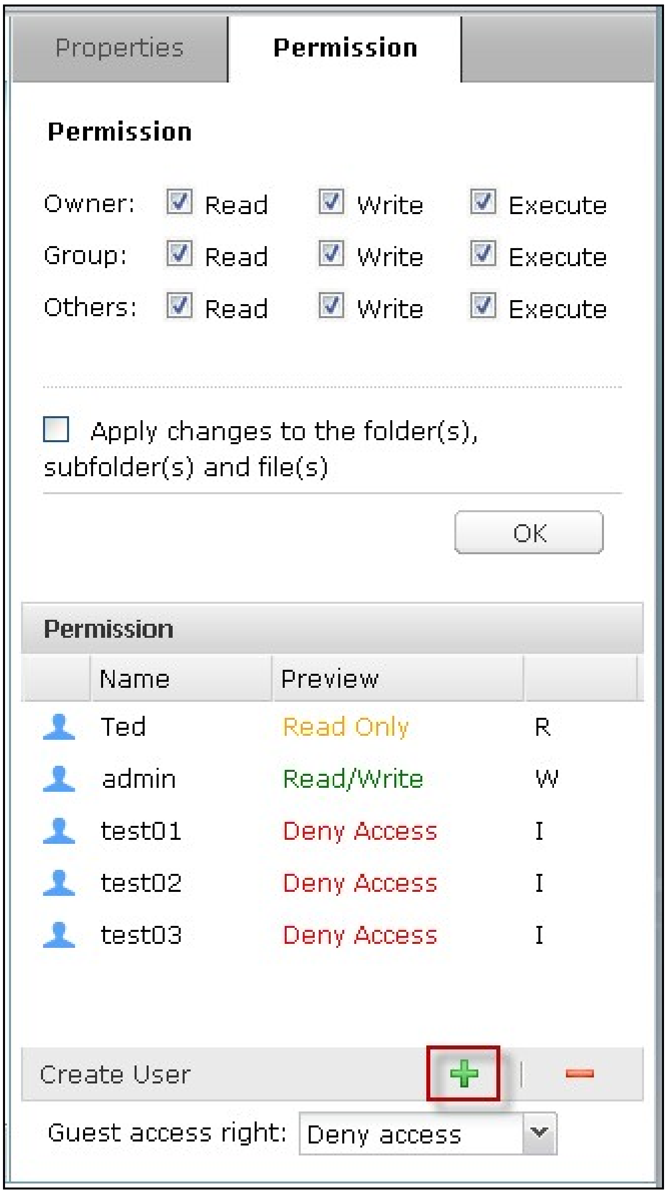
Owner: ☑ Read ☑ Write ☑ Execute

Group: ☑ Read ☑ Write ☑ Execute

Others: ☑ Read ☑ Write ☑ Execute

□ Apply changes to the folder(s), subfolder(s) and file(s)

If the "Enable Advanced Folder Permissions" option is enabled in "Privilege Settings" > "Shared Folder" > "Advanced Permissions", you will be able to specify the file and folder permissions by users and user groups. Click +.



Permission

Owner: ☑ Read ☑ Write ☑ Execute

Group: ☑ Read ☑ Write ☑ Execute

Others: ☑ Read ☑ Write ☑ Execute

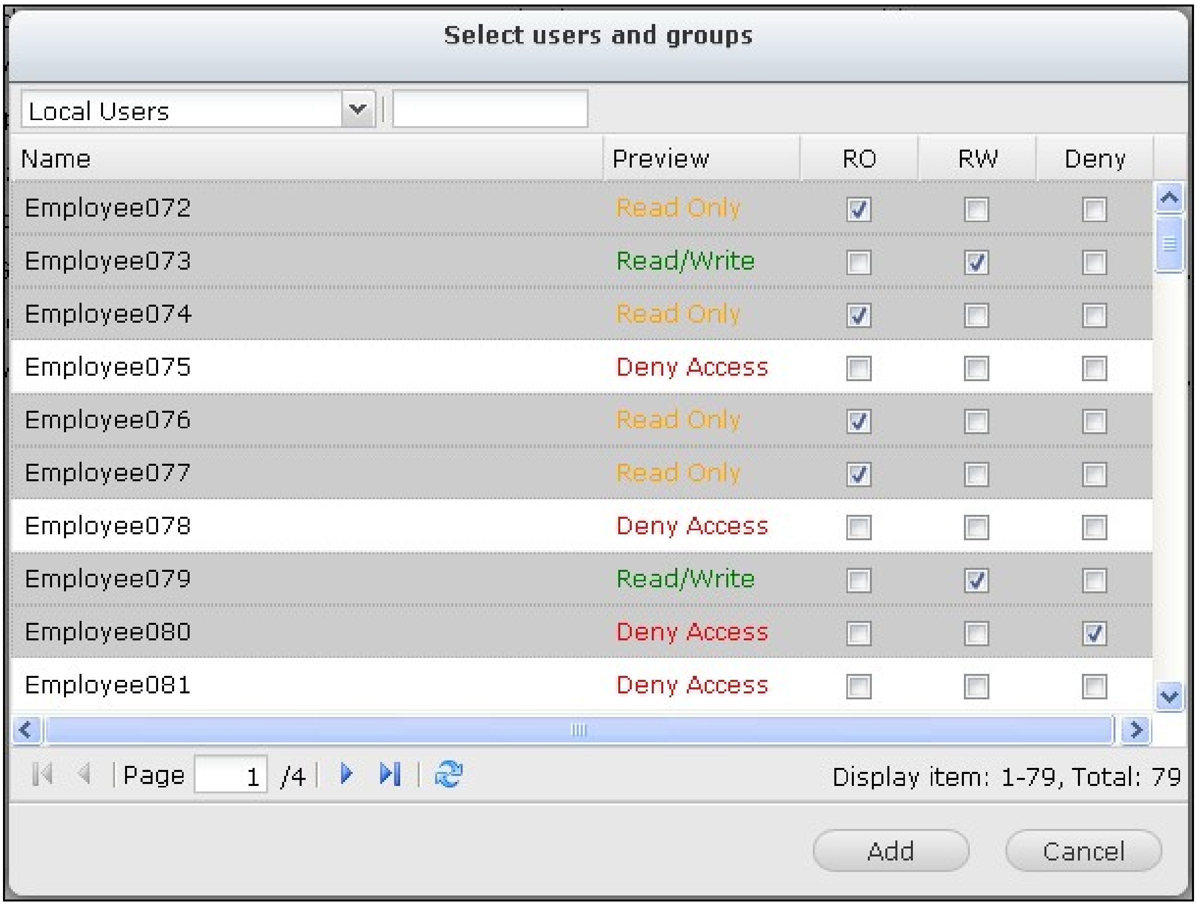
□ Apply changes to the folder(s), subfolder(s) and file(s)

Permission

	Name	Preview	
	Ted	Read Only	R
	admin	Read/Write	W
	test01	Deny Access	I
	test02	Deny Access	I
	test03	Deny Access	I

Guest access right: Deny access

Select the users and user groups and specify the Read and Write rights. Click “Add”.



Select users and groups

Local Users

Name	Preview	RO	RW	Deny
Employee072	Read Only	☑	□	□
Employee073	Read/Write	□	☑	□
Employee074	Read Only	☑	□	□
Employee075	Deny Access	□	□	□
Employee076	Read Only	☑	□	□
Employee077	Read Only	☑	□	□
Employee078	Deny Access	□	□	□
Employee079	Read/Write	□	☑	□
Employee080	Deny Access	□	□	☑
Employee081	Deny Access	□	□	□

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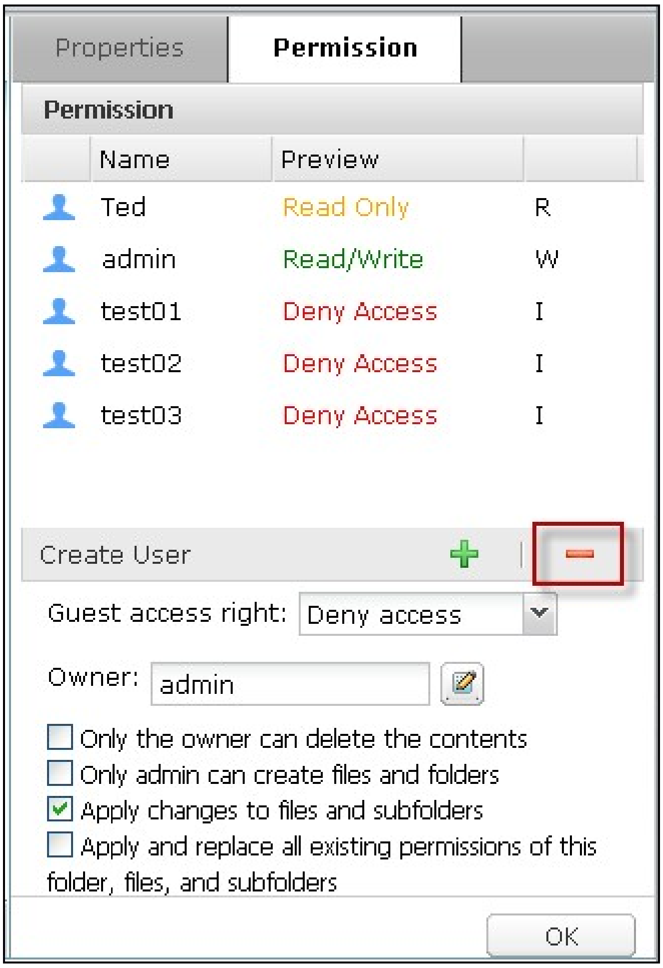
Display item: 1-79, Total: 79

To remove the permissions on the list, select the user(s) or user group(s) and click -.



Permission

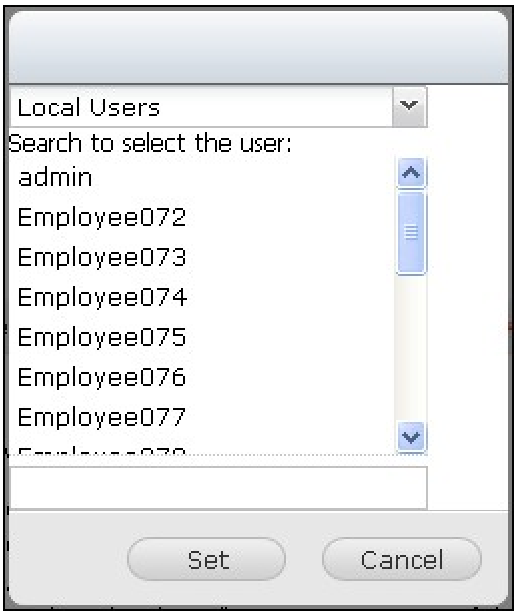
	Name	Preview	
👤	Ted	Read Only	R
👤	admin	Read/Write	W
👤	test01	Deny Access	I
👤	test02	Deny Access	I
👤	test03	Deny Access	I

Guest access right: Deny access

Owner: admin

□ Only the owner can delete the contents
□ Only admin can create files and folders
☑ Apply changes to files and subfolders
□ Apply and replace all existing permissions of this folder, files, and subfolders

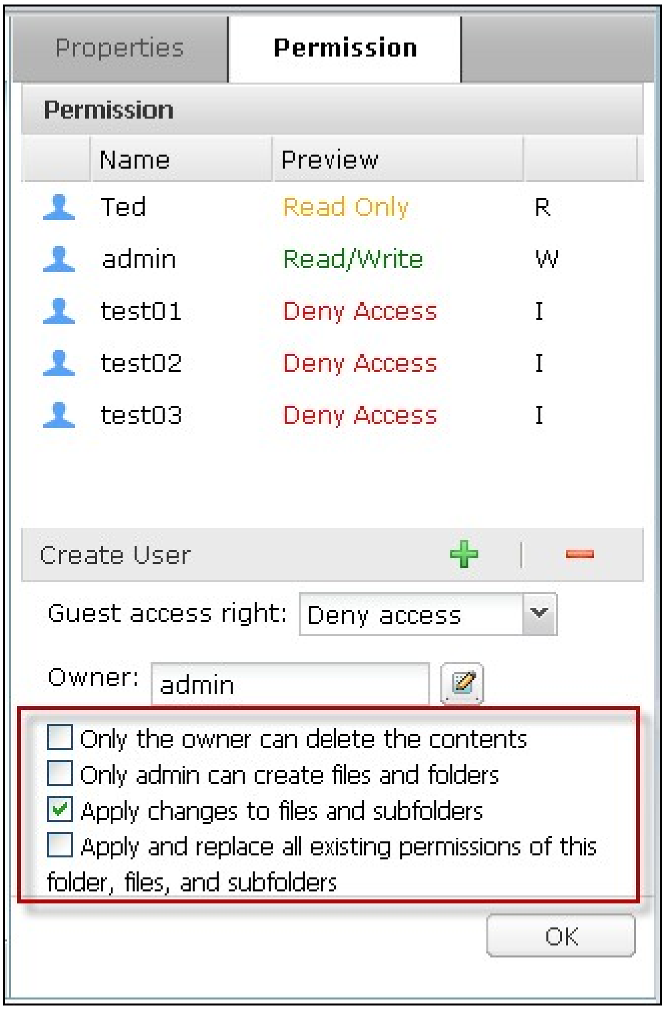
You can also define the file and folder owner by clicking ✎. Select a user from the list or search a username. Then click "Set".



Search to select the user:
admin
Employee072
Employee073
Employee074
Employee075
Employee076
Employee077

The following options are available for folder permission settings. You are recommended to configure folder permissions and subfolder permissions in "Privilege Settings" > "Shared Folders".

- Only the owner can delete the contents: When you apply this option to a folder, the first-level subfolders and files can be deleted only by their owner.
- Only admin can create files and folders: When you apply this option to a folder, only administrators can create files or folders.
- Apply changes to files and subfolders: Apply changed permissions settings except owner protection to all the files and subfolders within the selected folder. The option "Only the owner can delete the contents" will not be applied to subfolders.
- Apply and replace all existing permissions of this folder, files, and subfolders: Select this option to override all previously configured permissions of the selected folder and its files and subfolders except owner protection. The option "Only the owner can delete the contents" will not be applied to subfolders.



Name	Preview	
Ted	Read Only	R
admin	Read/Write	W
test01	Deny Access	I
test02	Deny Access	I
test03	Deny Access	I

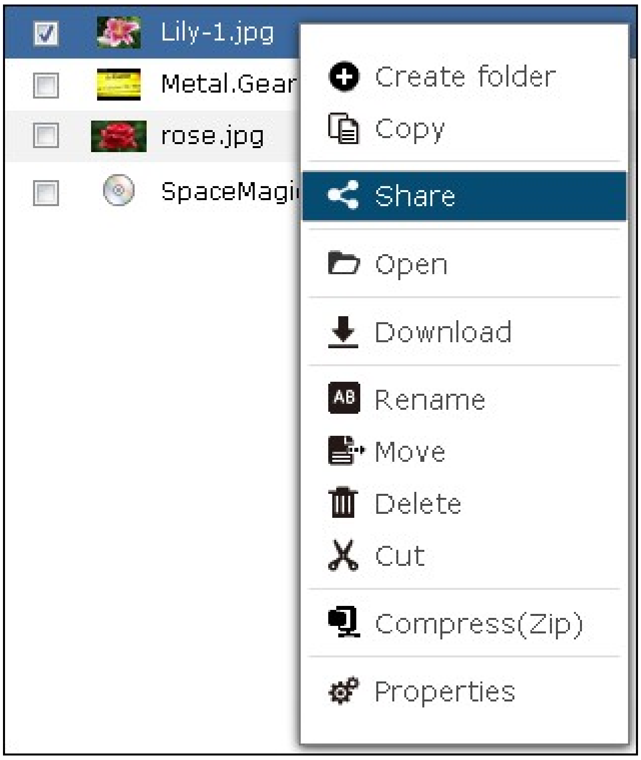
Guest access right: Deny access

Owner: admin

☐ Only the owner can delete the contents
☐ Only admin can create files and folders
☑ Apply changes to files and subfolders
☐ Apply and replace all existing permissions of this folder, files, and subfolders

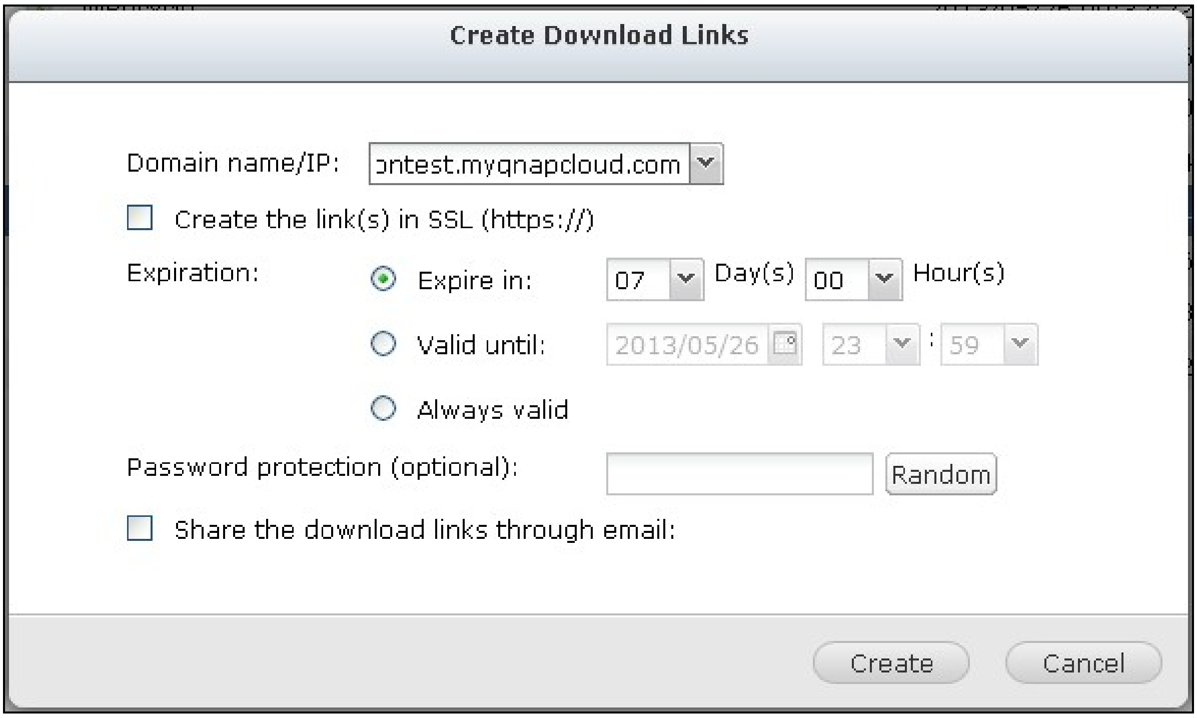
Sharing Files

To share the files on the NAS by the File Station, right click the file(s) and select "Share".



Note: This feature can only be used by admin.

Select the IP or domain name of the NAS. Select to create the link(s) in SSL (optional) and specify the expiration settings and enter a password (optional).



Create Download Links

Domain name/IP: ɔntest.myqnapcloud.com

□ Create the link(s) in SSL (https://)

Expiration: ● Expire in: 07 Day(s) 00 Hour(s)

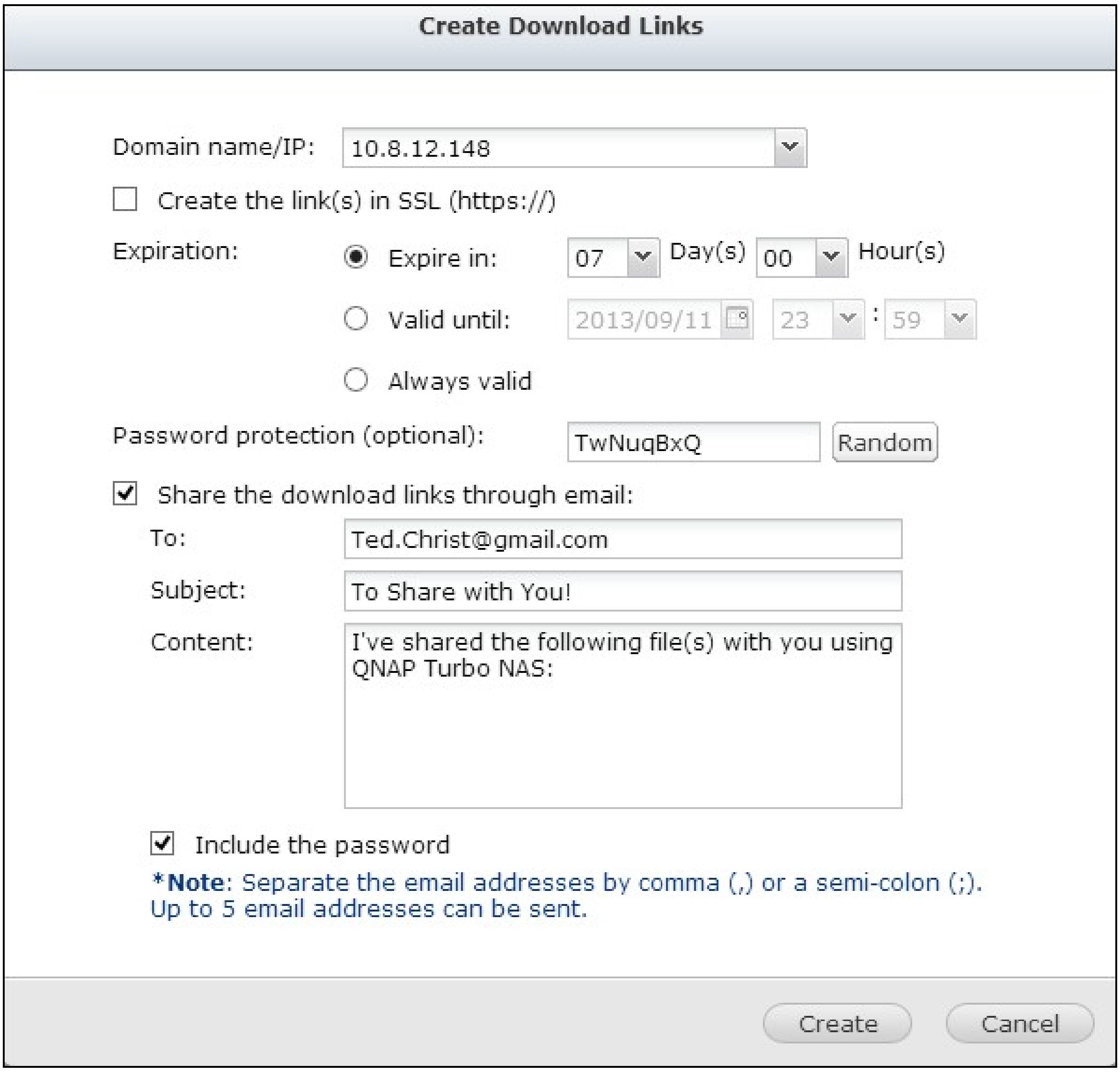
○ Valid until: 2013/05/26 23 : 59

○ Always valid

Password protection (optional):

□ Share the download links through email:

To share the links by emails, select “Share the download links through email” and enter the contents. Click “Create”.



Create Download Links

Domain name/IP: 10.8.12.148

□ Create the link(s) in SSL (https://)

Expiration: ● Expire in: 07 Day(s) 00 Hour(s)

○ Valid until: 2013/09/11 23 : 59

○ Always valid

Password protection (optional): TwNuqBxQ

☑ Share the download links through email:

To: Ted.Christ@gmail.com

Subject: To Share with You!

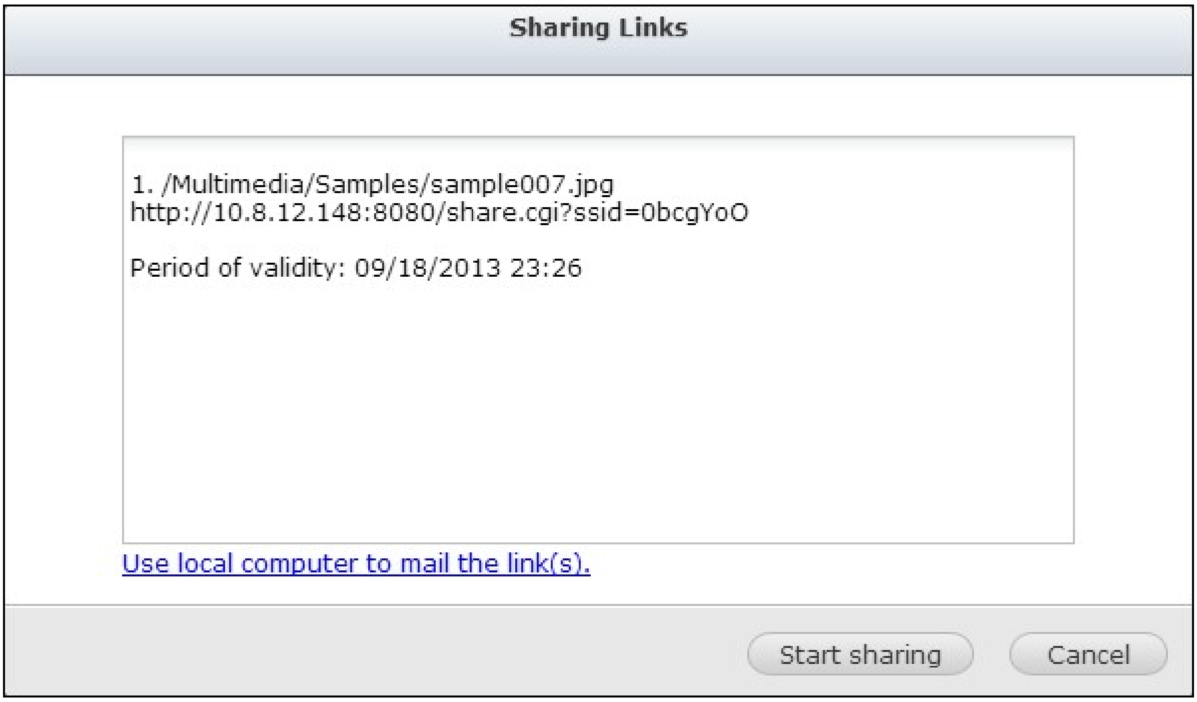
Content: I've shared the following file(s) with you using QNAP Turbo NAS:

☑ Include the password

***Note**: Separate the email addresses by comma (,) or a semi-colon (;). Up to 5 email addresses can be sent.

Note: To use this function, the mail server settings must be properly configured in "System Settings" > "Notification" > "SMTP Server".

Confirm the information and click "Start Sharing".



1. /Multimedia/Samples/sample007.jpg
http://10.8.12.148:8080/share.cgi?ssid=0bcgYoO

Period of validity: 09/18/2013 23:26

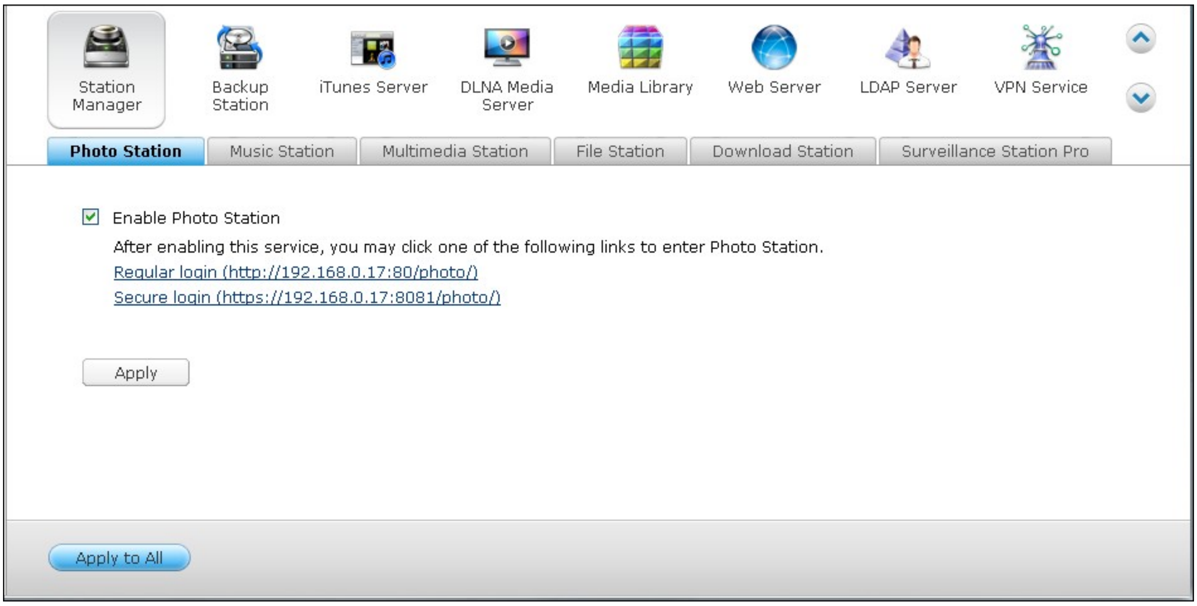
Note: Up to 1000 sharing links are supported.

8.4 Photo Station

The Photo Station is a web album for organizing and sharing photos and videos with your friends, family, and the world. After uploading files to the NAS, thumbnails will be automatically generated for quick preview. You can customize the album banner and the background music for slideshow viewing. Also, you can share the photos by email or publish them to popular social websites such as Facebook, Twitter, MySpace, etc.

Before you start

1. Enable the service in "Control Panel" > "Applications" > "Station Manager" > "Photo Station". Click the link on the page to directly access the Photo Station from the webpage.



☑ Enable Photo Station

After enabling this service, you may click one of the following links to enter Photo Station.

Regular login (http://192.168.0.17:80/photo/)

Secure login (https://192.168.0.17:8081/photo/)

Note: The option "Show the photos of Sharing Management on the login screen", once enabled, will show a photo album on the NAS login page, and other users can directly click that album on the login page to view photos contained with that album as a guest. For details on this option, please refer to the chapter on Station Manager 95.

2. Upload or copy videos or pictures to the designated media folders and scan them using the Media Library before launching the Photo Station (if this is the first time the Photo Station is used.) For details on media folders, please refer to the

chapter on Media Library 439.

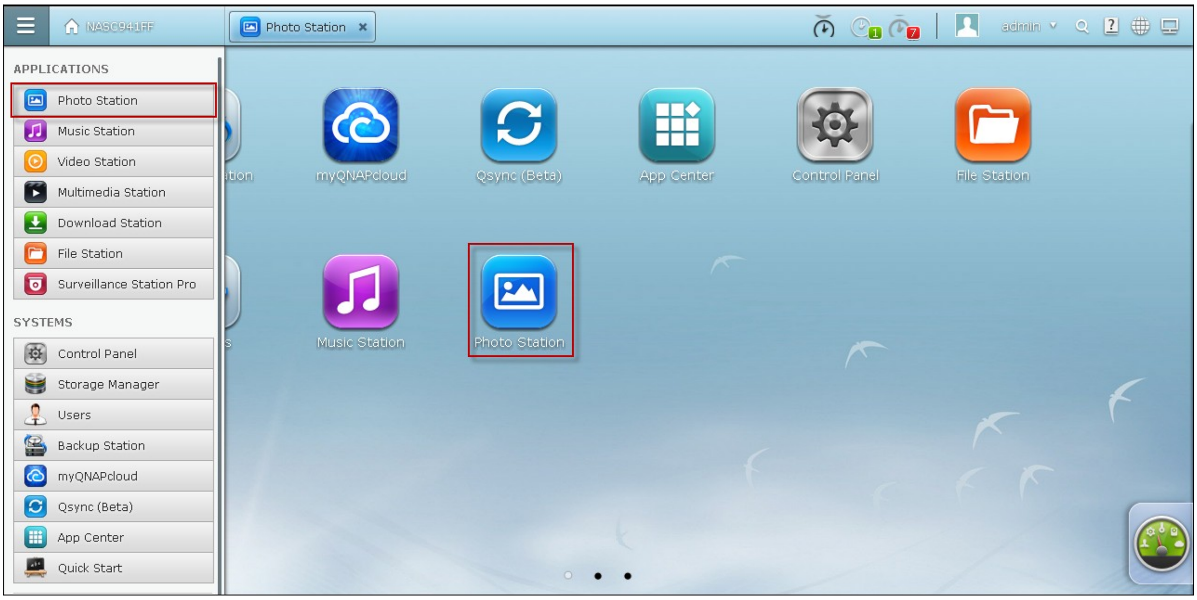
The Photo Station supports the following file format:

Images	BMP (Intel-based NAS only), RAW, GIF, PNG, JPG, and JPEG
Video	FLV and H.264 (AAC)

Tips on file upload:

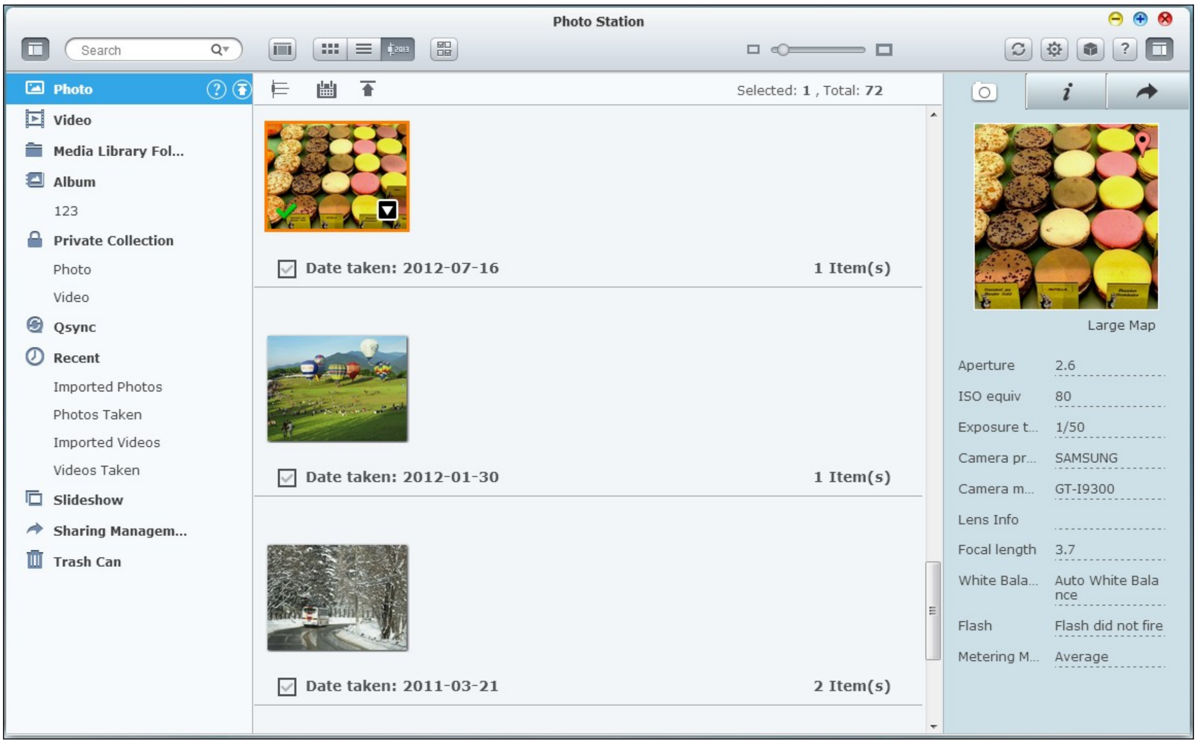
- The maximum size of an image file is 2GB.
- The maximum size of multiple files that can be uploaded at a time is 2GB.

3. Launch the Photo Station from the Main Menu or the Photo Station shortcut on the Desktop or login directly to the Photo Station by keying in the URL provided in the Station Manager into a web browser ("Control Panel" > "Applications" > "Station Manager" > "Photo Station").



Note:

- The admin login credential of the Photo Station is the same as that of the NAS administrator.
- To show photo albums on the NAS login page, check "Show the photos of sharing management on the login screen" on the Station Manager ("Control Panel" > " Applications" > "Station Manager" > "Photo Station").



Selected: 1 , Total: 72

☑ Date taken: 2012-07-16 1 Item(s)

☑ Date taken: 2012-01-30 1 Item(s)

☑ Date taken: 2011-03-21 2 Item(s)

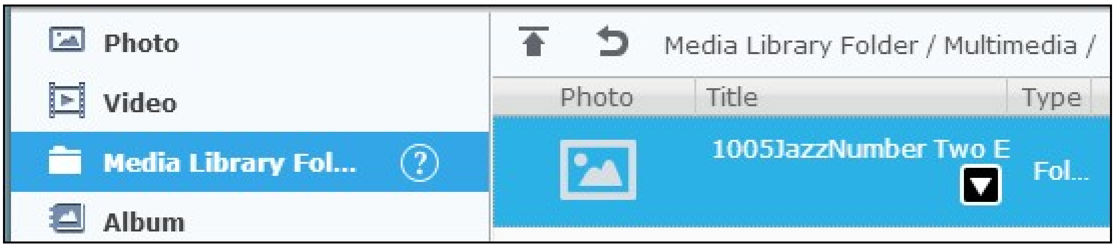
Aperture	2.6
ISO equiv	80
Exposure t...	1/50
Camera pr...	SAMSUNG
Camera m...	GT-I9300
Lens Info	
Focal length	3.7
White Bala...	Auto White Bala nce
Flash	Flash did not fire
Metering M...	Average

Menu Bar

Icon	Description
Search 🔍	Search photo and video files in the Media Library by title, photo date, tag, rating, or color label.
▦ ☰	Switch between the thumbnail browsing mode (▦) and detail browsing mode (☰) to display the photos and video thumbnails.
2013	Display photos or videos as timeline. Click ⊢ to organize photos or videos chronically as timeline and 📅 to list photos or videos by date.
⟳	Refresh the current page.
⚙	Set media folders to view your photos/videos.
■	Bring up the Media Folder page in the Media Library.

Left Panel

- Photo: List all photos from the media folders defined in the Media Library. Click ⤒ or ⤒ to upload photos from local PC. A new folder named with the date files are uploaded will be created under the "Multimedia" folder to store your uploaded files. A virtual album named using the date will be created as well.
- Video: List all videos from the media folders defined in the Media Library. Click ⤒ or ⤒ to upload videos from local PC. A new folder named with the date files are uploaded will be created under the "Multimedia" folder to store your uploaded files.
- Media Library Folder: List all photos and videos by folders defined in Media Library. click a folder in the list to enter its next level, ↩ to go back one level up (or click the folder directly in the path on top to go straight to that folder.)



Note:

- The folders "Multimedia" and "Home Folder" are set as the media folder for photos, pictures and videos by default.
- Please note that the "Multimedia" and "Download" folders are public folders accessible to all users while "Home Folder" can only be accessed by its owner (users for whom the "Home" folder is created) and NAS administrators. For your private photos and videos reserved only to yourself, please consider storing them only in the "Home Folder".
- For configuration on media folders, please refer to the chapter on Media Library 439. For user setup and configuration, please refer to the "User" section in the chapter on Privilege Settings 308.
- If the photos or videos uploaded do not show up in the Photo Station, please scan the Media Library and wait until the scan is finished. For details on the scan, please refer to the chapter on Media Library 439.

- Album: List all virtual albums. Click ⊕ to add an album. Note that all entries listed under an album are only links to the physical files. This can effectively conserve your NAS storage space. Right click an album to rename or to download that album. Click ⊗ to delete an album.
- Private Collection: the "Photo" under "Private Collection" lists all photos in the "Home" folder, while the "Video" lists all videos in the "Home" folder. Click ⊕ to add an album. Note that, unlike album, all entries listed under an album are physical files. So, when a file is dragged and dropped to the album under "Private Collection", that file is moved to that album. Right click an album to rename, download, remove, or add it to sharing management. Click ⊗ to delete an album.
- Recent: Include photos and videos recently imported (within a month) from local device or taken with a camera or recording device.
- Slideshow: List all slideshows. Click ⊕ to add a slideshow. Drag and drop photos to

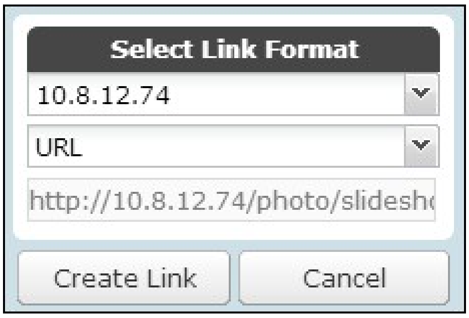
add them to a slideshow. Right click a slideshow to rename or download that slideshow. Click ⊗ to delete a slideshow. click a slideshow and then ▶ on top to play that slideshow.

- Sharing management: List all photos, videos, albums and slideshows already shared using the sharing feature in the right panel. Right click an entry, a menu will show up and choose to download, email, publish and share that entry from the menu (refer to the Sharing feature in the right panel later in this chapter for details). Click ⊗ to delete a slideshow.
- Trash Can: All photos and videos deleted can be found here and right click the deleted item in the Trash Can to recover or permanently delete them. Note that only deleted physical files (instead of virtual links) will show up in the trash can.

Right Panel and Photo/Video Sharing Management

- EXIF (📷): Review photo/video EXIF information and photos can be geotagged here.
- Info (i): Edit and browse photo/video details, tags and descriptions.
- Sharing (➦): Drag files to this area and share them via a link. There are three methods the links can be shared:

1. Email (✉): Share a link via email. Specify the sender, recipient, subject and message body of the email and click "Send" to send the email. Make sure your email account is properly configured. Go to "Control Panel" > "System Settings" > "Notifications" > "SMTP Server" for email configuration.
2. Social Sharing (👤): Share a link with selected files on social networking sites. Specify the subject and message body and click the social networking site icon to share.
3. Link (🔗): Share a link by directly pasting it into an email or instant message. Under "Select Link Format", select the DDNS name, LAN IP or WAN IP address (note that the myQNAPcloud.com DDNS name is only available after it is registered in myQNAPcloud. Please refer to the chapter on myQNAPcloud Service 576 for details) and HTML format (click to choose a URL link, HTML code, vB Forum code or Alt Forum code) from the drop down menu. Click "Create Link", specify the name of the album displayed on the page seen as recipients open the link. Copy and paste the URL link in the dialog window to your preferred applications.



Select Link Format

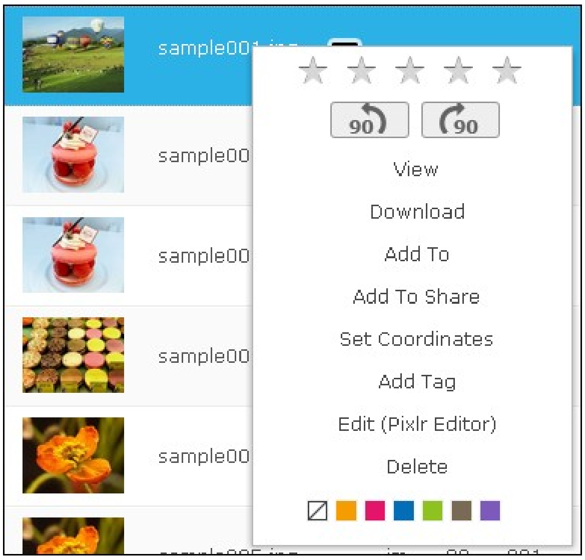
10.8.12.74

URL

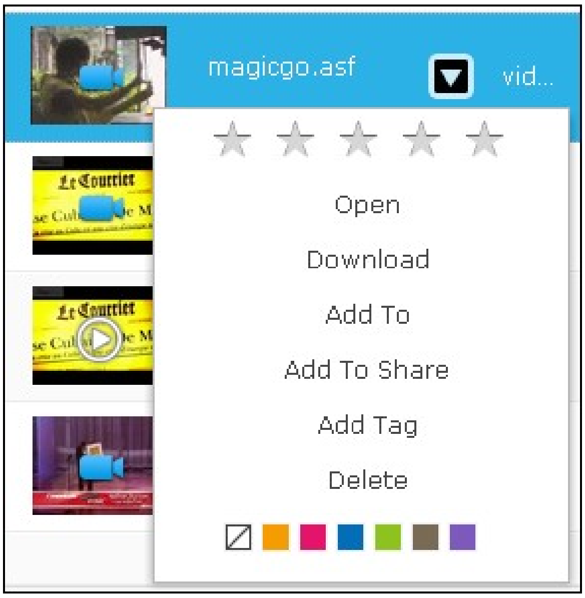
http://10.8.12.74/photo/slidesh

Photo and video operations

Right click a photo or video, a drop down menu will show up, and users can choose to perform a desired action from the list.



Photo



Video

Operation	Description
☆ ☆ ☆ ☆ ☆	Rate the photo.
90↶ ↷90	Rotate the photo 90 degrees clockwise or counter-clockwise.
View	Switch to the viewing mode.
Open	Switch to the viewing mode.
Download	Download the photo.
Add to	Add the photo to an album, "Private Collection", "Sharing Management" or "Slideshow".
Add to Share	Add the photo to the "Sharing Management" in the right panel.
Set Coordinates	Set GPS information of a photo.
Add Tag	Add a tag to the photo.
Edit	Edit the photo.
Delete	Delete the photo.

▨ 🟧 🟥 🟦 🟩 🟫 🟪	Color-label the photo.

To tag, rate or color label multiple photos or videos, first click ⊞ on top of the screen or hold the Ctrl key on the keyboard, select your desired photos or videos and right click the photos or videos to perform desired actions.

After photos or videos are tagged, rated, or color labeled, they can be searched by their rating, color label or tag in the search box.

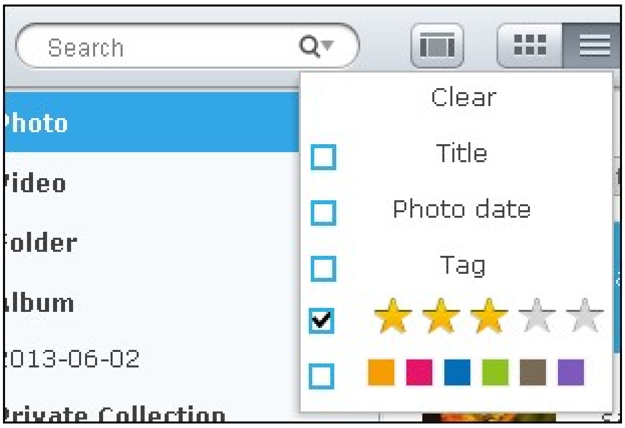


Photo and video viewing mode

Double click a photo to switch to the viewing mode.

