



QNAP

QGD Rackmount Switch

QGD-1600

QGD-1602

User Guide

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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

- The device should be stored in a secure location with restricted access, controlled through the use of a tool, lock and key, or any means of security.
- Only qualified, skilled, and authorized persons with knowledge of all restrictions, safety precautions, and installation and maintenance procedures should have physical access to the device.
- To avoid potential injury or damage to components, ensure that the drives and other internal system components have cooled before touching them.
- Observe electrostatic discharge (ESD) procedures to avoid potential injury or damage to components.

Power

- 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.

System Battery

- This product contains a button battery.
- If swallowed, a lithium button battery can cause severe or fatal injuries within 2 hours.
- Keep batteries out of reach of children.
- 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.

Moving Parts

-



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

-



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

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

2. Product Overview

This chapter provides basic information about your QNAP device.

About the QGD-1600 and QGD-1602

The QGD-1600 and QGD-1602 are QNAP smart-edge network switches with built-in storage capacity. The switches support virtual machines (VMs) and come with a dual-CPU design that offers Layer 2 management functions for VM and QTS applications.

The QGD-1600 is equipped with two 1 GbE SFP/RJ45 combo ports and fourteen 1 GbE RJ45 ports, and features software-defined networking (SDN) to support multiple SMB applications, including NAS, NVR, router, firewall, AP controller, and surveillance.

The QGD-1602 is equipped with eight 2.5 GbE RJ45 ports and eight 1 GbE RJ45 ports. The switch integrates QuWAN to form a SD-WAN architecture with other QNAP devices across multiple sites, and fulfills IP surveillance, network security, wireless AP management, and storage expansion applications.

Both models can also be configured as ADRA devices for network detection and response. For details, see the ADRA Device User Guide for the QGD-1600 and QGD-1602.

Hardware specifications








Tip

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

Ordering P/N	CPU	Frequency	Memory
QGD-1600-4G	Intel® Celeron® J4115	4-core/4-thread 1.8 GHz base/2.5 GHz burst	4 GB
QGD-1600-8G			8 GB
QGD-1602-C3558-8G	Intel® Atom® C3558	4-core/4-thread 2.2 GHz	8 GB
QGD-1602-C3758-16G	Intel® Atom® C3758	8-core/8-thread 2.2 GHz	16 GB

Component	QGD-1600-4G	QGD-1600-8G	QGD-1602-C3558-8G	QGD-1602-C3758-16G
Processor				
CPU	Intel® Celeron® J4115		Intel® Atom® C3558	Intel® Atom® C3758
Frequency	4-core/4-thread 1.8 GHz base/2.5 GHz burst		4-core/4-thread 2.2 GHz	8-core/8-thread 2.2 GHz
Architecture	x86 64-bit			
Encryption engine	AES-NI			
Graphics	Intel® HD Graphics 600		-	-
Memory				
Pre-installed memory	4 GB RAM: 1 x 4 GB SODIMM DDR4	8 GB RAM: 2 x 4 GB SODIMM DDR4	8 GB RAM: 1 x 8 GB SODIMM DDR4	16 GB RAM: 1 x 16 GB SODIMM DDR4

Component	QGD-1600-4G	QGD-1600-8G	QGD-1602-C3558-8G	QGD-1602-C3758-16G
Memory slots	2 x 4 GB SODIMM DDR4		2 x 32 GB SODIMM DDR4	
	 Important Use only QNAP memory modules to maintain system performance and stability. For devices with more than one memory slot, use QNAP modules with identical specifications. Using unsupported modules may degrade performance, cause errors, or prevent the operating system from starting.			
Maximum memory	8 GB RAM: 2 x 4 GB		64 GB RAM: 2 x 32 GB	
Flash memory	4 GB (dual-boot OS protection)			
Storage				
Drive bays	2 x 2.5-inch SATA 6 Gbps			
	 Note The drive bays are backward compatible with SATA 3 Gbps drives.			
Drive compatibility	2.5-inch SATA solid-state drives			
M.2 SSD slots	-	-	2 x PCIe Gen 3 x1 NVMe	2 x PCIe Gen 3 x2 NVMe
	 Tip You can install an M.2 SSD expansion card in the PCIe slot.			
M.2 SSD form factor	-	-	2280	2280
SSD cache acceleration support	This device supports SSD cache acceleration for all drives.			
Network				
10 Gigabit network interface	-	-	2 x 10 GbE SFP+	
2.5 Gigabit network interface	-	-	8 x 2.5 GbE RJ45	
Gigabit network interface	<ul style="list-style-type: none"> 2 x 1 GbE SFP/RJ45 combo ports 14 x 1 GbE RJ45 		8 x 1 GbE RJ45	
Total power consumption	100W			
External I/O Ports & Expansion Slots				
Host ports	1 x 1 GbE RJ45		<ul style="list-style-type: none"> 2 x 5 GbE RJ45 2 x 1 GbE RJ45 	
PCIe slots	2 x PCIe 2.0 x2		2 x PCIe 3.0 x4	
	 Tip For the list of compatible drive models and expansion cards, go to https://www.qnap.com/compatibility .			
USB ports	<ul style="list-style-type: none"> 1 x USB 3.2 Gen 1 Type-A 2 x USB 2.0 Type-A 		2 x USB 3.2 Gen 1 Type-A	
HDMI ports	1 x HDMI 2.0 (up to 3840 x 2160 resolution at 30 Hz with HDR)		-	-

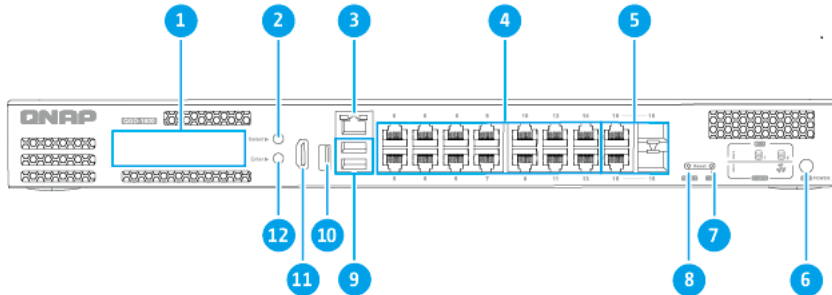
Component	QGD-1600-4G	QGD-1600-8G	QGD-1602-C3558-8G	QGD-1602-C3758-16G
Interface				
Display panel	Monochrome backlit LCD display			
Buttons	<ul style="list-style-type: none"> • Enter • Select • System reset • Switch reset • System power 			
Dimensions				
Form factor	1U Rackmount			
Dimensions (H x W x D)	47.2 × 436.2 × 326.2 mm (1.86 × 17.17 × 12.84 in)		44.2 × 435.2 × 327.7 mm (1.74 × 17.13 × 12.9 in)	
Net weight	4.41 kg (9.72 lbs)		4.37 kg (9.63 lbs)	
Others				
Rail compatibility	<ul style="list-style-type: none"> • RAIL-B02 • SP-EAR-BLK-01 <div style="display: flex; align-items: center;">  <p>Note The RAIL-B02 rail kit and SP-EAR-BLK-01 rack mount ear require separate purchase. For details, see QNAP Accessories Store.</p> </div>			
System battery	CR2032 lithium battery (3V, 225 mAh)			
Fans	<ul style="list-style-type: none"> • System: 2 x 40 mm 12V DC fans • Drive bay: 1 x 40 mm 12V DC fan 		<ul style="list-style-type: none"> • System: 3 x 40 mm 12V DC fans • Drive bay: 1 x 40 mm 12V DC fan 	
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) 			

Package contents

Item	Quantity
QGD-1600 / QGD-1602	1
Power cord	1
Ethernet cable	1 x 1 GbE (Cat5e)
Screws for 2.5-inch drives	6
Rail brackets	2
Screws for rail brackets	4
Rubber feet	4
Quick Installation Guide (QIG)	1

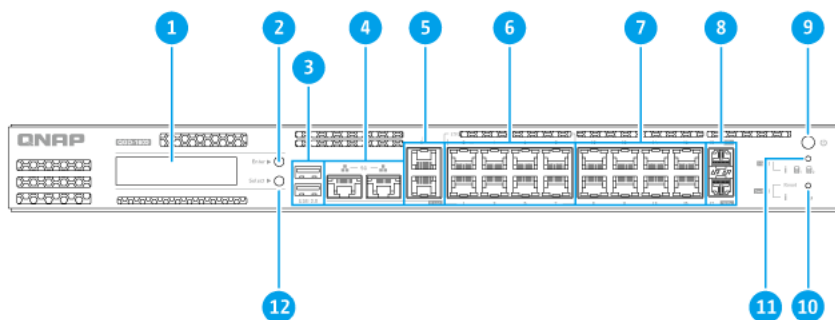
Components

Front panel



QGD-1600

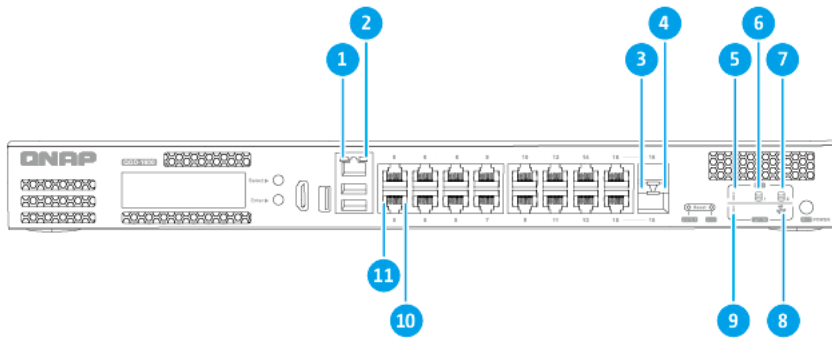
No.	Component	No.	Component
1	LCD panel	7	System reset button
2	LCD select button	8	Switch reset button
3	Gigabit host port	9	USB 2.0 Type-A ports
4	Gigabit Ethernet ports (RJ45)	10	USB 3.0 Type-A port
5	Gigabit Ethernet combo ports (RJ45/SFP)	11	HDMI 2.0 port
6	Host power button	12	LCD enter button



QGD-1602

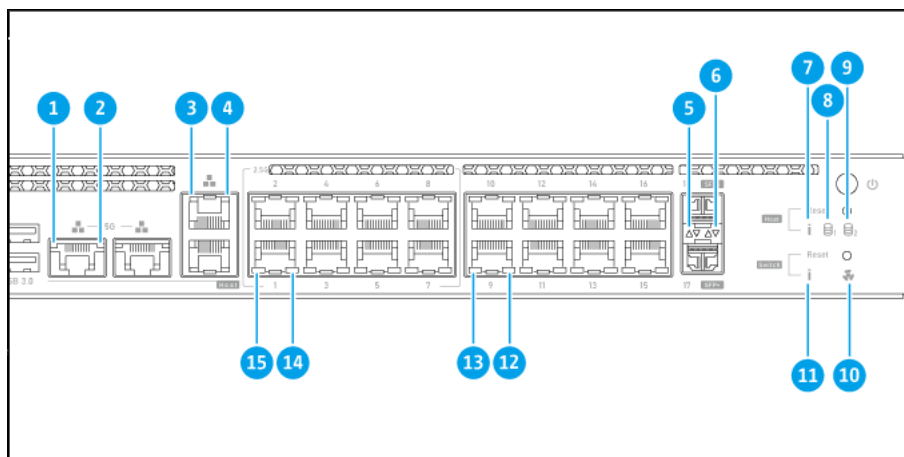
No.	Component	No.	Component
1	LCD panel	7	Gigabit Ethernet ports (RJ45)
2	LCD enter button	8	10 Gigabit Ethernet ports (SFP+)
3	USB 3.0 Type-A ports	9	Host power button
4	5 Gigabit host ports	10	Switch reset button
5	Gigabit host ports	11	System reset button
6	2.5 Gigabit Ethernet ports (RJ45)	12	LCD select button

Front panel LEDs



QGD-1600

No.	Component	No.	Component
1	Gigabit host port speed LED	7	Drive 2 LED
2	Gigabit host port activity LED	8	Fan LED
3	Combo port speed LED	9	Switch status LED
4	Combo port activity LED	10	Gigabit Ethernet speed LED
5	System status and power LED	11	Gigabit Ethernet activity LED
6	Drive 1 LED	-	-

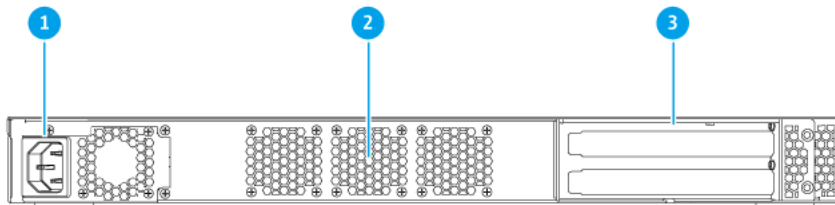


QGD-1602

No.	Component	No.	Component
1	5 Gigabit host port speed LED	9	Drive 2 LED
2	5 Gigabit host port activity LED	10	Fan LED
3	Gigabit host port speed LED	11	Switch status LED
4	Gigabit host port activity LED	12	Gigabit Ethernet speed LED
5	10 Gigabit SFP+ port speed LED	13	Gigabit Ethernet activity LED
6	10 Gigabit SFP+ port activity LED	14	2.5 Gigabit Ethernet speed LED

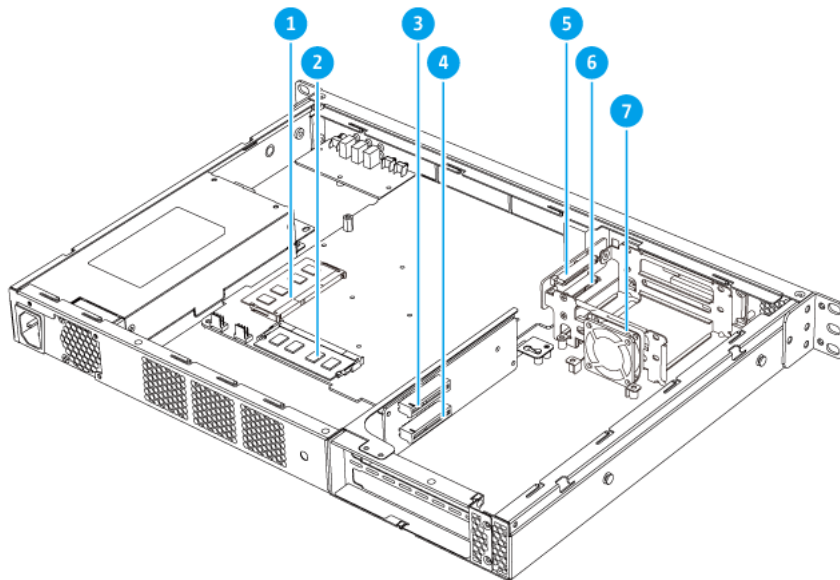
No.	Component	No.	Component
7	System status and power LED	15	2.5 Gigabit Ethernet activity LED
8	Drive 1 LED	-	-

