

The QNAP logo is displayed in white, bold, uppercase letters within a blue rounded rectangular box in the top-left corner of the page.

QBoat-300

User Guide

A large, abstract graphic of a network or data structure occupies the lower half of the page. It consists of numerous interconnected nodes (dots) of various colors (white, blue, black, red) and thin lines connecting them, creating a complex web-like pattern that transitions from light blue at the top to dark blue at the bottom.

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1. Important Information

Original Packaging

Please keep the original packaging and packaging materials. If you want to return the product or send it for repairs, please use the original packaging to avoid damage.

QNAP reserves the right not to provide a refund or warranty service for products that are damaged due to improper packaging.

Hardware Defects

If your QNAP product has hardware defects, return the product to QNAP or a QNAP-authorized service center for maintenance or replacement. Any attempt to repair or perform maintenance procedures on the product by you or an unauthorized third party invalidates the warranty.

QNAP is not responsible for any damage or data loss caused by unauthorized modifications and installation of unsupported third-party applications.

For details, see the [QNAP Warranty Terms and Conditions](#).

Safety information

The following instructions help ensure personal safety and environmental safety. Read these instructions carefully before performing any operation.

General Instructions

WARNING



- To avoid potential injury or damage to components, ensure that the drives and other internal system components have cooled before touching them.
- Always ensure that all drive trays, including empty ones, are properly installed in the device. Missing trays can alter the intended airflow, potentially causing internal components to overheat.



Observe electrostatic discharge (ESD) procedures to avoid potential injury or damage to components.

Power

WARNING



To reduce the risk of fire or electric shock, ensure that you only connect the power cord to a properly grounded electrical outlet.



To avoid serious injuries, a trained service technician must disconnect all PSU cords from the device before installing or replacing system components.

Moving Parts

WARNING



Moving fan blades: Keep your body parts away from any moving fan blades while the device is connected to a power source.



Moving components: Keep your body parts away from any other moving components.

The device is not suitable for use in locations where children are likely to be present.

System Battery

WARNING



INGESTION HAZARD

- This product may contain a button battery.
- Keep batteries out of reach of children.
- If swallowed, a lithium button battery can cause severe or fatal injuries within 2 hours.
- If you think batteries may have been swallowed or placed inside any part of the body, seek immediate medical attention.

- To avoid potential battery explosion, causing injury or damage to components, ensure that you replace the existing battery with a battery of the same type.
- Dispose of used batteries properly according to local regulations or the instructions of the battery manufacturer.

- Even used batteries may cause severe injury or death.
- Call a local poison control center for treatment information.
- For information on the type and voltage of the button battery in your device, please see the hardware specification table.
- Non-rechargeable batteries are not to be recharged.
- Do not force discharge, recharge, disassemble, heat, or incinerate. Doing so may result in injury due to venting, leakage, or explosion resulting in chemical burns.
- Ensure the batteries are installed correctly according to polarity (+ and -).
- Do not mix old and new batteries, or different brands or types of batteries, such as alkaline, carbon-zinc, or rechargeable batteries.
- Remove and immediately recycle or dispose of batteries from equipment not used for an extended period of time according to local regulations.
- Always completely secure the battery compartment. If the battery compartment does not close securely, stop using the product, remove the batteries, and keep them away from children.

2. Product Overview

This chapter provides basic information about your QNAP device.

About the QBoat-300

The QBoat-300 is a compact NAS designed for backup, synchronization, remote access, and home entertainment. Its Rockchip Quad-core Cortex-A55 processor and 2 Gigabit network ports provides for smooth and seamless data transmission for multiple users. The HDMI 1.4b port allows users to stream multimedia in 4k resolution. With three M.2 NVMe solid-state drive bays, the QBoat-300 has robust storage capability suitable for homes, offices, and small business environments.

Hardware specifications

Warning

- If your QNAP product has hardware defects, return the product to QNAP or a QNAP-authorized service center for maintenance or replacement. Any attempt to repair or perform maintenance procedures on the product by you or an unauthorized third party invalidates the warranty.
- QNAP is not responsible for any damage or data loss caused by unauthorized modifications and installation of unsupported third-party applications. For details, see the [QNAP Warranty Terms and Conditions](#).

Ordering P/N	CPU	Drive bays
QBoat-300	ARM Quad-core Cortex-A55	<ul style="list-style-type: none"> • 2 x M.2 22110 NVMe PCIe Gen3 x1 • 1 x M.2 22110 NvMe PCIe Gen2 x1

Component	QBoat-300
Processor	
CPU	ARM Quad-core Cortex-A55
Frequency	Up to 1.8 GHz
Architecture	ARM 64-bit
Encryption engine	AES-256
Memory	
Pre-installed memory	4 GB RAM (non-expandable)

Component	QBoat-300
Maximum memory	4 GB RAM (non-expandable)
Flash memory	4 GB eMMC
Storage	
Drive bays	<ul style="list-style-type: none"> • 2 x M.2 22110 NVMe PCIe Gen3 x1 • 1 x M.2 22110 NvMe PCIe Gen2 x1 <div style="border: 1px solid #ccc; background-color: #f0f0f0; padding: 5px; margin-top: 10px;"> <p>Note All drive bays support Power Loss Protection (PLP).</p> </div>
Drive compatibility	M.2 2280 NVMe PCIe SSD
Hot-swapping	Not Supported
Network	
Gigabit network interface	2 x GbE RJ45
Wake-on-LAN	Yes (GbE RJ45)
External I/O Ports & Expansion Slots	
USB ports	2 x USB 3.2 Gen 1 Type-A
HDMI ports	1 x HDMI 1.4b, up to 4K (3840 x 2160) @ 30Hz
Interface	
Buttons	<ul style="list-style-type: none"> • Power • Reset
Dimensions	
Form factor	DIN-RAIL
Others	

Component	QBoat-300
Power supply unit	<ul style="list-style-type: none"> • Minimum 48W external adapter, 100-240V AC • 9-36V DC input (Euroblock connector) <p>Warning To reduce the risk of fire or electric shock, ensure that you only connect the power cord to a properly grounded electrical outlet.</p>
System battery	<p>CR2032 lithium battery (3V, 220 mAh)</p> <p>Warning To avoid potential battery explosion, causing injury or damage to components, ensure that you replace the existing battery with a battery of the same type.</p> <p>Important Dispose of used batteries according to local regulations or the instructions of the battery manufacturer.</p>
Operating temperature	0°C to 40°C (32°F to 104°F)
Relative humidity	<ul style="list-style-type: none"> • Non-condensing relative humidity: 5% to 95% • Wet-bulb temperature: 27°C (80.6°F)

Tip

Model specifications are subject to change without prior notice. To see the latest specifications, go to <https://www.qnap.com>.