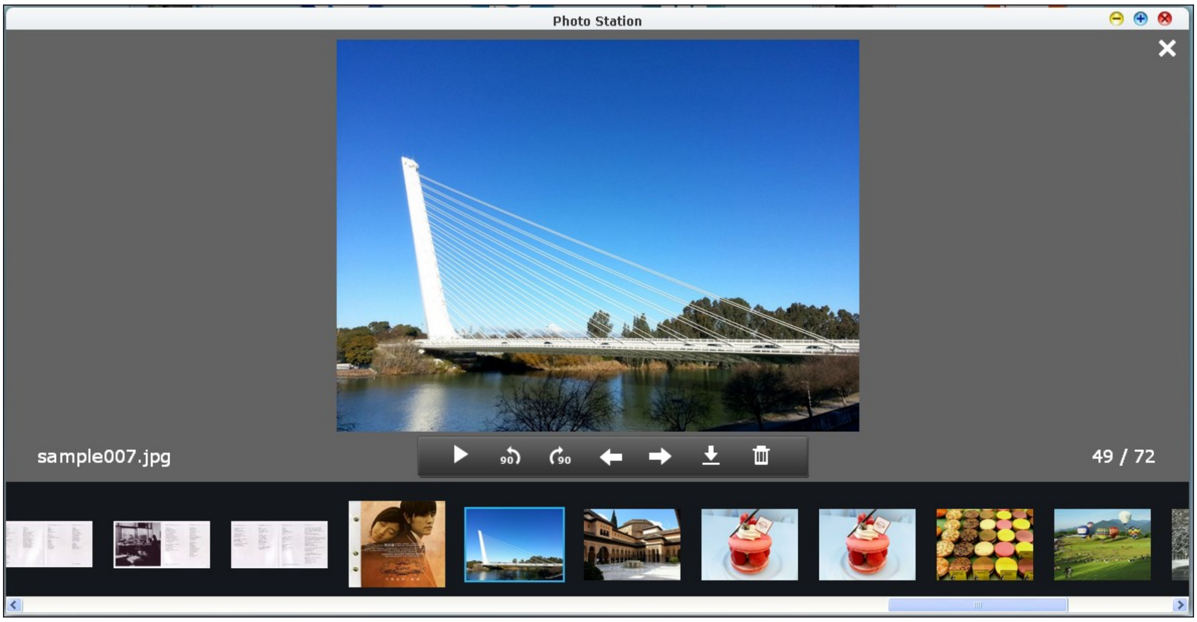
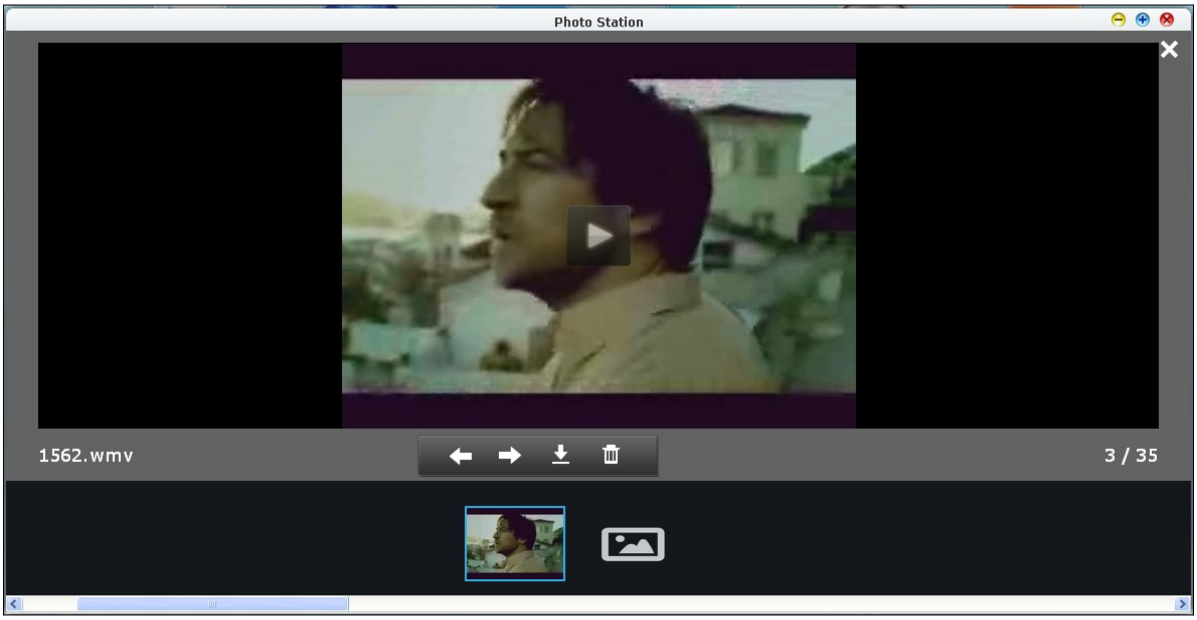


Photo viewing mode



Video viewing mode

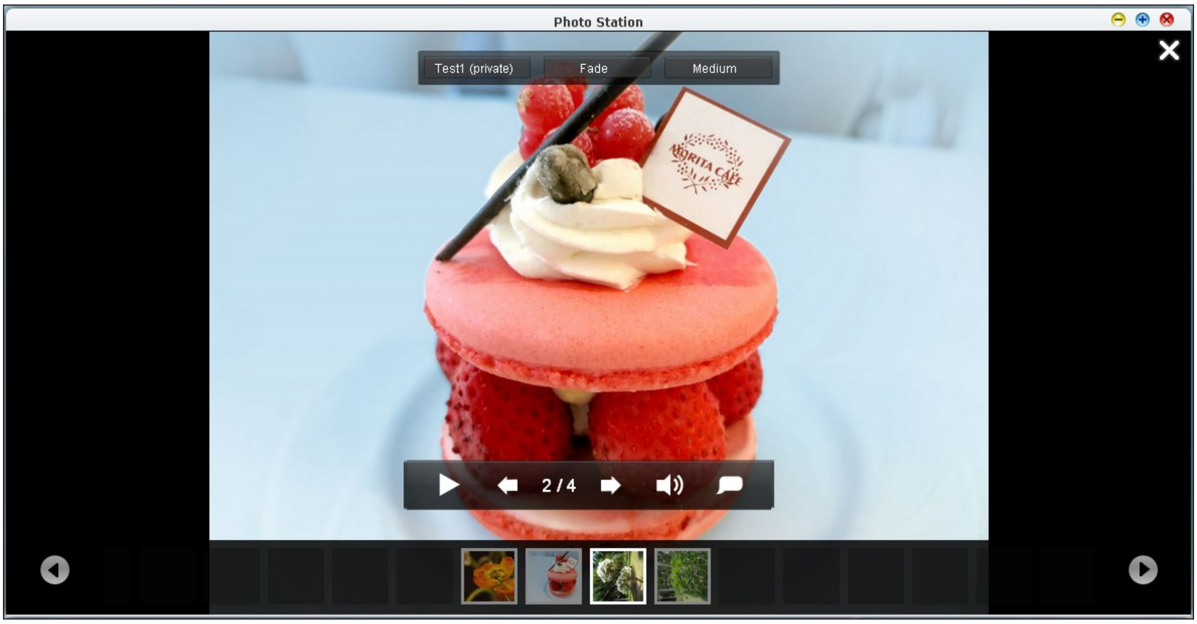
Use the buttons on the menu bar for viewing operations.

Icon	Description
▶	Auto play photos or play a video.

↺ 90	Rotate the photo counter-clockwise by 90 degrees (for photos only.)
↻ 90	Rotate the photo clockwise by 90 degrees (for photos only.)
←	Play the last photo or video.
→	Play the next photo or video.
⤓	Download the photo or video.
🗑	Delete the photo or video. Please note that the photos or videos deleted in the viewing mode will first be marked with an "X" on that photo or video (✖) and only deleted as you exit the viewing mode. To unmark a photo or video, first select the marked photo or video and click 🗑 again.
✕	Switch back to the browsing mode.

Playing slideshows

Select an album or slideshow and click ▶ to switch to the viewing mode.



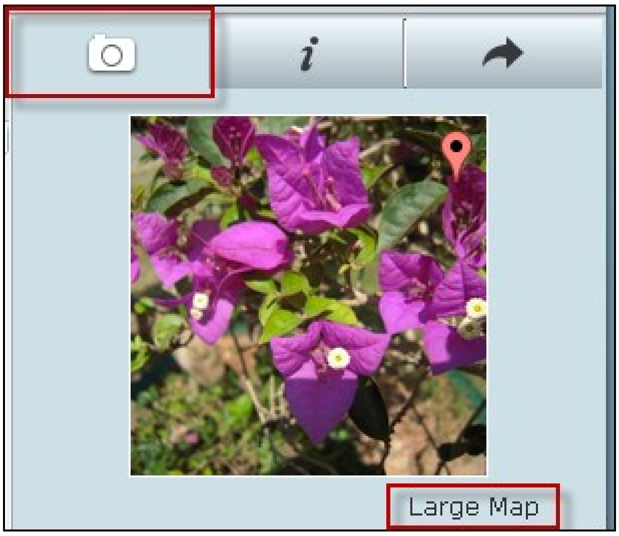
Use the buttons on the menu bar for slideshow or album operations.

Icon	Description
▶	Play the slideshow or album.
⬅	Go to the last slide.
➡	Go to the next slide.
🔊/🔇	Turn the background music on (🔊) or off (🔇).
💬	Show the photo title.
✕	Switch back to the browsing mode.
Test1 (private)	Switch between different playlists defined in the Music Station (from the "My Playlist" in the left panel.) Please refer to the chapter on Music Station 638 for details.
Fade	Set a different slide transition effect.

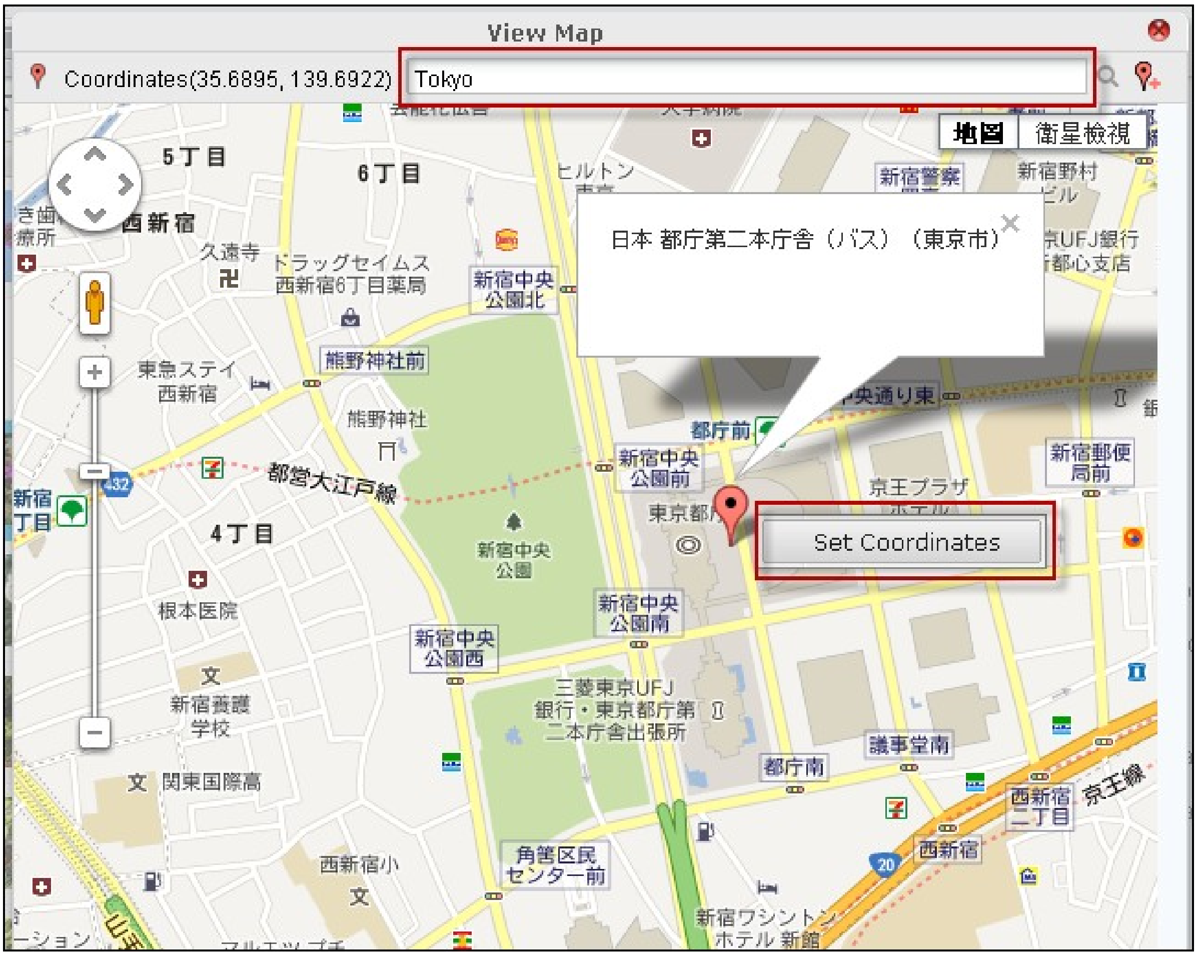
	Set the slide speed.

Geotagging photos

To geotag a photo, first select a photo, click “Large Map” under the EXIF tab.



Enter the name of the location in the search bar on top and hit the Enter key in your keyboard. Right click the map and click “Set Coordinates”.



Media Library and Privacy Settings

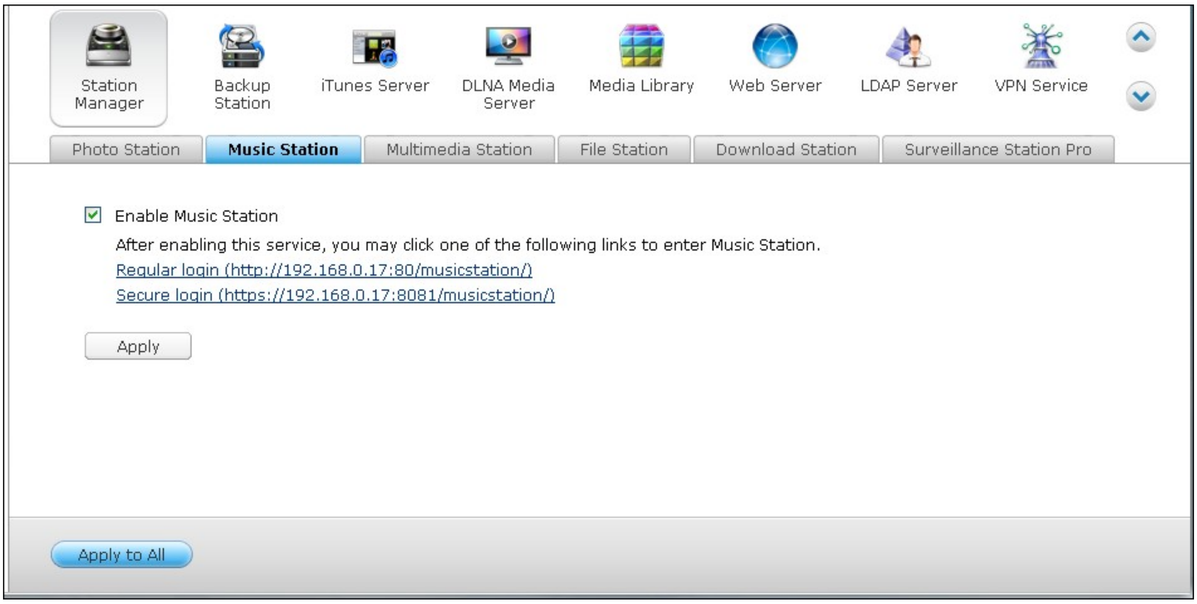
Photo and video files in the Photo Station are listed according to shared folder privileges (media folders) and settings in the Media Library. Photos and videos stored in the media shared folders are only visible after the files are detected and scanned by the Media Library. Users can store the files in their /home folder to hide them from other users. For details on media folder settings, please refer to the chapter on Media Library 439.

8.5 Music Station

The Music Station helps you create a personal music center on the cloud. This web-based application is designed for users to play music files on the NAS or a media server, listen to thousands of Internet radio stations using a web browser and share your music collections with your friends and families. Your music collection stored on the Turbo NAS is automatically organized into categories for easy browsing.

Before you start

1. Enable the service in "Control Panel" > "Applications" > "Station Manager" > "Music Station". Click the link on the page to directly access the Music Station from the webpage.



☑ Enable Music Station

After enabling this service, you may click one of the following links to enter Music Station.

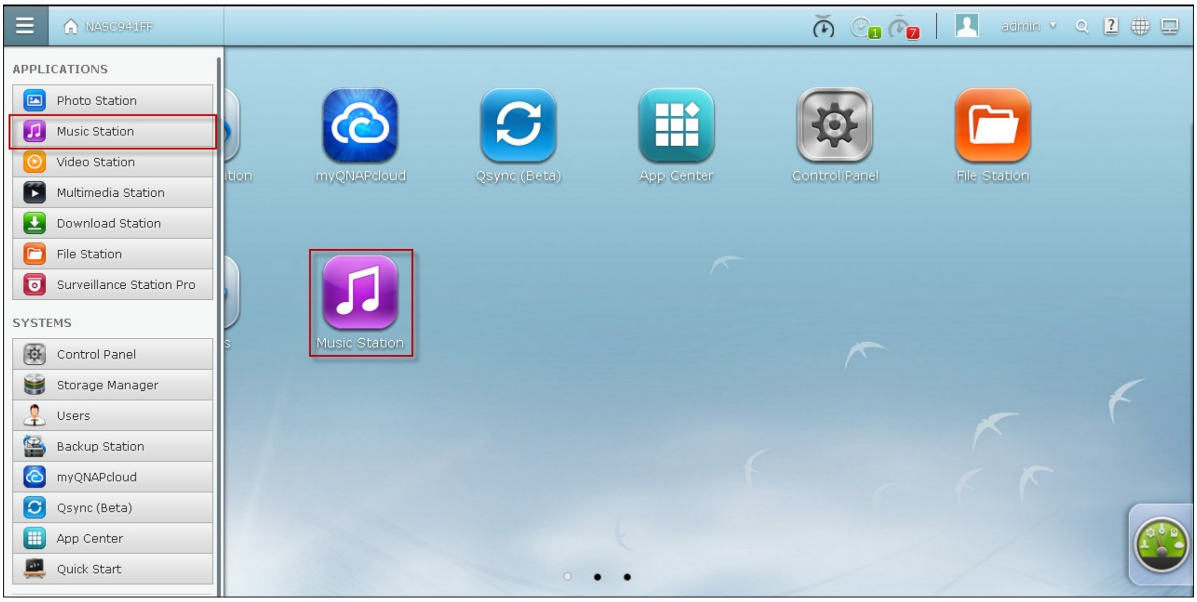
Regular login (http://192.168.0.17:80/musicstation/)

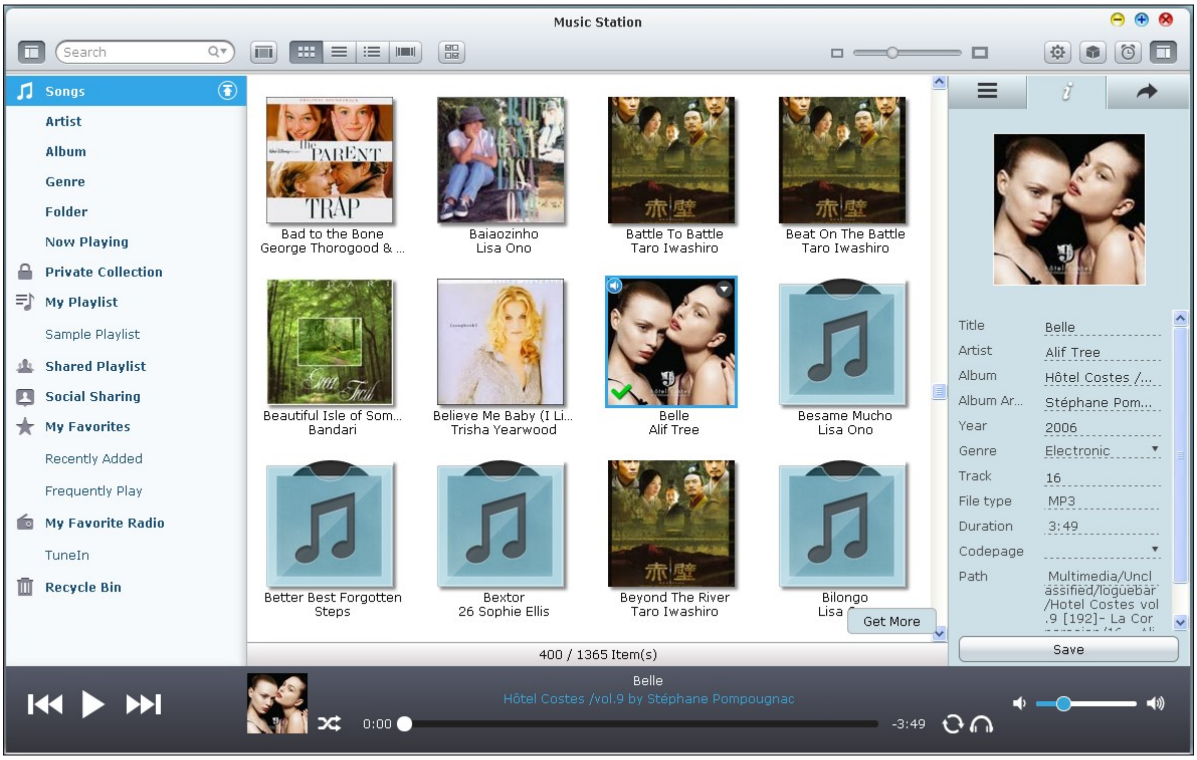
Secure login (https://192.168.0.17:8081/musicstation/)

Note:

- The admin login credential of the Music Station is the same as that of the NAS administrator.
- Users are recommended to upload or copy music files to the media shared folders and scan them using the Media Library if this is the first time the Music Station is launched. For details on media folders, please refer to the chapter on Media Library 439.

2. The Music Station can be launched from the Main Menu or the Music Station icon on the Desktop.





Title	Belle
Artist	Alif Tree
Album	Hôtel Costes /...
Album Ar...	Stéphane Pom...
Year	2006
Genre	Electronic
Track	16
File type	MP3
Duration	3:49
Codepage	
Path	Multimedia/Unclassified/loguebar/Hotel Costes vol.9 [192]- La Cor

Menu Bar

Icon	Description
Search 🔍	Search music files in the Media Library by artist, album, or title.
▦ ☰ ☷ ▥	Switch between the thumbnail browsing mode (▦), detail browsing mode (☰), list browsing mode (☷), and cover flow browsing mode (▥) to list the songs.
⚙	Set privileges on file access, NAS audio output, Internet radio, shared playlist and social sharing for users created in "Privilege Settings" > "Users".
📦	Bring up the "Media Folder" page under the Media Library.
⏰	Set the music alarm.

Player

Icon	Description
▶	Play.
⏸	Pause.
⏮	Play the previous item.
⏭	Play the next item.
🔀	Shuffle on/off.
🔁	No repeat, repeat once, or repeat all.
🎧	Playing mode: • Streaming Mode: Stream the music files to the computer or the device and play them using a web browser.
🔈 ━●━━━ 🔊	Adjust the volume.

Left Panel

- Songs, Artist, Album, Genre, and Folder: All authorized music files are listed here for users by the following categories: all songs, artist, album, genre and folder. Click ⤒ next to Songs to upload songs from your PC. All imported contents are saved in the "/Multimedia" shared folder named with date.
- Now Playing: Songs in the "Now Playing" list can be reordered by drag-and-drop, or removing songs from the list.
- Private Collection: Personal music files in the "/home" folder are listed here. The music files belong only to the user that is currently logged in.
- My Playlist: Playlists can be created, managed, and deleted here. Up to 200 playlists can be created, and up to 600 items can be included in each playlist. To create a playlist, click⊕. To add items to a playlist, simply drag and drop music files to the list. Right click a playlist to rename or delete it, or add it to "Now Playing" and click ⊗ next to the playlist.
- Public playlist: All users can view public playlists and play music from them. Authorized users can create, manage, and delete public playlists. A maximum of 200 public playlists can be created, and up to 600 items can be included in each public playlist.
- Sharing management: All shared music files on the right column are listed here. Users can edit or re-share them.
- My Favorites: All songs rated at least 1 star are listed here. All un-starred songs will be removed from here. To rate a song, switch to the detail, list, or cover flow browsing mode and click the star(s) under rating.
- Recently Added: Songs recently added to the Media Library are listed here.
- Frequently Played: Songs most frequently played are listed here.
- My Favorite Radio: User's favorite Internet radio stations can be added by entering the radio URL or by searching TuneIn Radio. A maximum of 1024 items are supported. Please note that the type of files the radio station URL points to must be MP3.
- TuneIn: Users can browse and play Internet radio stations streamed by TuneIn.
- Trash Can: All deleted music files can be found in here and permanently deleted or restored. Trash Can is always enabled.

Note:

- Characters not allowed for "My Playlist" and "Public Playlist" include: / | \ : ? <

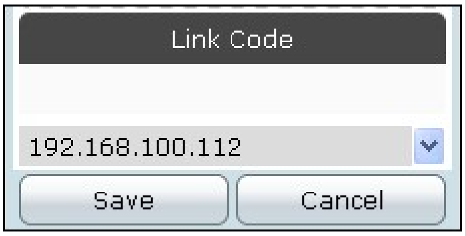
> * " ' and $.

- Entries under "Recently Added" are listed based on the time they are scanned by the Media Library.
- The Music Station only supports the following file formats: MP3, OGG, WAV, AIFF, AU, FLAC, M4A and APE.

Right Panel and Music Sharing Management

- Lyrics (≡): Add lyrics to a song and browse them here.
- Info (i): Edit and browse music details here.
- Sharing (↷): Drag music files to the area under "Songs" to share them as a link. There are three methods links can be shared:

1. Email (✉): Share the link via email. Specify the subject and message body of the message and click "Send" to send the email. Make sure your email account is properly configured. Go to "Control Panel" > "System Settings" > "Notification" > "SMTP Server" for email configuration.
2. Social Sharing (👤): Share a link with selected songs on social networking sites. Specify the subject and message body and click the social networking site to share.
3. Link (🔗): Share a link by directly pasting it into an email or instant message. Under the "Link Code", select the DDNS name, LAN IP or WAN IP address for the link (Note that the myQNPcloud.com DDNS name is only available after it is registered in myQNAPcloud. Please refer to the chapter on myQNAPcloud Service576 for details) from the drop down menu. Click "Save", and copy and paste the URL link in the dialog window to your preferred applications.



Link Code

192.168.100.112

Media Library and Privacy Settings

Music files in the Music Station are listed according to shared folder privileges (media folders) and settings in the Media Library. Music files stored in the shared folders are only visible to users who have "Read/Write" or "Read Only" privileges to those shared folders, and after the music files are detected and scanned by the Media Library. Users can store music files in their "/home" folder to hide them from other users. For details on the media folder settings, please refer to the chapter on Media Library 439.

Note:

- Initially, shared folders are accessible to all users. To configure shared folder privileges for each shared folder, please go to "Control Panel" > "Privilege Settings" > "Users".
- Advanced Folder Permissions are not supported.
- Go to "Control Panel" > "Applications" > "Media Library" for detailed settings in the Media Library.
- For configuration on the Media Library and privilege settings, please refer to the chapter on Media Library 439.

8.6 Multimedia Station

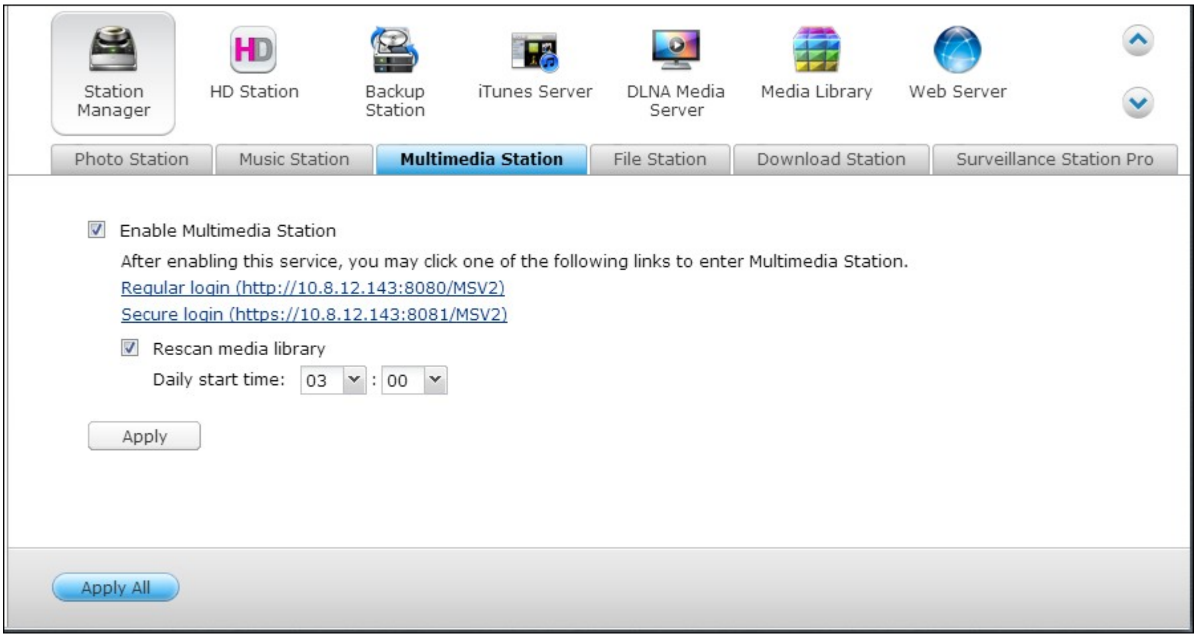
The Multimedia Station is a web-based application for viewing the photos, playing music and videos on the NAS by a web browser, and sharing files to popular social networking sites such as Facebook, Plurk, Twitter, Blogger, and so on.

To use the Multimedia Station, follow the steps below.

1. Go to "Control Panel" > "Applications" > "Web Server". Turn on the web server feature. To allow access to the Multimedia Station by HTTPS, turn on the option "Enable Secure Connection (SSL)".

2. Go to "Control Panel" > "Applications" > "Station Manager" > "Multimedia Station". Enable the service.

3. Enable the option "Rescan media library" and specify the time for the NAS to scan the media library daily. The NAS will generate thumbnails, retrieve media information and transcode videos for the newly added files at the specified time every day.



☑ Enable Multimedia Station

After enabling this service, you may click one of the following links to enter Multimedia Station.

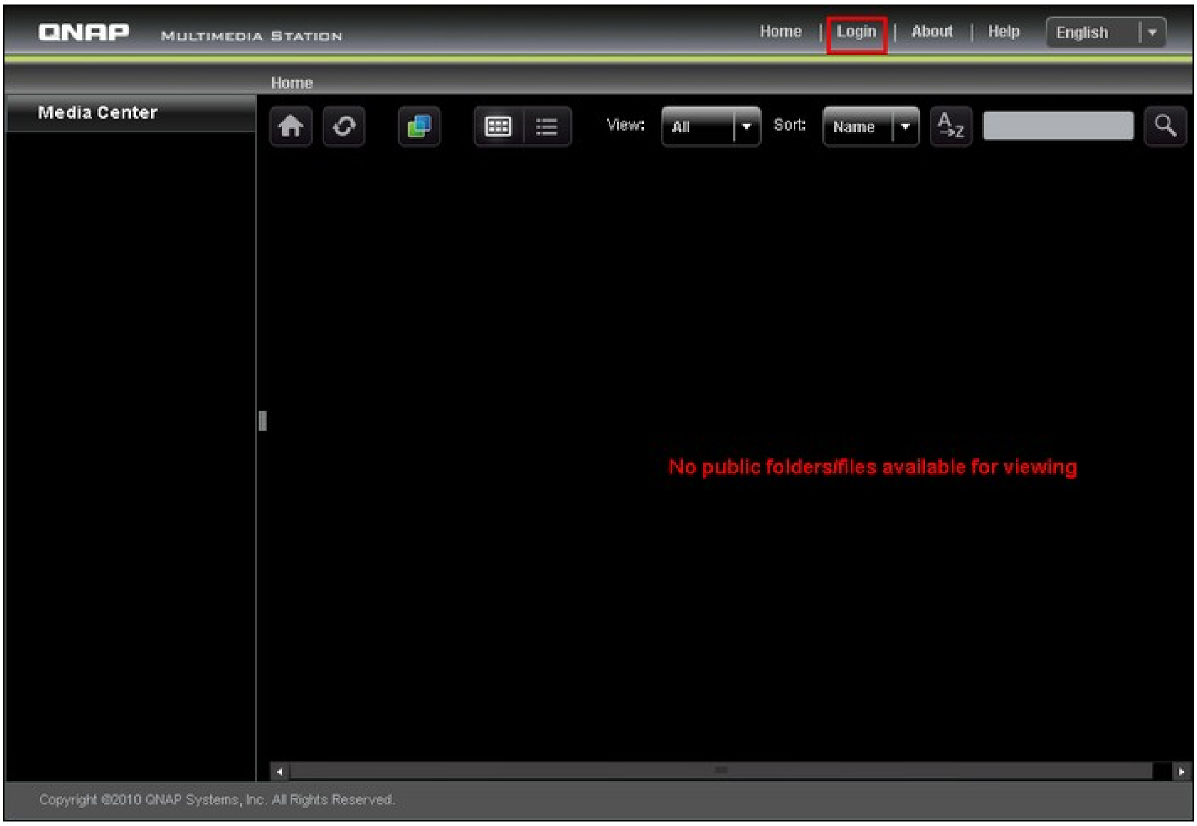
Regular login (http://10.8.12.143:8080/MSV2)

Secure login (https://10.8.12.143:8081/MSV2)

☑ Rescan media library

Daily start time: 03 : 00

4. Connect to the Multimedia Station from the NAS Desktop or enter http:// NAS_IP:80/MSV2/ or https://NAS_IP:8081/MSV2/ (secure connection) in a web browser. Login the application when you are prompted to. Only the administrator (admin) can create users and configure the advanced settings.



No public folders/files available for viewing

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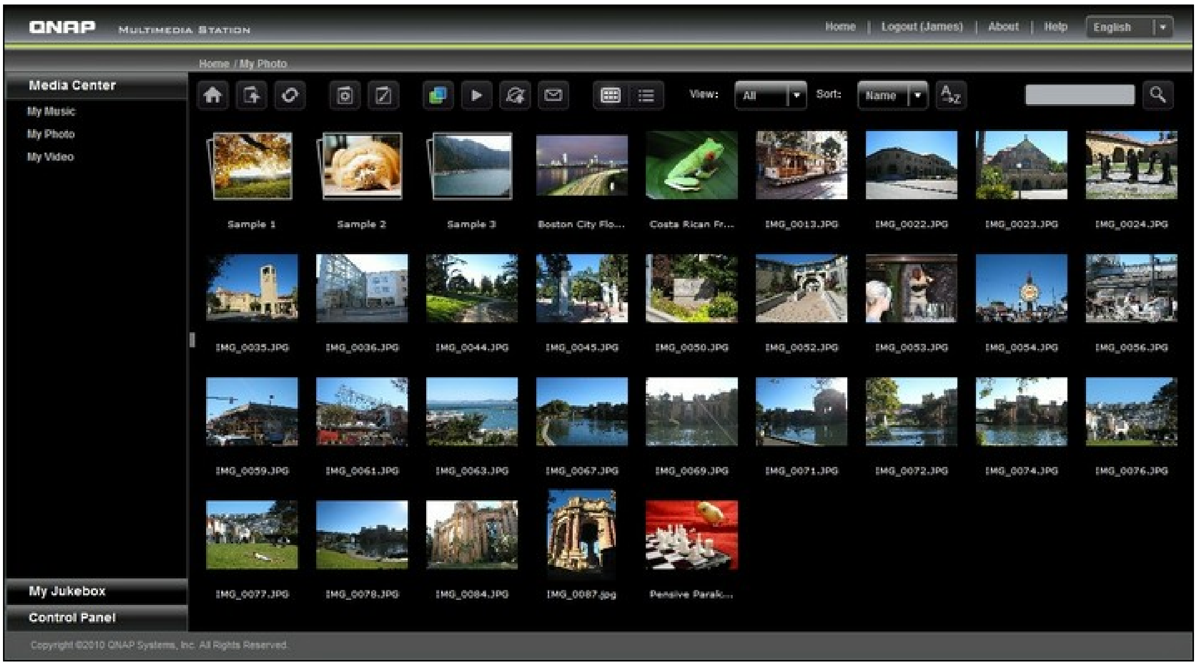
Note: The admin login information of the Multimedia Station is the same as that of the NAS web login.

The Multimedia Station consists of the Media Center, My Jukebox, and Control Panel.

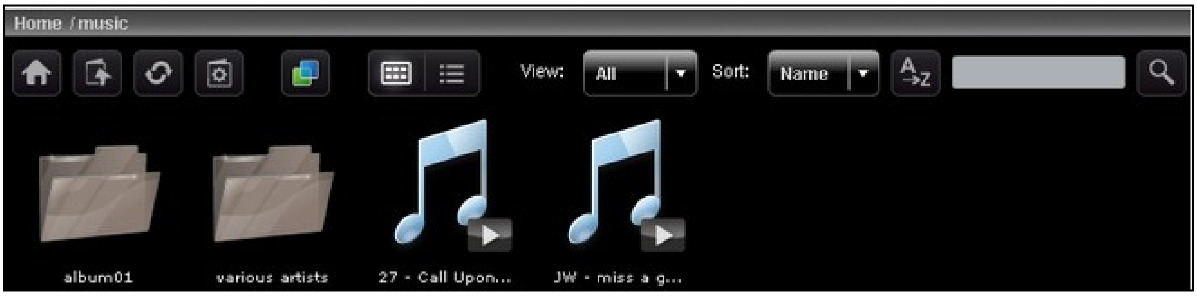


Media Center

The folders and multimedia files of the default shared folder (Qmultimedia/Multimedia) of the Multimedia Station are shown in Media Center. You can view or play the multimedia contents (images, videos, and audio files) on the NAS by a web browser over LAN or WAN.

Supported file format

Type	File format
Audio	MP3
Image	JPG/JPEG, GIF, PNG (The animation will not be shown for animated GIF files.)
Video	Playback: FLV, MPEG-4 Video (H.264 + AAC) Transcode: AVI, MP4, M4V, MPG, MPEG, RM, RMVB, WMV (The files will be converted to FLV.)



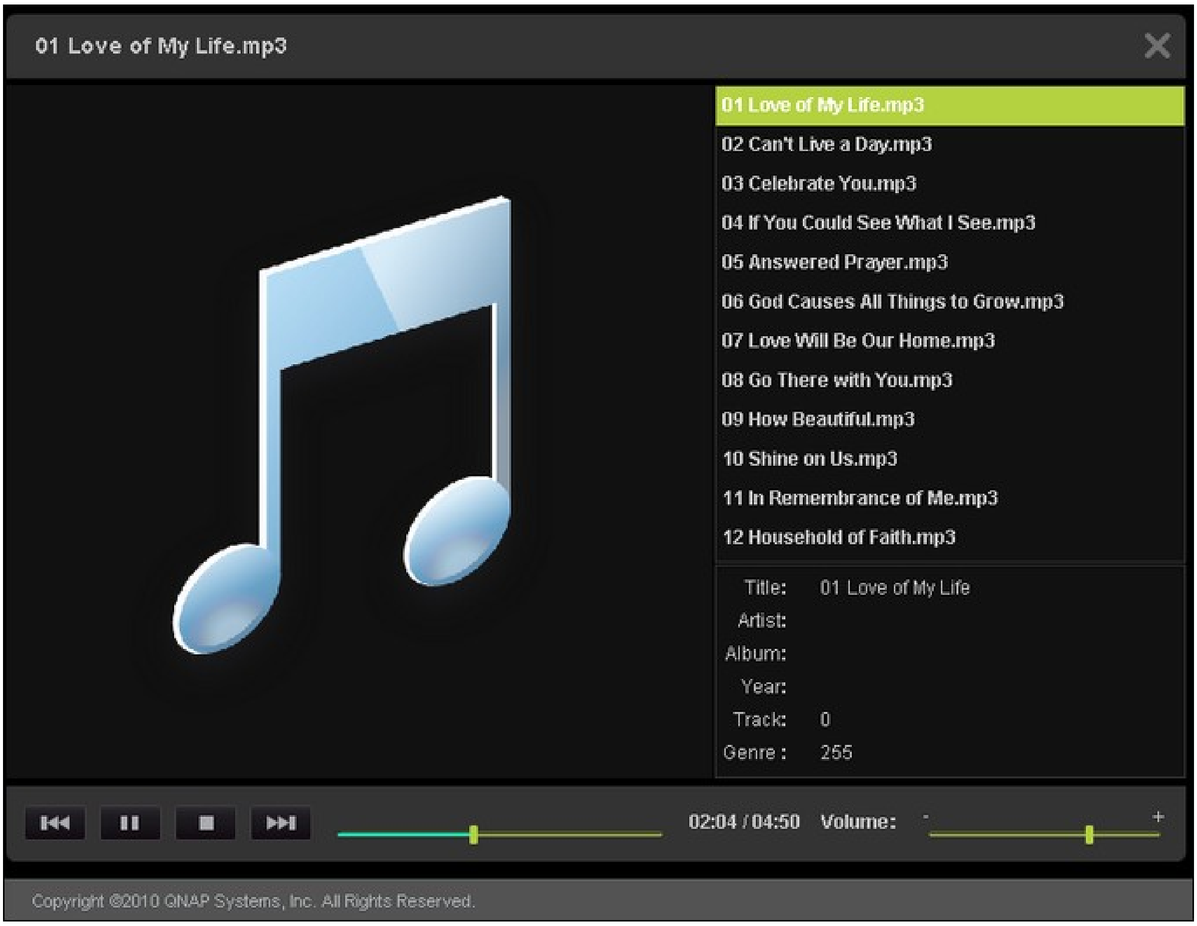
Icon	Description
⌂	Home Return to the home directory of the Multimedia Station.
⤴	Parent Directory Return to the parent directory.
⟳	Refresh Refresh the current directory.
⚙	Manage Album* You can: 1. create albums under the current directory and 2. add files to the album by copying or uploading files to the directory.

✎	Set Album Cover* You can set up the album cover for each album/directory by specifying one photo in the album/directory.
⧉	Cooliris Browse your photos in 3-dimensional way with Cooliris. You need to install the Cooliris plug-in for the web browser.
▶	Slide Show Start the slide show. You can set up the photo frame, background music, and animation in the slide show mode.
🌐	Publish* Publish the chosen photos (max. 5 photos) to popular social networking sites: Twitter, Facebook, MySpace, Plurk, Windows Live, or Blogger. Note that the album must be set to public (Control Panel > Set Folder Public) before it can be published, and the Multimedia Station must be accessible from the Internet. It is suggested to set up the DDNS for the NAS before using this feature.
✉	Email* Send photos (max. 5 photos) to friends by emails. Note that you have to set up the SMTP server in the NAS administration console before using this feature.
▦	Thumbnails Browse the files in thumbnail view (default).
☰	Details Browse the files in detailed view. It supports the functions: Open, Rename, Delete, Download, and Full Image View.
A→Z	Sort Sort the files alphabetically in ascending or descending order.
🔍	Search Search files within the current directory.

*These features can only be operated by the administrator.

Playing music

Click an MP3 file to play the music by a web browser. When you click a music file in a folder, all the other supported music files in the folder will also be added to the playlist. Click "X" to exit.



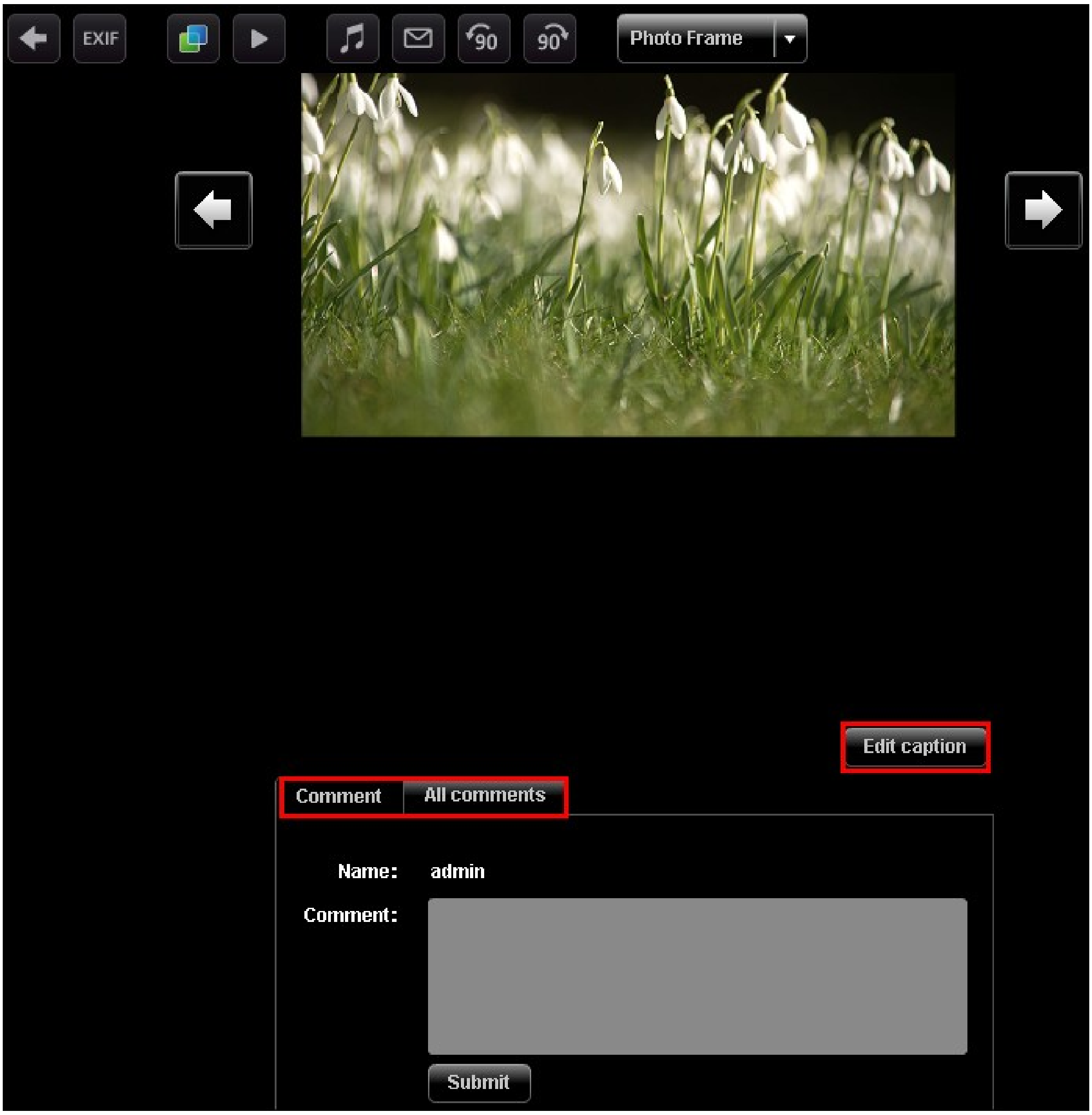
01 Love of My Life.mp3
02 Can't Live a Day.mp3
03 Celebrate You.mp3
04 If You Could See What I See.mp3
05 Answered Prayer.mp3
06 God Causes All Things to Grow.mp3
07 Love Will Be Our Home.mp3
08 Go There with You.mp3
09 How Beautiful.mp3
10 Shine on Us.mp3
11 In Remembrance of Me.mp3
12 Household of Faith.mp3

Title: 01 Love of My Life
Artist:
Album:
Year:
Track: 0
Genre : 255

Viewing image files

When viewing an image file, click "EXIF" to view the detailed information such as file name, size, date, and aperture. To add a caption for the file, click "Edit caption" and enter the description. The description must not exceed 512 characters.

You can also submit your comments on the image file and view the comments from other users on "All comments". Each comment cannot exceed 128 characters.