Rear panel



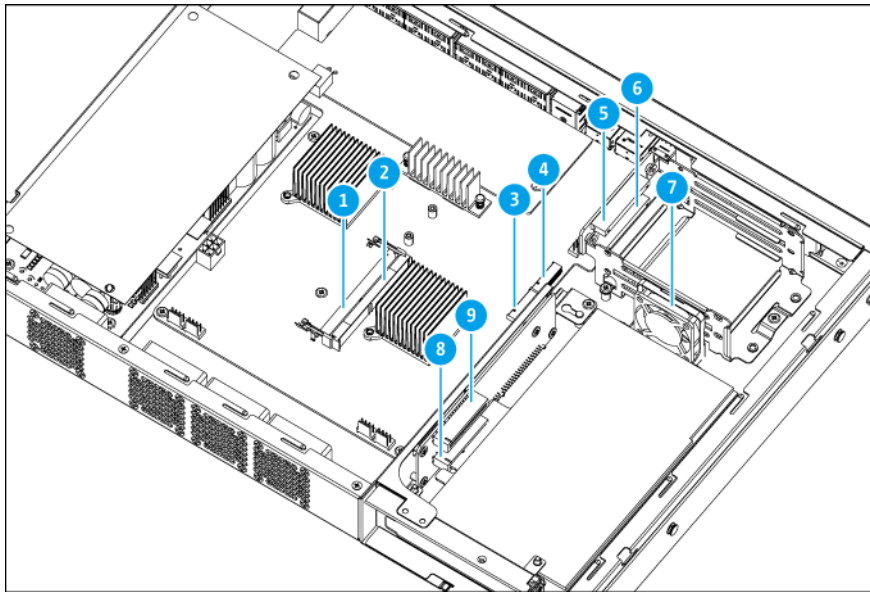
No.	Component	No.	Component
1	Power input	3	PCIe full-height covers
2	System fans	-	-

System board



QGD-1600

No.	Component	No.	Component
1	Memory slot 2	5	Drive connector 1
2	Memory slot 1	6	Drive connector 2
3	PCIe 2.0 x2 slot 1	7	Drive bay fan
4	PCIe 2.0 x2 slot 2	-	-



QGD-1602

No.	Component	No.	Component
1	Memory slot 1	6	Drive connector 1
2	Memory slot 2	7	Drive bay fan
3	M.2 SSD slot 2	8	PCIe 3.0 x4 slot 2
4	M.2 SSD slot 1	9	PCIe 3.0 x4 slot 1
5	Drive connector 2	-	-

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% 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 Optional: RAIL-B02 Optional: SP-EAR-BLK-01

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

Setting up the device



Important

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

1. Place your device in an environment that meets the requirements.
For details, see [Installation requirements](#).
2. Install drives.
For details, see the following topics:
 - [Installing 2.5-inch drives](#)
 - [Installing M.2 solid-state drives on the QGD-1602](#)
3. Optional: Install expansion cards.
For details, see [Installing expansion cards](#).
4. Optional: Connect expansion units.
For details, see [Connecting USB expansion units](#).
5. Connect the power cord and all applicable cables.
6. Power on the device.
7. Install QTS.
For details, see [QTS installation](#).
8. 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, memory modules, expansion cards, rubber feet, handles, fans, and connecting other devices.

Removing the case cover



Warning

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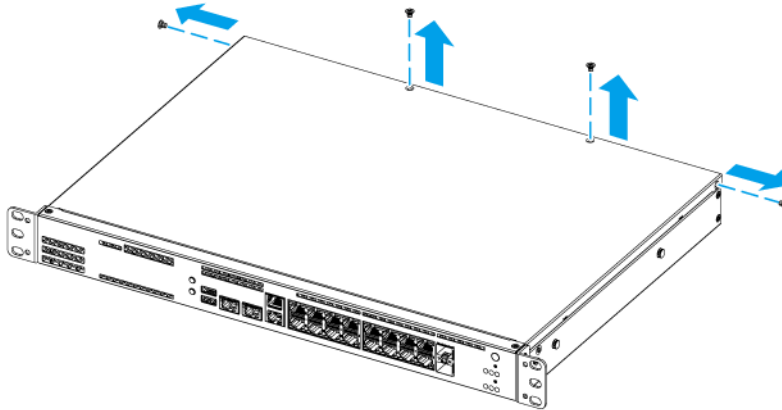
Moving fan blades: Keep your hands and other body parts away from moving fan blades.

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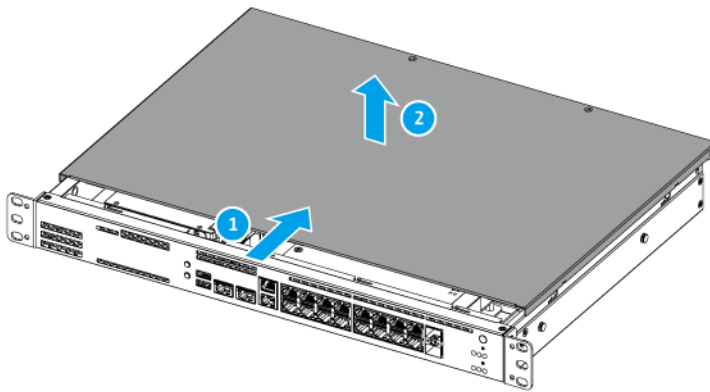


Other moving components: Keep your hands and other body parts away from other moving components.

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



- b. Slide the cover back.
- c. Lift the cover off the device.



Attaching the case cover



Warning

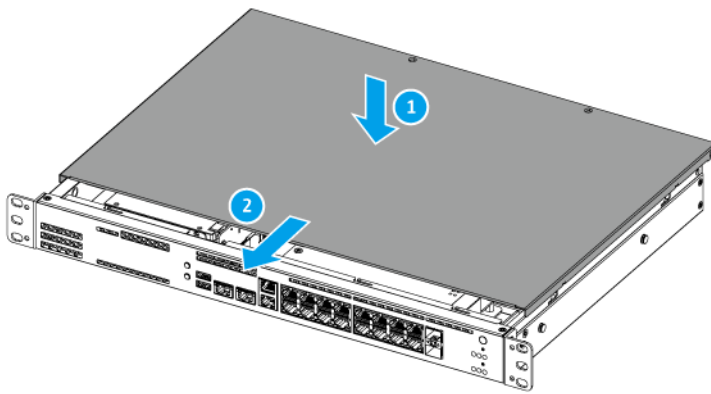


Moving fan blades: Keep your hands and other body parts away from moving fan blades.

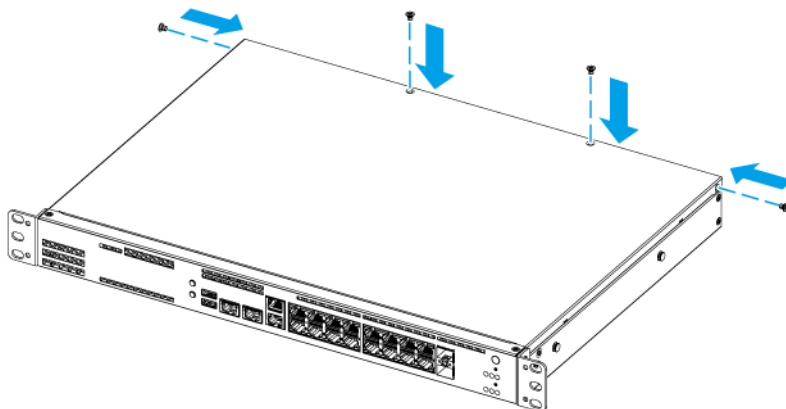


Other moving components: Keep your hands and other body parts away from other moving components.

1. Attach the case cover.
 - a. Place the cover on the device.
 - b. Slide the cover forward.



- c. Attach the screws.



2. Connect all cables and external attachments.

3. Connect the power cord to the electrical outlet.
4. Power on the device.

Drive installation

The QGD-1600 is compatible with 2.5-inch solid-state drives.

The QGD-1602 is compatible with 2.5-inch solid-state drives and M.2 solid-state drives.

Installing 2.5-inch drives

The device is compatible with 2.5-inch solid-state drives.



Warning

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

-



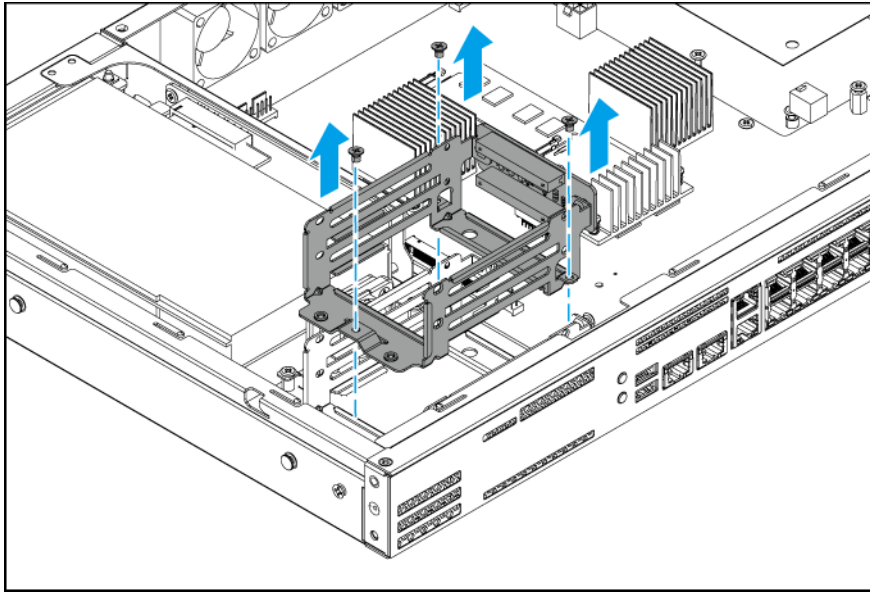
Moving fan blades: Keep your hands and other body parts away from moving fan blades.

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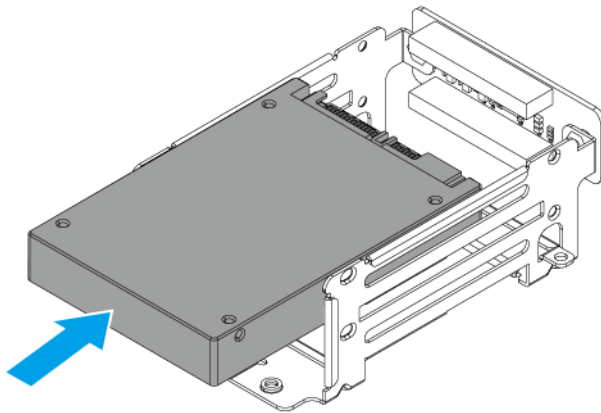
Other moving components: Keep your hands and other body parts away from other moving components.

1. Power off the device.
2. Remove the case cover.
For details, see [Removing the case cover](#).
3. Remove the drive module.
 - a. Remove the screws.
 - b. Lift the drive module out of the device.

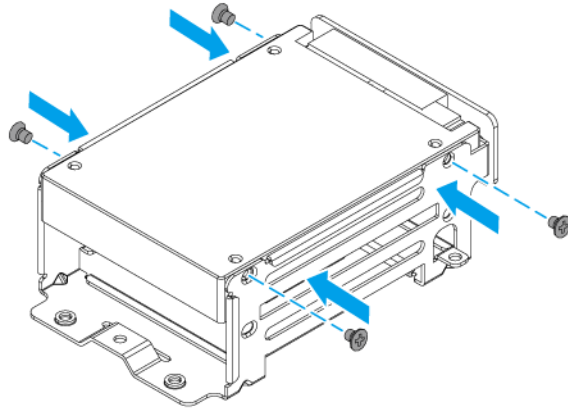


4. Install the drive onto the drive module.

- a. Insert the drive into the slot.**

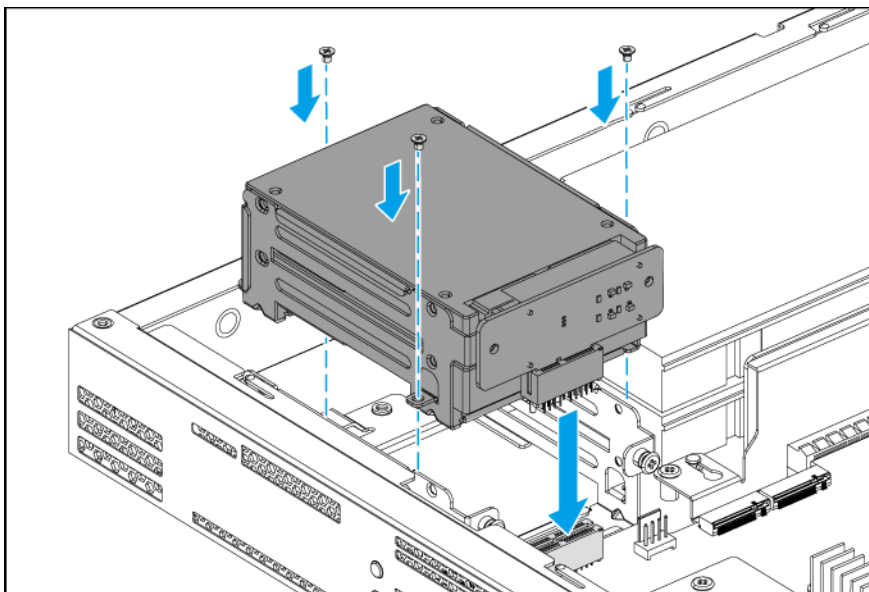


- b. Attach the screws.**



5. Insert the drive module.

- a.** Align the drive module connector to the system board.
- b.** Insert the drive module and connect it to the system board.
- c.** Attach the screws.



- 6. Attach the case cover.**
For details, see [Attaching the case cover](#).
- 7. Power on the device.**

Installing M.2 solid-state drives on the QGD-1602

The QGD-1602 has two M.2 SSD slots on the system board.

For details, see [System board](#).

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



Warning

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

-



Moving fan blades: Keep your hands and other body parts away from moving fan blades.

-



Other moving components: Keep your hands and other body parts away from other moving components.



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.

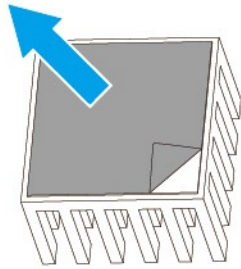
1. Power off the device.
2. Disconnect the power cord from the electrical outlet.
3. Disconnect all cables and external attachments.
4. Remove the case cover.
For details, see [Removing the case cover](#).
5. Optional: Install a heatsink on the M.2 SSD.
 - a. Locate the controller on the M.2 SSD.



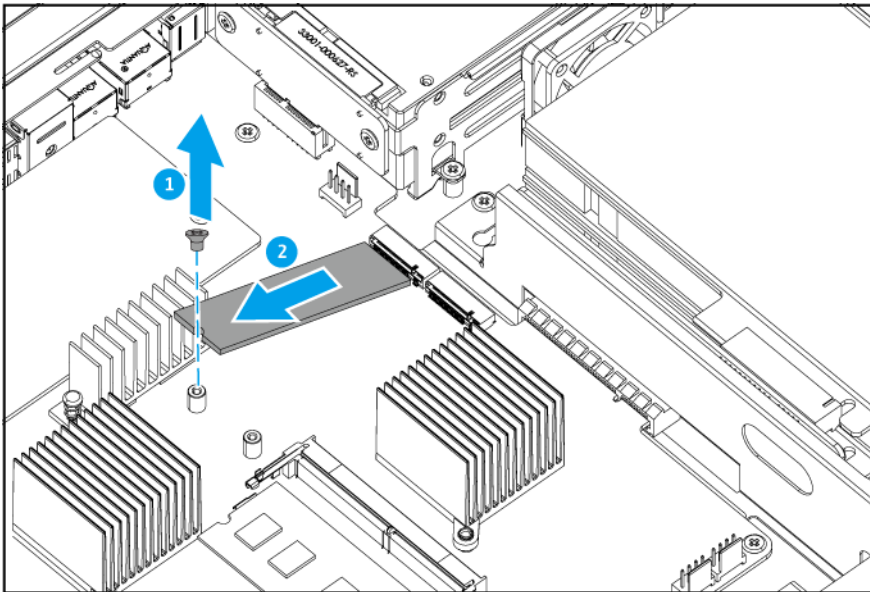
Note

The controller location varies depending on the model and manufacturer of the M.2 SSD. For details, refer to the documentation or contact the manufacturer.