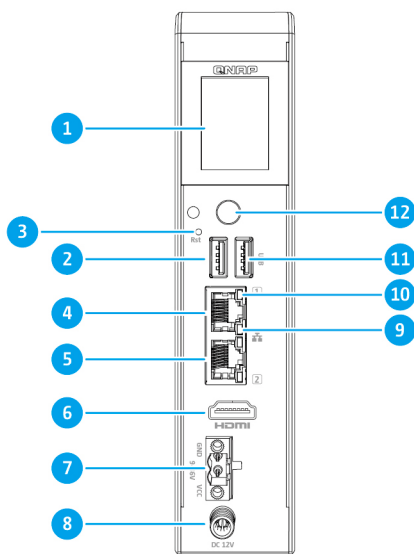
Package contents

Item	Quantity
QBoat-300	1
Power cord	1
AC power adapter	1

Item	Quantity
Heatsinks for M.2 SSDs	3
Thermal pads for M.2 SSDs	3
Rail brackets	1 x DIN-RAIL bracket
Ethernet cable	1 x Cat5e
<p>Note The Cat5e Ethernet cable supports transfer speeds of up to 2.5 Gbps.</p>	
Quick Installation Guide (QIG)	1

Components

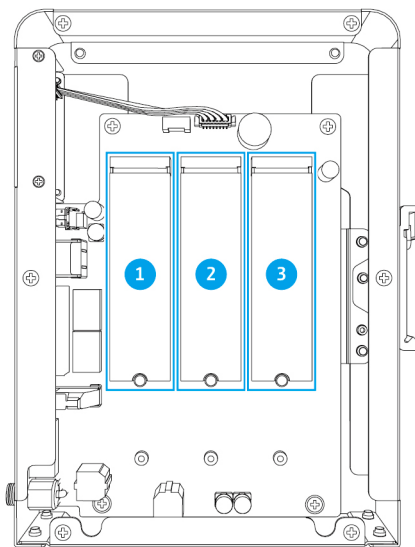
Front panel



No.	Component	No.	Component
1	LCD panel	7	9-36V DC input (euroblock connector)
2	USB 3.2 Gen 1 Type-A port 2	8	External power adapter, 48W AC 100-240V

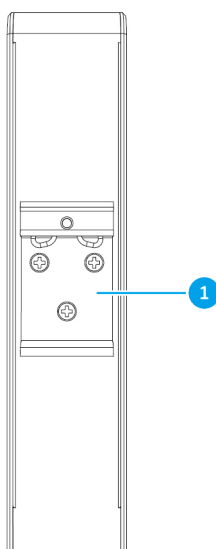
No.	Component	No.	Component
3	Reset button	9	Gigabit Ethernet activity LED
4	Gigabit Ethernet port (RJ45) 1	10	Gigabit Ethernet speed LED
5	Gigabit Ethernet port (RJ45) 1	11	USB 3.2 Gen 1 Type-A port 1
6	HDMI 1.4b port	12	Power button

System board



No.	Component	No.	Component
1	M.2 SSD slot 3	3	M.2 SSD slot 1
2	M.2 SSD slot 2	-	-

Rear panel



No.	Component	No.	Component
1	DIN-rail kit (optional accessory)	-	-

Installation requirements

Category	Item
Environment	<ul style="list-style-type: none"> • Room temperature: 0°C to 40°C (32°F to 104°F) • Non-condensing relative humidity: 5% to 95% • Wet-bulb temperature: 27°C (80.6°F) • Flat, anti-static surface without exposure to direct sunlight, liquids, or chemicals • Free from objects that may obstruct device ventilation or apply pressure to the device or power cord
Hardware and peripherals	<ul style="list-style-type: none"> • Storage drives For the list of compatible drive models, go to https://www.qnap.com/compatibility. • Network cable

Category	Item
Tools	<ul style="list-style-type: none">• Phillips #1 or #2 screwdriver• Flat head screwdriver• Anti-static wrist strap

Setting up the NAS

Note

Read all safety requirements and information carefully before setting up the NAS or installing NAS components.

1. Place your NAS device in an environment that meets the requirements.
For details, see [Installation requirements](#).
2. Install drives.
For details, [Installing M.2 solid-state drives](#).
3. Connect the power cord and all applicable cables.
4. Power on the NAS.
5. Install QTS.
For details, see [QTS Installation](#).
6. Log on to QTS.

3. Installation and Configuration

This chapter provides specific hardware and firmware installation and configuration steps.

Hardware installation

This section provides information on installing drives.

Drive installation

The QBoat-300 is compatible with M.2 solid-state drives.

Installing M.2 solid-state drives

For a list of compatible M.2 SSDs, go to <https://www.qnap.com/compatibility>.

Note

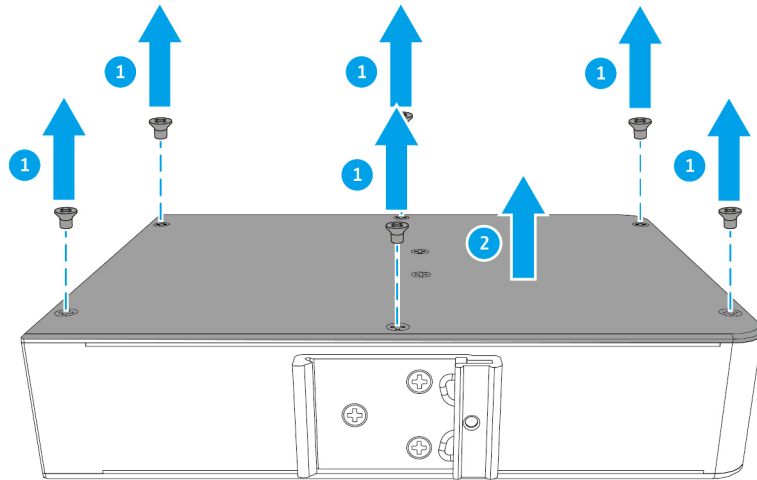
- QNAP recommends installing heatsinks on the M.2 SSD controllers to enhance cooling efficiency and to ensure consistent performance.
- Before installing non-QNAP heatsinks, ensure that they are of the appropriate size and shape.

Warning

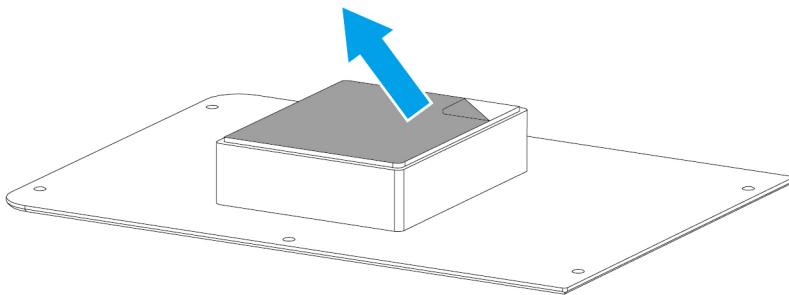
- Installing a drive deletes all data on the drive.
- Observe electrostatic discharge (ESD) procedures to avoid damage to components.

1. Power off the device.
2. Disconnect the power cord from the electrical outlet.
3. Disconnect all cables and external attachments.
4. Remove the top cover.
 - a. Remove the screws that secure the top cover to the chassis.