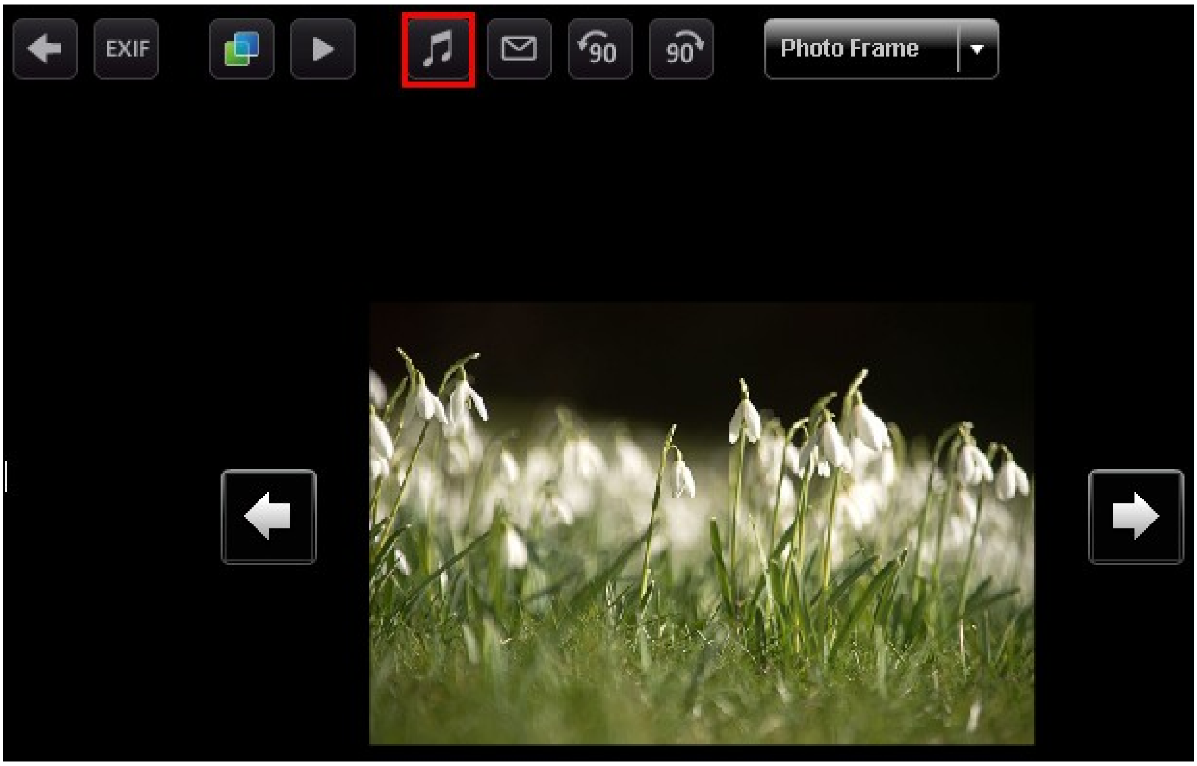
Name: admin

Comment:

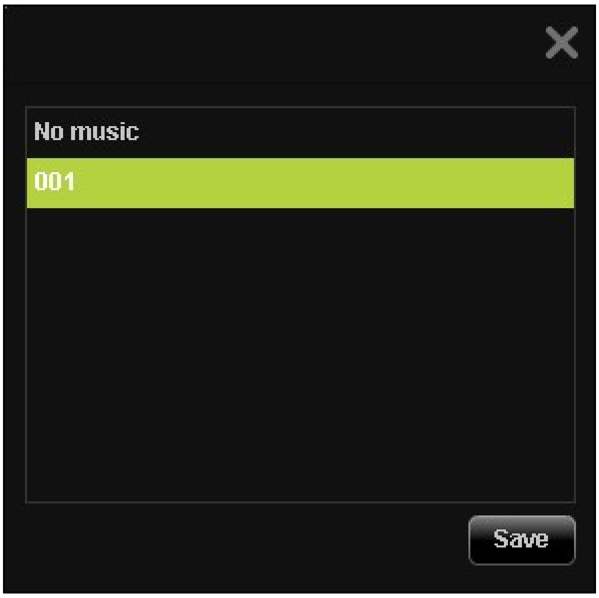
Setting background music

To set the background music of an image file or a folder of image files, make sure you have created a playlist in “Control Panel” > “Playlist Editor” (to be introduced later) in the Multimedia Station.

Open an image file in Media Center and click ♫.



Select the playlist and click “Save”. To remove the background music, you can select “No music”.

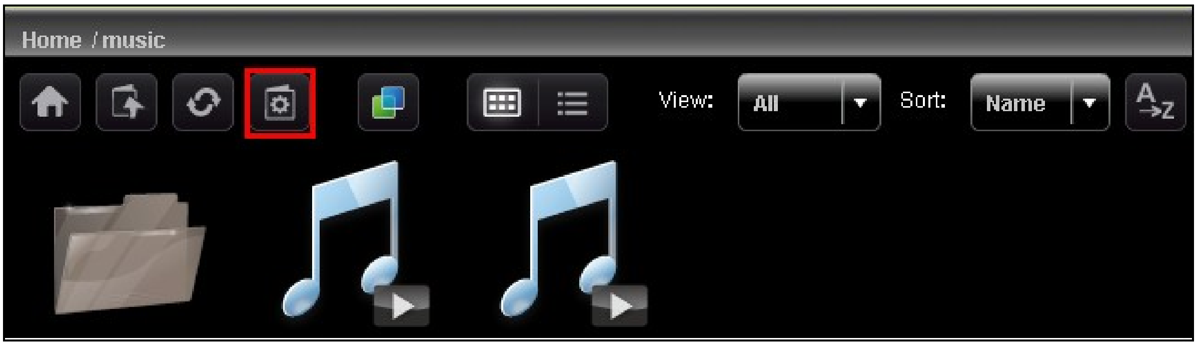


No music

001

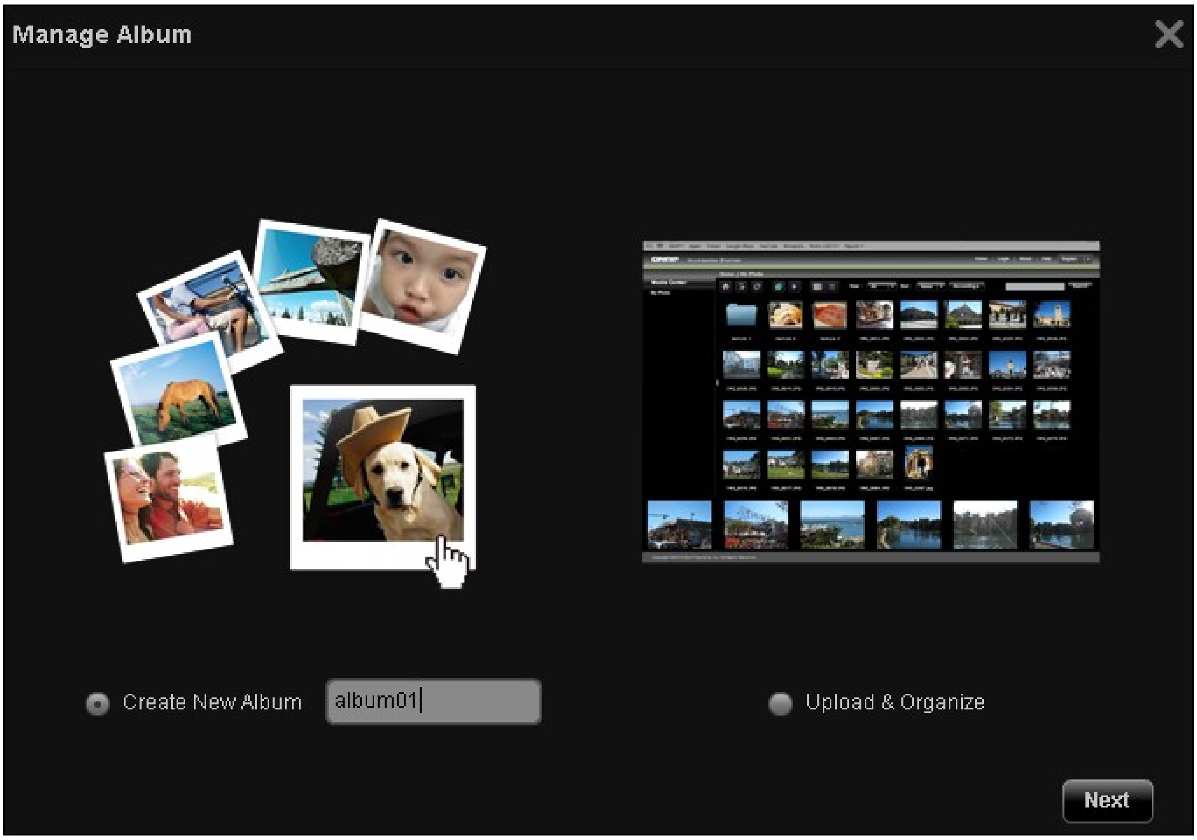
Creating album

To create an album (folder) by the web-based interface of the Multimedia Station, locate the directory in Media Center. Click ⚙ (Create Album).



Select "Create New Album" and enter the album name. Click "Next".

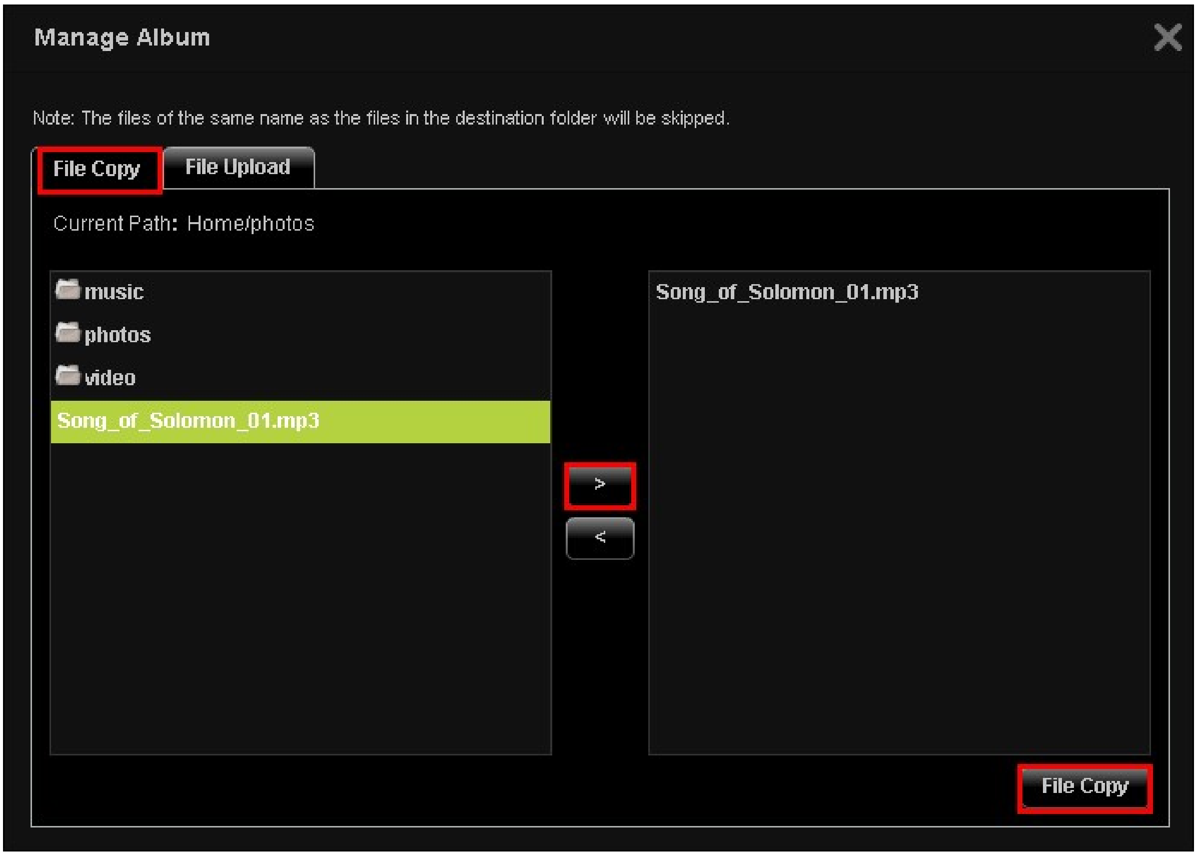
The album name must be 1 to 64 characters long, and cannot contain | \ : ? " < > *



○ Create New Album album01

○ Upload & Organize

To copy the files from other location in Media center to the album, select "File Copy", choose the files to copy and click >. Then click "File Copy" to start copying the files.



Manage Album

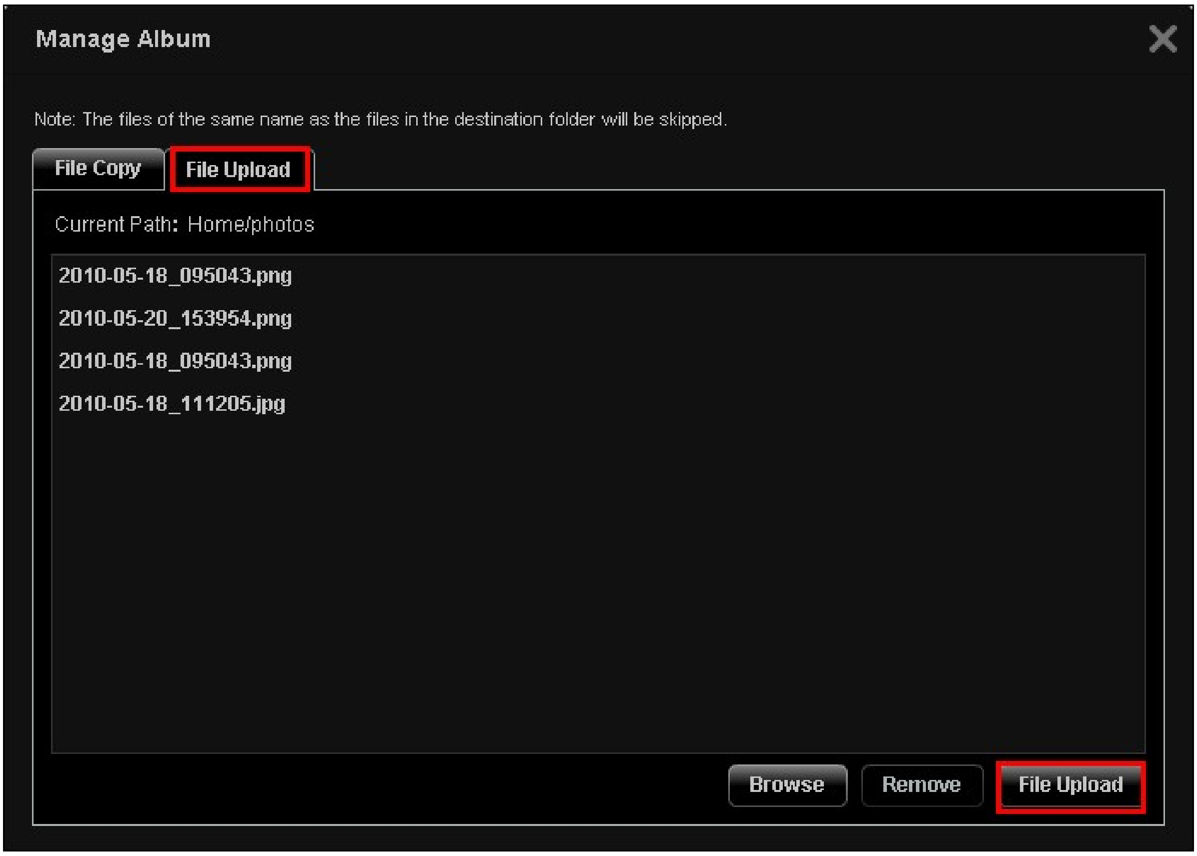
Note: The files of the same name as the files in the destination folder will be skipped.

Current Path: Home/photos

music
photos
video
Song_of_Solomon_01.mp3

Song_of_Solomon_01.mp3

To upload files to the album, click "Browse" to select the files and click "File Upload".



Manage Album

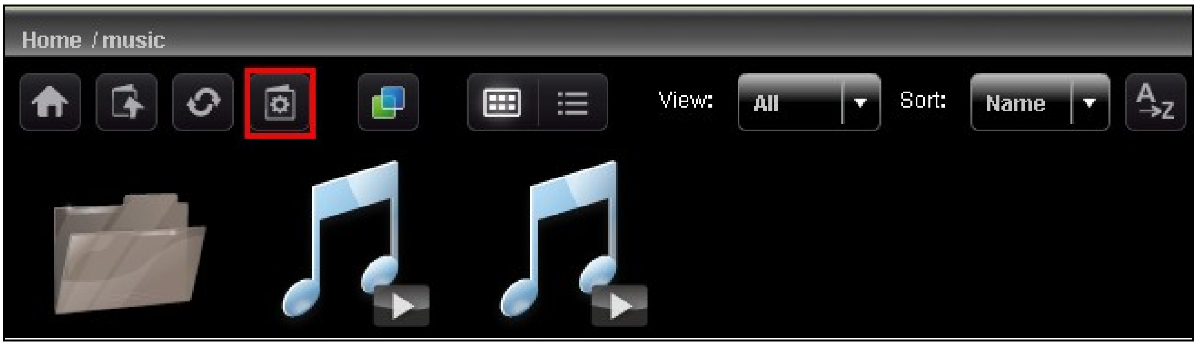
Note: The files of the same name as the files in the destination folder will be skipped.

Current Path: Home/photos

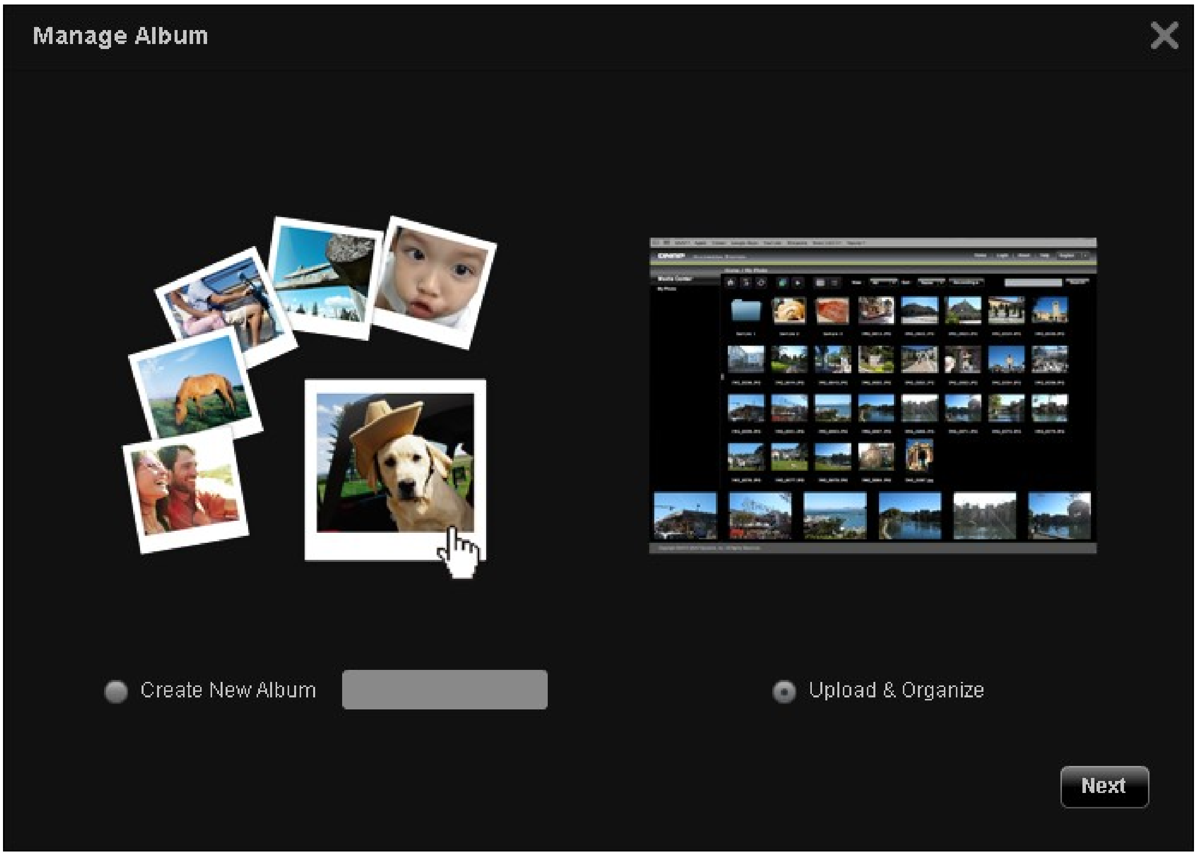
2010-05-18_095043.png
2010-05-20_153954.png
2010-05-18_095043.png
2010-05-18_111205.jpg

Managing album

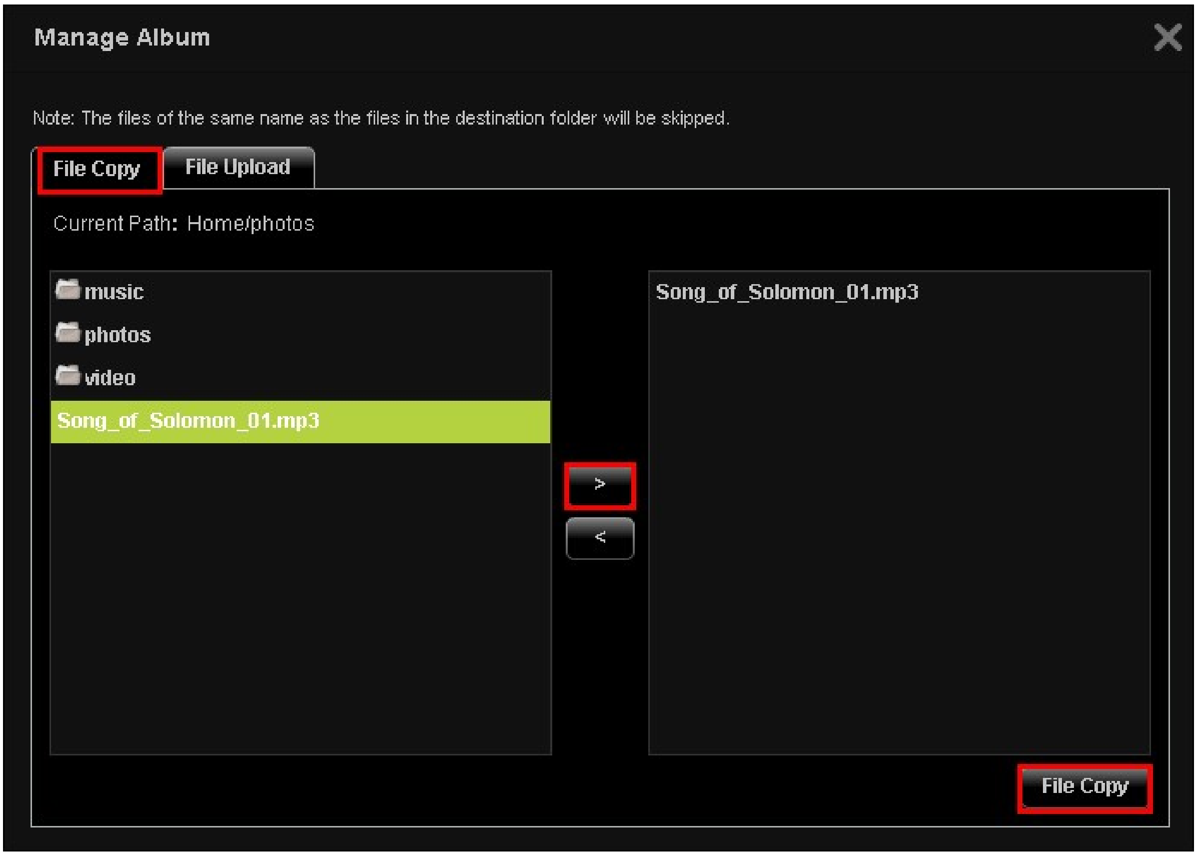
To manage an album (folder) by the web-based interface of the Multimedia Station, locate the directory in Media Center. Click ⚙ (Create Album).



Select "Upload & Organize" and click "Next".



To copy the files from other location in Media center to the album, select "File Copy", choose the files to copy and click >. Then click "File Copy" to start copying the files. To upload files to the album, click "Browse" to select the files and click "File Upload".



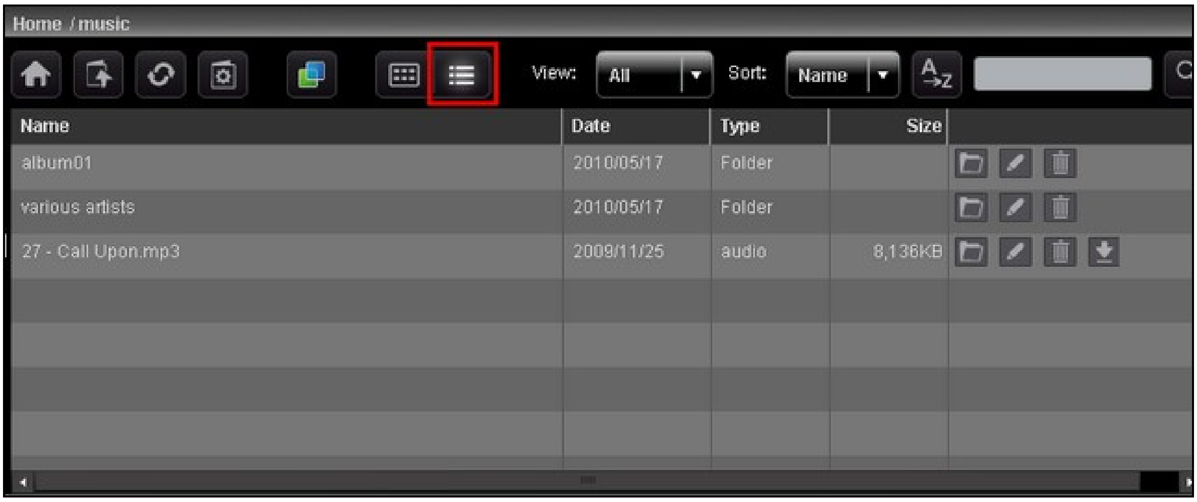
Note: The files of the same name as the files in the destination folder will be skipped.

Current Path: Home/photos

music
photos
video
Song_of_Solomon_01.mp3

Song_of_Solomon_01.mp3

You can click ☰ to browse the multimedia contents in details and click the icons to open, rename, delete, or download the files or folders.



Home / music

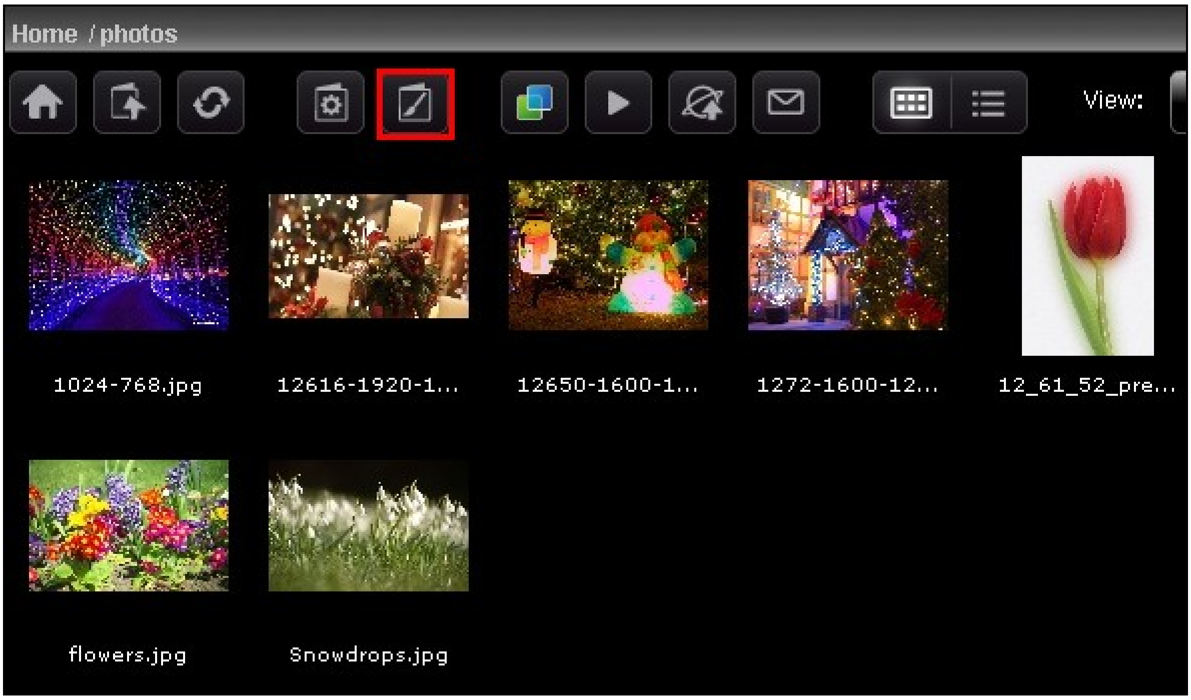
View: All

Sort: Name

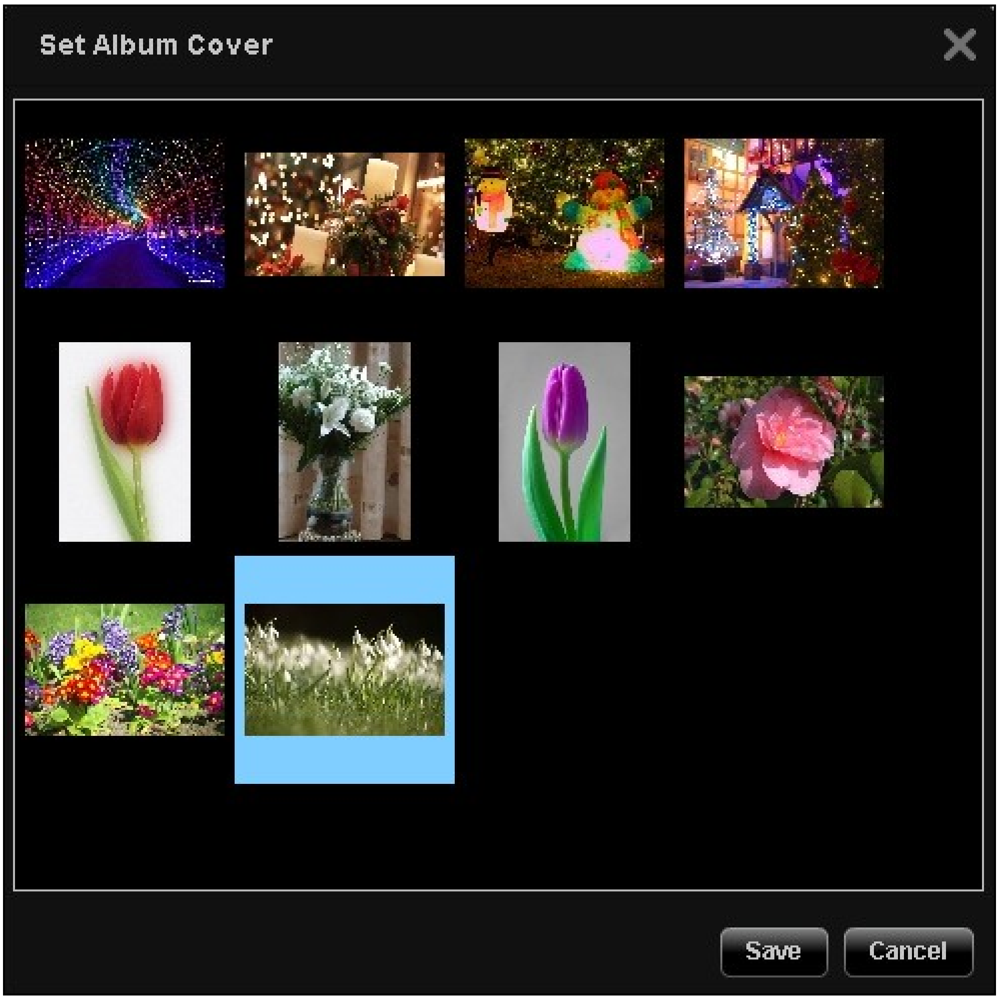
Name	Date	Type	Size
album01	2010/05/17	Folder	
various artists	2010/05/17	Folder	
27 - Call Upon.mp3	2009/11/25	audio	8,136KB

Setting album cover

To set an image file as the album cover, click ✎.

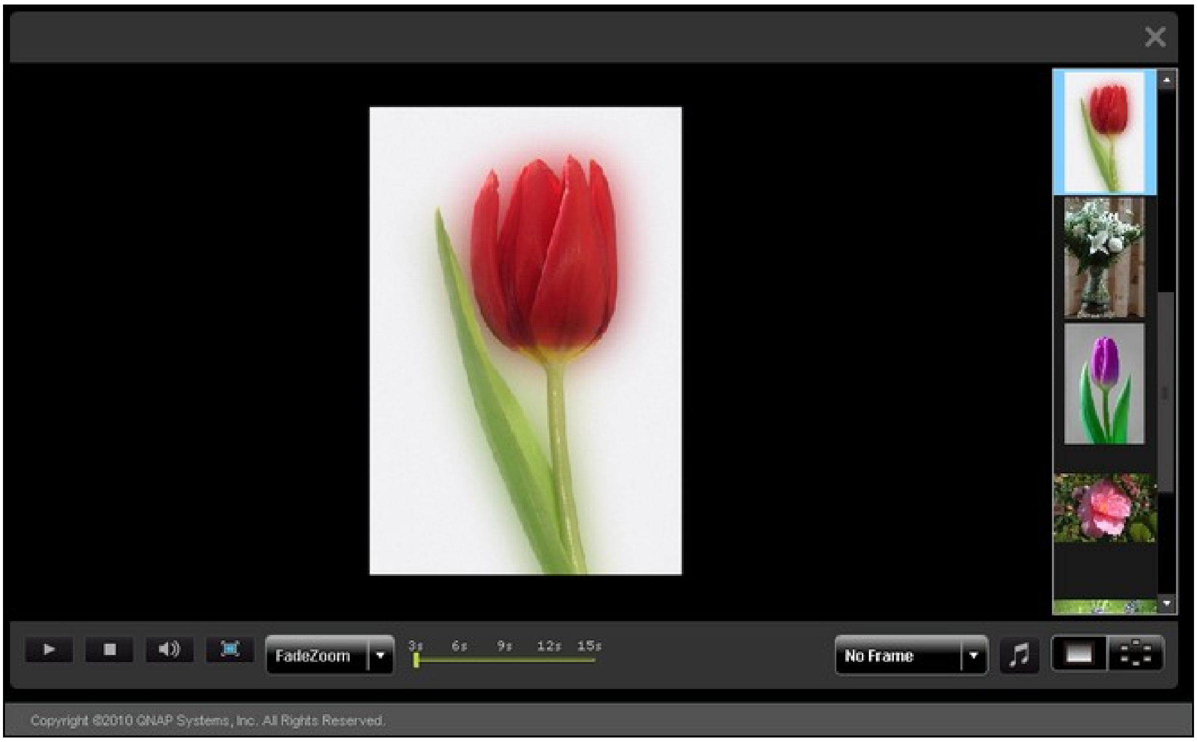


Select the image file and click “Save”.


Set Album Cover
Save
Cancel

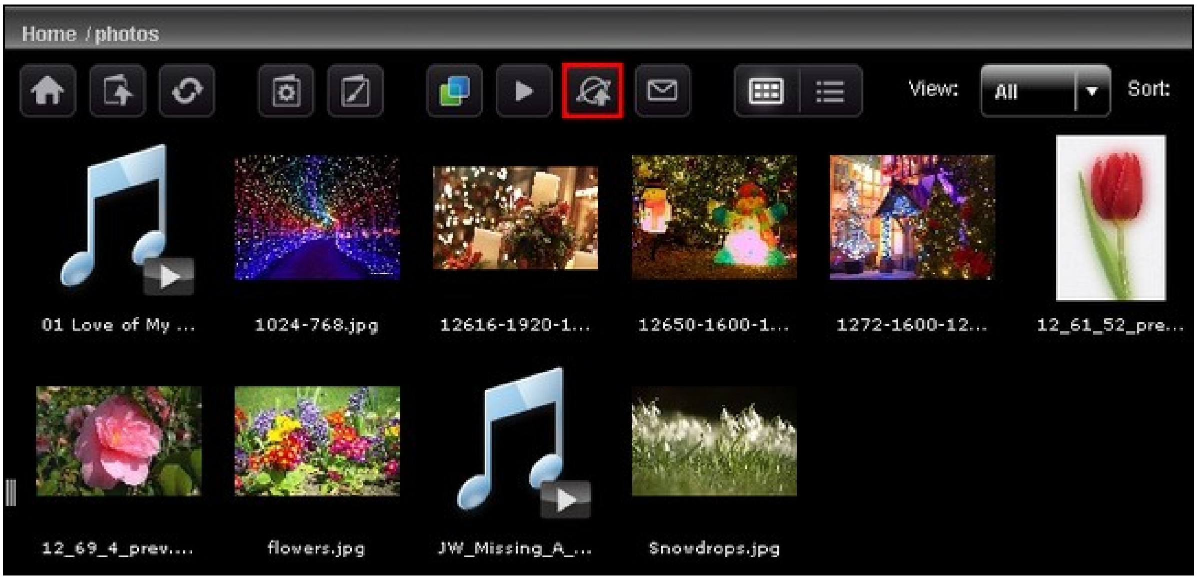
Slideshow

Click ▶ to view multiple image files in slide show. Select the playback speed (3s/6s/9s/15s) and the slide show effect (for full screen display) from the drop-down menu. You can also select the photo frame for displaying the image file. To view the image files in 3-dimensional (3D) display, click ⛶.



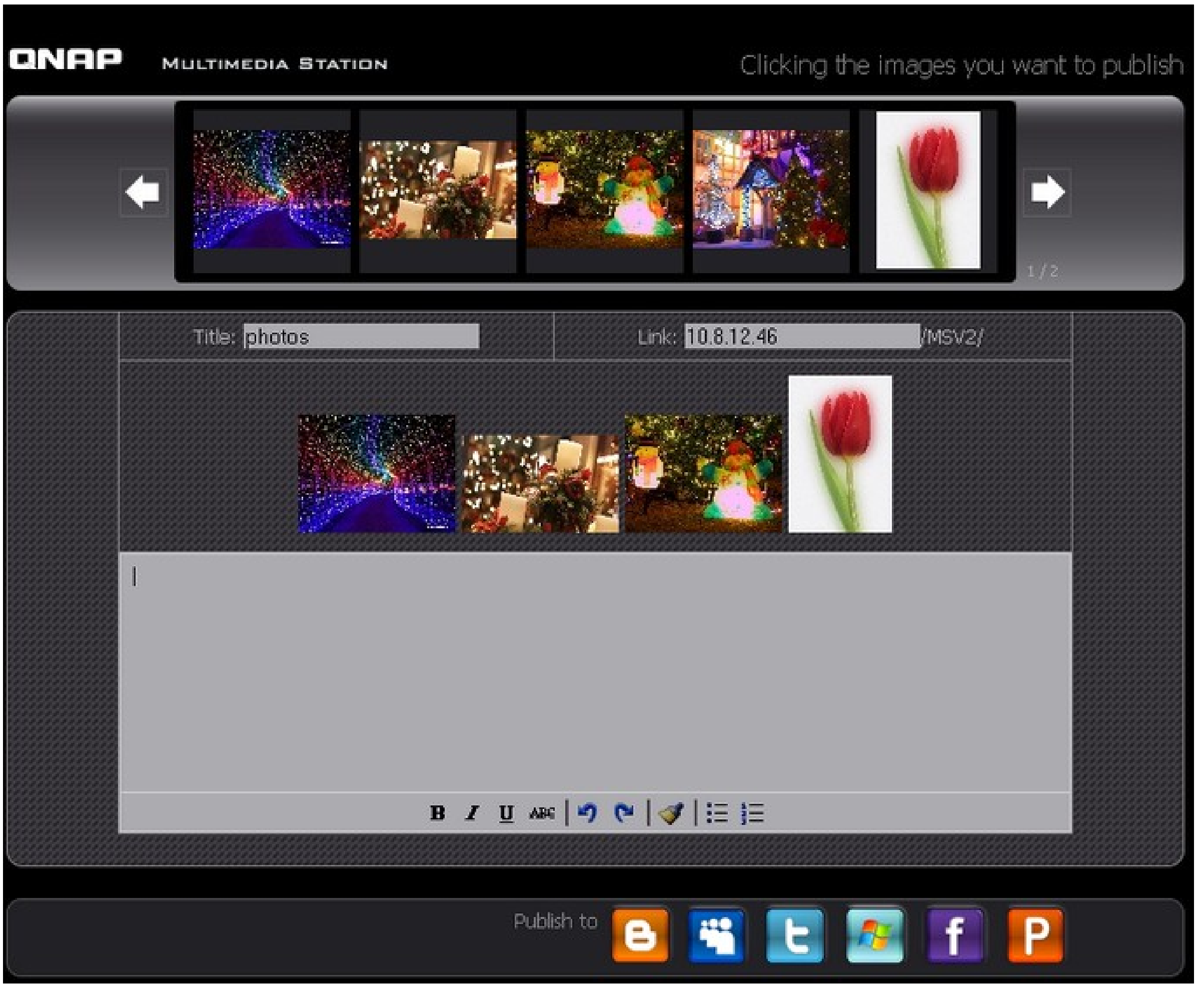
Publishing image files

You can publish the image files on the Multimedia Station to social networking sites such as Facebook and Twitter. Click .



Select the image files to publish. You can publish maximum 5 photos at a time. Enter the title and description. Then select the website to publish the files to and enter the login information of the website. Note that the album must be set to public (Control Panel > Set Folder Public) before it can be published, and the Multimedia Station must be accessible from the Internet. It is suggested to set up the DDNS for the NAS before using this feature.

Field	**Limitation**
Title	Maximum number of characters: 256
Link (the IP address or host name of the NAS)	Support alphanumeric characters, dot (.), and slash (/) only Maximum number of characters: 256
Description	Maximum number of characters: 1024



Title: photos

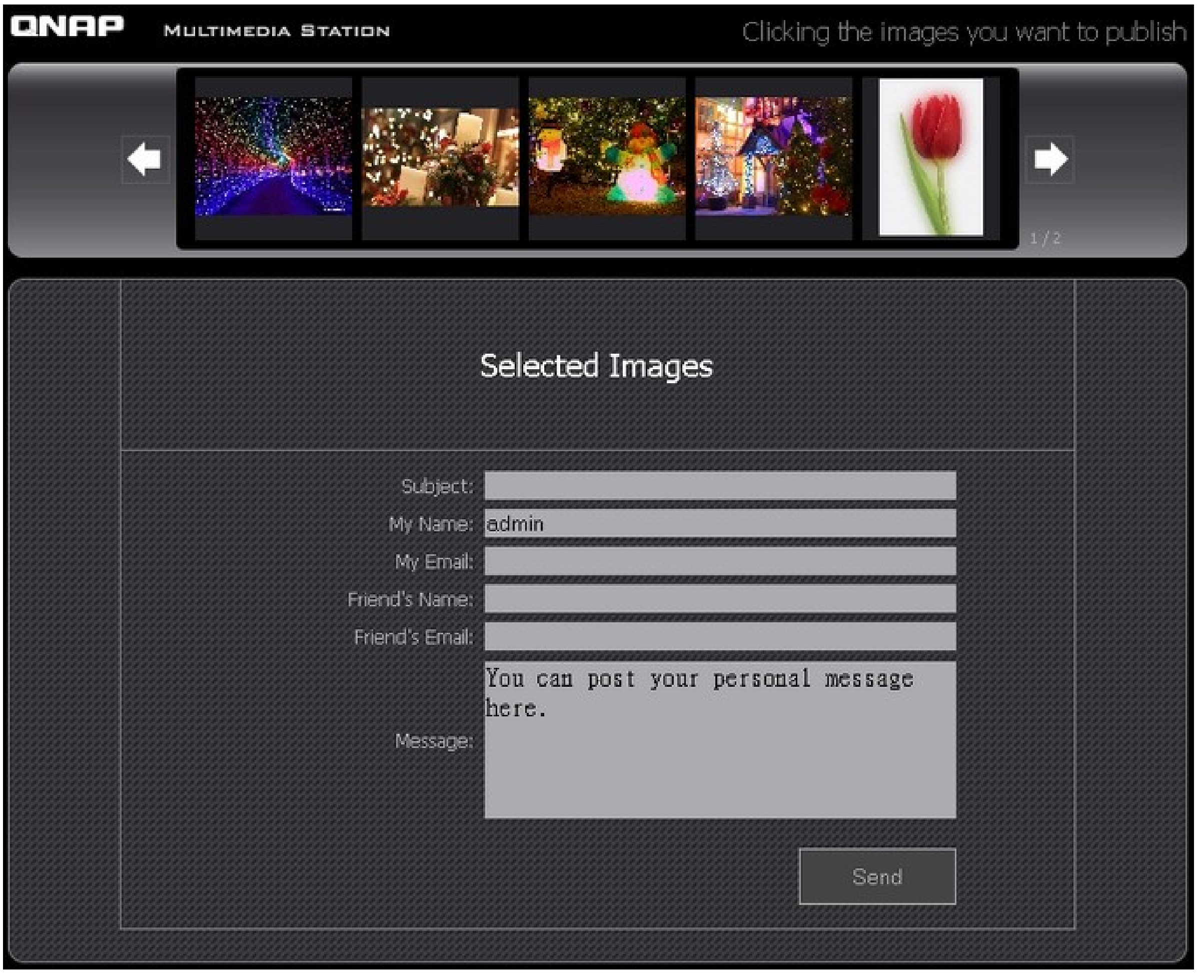
Link: 10.8.12.46/MSV2/

Emailing image files

To email the image files, make sure SMTP server settings have been correctly configured on the NAS. Click ✉.

Enter the information and click “Send”.