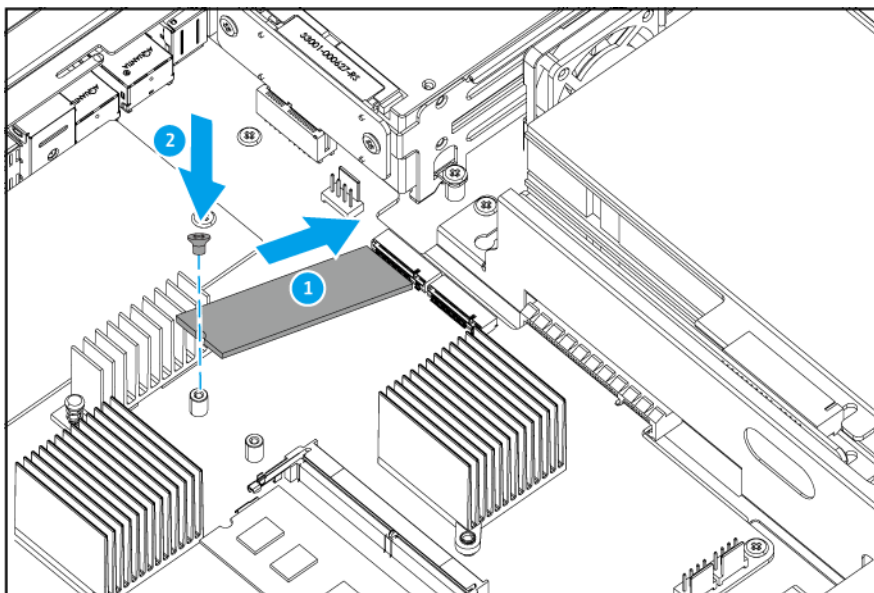
- b. Remove the protective film from the heatsink.



- c.** Install the heatsink on the controller.
- 6.** Optional: Remove an existing M.2 SSD.
 - a.** Remove the screw.
 - b.** Pull the M.2 SSD away from the slot.



- 7.** Install the new M.2 SSD.
 - a.** Insert the M.2 SSD into the slot.
 - b.** Attach the screw.



8. Optional: Install an additional M.2 SSD.
9. Attach the case cover.
For details, see [Attaching the case cover](#).
10. Connect all cables and external attachments.
11. Connect the power cord to the electrical outlet.
12. Power on the device.

Replacing memory modules

The device has two memory slots. The QGD-1600-4G, QGD-1602-C3558-8G, and QGD-1602-C3758-16G come preinstalled with one memory module, while the QGD-1600-8G has two preinstalled memory modules.

You can increase the memory capacity of the device by upgrading the memory modules. When using two modules, use only QNAP modules of the same type and capacity to maintain system performance and stability. You can purchase QNAP memory modules from authorized resellers.



Warning

- Observe electrostatic discharge (ESD) procedures to avoid damage to components.
- Observe electrostatic discharge (ESD) procedures to avoid damage to components.
-

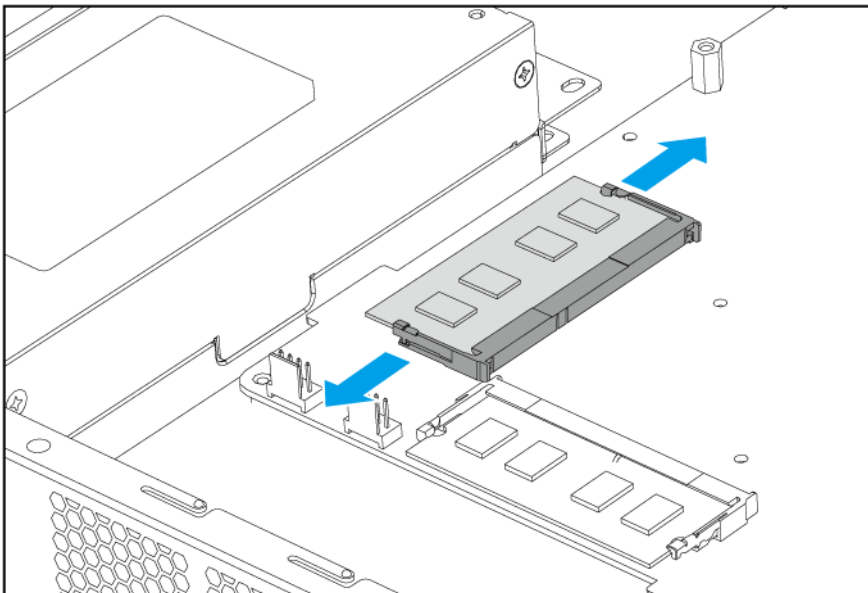


Moving fan blades: Keep your hands and other body parts away from moving fan blades.

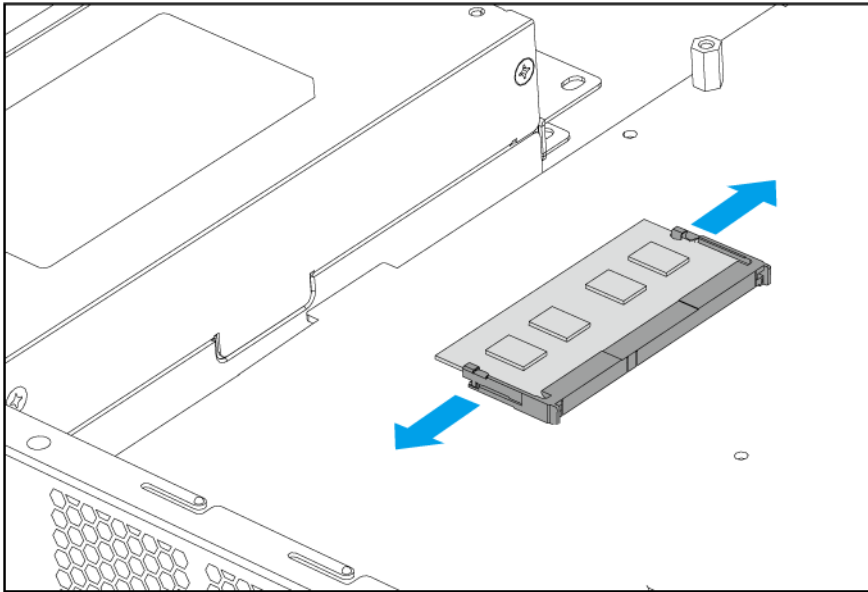


Other moving components: Keep your hands and other body parts away from other moving components.

1. Power off the device.
2. Disconnect the power cord from the electrical outlet.
3. Disconnect all cables and external attachments.
4. Remove the case cover.
For details, see [Removing the case cover](#).
5. Optional: Remove an existing module.
 - a. Push the retention clips outward simultaneously to release the module.



QGD-1600

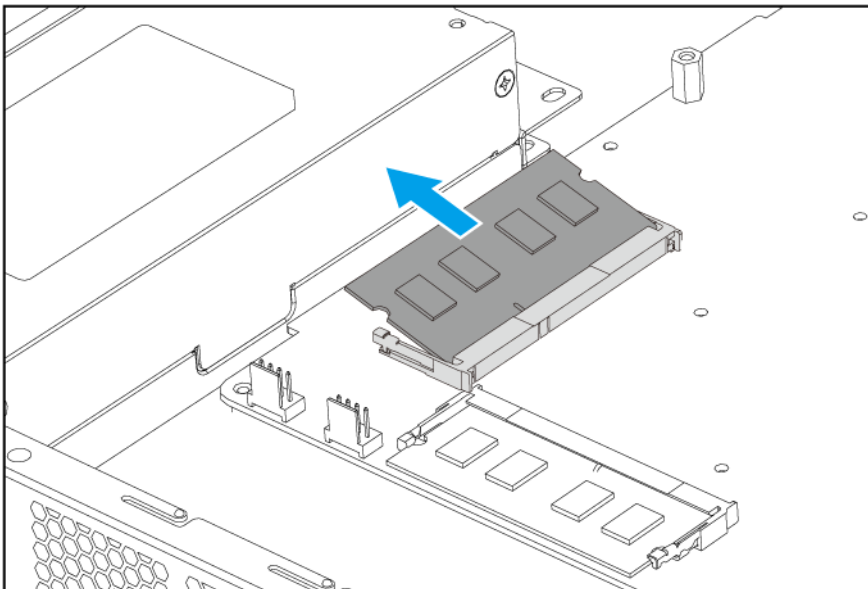
**QGD-1602**

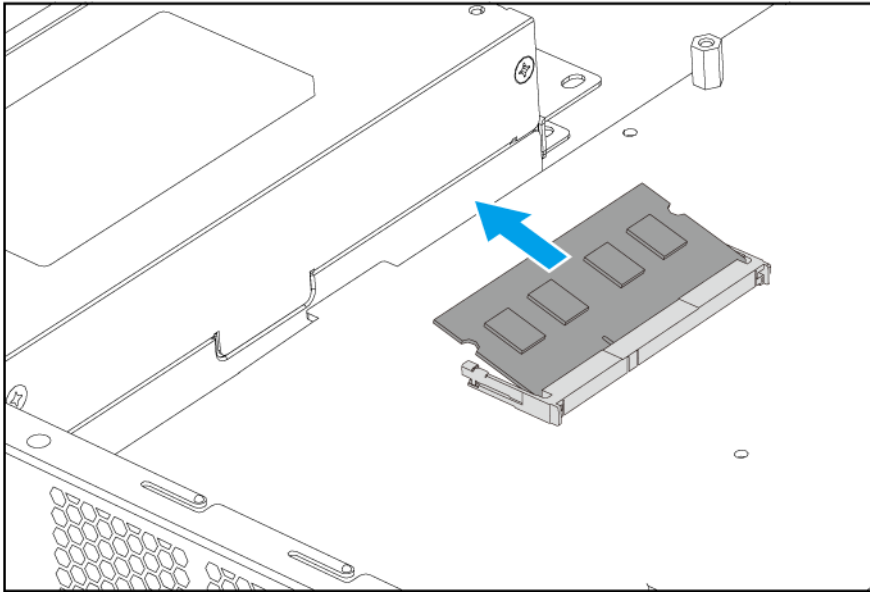
- b. Verify that the module has tilted upward and is completely released from the slot.

**Warning**

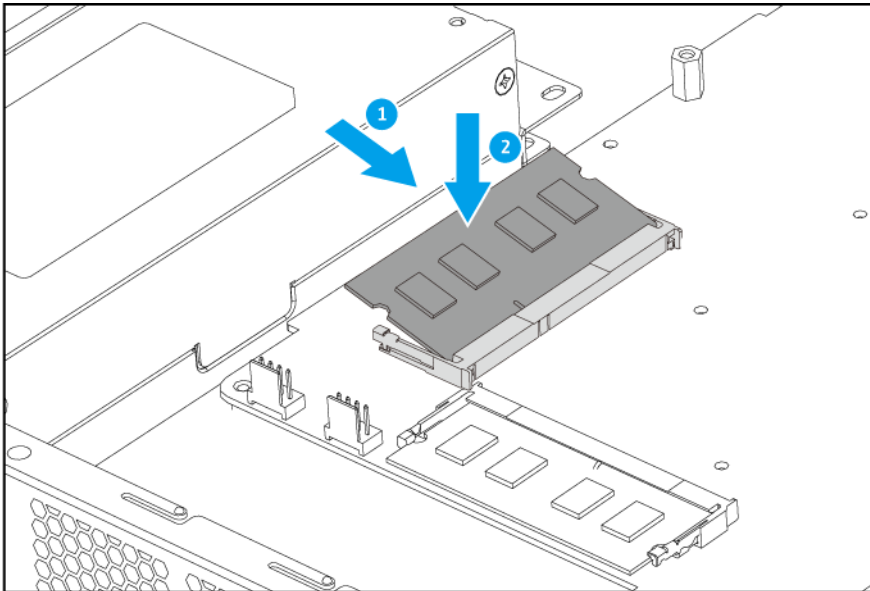
Attempting to remove a module that is not completely released may damage the module and the system board.

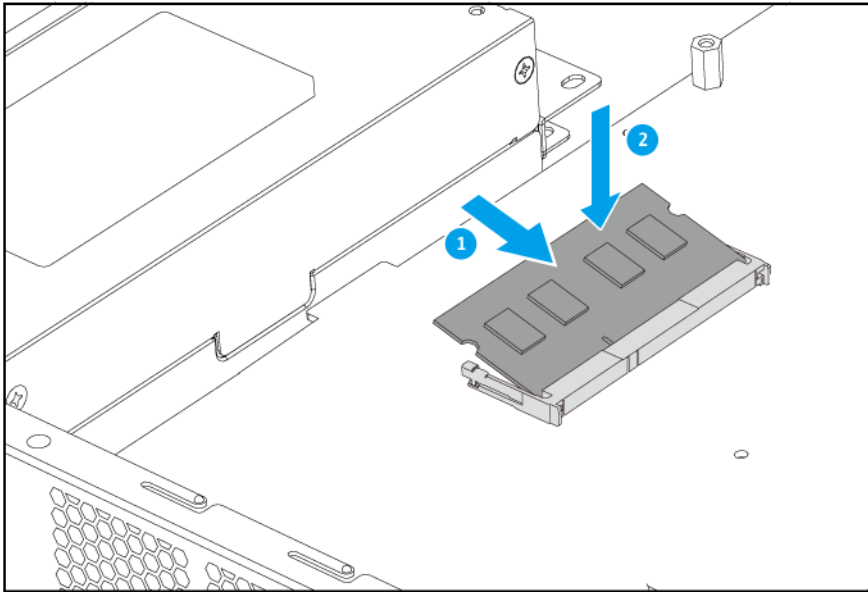
- c. Hold the module by the edges.
- d. Carefully slide the module out of the slot.

**QGD-1600**

**QGD-1602**

6. Install a new module.
 - a. Align the notch with the ridge in the slot.
 - b. Insert the module into the slot.
 - c. Verify that the metal connectors are completely inserted into the slot.
 - d. Carefully press down on the module until the retention clips lock the module into place.

**QGD-1600**



QGD-1602

7. Attach the case cover.
For details, see [Attaching the case cover](#).
8. Connect all cables and external attachments.
9. Connect the power cord to the electrical outlet.
10. Power on the device.

Installing expansion cards

The device supports selected expansion cards, some of which require QNAP PCIe brackets. QNAP-branded expansion cards purchased from the company website are shipped with the brackets necessary to fit the device.

For details on supported expansion cards and brackets, go to <http://www.qnap.com/compatibility>.



Warning

- Observe electrostatic discharge (ESD) procedures to avoid damage to components.

-



Moving fan blades: Keep your hands and other body parts away from moving fan blades.

-



Other moving components: Keep your hands and other body parts away from other moving components.

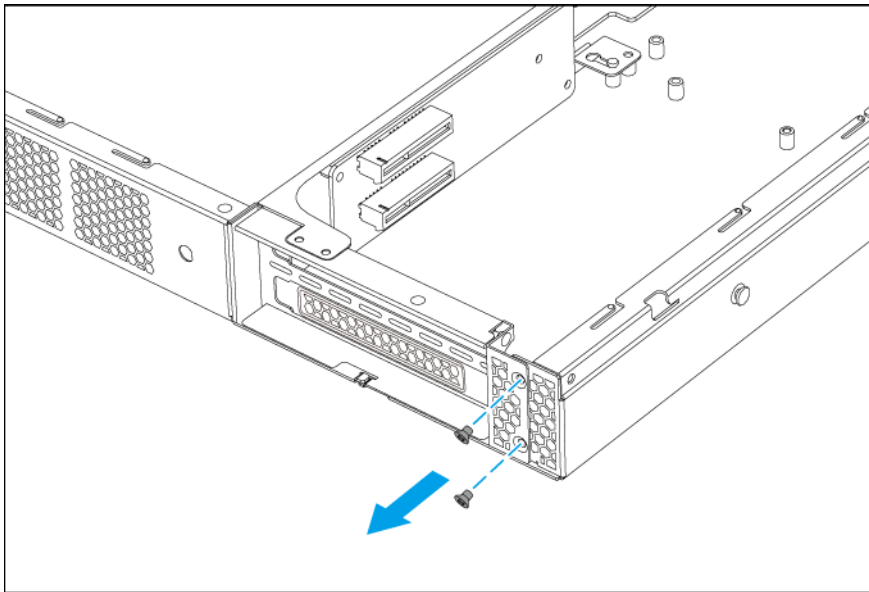
1. Power off the device.