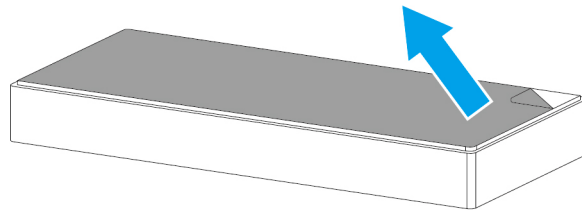
b. Lift the top cover off the device.



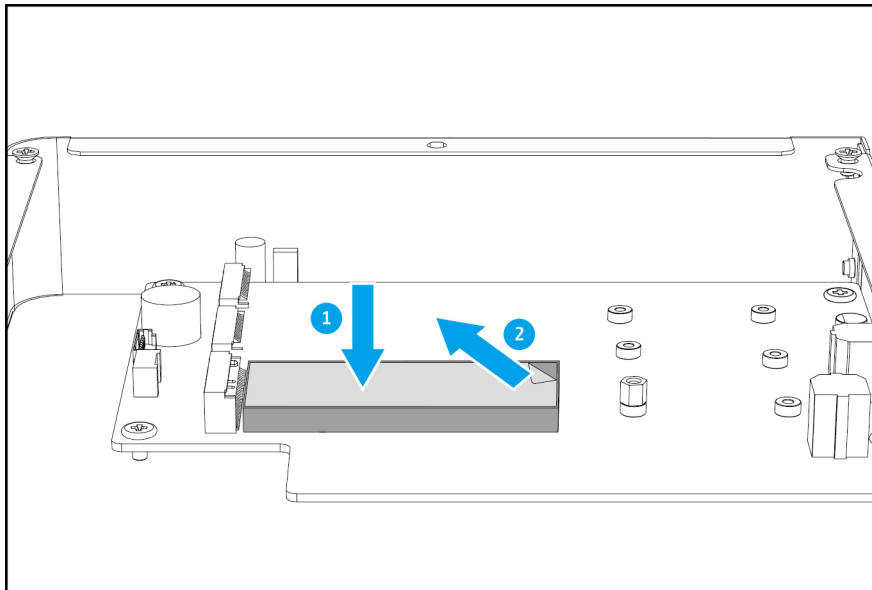
5. Remove the plastic cover from the top cover thermal pad.



6. Install a thick thermal pad in the M.2 SSD slot.
 - a. Remove a plastic cover from one side of the thermal pad.

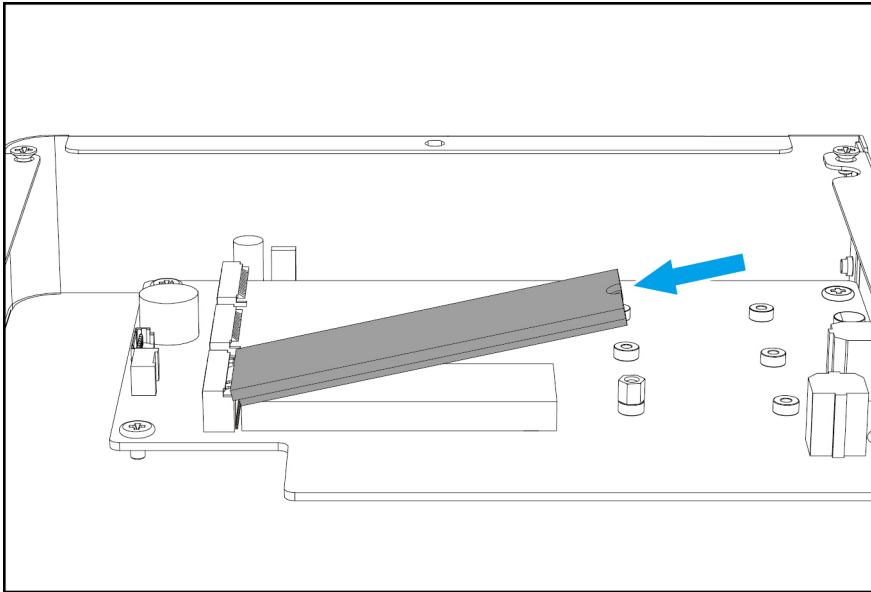


- b. Place the thermal pad on the system board.
 - c. Remove the plastic cover from the other side of the thermal pad.

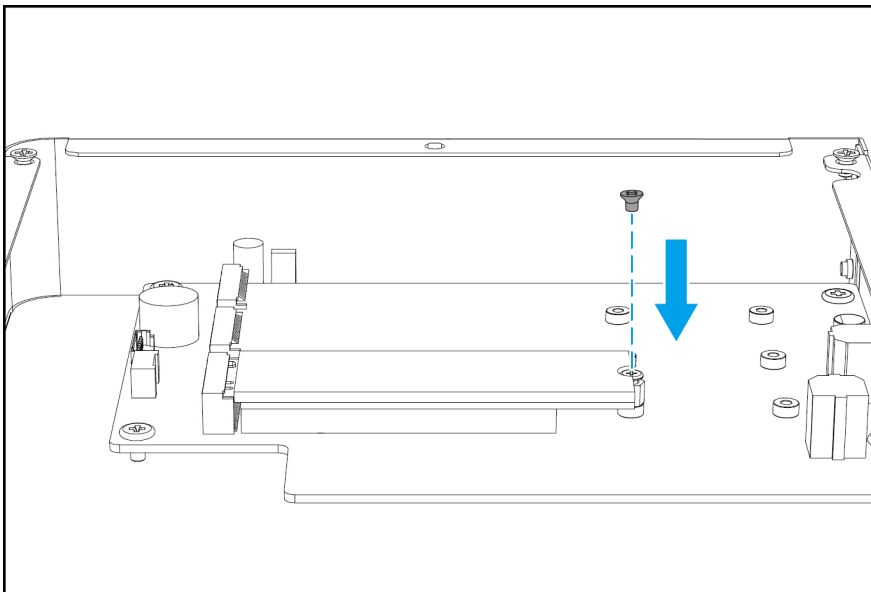


7. Install the M.2 SSD.
 - a. Remove the screw.

- b.** Insert the M.2 SSD into the slot.



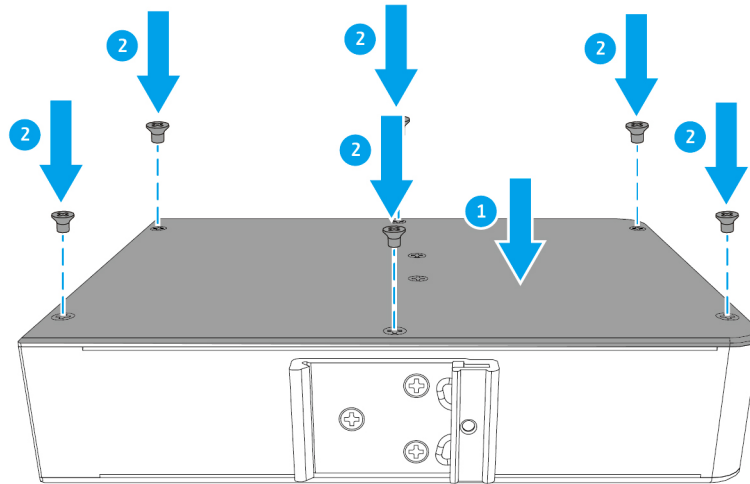
- c.** Attach the screw.