Field	**Limitation**
Subject	Maximum number of characters: 128
My Name	The name only supports alphabets (A-Z and a-z), numbers (0-9), dash (-), and underscore (_)
My Email	Maximum number of characters: 128
Friend's Name	Maximum number of characters: 128
Friend's Email	Maximum number of characters: 128
Message	Maximum number of characters: 1024

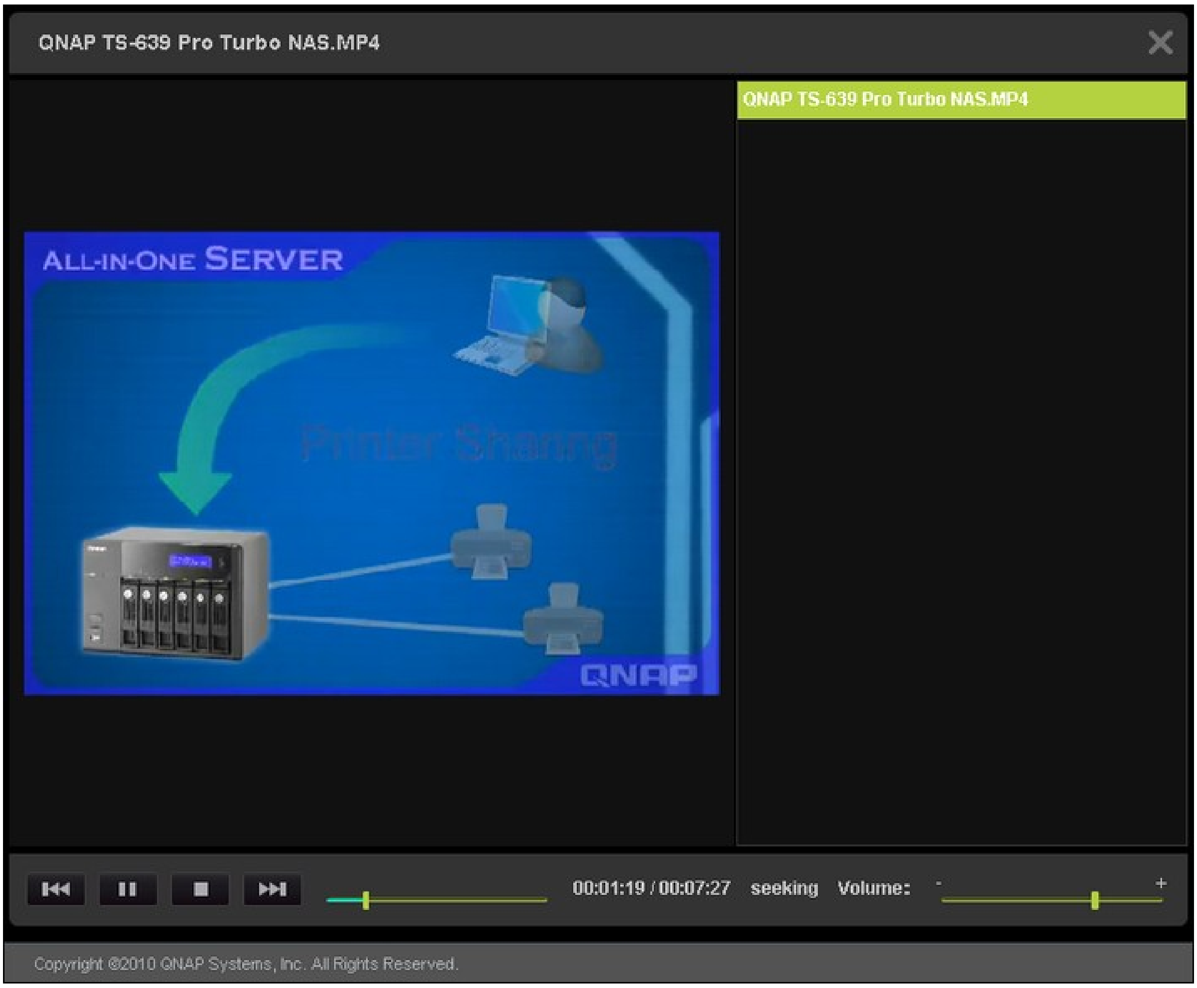


Selected Images

Subject:	
My Name:	admin
My Email:	
Friend's Name:	
Friend's Email:	
Message:	You can post your personal message here.

Playing video

The NAS supports playing video files on the web browser. Simply click a video file on the web page, the NAS will start playing it. If you click a video file in a folder, all other supported video files in the folder will also be shown in the playlist and played. Click "X" to exit the playback page.

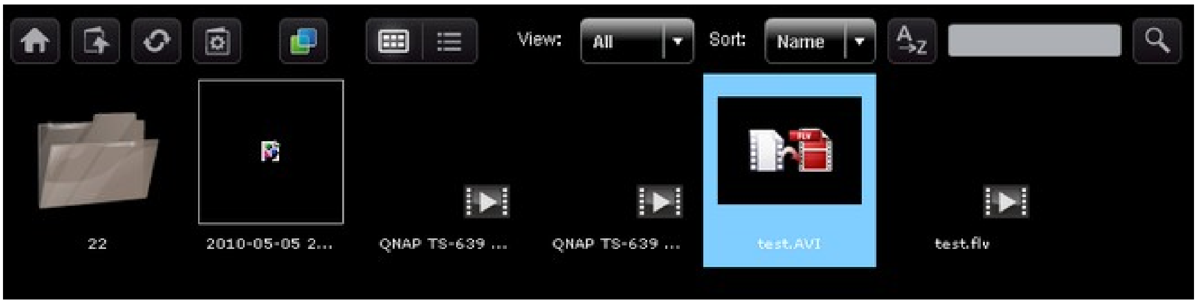


QNAP TS-639 Pro Turbo NAS.MP4
QNAP TS-639 Pro Turbo NAS.MP4
ALL-IN-ONE SERVER
Printer Sharing
QNAP
00:01:19 / 00:07:27
seeking
Volume:
-
+
Copyright ©2010 QNAP Systems, Inc. All Rights Reserved.

Transcoding video

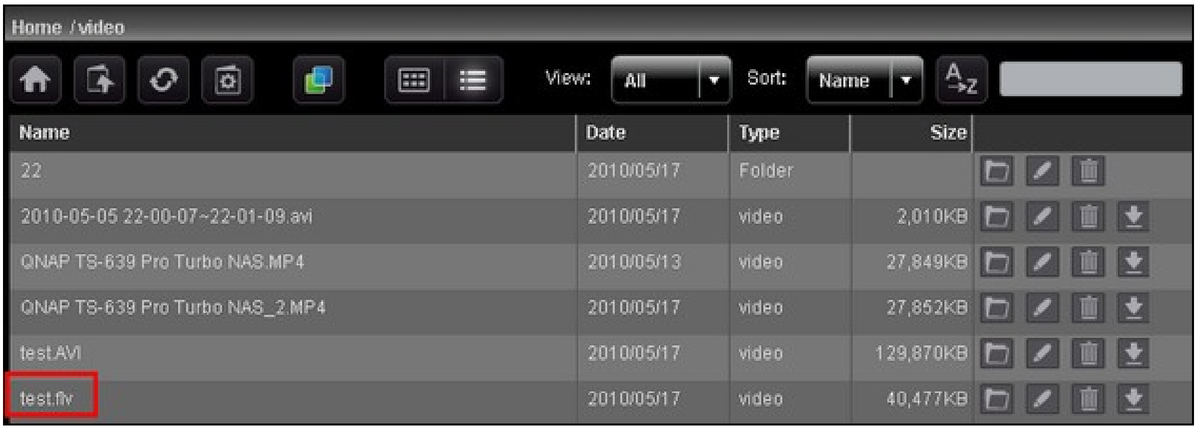
If the video files are in AVI, M4V, MPG/MPEG, RM/RMVB, WMV formats, you need to transcode the file in order to play it on the Multimedia Station properly. A video file which can be transcoded is shown with an icon like below in thumbnail view.

Click the icon and confirm to perform video transcoding. Wait patiently when transcoding is in process.



The video will be converted to FLV format. You can then play it on your web browser. Only administrators are allowed to transcode a video.

QNAP does not guarantee all video formats or codecs are supported. You are highly recommended to convert the video files into the formats that the Multimedia Station supports before uploading the files to the NAS.



Name	Date	Type	Size
22	2010/05/17	Folder	
2010-05-05 22-00-07~22-01-09.avi	2010/05/17	video	2,010KB
QNAP TS-639 Pro Turbo NAS.MP4	2010/05/13	video	27,849KB
QNAP TS-639 Pro Turbo NAS_2.MP4	2010/05/17	video	27,852KB
test.AVI	2010/05/17	video	129,870KB
test.flv	2010/05/17	video	40,477KB

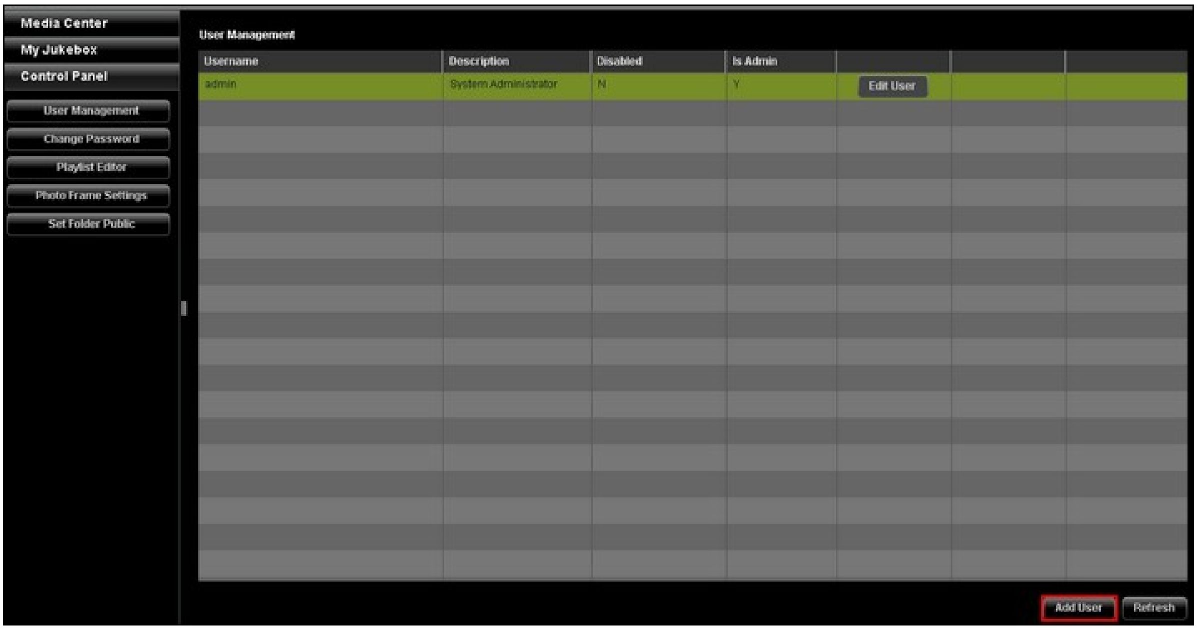
My Jukebox

You can create playlists of music files and play them in My Jukebox. The album art and its information will be read from the ID3 tag automatically if applicable.

To create or edit your own playlist for My Jukebox, go to "Control Panel" > "Playlist Editor". Note that only the administrators can edit the playlists. The playlists in My Jukebox will be shared with all the users of the Multimedia Station.

Control Panel

User Management:
You can create multiple user accounts on the Multimedia Station. Note that the user accounts created here are different from the system accounts you create on NAS (Privilege Settings> Users). Click "Add User" to create a user. The maximum number of users the Multimedia Station supports is 128, including "admin".

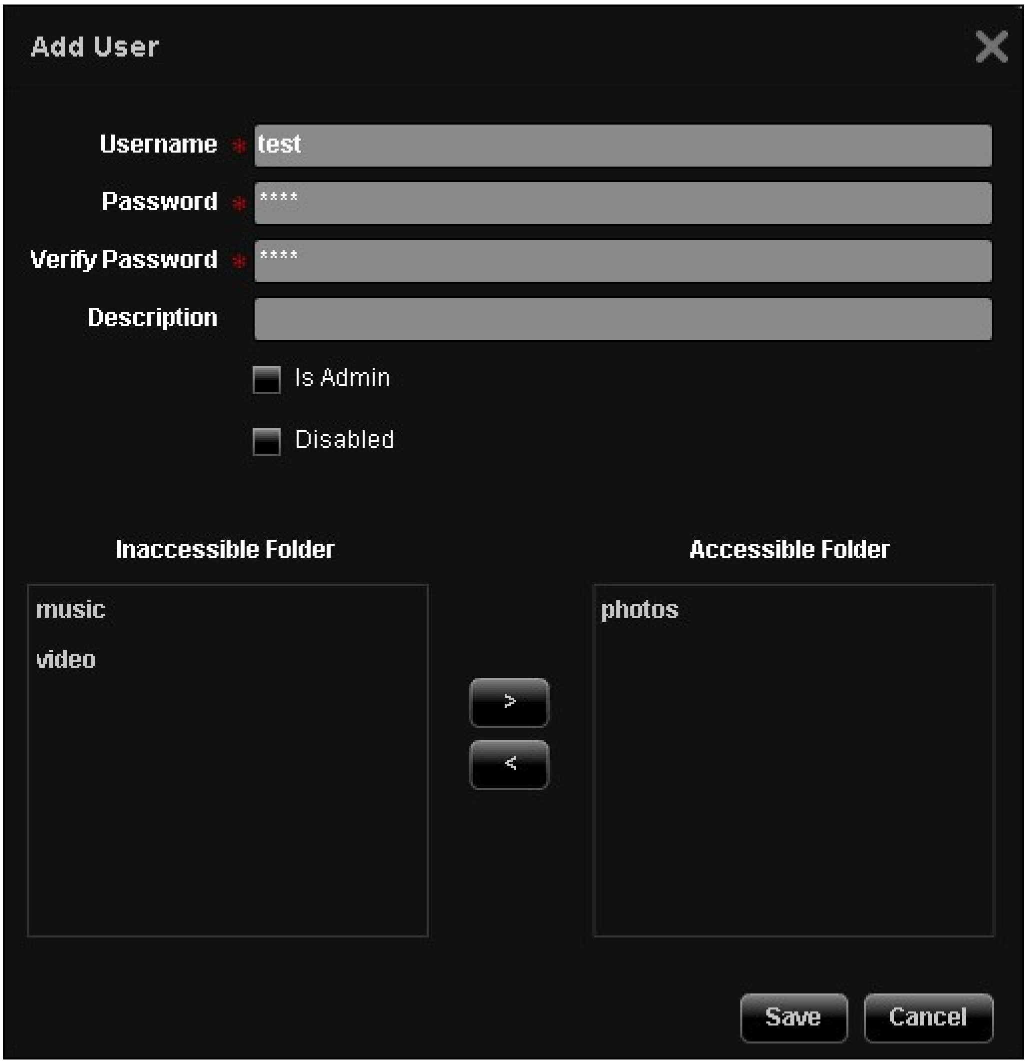


User Management

Username	Description	Disabled	Is Admin			
admin	System Administrator	N	Y	Edit User		

Enter the user information. The username only supports alphabets (A-Z and a-z), numbers (0-9), dash (-), and underscore (_). The username cannot exceed 32 characters.

Specify whether or not the user is an administrator and the folders that the user can or cannot access. Click "Save". Note that the password must be 1 to 16 characters long. It can only contain A-Z, a-z, 0-9, -, !, @, #, $, %, _.



Add User

Username * test

Password * ****

Verify Password * ****

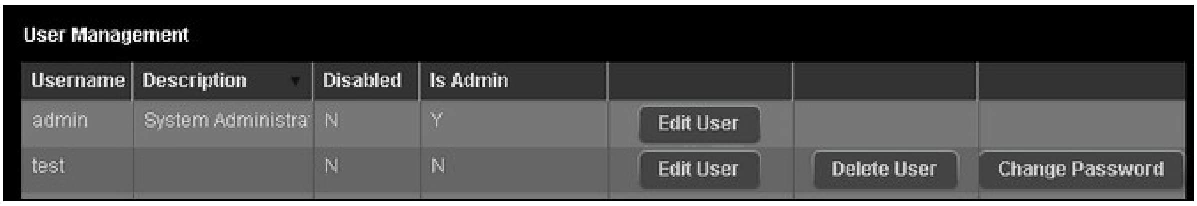
Description

□ Is Admin

□ Disabled

Inaccessible Folder	Accessible Folder
music video	photos

The users are shown on the list. You can edit the user information, delete the user, or change the login password. Note that the default account “admin” cannot be deleted.

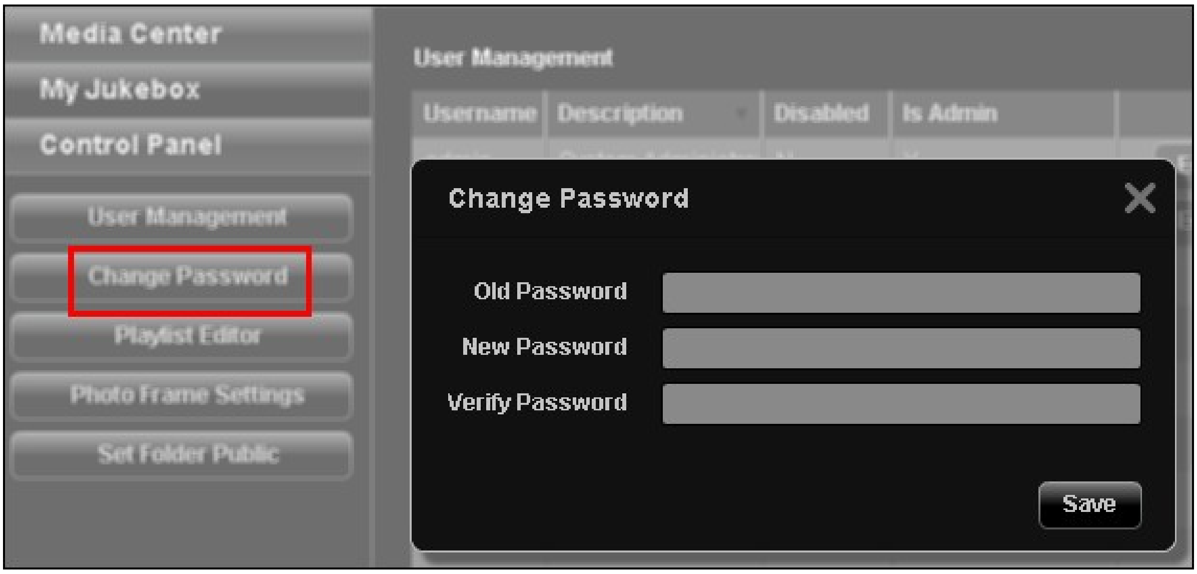


User Management

Username	Description	Disabled	Is Admin			
admin	System Administra	N	Y	Edit User		
test		N	N	Edit User	Delete User	Change Password

Changing Password

You can change the administrator password in this section. The password must be 1 to 16 characters long. The password can only contain A-Z, a-z, 0-9, -, !, @, #, $, %, _.



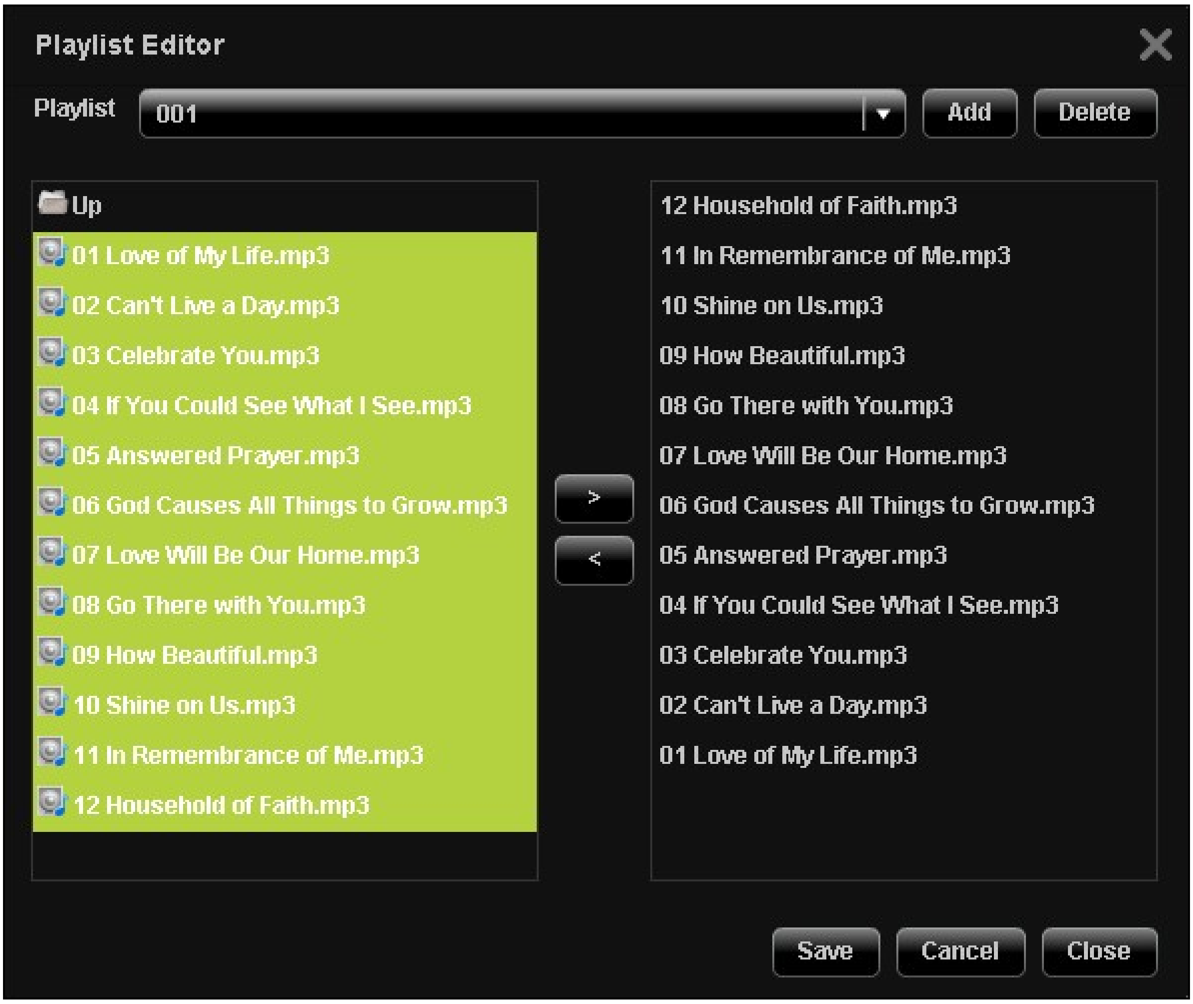
Playlist Editor

To create a playlist, enter Playlist Editor. Select an existing playlist from the drop down menu or click "Add" to create a playlist.

Next, select the music files from the left column (folders on the Multimedia Station) and click > to add the files to the playlist. Click "Save" and then "Close".

After creating the playlist, you can play it in My Jukebox.

Maximum number of characters in a playlist	24
Maximum number of songs in a playlist	512
Maximum number of playlists	128



Playlist: 001

- 01 Love of My Life.mp3
- 02 Can't Live a Day.mp3
- 03 Celebrate You.mp3
- 04 If You Could See What I See.mp3
- 05 Answered Prayer.mp3
- 06 God Causes All Things to Grow.mp3
- 07 Love Will Be Our Home.mp3
- 08 Go There with You.mp3
- 09 How Beautiful.mp3
- 10 Shine on Us.mp3
- 11 In Remembrance of Me.mp3
- 12 Household of Faith.mp3

12 Household of Faith.mp3
11 In Remembrance of Me.mp3
10 Shine on Us.mp3
09 How Beautiful.mp3
08 Go There with You.mp3
07 Love Will Be Our Home.mp3
06 God Causes All Things to Grow.mp3
05 Answered Prayer.mp3
04 If You Could See What I See.mp3
03 Celebrate You.mp3
02 Can't Live a Day.mp3
01 Love of My Life.mp3

Photo Frame Settings

You can upload your photo frames for viewing the image files. The suggested resolution is 400 (width) x 300 (height) pixels, or you can use an image with 4:3 aspect ratio. The supported format is PNG. To add a photo frame, click "Add" and upload the file.

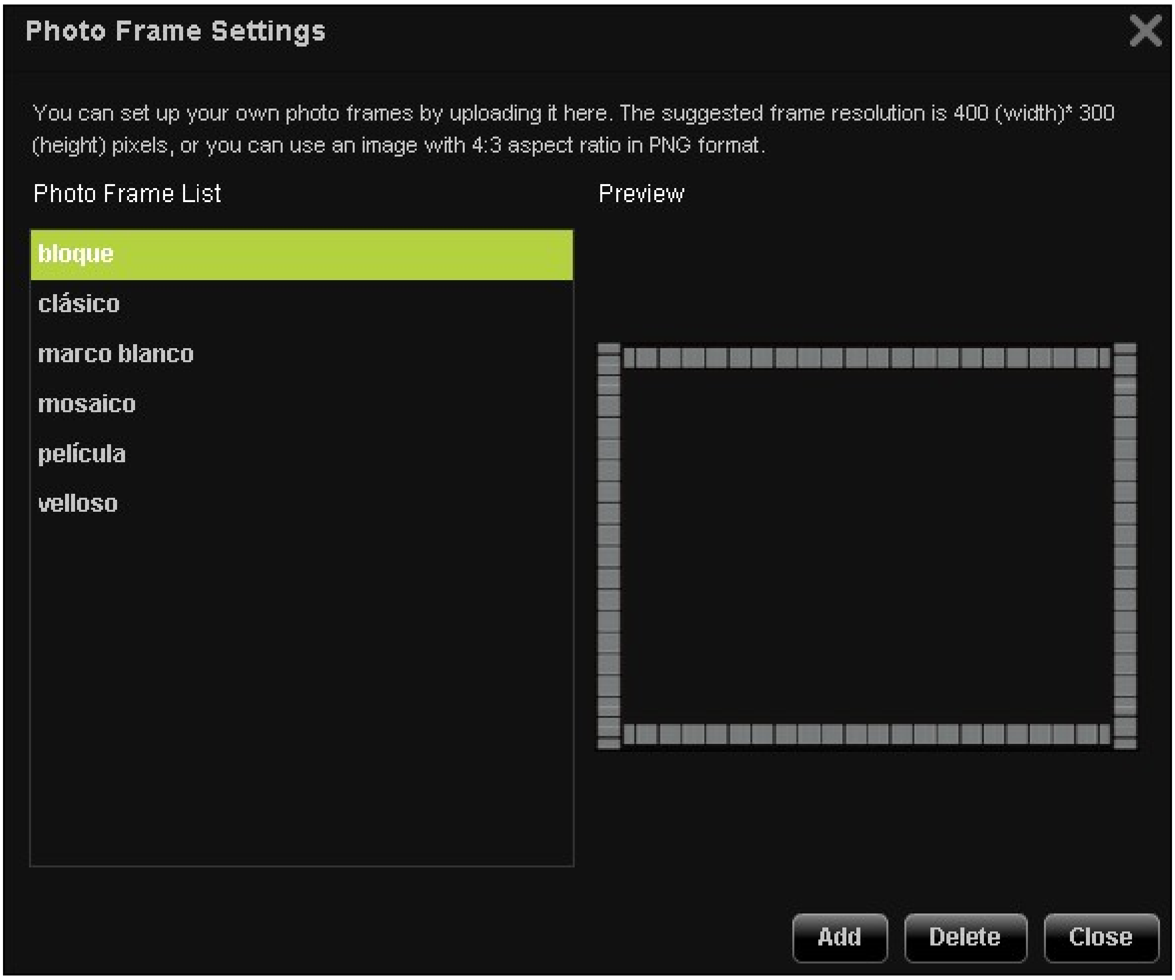


Photo Frame Settings

You can set up your own photo frames by uploading it here. The suggested frame resolution is 400 (width)* 300 (height) pixels, or you can use an image with 4:3 aspect ratio in PNG format.

Photo Frame List

- bloque
- clásico
- marco blanco
- mosaico
- película
- velloso

The name of a photo frame must be 1 to 16 characters long. The maximum number of photo frames the Multimedia Station supports is 64 (including the system default photo frames). Note that the system default photo frames cannot be deleted.

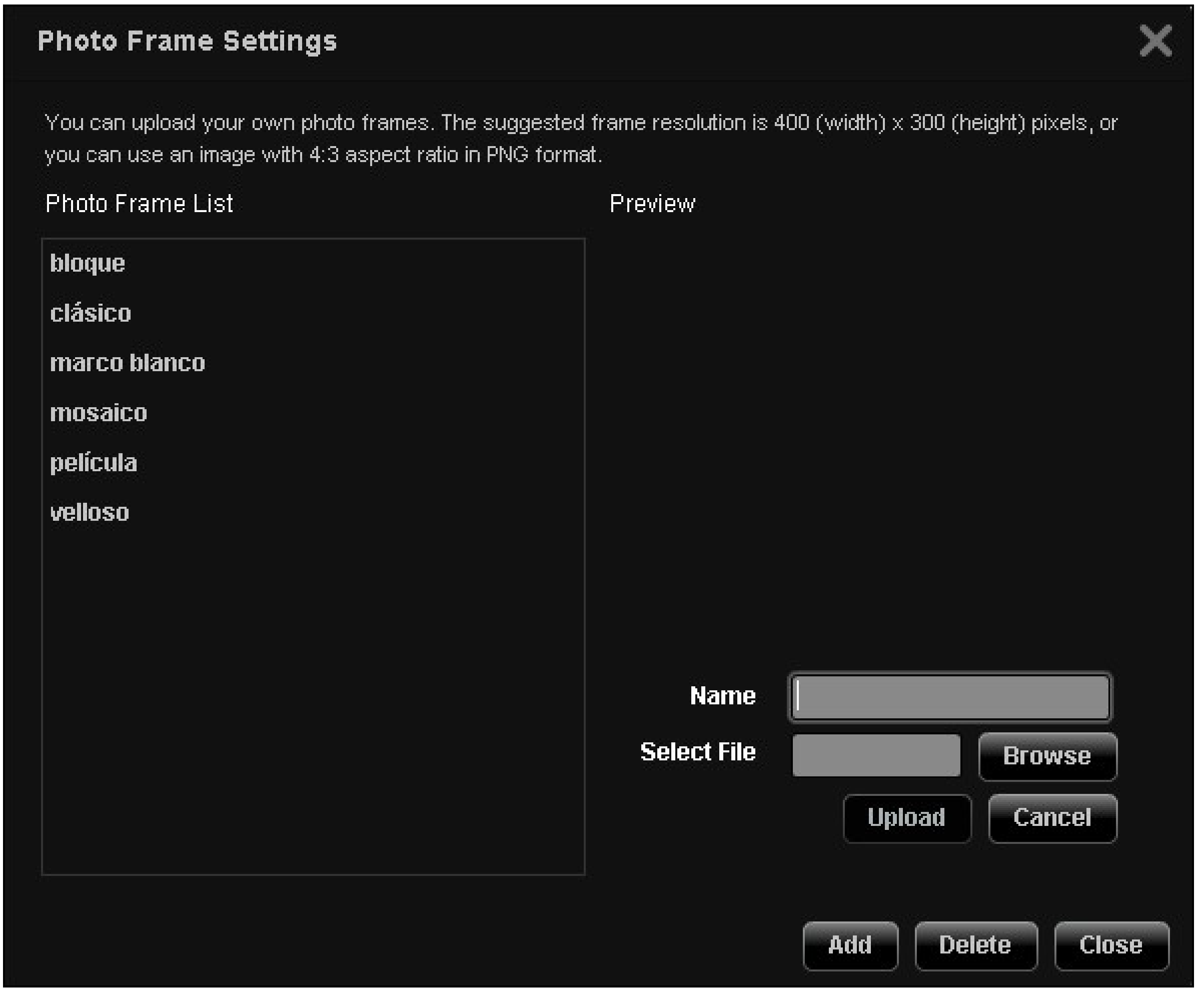
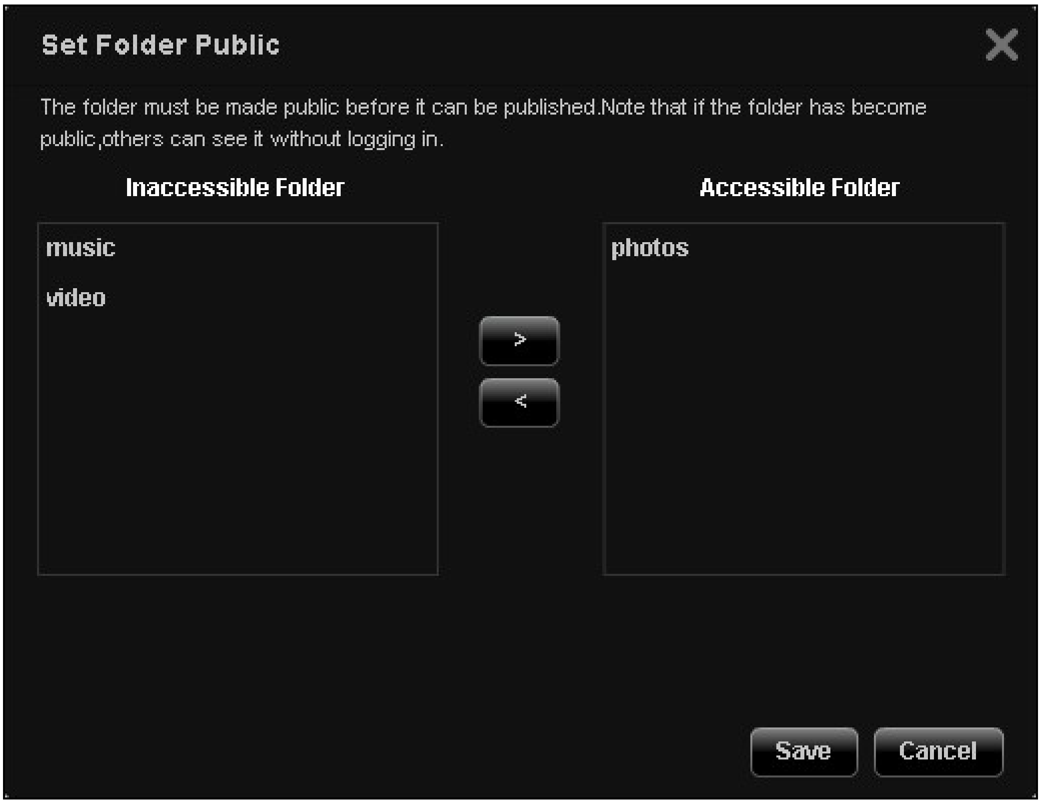


Photo Frame Settings

You can upload your own photo frames. The suggested frame resolution is 400 (width) x 300 (height) pixels, or you can use an image with 4:3 aspect ratio in PNG format.

Setting Folder Public

To publish the image files to the Web, you have to make the folder public. Select the folder to allow public access and click >. Then click "Save". Note that the public folders will be seen and accessed by anyone without logging in the Multimedia Station.



Set Folder Public

The folder must be made public before it can be published.Note that if the folder has become public,others can see it without logging in.

Inaccessible Folder

music

video

Accessible Folder

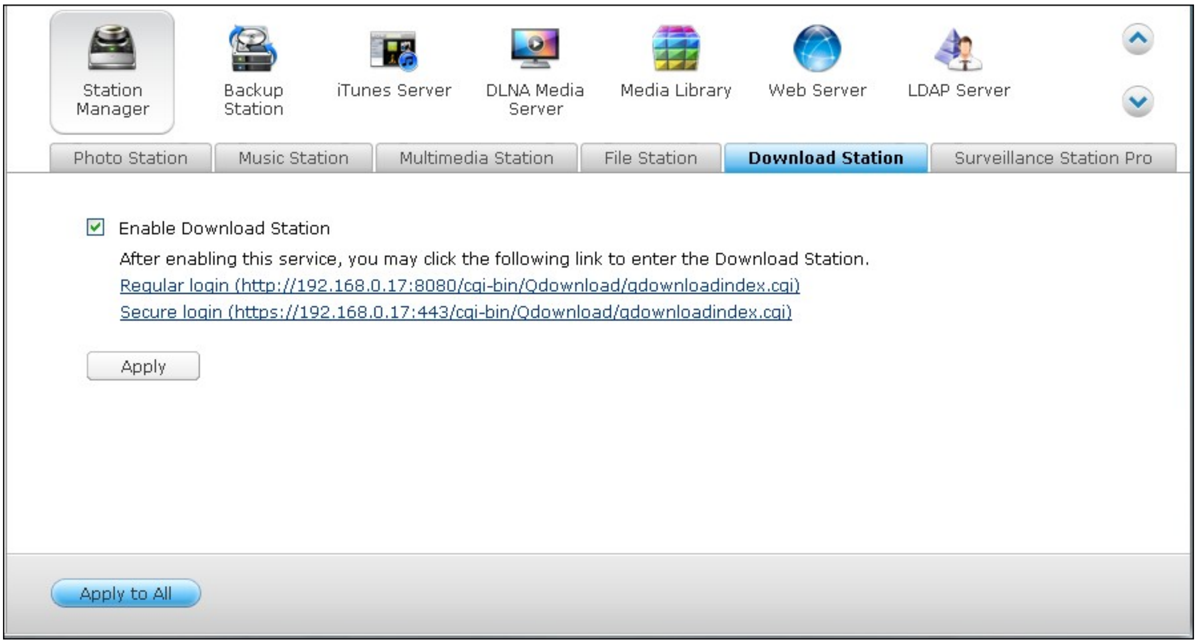
photos

8.7 Download Station

The Download Station supports BT, HTTP, FTP, RapidShare, and Magnet download without a PC.

> **Important:** Please be warned against illegal downloading of copyrighted materials. The Download Station functionality is provided for downloading authorized files only. Downloading or distribution of unauthorized materials may result in severe civil and criminal penalty. Users are subject to the restrictions of the copyright laws and should accept all the consequences.

Go to "Control Panel" > "Applications" > "Station Manager" > "Download Station". Enable the service.



☑ Enable Download Station

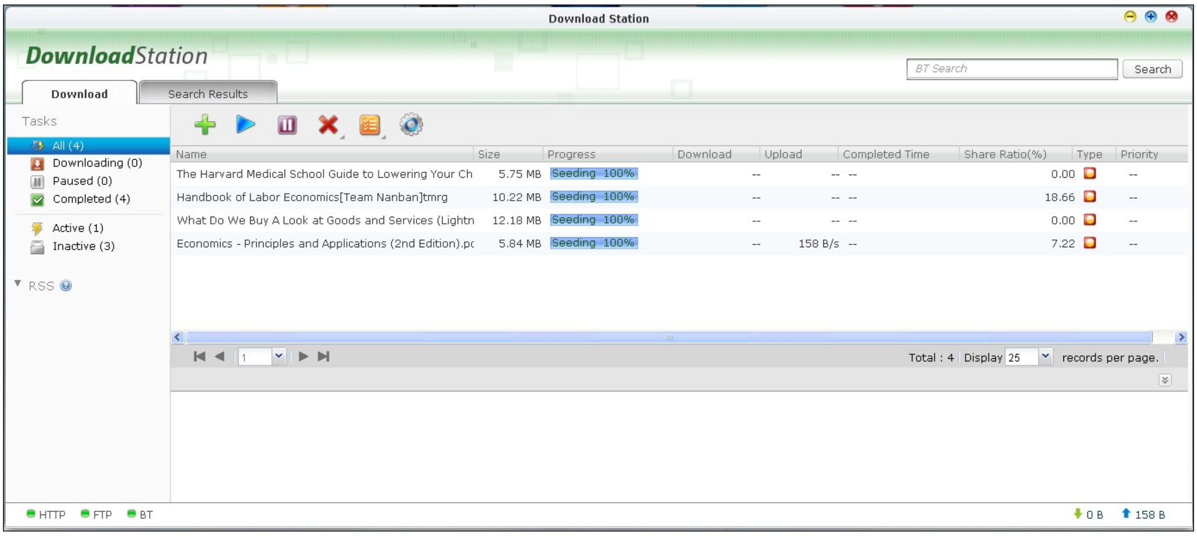
After enabling this service, you may click the following link to enter the Download Station.

Regular login (http://192.168.0.17:8080/cgi-bin/Qdownload/qdownloadindex.cgi)

Secure login (https://192.168.0.17:443/cgi-bin/Qdownload/qdownloadindex.cgi)

Download Station Login

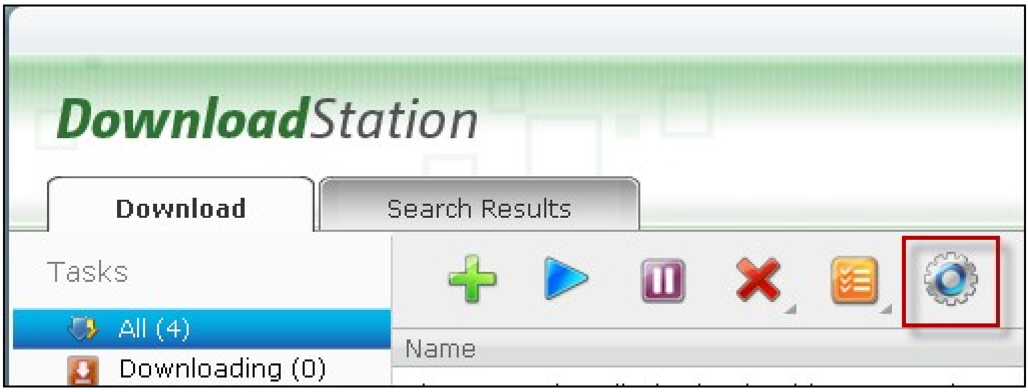
Connect to the Download Station from the NAS Desktop or Main Menu.



Name	Size	Progress	Download	Upload	Completed Time	Share Ratio(%)	Type	Priority
The Harvard Medical School Guide to Lowering Your Ch	5.75 MB	Seeding 100%	--	--	--	0.00		--
Handbook of Labor Economics[Team Nanban]tmrg	10.22 MB	Seeding 100%	--	--	--	18.66		--
What Do We Buy A Look at Goods and Services (Lightn	12.18 MB	Seeding 100%	--	--	--	0.00		--
Economics - Principles and Applications (2nd Edition).pc	5.84 MB	Seeding 100%	--	158 B/s	--	7.22		--

Total : 4 Display 25 records per page.

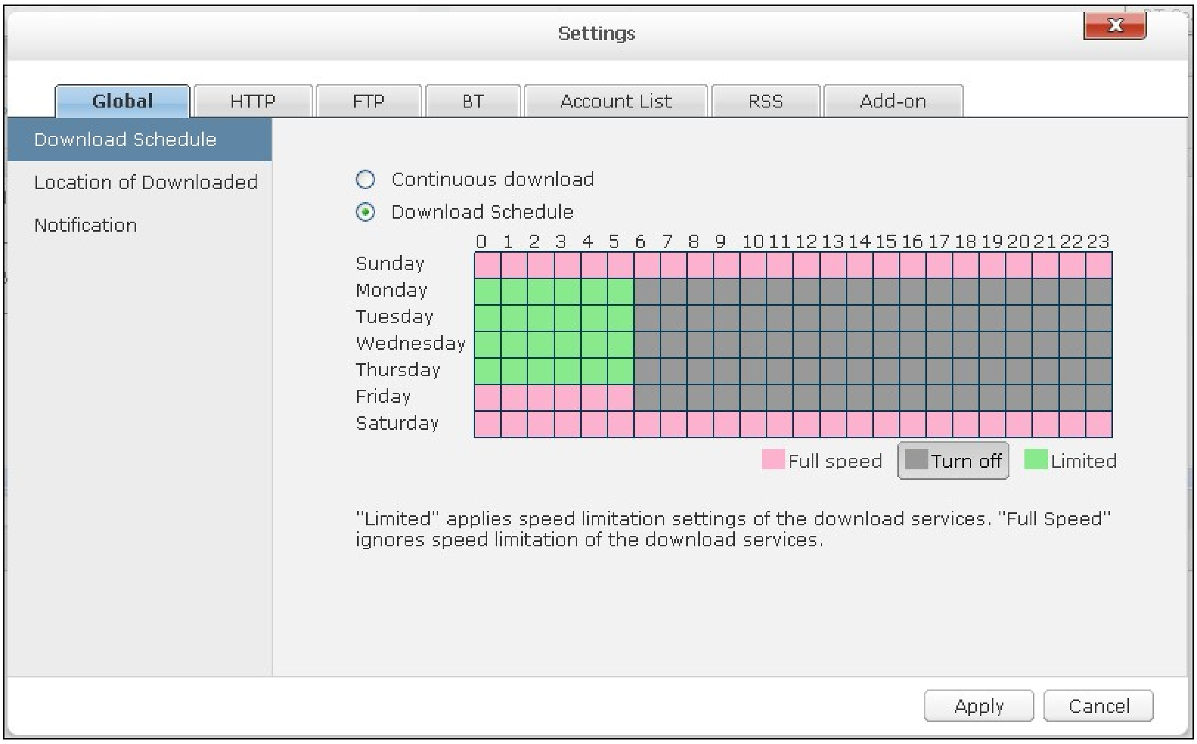
Before you start to download the files, click to configure the settings.



Settings

Global Settings

- Download Schedule: Select continuous download or specify the download schedule. When setting the download schedule, select "Full speed" to use the global speed limit (unlimited) for all the download tasks. Select "Limited" to apply the speed limit settings of the downloaded services.
- Location of Downloaded Files: Specify the default directory on the NAS for the downloaded files.
- Notification: Select to send a notification by email and/or instant messaging when a download task has completed. Note that the SMTP settings must be configured properly in "System Settings" > "Notification".



○ Continuous download
● Download Schedule

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Sunday	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥
Monday	🟩	🟩	🟩	🟩	🟩	🟩	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛
Tuesday	🟩	🟩	🟩	🟩	🟩	🟩	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛
Wednesday	🟩	🟩	🟩	🟩	🟩	🟩	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛
Thursday	🟩	🟩	🟩	🟩	🟩	🟩	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛
Friday	🟥	🟥	🟥	🟥	🟥	🟥	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛	⬛
Saturday	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥

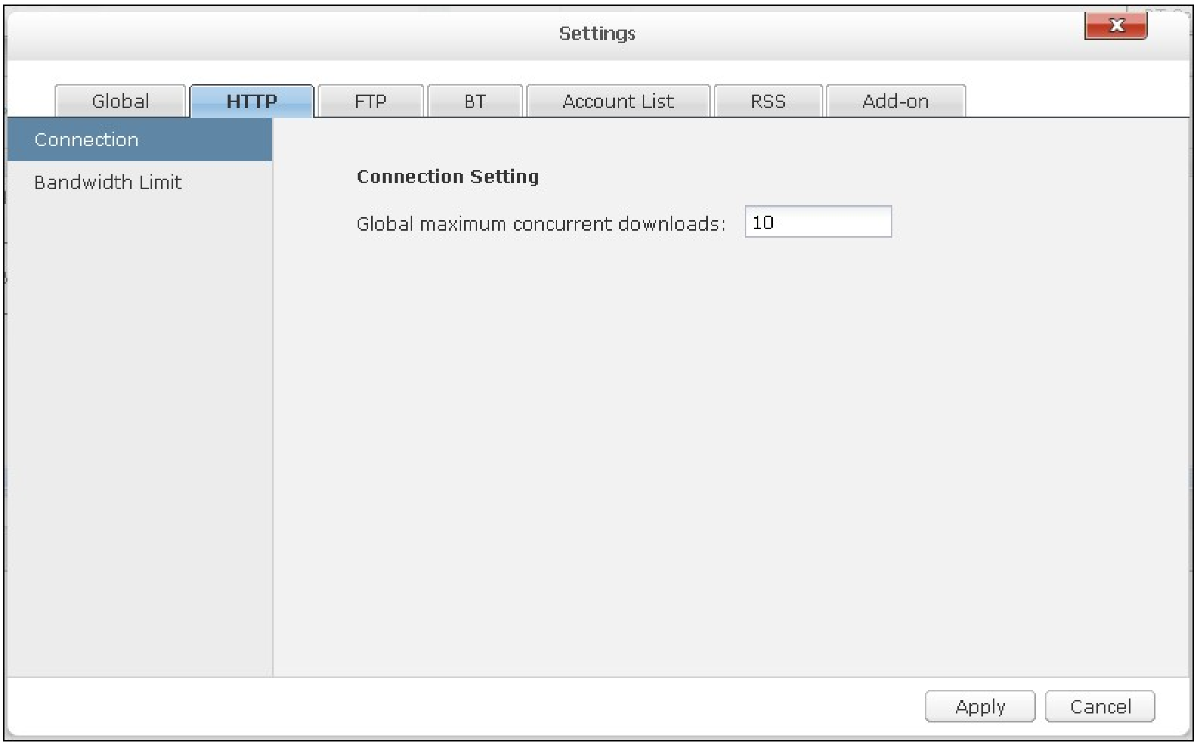
🟥 Full speed ⬛ Turn off 🟩 Limited

"Limited" applies speed limitation settings of the download services. "Full Speed" ignores speed limitation of the download services.

