

H3C S6805 Switch Series

Installation Guide

New H3C Technologies Co., Ltd.
<http://www.h3c.com>

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Environmental protection

This product has been designed to comply with the environmental protection requirements. The storage, use, and disposal of this product must meet the applicable national laws and regulations.

Preface

H3C S6805 Switch Series Installation Guide describes the installation, power-on, maintenance, and troubleshooting of the H3C S6805 Switch Series.

This preface includes the following topics about the documentation:

- [Audience](#).
- [Conventions](#).
- [Documentation feedback](#).

Audience

This documentation is intended for:

- Network planners.
- Field technical support and servicing engineers.
- Network administrators working with the S6805 switch series.

Conventions

The following information describes the conventions used in the documentation.





Command conventions

Convention	Description
Boldface	Bold text represents commands and keywords that you enter literally as shown.
<i>Italic</i>	<i>Italic</i> text represents arguments that you replace with actual values.
[]	Square brackets enclose syntax choices (keywords or arguments) that are optional.
{ x y ... }	Braces enclose a set of required syntax choices separated by vertical bars, from which you select one.
[x y ...]	Square brackets enclose a set of optional syntax choices separated by vertical bars, from which you select one or none.
{ x y ... }*	Asterisk marked braces enclose a set of required syntax choices separated by vertical bars, from which you select a minimum of one.
[x y ...]*	Asterisk marked square brackets enclose optional syntax choices separated by vertical bars, from which you select one choice, multiple choices, or none.
&<1-n>	The argument or keyword and argument combination before the ampersand (&) sign can be entered 1 to n times.
#	A line that starts with a pound (#) sign is comments.













GUI conventions

Convention	Description
Boldface	Window names, button names, field names, and menu items are in Boldface. For example, the New User window opens; click OK .
>	Multi-level menus are separated by angle brackets. For example, File > Create > Folder .

Symbols

Convention	Description
 WARNING!	An alert that calls attention to important information that if not understood or followed can result in personal injury.
 CAUTION:	An alert that calls attention to important information that if not understood or followed can result in data loss, data corruption, or damage to hardware or software.
 IMPORTANT:	An alert that calls attention to essential information.
NOTE:	An alert that contains additional or supplementary information.
 TIP:	An alert that provides helpful information.

Network topology icons

Convention	Description
	Represents a generic network device, such as a router, switch, or firewall.
	Represents a routing-capable device, such as a router or Layer 3 switch.
	Represents a generic switch, such as a Layer 2 or Layer 3 switch, or a router that supports Layer 2 forwarding and other Layer 2 features.
	Represents an access controller, a unified wired-WLAN module, or the access controller engine on a unified wired-WLAN switch.
	Represents an access point.
	Represents a wireless terminator unit.
	Represents a wireless terminator.
	Represents a mesh access point.
	Represents omnidirectional signals.
	Represents directional signals.
	Represents a security product, such as a firewall, UTM, multiservice security gateway, or load balancing device.
	Represents a security module, such as a firewall, load balancing, NetStream, SSL VPN, IPS, or ACG module.

Examples provided in this document

Examples in this document might use devices that differ from your device in hardware model, configuration, or software version. It is normal that the port numbers, sample output, screenshots, and other information in the examples differ from what you have on your device.

Documentation feedback

You can e-mail your comments about product documentation to info@h3c.com.

We appreciate your comments.

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1 Preparing for installation

The S6805 switch series includes the following models:

Product code	Product model
LS-6805-54HF	S6805-54HF
LS-6805-54HT	S6805-54HT

Safety recommendations

To avoid any equipment damage or bodily injury caused by incorrect use, read the following safety recommendations before installation. Note that the recommendations do not cover every possible hazardous condition.

- Before cleaning the switch, remove all power cords from the switch. Do not clean the switch with wet cloth or liquid.
- Do not place the switch near water or in a damp environment. Prevent water or moisture from entering the switch chassis.
- Do not place the switch on an unstable case or desk. The switch might be severely damaged in case of a fall.
- Ensure good ventilation of the equipment room and keep the air inlet and outlet vents of the switch free of obstruction.
- Connect the yellow-green protection grounding cable before power-on.
- Make sure the operating voltage is in the required range.
- To avoid electrical shocks, do not open the chassis while the switch is operating or when the switch is just powered off.
- When replacing FRUs, including power supplies and fan trays, wear an ESD wrist strap to avoid damaging the units.

Examining the installation site

The switch must be used indoors. Mount your switch in a rack and verify the following items:

- Adequate clearance is reserved at the air inlet and outlet vents for ventilation.
- The rack has a good ventilation system.
- Identify the hot aisle and cold aisle at the installation site, and make sure ambient air flows into the switch from the cold aisle and exhausts to the hot aisle.
- Identify the airflow designs of neighboring devices, and prevent hot air flowing out of the bottom device from entering the top device.
- The rack is sturdy enough to support the switch and its accessories.
- The rack is reliably grounded.

To ensure correct operation and long service life of your switch, install it in an environment that meets the requirements described in the following subsections.

Temperature/humidity

Maintain appropriate temperature and humidity in the equipment room.

- Lasting high relative humidity can cause poor insulation, electricity leakage, mechanical property change of materials, and metal corrosion.
- Lasting low relative humidity can cause washer contraction and ESD and cause problems including loose screws and circuit failure.
- High temperature can accelerate the aging of insulation materials and significantly lower the reliability and lifespan of the switch.

For the temperature and humidity requirements of different switch models, see *H3C S6805 Switch Series Hardware Information and Specifications*.

Cleanliness

Dust buildup on the chassis might result in electrostatic adsorption, which causes poor contact of metal components and contact points. In the worst case, this might shorten the device's lifetime and even cause communication failure. [Table1-1](#) describes the dust concentration limits in the equipment room.

Table1-1 Dust concentration limit in the equipment room

Substance	Particle diameter	Concentration limit
Dust particles	$\geq 0.5 \mu\text{m}$	$\leq 3.5 \times 10^6$ particles/ m^3
Dust particles	$\geq 5 \mu\text{m}$	$\leq 3 \times 10^4$ particles/ m^3
Dust (suspension)	$\leq 75 \mu\text{m}$	≤ 0.2 mg/ m^3
Dust (sedimentation)	75 μm to 150 μm	≤ 1.5 mg/(m^2h)

Corrosive gases can accelerate corrosion and aging of metal components. Make sure the corrosive gases in the equipment room do not exceed the concentration limits as shown in [Table1-2](#).

Table1-2 Harmful gas limits in the equipment room

Gas	Average concentration (mg/ m^3)	Maximum concentration (mg/ m^3)
SO ₂	0.3	1.0
H ₂ S	0.1	0.5
Cl ₂	0.1	0.3
HCl	0.1	0.5
HF	0.01	0.03
NH ₃	1.0	3.0
O ₃	0.05	0.1
NO _x	0.5	1.0

EMI

All electromagnetic interference (EMI) sources, from outside or inside of the switch and application system, adversely affect the switch in the following ways:

- A conduction pattern of capacitance coupling.
- Inductance coupling.
- Electromagnetic wave radiation.
- Common impedance (including the grounding system) coupling.

To prevent EMI, use the following guidelines:

- If AC power is used, use a single-phase three-wire power receptacle with protection earth (PE) to filter interference from the power grid.
- Keep the switch far away from radio transmitting stations, radar stations, and high-frequency devices.
- Use electromagnetic shielding, for example, shielded interface cables, when necessary.
- To prevent signal ports from getting damaged by overvoltage or overcurrent caused by lightning strikes, route interface cables only indoors.

Laser safety

WARNING!

- The switch is a Class 1M laser device.
- Disconnected optical fibers or transceiver modules might emit invisible laser light. Do not stare into beams or view directly with optical instruments when the switch is operating.

Installation tools

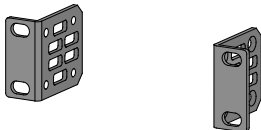
No installation tools are provided with the switch. Prepare the following tools yourself:

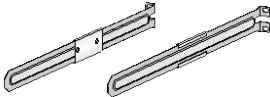
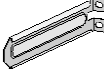





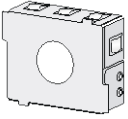

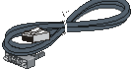
- Phillips screwdriver.
- Flathead screwdriver.
- ESD wrist strap.
- Marker.



Installation accessories

Before installation, make sure you have all the required installation accessories. If any accessory is damaged or missing, use the part No. provided in this table to purchase a new one.

Table1-3 Installation accessories

Part No.	Description	Quantity	Applicable device models
0223A19T	Mounting brackets 	1 pair, provided	All S6805 models
2150A050	1U rack mounting rail kit A (long slide rails)	1 kit, provided	All S6805 models

Part No.	Description	Quantity	Applicable device models
			
2150A0CP	1U rack mounting rail kit B (super-short slide rails) 	Optional	S6805-54HF
2150A05D	1U rack mounting rail kit C 	Optional	S6805-54HT
N/A	M6 screw and cage nut 	User supplied	All S6805 models
0404A1RB (single-hole grounding lug) or 0404A0KM (two-hole grounding lug)	Grounding cable that has a single-hole grounding lug  Grounding cable that has a two-hole grounding lug 	1, provided	All S6805 models
N/A	Grounding screw 	2, provided	All S6805 models
2114A09C	Power supply filler panel 	1, provided	All S6805 models
N/A	Releasable cable tie 	User supplied	All S6805 models
04042967	Serial console cable 	1, provided	All S6805 models
14990101	SFP port plug	Same number as the SFP/SFP+ ports	All S6805 models