- 8.** Attach the top cover.

- a.** Place the top cover on the device.

- b. Attach the screws that secure the top cover to the chassis.



- 9. Connect all cables and external attachments.
- 10. Connect the power cord to the electrical outlet.
- 11. Power on the device.

Connecting USB Expansion Units

The QBoat-300 supports USB expansion units. For details, see table below.

To connect the device to USB expansion units, USB Type-A to USB Type-C cables are required.

You can purchase storage expansion accessories from QNAP or an authorized reseller.

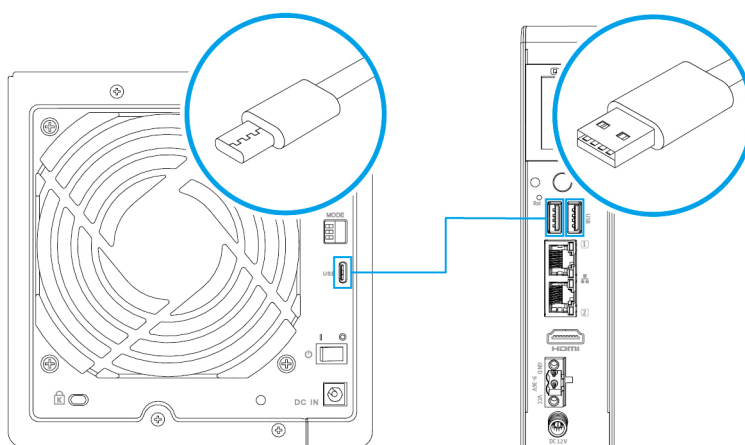
For details, go to <https://shop.qnap.com/>.

For the list of compatible expansion units and the maximum number of applicable expansion units, go to <https://www.qnap.com/go/compatibility-expansion>.

Expansion Unit Model	Description	Required Accessories
TR-002	<ul style="list-style-type: none"> • Uses a USB 3.2 Gen 2 Type-C interface • Supports SATA HDD/SDD 	USB 3.2 Gen 2 Type-A to Type-C cable
TR-004	<ul style="list-style-type: none"> • Uses a USB 3.2 Gen 1 Type-C interface • Supports SATA HDD/SDD 	USB 3.2 Gen 2 Type-A to Type-C cable

Expansion Unit Model	Description	Required Accessories
TR-004U	<ul style="list-style-type: none"> • Uses a USB 3.2 Gen 1 Type-C interface • Supports SATA HDD/SDD 	<ul style="list-style-type: none"> • USB 3.2 Gen 1 Type-A to Type-C cable • RAIL-B02
TL-D800C	<ul style="list-style-type: none"> • Uses a USB 3.2 Gen 2 Type-C interface • Supports SATA HDD/SDD 	USB 3.2 Gen 2 Type-A to Type-C cable
TL-R1200C-RP	<ul style="list-style-type: none"> • Uses a USB 3.2 Gen 2 Type-C interface • Supports SATA HDD/SDD 	<ul style="list-style-type: none"> • USB 3.2 Gen 2 Type-A to Type-C cable • RAIL-B02

1. Connect the expansion unit to the NAS.
 - a. Connect the USB cable to the USB Type-C port on the expansion unit.
 - b. Connect the USB cable to a USB Type-A port on the NAS.



2. Power on the expansion unit.
3. Verify that the expansion unit is recognized by the NAS.
 - a. Log on to QTS as an administrator.
 - b. Go to **Storage Manager > External Storage**.
 - c. Verify that the expansion unit is listed.

QTS Installation

Method	Description	Requirements
Qfinder Pro installation (Recommended)	<p>If the NAS is connected to your local area network, you can do the following:</p> <ul style="list-style-type: none"> • Locate the NAS using Qfinder Pro. • Complete the steps in the Smart Installation Guide wizard. <p>Note For details see, Initializing QTS using Qfinder Pro.</p>	<ul style="list-style-type: none"> • Computer • Network cable • Qfinder Pro installer
Cloud installation	<p>If the NAS is connected to the internet, you can do the following:</p> <ul style="list-style-type: none"> • Scan the QR code on the NAS. • Specify the Cloud Key. • Log into your myQNAPcloud account. • Use myQNAPcloud Link to remotely access your NAS. • Complete the steps in the Smart Installation Guide wizard. <p>Note For details see, Initializing QTS using the cloud installation website.</p>	<ul style="list-style-type: none"> • Computer or mobile device • myQNAPcloud account • Cloud Key
Local installation	<p>If the NAS supports HDMI output, you can do the following:</p> <ul style="list-style-type: none"> • Connect the NAS to the required hardware. • Complete the steps in the Smart Installation Guide wizard. <p>Note For details, see Initializing QTS using an HDMI connection.</p>	<ul style="list-style-type: none"> • Monitor • HDMI cable • USB keyboard or Remote control (not available on all models)

Initializing QTS using the cloud installation website

You can initialize QTS on the cloud installation website, which is designed to help you set up QNAP devices.

Warning

Initializing QTS deletes all data on the drives. Back up your data before proceeding.

1. Power on the NAS.
2. Connect the NAS to the internet.
3. Go to the QNAP Cloud Installation website using one of the following methods:
 - On your computer, go to the website dedicated to your region:
 - Global: <https://install.qnap.com>
 - China: <https://install.qnap.com.cn>
 - Or scan the QR code on the NAS using a mobile device.

The web page lists all the uninitialized QNAP NAS devices on the local network.

4. Find your NAS from the list and then click **Initialize**.

Tip

If your NAS is connected to the Internet, you can also go to <https://install.qnap.com/set> to enter the Cloud Key printed on the NAS. This allows you to initialize the NAS even if your NAS and your computer are not on the same network.

The installation wizard opens in the default web browser

5. Create an account or sign in to myQNAPcloud.

Note

You must return to this page to complete the installation after creating an account.

6. Specify the myQNAPcloud device name for the NAS.

Note

- The myQNAPcloud device name is used when remotely accessing the NAS.
- For security purposes, the myQNAPcloud Link remote connection service will be disabled on your NAS after initialization. You can enable it by connecting to QTS through LAN and then installing myQNAPcloud Link.

7. Click **Next**.

The **QNAP Warranty Service** page opens in the default web browser.

8. Click **Check warranty.**

The **QNAP Warranty Service** window opens in a new web page.

Important

You can check your device warranty policy or purchase an extended warranty plan at [QNAP Warranty Service](#).

9. Close the warranty page.

The **Smart Installation Guide** opens in the default web browser.

10. Click **Start Smart Installation.****11. Read the QNAP Software Terms of Use carefully.****12. Agree to the terms and conditions.****13. Click **Next**.****14. If the screen shows a different operating system, click **QTS**.****Note**

- This step is only required if the NAS supports installing more than one operating system and the default operating system for installation is not QTS.
- If the screen shows QuTS hero, you may need to click **Skip** first.