HTTP

- Connection: Specify the maximum number of concurrent HTTP downloads.
- Bandwidth Limit: Specify the maximum download rate of HTTP download tasks. 0 means no limit.

NAS models	Maximum number of concurrent downloads
Intel-based NAS	30
ARM-based (Non Intel-based) NAS	10



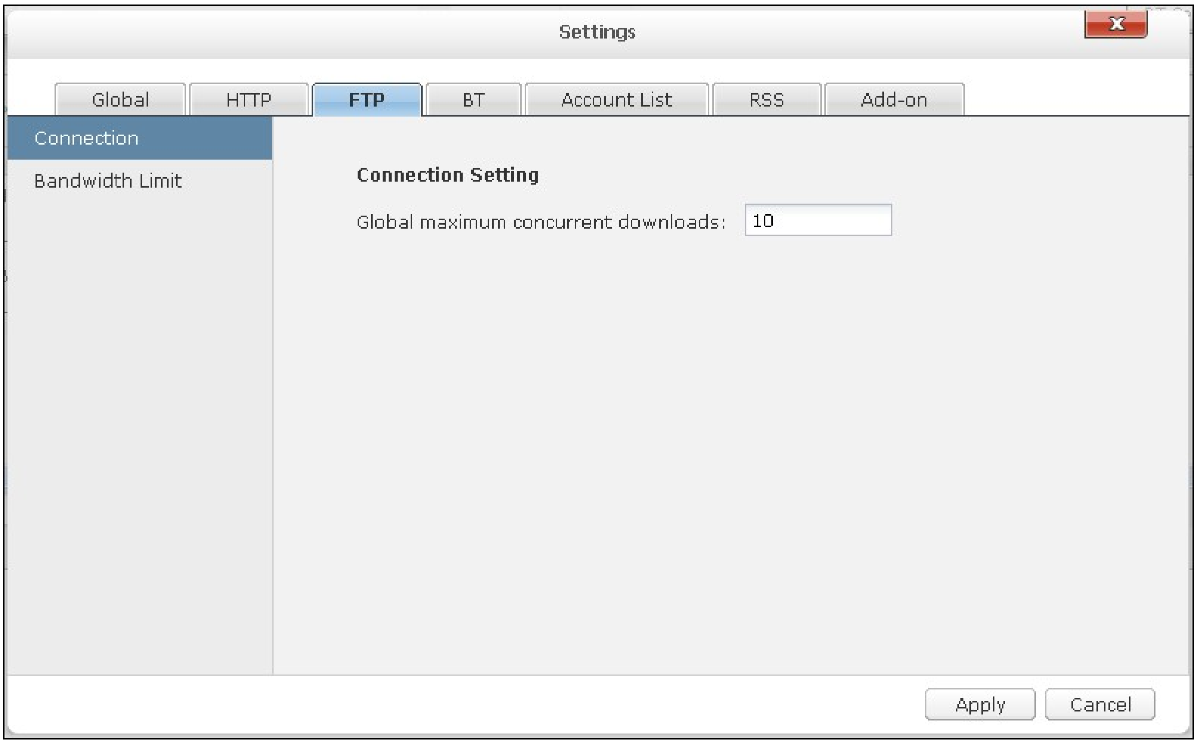
Connection Setting

Global maximum concurrent downloads: 10

FTP

- Connection: Specify the maximum number of concurrent FTP downloads.
- Bandwidth Limit: Specify the maximum download rate of FTP download tasks. 0 means no limit.

NAS models	Maximum number of concurrent downloads
Intel-based NAS	30
ARM-based (Non Intel-based) NAS	10

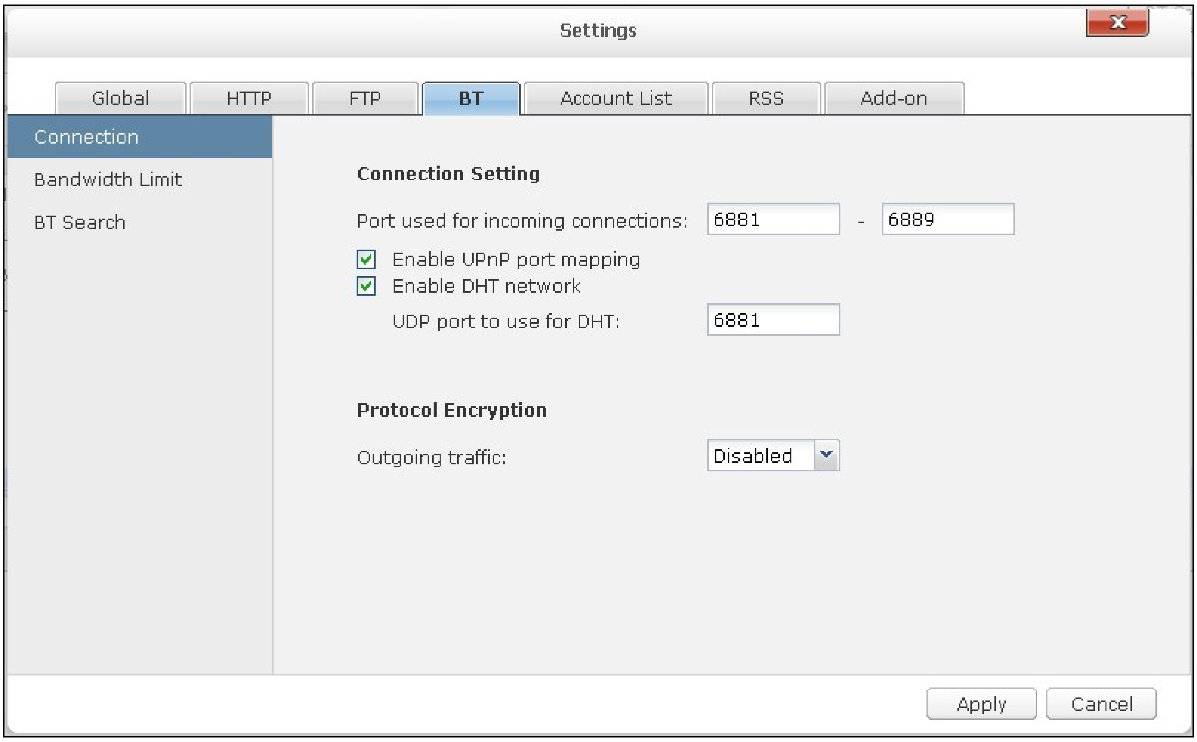


Connection Setting

Global maximum concurrent downloads: 10

BT

- Connection Setting:
  - Specify the ports for BT download. The default port numbers are 6881-6889.
  - Enable UPnP port mapping: Enable automatic port mapping on the UPnP supported gateway.
  - Enable DHT network: To allow the NAS to download the files even no trackers of the torrent can be connected, enable DHT (Distributed Hash Table) network and specify the UDP port number for DHT.
  - Protocol encryption: Enable this option for encrypted data transfer.



Connection Setting

Port used for incoming connections: 6881 - 6889

☑ Enable UPnP port mapping

☑ Enable DHT network

UDP port to use for DHT: 6881

Protocol Encryption

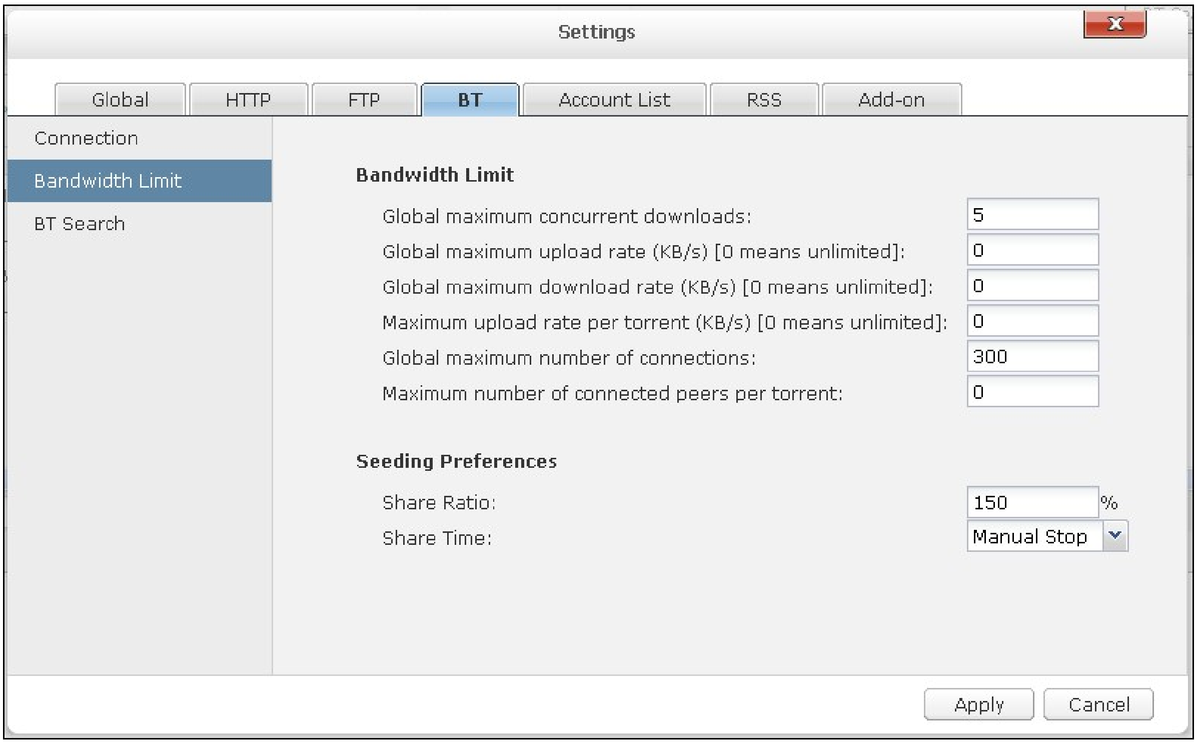
Outgoing traffic: Disabled

- Bandwidth Limit: Specify the maximum download rate of BT download tasks. 0 means no limit.
  - Global maximum concurrent downloads: Specify the maximum number of concurrent BT downloads.

NAS models	Maximum number of concurrent downloads
Intel-based NAS	30
ARM-based (Non Intel-based) NAS	10

- Global maximum upload rate (KB/s): Enter the maximum upload rate for BT download. 0 means no limit.
- Global maximum download rate (KB/s): Enter the maximum download rate for BT download. 0 means no limit.
- Maximum upload rate per torrent (KB/s): Enter the maximum upload rate per torrent. 0 means no limit.
- Global maximum number of connections: This refers to the maximum number of allowed connections to the torrent.
- Maximum number of connected peers per torrent: This refers to the maximum number of allowed peers to connect to a torrent.

- Seeding Preferences: Specify the share ratio for seeding a torrent and the sharing time. The share ratio is calculated by dividing the amount of uploaded data by the amount of downloaded data.



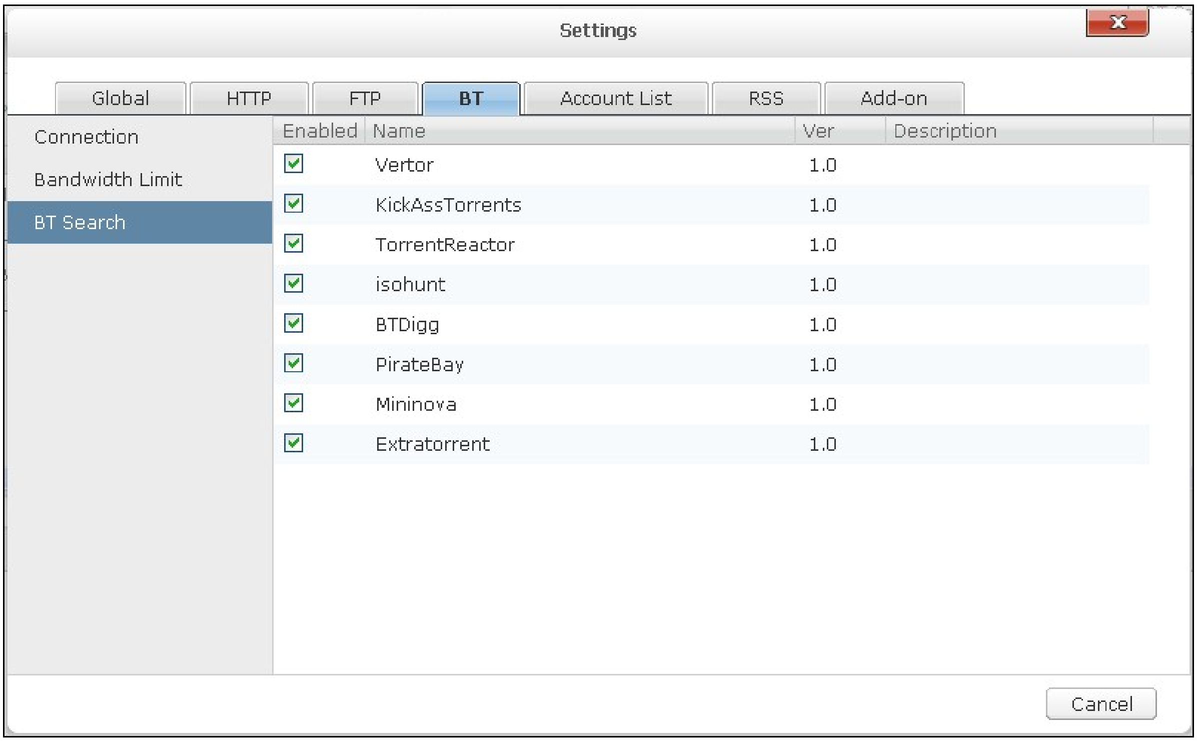
Bandwidth Limit

Global maximum concurrent downloads: 5
Global maximum upload rate (KB/s) [0 means unlimited]: 0
Global maximum download rate (KB/s) [0 means unlimited]: 0
Maximum upload rate per torrent (KB/s) [0 means unlimited]: 0
Global maximum number of connections: 300
Maximum number of connected peers per torrent: 0

Seeding Preferences

Share Ratio: 150 %
Share Time: Manual Stop

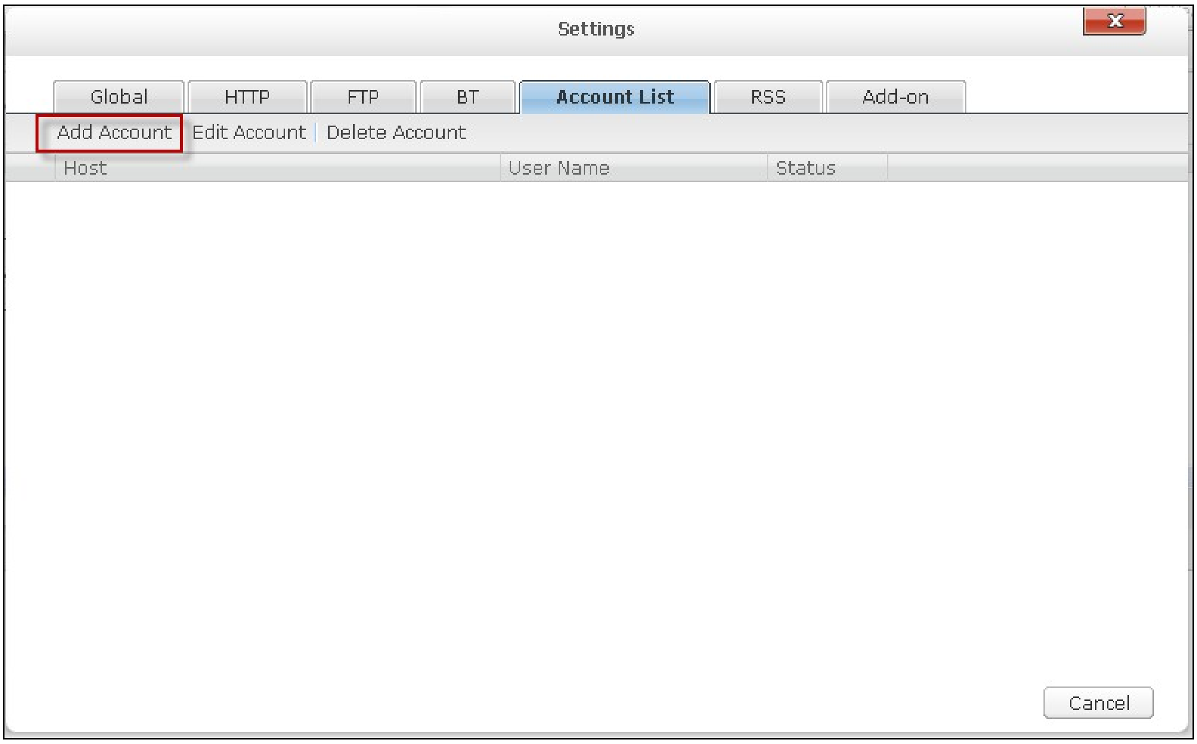
- BT Search: Select the BT engines to enable for BT search on the Download Station.



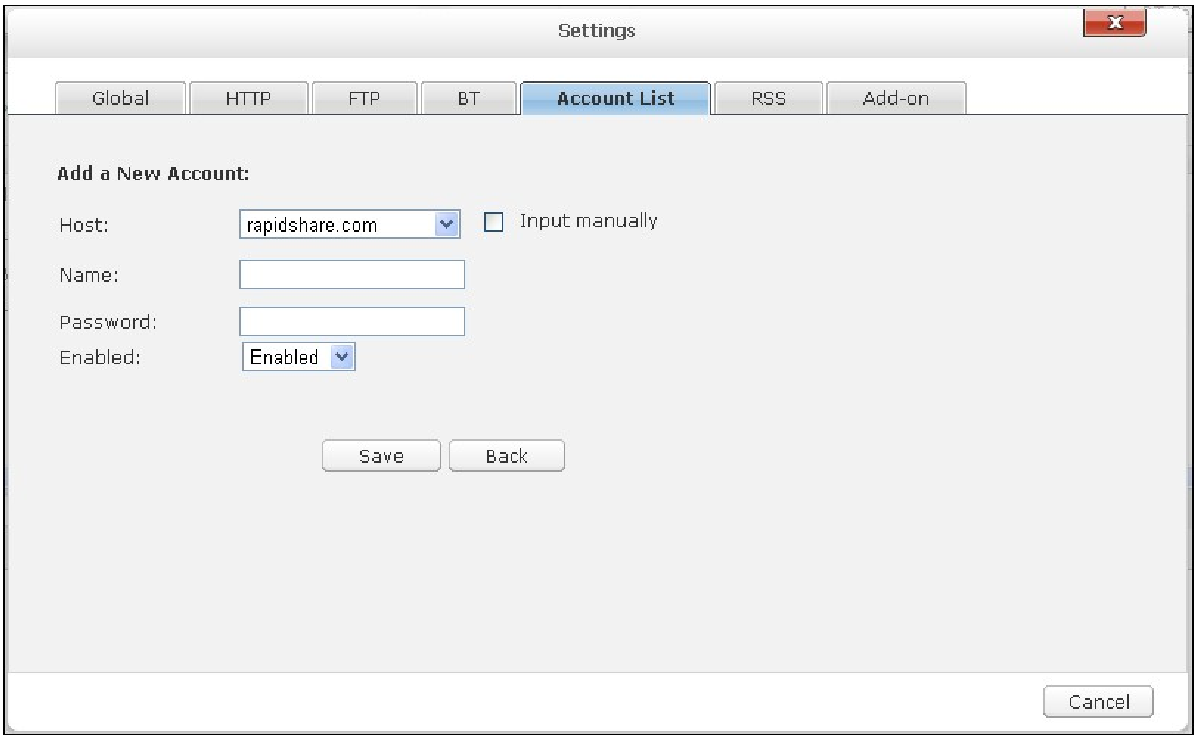
Enabled	Name	Ver	Description
☑	Vertor	1.0	
☑	KickAssTorrents	1.0	
☑	TorrentReactor	1.0	
☑	isohunt	1.0	
☑	BTDigg	1.0	
☑	PirateBay	1.0	
☑	Mininova	1.0	
☑	Extratorrent	1.0	

Account List

You can save the login information of maximum 64 HTTP, FTP, and RapidShare accounts. To add login information, click “Add Account”.



The default host is rapidshare.com. To enter the login information for an HTTP or FTP server, select “Input manually”.



Add a New Account:

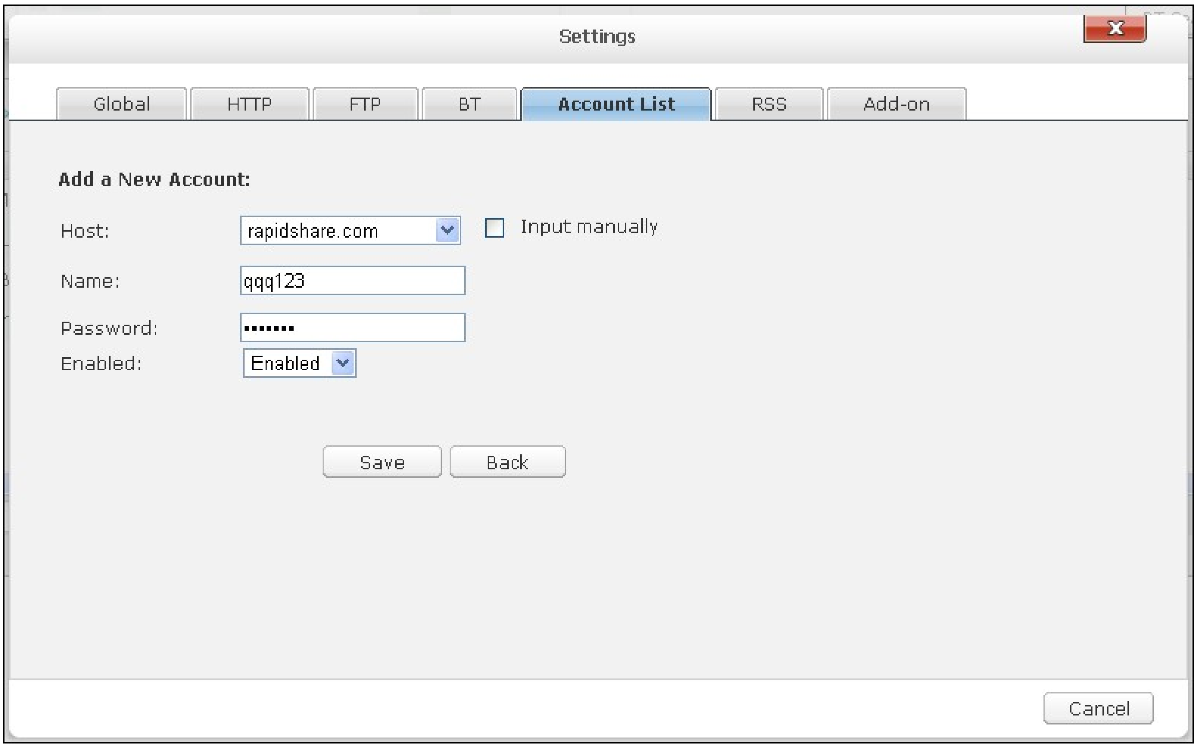
Host: rapidshare.com ☐ Input manually

Name:

Password:

Enabled: Enabled

Enter the host name or IP, username and password. To allow the login information to appear for account selection when configuring HTTP, FTP, or RapidShare download, select “Enabled” from the drop-down menu. Click “Save” to confirm or “Back” to cancel.



Add a New Account:

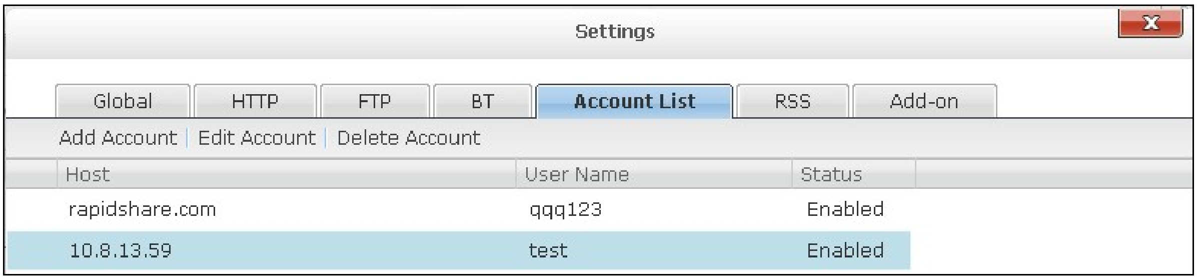
Host: rapidshare.com ☐ Input manually

Name: qqq123

Password: •••••••

Enabled: Enabled

To edit the settings of an account, select an entry on the list and click “Edit Account”. To delete an account, select an entry on the list and click “Delete Account”.



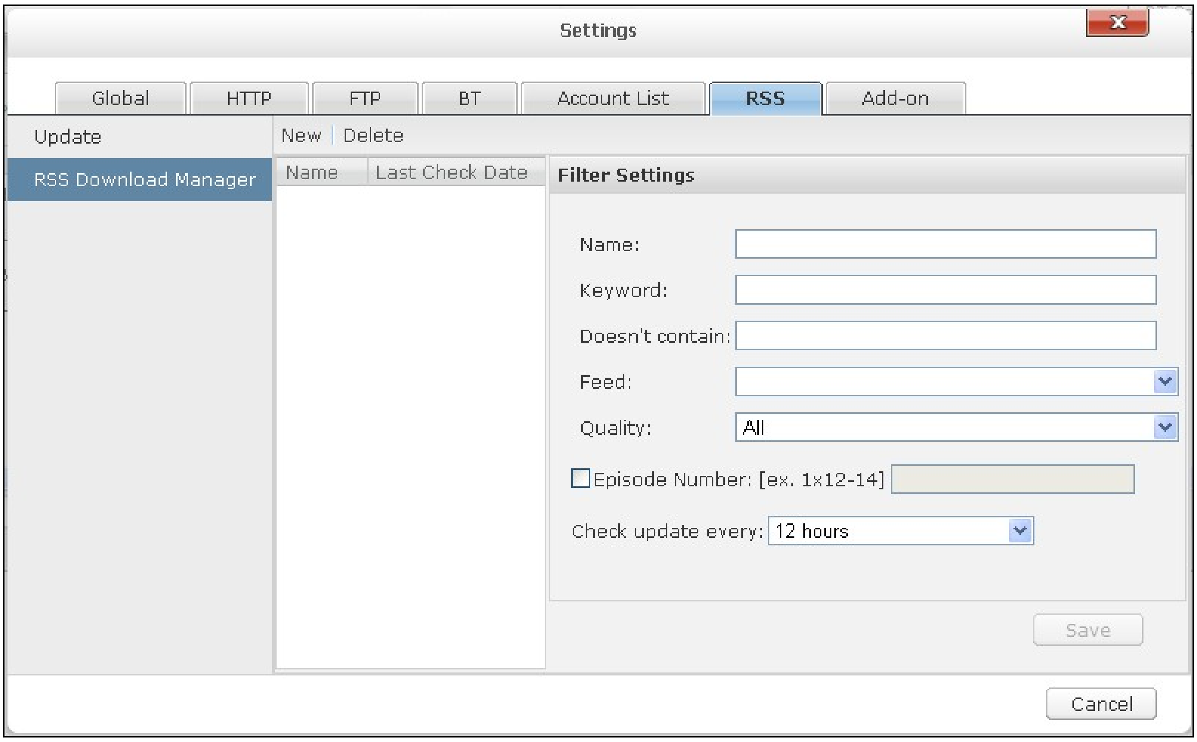
Host	User Name	Status
rapidshare.com	qqq123	Enabled
10.8.13.59	test	Enabled

RSS

Update: Enable RSS download and specify the time interval to for the NAS to update the RSS feeds and check if any new contents that match the filters are available.

RSS Download Manager:
You can use RSS Download Manager to create and manage filters to download particular torrent files for BT Download.

- To add a filter, click "Add".
- Enter the filter name and specify the keyword to include and exclude.
- Select the RSS feed to apply the filter settings.
- You may also specify the quality of the video torrent files (leave it as "All" if you do not need this function or the torrent file is not a video.)
- Episode number: Select this option to specify particular episodes or a serial of episodes of a drama work. For example, to download episodes 1-26 of season 1 of a TV program, enter 1x1-26. To download only episode 1 of season 1, enter 1x1.
- Select the time interval for automatic update of the RSS feeds. The NAS will update the RSS feeds and check if any new contents that match the filters are available.
- Click "Save" to save the filter or "Cancel" to cancel or exit.
- To delete a filter, select the filter from the list and click "Delete".



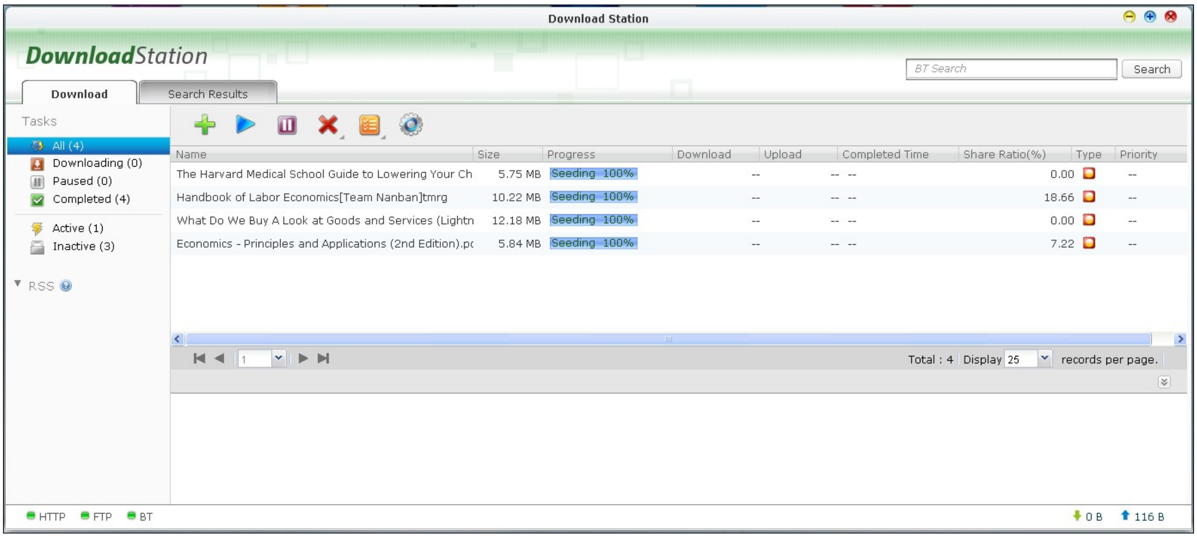
Name:
Keyword:
Doesn't contain:
Feed:
Quality: All
□Episode Number: [ex. 1x12-14]
Check update every: 12 hours

Add-on

To download the YouTube videos by the HappyGet add-on to the NAS, enable the website subscription service. For more details, please see the application note: http://www.qnap.com/en/index.php?sn=5319&lang=en

BT Download

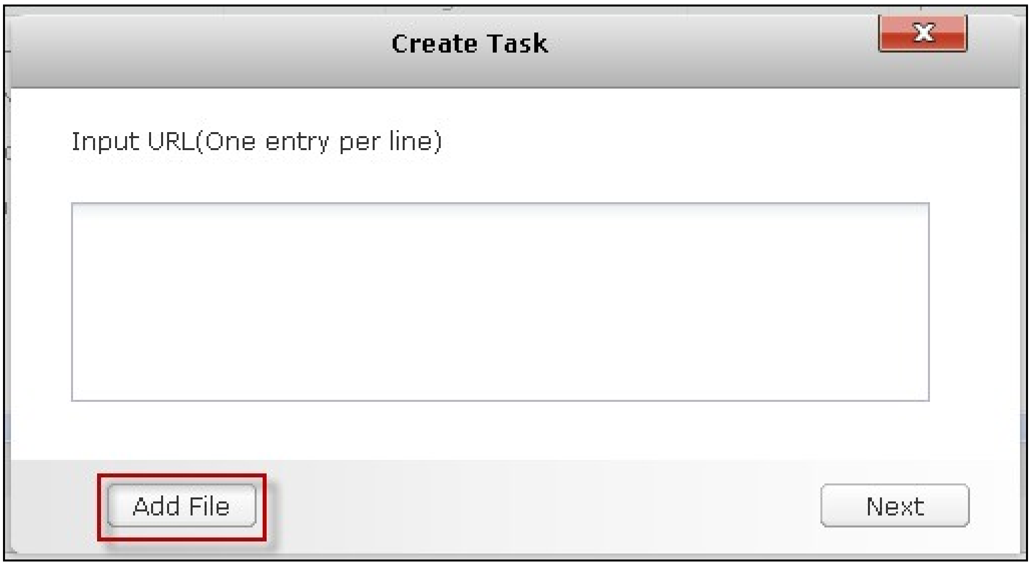
To download a BT file, click ➕.



Name	Size	Progress	Download	Upload	Completed Time	Share Ratio(%)	Type	Priority
The Harvard Medical School Guide to Lowering Your Ch	5.75 MB	Seeding 100%	--	--	--	0.00	●	--
Handbook of Labor Economics[Team Nanban]tmrg	10.22 MB	Seeding 100%	--	--	--	18.66	●	--
What Do We Buy A Look at Goods and Services (Lightn	12.18 MB	Seeding 100%	--	--	--	0.00	●	--
Economics - Principles and Applications (2nd Edition).pc	5.84 MB	Seeding 100%	--	--	--	7.22	●	--

1 Total : 4 Display 25 records per page.

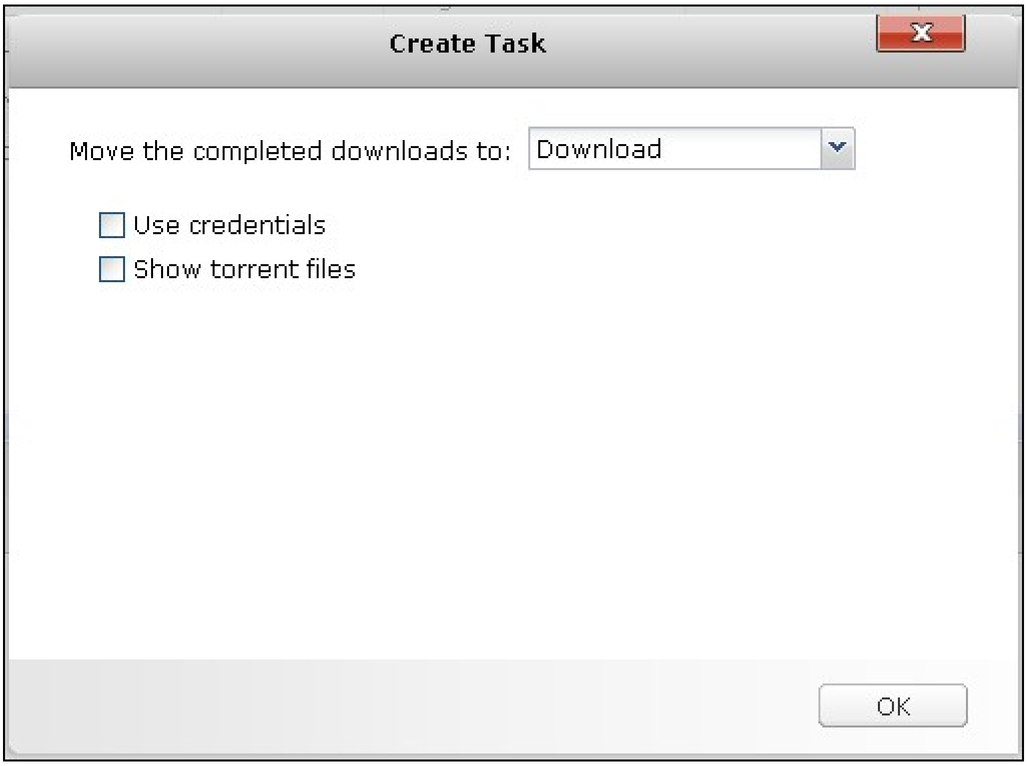
Click "Add File". Browse and select a torrent file.



Specify the folder where the downloaded files will be saved to.

Use credentials: Select this option and enter the login information to download the files.

Show torrent files: Select this option to choose the files to download after clicking "OK".



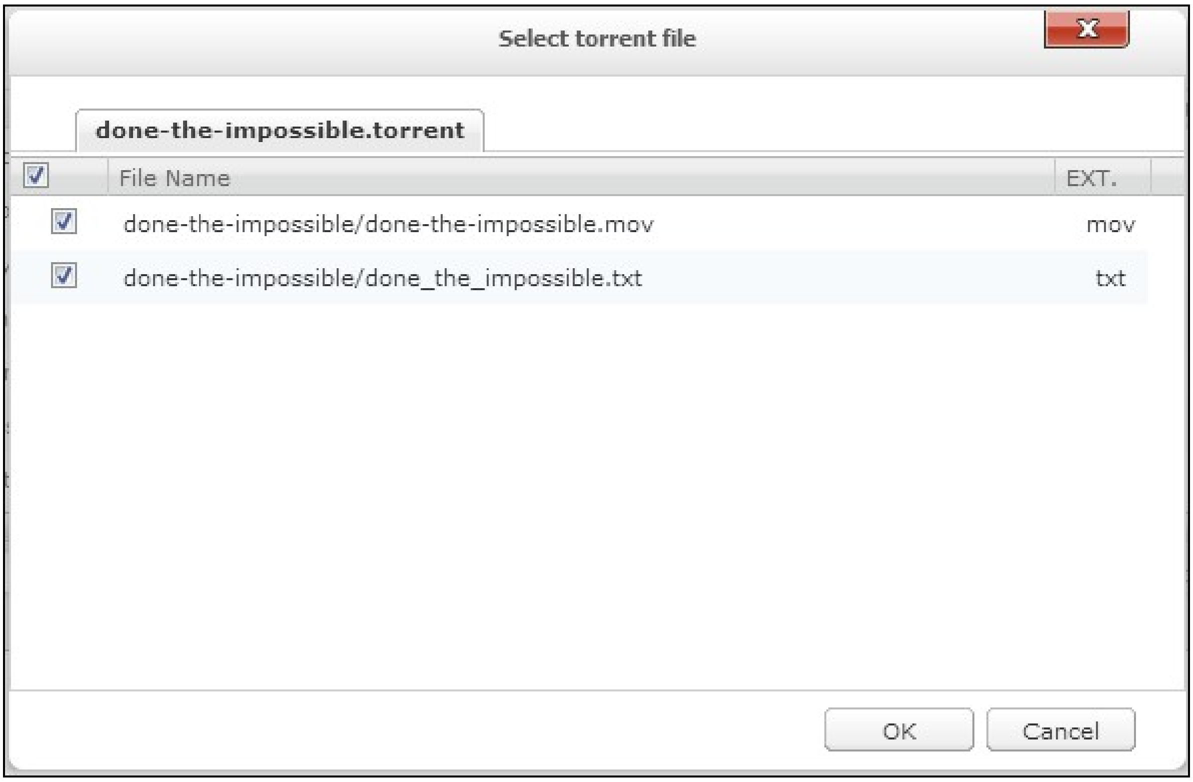
Create Task

Move the completed downloads to: Download

□ Use credentials

□ Show torrent files

Select the file(s) to download and click “OK”.



Select torrent file

done-the-impossible.torrent

☑	File Name	EXT.
☑	done-the-impossible/done-the-impossible.mov	mov
☑	done-the-impossible/done_the_impossible.txt	txt

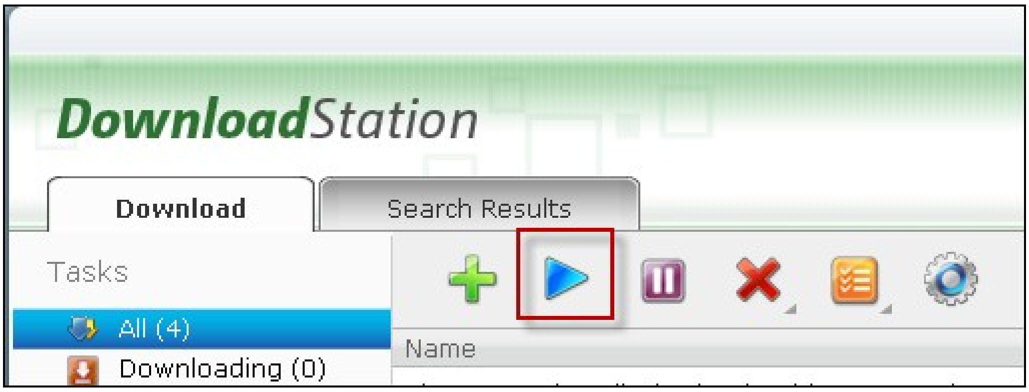
Click the icons to manage the download tasks.

Icon	Description

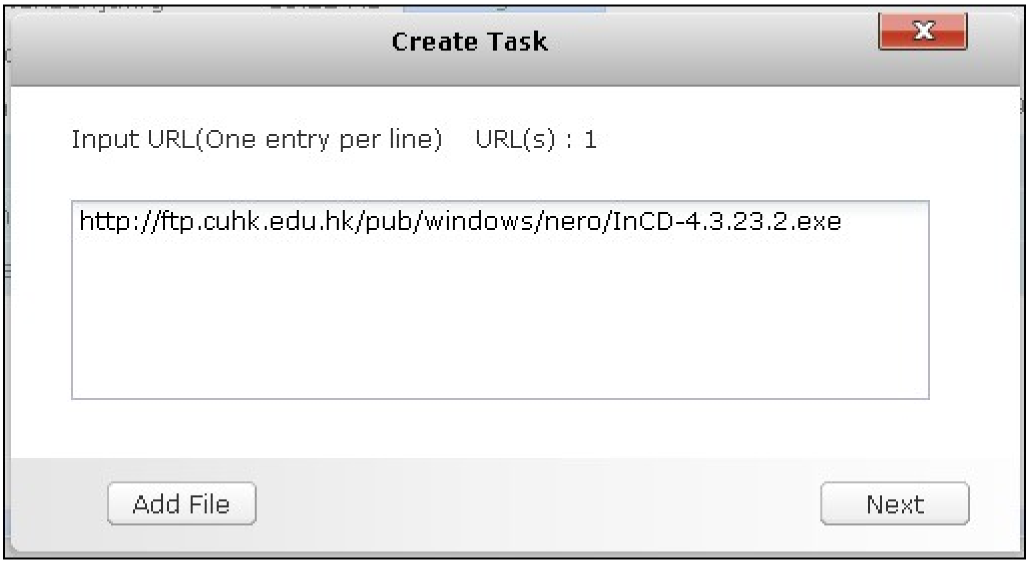
▶	Start a download task.
⏸	Pause a download task.
✖	Delete a download task.
☰	Start all, pause all, or pause all download tasks for a specified time period, remove all completed tasks, remove all completed tasks and delete data.

HTTP, FTP, RapidShare, Magnet Download

To add an HTTP, FTP, RapidShare, or Magnet download task, click ▶.



Enter the URL of the download task (one entry per line). Then select the download type: HTTP/FTP, RapidShare, or Magnet Link. If a username and password is required to access the file, select "Use credentials" and select a pre-configured account (Settings > Account List) or enter a username and password. Then click "OK". The NAS will download the files automatically.

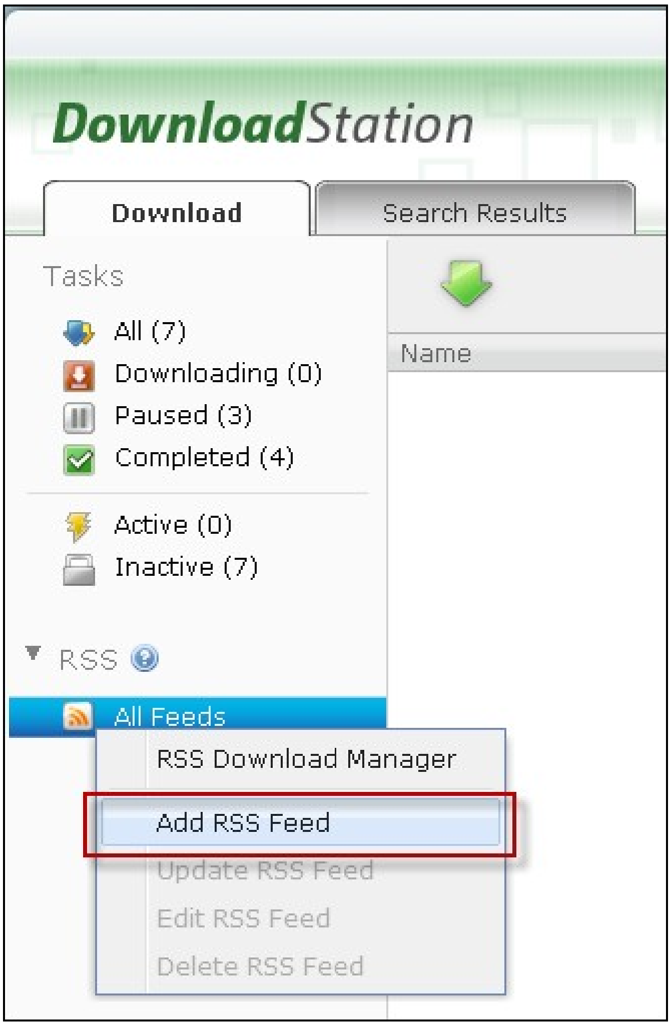


http://ftp.cuhk.edu.hk/pub/windows/nero/InCD-4.3.23.2.exe

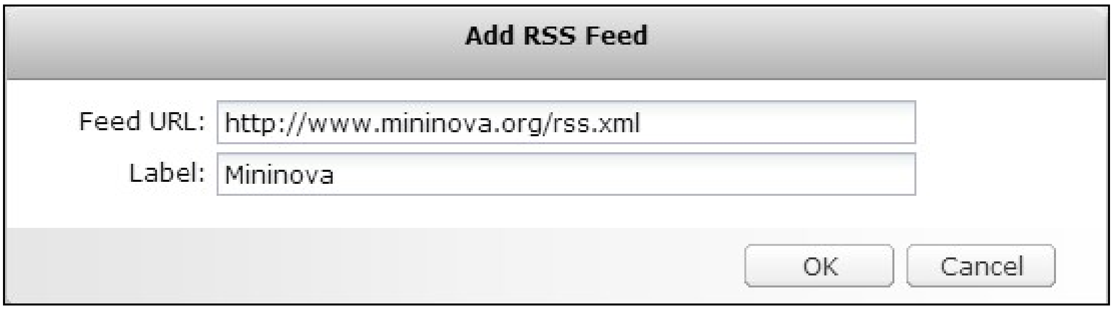
Note: You can only enter maximum 30 entries at one time.

RSS Feed

You can subscribe to RSS feeds by the Download Station and download the torrent files in the feeds. Click to add an RSS feed.