Part No.	Description	Quantity	Applicable device models
			
1499A01G	QSFP port plug 	Same number as the QSFP28 ports	All S6805 models

2 Installing the switch

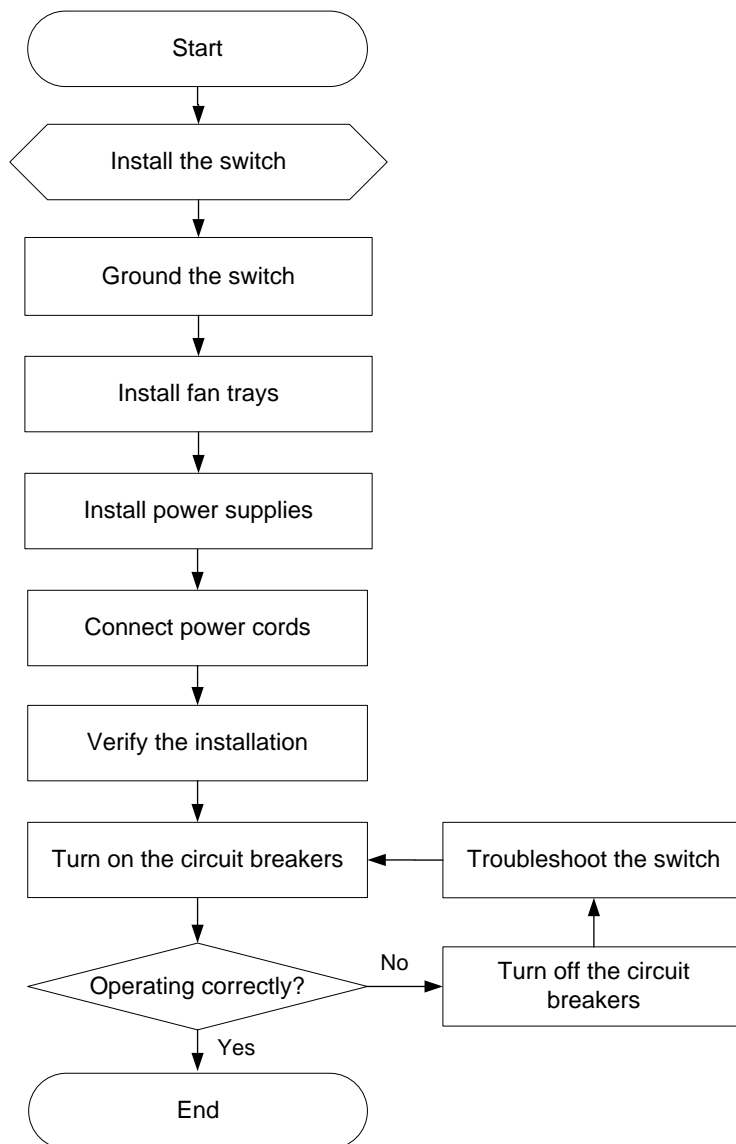
△ CAUTION:

Keep the tamper-proof seal on a mounting screw on the chassis cover intact, and if you want to open the chassis, contact H3C for permission. Otherwise, H3C shall not be liable for any consequence caused thereby.

△ CAUTION:

Always wear an ESD wrist strap during the installation process. Make sure the wrist strap makes good skin contact and is reliably grounded.

Figure2-1 Hardware installation flow



Installing the switch in a 19-inch rack

Installation accessories

Table2-2 Installation accessories

Switch model	Mounting brackets	Rack mounting rail kit
S6805-54HF	1U high, one pair (provided). See Figure2-2 .	<ul style="list-style-type: none">1U rack mounting rail kit A, including one pair of chassis rails and one pair of long slide rails (provided). See Figure2-3.1U rack mounting rail kit B, including one pair of chassis rails and one pair of super-short slide rails (optional). See Figure2-4.
S6805-54HT	1U high, one pair (provided). See Figure2-2 .	<ul style="list-style-type: none">1U rack mounting rail kit A, including one pair of chassis rails and one pair of long slide rails (provided). See Figure2-3.1U rack mounting rail kit C, including one pair of chassis rails and one pair of slide rails (optional). See Figure2-5.

Figure2-2 Mounting brackets

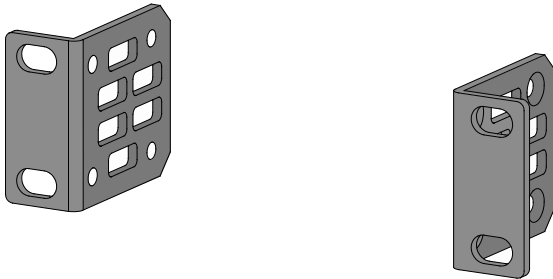


Figure2-3 1U rack mounting rail kit A (long slide rails)

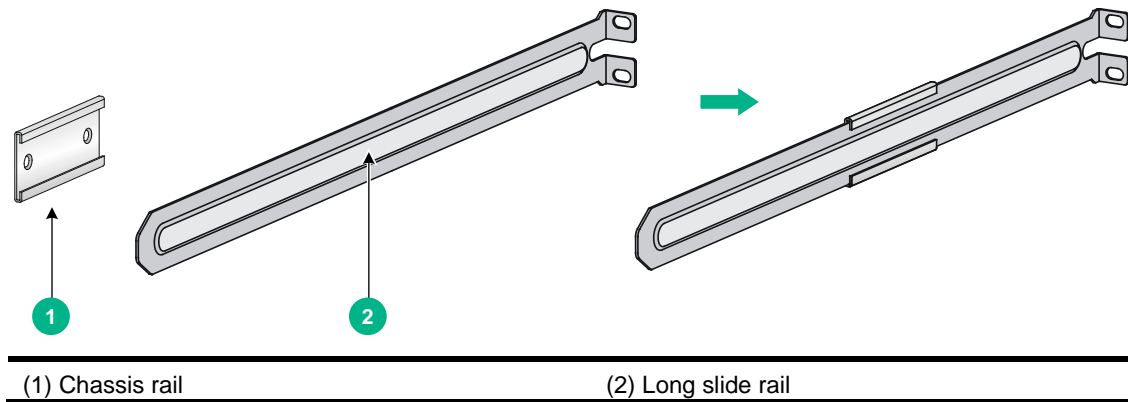


Figure2-4 1U rack mounting rail kit B (super-short slide rails)

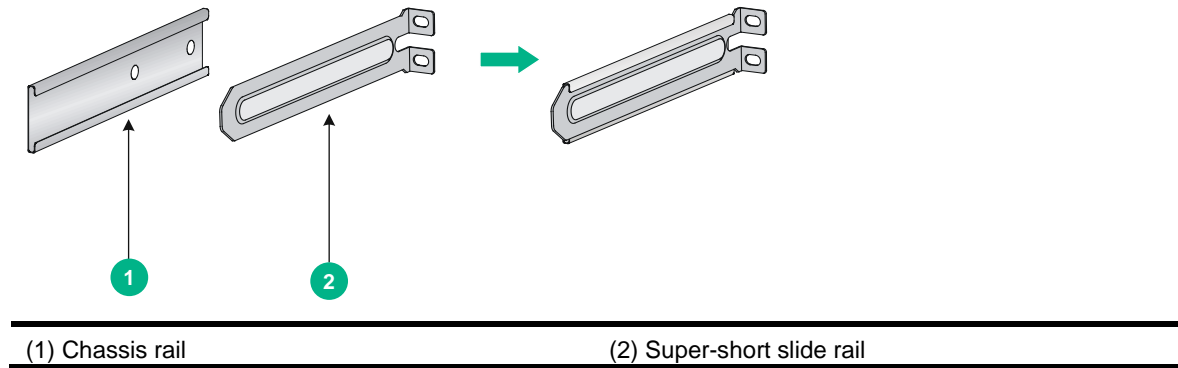
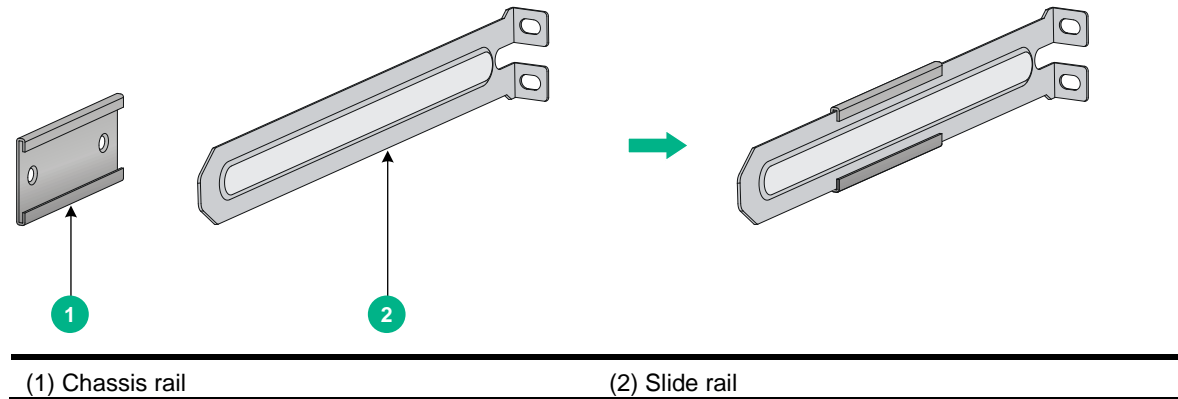
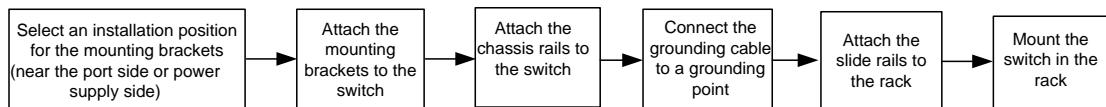


Figure2-5 1U rack mounting rail kit C



Rack-mounting procedure at a glance

Figure2-6 Rack-mounting procedure

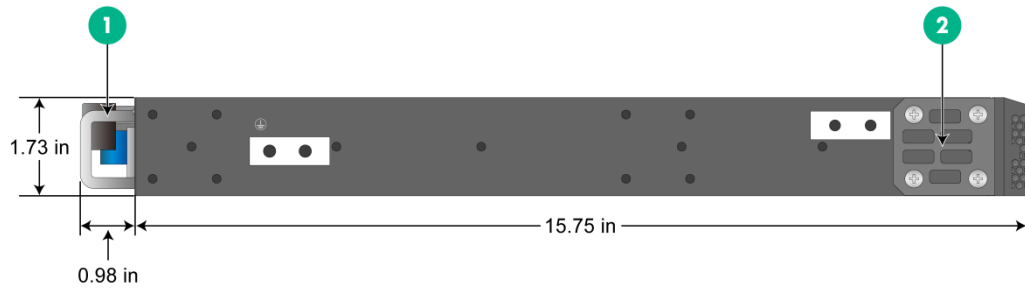


NOTE:

If a rack shelf is available, you can put the switch on the rack shelf, slide the switch to an appropriate location, and attach the switch to the rack with the mounting brackets.