The NAS restarts and the smart installation screen shows QTS as the operating system to install.

15. Click **Start Smart Installation.****16. Specify a firmware version using any of the following methods.**

Methods	User Actions
Current version	Select Current version .
Latest available version	<ol style="list-style-type: none"> Select Latest available version. Click Check for Update The system checks for the latest firmware update available for your device. If a newer version is available, the system downloads the firmware update and restarts the NAS.
Uploaded version	<ol style="list-style-type: none"> Select Uploaded version. Click Browse. The file upload window appears. Select a firmware file.

17. Click Next.

The **Enter the NAS name and administrator's password** screen appears.

18. Specify the following information.

- **NAS Name:** Specify a name with 1 to 14 characters. The name can contain letters (A to Z, a to z), numbers (0 to 9), and hyphens (-), but cannot end with a hyphen.
- **Username:** Specify an administrator username that contains 1 to 32 characters. The name can contain letters (A to Z, a to z), numbers (0 to 9), and hyphens (-), multi-byte Chinese, Japanese, Korean, and Russian characters.
The username cannot contain the following special characters: grave accent (`), asterisk (*), equal sign (=), plus sign (+), square brackets ([]), curly brackets ({}), slash (/), vertical bar (|), semicolon (;), colon (:), apostrophe ('), quotation mark ("), comma (,), less than sign (<), greater than sign (>), backslash (\), question mark (?), percent sign (%), dollar sign (\$), and the space character.

Important

To ensure the security of your NAS, the default "admin" account is disabled by default and cannot be used for initialization. The "admin" account can be enabled after your device is initialized, but for security reasons it is not recommended.

- **Password:** Specify an administrator password with 1 to 64 characters. The password can contain any ASCII characters.
- **Confirm Password:** Enter the new administrator password again.

19. Click Next.

The **Set the date and time** screen appears.

20. Specify the time zone, date, and time using any of the following methods:**Tip**

QNAP recommends connecting to an NTP server to ensure that the NAS follows the Coordinated Universal Time (UTC) standard.

Methods	User Actions
Synchronize with computer or mobile device time	Select Same as the computer/device time The NAS synchronizes with the date and time of the computer or mobile device used to complete the initialization.
Enter manually	<ol style="list-style-type: none"> Select Input Manually. Specify the date and time. The NAS uses the specified date and time.

Methods	User Actions
Synchronize with a time server automatically	Click Synchronize with an Internet time server automatically . The NAS synchronizes with the NTP server.

21. Click Next.

The **Configure the network settings** screen appears.

22. Configure the network settings using any of the following methods.

Methods	User Actions
Obtain an IP address automatically (DHCP)	Select Obtain an IP address automatically (DHCP) The system automatically detects and configures the IP address settings.
Use static IP address	<p>a. Select Use static IP address. The IP address configuration page appears.</p> <p>b. Specify the following IP address configurations:</p> <ul style="list-style-type: none"> • Interface • IP Address • Subnet Mask • Default Gateway • Primary DNS server • Secondary DNS server

23. Click Next.

The **Thunderbolt Connection** page appears.

Note

This page only appears if your device supports Thunderbolt. You will need to connect your device to a computer using a Thunderbolt cable.

24. Click Next.

The **Summary** screen appears.

25. Review the settings.

26. Click Apply.

A confirmation message appears.

Warning

Clicking **Initialize** deletes all data on the drive before installing QTS.

27. Click **Initialize**.

Important

The initialization may take several minutes to complete. Do not power off the device during the process.

QTS is initialized.

Initializing QTS using an HDMI connection

You can initialize QTS on an HDMI display if your NAS supports HDMI.

Warning

Initializing QTS deletes all data on the drives. Back up your data before proceeding.

1. Connect an HDMI display to the NAS.
2. Connect a USB keyboard to the NAS or prepare the QNAP IR remote control (not available on all models).
3. Power on the NAS.
The **Welcome** screen of the Smart Installation Guide appears.
4. Select **Start Smart Installation Guide**.
The **Enter the NAS name and administrator's password** screen appears.
5. Specify the following information:
 - **NAS Name:** Specify a name with 1 to 14 characters. The name can contain letters (A to Z, a to z), numbers (0 to 9), and hyphens (-), but cannot end with a hyphen.
 - **Username:** Specify an administrator username that contains 1 to 32 characters. The name can contain letters (A to Z, a to z), numbers (0 to 9), and hyphens (-), multi-byte Chinese, Japanese, Korean, and Russian characters.
The username cannot contain the following special characters: grave accent (`), asterisk (*), equal sign (=), plus sign (+), square brackets ([]), curly brackets ({}), slash (/), vertical bar (|), semicolon (;), colon (:), apostrophe ('), quotation mark ("), comma (,), less than sign (<), greater than sign (>), backslash (\), question mark (?), percent sign (%), dollar sign (\$), and the space character.

Important

To ensure the security of your NAS, the default "admin" account is disabled by default and cannot be used for initialization. The "admin" account can be enabled after your device is initialized, but for security reasons it is not recommended.

- **Password:** Specify an administrator password with 1 to 64 characters. The password can contain any ASCII characters.
- **Confirm Password:** Enter the new administrator password again.

6. Click **Next**.
The **Thunderbolt Connection** page appears.

Note

This page only appears if your device supports Thunderbolt. You will need to connect your device to a computer using a Thunderbolt cable.

7. Click **Next**.
The **Summary** screen appears.
8. Review the settings.
9. Click **Next**.
The **Confirm** screen appears.

Warning

Clicking **Next** deletes all data on the drive before installing QTS.

10. Click **Next**.

Note

The initialization may takes several minutes to complete. Do not power off the device during the process.

QTS is initialized.

Initializing QTS using Qfinder Pro

You can initialize QTS using Qfinder Pro, which is a utility designed to help you locate and manage QNAP devices on your network.

Warning

Initializing QTS deletes all data on the drives. Back up your data before proceeding.

1. Power on the NAS.
2. Connect the NAS to your local area network.
3. Run Qfinder Pro on a computer that is connected to the same local network.

Tip

To download Qfinder Pro, go to <https://www.qnap.com/utilities>.

4. Click **Next**.
The **QNAP Warranty Service** page opens in the default web browser.

5. Click **Check warranty**.

The **QNAP Warranty Service** window opens in a new web page.

Important

You can check your device warranty policy or purchase an extended warranty plan at [QNAP Warranty Service](#).

6. Close the warranty page.

The **Smart Installation Guide** opens in the default web browser.

7. Click **Start Smart Installation**.

8. Read the QNAP Software Terms of Use carefully.

9. Agree to the terms and conditions.

10. Click **Next**.

11. If the screen shows a different operating system, click **QTS**.

Note

This step is only required if the NAS supports installing more than one operating system and the default operating system for installation is not QTS.

The NAS restarts and the smart installation screen shows QTS as the operating system to install.