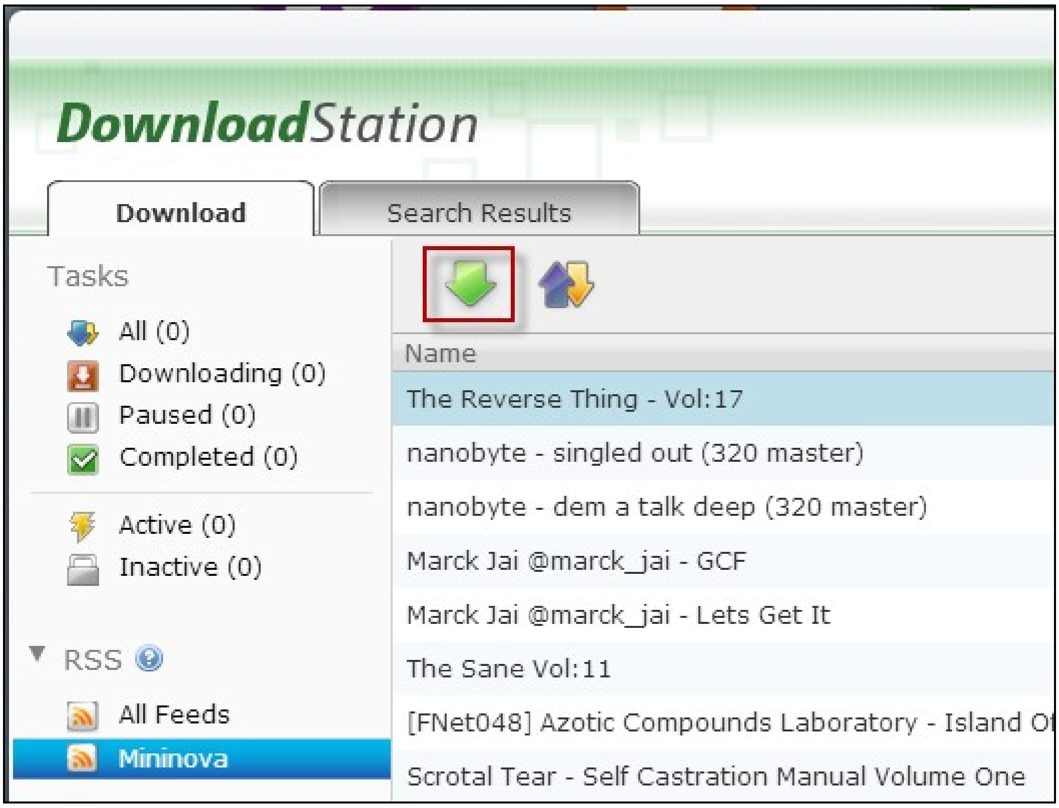
Enter the URL and the label.



Feed URL: http://www.mininova.org/rss.xml

Label: Mininova

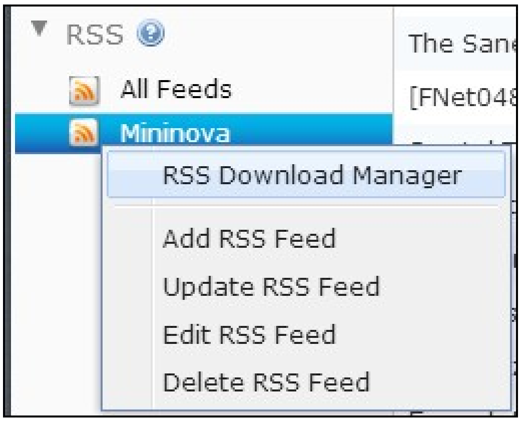
To download a torrent file from an RSS feed, select the file and click ⬇ or right click the feed and select "Download".



Name
The Reverse Thing - Vol:17
nanobyte - singled out (320 master)
nanobyte - dem a talk deep (320 master)
Marck Jai @marck_jai - GCF
Marck Jai @marck_jai - Lets Get It
The Sane Vol:11
[FNet048] Azotic Compounds Laboratory - Island Of
Scrotal Tear - Self Castration Manual Volume One

The NAS will start to download the file automatically. You can view the download status in the Downloading list.

To manage the RSS feeds subscription, right click an RSS feed label. You can open the RSS Download Manager, add, update, edit, or delete an RSS feed.



The common reasons for slow BT download rate or download error are as below:

1. The torrent file has expired, the peers have stopped sharing this file, or there is error in the file.
2. The NAS has configured to use fixed IP but DNS server is not configured, or DNS server fails.
3. Set the maximum number of simultaneous downloads as 3-5 for the best download rate.
4. The NAS is located behind NAT router. The port settings have led to slow BT download rate or no response. You may try the following means to solve the problem:
   a. Open the BT port range on NAT router manually. Forward these ports to the LAN IP of the NAS.
   b. The new NAS firmware supports UPnP NAT port forwarding. If your NAT router supports UPnP, enable this function on the NAT. Then enable UPnP NAT port forwarding of the NAS. The BT download rate should be enhanced.

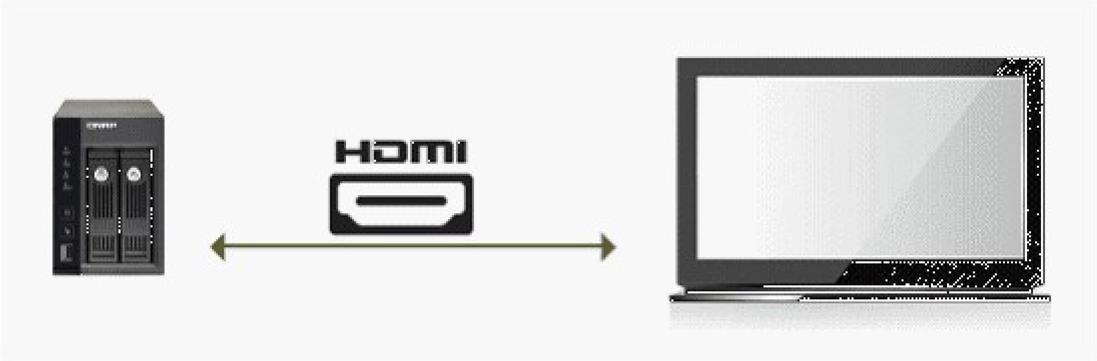
8.8 HD Station

The HD Station is a platform where the famous XBMC application or Chrome browser can be installed to let you directly play back your NAS multimedia contents or browse the internet websites on the TV screen thru the HDMI interface.

Note: Currently, the HD Station is supported by the TS-x69L, TS-x69 Pro, TS-x70 and TS-x70 Pro Turbo NAS models.

Create your lovely media environment by following the steps below:

1. **Setting up the environment of the HD Station: Connect the NAS to the HDMI TV with a HDMI cable**



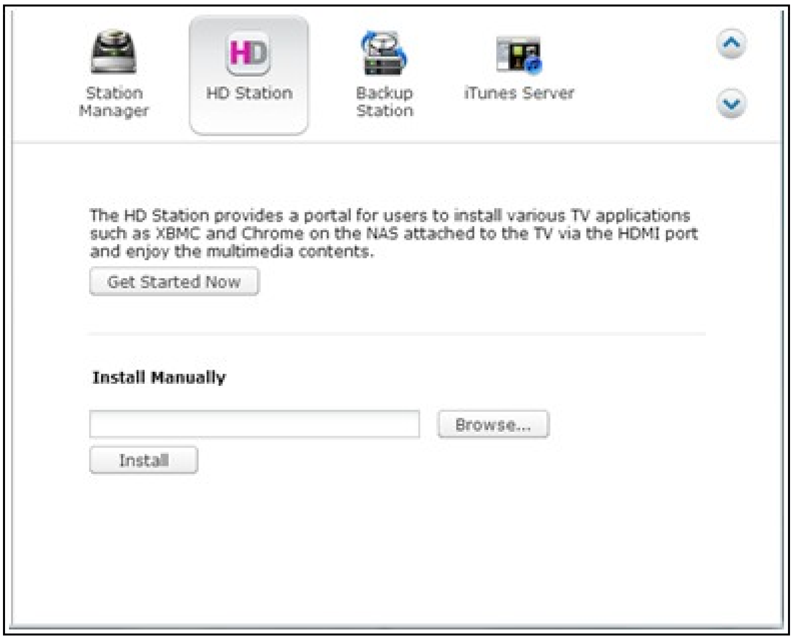
Remote controller: There are 4 different ways to control the HD Station.

A. QNAP remote controller
B. MCE remote controller
C. USB keyboard or mouse
D. Qremote: QNAP remote app, exclusively designed for the HD Station.

Note: If you want to use the Chrome to browse an internet website, you are required to use the mouse function on the Qremote or use the USB mouse directly connected to the NAS.

2. **Installing the HD Station:**

Go to “Applications” > “HD Station” and click the “Get Started Now” button. Then, the system will install the HD Station automatically.

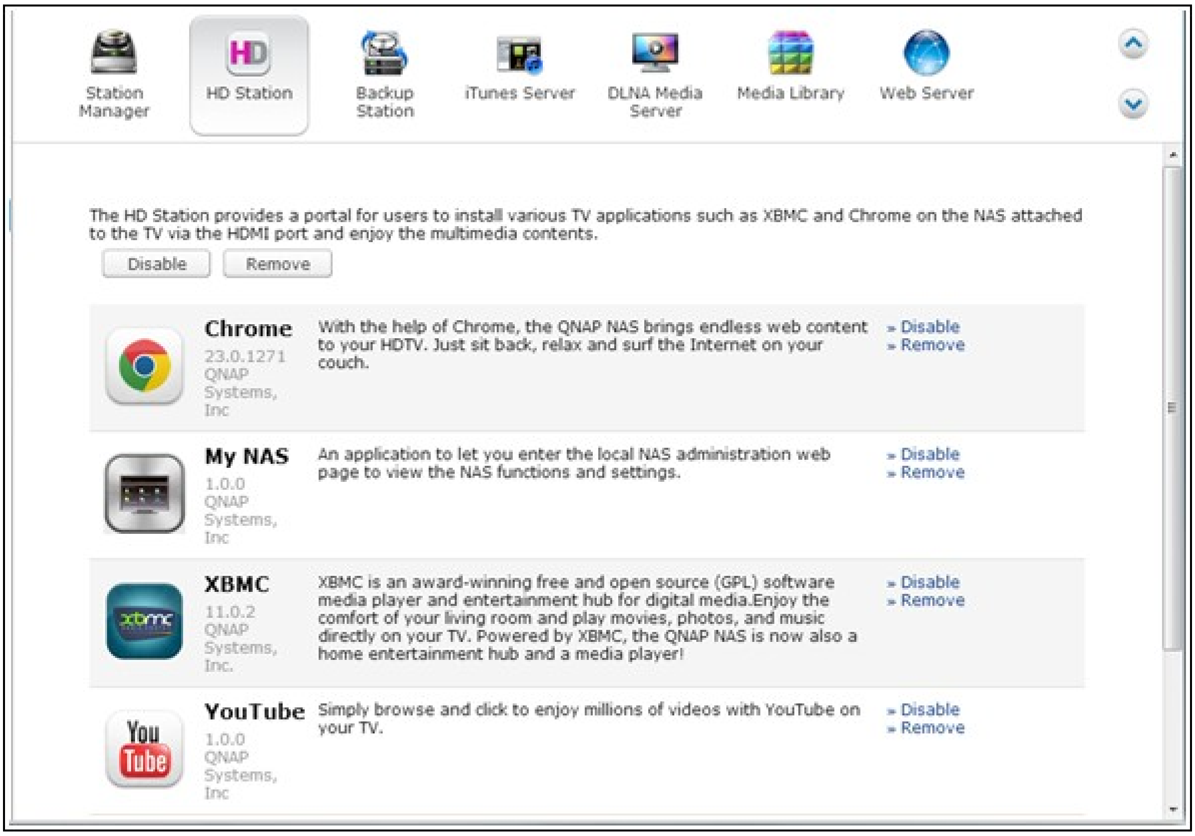


The HD Station provides a portal for users to install various TV applications such as XBMC and Chrome on the NAS attached to the TV via the HDMI port and enjoy the multimedia contents.

Install Manually

3. Choosing the applications to install.

- HD Station: The HD Station portal, which allows you to use the following applications on the TV screen.
- XBMC: An application for you to operate and enjoy your multimedia data on the TV screen.
- Chrome: With the help of Chrome, the QNAP Turbo NAS brings endless web content to your HDTV. Just sit back, relax, and surf the Internet on your couch.
- YouTube: Simply browse and click to enjoy millions of YouTube videos on your TV.
- My NAS: An application for you to enter the local NAS administration web page to view the NAS functions and settings.



The HD Station provides a portal for users to install various TV applications such as XBMC and Chrome on the NAS attached to the TV via the HDMI port and enjoy the multimedia contents.

Chrome 23.0.1271 QNAP Systems, Inc
With the help of Chrome, the QNAP NAS brings endless web content to your HDTV. Just sit back, relax and surf the Internet on your couch.
» Disable » Remove

My NAS 1.0.0 QNAP Systems, Inc
An application to let you enter the local NAS administration web page to view the NAS functions and settings.
» Disable » Remove

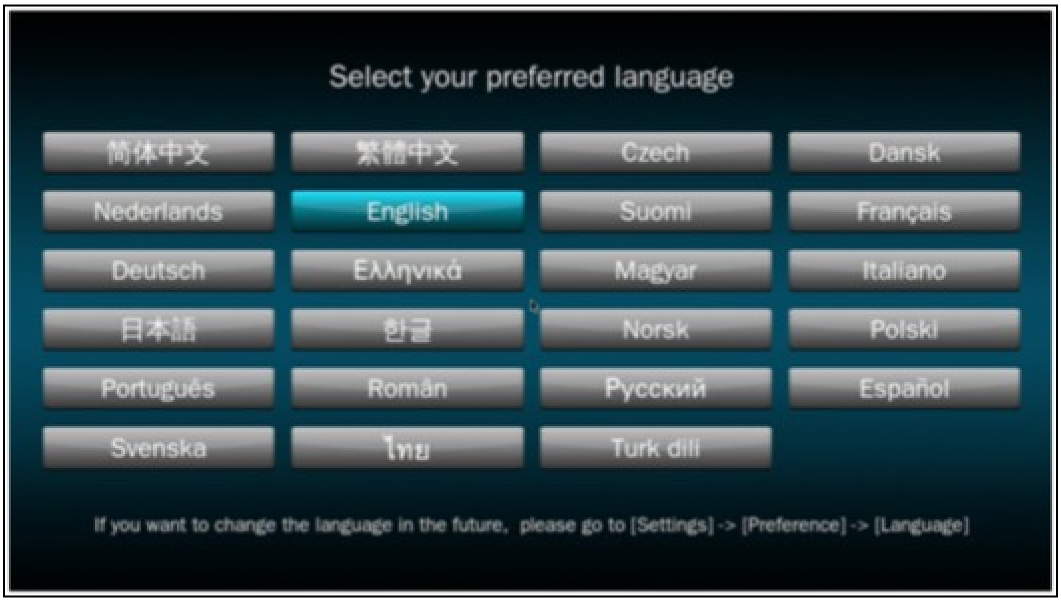
XBMC 11.0.2 QNAP Systems, Inc.
XBMC is an award-winning free and open source (GPL) software media player and entertainment hub for digital media.Enjoy the comfort of your living room and play movies, photos, and music directly on your TV. Powered by XBMC, the QNAP NAS is now also a home entertainment hub and a media player!
» Disable » Remove

YouTube 1.0.0 QNAP Systems, Inc
Simply browse and click to enjoy millions of videos with YouTube on your TV.
» Disable » Remove

Note:

- Keeping staying at XBMC, Chrome, or other applications could affect the hard drive hibernation of the NAS. Please always exit the application and return to the HD Station portal.
- Press the power button on the remote control for 6 seconds anytime to exit an application.
- Press the one touch copy button on the NAS for 6 seconds to restart the HD Station.
- For the best HD Station experience, QNAP recommends upgrading your Turbo NAS memory to 2GB or more.
- To use the AirPlay function provided by XBMC, please upgrade your Turbo NAS memory to 2GB or more.
- The HD Station will restart when formatting an USB external device.
- The first time XBMC is launched, it will index the "Multimedia" shared folder and it may consume a lot of system resources if the folder contains a lot of multimedia files.

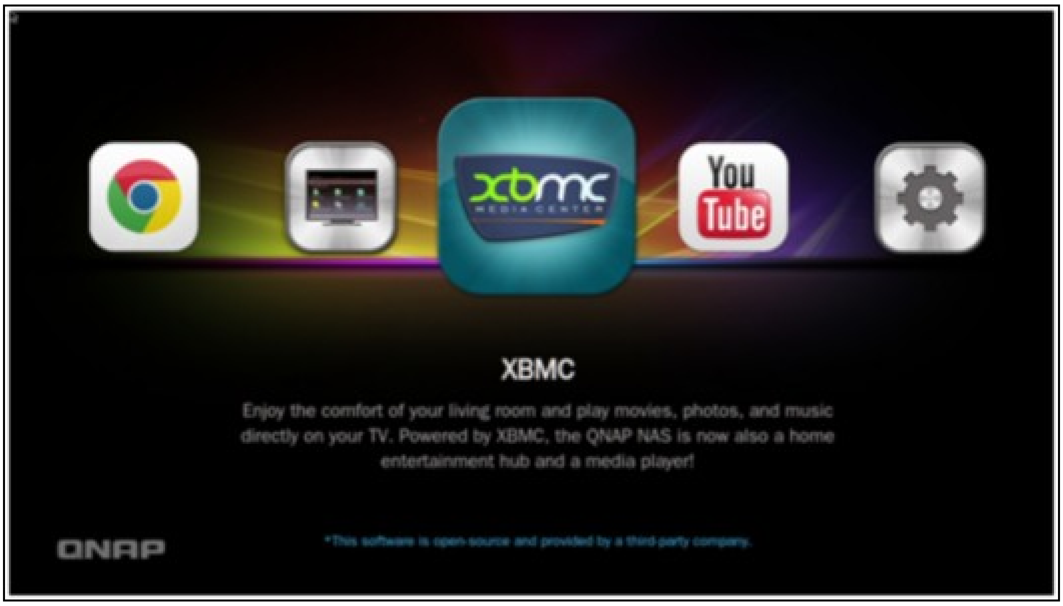
After installation, please choose your preferred language on the TV screen.



Select your preferred language

If you want to change the language in the future, please go to [Settings] -> [Preference] -> [Language]

After selecting the language, you will see the HD Station portal as shown below.

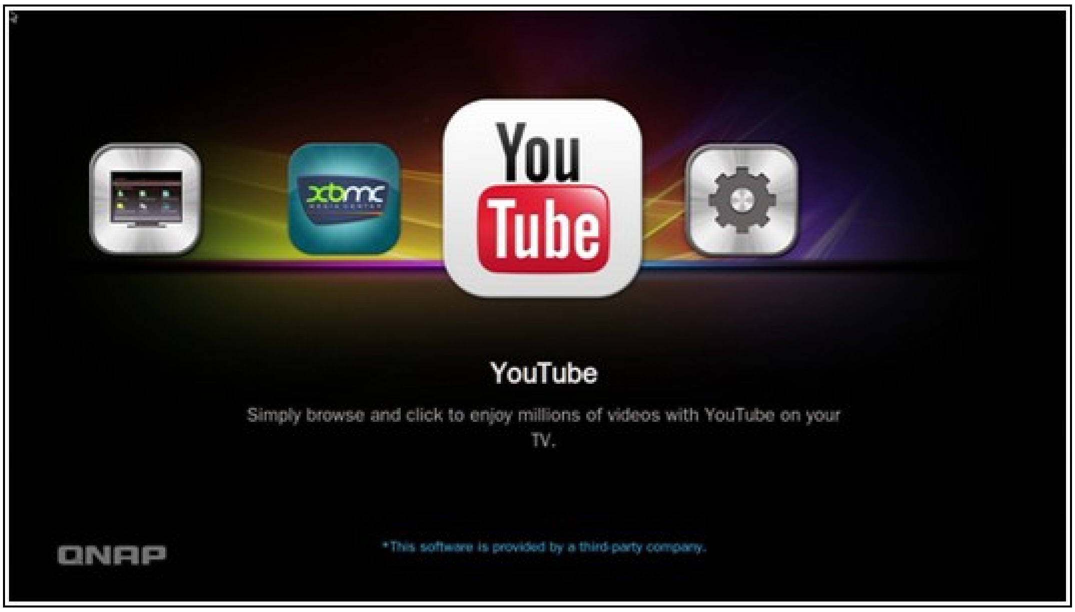


XBMC

Enjoy the comfort of your living room and play movies, photos, and music directly on your TV. Powered by XBMC, the QNAP NAS is now also a home entertainment hub and a media player!

*This software is open-source and provided by a third-party company.

4. **Enjoying the HD Station: At the HD Station portal, simply choose the application you want to use to start enjoying the service.**

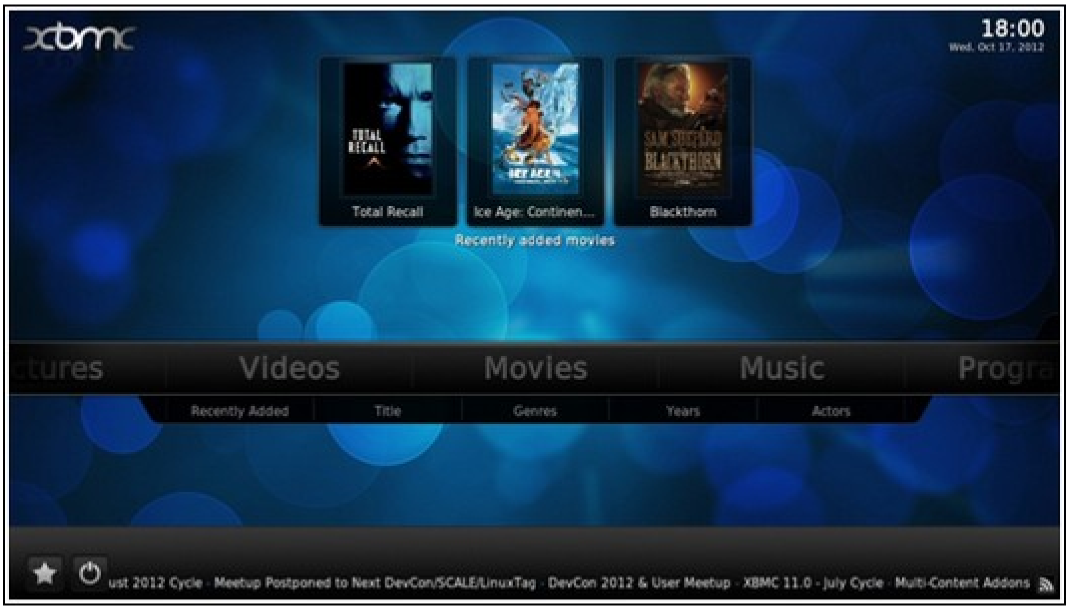


YouTube

Simply browse and click to enjoy millions of videos with YouTube on your TV.

*This software is provided by a third-party company.

Enjoy the comfort of your living room and play movies, photos, and music directly on your TV by XBMC or other applications.



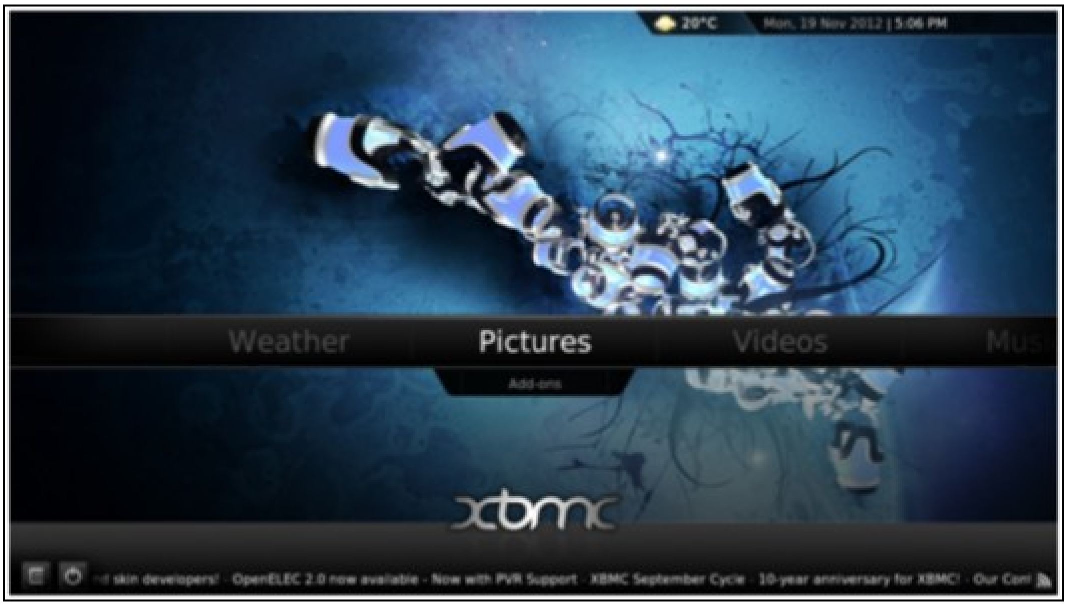
Take a picture with your smart phone and watch on your TV

The first part is done by Qfile on your phone:

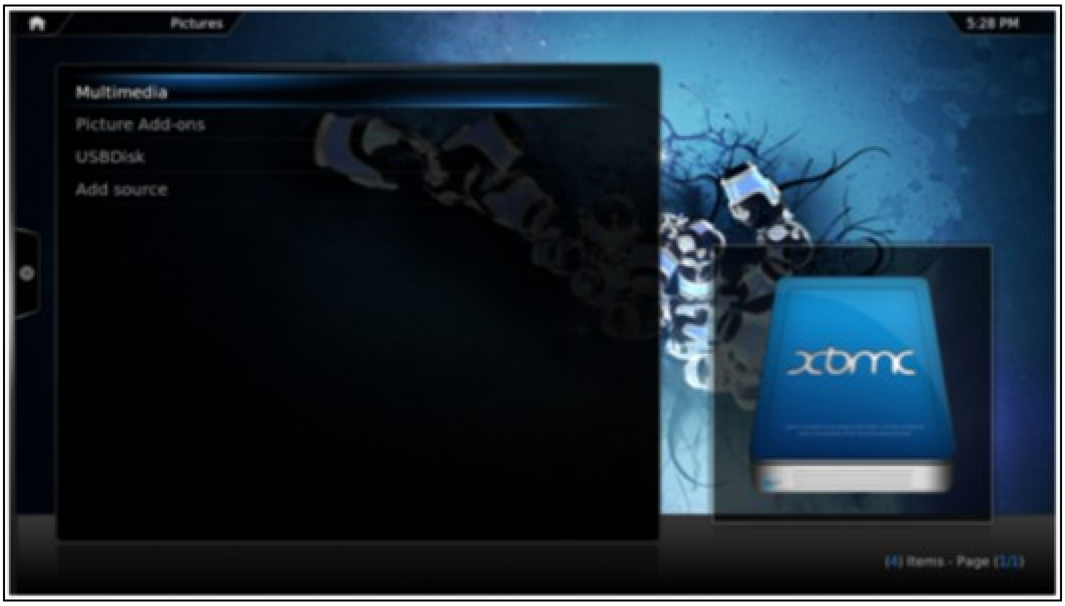
a. Use Qfile to browse your NAS.
b. Choose the multimedia shared folder.
c. Select the upload function.
d. Take a picture and upload it to the NAS.

The second part is performed by the HD Station on your TV:

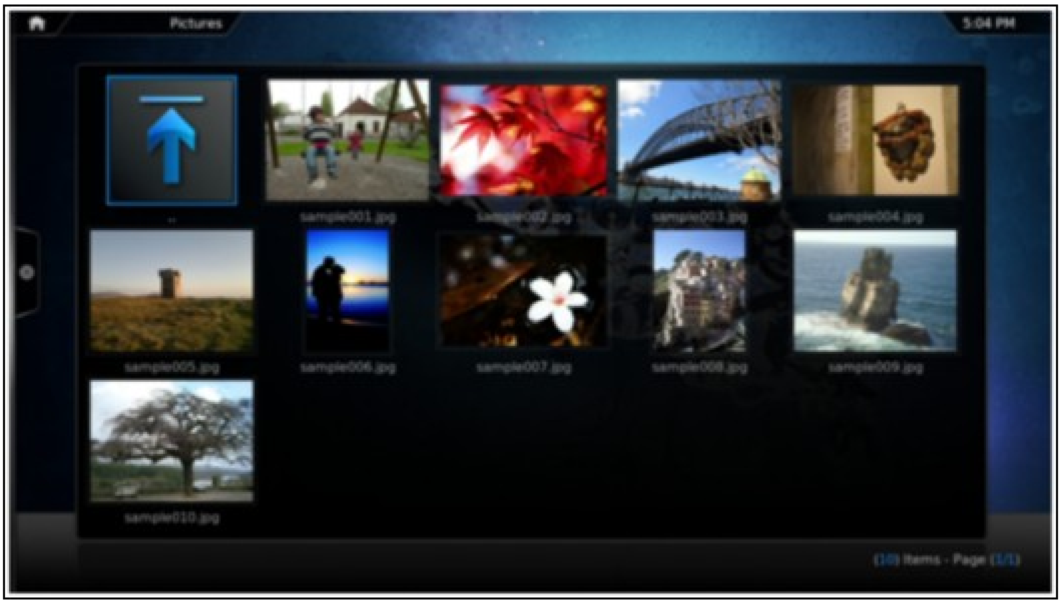
e. Turn on your TV and choose XBMC.
f. Choose "Pictures" like below:


20°C
Mon, 19 Nov 2012 | 5:06 PM
Weather
Pictures
Videos
Mus
Add-ons
xbmc
skin developers! · OpenELEC 2.0 now available · Now with PVR Support · XBMC September Cycle · 10-year anniversary for XBMC! · Our Con

g. Select the "Multimedia" folder.



h. Double click the picture you just uploaded.

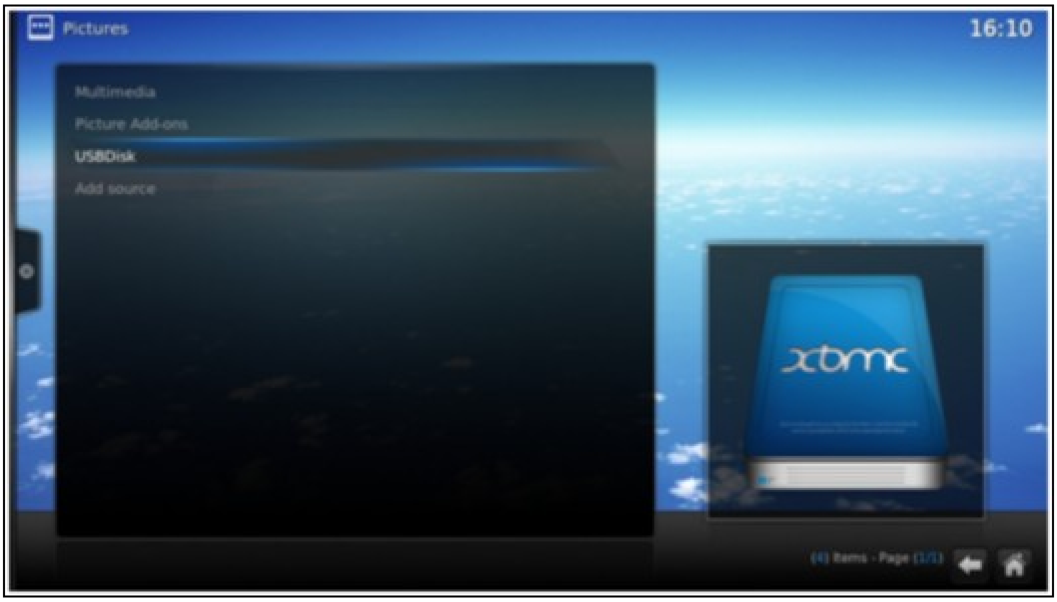


Viewing photos on your USB device or camera

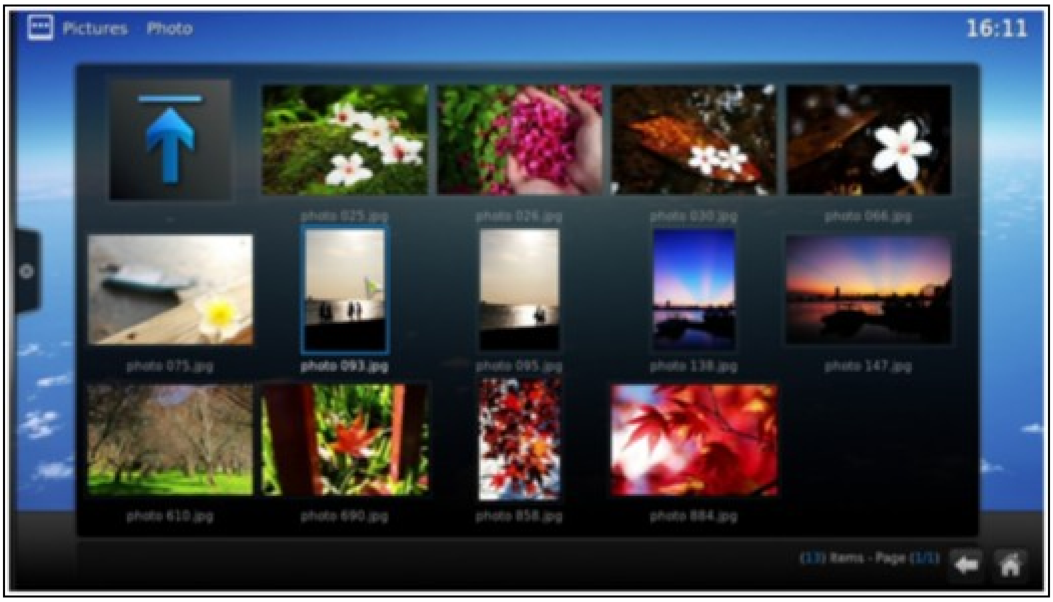
a. Connect your USB device or camera to the USB port of your NAS.

b. Choose “Pictures”.

c. Choose “USBDisk”.



d. Select the photo you want to view.

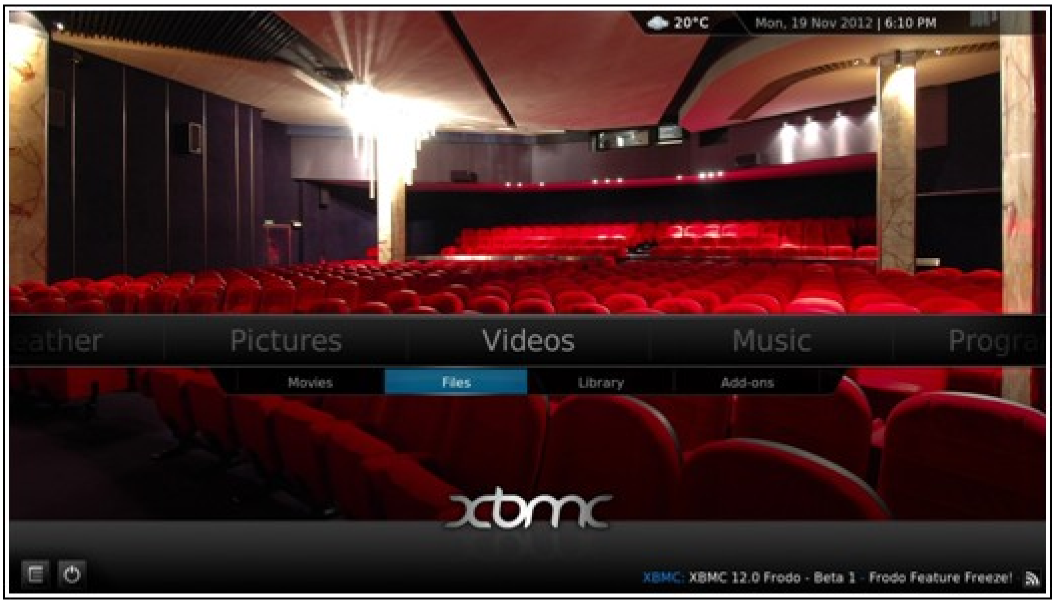


Importing media contents to your NAS

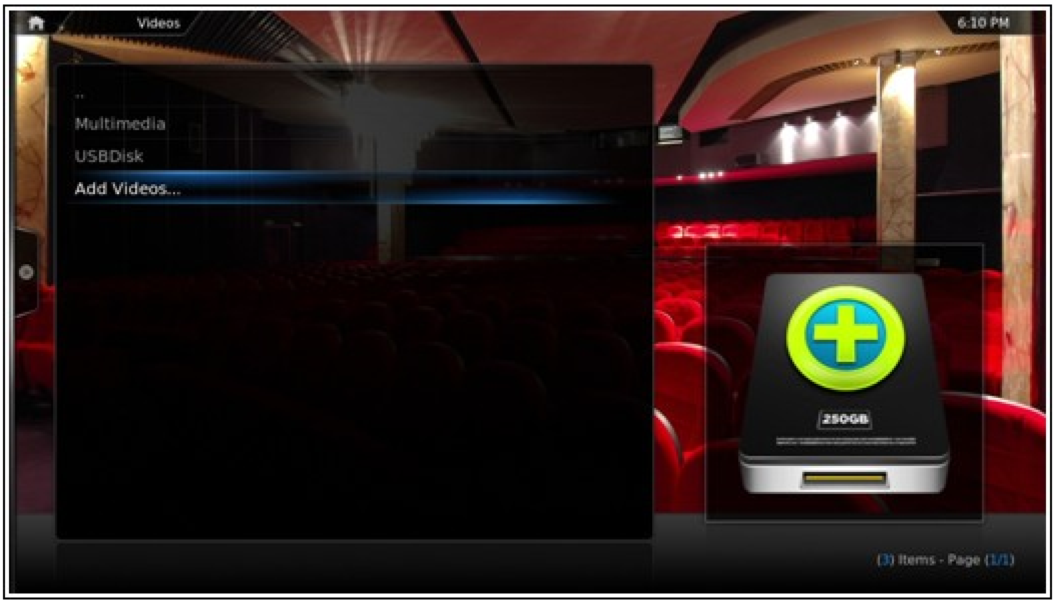
Use one of the several types of network protocols (Samba, AFP, FTP, and NFS) to save the media content files in the "Multimedia" or "Qmultimedia" shared folder, or copy them from an external USB or eSATA device.

To browse the media contents in different folders other than the default "Multimedia" shared folder, perform the following steps:

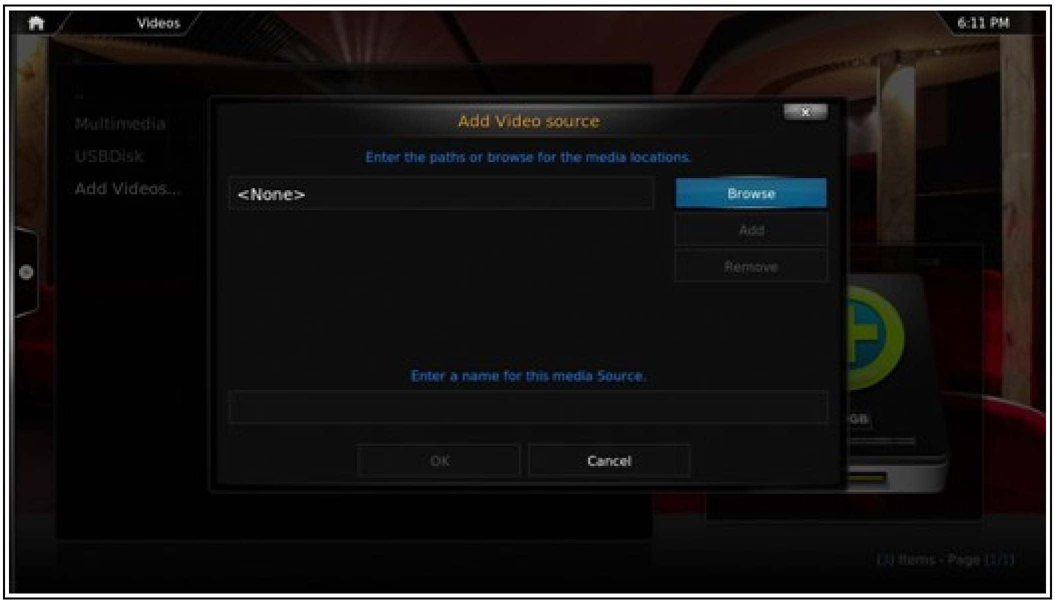
a. Choose "Files" under "Videos".


20°C
Mon, 19 Nov 2012 | 6:10 PM
eather
Pictures
Videos
Music
Progra
Movies
Files
Library
Add-ons
xbmc
XBMC: XBMC 12.0 Frodo - Beta 1 - Frodo Feature Freeze!

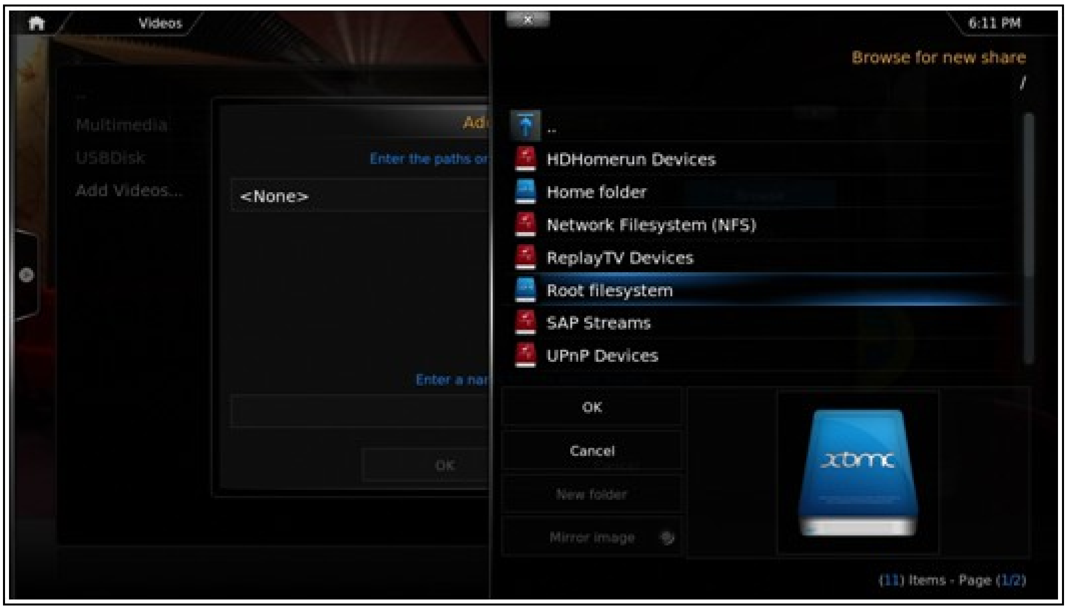
b. Choose "Add Videos".



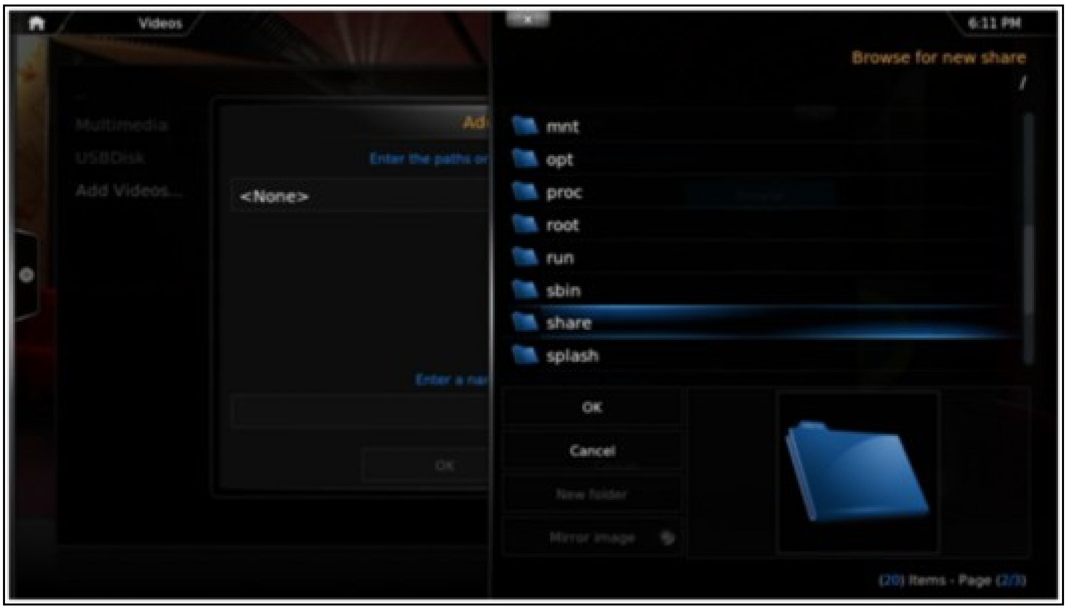
c. Click "Browse".



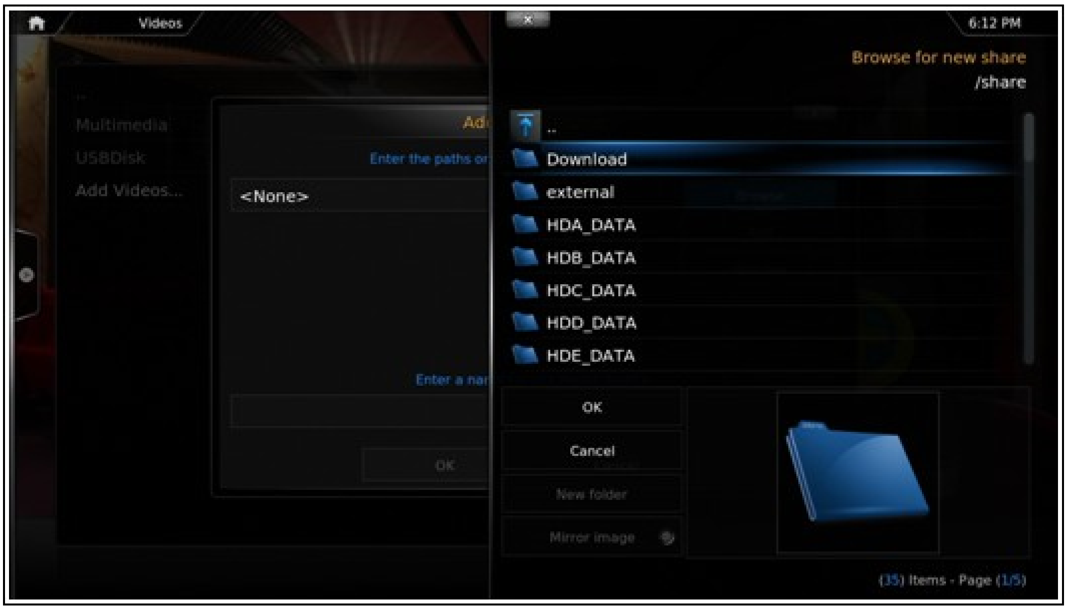
d. Choose “Root filesystem”.