Chassis dimensions and rack requirements

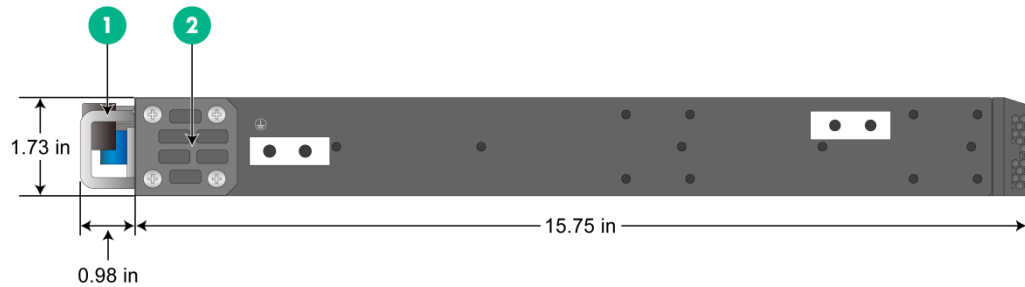
Figure2-7 S6805-54HF chassis dimensions with the mounting brackets installed at the port side



(1) Power supply handle

(2) Mounting bracket

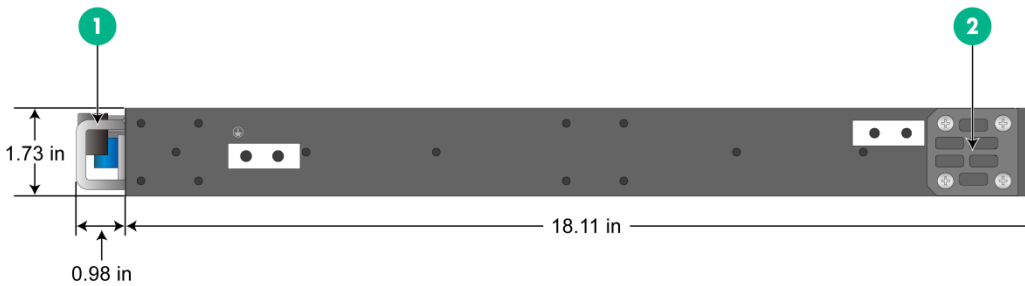
Figure2-8 S6805-54HF chassis dimensions with the mounting brackets installed at the power supply side



(1) Power supply handle

(2) Mounting bracket

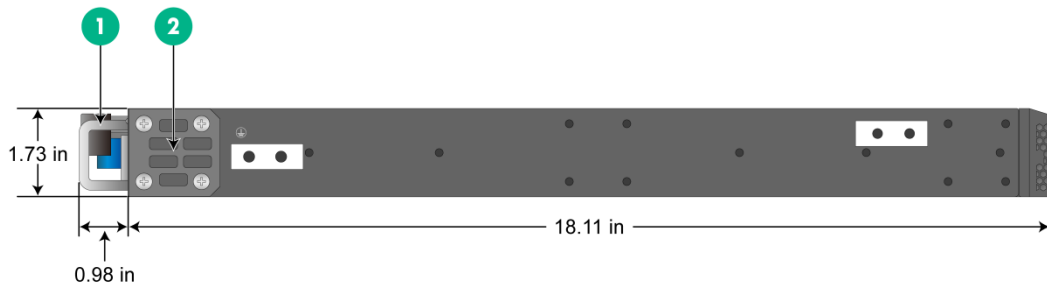
Figure2-9 S6805-54HT chassis dimensions with the mounting brackets installed at the port side



(1) Power supply handle

(2) Mounting bracket

Figure2-10 S6805-54HT chassis dimensions with the mounting brackets installed at the power supply side



(1) Power supply handle (2) Mounting bracket

Follow these guidelines when you install the switch in a 19-inch rack:

- The distance between the front and rear posts of the rack must meet the requirements described in [Table2-3](#).
- To secure the switch to the rack, you must install not only mounting brackets, but also chassis rails and slide rails.

Table2-3 Distance requirements between the front and rear rack posts

Switch model	Installation method	Distance between the front and rear rack posts
S6805-54HF	Using mounting brackets and rack mounting rail kit A (long slide rails)	621 mm to 793 mm (24.45 in to 31.22 in)
	Using mounting brackets and rack mounting rail kit B (super-short slide rails, narrow-spacing installation)	330 mm to 505 mm (12.99 in to 19.88 in)
	Using mounting brackets and rack mounting rail kit B (super-short slide rails, wide-spacing installation)	438 mm to 632 mm (17.24 in to 24.88 in)
S6805-54HT	Using mounting brackets and rack mounting rail kit A (long slide rails)	621 mm to 854 mm (24.45 in to 33.62 in)
	Using mounting brackets and rack mounting rail kit C	401 mm to 634 mm (15.79 in to 24.96 in)

Table2-4 Chassis dimensions and rack depth requirements

Device model	Chassis dimensions	Rack depth requirement
S6805-54HF	<ul style="list-style-type: none"> • Height—44 mm (1.73 in) (1 RU) • Width—440 mm (17.32 in). • Total depth—425 mm (16.73 in) <ul style="list-style-type: none"> ○ 25 mm (0.98 in) for the power supply or fan tray handle ○ 400 mm (15.75 in) for the chassis. 	<p>To ensure that the rack door can be closed easily after cables are connected, make sure the rack meets the following requirements:</p> <ul style="list-style-type: none"> • A minimum of 800 mm (31.50 in) in depth (recommended) • A minimum of 130 mm (5.12 in) from the front rack post to the front door • A minimum of 449 mm (17.68 in) from the front rack post to the rear door

1. Place the wide flange of a mounting bracket against a side panel of the chassis and align the round holes in the wide flange of the front mounting bracket with the screw holes in the side panel. Then use M4 screws (provided) to attach the mounting bracket to the chassis.
 - To install the mounting brackets at the port side, see [Figure2-12](#), [Figure2-13](#), [Figure2-14](#), and [Figure2-18](#).
 - To install the mounting brackets at the power supply side, see [Figure2-15](#), [Figure2-16](#), [Figure2-17](#), and [Figure2-19](#).
2. Determine the chassis rail installation position based on the mounting bracket installation position.
3. Place the chassis rail against the side panel of the chassis and align the installation holes in the chassis rail with rail mounting holes in the chassis. Then use M4 screws (provided) to attach the chassis rail to the chassis.
 - For installation of chassis rails of rack mounting rail kit A (long slide rails) and rack mounting rail kit C, see [Figure2-12](#), [Figure2-15](#), [Figure2-18](#), and [Figure2-19](#).
 - The chassis rails of rack mounting rail kit B (super-short slide rails) support narrow-spacing installation and wide-spacing installation. Select narrow-spacing (as shown in [Figure2-13](#) and [Figure2-16](#)) or wide-spacing (as shown in [Figure2-14](#) and [Figure2-17](#)) installation based on the distance between the front and rear rack posts.
4. Follow the same procedure to attach another mounting bracket and chassis rail to the opposite side.

Figure2-12 Attaching the mounting brackets and chassis rails to an S6805-54HF switch (mounting brackets installed near the port side, rack mounting rail kit A)

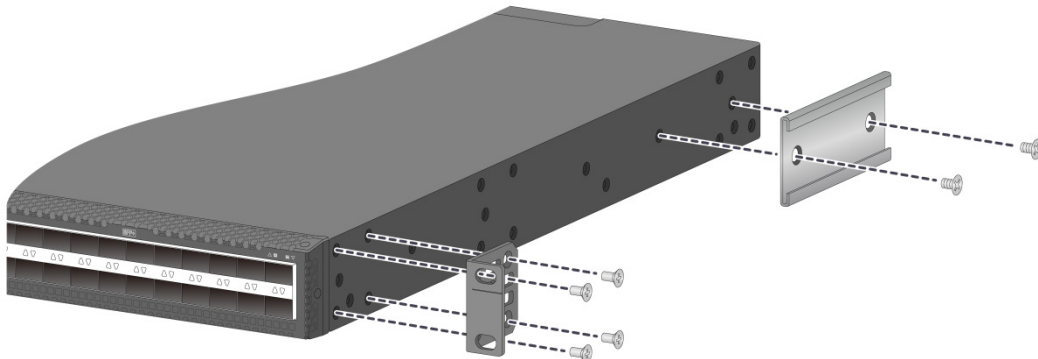


Figure2-13 Attaching the mounting brackets and chassis rails to an S6805-54HF switch (mounting brackets installed near the port side, rack mounting rail kit B, narrow-spacing installation)

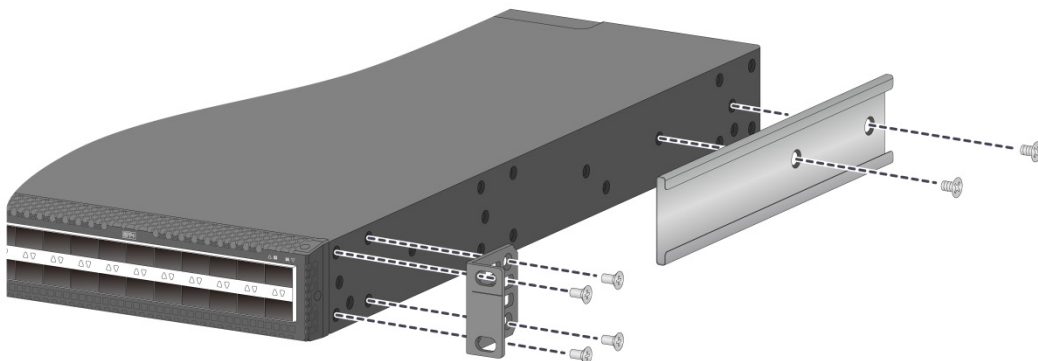


Figure2-14 Attaching the mounting brackets and chassis rails to an S6805-54HF switch (mounting brackets installed near the port side, rack mounting rail kit B, wide-spacing installation)