2. Disconnect the power cord from the electrical outlet.
3. Disconnect all cables and external attachments.
4. Remove the case cover.
For details, see [Removing the case cover](#).

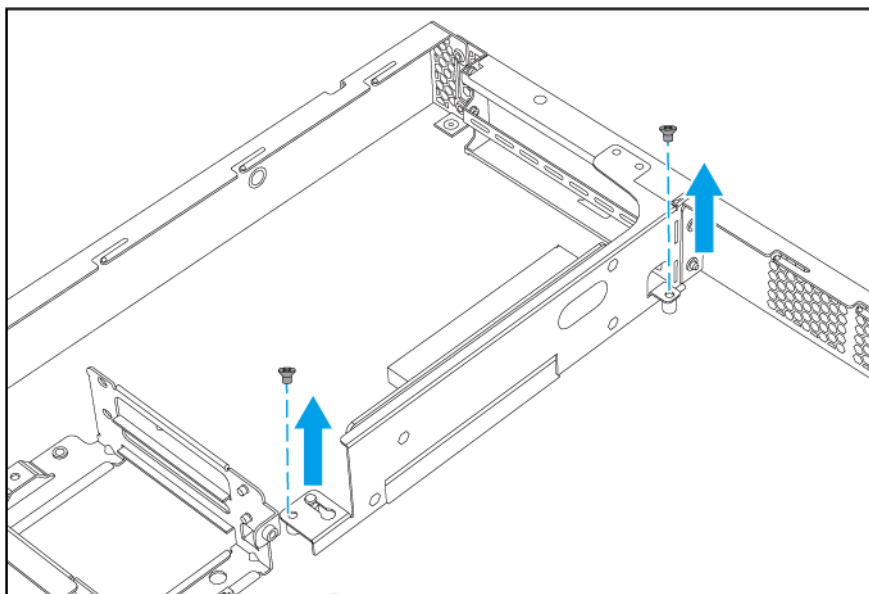
**Warning**

To avoid potential injury or damage to components, ensure that the drives and other internal system components have cooled before touching them.

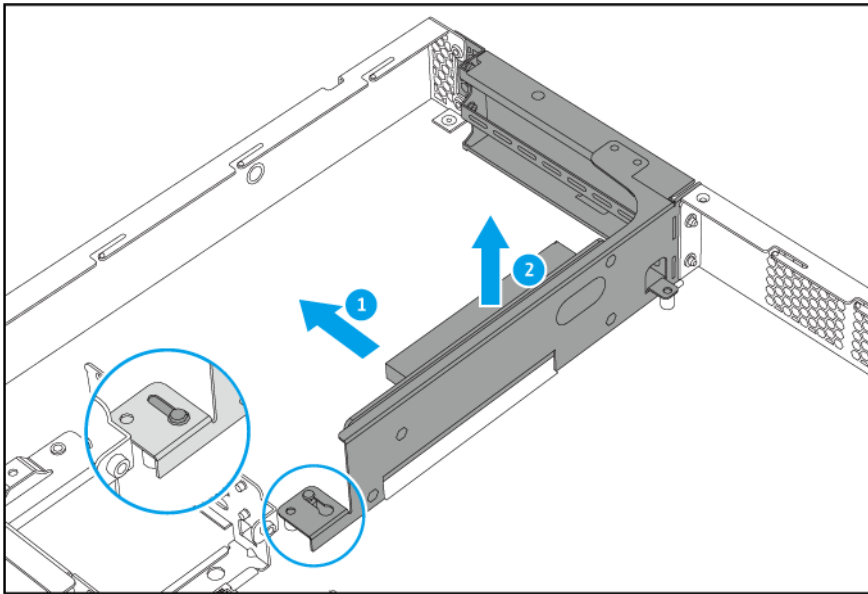
5. Remove the expansion card module.
 - a. Remove the screws on the rear panel.



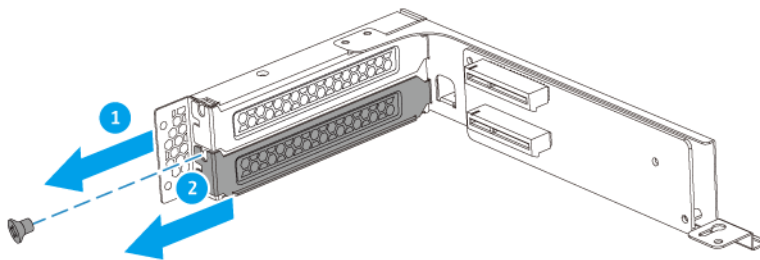
- b. Remove the screws inside the chassis.



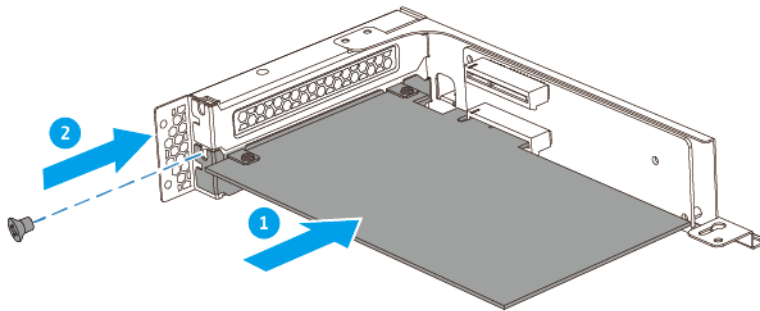
- c. Slide the module to the right until it is completely detached from the system board.
- d. Remove the module.



6. Remove the PCIe cover.
 - a. Remove the screw that secures the cover to the module.
 - b. Pull the cover away from the slot.

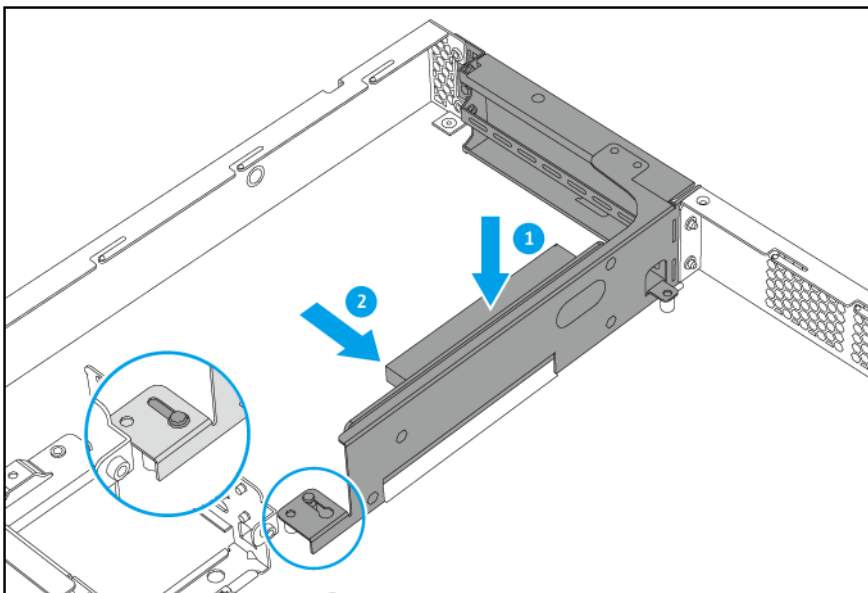


7. Install the expansion card.
 - a. Hold the card by the edges.
 - b. Insert the card into the slot.
 - c. Attach the screw.

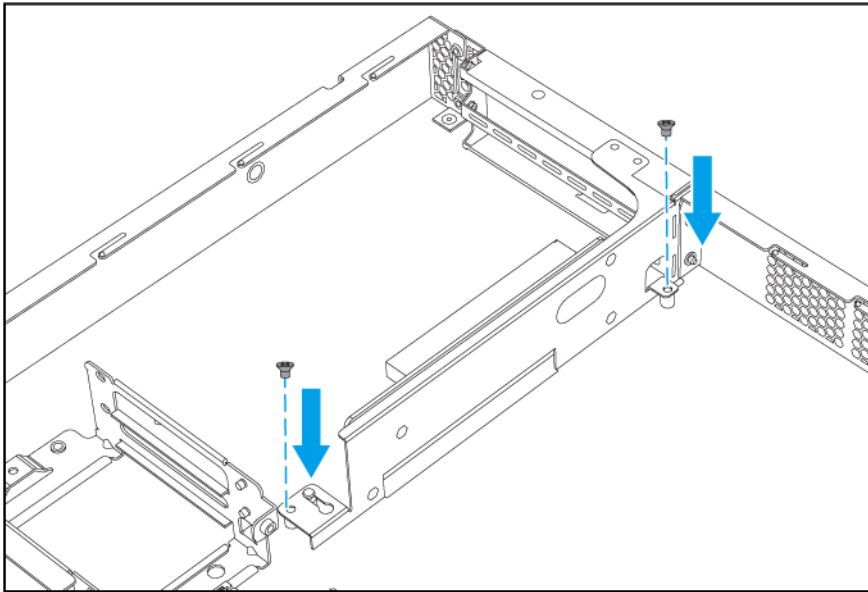


8. Install the expansion card module.

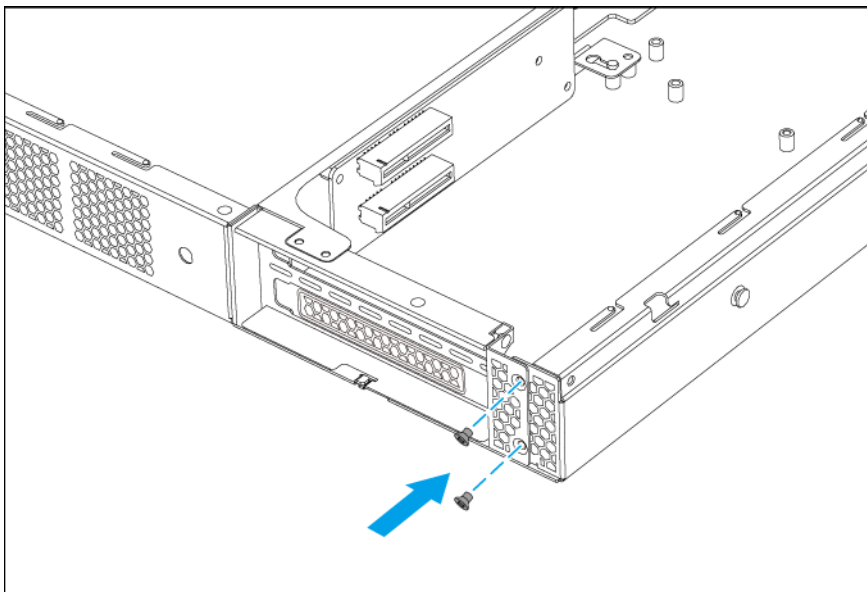
- a.** Align the module connector with the system board.
- b.** Slide the module to the left until it is completely connected with the system board.



- c.** Attach the screws inside the chassis.



d. Attach the screws on the rear panel.

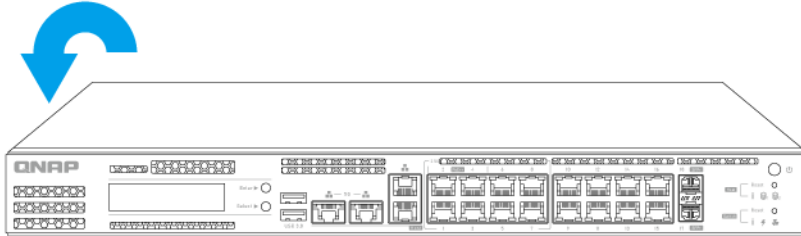


9. Attach the case cover.
For details, see [Attaching the case cover](#).
10. Connect all cables and external attachments.
11. Connect the power cord to the electrical outlet.
12. Power on the device.

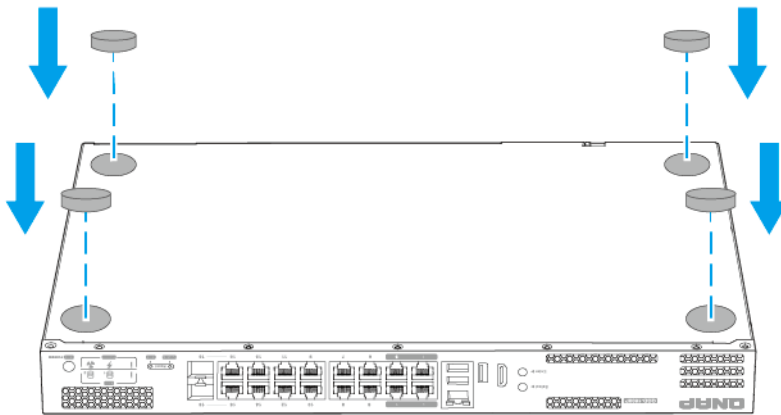
Attaching rubber feet

1. Power off the device.

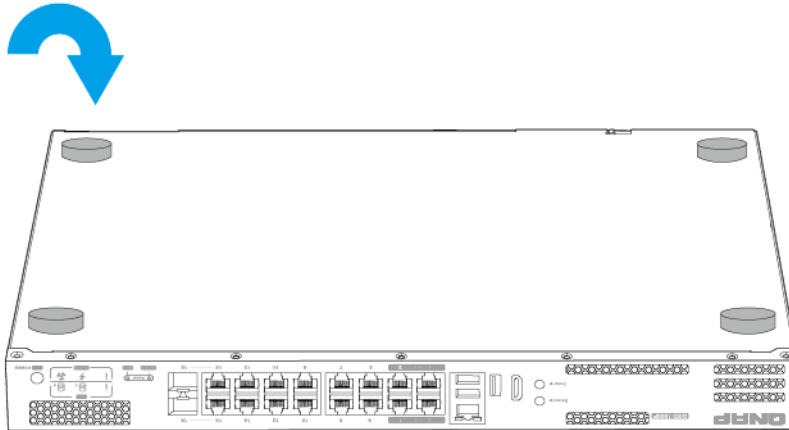
2. Disconnect the power cord from the electrical outlet.
3. Disconnect all cables and external attachments.
4. Turn the device upside down.



5. Attach the rubber feet.
 - a. Remove the protective film from the rubber feet.
 - b. Attach the rubber feet.



- c. Place the device in its normal upright position.

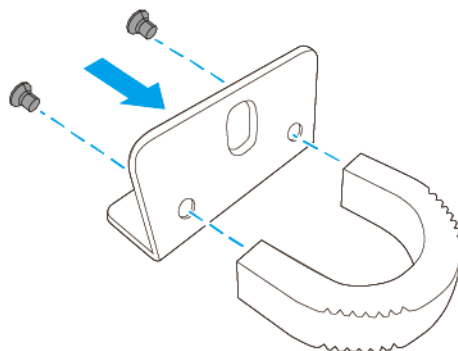


6. Connect all cables and external attachments.
7. Connect the power cord to the electrical outlet.
8. Power on the device.

Installing handles

Installing handles enables you to better grip and secure the device on a rack.

1. Power off the device.
2. Disconnect the power cord from the electrical outlet.
3. Disconnect all cables and external attachments.
4. Install a handle on an angle bracket.
 - a. Align the openings on the handle with the two round screw holes on the angle bracket.
 - b. Attach the screws to lock the handle to the angle bracket.