12. Click **Start Smart Installation**.

13. Specify a firmware version using any of the following methods.

Methods	User Actions
Current version	Select Current version .
Latest available version	<p>a. Select Latest available version.</p> <p>b. Click Check for Update The system checks for the latest firmware update available for your device. If a newer version is available, the system downloads the firmware update and restarts the NAS.</p>
Uploaded version	<p>a. Select Uploaded version.</p> <p>b. Click Browse. The file upload window appears.</p> <p>c. Select a firmware file.</p>

14. Click **Next**.

The **Enter the NAS name and administrator's password** screen appears.

15. Specify the following information.

- **NAS Name:** Specify a name with 1 to 14 characters. The name can contain letters (A to Z, a to z), numbers (0 to 9), and hyphens (-), but cannot end with a hyphen.
- **Username:** Specify an administrator username that contains 1 to 32 characters. The name can contain letters (A to Z, a to z), numbers (0 to 9), and hyphens (-), multi-byte Chinese, Japanese, Korean, and Russian characters.
The username cannot contain the following special characters: grave accent (`), asterisk (*), equal sign (=), plus sign (+), square brackets ([]), curly brackets ({}), slash (/), vertical bar (|), semicolon (;), colon (:), apostrophe ('), quotation mark ("), comma (,), less than sign (<), greater than sign (>), backslash (\), question mark (?), percent sign (%), dollar sign (\$), and the space character.

Important

To ensure the security of your NAS, the default "admin" account is disabled by default and cannot be used for initialization. The "admin" account can be enabled after your device is initialized, but for security reasons it is not recommended.

- **Password:** Specify an administrator password with 1 to 64 characters. The password can contain any ASCII characters.
- **Confirm Password:** Enter the new administrator password again.

16. Click **Next**.

The **Set the date and time** screen appears.

17. Specify the time zone, date, and time using any of the following methods:

Tip

QNAP recommends connecting to an NTP server to ensure that the NAS follows the Coordinated Universal Time (UTC) standard.

Methods	User Actions
Synchronize with computer or mobile device time	Select Same as the computer/device time The NAS synchronizes with the date and time of the computer or mobile device used to complete the initialization.
Enter manually	<p>a. Select Input Manually.</p> <p>b. Specify the date and time. The NAS uses the specified date and time.</p>
Synchronize with a time server automatically	Click Synchronize with an Internet time server automatically . The NAS synchronizes with the NTP server.

18. Click **Next**.

The **Configure the network settings** screen appears.

19. Configure the network settings using any of the following methods.

Methods	User Actions
Obtain an IP address automatically (DHCP)	Select Obtain an IP address automatically (DHCP) The system automatically detects and configures the IP address settings.
Use static IP address	<p>a. Select Use static IP address. The IP address configuration page appears.</p> <p>b. Specify the following IP address configurations:</p> <ul style="list-style-type: none"> • Interface • IP Address • Subnet Mask • Default Gateway • Primary DNS server • Secondary DNS server

20. Click **Next**.

The **Thunderbolt Connection** page appears.

Note

This page only appears if your device supports Thunderbolt. You will need to connect your device to a computer using a Thunderbolt cable.

21. Click **Next**.

The **Summary** screen appears.

22. Review the settings.

23. Click **Apply**.

A confirmation message appears.

Warning

Clicking **Initialize** deletes all data on the drive before installing QTS.

24. Click **Initialize**.

Important

The initialization may take several minutes to complete. Do not power off the device during the process.

QTS is initialized.

4. Basic Operations

This chapter describes basic NAS operations.

Power button

Operation	User Action	Result
Power on	Press the button once.	The device powers on.
Power off	Press and hold the button for 1.5 seconds.	The device powers off.
Force power off	Press and hold the button for 5 seconds.	The device powers off. <div style="background-color: #fff9c4; padding: 10px; border-radius: 5px;"> <p>Important Use this method only when the device is unresponsive.</p> </div>

Reset button

Important

To protect your device from brute force attacks, QNAP recommends disabling the default `admin` account after a system reset. To disable the default `admin` account, you must first create a new administrator account, log out of the `admin` account, and then log in with the new account.

Operation	User Action	Result
Basic system reset	Press and hold the button for 3 seconds.	<p>The following settings are reset to default:</p> <ul style="list-style-type: none"> • The <code>admin</code> account is automatically enabled. • System administrator password: For details on the default password, see this FAQ. • TCP/IP configuration: <ul style="list-style-type: none"> • Obtain IP address settings automatically via DHCP • Disable jumbo frames • If port trunking is enabled (multi-LAN models only), the port trunking mode is reset to "Active Backup (Failover)". • System port: 8080 (system service port) • Security level: Low (Allow all connections) • LCD panel password: (blank) • VLAN: Disabled
Advanced system reset	Press and hold the button for 15 seconds.	<p>The default factory settings are restored.</p> <ul style="list-style-type: none"> • To retrieve old data after an advanced system reset, recreate the previous folder structure on the NAS.

LEDs

LEDs indicate the system status and related information when the device is powered on. The following LED information applies only when the drive is correctly installed and when the device is connected to the network or to a host.

For details on the location of the LEDs, see [Front panel](#).

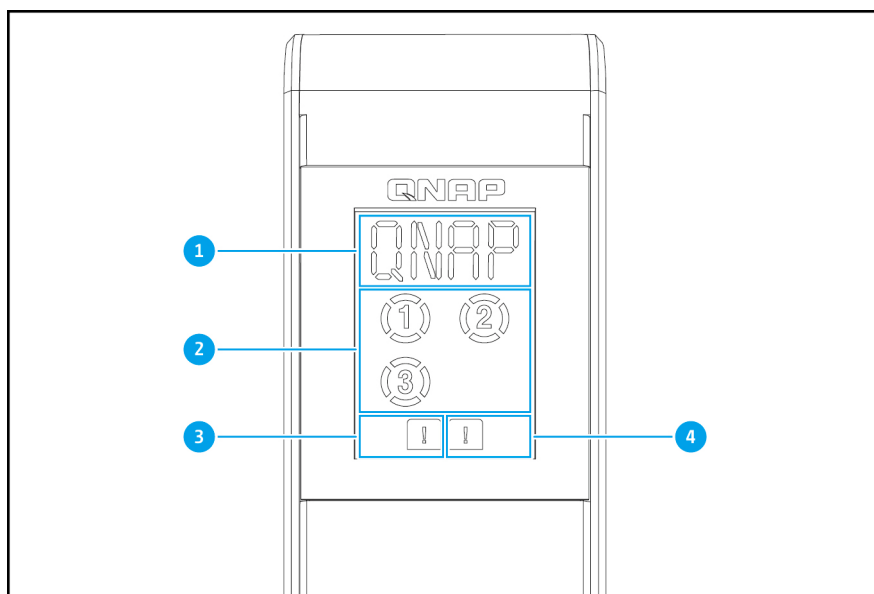
Gigabit Ethernet Speed LED

Status	Description
Green	The network connection is operating at 1 Gbps.
Orange	The network connection is operating at 100 Mbps.
Off	There is no network connection.