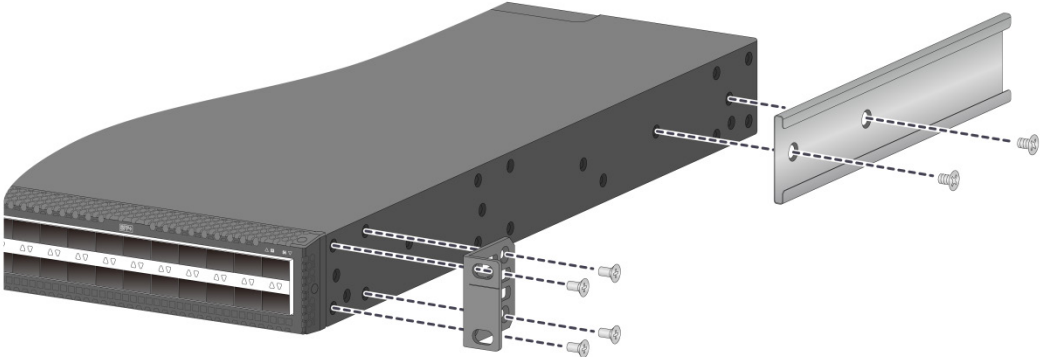


Figure2-15 Attaching the mounting brackets and chassis rails to an S6805-54HF switch (mounting brackets installed near the power supply side, rack mounting rail kit A)

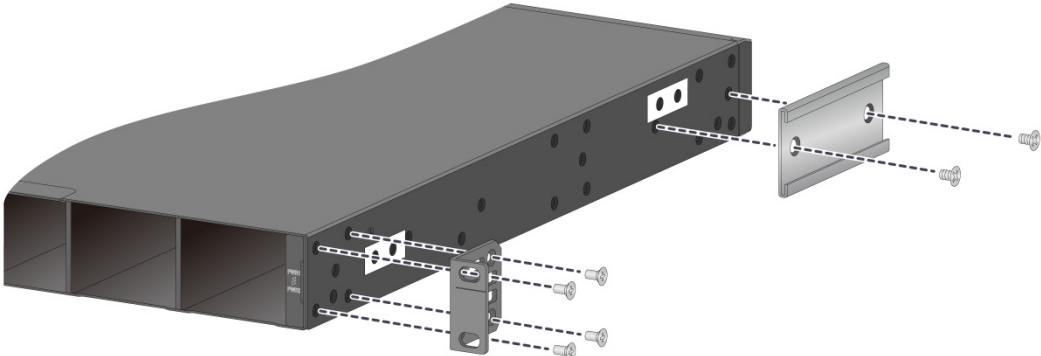


Figure2-16 Attaching the mounting brackets and chassis rails to an S6805-54HF switch (mounting brackets installed near the power supply side, rack mounting rail kit B, narrow-spacing installation)

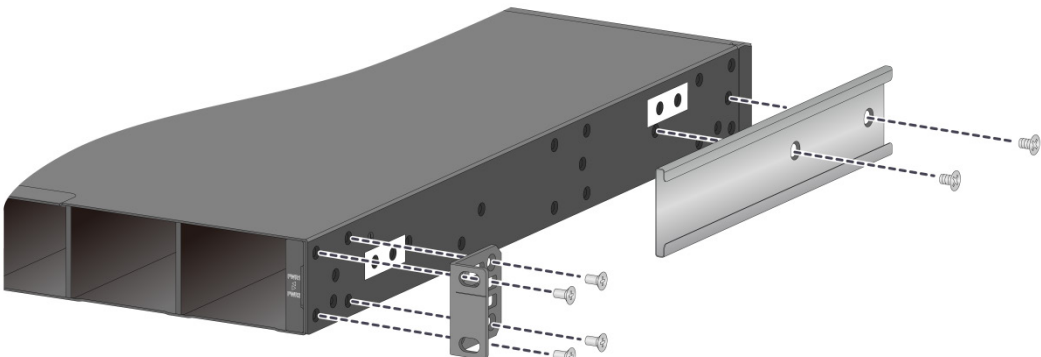


Figure2-17 Attaching the mounting brackets and chassis rails to an S6805-54HF (mounting brackets installed near the power supply side, rack mounting rail kit B, wide-spacing installation)

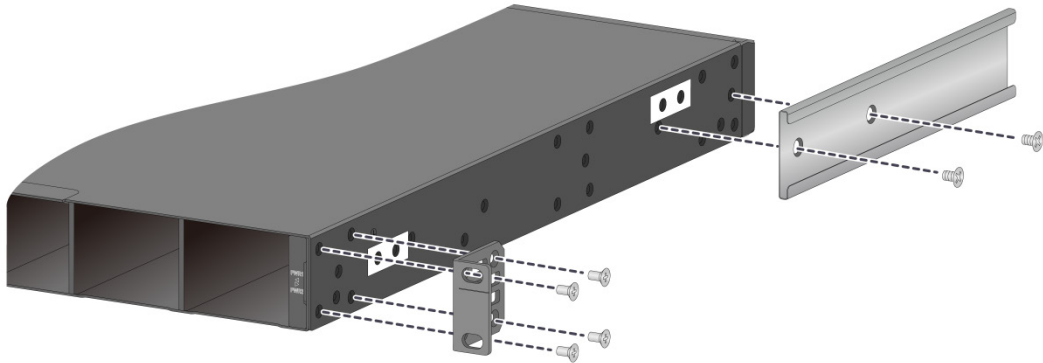


Figure2-18 Attaching the mounting brackets and chassis rails to an S6805-54HT (mounting brackets installed near the port side, rack mounting rail kit A or C)

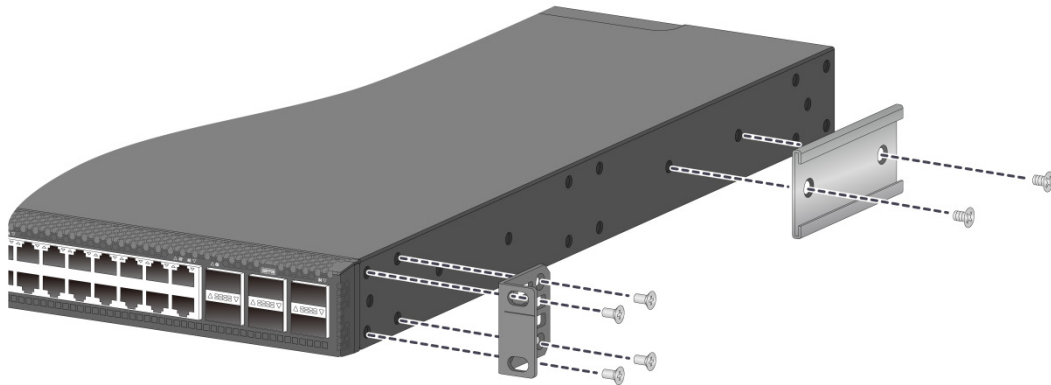
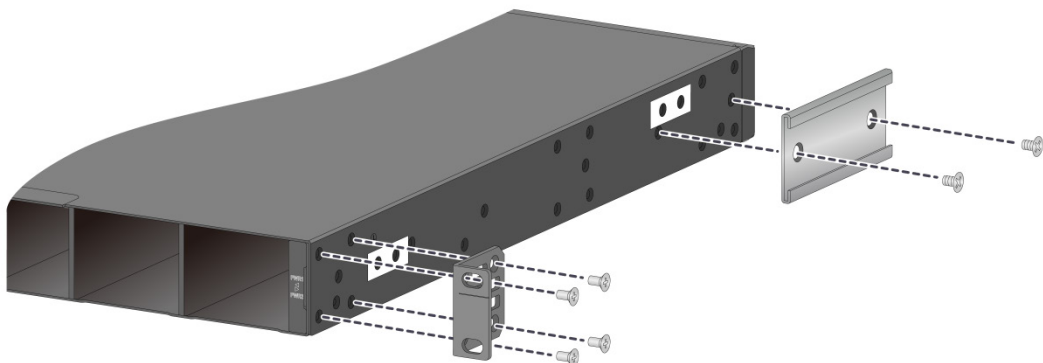


Figure2-19 Attaching the mounting brackets and chassis rails to an S6805-54HT switch (mounting brackets installed near the power supply side, rack mounting rail kit A or C)



Connecting the grounding cable to the chassis

⚠ IMPORTANT:

The primary and auxiliary grounding points are located on the left side panel of the chassis. The two grounding points might be not reachable after the switch is mounted in the rack. Connect the grounding cable to a grounding point before you mount the switch in the rack.

Use M5 grounding screws to attach a grounding cable that has a two-hole grounding lug or single-hole grounding lug to the grounding point on the switch. If the grounding cable length or terminal type cannot meet your requirement, make an applicable grounding cable or contact H3C Support.

Select the primary or auxiliary grounding point as required. The following procedure connects the grounding cable to the primary grounding point (near the power supply side) on an S6805-54HF switch.

To connect the grounding cable to a grounding point:

1. Unpack the grounding cable and grounding screws (applicable to both the primary and auxiliary grounding points).
2. Use the grounding screws to attach the single-hole grounding lug or two-hole grounding lug to the grounding point and then fasten the screws (clockwise direction), as shown in [错误!未找到引用源。](#) and Figure2-21.

As a best practice, use a torque of 20 kgf-cm (1.96 Nm) to fasten the grounding screws.