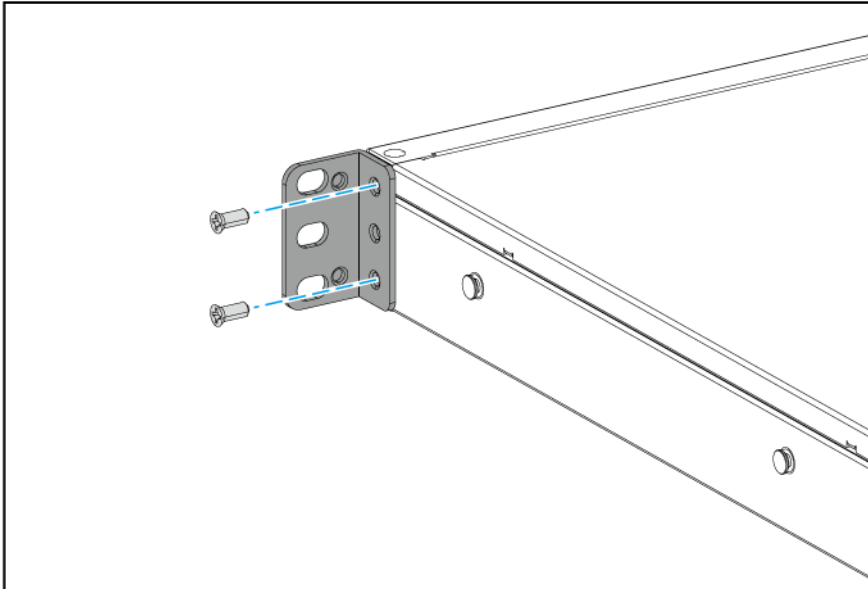


5. Install the angle bracket on the device.
 - a. Align the holes on the angle bracket with the holes on the chassis.


Note

Ensure that the handle faces the same direction as the front panel.

- b. Attach the screws to lock the angle bracket to the chassis.



6. Install a second handle on the other side of the chassis.
7. Connect all cables and external attachments.
8. Connect the power cord to the electrical outlet.
9. Power on the device.

Fan installation

The device contains replaceable system and drive bay fans.

Replacing system fans


Warning

- Observe electrostatic discharge (ESD) procedures to avoid damage to components.

-

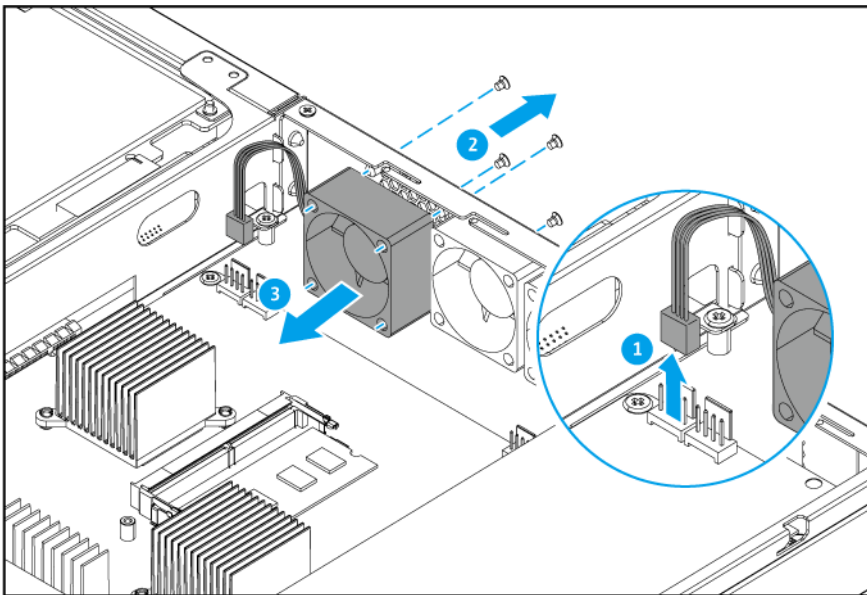


Moving fan blades: Keep your hands and other body parts away from moving fan blades.

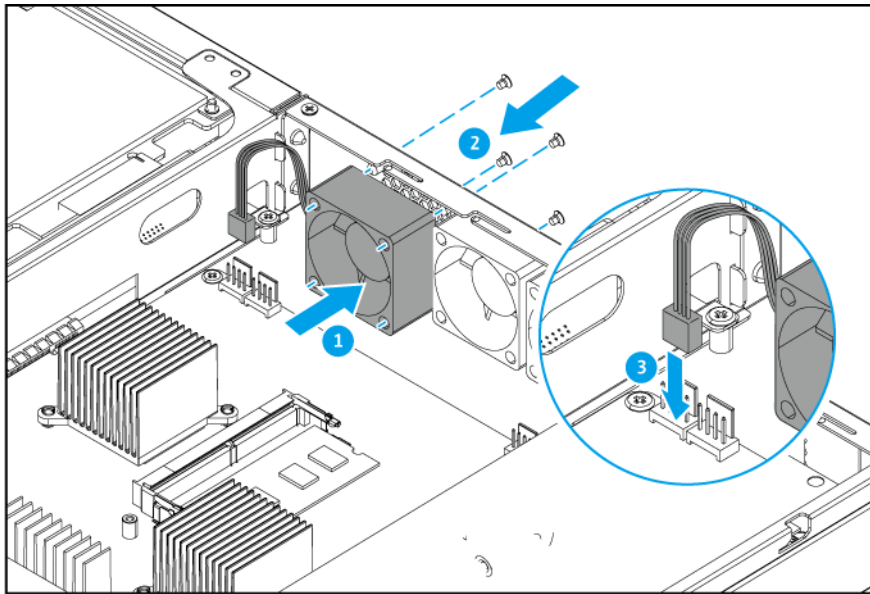


Other moving components: Keep your hands and other body parts away from other moving components.

1. Power off the device.
2. Disconnect the power cord from the electrical outlet.
3. Disconnect all cables and external attachments.
4. Remove the case cover.
For details, see [Removing the case cover](#).
5. Remove the fan.
 - a. Detach the fan's power connector from the system board.
 - b. Remove the screws that secure the fan to the chassis.
 - c. Remove the fan from the chassis.



6. Install a new fan.
 - a. Align the fan to the screw holes on the chassis.
 - b. Attach the screws that secure the fan to the chassis.
 - c. Attach the fan's power connector to the system board.



7. Attach the case cover.
For details, see [Attaching the case cover](#).
8. Connect all cables and external attachments.
9. Connect the power cord to the electrical outlet.
10. Power on the device.

Replacing the drive bay fan



Warning

- Observe electrostatic discharge (ESD) procedures to avoid damage to components.

-



Moving fan blades: Keep your hands and other body parts away from moving fan blades.

-

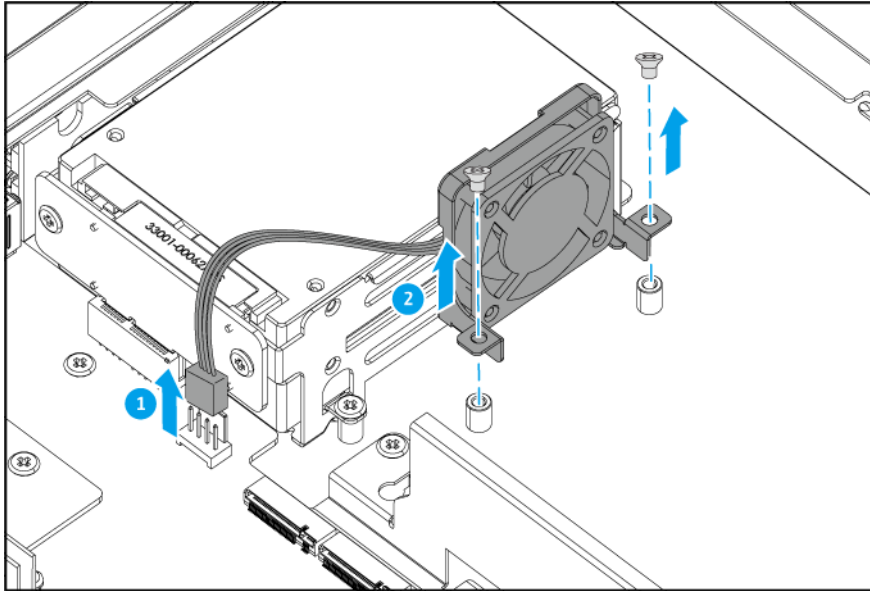


Other moving components: Keep your hands and other body parts away from other moving components.

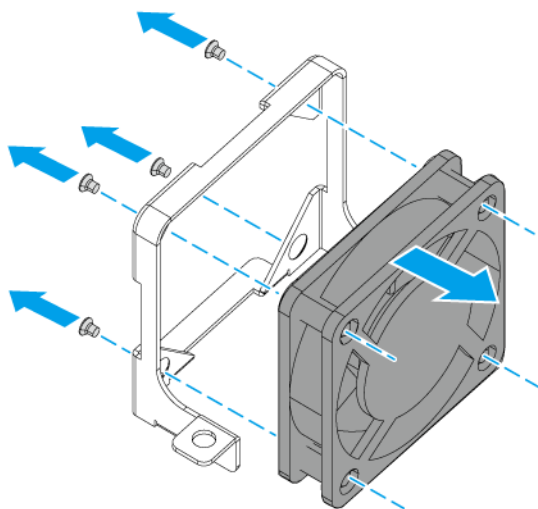
1. Power off the device.
2. Disconnect the power cord from the electrical outlet.
3. Disconnect all cables and external attachments.
4. Remove the case cover.

For details, see [Removing the case cover](#).

5. Remove the fan module.
 - a. Detach the fan's power connector from the system board.
 - b. Remove the screws that secure the fan module to the chassis.

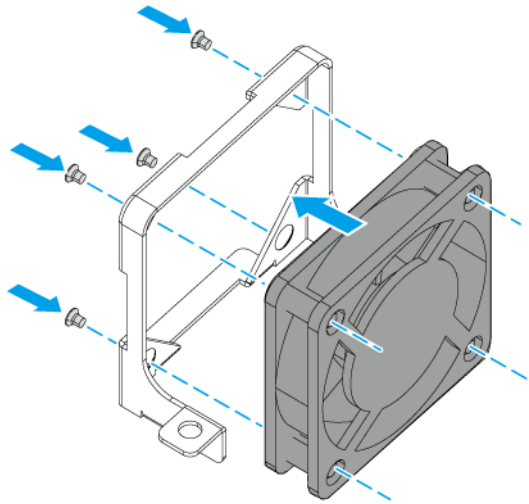


- c. Lift the fan module from the chassis.
6. Remove the fan.
 - a. Remove the screws that secure the fan to the fan module.
 - b. Remove the fan from the fan module.

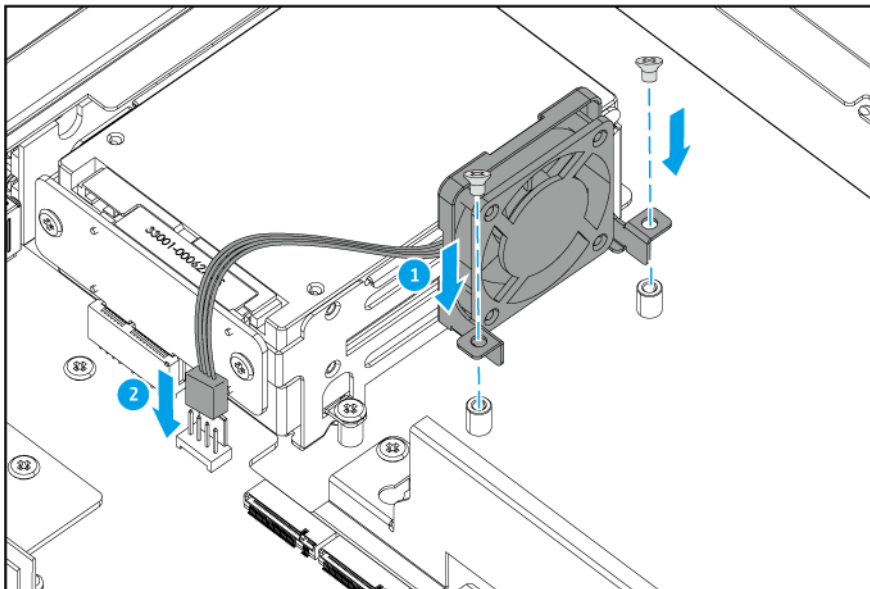


7. Install a new fan.

- a. Align the fan to the screw holes on the fan module.
- b. Attach the screws that secure the fan to the fan module.



8. Attach the fan module.
- a. Align the fan module to the screw holes on the chassis.
- b. Attach the screws that secure the fan module to the chassis.
- c. Attach the fan's power connector to the system board.



9. Attach the case cover.
For details, see [Attaching the case cover](#).
10. Connect all cables and external attachments.

11. Connect the power cord to the electrical outlet.
12. Power on the device.

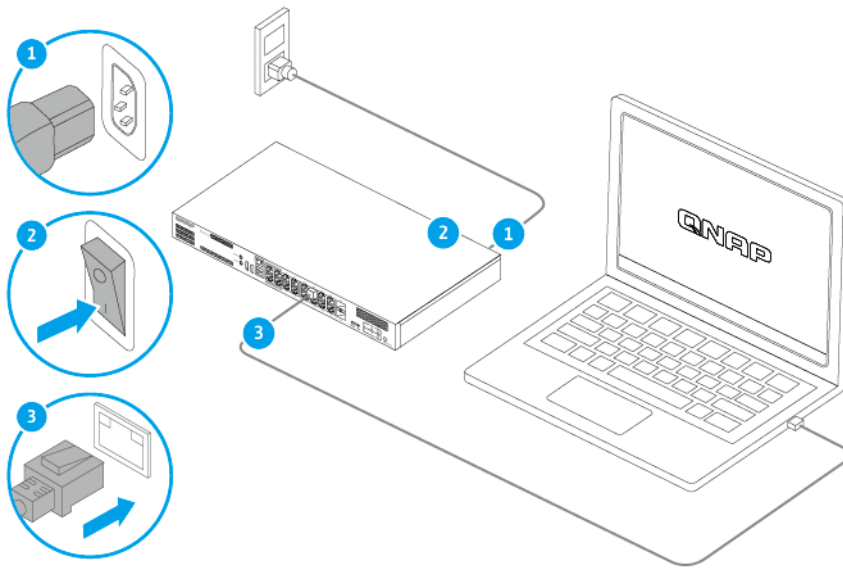
Connecting the device to a computer or network

The device can be connected to a computer or local area network.

Connecting the device to a computer

Connecting the device to a QNAP NAS allows you to expand storage capacity and back up data to another NAS through Ethernet cable connections to an Ethernet port on the device. However, you must connect the device to a computer to configure the device settings.

1. Power on the device.
2. Connect the device to a computer.
 - a. Connect an Ethernet cable to an Ethernet port on the device.
 - b. Connect an Ethernet cable to the device.
 - c. Connect the Ethernet cable to an Ethernet port on the computer.



3. Verify that the device is recognized by the computer.
 - a. Open Qfinder Pro on the host computer.



Note

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

- b. Locate the device on the list.

Connecting the device to a network

The device can connect to the local area network through the host port or an Ethernet port.

1. Power on the device.
2. Connect the device to your local area network through one of the following port types:

Port Type	QGD-1600	QGD-1602
Host Port	Use the device IP address obtained from Adapter 1 on the LCD panel.	Use the device IP address obtained from Adapter 1, Adapter 2, Adapter 3, or Adapter 4 on the LCD panel.
Ethernet port	Use the device IP address obtained from Adapter 2 or Adapter 3 on the LCD panel.	User the device IP address obtained from Adapter 5 or Adapter 6 on the LCD panel.