Gigabit Ethernet Activity LED

Status	Description
Green	A network connection has been established.
Flashes green	The device is being accessed from the network.
Off	There is no network connection.

LCD Panel



No.	Component	Status	Description
1	Alphanumeric display	BOOTING ...	The device is starting up.
		TURING OFF ...	The device is shutting down.
		Device ID	<ul style="list-style-type: none"> The device is ready. All drives are in standby mode.

No.	Component	Status	Description
1	Alphanumeric display	Error code	<p>An error has occurred and the error indicator is on.</p> <p>Note If multiple errors have occurred, only the error code of the most recent error is displayed.</p> <p>Tip See the table below for error code descriptions.</p>
		Information code	<p>A system notification has been issued and the information indicator is on.</p> <p>Tip See the table below for information code descriptions.</p>
3	Information indicator	On	A system notification has been issued and the alphanumeric display is displaying the information code of the notification.
		Flashes on and off alternately every second.	All drives are in standby mode.
		Off	The device is powered off.
4	Error indicator	On	An error has occurred and the alphanumeric display is displaying the error code of the error.
		Off	<p>One of the following:</p> <ul style="list-style-type: none"> No errors have occurred. The device is powered off.
2	Drive status	One green bar	The drive is ready.
		One green bar flashing	Data on the drive is being accessed.

No.	Component	Status	Description
2	Drive status	Three red bars	A drive error has occurred.
		Off	No drive is installed.

LCD panel error codes

Error Code	Error type	Description
E001	System failure	Operating system failure, cannot boot
E002	Drive failure	One or more drives have failed. The drive status display indicates which drives have failed.
E003	Drives full	All drives are full.
E004	RAID failure	The device is in degraded mode (one member drive has failed in RAID 0, RAID 1, or RAID 5).

LCD panel information codes

Information Code	Information type	Description
I001	Updating firmware	<p>The firmware is being updated.</p> <div style="background-color: #fff9c4; padding: 10px; border: 1px solid #ccc;"> <p>Important</p> <p>When updating the firmware, do not remove the power cord or USB cable, and do not force-exit the application.</p> </div>
I002	Rebuilding RAID	RAID rebuilding is in progress.

Audio alert

Duration	Frequency	Description
Short beep (0.5 seconds)	1	<ul style="list-style-type: none"> The NAS is starting up. When the reset button is pressed for 3 seconds, the NAS resets configurations. When the reset button is pressed for 15 seconds, the NAS resets configurations and reboots. The operating system was updated.
	3	<ul style="list-style-type: none"> The NAS data cannot be copied to the external storage device connected to the USB One Touch Copy port.
Long beep (1.5 seconds)	3 (every 5 minutes)	<ul style="list-style-type: none"> A system fan is not functioning. A fan module has been removed.
	2	<ul style="list-style-type: none"> A disk volume is about to reach its full capacity. A disk volume has reached its full capacity. The drives are in degraded mode. A drive is rebuilding. A drive is plugged in or out.
	1	<ul style="list-style-type: none"> The NAS was powered off by force shutdown (hardware shutdown). The NAS was powered on successfully and is ready.

5. NAS Migration

You can migrate data and settings from your current NAS to another NAS model with minimal disruptions by installing all the hard drives from the source NAS to the destination NAS. RAID configuration and other settings are retained on the destination NAS after migration.

NAS migration requirements

You can only migrate drives to specific NAS models, depending on your source NAS. For the list of NAS models compatible with direct NAS migration, see <https://www.qnap.com/go/nas-migration>.

Your device must meet the following requirements:

- QTS NAS supports several types of NAS migration:
 - ARM NAS to an ARM NAS
 - x86 NAS to an x86 NAS
 - ARM NAS to an x86 NAS

Note

You cannot migrate from an x86 NAS to an ARM NAS.

- The destination NAS must run on the same QTS version as the source NAS (or later).

Important

Due to incompatibilities in file system, system migration between QTS NAS and QuTS hero NAS is not supported.

Warning

Migrating drives between QTS NAS and QuTS hero NAS can cause data corruption.

- The destination NAS must have sufficient free drive bays to accommodate all the drives that you are migrating from the source NAS.

For NAS models that do not support NAS migration, you can migrate existing data using HBS 3. For details, see [Migrating NAS data using HBS 3](#).

Status and setting changes after NAS migration

The status of NAS data and settings varies after migration.

Data and Settings	After NAS Migration
Registered myQNAPcloud name	Your registered myQNAPcloud name is not migrated.
Encrypted disk volumes	<p>If the NAS does not support file system encryption, encrypted disk volumes are not migrated.</p> <div style="background-color: #ffe6e6; padding: 10px;"> <p>Warning</p> <p>To prevent data loss, back up and save the encryption keys of encrypted disk volumes in a safe place. You can also choose to decrypt disk volumes before migration.</p> </div>
Shared folders	<p>All shared folders and the downloaded files stored in them are retained.</p> <div style="background-color: #ffe6e6; padding: 10px;"> <p>Warning</p> <p>To prevent data loss, back up and save encryption keys or passwords of encrypted shared folders in a safe place before migration.</p> </div> <div style="background-color: #ffe6d9; padding: 10px;"> <p>Important</p> <p>Folder permissions on the destination NAS must be reconfigured after migration.</p> </div>
Network	<ul style="list-style-type: none"> • If the number of network ports or network port specifications on the destination NAS is different from the source NAS, the following network and virtual settings may change and require reconfiguration: port trunking, virtual machines, Thunderbolt, USB QuickAccess, and more. • You must reconfigure network settings when the source NAS is running on QTS 4.3.5 or earlier versions.
Windows AD configuration	Windows AD configurations must be reconfigured.
Licenses	<p>Licenses are not migrated.</p> <div style="background-color: #ffe6e6; padding: 10px;"> <p>Warning</p> <p>To prevent losing all your software licenses, QNAP recommends deactivating licenses on the source NAS before data migration.</p> </div>

Data and Settings	After NAS Migration
Applications	If the destination NAS has less RAM than the source NAS, the following features and applications might not function: Virtualization Station, Qsirch, and Snapshots.
Services	Only services supported by the destination NAS are available.
Multimedia features	Some multimedia features are disabled by default.

Migrating a NAS

Important

Before performing NAS migration, ensure that you understand all requirements and possible changes after migration.

For details see the following topics:

- [NAS migration requirements](#)
- [Status and setting changes after NAS migration](#)

1. Power off the source NAS and the destination NAS.
2. Remove the drives.

Important

QNAP recommends following the source NAS drive order when installing the drives. Take note of the drive tray order when removing the drives.

- a. Remove the drives from the source NAS.
- b. Remove the drive trays from the destination NAS.
3. Install the drives.
 - a. Install source NAS drives onto the destination NAS drive trays.
 - b. Insert the drive trays into the destination NAS.
4. Power on the destination NAS.
5. Log on to QTS as an administrator on the destination NAS.
The destination NAS automatically checks for the latest firmware update.