Figure2-20 Attaching a grounding cable that has a single-hole grounding lug to the grounding point (S6805-54HF)

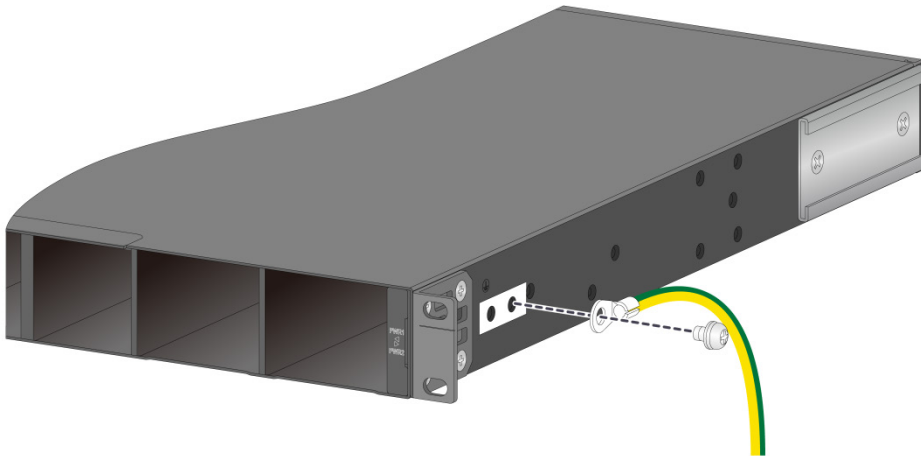
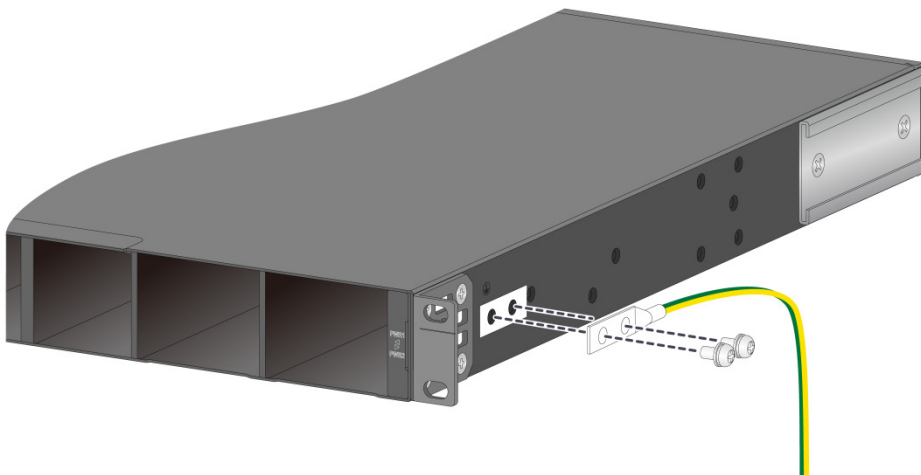


Figure2-21 Attaching a grounding cable that has a two-hole grounding lug to the grounding point (S6805-54HF)



Attaching the slide rails to the rack

⚠ IMPORTANT:

M6 screws and cage nuts are used to attach the slide rails to the rack. Prepare M6 screws and cage nuts yourself. As a best practice, use a torque of 30 kgf-cm (2.94 Nm) to fasten the M6 screws.

Before mounting the switch in the rack, you must attach slide rails to the rack.

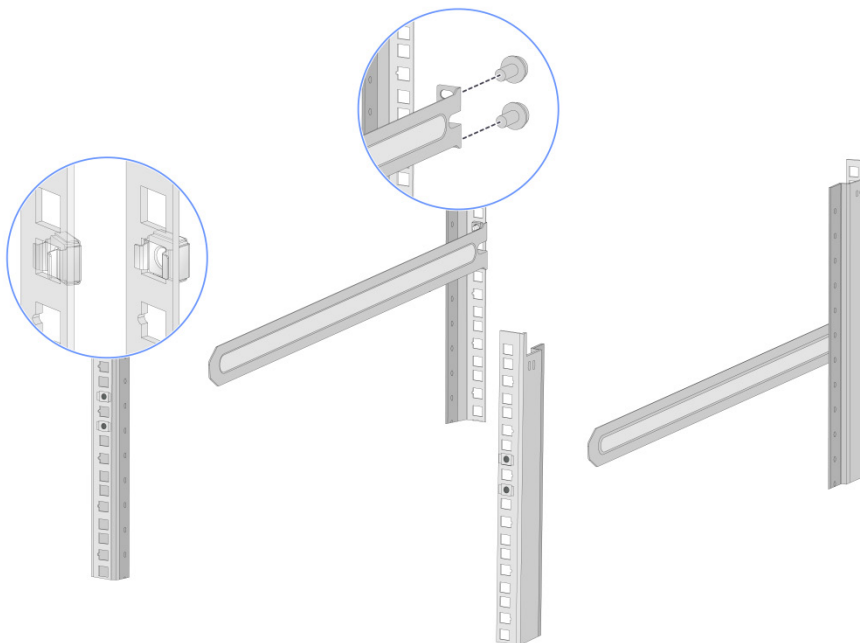
The installation procedure is the same for different types of slide rails. The following procedure attaches 1U long slide rails to the rack.

To attach the slide rails to the rack:

1. Identify the slide rail installation position on the rack based on the switch installation position.
2. Install cage nuts (user-supplied) in the mounting holes in the rack posts.
3. Align the screw holes in one slide rail with the cage nuts in a rear rack post, and then use M6 screws (user-supplied) to attach the slide rail to the rack, as shown in [Figure2-22](#).
4. Attach the other slide rail to the rear rack post on the opposite side.

Make sure the two slide rails are at the same height and can slide into the chassis rails smoothly.

Figure2-22 Installing the 1U long slide rails



Mounting the switch in the rack

The rack-mounting procedure is similar for the switches. The following procedure mounts an S6805-54HF switch in a rack.

This task requires two people.

To mount the switch in the rack:

1. Wear an ESD wrist strap and make sure it makes good skin contact and is reliably grounded.

2. Verify that the mounting brackets and chassis rails have been securely attached to the switch chassis.
3. Verify that the slide rails have been correctly attached to the rear rack posts.
4. Attach cage nuts (user-supplied) to the front rack posts and make sure they are at the same level as the slide rails.
5. One person performs the following operations:
 - a. Supporting the bottom of the switch, aligns the chassis rails with the slide rails on the rack posts.
 - b. Pushes the switch slowly for the slide rails to slide into the chassis rails smoothly until the mounting brackets are flush against the front rack posts.
 - For long slide rails of rack mounting rail kit A and slide rails of rack mounting rail kit C, make sure the front ends of the slide rails reach out of the chassis rails.
 - For super-short slide rails of rack mounting rail kit B, make sure the slide rails slide a minimum length of 90 mm (3.54 in) into the chassis rails.
6. The other person uses screws (user-supplied, rust-proofed) to attach the mounting brackets to the rack.

Figure2-23 Mounting an S6805-54HF switch in the rack (mounting brackets installed near the power supply side)

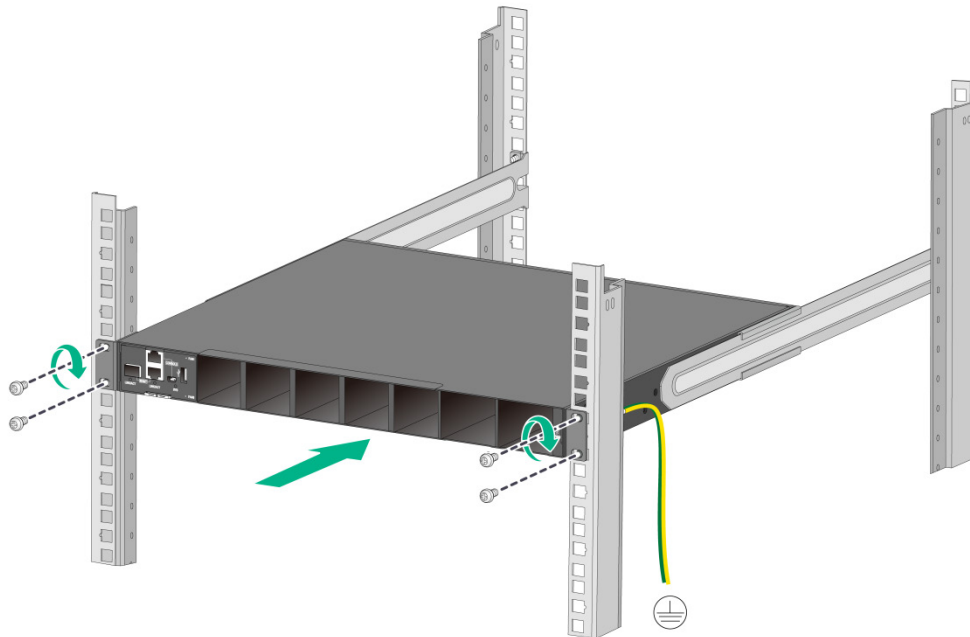
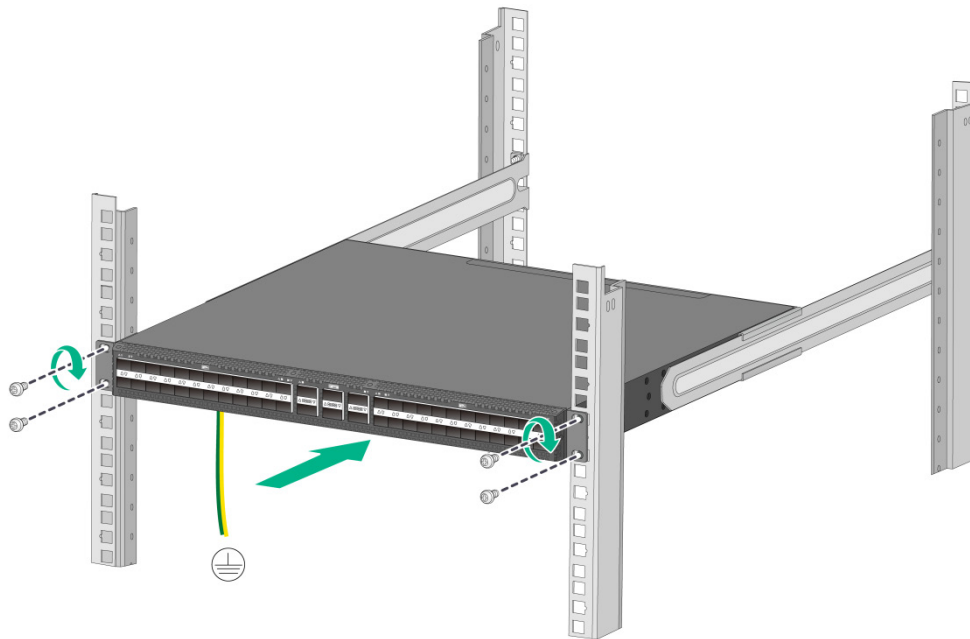


Figure2-24 Mounting an S6805-54HF switch in the rack (mounting brackets installed near the port side)



Grounding the switch by using a grounding strip

⚠ CAUTION:

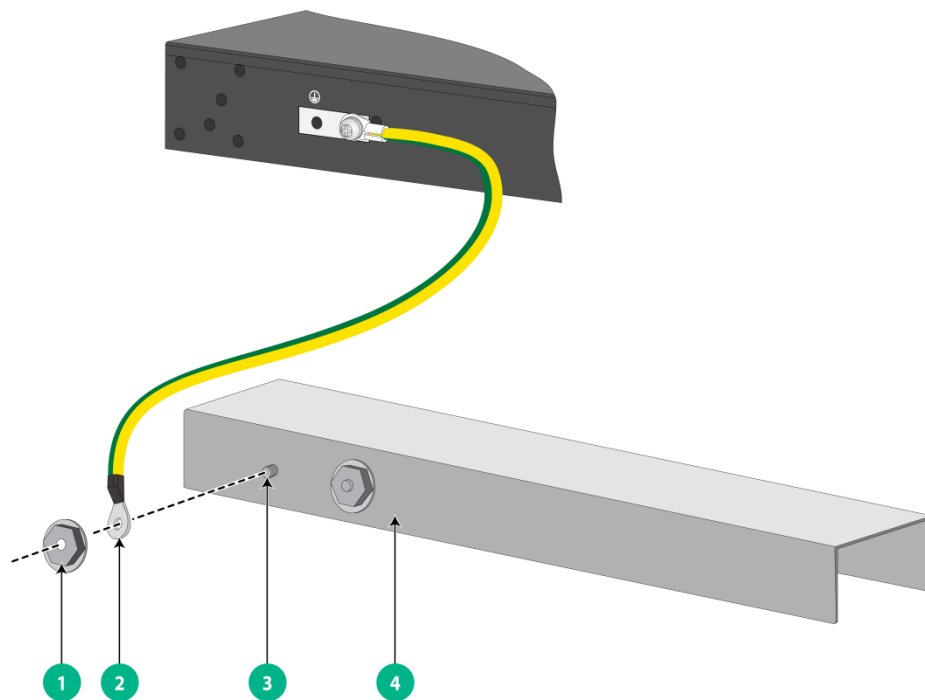
- Correctly connecting the grounding cable is crucial to lightning protection and EMI protection.
- Do not connect the grounding cable to a fire main or lightning rod.
- To guarantee the grounding effect and avoid switch damage, use the grounding cable provided with the switch to connect the switch to a grounding strip in the equipment room.

The power input end of the switch has a noise filter, whose central ground is directly connected to the chassis to form the chassis ground (commonly known as PGND). You must securely connect this chassis ground to the earth so the faradism and leakage electricity can be safely released to the earth to minimize EMI susceptibility of the switch.

To ground the switch by using a grounding strip:

1. Attach the two-hole grounding lug at one end of the grounding cable to a grounding point on the switch chassis. For more information, see "[Connecting the grounding cable to the chassis.](#)"
2. Remove the hex nut of a grounding post on the grounding strip.
3. Attach the ring terminal at the other end of the grounding cable to the grounding post on the grounding strip, and secure the ring terminal to the grounding post with the hex nut.

Figure2-25 Connecting the grounding cable to a grounding strip



(1) Hex nut

(2) Ring terminal

(3) Grounding post

(4) Grounding strip

Installing and removing a fan tray

△ CAUTION:

- For adequate heat dissipation, you must install five fan trays of the same model for the switch.
- Make sure all slots have a module installed when the switch is operating.
- If more than one fan tray fails during switch operation, do not remove the failed fan trays simultaneously. Replace the fan trays one by one and finish replacing each fan tray within three minutes.

Installing a fan tray

△ CAUTION:

To prevent damage to the fan tray or the connectors on the backplane, insert the fan tray gently. If you encounter a hard resistance while inserting the fan tray, pull out the fan tray and insert it again.

Select fan trays for the switch as needed. For the fan trays available for the switch and their specifications, see *H3C S6805 Switch Series Hardware Information and Specifications*.

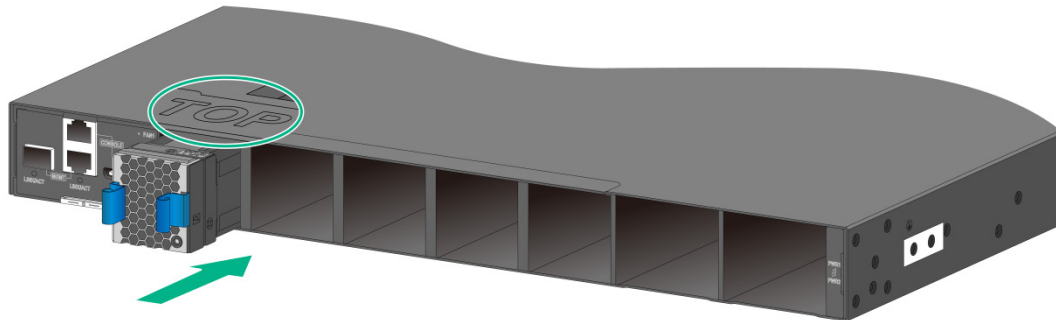
The installation procedure is the same for different models of fan trays.

To install a fan tray:

1. Wear an ESD wrist strap and make sure it makes good skin contact and is reliably grounded.
2. Unpack the fan tray and verify that the fan tray model is correct.

3. Orient the fan tray with the "TOP" mark facing upward. Grasp the handle of the fan tray with one hand and support the fan tray bottom with the other, and slide the fan tray along the guide rails into the slot until the fan tray is fully seated in the slot and has a firm contact with the backplane.

Figure2-26 Installing a fan tray (LSPM1FANSA)



Removing a fan tray

⚠ WARNING!

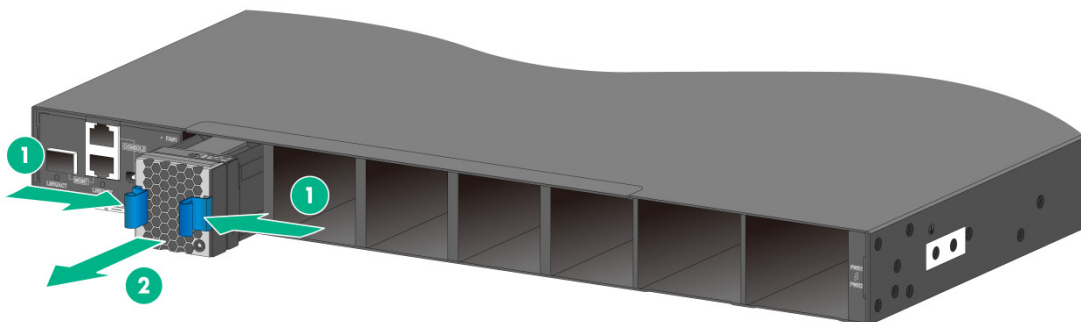
- Ensure electricity safety and never touch the rotating fans when you hot-swap a fan tray.
- To prevent an unbalanced fan from causing loud noise, do not touch the fans, even if they are not rotating.
- Do not touch any bare wires and terminals on a fan tray.
- Do not place a fan tray in a moist location or let liquid flow into it.
- Contact H3C Support if the circuits or components on a fan tray are faulty. Do not remove any fan tray components.

The removal procedure is the same for different models of fan trays.

To remove a fan tray:

1. Wear an ESD wrist strap and make sure it makes good skin contact and is reliably grounded.
2. Press the fan tray handles towards each other to disengage the fan tray from the chassis. Then pull out the fan tray slowly out of the slot along the guide rails.
3. Place the removed fan tray in an antistatic bag.

Figure2-27 Removing a fan tray (LSPM1FANSA)



Installing and removing a power supply

The switch comes with power supply slot PWR1 empty and power supply slot PWR2 installed with a filler panel. As a best practice, install two power supplies of the same model for the switch.

Select power supplies for the switch as required. For the power supplies available for the switch and their specifications, see *H3C S6805 Switch Series Hardware Information and Specifications*.

Precautions

- Provide a separate circuit breaker for each power supply.
- Do not install power supplies of different model on the same switch.
- To avoid device damage and body injury, strictly follow procedures in [Figure2-28](#) and [Figure2-29](#) to install and remove a power supply, respectively.

Figure2-28 Installation procedure

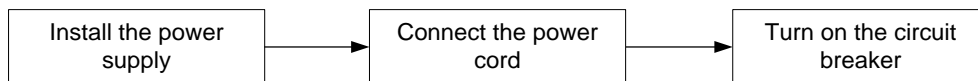
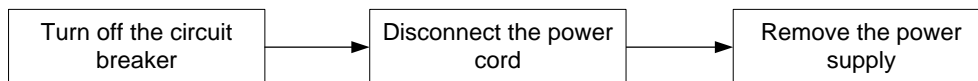


Figure2-29 Removal procedure



- If a power supply slot is empty, install a filler panel in it to ensure adequate heat dissipation.

Installing a power supply

The S6805-54HF switch supports PSR250-12A, PSR250-12A1, PSR450-12A, PSR450-12A1, PSR450-12AHD, and PSR450-12D power supplies.

The S6805-54HT switch supports PSR450-12A, PSR450-12A1, PSR450-12AHD, and PSR450-12D power supplies.

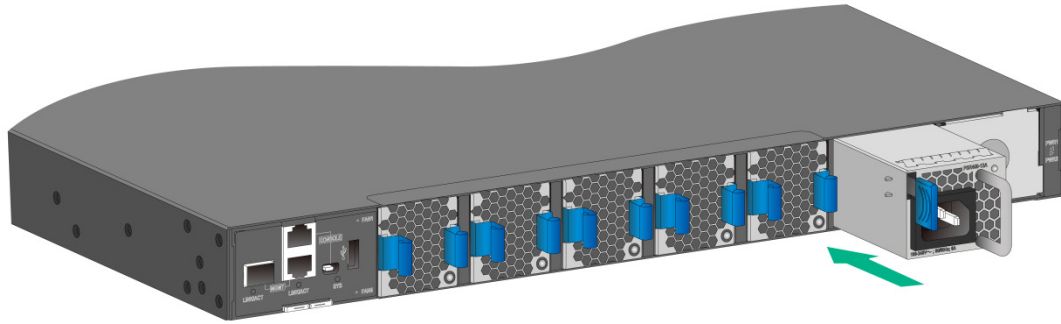
The installation procedure is the same for different models of power supplies. The following procedure installs a PSR450-12A power supply on an S6805-54HF switch.

To install a power supply:

1. Wear an ESD wrist strap and make sure it makes good skin contact and is reliably grounded.
2. Unpack the power supply and verify that the power supply model is correct.
3. Correctly orient the power supply with the lettering on it upward. Grasp the handle of the power supply with one hand and support its bottom with the other, and slide the power supply slowly along the guide rails into the slot. Make sure the power supply has good contact with the backplane.