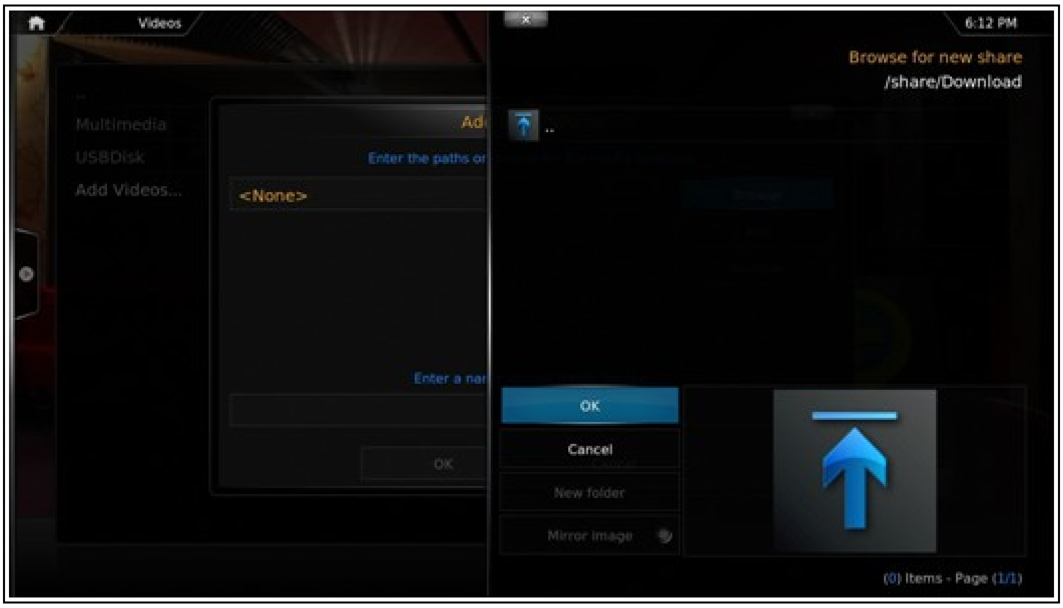
e. Choose “share”.



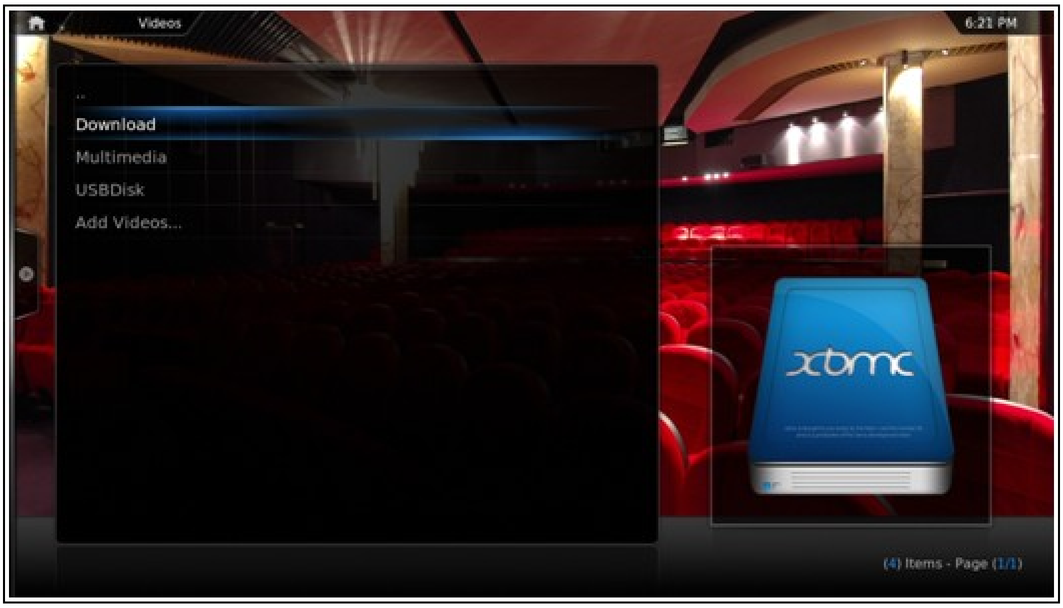
f. If you want to add the "Download" shared folder, for example, choose "Download" like below. Otherwise, just choose the shared folder you would like to add as a video source.



g. Click "OK" to add this source.



h. You will see the "Download" shared folder in the list.

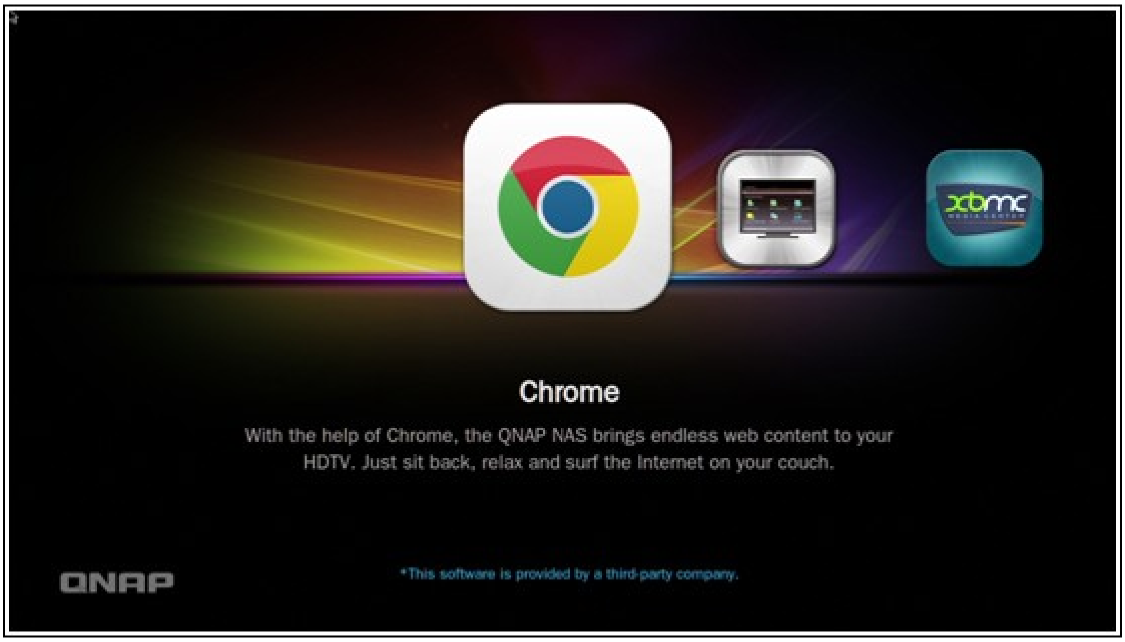


Note:

- If you encounter any video playback quality issues with some video formats, you may enable the following settings on the XBMC:
- Go to "Setting" > "Video" > "Playback", and then enable "Adjust display refresh rate to match video" and "Sync playback to display".

Chrome

Select the Chrome application at the main page of the HD Station like below:

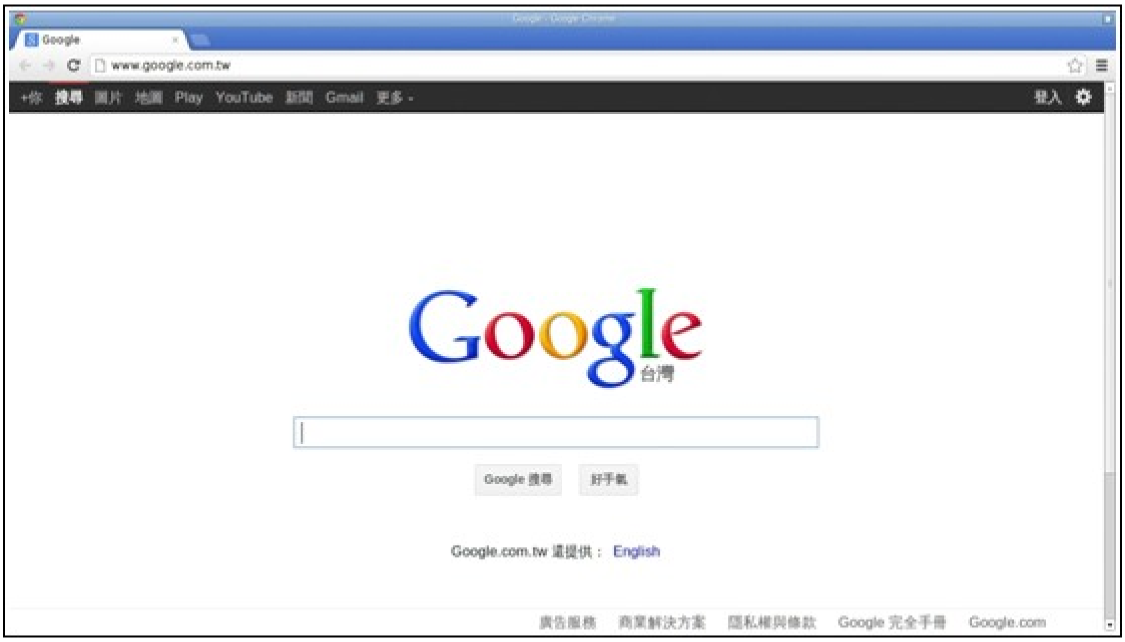


Chrome

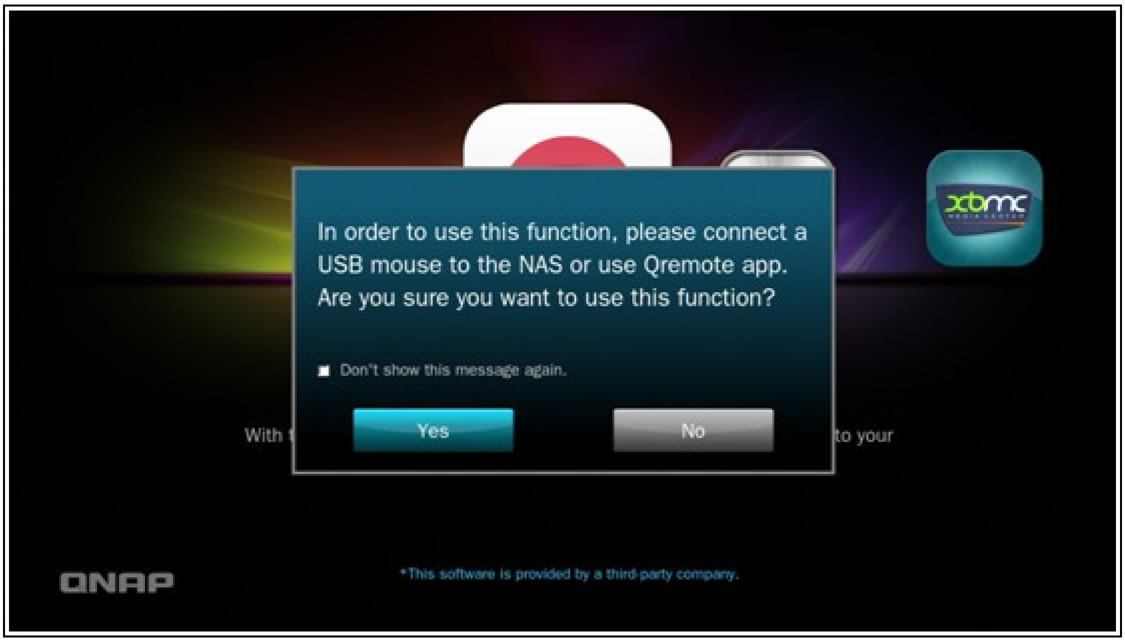
With the help of Chrome, the QNAP NAS brings endless web content to your HDTV. Just sit back, relax and surf the Internet on your couch.

*This software is provided by a third-party company.

You may surf the web like using a web browser on your PC.



Note: In order to use this application, you are required to use the mouse function on the Qremote, or use the USB mouse directly connected to the NAS.

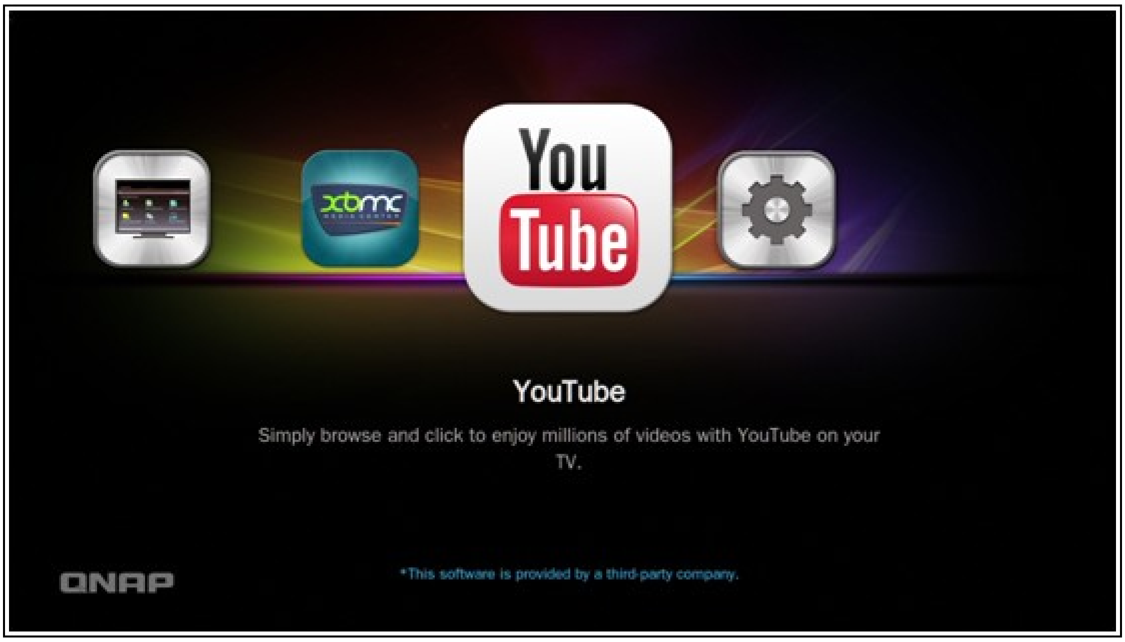


In order to use this function, please connect a USB mouse to the NAS or use Qremote app. Are you sure you want to use this function?

■ Don't show this message again.

YouTube

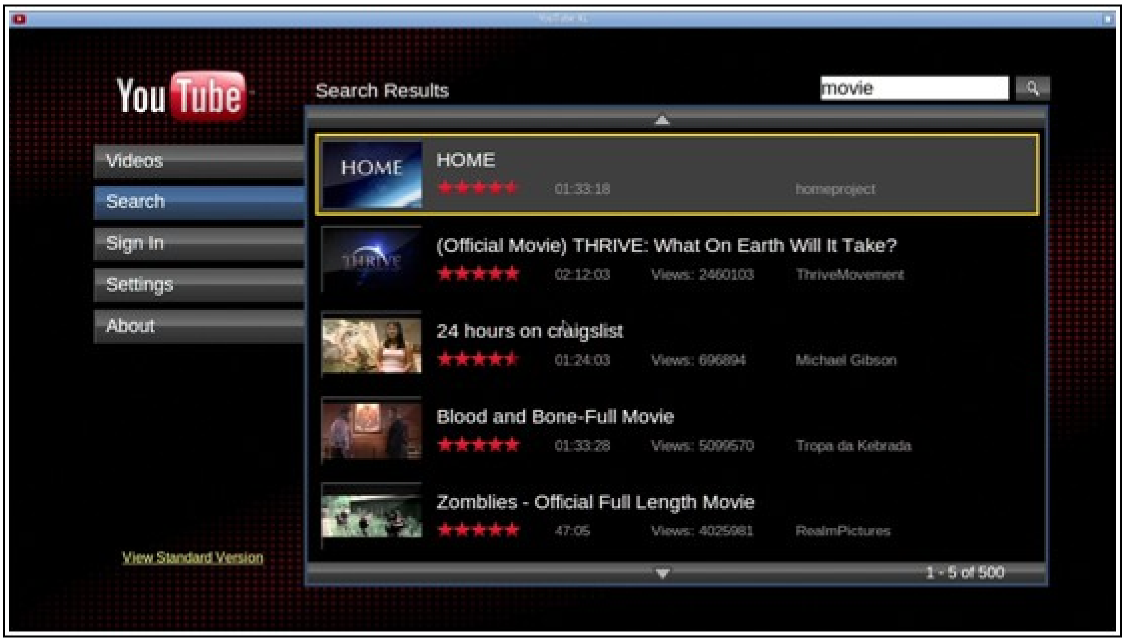
Enjoy the YouTube contents via the HD Station.



YouTube

Simply browse and click to enjoy millions of videos with YouTube on your TV.

*This software is provided by a third-party company.



Search Results

movie

HOME ★★★★★ 01:33:18 homeproject

(Official Movie) THRIVE: What On Earth Will It Take? ★★★★★ 02:12:03 Views: 2460103 ThriveMovement

24 hours on craigslist ★★★★★ 01:24:03 Views: 696894 Michael Gibson

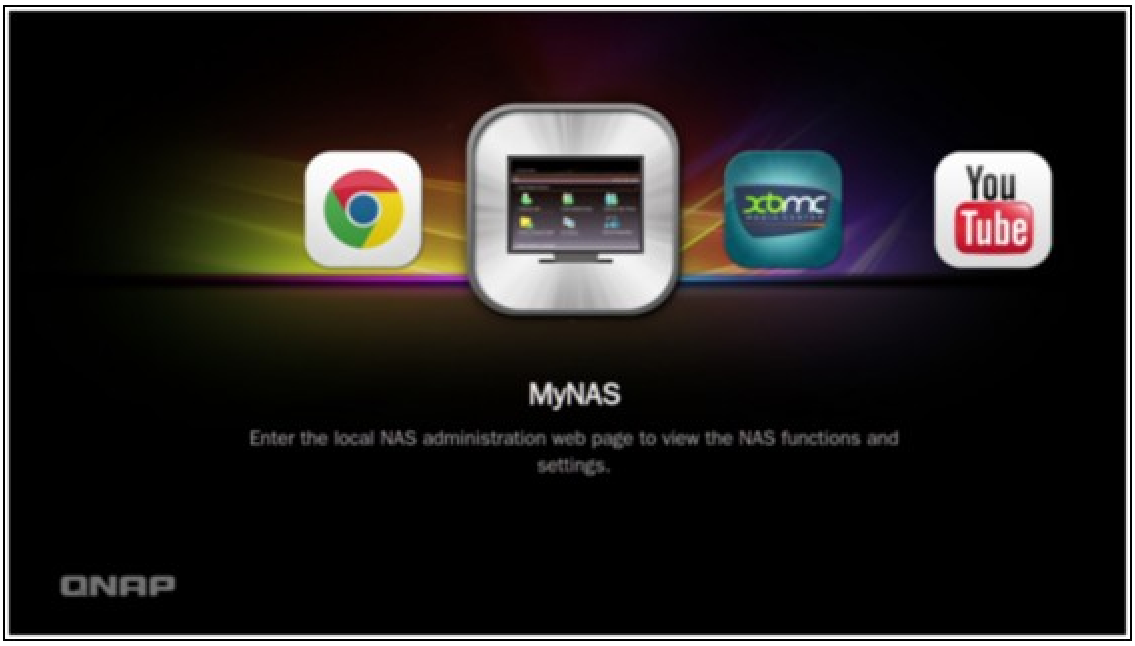
Blood and Bone-Full Movie ★★★★★ 01:33:28 Views: 5099570 Tropa da Kebrada

Zomblies - Official Full Length Movie ★★★★★ 47:05 Views: 4025981 RealmPictures

1 - 5 of 500

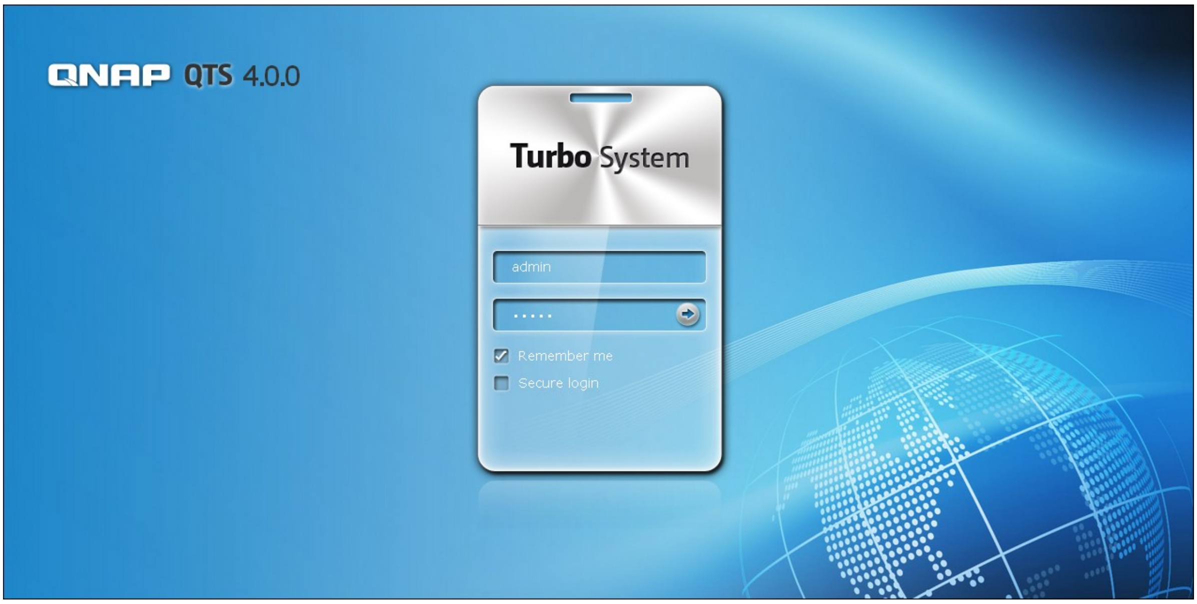
MyNAS

Enter the local NAS administration web page to view the NAS functions and settings.



MyNAS

Enter the local NAS administration web page to view the NAS functions and settings.



admin

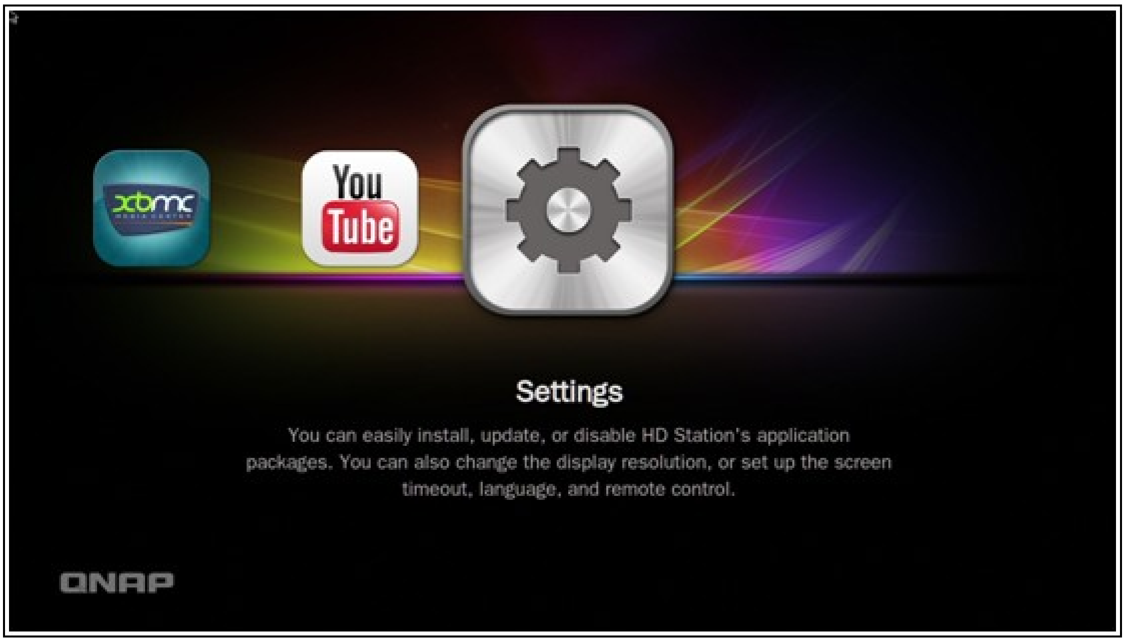
•••••

☑ Remember me

□ Secure login

Configuring settings of the HD Station

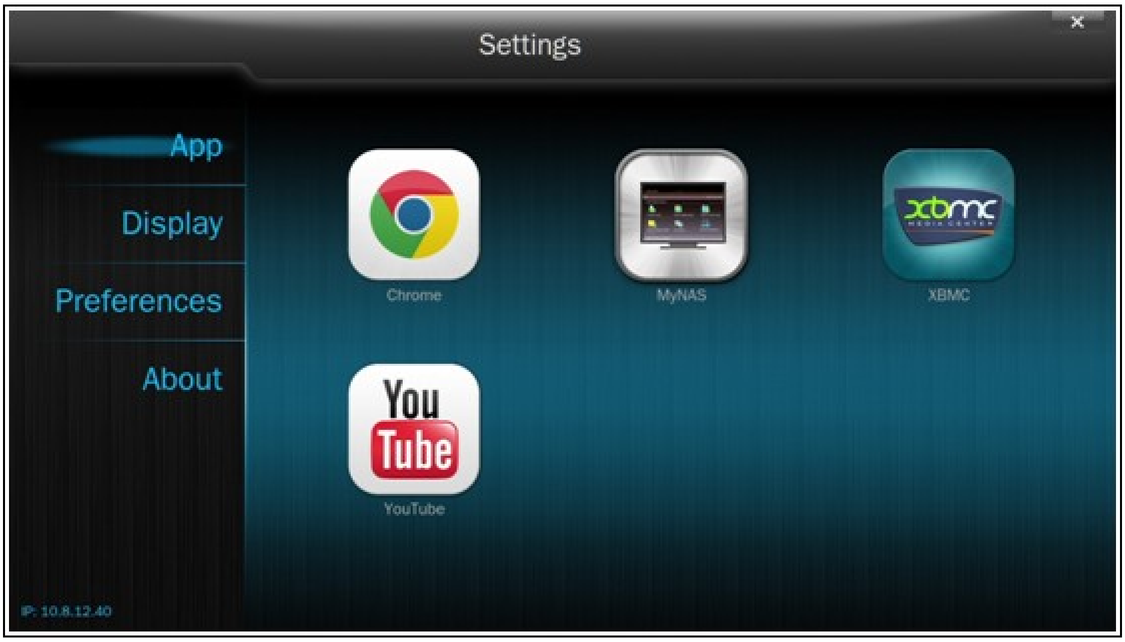
Configure the HD Station by choosing "Settings" at the HD Station portal.



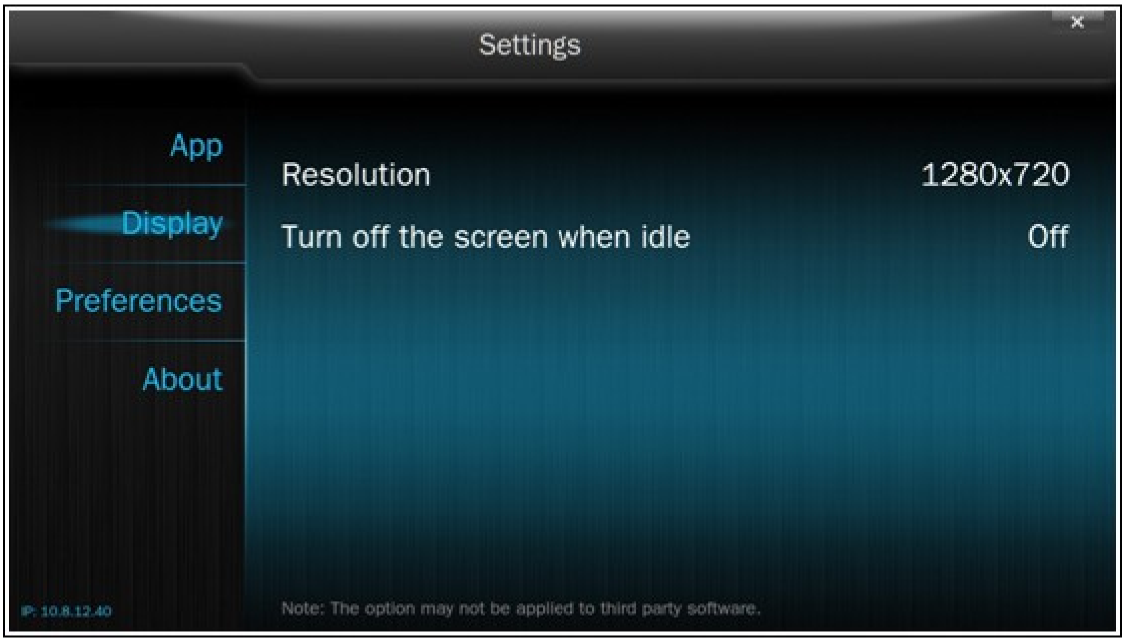
Settings

You can easily install, update, or disable HD Station's application packages. You can also change the display resolution, or set up the screen timeout, language, and remote control.

i. App: The applications can be enabled or disabled in this feature.



ii. Display: Here you may change the screen resolution and set up to turn off the screen after an amount of idle time.

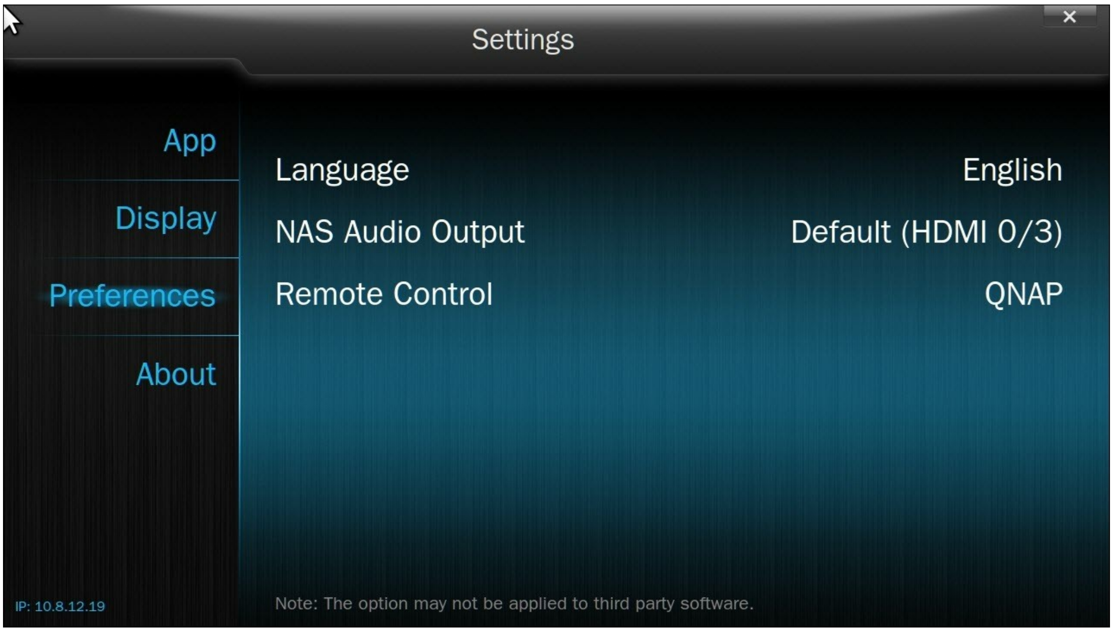


Resolution 1280x720

Turn off the screen when idle Off

Note: The option may not be applied to third party software.

iii. Preferences: Here you may change the language or type of remote control and audio output. The default setting is HDMI. If you have a USB sound card installed, you can choose that option in the NAS Audio Output.



Language English

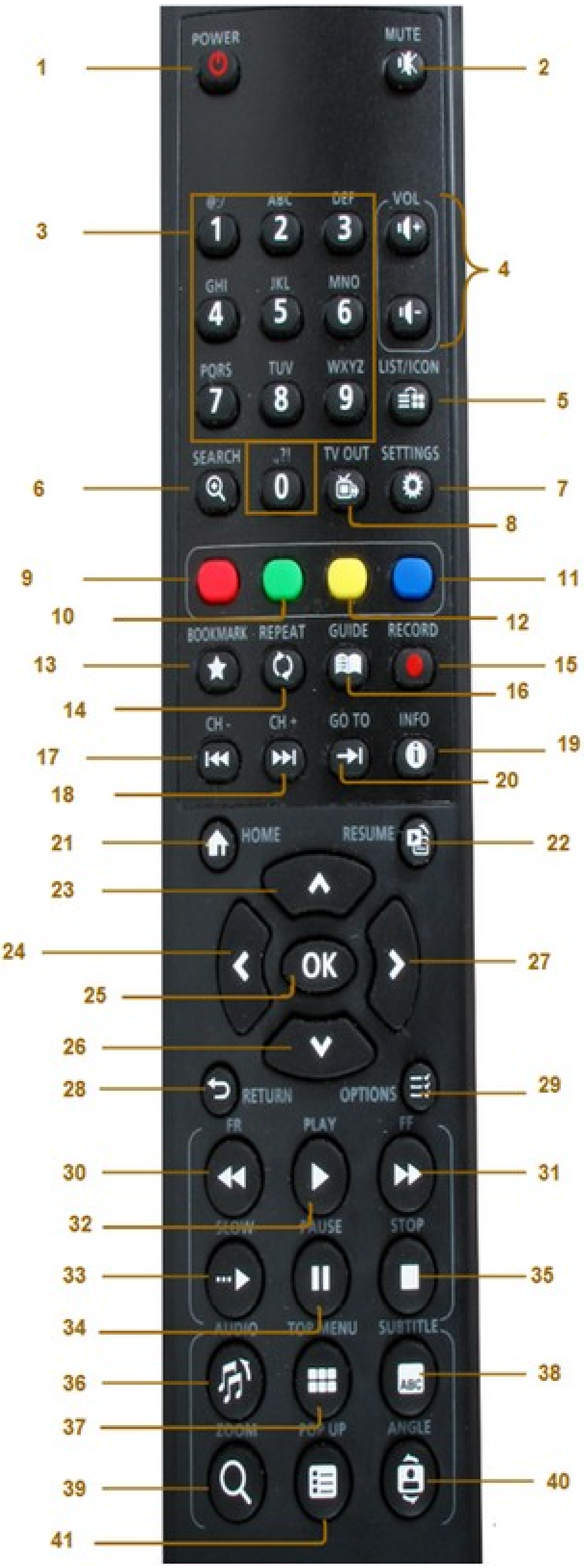
NAS Audio Output Default (HDMI 0/3)

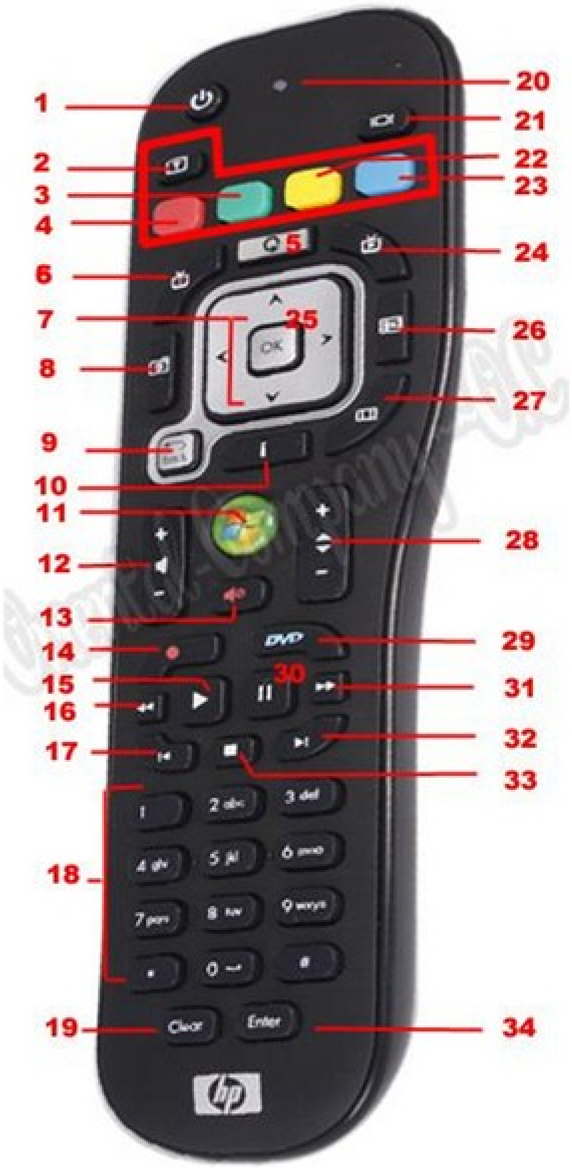
Remote Control QNAP

Note: The option may not be applied to third party software.

Note: Only the QNAP remote or MCE remote control is supported. NOT all the TS-x69 models support the internal remote control and the TS-x70 models only support the MCE remote control.

Remote Control Mappings





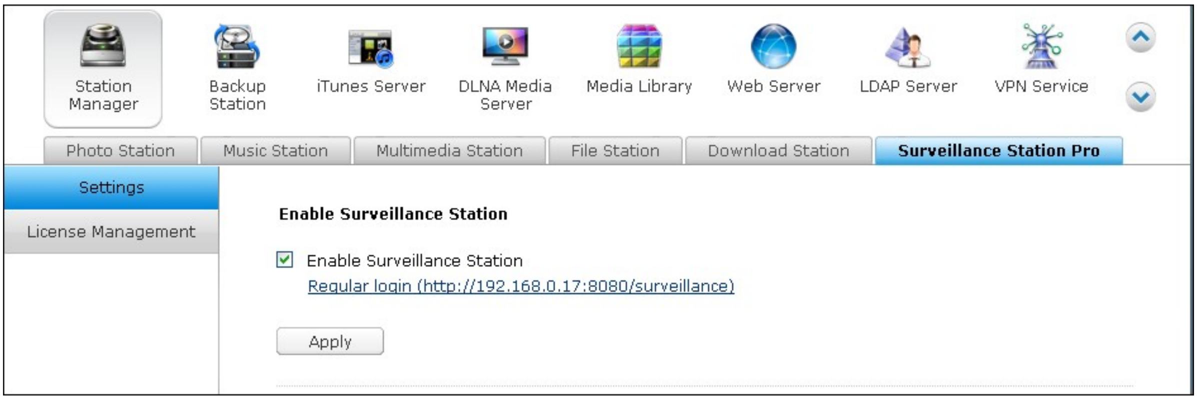
	RM-IR001 Remote Control		Action	MCE Remote Control		XBMC Function	HD Station
Power	Power	1	N/A	Power	1	Power menu	
	Mute	2	OK	Mute	13	Mute	
Number	0,1,2,3,4,5,6,7,8,9	3	OK	0,1,2,3,4,5,6,7,8,9	18	0,1,2,3,4,5,6,7,8,9	
	Vol+, Vol-	4	OK	Vol+, Vol-	12	Vol+, Vol-	
	List/Icon	5	N/A			View mode	
	Search	6	N/A				

	TV Out	8	N/A				
	Settings	7	N/A			Settings	
Shortcut	Red - (Home)	9	OK	Red - (Home)	3	Home	
	Green (Video)	10	OK	Green (Video)	4	Video menu	
	Yellow (Music)	11	OK	Yellow (Music)	22	Music menu	
	Blue (Picture)	12	OK	Blue (Picture)	23	Photo menu	
Video Menu	Bookmark	13	N/A			Favorite	
	Repeater	14	N/A			Repeater	
	Guide	16	N/A			Help	
	Record	15	N/A				
	CH-	17	Previous	Previous	32	Skip back	
	CH+	18	Next	Next	33	Skip forward	
	Go to	20	N/A			Video progress bar	
	Info	19	OK	Info	10	File info	
Play Control	Home	21	OK			Home menu	
	Resume	22	N/A			Now playing	
	Return	28	OK	Back	7	Back	
	Options	29	N/A	More		Playback menu	
	OK	25	OK	OK	7	OK	OK
	Up	23	OK	Up	7	Up	Up
	Down	26	OK	Down	7	Down	Down
	Right	27	OK	Right	7	Right	Right

	Left	24	OK	Left	7	Left	Left
Video Play	Move backward	30	OK	Move backward	16	Move backward	
	Move forward	31	OK	Move forward	31	Move forward	
	Play	32	OK	Play	15	Play	
	Slow	33	N/A			Slow	
	Pause	34	OK	Pause	30	Pause	
	Stop	35	OK	Stop	33	Stop	
Video Setting	Audio	36	Audio List			Language track	
	Top/ Menu	37	Video List			Movie menu	
	Subtitle	38	OK	Subtitle	2	Subtitle track	
	Zoom	39	N/A			Zoom	
	Pop up	40	N/A			Movie menu	
	Angle	41	N/A			Angle	
Input				Clear (N/A)	19	Clear	
	OK			Enter	34	Confirm	
				Switch 16:9 / 4:3	27		

8.9 Surveillance Station Pro

The Surveillance Station Pro offers live video monitoring and recording of IP cameras on the local network or the Internet. Enable this feature in “Control Panel” > “Applications” > “Station Manager”.



Enable Surveillance Station

☑ Enable Surveillance Station

Regular login (http://192.168.0.17:8080/surveillance)

Please visit http://www.qnap.com/en/index.php?lang=en&sn=4056 for the IP cameras compatibility list.

The application is compatible with more than 1400 IP cameras, supports adding extra number of recording channels by license management, user access control, advanced alarm settings, etc. The Surveillance Station Pro offers one free recording channel by default. To add extra number of recording channels, please purchase the license at the QNAP License Store (http://license.qnap.com) or contact an authorized reseller.

The following Turbo NAS models support the Surveillance Station Pro by default.

NAS models
TS-269 Pro, TS-469 Pro, TS-569 Pro, TS-669 Pro, TS-869 Pro, TS-469U-RP/SP, TS-869U-RP, TS-1269U-RP, TS-269L, TS-469L, TS-569L, TS-669L, TS-869L

The Surveillance Station Pro can be installed on other Turbo NAS models by installing the add-on in “App Center” (launched from the NAS Desktop or Main Menu.)

NAS models	Maximum number of recording channels supported (by license purchase with the Surveillance Station Pro)
ARM series (TS-x10, TS-x12, TS-x19, TS-x20, TS-x21)	8

x86 series (TS-x39, TS-x59, TS-x69, TS-x70 Pro, SS-x39, SS-469 Pro)	16
TS-x70U, TS-x79 series	40

Using Surveillance Station Pro

Click the service link on “Control Panel” > “Applications” > “Station Manager” > “Surveillance Station” to connect to the application. Enter the username and password when you are prompted to.

> **Note:** For live view and playback, the Surveillance Station Pro supports the following platforms:
>
> - Windows PC: 32-bit Internet Explorer version 9.0 or above, Google Chrome, or Mozilla Firefox
> - Mac OS X: QNAP Surveillance Client for Mac (http://www.qnap.com/utility)

To set up your network surveillance system by the NAS, follow the steps below:

1. Plan your home network topology
2. Set up the IP cameras
3. Configure the camera settings on the NAS
4. Configure your NAT router (for remote monitoring over the Internet)

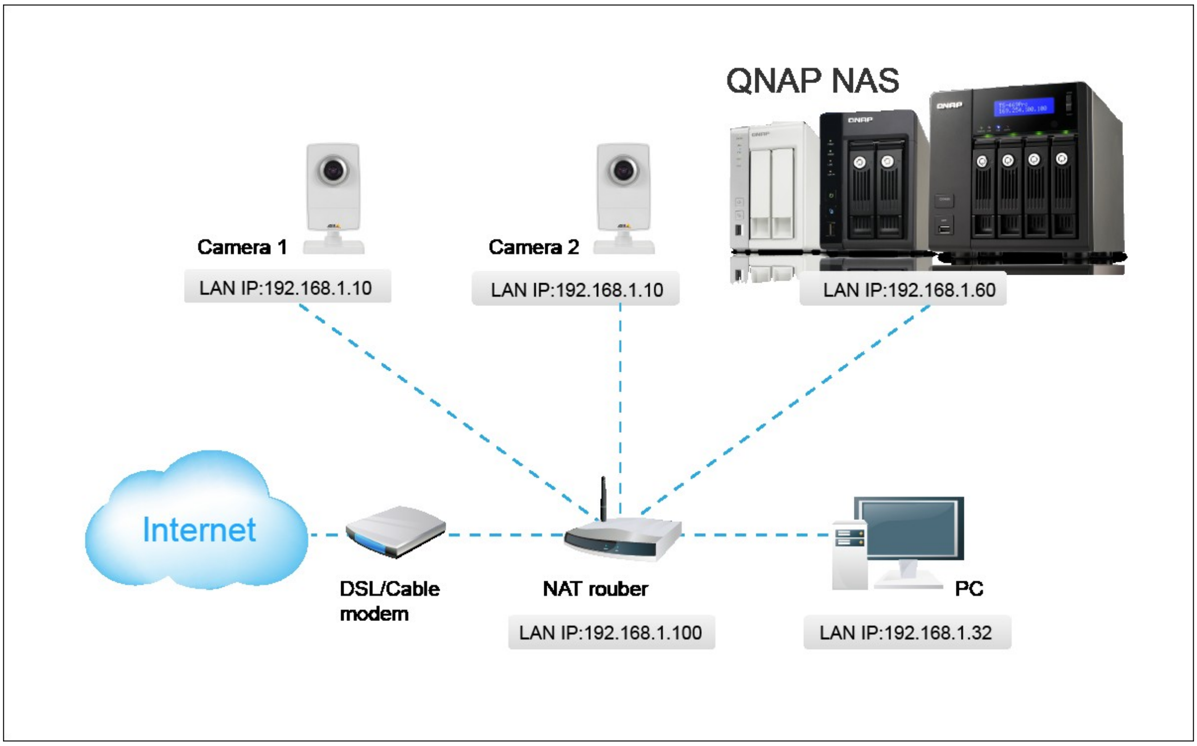
Planning your home network topology

Write down your plan of the home network before setting up the surveillance system. Consider the following when doing so:

i. The IP address of the NAS
ii. The IP address of the IP cameras

Your computer, the NAS, and the IP cameras should be connected to the same router on the LAN. Assign fixed IP addresses to the NAS and the IP cameras. For example,

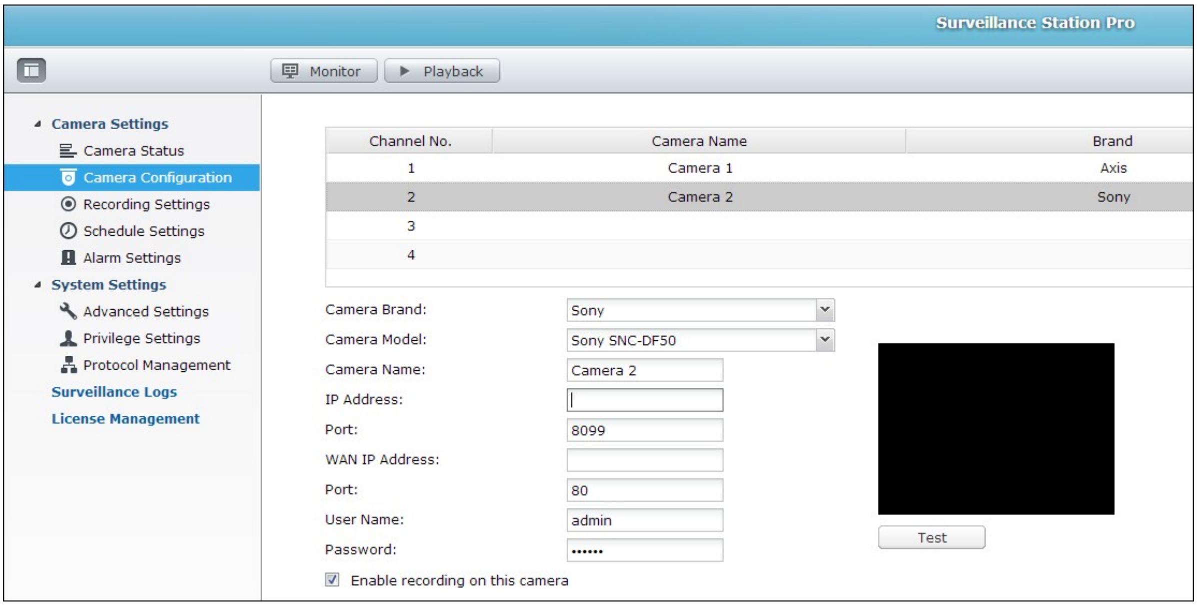
- The LAN IP of the home router: 192.168.1.100
- Camera 1 IP: 192.168.1.10 (fixed IP)
- Camera 2 IP: 192.168.1.20 (fixed IP)
- NAS IP: 192.168.1.60 (fixed IP)


QNAP NAS
Camera 1
LAN IP:192.168.1.10
Camera 2
LAN IP:192.168.1.10
LAN IP:192.168.1.60
Internet
DSL/Cable modem
NAT rouber
LAN IP:192.168.1.100
PC
LAN IP:192.168.1.32

Setting up the IP cameras

In this example, two IP cameras will be installed. Connect the IP cameras to your home network. Then set the IP address of the cameras so that they are in the same LAN as the computer. Login the configuration page of the Camera 1 by a web browser. Enter the IP address of the first IP camera as 192.168.1.10. The default gateway should be set as the LAN IP of the router (192.168.1.100 in this example). Then configure the IP address of the second IP camera as 192.168.1.20.