3. Run Qfinder Pro on a computer that is connected to the same local area network.



Note

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

4. Enter the IP address in the Qfinder Pro search bar.
5. Locate the device in the list and then double-click the name or IP address. The QTS login screen appears.
6. Enter your QTS login information.
7. Click **Log In**.

Connecting USB expansion units

The device supports USB expansion units. Refer to the following table for details.

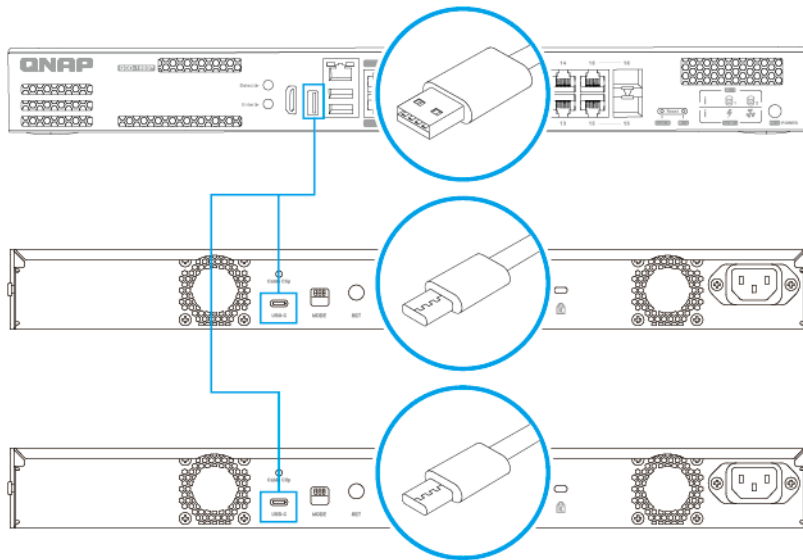
For the list of compatible expansion units and the maximum number of applicable expansion units, go to <https://www.qnap.com/go/compatibility-expansion>.

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

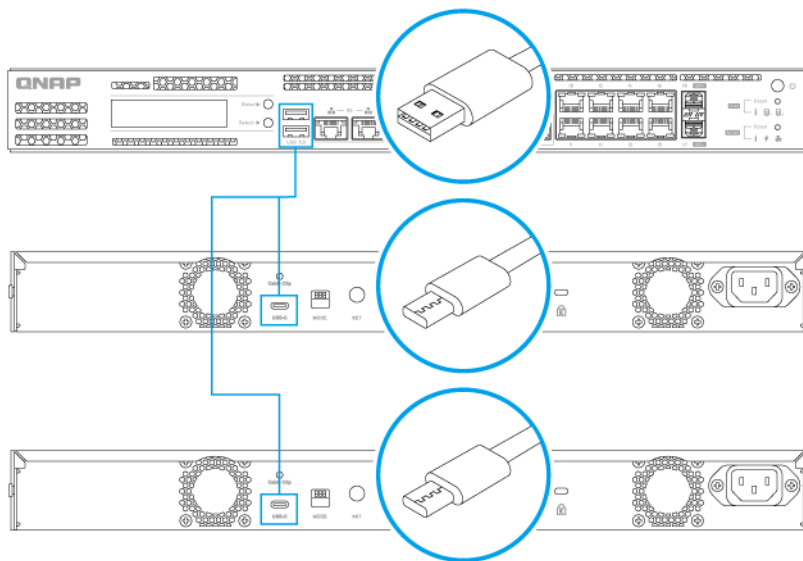
For details, go to <https://shop.qnap.com/>.

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 	<ul style="list-style-type: none"> • USB 3.2 Gen 2 Type-A to Type-C cable • USB 3.2 Gen 2 Type-C 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 	<ul style="list-style-type: none"> • USB 3.2 Gen 2 Type-A to Type-C cable • USB 3.2 Gen 2 Type-C to Type-C cable
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 • USB 3.2 Gen 2 Type-C to Type-C cable • RAIL-B02

1. Connect the expansion unit to the device.
 - 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 device.



QGD-1600



QGD-1602

2. Power on the expansion units.
3. Verify that the expansion units are recognized by the device.
 - a. Log on to QTS as administrator.
 - b. Go to **Main Menu > Storage & Snapshots > Overview > System** .
 - c. Verify that the expansion units are listed.

QTS installation

The device uses the QNAP QTS operating system. You can install QTS using any of the following methods.

To install QNE ADRA and configure the device for network detection and response, see the ADRA Device User Guide for the QGD-1600 and QGD-1602.

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

Installing QTS using Qfinder Pro



Warning

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



Important

To protect your device from brute force attacks, create a new system administrator account during QTS installation to disable the default "admin" account.

1. Power on the device.
2. Connect the device to your local area network.



Tip

You can connect to the local area network through the host port or through any Ethernet port.

3. Run Qfinder Pro on a computer that is connected to the same local area network.



Note

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

4. Locate the device in the list and then double-click the name or IP address.

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 screen opens in the default web browser.

7. Verify the operating system indicated on the screen is QTS and the version is the one you want to install.

8. Optional: Select a different operating system version.



Note

To install QNE ADRA and configure the device for network detection and response, see the ADRA Device User Guide for the QGD-1600 and QGD-1602.

a. Click **Switch OS**.

b. Select an available operating system version or upload a firmware file.

c. Click **Apply**.

The device reboots and the smart installation screen appears with the selected operating system version.

9. Click **Start Smart Installation**.

10. Specify the following information.

- **NAS name:** Specify a name with 1 to 14 characters. The name supports 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 supports 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 ([]), backslash (\), vertical bar (|), semicolon (;), colon (:), apostrophe ('), quotation mark ("), comma (,), less than sign (<), greater than sign (>), slash (/), question mark (?), percent sign (%)
- **Password:** Specify an administrator password with 8 to 64 characters. The password supports all ASCII characters.
- **Confirm Password:** Enter the new administrator password again.

11. Click **Next**.

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

12. 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 device follows the Coordinated Universal Time (UTC) standard.

Methods	User Actions
Synchronize with computer or device time	Select Same as the computer/device time The device time will be the same as your computer or device used to configure the time.
Enter manually	<p>a. Select Input Manually.</p> <p>b. Specify the date and time. The device date and time will be the same as the configured time.</p>
Synchronize with an Internet time server automatically	Click Synchronize with an Internet time server automatically . The device time will be the same as the NTP server.

13. Click **Next**.
The **Configure the network settings** screen appears.

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

Method	User Action
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

15. 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.

16. Click **Next**.
The **Summary** screen appears.

17. Review the settings.

18. Click **Apply**.
A confirmation message appears.



Warning

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

19. Click **Confirm**.
QTS is installed.

Installing QTS using the Cloud Key



Warning

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



Important

To protect your device from brute force attacks, create a new system administrator account during QTS installation to disable the default "admin" account.

1. Power on the device.
2. Connect the device to the internet.
3. Go to the QNAP Cloud Installation page using one of the following methods:
 - On your computer, go to your respective region's site to download QTS:
 - China: <https://install.qnap.com.cn>
 - Global: <https://install.qnap.com>
 - Scan the QR code on the NAS using a mobile device.

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

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



Note

If your device is not listed, follow the instructions on the web page to specify the Cloud Key on the device.

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 device.



Note

- The myQNAPcloud device name is used when remotely accessing the device.
- For security purposes, the myQNAPcloud Link remote connection service will be disabled on your device 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 screen opens in the default web browser.
10. Verify the operating system indicated on the screen is QTS and the version is the one you want to install.
11. Optional: Select a different operating system version.

**Note**

To install QNE ADRA and configure the device for network detection and response, see the ADRA Device User Guide for the QGD-1600 and QGD-1602.

- a. Click **Switch OS**.
- b. Select an available operating system version or upload a firmware file.
- c. Click **Apply**.

The device reboots and the smart installation screen appears with the selected operating system version.

12. Click **Start Smart Installation**.
13. Specify the following information.
 - **NAS name:** Specify a name with 1 to 14 characters. The name supports 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 supports 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 ([]), backslash (\), vertical bar (|), semicolon (;), colon (:), apostrophe ('), quotation mark ("), comma (,), less than sign (<), greater than sign (>), slash (/), question mark (?), percent sign (%)
 - **Password:** Specify an administrator password with 8 to 64 characters. The password supports all ASCII characters.
 - **Confirm Password:** Enter the new administrator password again.
14. Click **Next**.
The **Set the date and time** screen appears.
15. 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 device follows the Coordinated Universal Time (UTC) standard.

Methods	User Actions
Synchronize with computer or device time	Select Same as the computer/device time The device time will be the same as your computer or device used to configure the time.

Methods	User Actions
Enter manually	<p>a. Select Input Manually.</p> <p>b. Specify the date and time. The device date and time will be the same as the configured time.</p>
Synchronize with an Internet time server automatically	<p>Click Synchronize with an Internet time server automatically. The device time will be the same as the NTP server.</p>

16. Click **Next**.
The **Configure the network settings** screen appears.

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

Method	User Action
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

18. 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.

19. Click **Next**.
The **Summary** screen appears.

20. Review the settings.

21. Click **Apply**.
A confirmation message appears.



Warning

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

22. Click **Confirm**.
QTS is installed.

Installing QTS using an HDMI connection on the QGD-1600



Warning

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



Important

To protect your device from brute force attacks, create a new system administrator account during QTS installation to disable the default "admin" account.

1. Connect an HDMI display to the device.
2. Connect a USB keyboard to the device.
3. Power on the device.
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 supports 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 supports 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 ([]), backslash (\), vertical bar (|), semicolon (;), colon (:), apostrophe ('), quotation mark ("), comma (,), less than sign (<), greater than sign (>), slash (/), question mark (?), percent sign (%)
 - **Password:** Specify an administrator password with 8 to 64 characters. The password supports all 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**.
QTS is installed.

Switch management access

You can manage switch settings on the QGD-1600 and QGD-1602 by using one of the following software interfaces:

Software Interface	Description
QSS	QNAP network management operating system for switch devices. QSS comes preinstalled on the device. To access QSS, see Accessing QSS with Qfinder Pro .
QuNetSwitch	Switch management utility for QTS. QuNetSwitch comes preinstalled on QTS. To access QuNetSwitch, see Accessing QuNetSwitch in QTS .

For details on managing switch settings in QSS or QuNetSwitch, see [Switch Management](#).

Accessing QSS with Qfinder Pro

1. Power on the switch.
2. Connect the switch to your local area network.
For details, see [Connecting the device to a network](#).
3. Run Qfinder Pro on a computer that is connected to the same local area network.



Note

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

4. Enter the switch IP address.
The switch IP address will be displayed as %your NAS name% - switch.
5. Locate the switch in the list and then double-click the name or IP address.
The QSS login screen appears.
6. Log in to QSS.
The QSS default login details are as follows:
 - Account name: admin
 - Password: admin
 The **Welcome** window appears.
7. Specify the following information.
 - **NAS name:** Specify a name with 1 to 14 characters. The name supports letters (A to Z, a to z), numbers (0 to 9), and hyphens (-), but cannot end with a hyphen.
 - **Password:** Specify an administrator password with 1 to 64 characters. The password supports all ASCII characters.
8. Continue with switch management.



Note

For details, see [Switch Management](#).

Accessing QuNetSwitch in QTS

**Note**

You must create a default system volume before using QuNetSwitch. For more details, see the QTS User Guide.

1. Power on the device.
2. Log on to QTS.

**Note**

For details, see [Connecting the device to a network](#).

3. Go to **Main Menu > QuNetSwitch** .
4. Continue with switch management.

**Note**


For details, see [Switch Management](#).

4. Basic Operations


This chapter describes basic device operations.


Buttons

Host 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.	<p>The device powers off.</p> <p> Important Use this method only when the device is unresponsive.</p>

System reset button

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"> • System administrator password: The default password is the first MAC address in uppercase letters without special characters. For example, if the first MAC address is 00-08-9B-F6-15-75, then the admin password would be 00089BF61575. <p> Tip You can find the first MAC address with Qfinder Pro or attached to a label on the device listed as MAC1.</p> <ul style="list-style-type: none"> • The admin account is automatically enabled. • 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

Operation	User Action	Result
Advanced system reset	Press and hold the button for 15 seconds.	The default factory settings are restored.  Tip To retrieve old data after an advanced system reset, recreate the previous folder structure on the device.

Switch reset button

Operation	User Action	Result
Reset	Press and hold the button for 3 seconds.	The switch resets and all default settings are restored.

LCD panel

Viewing TCP/IP settings

You can view the following settings for each network adapter on the device:

- IP address
- Subnet mask
- Default gateway
- Primary DNS
- Secondary DNS

1. Press **Enter** or **Select**.
The panel displays the device name and QTS version.
2. Press and hold **Enter** for two seconds.
The panel displays `Main Menu 1. TCP/IP`.
3. Press and hold **Enter**.
The panel displays the IP address of the first network adapter.
4. Press and hold **Select** to view the next TCP/IP screen.
Repeat this step as necessary.

Configuring TCP/IP settings

You can configure the following settings for each network adapter on the device:

- IP address
- Subnet mask
- Default gateway
- Primary DNS
- Secondary DNS

1. Press **Enter** or **Select**.
The panel displays the device name and QTS version.
2. Press and hold **Enter** for two seconds.
The panel displays `Main Menu 1. TCP/IP`.
3. Press and hold **Enter**.
The panel displays the IP address of the first network adapter.
4. Press **Select** repeatedly until the panel displays `Enter Network Settings`.
5. Press and hold **Enter**.
The panel displays the configurable network settings.
6. Press **Select** and then **Enter** to configure the settings.

Button	Usage
Enter	<ul style="list-style-type: none"> • Display a configuration screen. • Move to the next item on a configuration screen.
Select	<ul style="list-style-type: none"> • Move to the next item on a menu. • Modify a value on a configuration screen.

Viewing drive information

The LCD panel can display the temperature and capacity of each drive installed in the device.

1. Press **Enter** or **Select**.
The panel displays the device name and QTS version.
2. Press and hold **Enter** for two seconds.
The panel displays `Main Menu 1. TCP/IP`.
3. Press **Select** repeatedly until the panel displays `Main Menu 2. Physical disk`.
4. Press and hold **Enter**.
The panel displays the temperature and capacity of the drive in slot 1.
5. Press and hold **Select**.
Repeat this step as necessary.
The panel displays the temperature and capacity of the next drive.

Viewing system information

The LCD panel can display the CPU temperature, system temperature, and system fan speed.

1. Press **Enter** or **Select**.
The panel displays the device name and QTS version.
2. Press and hold **Enter** for two seconds.
The panel displays `Main Menu 1. TCP/IP`.
3. Press **Select** repeatedly until the panel displays `Main Menu 4. System`.
4. Press and hold **Enter**.
The panel displays the CPU and system temperature.

5. Press and hold **Select**.
The panel displays the system fan speed.

Powering off the device

1. Press **Enter** or **Select**.
The panel displays the device name and QTS version.
2. Press and hold **Enter** for two seconds.
The panel displays `Main Menu 1. TCP/IP`.
3. Press **Select** repeatedly until the panel displays `Main Menu 5. Shut down`.
4. Press and hold **Enter**.
The device powers off.

Restarting the device

1. Press **Enter** or **Select**.
The panel displays the device name and QTS version.
2. Press and hold **Enter** for two seconds.
The panel displays `Main Menu 1. TCP/IP`.
3. Press **Select** repeatedly until the panel displays `Main Menu 6. Reboot`.
4. Press and hold **Enter**.
The device restarts.

Changing the LCD password

Specifying a password for the LCD panel prevents unauthorized access.