To prevent connector damages, insert the power supply gently. The power supply and power supply slot have disorientation rejection designs. If you encounter a hard resistance while inserting the power supply, pull out the power supply and insert it again.

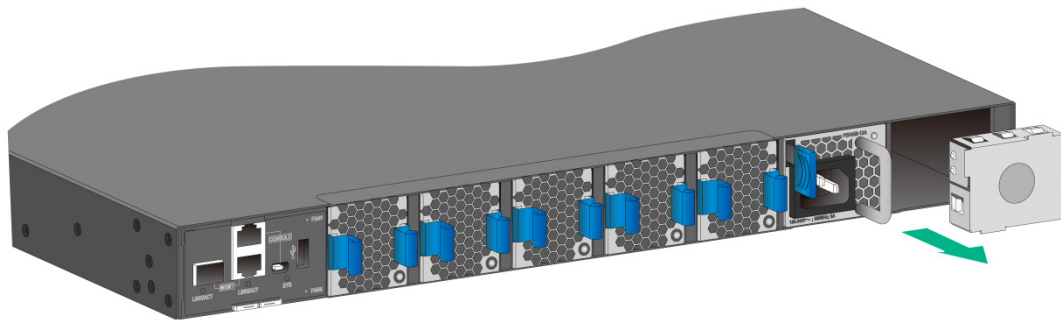
Figure2-30 Installing a power supply



! IMPORTANT:

If the target power supply slot has a filler panel installed, first remove the filler panel from the slot (as shown [Figure2-31](#)).

Figure2-31 Removing the filler panel from a power supply slot



Removing a power supply

⚠ CAUTION:

When the switch has two power supplies in 1+1 redundancy mode, removing one power supply does not affect the operation of the switch. When the switch has only one power supply installed, removing the power supply powers off the switch.

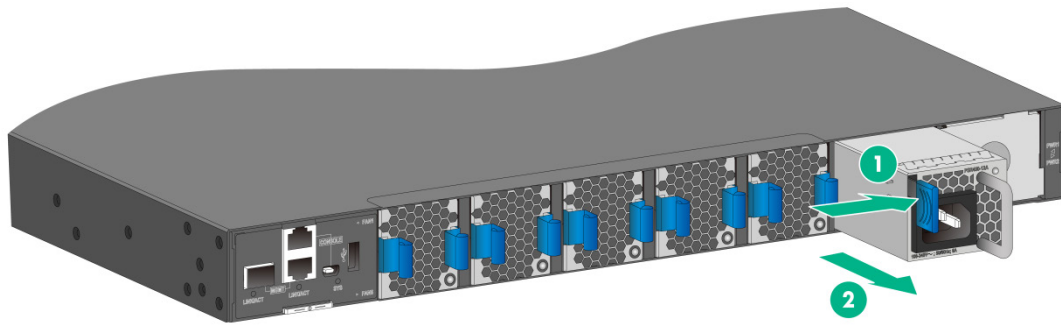
Removing a PSR250-12A/PSR250-12A1/PSR450-12A/PSR450-12A1 power supply

The removal procedure is the same for the PSR250-12A, PSR250-12A1, PSR450-12A, and PSR450-12A1 power supplies. The following procedure removes a PSR450-12A power supply from an S6805-54HF switch.

To remove a PSR450-12A power supply:

1. Wear an ESD wrist strap and make sure it makes good skin contact and is reliably grounded.
2. Remove the power cord.
3. Hold the handle on the power supply with one hand, pivot the latch on the power supply to the right with your thumb, and pull the power supply part way out of the slot, as shown in [Figure2-32](#).
4. Supporting the power supply bottom with one hand, slowly pull the power supply out with the other hand.
5. Place the removed power supply in an antistatic bag for future use.

Figure2-32 Removing a PSR450-12A power supply



(1) Pivot the latch to the right with your thumb

(2) Pull the power supply out

Removing a PSR450-12AHD power supply

The following procedure removes a PSR450-12AHD power supply from an S6805-54HF switch.

To remove a PSR450-12AHD power supply:

1. Wear an ESD wrist strap and make sure it makes good skin contact and is reliably grounded.
2. Remove the power cord from the power supply.
 - a. Release the locking tab on the cable clamp and then open the cable clamp (see [Figure2-33](#)).
 - b. Remove the power cord connector from the power supply (see [Figure2-34](#)).

Figure2-33 Opening the cable clamp

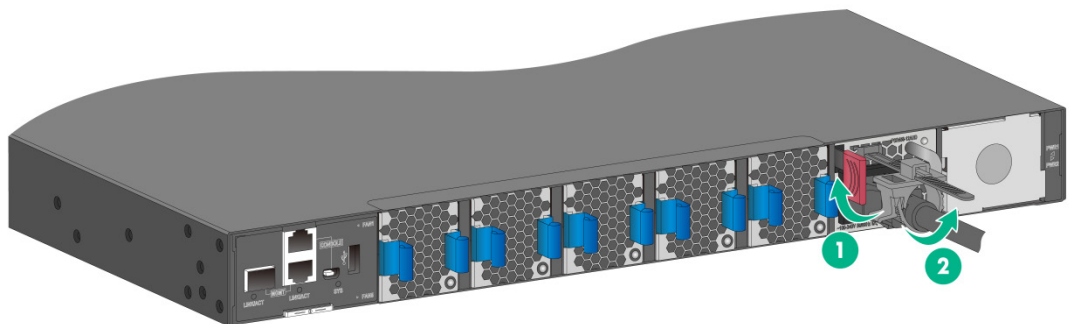
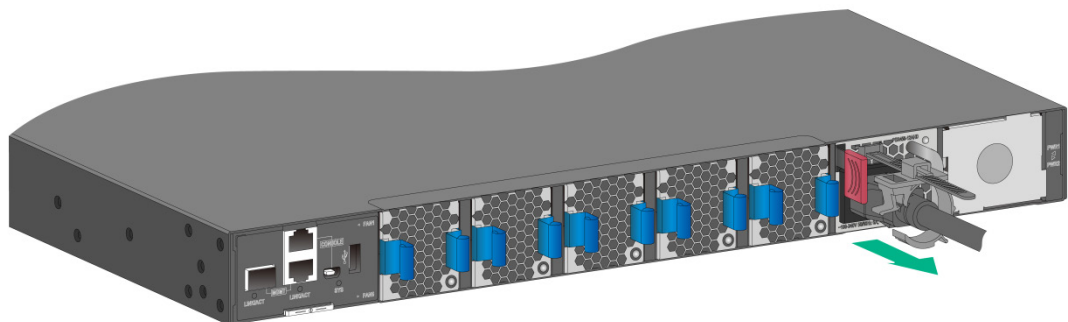


Figure2-34 Removing the power cord from the power supply



3. Hold the handle of the power supply with one hand, press the latch on the power supply to the right with your thumb, and simultaneously pull the power supply part way out of the slot. Supporting the power supply bottom with the other hand, slowly pull the power supply out of the slot along the guide rails.

4. Put the removed power supply in an antistatic bag for future use.

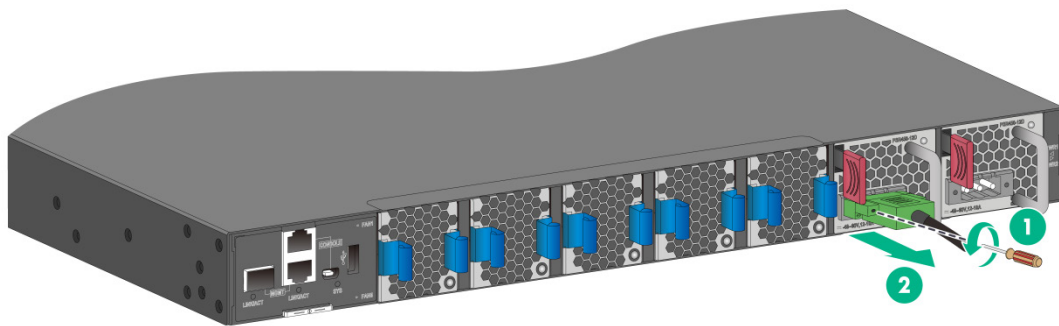
Removing a PSR450-12D DC power supply

The following procedure removes a PSR450-12D power supply from an S6805-54HT switch.

To remove a PSR450-12D power supply:

1. Wear an ESD wrist strap and make sure it makes good skin contact and is reliably grounded.
2. Use a flat-head screwdriver to loosen the screws on the power cord connector, and then pull the connector out to remove the power cord. See [Figure2-35](#).
3. Hold the handle on the power supply with one hand, pivot the latch on the power supply to the right with your thumb, and simultaneously pull the power supply part way out of the slot. Supporting the power supply bottom with the other, slowly pull the power supply out of the slot. See [Figure2-32](#).
4. Put the removed power supply in an antistatic bag.

Figure2-35 Removing a PSR450-12D power supply



(1) Use a flat-head screwdriver to loosen the screws on the power cord connector

(2) Pull the power cord connector out

Connecting the power cord

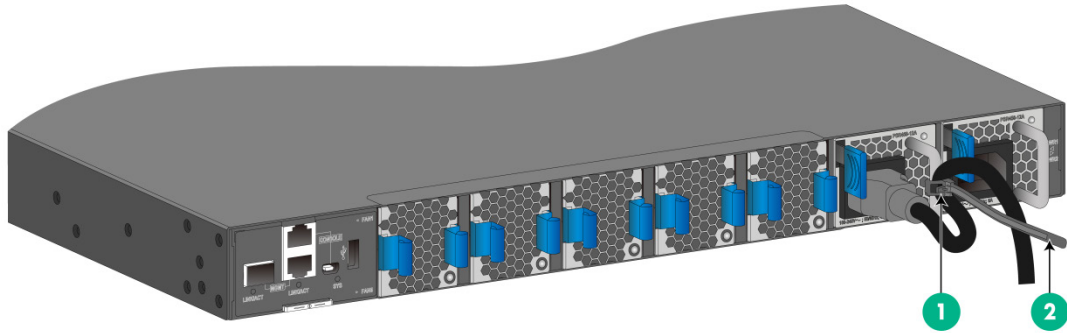
⚠ WARNING!