Some IP cameras provide a utility for IP configuration. You may refer to the user manual of the cameras for further details.



Channel No.	Camera Name	Brand
1	Camera 1	Axis
2	Camera 2	Sony
3		
4		

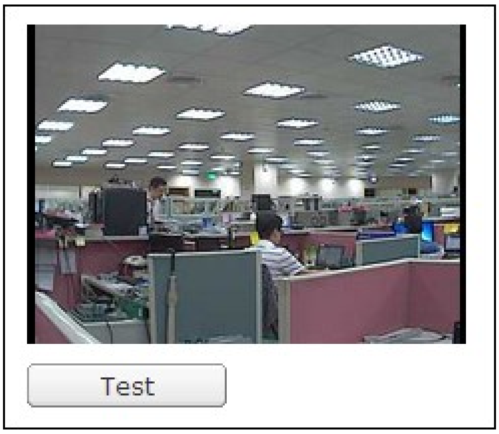
Camera Brand: Sony
Camera Model: Sony SNC-DF50
Camera Name: Camera 2
IP Address:
Port: 8099
WAN IP Address:
Port: 80
User Name: admin
Password: ••••••
☑ Enable recording on this camera

* Please refer to http://www.qnap.com for the supported network camera list.

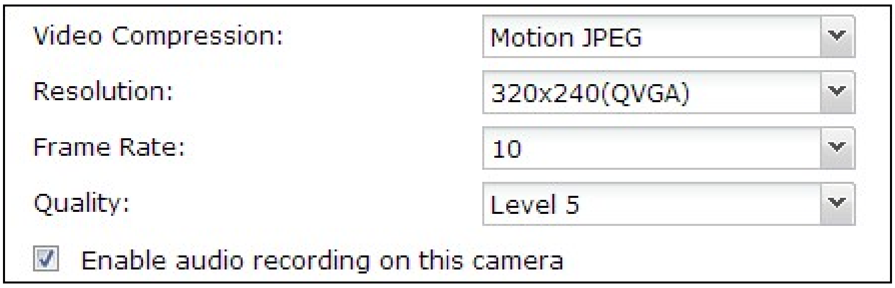
Configuring camera settings on the NAS

Login the Surveillance Station Pro by a web browser to configure the IP cameras. Go to "Camera Settings" > "Camera Configuration". Enter the IP camera information, for example, name, model, and IP address.

Click "Test" on the right to ensure the connection to the IP camera is successful.



If your IP camera supports audio recording, you may enable the option on the "Recording Settings" page. Click "Apply" to save the changes.



Video Compression: Motion JPEG

Resolution: 320x240(QVGA)

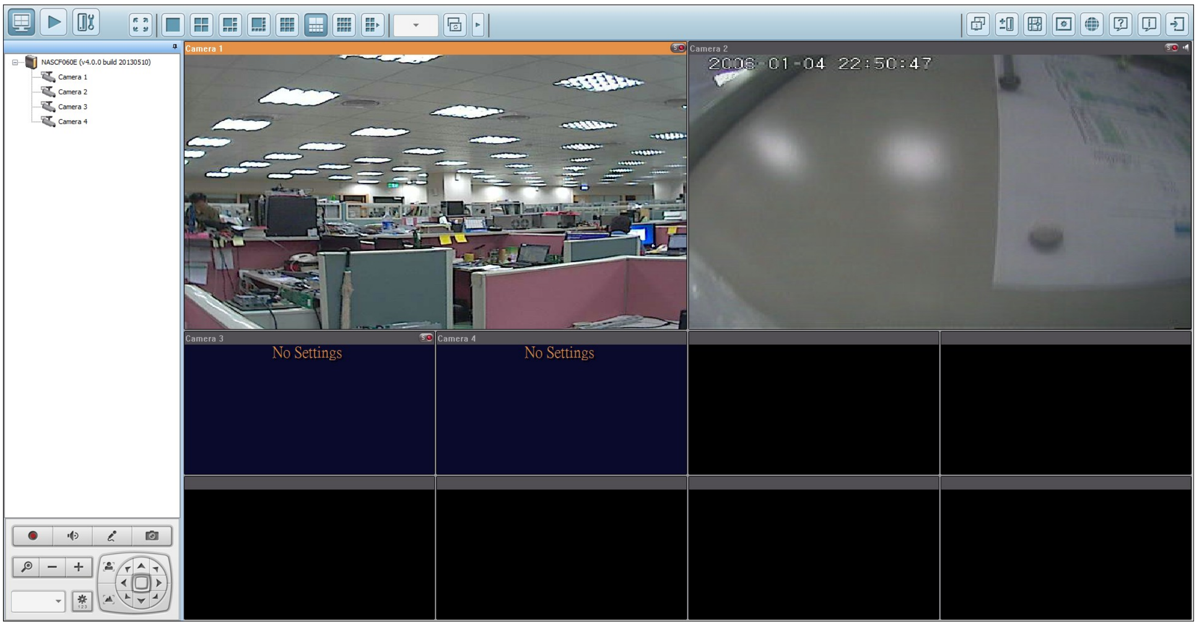
Frame Rate: 10

Quality: Level 5

☑ Enable audio recording on this camera

Configure the settings of IP camera 2 following the above steps.

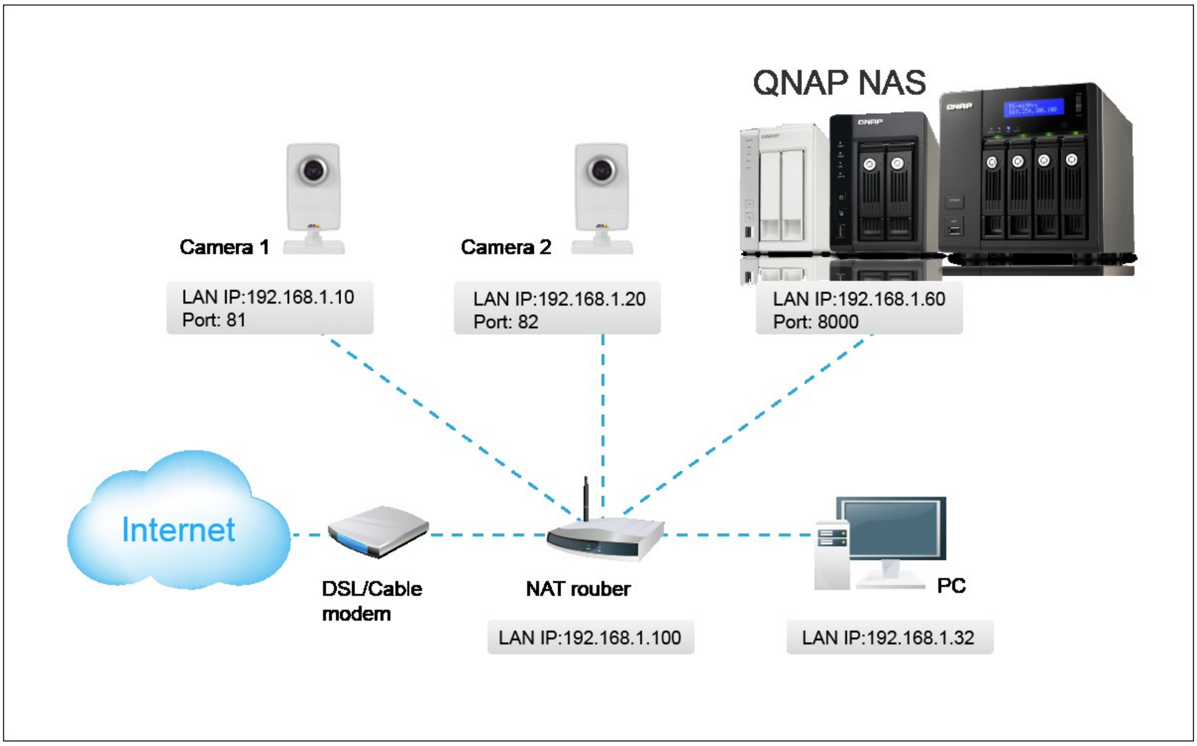
After you have added the network cameras to the NAS, click Monitor. The first time you connect to this page by a web browser, you have to install additional plug-ins in order to view the images of IP camera 1 and IP camera 2. You can start to use the monitoring and recording functions of the Surveillance Station Pro.



To use other functions such as motion detection recording, scheduled recording, and video playback, see the online help.

Configuring your NAT router (for remote monitoring over the Internet)

To view the monitoring video and connect to the NAS remotely, you need to change the network settings by forwarding different ports to the corresponding LAN IP on your NAT router.



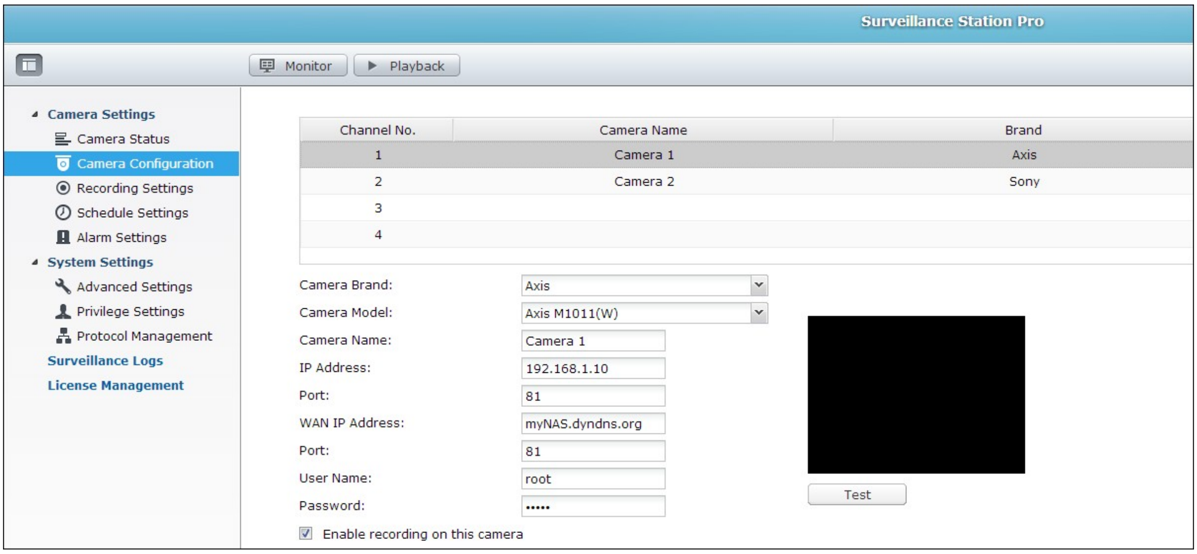
Changing port settings of NAS and IP cameras

The default HTTP port of NAS is 8080. In this example, the port is changed to 8000. Therefore, you have to connect to the NAS via http://NAS IP:8000 after applying the settings.

Then login the network settings page of the IP cameras. Change the HTTP port of IP camera 1 from 80 to 81. Then change the port of IP camera 2 from 80 to 82.

Next, login the Surveillance Station Pro. Go to "Camera Settings" > "Camera Configuration". Enter the port numbers of IP camera 1 and IP camera 2 as 192.168.1.10 port 81 and 192.168.1.20 port 82 respectively. Enter the login name and the password for both IP cameras.

Besides, enter the WAN IP address (or your domain address on the public network, for example, MyNAS.dyndns.org) and the port on the WAN for the connection from the Internet. After finishing the settings, click "Test" to verify the connection.



Channel No.	Camera Name	Brand
1	Camera 1	Axis
2	Camera 2	Sony
3		
4		

Camera Brand: Axis
Camera Model: Axis M1011(W)
Camera Name: Camera 1
IP Address: 192.168.1.10
Port: 81
WAN IP Address: myNAS.dyndns.org
Port: 81
User Name: root
Password: •••••
☑ Enable recording on this camera

Go to the configuration page of your router and configure the port forwarding as below:

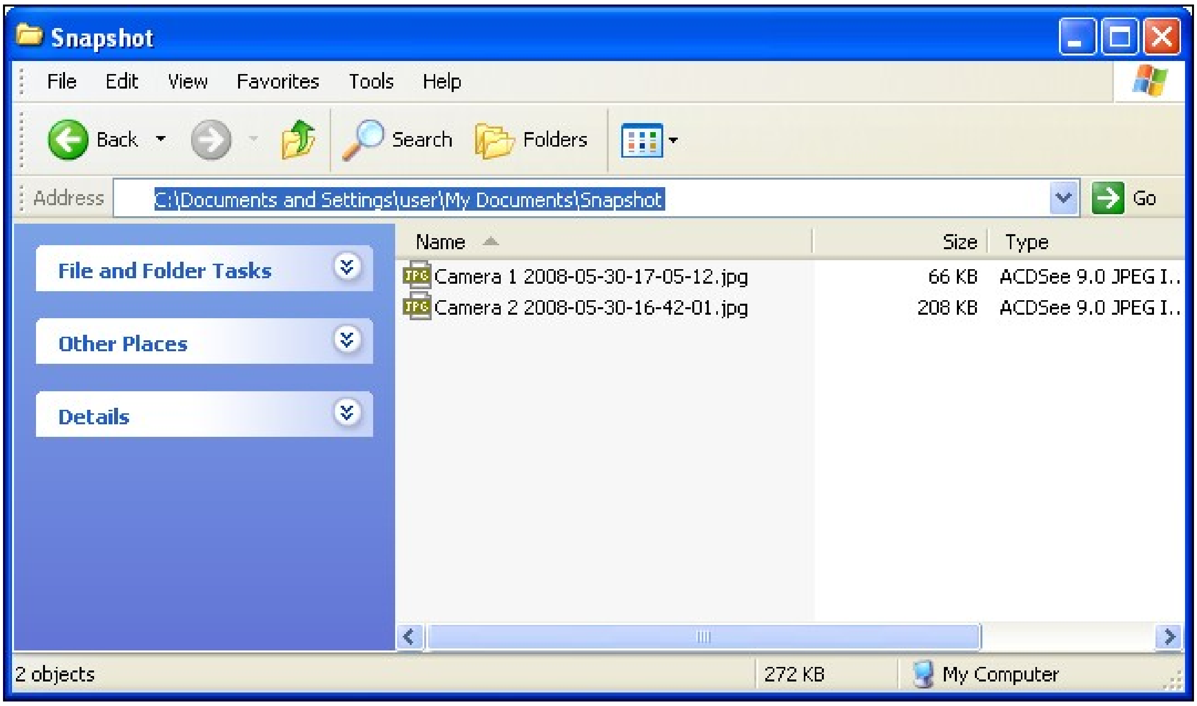
- Forward port 8000 to the LAN IP of the NAS: 192.168.1.60
- Forward port 81 to the LAN IP of IP camera 1: 192.168.1.10
- Forward port 82 to the LAN IP of IP camera 2: 192.168.1.20

Note: When you change the port settings, make sure remote access is allowed. For example, if you office network blocks the port 8000, you will not be able to connect to your NAS from the office.

After you have configured the port forwarding and the router settings, you can start to use the Surveillance Station for remote monitoring over the Internet.

Connecting to the snapshots and video recordings of Surveillance Station:

All the snapshots are saved in “My Documents” > “Snapshot” (Windows XP) in your computer. If you are using Windows 7 or Vista, the default directory is “Documents” > “Snapshot”.



Address: C:\Documents and Settings\user\My Documents\Snapshot

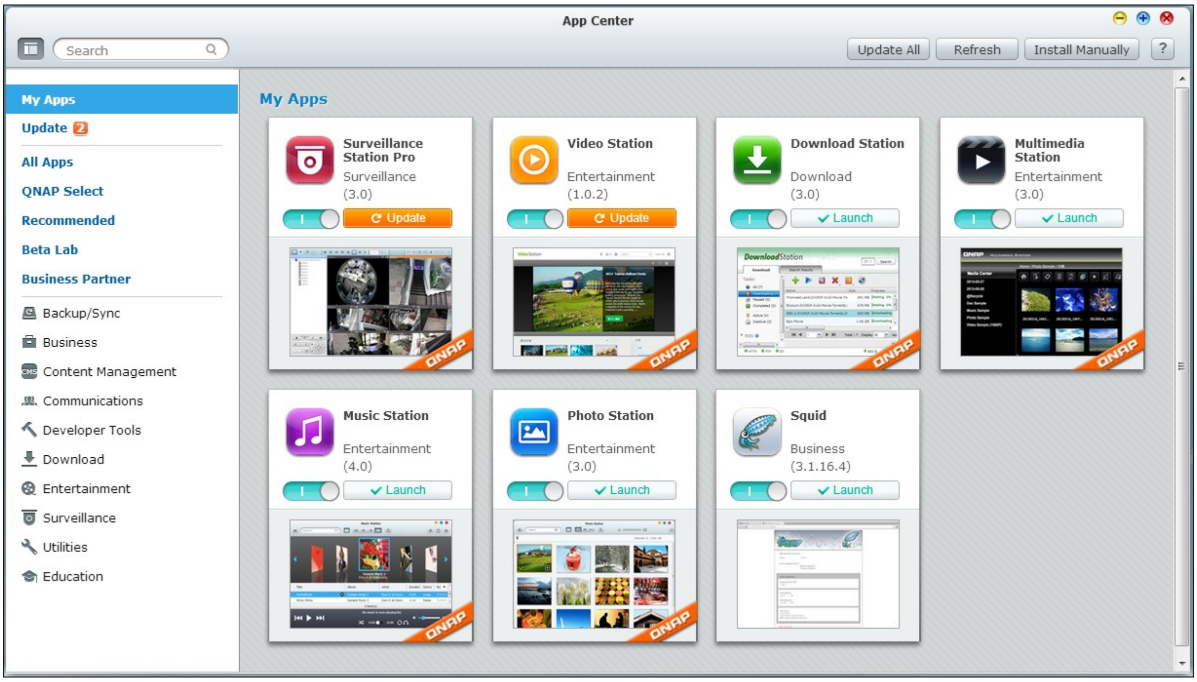
Name	Size	Type
Camera 1 2008-05-30-17-05-12.jpg	66 KB	ACDSee 9.0 JPEG I..
Camera 2 2008-05-30-16-42-01.jpg	208 KB	ACDSee 9.0 JPEG I..

2 objects 272 KB

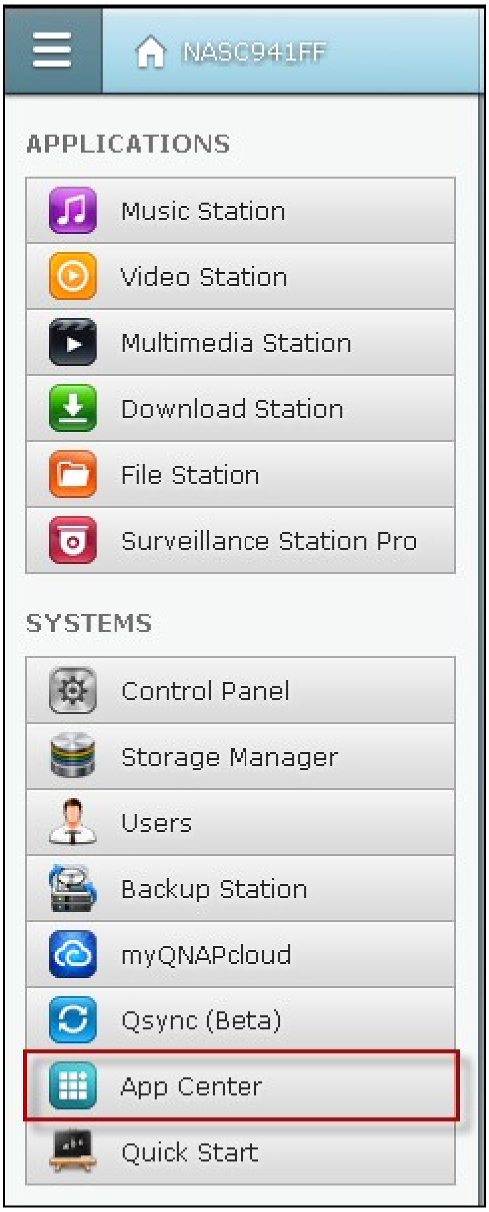
The video recordings will be saved in \\NASIP\Qrecordings or \\NASIP\Recordings. The general recordings are saved in the folder “record_nvr” and the alarm recordings are saved in the folder “record_nvr_alarm”.

8.10 App Center

The App Center is an app store for installing apps onto the NAS. Users can search for, install, remove and update apps through the App Center.



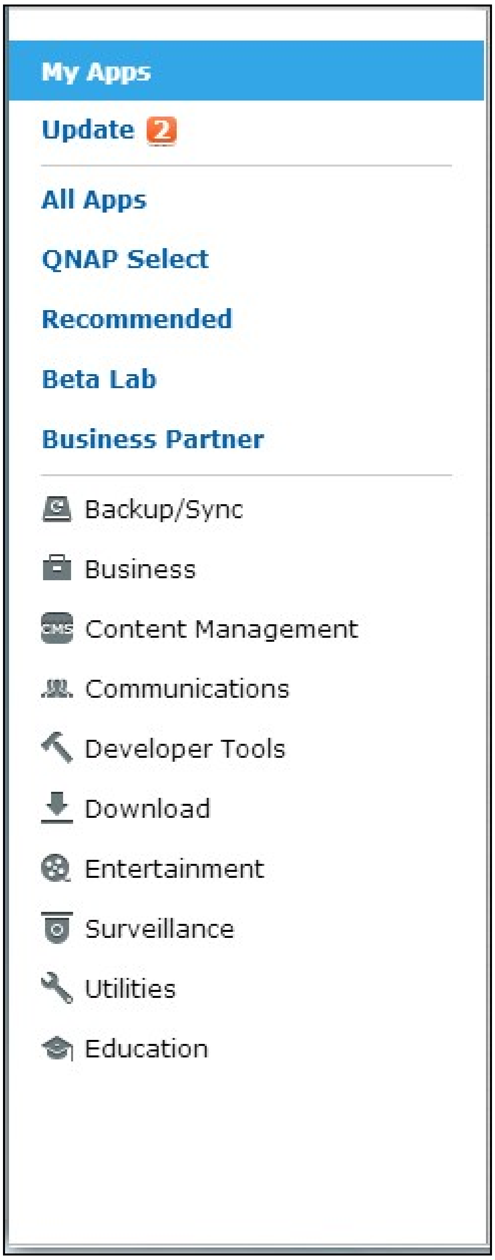
The App Center can be launched from the Main Menu or the App Center icon ( ) on the NAS Desktop.



NASC941FF
APPLICATIONS
Music Station
Video Station
Multimedia Station
Download Station
File Station
Surveillance Station Pro
SYSTEMS
Control Panel
Storage Manager
Users
Backup Station
myQNAPcloud
Qsync (Beta)
App Center
Quick Start

Browsing and searching for apps

Apps are classified into categories listed in the left panel:



My Apps

Update 2

All Apps

QNAP Select

Recommended

Beta Lab

Business Partner

Backup/Sync

Business

Content Management

Communications

Developer Tools

Download

Entertainment

Surveillance

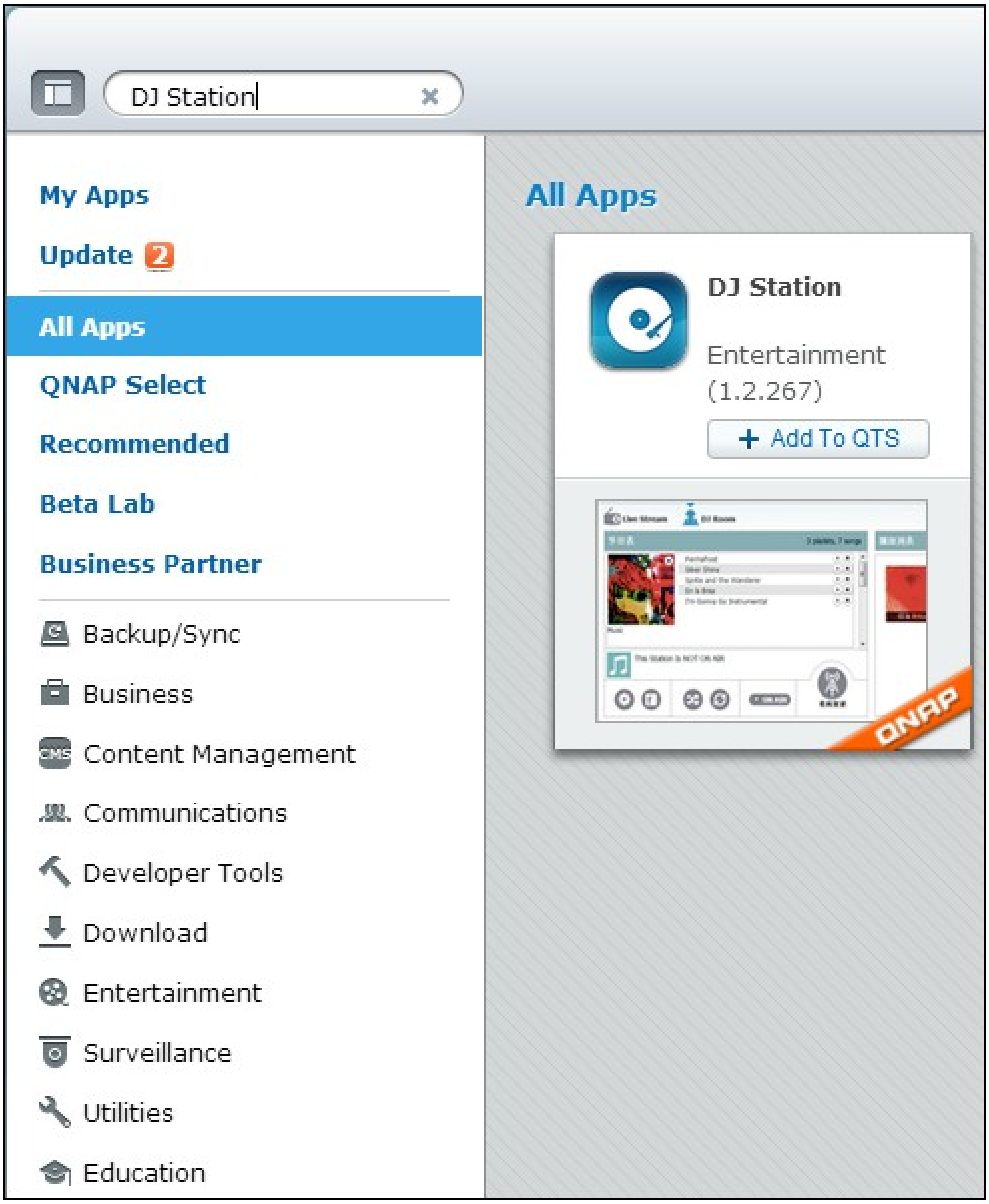
Utilities

Education

- My Apps: List apps that have been installed on the NAS. Note that the number shown next to the category name is the number of app updates available now.
- All Apps: List all apps that can be installed on the NAS.
- QNAP Select: List apps developed by QNAP.
- Recommended: List apps recommended by QNAP (they could be developed by QNAP or third party developers.)
- Beta Lab: List beta apps for your first-hand experiences.

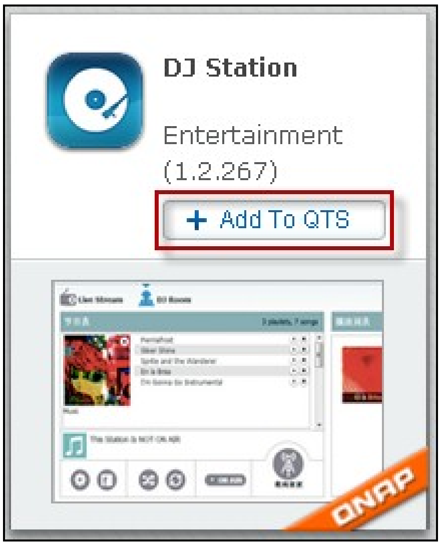
- Apps by types: From Backup/Sync to Education, those are app categories listed to facilitate your app searches.

To search for an app, click the desired category introduced above or key in the keyword in the search box. Note that the search box will only search for apps within the selected category.

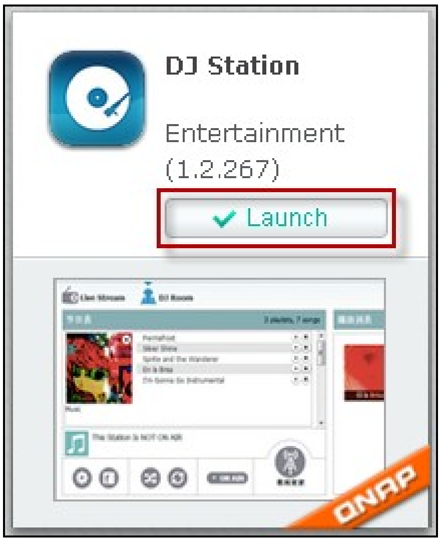


Installing, updating and removing apps

To install an app, click the "+ Add to QTS" button and the installation process will begin.



After the installation process is complete, the "+ Add to QTS" button will turn to the "Launch" button and you can directly click this button to launch this newly installed app. This newly installed app will then show up in "My Apps".

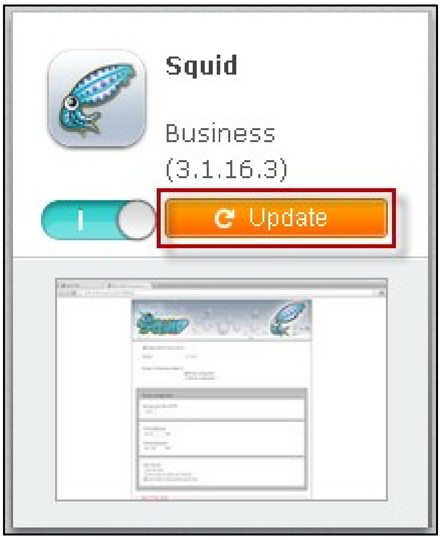


Note:

- Make sure the NAS is connected to the Internet.
- QNAP is not responsible for troubleshooting any issues caused by the open source software/add-ons. Users are recommended to participate in the discussion in the QNAP community forum or contact the original creators of the open source software for the solutions.

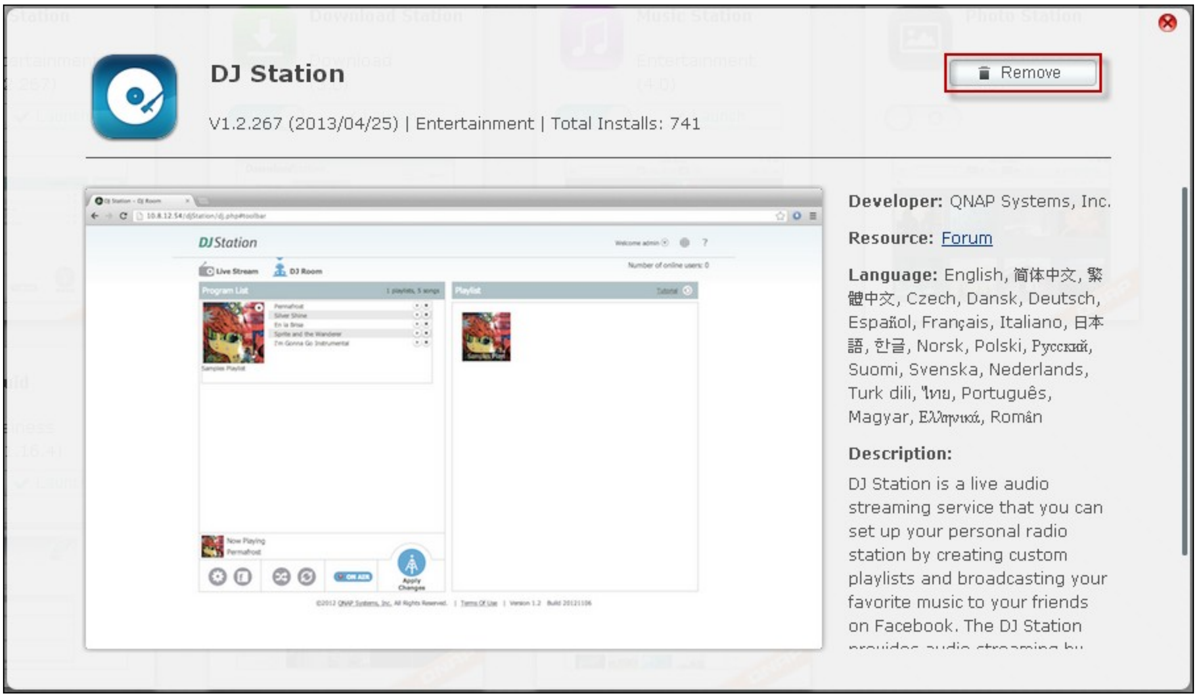
- When installing an add-on which requires a prerequisite app, the prerequisite add-on will be added to the installation queue automatically prior to the dependent add-on.
- If the app update process is canceled before it is finished, please install the app from the App Center again.

To update an app, click "Update" and click "OK" to confirm.



Alternatively, you may click "Update All" on top right side of the screen to install all updates and "Refresh" to refresh for the latest updates. The button will turn to "Launch" to signify that the update has been complete for an app.

To remove an app, first click an installed app to open its introduction page. click "Remove" on the page to uninstall it from the NAS and click "OK" to confirm.



DJ Station

V1.2.267 (2013/04/25) | Entertainment | Total Installs: 741

Developer: QNAP Systems, Inc.

Resource: Forum

Language: English, 简体中文, 繁體中文, Czech, Dansk, Deutsch, Español, Français, Italiano, 日本語, 한글, Norsk, Polski, Русский, Suomi, Svenska, Nederlands, Turk dili, ไทย, Português, Magyar, Ελληνικά, Român

Description:

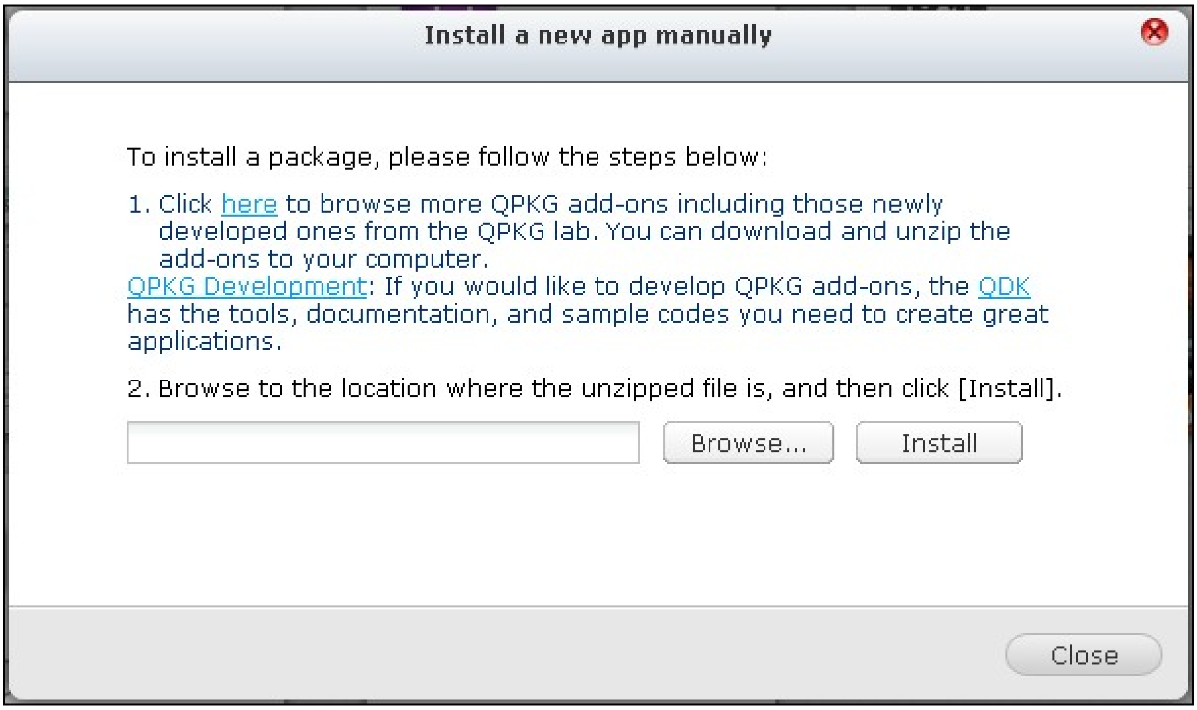
DJ Station is a live audio streaming service that you can set up your personal radio station by creating custom playlists and broadcasting your favorite music to your friends on Facebook. The DJ Station

Note:

- Click to enable or disable an app.
- For more apps, please visit the QNAP official site (Resources > App Center).

Offline Installation

To install apps when the NAS is offline or beta apps that are not officially available on the QNAP App server, users can download the app files from QNAP website (http://www.qnap.com/QPKG.asp) or forum (http://forum.qnap.com/), unzip the files, and install the apps manually by clicking "Install Manually" on top right side of the page.



Install a new app manually

To install a package, please follow the steps below:

1. Click here to browse more QPKG add-ons including those newly developed ones from the QPKG lab. You can download and unzip the add-ons to your computer.

QPKG Development: If you would like to develop QPKG add-ons, the QDK has the tools, documentation, and sample codes you need to create great applications.

2. Browse to the location where the unzipped file is, and then click [Install].

9. Use the LCD Panel

This feature is only provided by the NAS models with LCD panels. Please visit http://www.qnap.com for details.

You can use the LCD panel to perform disk configuration and view the system information.

When the NAS has started up, you will be able to view the NAS name and IP address:

N	A	S	5	F	4	D	E	3						
1	6	9	.	2	5	4	.	1	0	0	.	1	0	0

For the first time installation, the LCD panel shows the number of hard drives detected and the IP address. You may select to configure the hard drives.

Number of hard drives detected	Default disk configuration	Available disk configuration options*
1	Single	Single
2	RAID 1	Single -> JBOD ->RAID 0 -> RAID 1
3	RAID 5	Single -> JBOD -> RAID 0 -> RAID 5
4 or above	RAID 5	Single ->JBOD -> RAID 0 -> RAID 5 -> RAID 6

*Press the "Select" button to choose the option, and press the "Enter" button to confirm.

For example, when you turn on the NAS with 5 hard drives installed, the LCD panel shows:

C	o	n	f	i	g	.		D	i	s	k	s	?		
→	R	A	I	D	5										

You can press the "Select" button to browse more options, for example, RAID 6.
Press the "Enter" button and the following message shows. Press the "Select" button to select "Yes" to confirm.

C	h	o	o	s	e		R	A	I	D	5	?			

→	Y	e	s			N	o								

When you execute RAID 1, RAID 5, or RAID 6 configuration, the system will initialize the hard drives, create the RAID device, format the RAID device, and mount it as a volume on the NAS. The progress will be shown on the LCD panel. When it reaches 100%, you can connect to the RAID volume, for example, create folders and upload files to the folders on the NAS. In the meantime, to make sure the stripes and blocks in all the RAID component devices are ready, the NAS will execute RAID synchronization and the progress will be shown on "Storage Manager" > "Volume Management" page. The synchronization rate is around 30-60 MB/s (varies depending on the hard drive models, system resource usage, etc.)

Note: If a member drive of the RAID configuration was lost during the synchronization, the RAID device will enter degraded mode. The volume data is still accessible. If you add a member drive to the device, it will start to rebuild. You can check the status on the "Volume Management" page.

To encrypt the disk volume*, select "Yes" when the LCD panel shows <Encrypt Volume? >. The default encryption password is "admin". To change the password, login the NAS with an administrator account and change the settings in "Storage Manager" > "Encrypted File System".

E	n	c	r	y	p	t		V	o	l	u	m	e	?	
→	Y	e	s			N	o								

When the configuration is finished, the NAS name and IP address will be shown. If the NAS fails to create the disk volume, the following message will be shown.

C	r	e	a	t	i	n	g	.	.	.					
R	A	I	D	5		F	a	i	l	e	d				

*This feature is not supported by TS-110, TS-119, TS-210, TS-219, TS-219P, TS-410, TS-419P, TS-410U, TS-419U, TS-119P+, TS-219P+, TS-419P+, TS-112, TS-212, TS-412, TS-419U+, TS-412U.

The data encryption functions may not be available in accordance to the legislative restrictions of some countries.

View system information by the LCD panel

When the LCD panel shows the NAS name and IP address, you may press the "Enter" button to enter the Main Menu. The Main Menu consists of the following items:

1. TCP/IP
2. Physical disk
3. Volume
4. System
5. Shut down
6. Reboot
7. Password
8. Back

TCP/IP

In TCP/IP, you can view the following options:

1. LAN IP Address
2. LAN Subnet Mask
3. LAN Gateway
4. LAN PRI. DNS
5. LAN SEC. DNS
6. Enter Network Settings

- Network Settings – DHCP
- Network Settings – Static IP*
- Network Settings – BACK

7. Back to Main Menu

*** In Network Settings – Static IP, you can configure the IP address, subnet mask, gateway, and DNS of LAN 1 and LAN 2.**

Physical disk

In Physical disk, you can view the following options:

1. Disk Info
2. Back to Main Menu

The disk info shows the temperature and the capacity of the hard drives.

D	i	s	k	:	1		T	e	m	p	:	5	0	°	C
S	i	z	e	:		2	3	2		G	B				

Volume

This section shows the hard drive configuration of the NAS. The first line shows the RAID configuration and storage capacity; the second line shows the member drive number of the configuration.

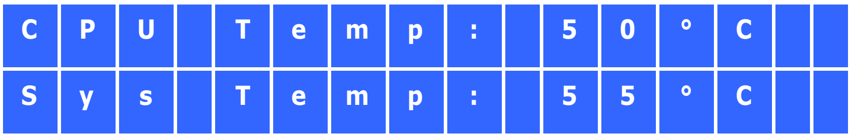
R	A	I	D	5							7	5	0	G	B
D	r	i	v	e		1	2	3	4						

If there is more than one volume, press the "Select" button to view the information. The following table shows the description of the LCD messages for RAID 5 configuration.

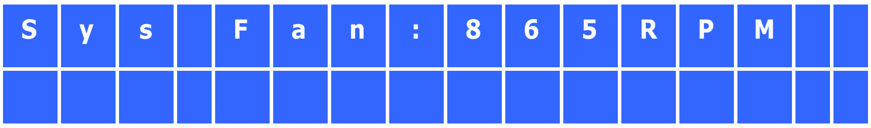
LCD Display	**Drive configuration**
RAID5+S	RAID5+spare
RAID5 (D)	RAID 5 degraded mode
RAID 5 (B)	RAID 5 rebuilding
RAID 5 (S)	RAID 5 re-synchronizing
RAID 5 (U)	RAID 5 is unmounted
RAID 5 (X)	RAID 5 non-activated

System

This section shows the system temperature and the rotation speed of the system fan.



```
CPU Temp: 50°C
Sys Temp: 55°C
```



```
Sys Fan:865RPM
```

Shut down

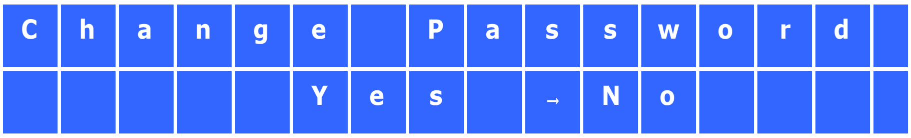
Use this option to turn off the NAS. Press the "Select" button to select "Yes". Then press the "Enter" button to confirm.

Reboot

Use this option to restart the NAS. Press the "Select" button to select "Yes". Then press the "Enter" button to confirm.

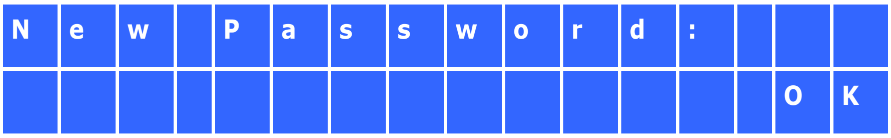
Password

The default password of the LCD panel is blank. Enter this option to change the password of the LCD panel. Select "Yes" to continue.



```
Change Password
     Yes → No
```

You may enter a password of maximum 8 numeric characters (0-9). When the cursor moves to "OK", press the "Enter" button. Verify the password to confirm the changes.



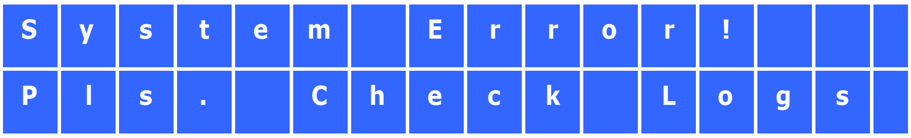
```
New Password:
             OK
```

Back

Select this option to return to the main menu.

System Messages

When the NAS encounters system error, an error message will be shown on the LCD panel. Press the “Enter” button to view the message. Press the “Enter” button again to view the next message.



System Error!

Pls. Check Logs

System Message	Description
Sys. Fan Failed	The system fan fails.
Sys. Overheat	The system overheats.
HDD Overheat	A hard drive overheats.
CPU Overheat	The CPU overheats.
Network Lost	Both LAN 1 and LAN 2 are disconnected in failover or load balancing mode.
LAN1 Lost	LAN 1 is disconnected.
LAN2 Lost	LAN 2 is disconnected.
HDD Failure	A hard drive fails.
Vol1 Full	The disk volume (1) is full.
HDD Ejected	A hard drive is ejected.
Vol1 Degraded	The disk volume (1) is in degraded mode.
Vol1 Unmounted	The disk volume (1) is unmounted.
Vol1 Nonactivate	The disk volume (1) is inactive.

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Version 3, 29 June 2007

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