1. Press **Enter** or **Select**.
The panel displays the device name and QTS version.
2. Press and hold **Enter** for two seconds.
The panel displays `Main Menu 1. TCP/IP`.
3. Press **Select** repeatedly until the panel displays `Main Menu 7. Password`.
4. Press and hold **Enter**.
The `Change Password` screen appears.
5. Select **Yes** by pressing and holding **Enter**.
The `New Password` screen appears.
6. Press **Select** and **Enter** to specify a new password.
 - Specify a password.
 - Length: 1-8 characters
 - Valid characters: 0-9
 - To delete a password, leave the password field blank.
 - Move the cursor to `OK`.

Button	Usage
Enter	Move to the next item in the <code>New Password</code> screen.
Select	Change a character in the <code>New Password</code> and <code>Verify Password</code> screens.

- Press **Enter**.
The device saves the password.

LCD error messages

System Message	Description
Sys. Fan Failed	System fan has failed.
Sys. Overheat	System has overheated.
HDD Overheat	Drive has overheated.
CPU Overheat	CPU has overheated.
Network Lost	All LAN disconnected in failover or load-balancing mode.
LAN Lost	LAN has disconnected.
HDD Failure	Drive has failed.
Vol Full	Volume is full.
HDD Ejected	Drive has ejected.
Vol Degraded	Volume is in degrade mode.
Vol Unmounted	Volume has unmounted.
Vol Nonactive	Volume is inactive.

LEDs

LEDs indicate system status and related information when the device is powered on.

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

System Status and Power LED

Status	Description
Green	The host system is ready.
Flashes green every 1.0 sec	The host system is starting up.
Red	A fatal host system error occurred.
Off	The host system is powered off.

Drive 1 and Drive 2 LEDs

Status	Description
Green	Drive operations are normal.
Red	An error occurred.
Off	No drive was detected.

Switch Status LED

Status	Description
Green	The switch is ready.
Flashes green every 1.0 sec	The switch is starting up.
Red	A fatal switch system error occurred.
Off	The switch system is powered off.

FAN LED

Status	Description
Green	The fan status is normal.
Red	A fatal fan error occurred.

10 Gigabit Ethernet (SFP+) Speed LED

Status	Description
Green	The network connection is operating at 10 Gbps.
Amber	The network connection is operating below 10 Gbps.
Off	There is no network connection.

10 Gigabit Ethernet (SFP+) Activity LED

Status	Description
Amber	A network connection has been established.
Flashes amber	Data is being transmitted.
Off	There is no network connection.

2.5 Gigabit Ethernet Speed LEDs

Status	Description
Green	The network connection is operating at 2.5 Gbps.
Amber	The network connection is operating at 1 Gbps.
Off	<ul style="list-style-type: none"> • The network connection is operating at 100 Mbps or 10 Mbps. • There is no network connection.

2.5 Gigabit Ethernet Activity LEDs

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

Gigabit Ethernet Speed LEDs

Status	Description
Green	The network connection is operating at 1 Gbps.
Amber	The network connection is operating at 100 Mbps.
Off	<ul style="list-style-type: none"> The network connection is operating at 10 Mbps. There is no network connection.

Gigabit Ethernet Activity LEDs

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

Combo Port Speed LEDs

Status	Description
Flashes green every 1.0 sec	The link speed is operating at 1 Gbps.
Flashes amber every 1.0 sec	The link speed is operating at 100 Mbps or 10 Mbps.
Off	No link was detected.

Combo Port Activity LEDs

Status	Description
Flashes amber every 1.0 sec	Data is being transferred.

Audio alert

Duration	Frequency	Description
Short beep (0.5 seconds)	1	<ul style="list-style-type: none"> The device is starting up. The device is shutting down (software shutdown). The user pressed the switch reset button. The operating system was updated.

Duration	Frequency	Description
Long beep (1.5 seconds)	3 (every 5 minutes)	A system fan is not functioning.
	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. • The user started the drive rebuilding process. • A drive is disconnected or connected.
	1	<ul style="list-style-type: none"> • The device was powered off by force shutdown (hardware shutdown). • The device was powered on successfully and is ready.
Long beep (5 seconds)	1	The operating system is restarting.

5. Switch Management

About QSS and QuNetSwitch

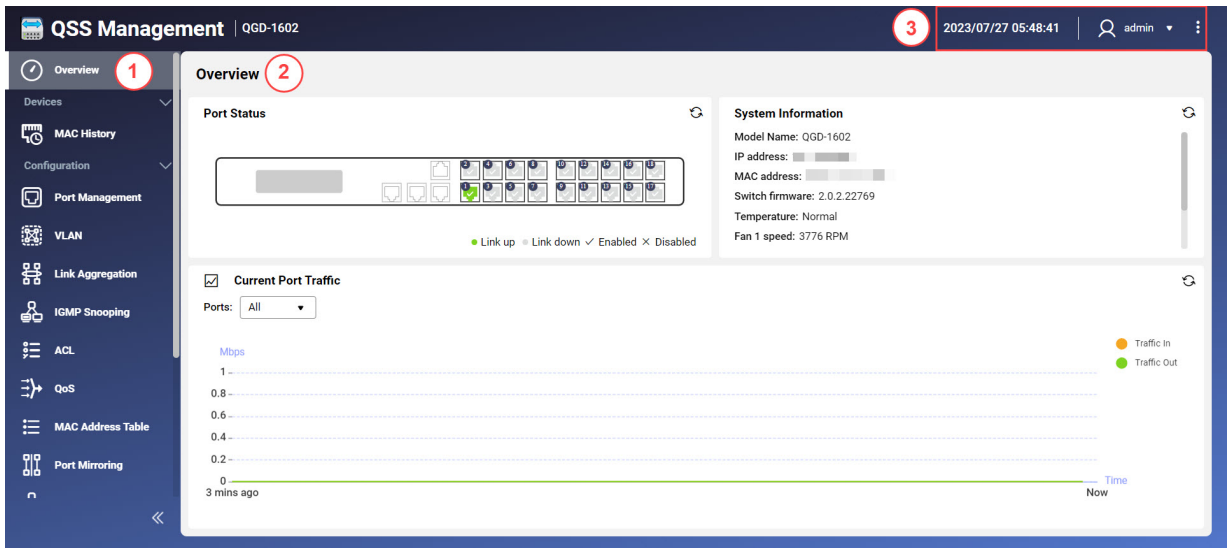
The QNAP Switch System (QSS) is a network management operating system for QNAP switch devices. QSS allows for Layer 2 network administration and system management of the switch.

QuNetSwitch is a switch utility that allows you to manage network configurations of the switch on the QTS operating system. With its intuitive interface, QuNetSwitch makes it easy to configure and secure the features of your switch.

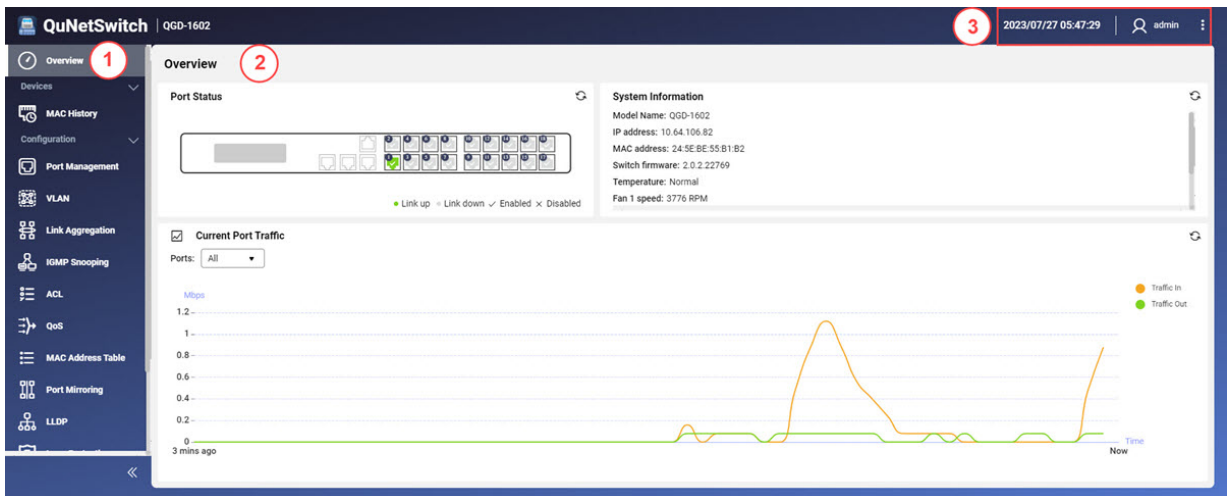
To access QSS or QuNetSwitch, see [Switch management access](#).





Parts of the user interface

QSS



QuNetSwitch



Label	Area	Description
1	Menu	<p>The menu has three sections: Devices, Configuration, and System</p> <p> Note QSS allows you to manage power actions on QTS. For details, see Performing host power actions in QSS.</p> <p>Click  or  to expand or collapse the menu.</p>
2	Main panel	The main panel displays the selected screen.
3	Toolbar	<p>The toolbar displays the following information:</p> <ul style="list-style-type: none"> • The date and time configured in System Settings > Time . • [USER_NAME]: Click to access the Log out button. • : Click to view the following: <ul style="list-style-type: none"> • Restart Switch: Restarts the switch • Language (QSS only): Opens a list of supported languages and allows you to change the interface language/ • About: Displays the following information: <ul style="list-style-type: none"> • Model name • Version number

Client device management

The **MAC History** screen displays information about devices connected to the switch. This screen provides access to all the connected devices and access to Wake-on-LAN (WoL) commands.

WoL allows network administrators to remotely maintain WoL-enabled devices when they are powered down, by sending specially coded network packets that power them up.


Scanning for connected devices



1. Log in to QSS, or open QuNetSwitch in QTS.
2. Go to **Devices > MAC History** .
3. Click **Scan**.

QSS or QuNetSwitch scans for connected devices.

Sending a WoL packet to a device

1. Log in to QSS, or open QuNetSwitch in QTS.
2. Go to **Devices > MAC History** .
3. Identify a connected device.

4. Click .
The **Send WoL Command** window opens.
5. Select a WoL setting.


Setting	Description
Wake now	Sends a WoL command to the device immediately.
Wake later	<p>Sends a WoL command to the device on a scheduled date.</p> <ol style="list-style-type: none"> a. Click . b. Select the date. c. Click . d. Select the time.

6. Click **Save**.


QSS or QuNetSwitch sends a WoL command to the device.



Tip

To send a wake command to a new device, click .

Deleting a MAC address

1. Log in to QSS, or open QuNetSwitch in QTS.
2. Go to **Devices > MAC History**.
3. Identify a connected device.
4. Click .

A confirmation window opens.

5. Click **Delete**.

QSS or QuNetSwitch deletes the MAC address.

Clearing the MAC address history

1. Log in to QSS, or open QuNetSwitch in QTS.
2. Go to **Devices > MAC History**.
3. Click **Clear**.

A confirmation window opens.

4. Click **Clear**.

QSS or QuNetSwitch clears the MAC address history.

Network management

Basic network configuration of the switch includes port management, VLAN configuration, configuration of various protocols, and traffic management via quality of service (QoS) and access control lists (ACLs).

Dashboard

The dashboard opens to the configuration section of the interface. Click the drop-down menu in the dashboard to view the port status, VLAN status, link aggregation status, and port traffic for all ports.

You can also delete user-configured network settings and monitor the network settings of the switch.

Configuring port settings

1. Log in to QSS, or open QuNetSwitch in QTS.
2. Go to **Configuration > Port Management** .
3. Go to **Port Configuration**.
4. Identify a port.
5. Configure the settings.

Setting	Description
State	Enables or disables the switching port
Speed	Specifies the maximum speed at which a port can operate
Flow Control	Enables or disables flow control for the port <ul style="list-style-type: none"> • When the port speed is set to Auto, the maximum speed is advertised to the link partner. • When the port speed is fixed, flow control automatically matches the specified speed.
Maximum Frame Size	Controls the maximum frame size allowed for the port

6. Click **Apply**.

QSS or QuNetSwitch saves the settings.

Adding a VLAN

A virtual LAN (VLAN) groups multiple network devices together and limits their broadcast domain. Members of a VLAN are isolated and network traffic is only sent between group members.

Each VLAN is assigned a specific VLAN identification number. The **VLAN** screen displays information about existing VLANs and provides access to VLAN configuration options.

1. Log in to QSS, or open QuNetSwitch in QTS.
2. Go to **Configuration > VLAN** .
3. Click **Add**.
The **Add VLAN** window opens.
4. Specify a VLAN ID.

5. Select ports to include in the VLAN.

**Note**

Only tagged ports can belong to multiple VLANs.

6. Click **Save**.
The configuration window closes.
7. Click **Save**.

QSS or QuNetSwitch adds the VLAN.


Adding a link aggregation group (LAG)



Link Aggregation Control Protocol (LACP) allows you to combine multiple switching ports into a single logical network interface. This ensures increased throughput and provides redundancy. In case of port failure, traffic continues on the remaining ports.

The **Link Aggregation** page displays information about existing link aggregation groups and provides access to configuration options.

**Warning**

To prevent network loop errors during the LAG configuration process, do not connect the switch to other devices using more than one network cable until after you have configured LAGs on all the devices. You can enable loop protection to avoid network loops in the connected network.

1. Log in to QSS, or open QuNetSwitch in QTS.
2. Go to **Configuration > Link Aggregation**.
3. Identify a group.
4. Click .
The **Edit Group** window opens.
5. Configure the group settings.

Setting	Description
Mode	<p>Controls the link aggregation mode for the group</p> <ul style="list-style-type: none"> • LACP: Uses IEEE 802.3ad protocol to send Link Aggregation Control Protocol Data Units (LACPDU)s to connected devices to establish a link aggregation. This allows you to control the bundling of several physical links into a logical link. • Static: Establishes link aggregation without the LACP protocol <p> Important Ensure that you configure the LAG before connecting cables to the switch to avoid creating a data loop.</p>
Port Configuration	<p>Specifies which ports are included in the group</p> <p> Note Ensure that you configure the same settings for all the member ports in a LAG.</p>

6. Click **Save**.

QSS or QuNetSwitch updates the group settings.




Note


When assigning a LAG to a VLAN, QNAP recommends removing individual LAG port members from the VLAN, and then adding the entire group to the VLAN as required. If individual port members are not removed, the VLAN is reset to its default settings.

Configuring IGMP snooping

The Internet Group Management Protocol (IGMP) manages IP multicast group memberships. IP hosts and adjacent multicast routers use IGMP to establish multicast group memberships.

The **IGMP Snooping** page displays information about detected IGMP groups and provides access to IGMP snooping configuration options.

1. Log in to QSS, or open QuNetSwitch in QTS.
2. Go to **Configuration > IGMP Snooping**.
3. Next to **IGMP Snooping**, click . QSS or QuNetSwitch enables IGMP snooping.
4. Configure the IGMP snooping settings.

Setting	Description
Multicast flood blocking	Blocks multicast flooding from unknown sources
Router port	<p>Specifies which ports to use as the router port for the switch. After receiving an IGMP packet, the switch forwards the control packets through the selected router ports.</p> <p> Note If you do not specify a router port, QSS or QuNetSwitch automatically assigns a port to be used as a router port.</p>
Fast leave	Specifies the ports that support Fast Leave. After receiving an IGMP leave message, QSS or QuNetSwitch stops forwarding multicast traffic to the selected Fast Leave ports.

5. Click **Save**.

QSS or QuNetSwitch saves the IGMP snooping settings.

Adding an IP address-based ACL rule

Access control lists (ACLs) allow you to handle network traffic in a switch by using controlled rule sets. Each ACL rule is a user-created set of conditions that the switch uses to determine whether a data packet can pass through the network. If the data packet matches an existing ACL rule, the switch then uses the rule to determine whether to permit or deny the packet. If there is no matching ACL rule or there are no ACL rules, the switch applies a default rule.