Migrating NAS data using HBS 3

For NAS models that do not support direct migration, you can initialize the destination NAS then copy data from the source NAS to the destination NAS using HBS 3.

Preparing the destination NAS

1. Log on to QTS.
2. Create one or more storage pools.
For details, see the [Creating a Storage Pool](#) topic in the QTS user guide.
3. Create one or more volumes.
For details, see the [Volume Creation](#) topic in the QTS user guide.
4. Create shared folders on the destination NAS.
For details, see the [Creating a Shared Folder](#) topic in the QTS user guide.
5. Install HBS 3 onto the destination NAS.
 - a. Go to **App Center**.
 - b. Search for HBS 3.
 - c. Click **Install**.
HBS 3 is installed on the destination NAS.
6. Enable the remote server settings on the destination NAS.
 - a. Go to **App Center > HBS 3 > Services > RTRR Server**.
 - b. Click **Enable RTRR Server**.
The RTRR server settings window appears.
 - c. Specify the **RTRR Server** settings.


Setting	Description
Password	Specify a password that contains 1 to 16 characters from any of the following groups: <ul style="list-style-type: none"> • Letters: A to Z, a to z • Numbers: 0 to 9 • Special characters: . - _ ~ ! @ # \$ % ^ & () { } • Does not start or end with a space.
Port	Specify a port number to access the RTRR server.

7. Click **Apply**.
A confirmation window appears.
8. Click **OK**.
The remote server settings are completed.

Creating a one-way sync job

1. On the source NAS, go to **App Center > HBS 3 > Sync**.

2. Click **Sync Now**.
3. Select **One-way Sync Job**.
The **Create a Sync Job** window appears.
4. Click **Remote NAS**.
5. Click **Add New Account**.
The **Create a Storage Space** window appears.
6. Select the destination NAS as the destination storage space and specify the following:

Setting	Description
Name	The name used to identify the storage space.
IP address / Host name	The IP address or hostname used to access the storage space. <div style="background-color: #fff9c4; padding: 5px; border: 1px solid #ccc;"> <p>Tip Click  to scan for available devices.</p> </div>
Port	The port number used to access the storage space. This value must be between 1 to 65535.
Password	The password used to access the storage space.
Use SSL connection	Requires SSL connection when accessing the remote NAS.


7. Optional: Test the connection.

Test	Description
Detect Server	Tests the accessibility of the selected storage space.
Speed Test	Tests the network connection speed of the selected storage space.

8. Click **Create**.
9. Click **Select**.
10. Select the paired folders.

Important

- All subfolders and files in the selected folder are selected.
- You can only sync up to 16 paired folders per job.

- a. Under the source, click .
- A dialog box opens.

- b.** Select a folder.
 - c.** Click **OK**.
The dialog box closes.
 - d.** Under the destination, click **+**.
A dialog box opens.
 - e.** Select a folder.
 - f.** Click **OK**.
 - g.** Optional: Add more paired folders if necessary.
- 11.** Click **Next**.
The **Schedule** screen appears.
- 12.** Select **Sync now**.
- 13.** Click **Next**.
The **Rules** screen appears.
- 14.** Optional: Configure job rules.
- 15.** Click **Next**.
The **Summary** screen appears.
- 16.** Review the job summary.
- 17.** Click **Create**.
The source NAS runs the created one-way sync job.

Note

It may take several minutes to migrate shared folders from the source NAS to the destination NAS.

Importing local users or group settings to the destination NAS

- 1.** Power on the source NAS.
- 2.** Back up the users or group settings from the source NAS.
 - a.** Log on to QTS.
 - b.** Go to **Control Panel > Privilege > Users**.
 - c.** Click **Create**, and then click **Import/Export Users**.
The **Import/Export Users** window appears.
 - d.** Select **Export user and user group settings**.

e. Click **Next**.

The NAS user and user group settings are exported as a file and downloaded onto your computer.

3. Import user settings on the source NAS to the destination NAS.

a. On the destination NAS, log on to QTS.

b. Go to **Control Panel > Privilege > Users**.

c. Click **Create**, and then click **Import/Export Users**.

d. Select **Import user and user group settings**.

Note

You can select whether to send a notification mail to newly created users or overwrite duplicate users.

e. On your computer, select the user settings file exported from the source NAS.

The source NAS user settings file is imported to the destination NAS.

6. Troubleshooting

This chapter describes basic troubleshooting information.

Forcing Qfinder Pro or myQNAPcloud to locate the NAS

If Qfinder Pro or myQNAPcloud is unable to locate the NAS during QTS installation, the drives or data may be faulty.

1. Power off the NAS.
2. Remove all drives.
3. Power on the NAS.
4. Locate the NAS using Qfinder Pro or myQNAPcloud.
5. Reinsert the drives.
6. Continue with the QTS installation.

Recovering Unintentionally Removed Healthy Drives

The NAS supports exclusive RAID recovery technology to recover failed RAID groups from unintentional disconnection or removal of drives. Users can recover an inactive RAID 1, RAID 5, RAID 6, RAID 10, RAID 50, or RAID 60 group from degraded mode.

RAID Type	RAID Recovery Support	Disk Failure Tolerance
Single	No	N/A
JBOD	No	N/A
RAID 0	No	N/A
RAID 1	Yes	1
RAID 5	Yes	1

Support and other resources

QNAP provides the following resources:

Resource	URL
Documentation	https://download.qnap.com

Resource	URL
Compatibility List	https://www.qnap.com/compatibility
NAS Migration Compatibility	https://www.qnap.com/go/nas-migration
Expansion Unit Compatibility	https://www.qnap.com/go/compatibility-expansion
Service Portal	https://service.qnap.com
Product Support Status	https://www.qnap.com/go/product/eol.php
Downloads	https://download.qnap.com
Community Forum	https://forum.qnap.com
QNAP Accessories Store	https://shop.qnap.com

7. Glossary

Cloud Key

Unique 8-digit code assigned to each NAS device

myQNAPcloud

Provides various remote access services such as DDNS and myQNAPcloud Link

myQNAPcloud Link

Enables you to access QNAP devices over the internet without configuring complex port forwarding settings

Qfinder Pro

QNAP utility that lets you locate and access QNAP devices in your local area network

QNAP ID

User account that enables you to use myQNAPcloud remote access and other QNAP services

QTS

QNAP NAS operating system

8. Notices

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Version 3, 29 June 2007

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2. Source Code.

The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not

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The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

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7. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

- a.** Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.
- b.** Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

- c. Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.
- d. Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.
- e. Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

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END OF TERMS AND CONDITIONS

CE notice



This device complies with CE Compliance Class B.

UKCA notice



This device complies with the UKCA requirements for products sold in Great Britain.

FCC notice

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.

Important

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.

VCCI notice

VCCI-B

BSMI notice

SJ/T 11364-2006



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壳体	0	0	0	0	0	0
显示	0	0	0	0	0	0
印刷电路板	0	0	0	0	0	0
金属螺帽	0	0	0	0	0	0
电缆组装	0	0	0	0	0	0
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