1. Log in to QSS, or open QuNetSwitch in QTS.
2. Go to **Configuration > ACL > By IP Address**.

3. Click **Add**.
The **Add ACL - IP Address** window opens.
4. Configure the ACL settings.

Setting	User Action
ACL No.	Specify the number of the ACL entry This value must be from 1 to 255
Protocol	Select the type of traffic affected by the ACL entry <ul style="list-style-type: none"> • TCP: Permit or deny TCP IP traffic. • UDP: Permit or deny UDP IP traffic.
Source	
IP Address	Specify the IP address of an incoming connection
Subnet Mask	Specify the subnet mask used by an incoming connection
Service Port	Specify the port number used by an incoming connection
Destination	
IP Address	Specify the IP address being accessed by a source connection
Subnet Mask	Specify the subnet mask being accessed by a source connection <div style="border-left: 2px solid red; padding-left: 10px; margin-top: 10px;"> <p>Important If a source is not specified, set the subnet mask to 255.255.255.255. If set to 255.255.255.0, the entry will be configured for the whole subnet.</p> </div>
Service Port	Specify the port number being accessed by a source connection
Permission	Specify the type of permission type used for this ACL entry <ul style="list-style-type: none"> • Allow: Allows access for the configured IP addresses • Deny: Restricts access for the configured IP addresses



Important

If the source or destination are left blank, the permission setting is applied to all connections.

5. Select the switching ports to apply the ACL rule.
6. Click **Save**.

QSS or QuNetSwitch adds the IP address-based ACL rule.

Configuring QoS settings

Quality of service (QoS) improves network traffic shaping by classifying and prioritizing different network devices and packets.

1. Log in to QSS, or open QuNetSwitch in QTS.
2. Go to **Configuration > QoS**.
3. Select a QoS mode.

Mode	Description
Port-based	Prioritizes traffic for each port. Packets scheduled based on the queue value are transmitted from the switching port.
VLAN-based	Prioritizes traffic for each VLAN. Packets containing a VLAN ID are scheduled for transmission based on the queue value.

4. Configure the priority.




Note

Queue 0 receives the lowest priority and queue 7 the highest priority.

5. Click **Save**.

QSS or QuNetSwitch saves the QoS settings.

Configuring QoS rate limiting

1. Log in to QSS, or open QuNetSwitch in QTS.
2. Go to **Configuration > QoS > Rate Limits**.
3. Identify a port.
4. Click . The **Configure Rate Limiting** window opens.
5. Configure the rate limits.
 - a. Optional: Select additional ports. Rate limits will also apply to the additional ports.
 - b. Move the slider to select the ingress rate.
 - c. Move the slider to select the egress rate.



Tip


- Alternatively, select **Match Rates** to make the egress rate match the ingress rate.
- Enable **Unlimited** to allow unlimited ingress or egress traffic.

6. Click **Save**.

QSS or QuNetSwitch saves the rate limits.

Adding a static MAC address



The MAC address table tracks MAC addresses and forwards associated unicast traffic through specific ports.

1. Log in to QSS, or open QuNetSwitch in QTS.
2. Go to **Configuration > MAC Address Table**.
3. Next to **Dynamic MAC address aging time**, click .



Note


You can configure the amount of time that an entry remains in the MAC table.

4. Specify the aging time between 10 and 630 seconds.
5.  Click  .
6. Click **Add**.
The **Add Static MAC Address** window opens.
7. Configure the MAC address settings.
 - a. Specify a VLAN ID.
 - b. Specify a MAC address.
 - c. Select a switching port.
8. Click **Save**.
The **Add Static MAC Address** window closes.

QSS or QuNetSwitch adds the MAC address.

Configuring port mirroring

Port mirroring monitors network traffic and forwards a copy of a packet from one network switch port to another.

1. Log in to QSS, or open QuNetSwitch in QTS.
2. Go to **Configuration > Port Mirroring** .
3. Next to **Port Mirroring**, click  .
QSS or QuNetSwitch enables port mirroring.
4. Select the mirror type.

Mirror Type	Description
Transmit & receive	Mirrors all packets to the destination port
Transmit only	Mirrors only outgoing packets to the destination port
Receive only	Mirrors only incoming packets to the destination port

5. Select source ports.



Tip

You can select multiple source ports at the same time.

6. Select a destination port.
7. Click **Save**.



QSS or QuNetSwitch saves the settings.

Enabling or disabling LLDP

The Link Layer Discovery Protocol (LLDP) uses periodic broadcasts to advertise device information over the network and discover neighboring devices. This protocol operates by establishing a distributed database and gathering information from neighboring ports connected by a network link.

The **LLDP** page displays information about detected devices and allows you to enable or disable LLDP.

1. Log in to QSS, or open QuNetSwitch in QTS.
2. Go to **Configuration > LLDP**.
3. Enable or disable LLDP.


Toggle Setting	User Action
	Click to enable the LLDP function.
	Click to disable the LLDP function.



4. Click **Save**.

QSS or QuNetSwitch saves the setting.

Configuring loop protection

A loop occurs when data packets are continually forwarded between ports. Network loops often lead to a significant drop in network performance. Enabling loop protection allows you to disable the affected interface temporarily to avoid network degradation.

1. Log in to QSS, or open QuNetSwitch in QTS.
2. Go to **Configuration > Loop Protection**.
3. Next to **Loop Protection**, click . QSS or QuNetSwitch enables loop protection.
4. Configure the loop protection settings.

Setting	Description
Transmission time	Controls the time between transmitted loop protection packets  Note <ul style="list-style-type: none"> • The default transmission time is 5 seconds. • The value must be from 1 to 10 seconds.
Shutdown time	Controls how long to disable a port after detecting a loop  Note <ul style="list-style-type: none"> • The default shutdown time is 180 seconds. • The value must be from 0 to 604800 seconds.



5. Click **Save**.

QSS or QuNetSwitch saves the settings.

System management

The **System** section provides access to device configuration options.



Changing the switch name

1. Log in to QSS, or open QuNetSwitch in QTS.
2. Go to **System > System Settings > System Information** .
3. Click .
4. Specify the switch name.
Requirements:
 - Length: 1-20 characters
 - Valid characters: A-Z, a-z, 0-9
 - Valid special characters: Hyphen (-)
5. Click  to confirm the switch name.

QSS or QuNetSwitch updates the switch name.

Configuring connection settings

1. Log in to QSS, or open QuNetSwitch in QTS.
2. Go to **System > System Settings > IP** .
3. Click **Add**.
The **Add a VLAN Management IP** window appears.
4. Specify a VLAN ID between 1 and 4000.
5. Configure the connection settings.

Setting	Description
Automatically obtain IP & DNS	Obtain the IP and DNS information automatically from the DHCP server.  Tip Click  to refresh the IP and DNS information.
Manually set the IP & DNS	Specify the IP address, subnet, gateway, and DNS information manually.


6. Click **Save**.

QSS or QuNetSwitch updates the connection settings.

Updating the switch password

1. Log in to QSS, or open QuNetSwitch in QTS.
2. Go to **System > System Settings > Password** .
3. Specify a new password.

**Tip**

Click  to make the password visible.

Setting	User Action
Current password	Specify the current password of the device.
New password	Specify a password that contains 8 to 20 ASCII characters.
Confirm new password	Reenter the new password.

4. Click **Save**.

QSS or QuNetSwitch logs you out of the switch interface. You can access the switch with the new password.

Configuring time settings

**Note**

You must configure the system time correctly to ensure the following:

- When using a web browser to connect to the device or save a file, the displayed time of the action is correct.
- Event logs reflect the exact time that events occur.
- Scheduled tasks run at the correct time.

1. Log in to QSS, or open QuNetSwitch in QTS.
2. Go to **System > System Settings > Time** .
3. Specify the date and time format.
4. Specify the time configuration.

Setting	Description
Synchronize with host	Synchronize the switch clock with the firmware clock.
Synchronize with internet time server	Ensure that your device is connected to the internet, and then specify the following information: <ul style="list-style-type: none"> • Server: Specify the Network Time Protocol (NTP) server. Examples: time.nist.gov, time.windows.com • Time zone: Select the time zone for the device.

5. Configure the Daylight Savings Time (DST) settings.
 - **Disable:** Disables the DST settings
 - **Adjust the system clock manually:** Allows you to manually configure the starting time, ending time, and the offset settings.
6. Click **Save**.

QSS or QuNetSwitch updates the time settings.

Backing up system settings

1. Log in to QSS, or open QuNetSwitch in QTS.

2. Go to **System > System Settings > Backup & Restore** .
3. Click **Backup**.

The device exports the system settings as a BIN file and downloads the file to your computer.

Restoring system settings



Warning

If the selected backup file contains user or user group information that already exists on the device, the system will overwrite the existing information.

1. Log in to QSS, or open QuNetSwitch in QTS.
2. Go to **System > System Settings > Backup & Restore** .
A file explorer window opens.
3. Click **Browse**.
4. Select a valid BIN file that contains the device system settings.
5. Click **Restore**.

QSS or QuNetSwitch restores the switch settings.

Resetting the switch password




Note

- You can also reset the switch password by pressing and holding the physical reset button for 5 seconds.
- The default "admin" account is automatically enabled after the system reset.

1. Log in to QSS, or open QuNetSwitch in QTS.
2. Go to **System > System Settings > Backup & Restore** .
3. Click **Password Reset**.

QSS or QuNetSwitch resets the switch password.

Default Username	Default Password
admin	<p>The MAC address of the switch image omitting any punctuation and capitalizing any letters.</p> <div style="display: flex; align-items: flex-start;">  <div> <p>Tip</p> <p>For example, if the MAC address is 00:0a:0b:0c:00:01, the default password is 000A0B0C0001. You can find the MAC address using Qfinder Pro. It is also printed on a sticker on the device as "MAC".</p> </div> </div>

Resetting the switch to factory settings

Resetting the switch deletes the data stored on the device and restores the switch to the default factory settings.

**Tip**

You can also reset the switch to factory defaults by pressing and holding the physical reset button for 10 seconds.

1. Log in to QSS, or open QuNetSwitch in QTS.
2. Go to **System > System Settings > Backup & Restore** .
3. Click **Factory Reset**.
A confirmation message appears.
4. Click **Yes**.

QSS or QuNetSwitch resets the switch to the factory default settings.

**Note**

To log in to the interface again, you must locate the device using Qfinder Pro. For details, see [Switch management access](#).

Enabling secure connection (HTTPS)

1. Log in to QSS, or open QuNetSwitch in QTS.
2. Go to **System > System Settings > HTTPS** .
3. Select **Enable Secure Connection (HTTPS)**.
4. Select a TLS version.

**Note**

Select the latest version of TLS to maximize system security. Ensure that your system meets the TLS requirements to avoid compatibility issues.

5. Optional: Select **Force secure connections (HTTPS) only**.

**Note**

After enabling this setting, you can only access the web administration page via HTTPS.



6. Click **Save**.

QSS or QuNetSwitch saves the secure connection settings.

Configuring SNMP settings

The Simple Network Management Protocol (SNMP) is used to collect and organize information about managed devices on a network. Enabling the SNMP service allows events (such as warnings and errors) to be immediately reported to a Network Management Station (NMS).

1. Log in to QSS, or open QuNetSwitch in QTS.
2. Go to **System > System Settings > SNMP** .
3. Select **Enable SNMP Service**.
4. Select the SNMP version that the NMS uses.

Option	User Action
SNMPv2c	<p>Specify an SNMP community name that contains 1 to 64 characters from any of the following groups:</p> <ul style="list-style-type: none"> • Letters: A to Z, a to z • Numbers: 0 to 9 <p>The SNMP community string functions as a password that is used to authenticate messages sent between the NMS and the device. Every packet that is transmitted between the NMS and the SNMP agent includes the community string.</p>
SNMPv3	<p>Specify the username, authentication protocol and password, and privacy protocol and password.</p> <p>a. Specify a username.</p> <div style="border-left: 2px solid #0070C0; padding-left: 10px; margin-left: 20px;"> <p> Note The username should contain 1 to 32 characters from any of the following groups:</p> <ul style="list-style-type: none"> • Letters: A to Z, a to z • Numbers: 0 to 9 • Multi-byte characters: Chinese, Japanese, Korean, and Russian • Special characters: All except " ' / \ </div> <p>b. Optional: Select Authentication.</p> <ol style="list-style-type: none"> 1. Specify the authentication protocol. <div style="border-left: 2px solid #FFC000; padding-left: 10px; margin-left: 20px;"> <p> Tip You can select HMAC-MD5 or HMAC-SHA. If you are unsure about this setting, QNAP recommends selecting HMAC-SHA.</p> </div> <ol style="list-style-type: none"> 2. Specify an authentication password that contains 8 to 64 ASCII characters. <p>c. Optional: Select Privacy.</p> <ol style="list-style-type: none"> 1. Specify a privacy password that contains 8 to 64 ASCII characters.

5. Select the SNMP trap.



SNMP Trap	Description
coldStart	A coldStart trap signifies that the SNMP entity is reinitializing itself so that the agent configuration or the protocol entity implementation can be altered.
warmStart	A warmStart trap signifies that the SNMP entity is reinitializing itself so that the agent configuration or the protocol entity implementation cannot be altered.
linkUp	A linkUp trap signifies that the sending protocol entity recognizes that one of the communication links represented in the agent configuration has become active.

SNMP Trap	Description
linkDown	A linkDown trap signifies that the sending protocol entity recognizes a failure in one of the communication links represented in the agent configuration.

- Specify the trap addresses of the host or the targeted recipient.
- Click **Save**.

QSS or QuNetSwitch saves the SNMP settings.

Restarting the switch

- Log in to QSS, or open QuNetSwitch in QTS.
- 
 Click  located on the upper-right corner of the page.
- Click **Restart Switch**.
A confirmation message appears.
- Click **Yes**.

QSS or QuNetSwitch restarts the switch.

Viewing the switch information

To view the hardware and system information of the switch, go to **System > System Information**.

The screen provides the following information.

Information	Description
Switch name	Displays the default or modified name of the switch
Model name	Displays the model name of the switch
MAC address	Displays the MAC address of the switch
IP address	Displays the DHCP or static IP address of the switch
System uptime	Displays how long the system has been operational
Current firmware version	Displays the firmware image version of the switch

Managing switch logs

You can filter logs based on their severity level, search for specific log files, or delete them altogether. These logs can be used to diagnose issues or monitor switch operations.

- Log in to QSS, or open QuNetSwitch in QTS.
- Go to **System > Log**.
- Perform any of the following tasks.

Task	User Action
Filter log files	Next to Severity Level , select a log level.

Task	User Action
Search log files	<ol style="list-style-type: none"> a. Locate the Search field. b. Enter search terms.
Delete log files	<ol style="list-style-type: none"> a. Click Clear. The Clear Logs window opens. b. Click Clear.

QSS or QuNetSwitch performs the specified task.

Performing host power actions in QSS

QSS allows you to perform power actions on QTS, if you have installed and configured the storage operating system.

1. Log in to QSS.
2. Go to **System > Host Control Management** .
3. You can perform the following tasks:

Task	Action
Start Host	Click to power on the QTS operating system on the switch.
Restart Host	Click to perform a cold reboot of the operating system.
Shut Down Host	Click to perform a cold shutdown of the operating system.

6. Troubleshooting

This chapter describes basic troubleshooting information.

Forcing Qfinder Pro and myQNAPcloud to locate the device

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

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

Support and other resources

QNAP provides the following resources:

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

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

QSS

QNAP switch management application

QTS

QNAP NAS operating system

QuNetSwitch

QNAP switch management app

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Version 3, 29 June 2007

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FCC notice

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.

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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
风扇组装	0	0	0	0	0	0
电力供应组装	0	0	0	0	0	0
电池	0	0	0	0	0	0
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