Provide a circuit breaker for each power input. When you connect a power cord, make sure the circuit breaker is switched off.

Connecting the power cord for a PSR250-12A/PSR250-12A1/PSR450-12A/PSR450-12A1 power supply

1. Insert the female connector of the power cord supplied with the power supply into the power receptacle on the power supply.
2. Use a releasable cable tie to secure the power cord to the handle of the power supply, as shown in [Figure2-36](#).
3. Connect the other end of the power cord to an AC or DC power source.

Figure2-36 Connecting the power cord (PSR450-12A power supply)



(1) Releasable cable tie

(2) Fasten the cable tie to secure the power cord to the handle of the power supply

Connecting the power cord for a PSR450-12AHD power supply

1. Slide the cable clamp onto the tie mount on the power supply, as shown in [Figure2-37](#).
2. Connect the female connector of the power cord to the power receptacle on the power supply, as shown in [Figure2-38](#)
3. Close the cable clamp and slide it forward until it is flush against the edge of the female connector, as shown in [Figure2-39](#).
4. Connect the other end of the power cord to an AC or DC power source.

Figure2-37 Connecting the power cord for a PSR450-12AHD power supply (1)

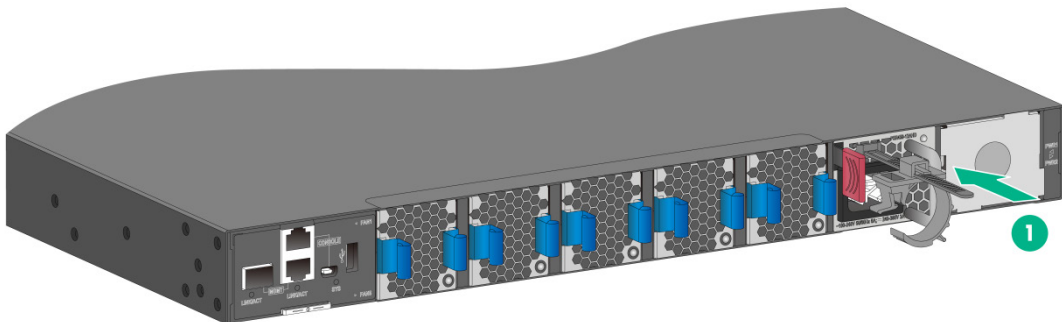


Figure2-38 Connecting the power cord for a PSR450-12AHD power supply (2)

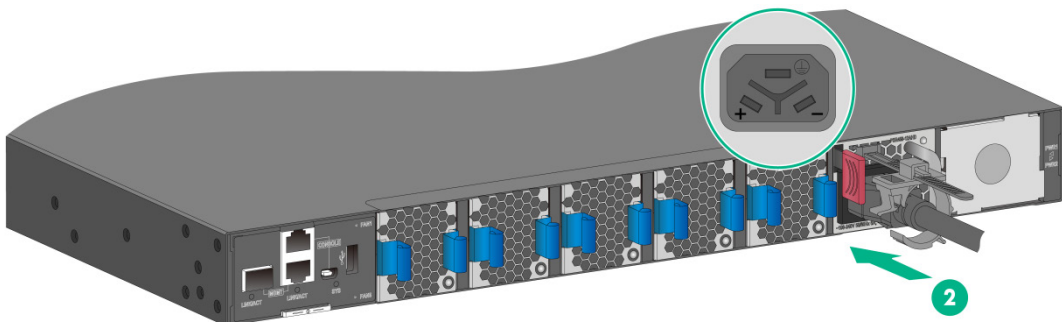
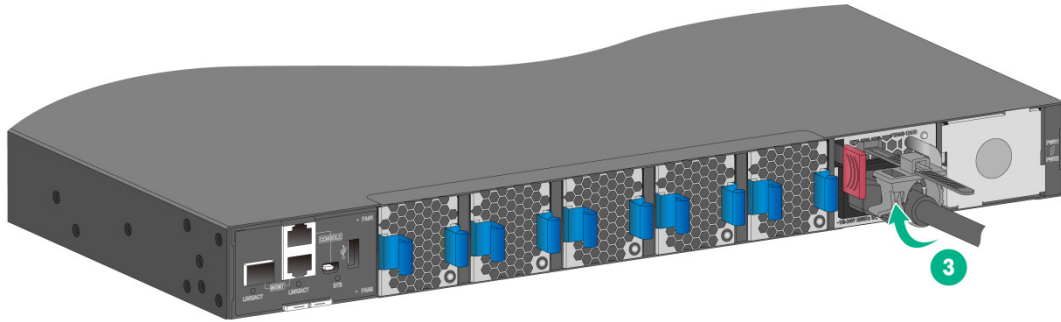


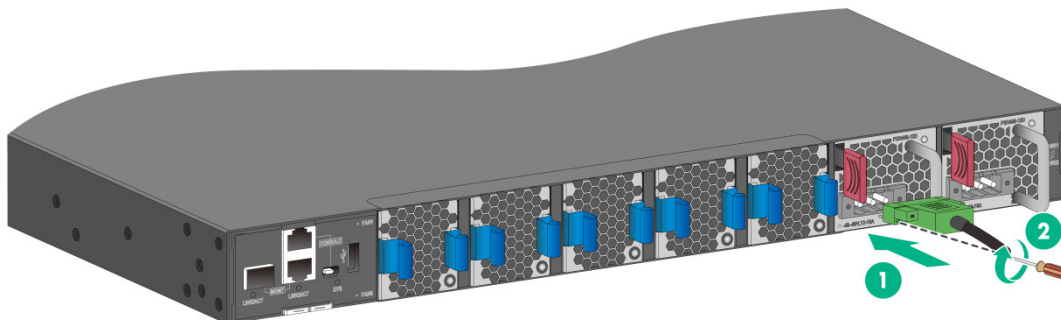
Figure2-39 Connecting the power cord for a PSR450-12AHD power supply (3)



Connecting the DC power cord for a PSR450-12D power supply

1. Correctly orient the DC power cord connector and insert the connector into the power receptacle on the power supply.
If you orient the DC power cord connector upside down, you cannot insert the connector into the power receptacle.
2. Use a flat-head screwdriver to fasten the screws on the power cord connector, as shown in Figure2-40.
3. Connect the other end of the power cord to a DC power source.

Figure2-40 Connecting the DC power cord for a PSR450-12D power supply



If the provided DC power cord cannot meet your connection requirements, use the following table to prepare a suitable copper cable as the DC power cord.

Table2-5 Requirements for a suitable DC power cord

Power supply model	Power cord connector	Minimum cross sectional area of the conductor	Cross sectional area of the provided power cord	Maximum cross sectional area of the conductor
PSR450-12D	Use the connector of the provided power cord	2.1 mm ² or 14 AWG	3.3 mm ² or 12 AWG	3.3 mm ² or 12 AWG

Verifying the installation

After you complete the installation, verify the following items:

- There is enough space for heat dissipation around the switch, and the rack is stable.
- The grounding cable is securely connected.
- The power source is as required by the switch.
- The power cords are correctly connected.
- All the interface cables are cabled indoors. The switch does not support outdoor cable routing.

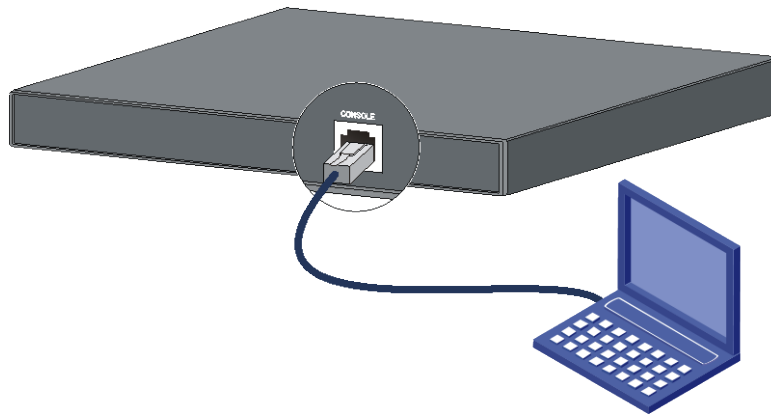
3 Accessing the switch for the first time

Setting up the configuration environment

You can access the switch from the serial console port or the mini USB console port. As a best practice, use the serial console port to access the switch (the switch is provided with a serial console cable). To access the switch from the mini USB console port, prepare a mini USB console cable yourself.

In the following figure, the switch is connected to a PC from the serial console port.

Figure3-1 Connecting the switch to a terminal from the serial console port



Connecting the serial console cable

A serial console cable is an 8-core cable, with a crimped RJ-45 connector at one end for connecting to the serial console port of the switch, and a DB-9 female connector at the other end for connecting to the serial port on the console terminal.

Figure3-2 Serial console cable

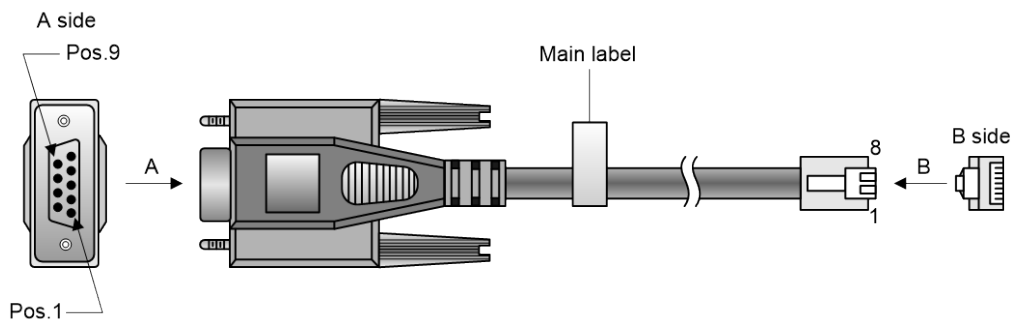


Table3-1 Serial console cable pinout

RJ-45	Signal	DB-9	Signal
1	RTS	8	CTS
2	DTR	6	DSR

RJ-45	Signal	DB-9	Signal
3	TXD	2	RXD
4	SG	5	SG
5	SG	5	SG
6	RXD	3	TXD
7	DSR	4	DTR
8	CTS	7	RTS

To connect the switch to a terminal (for example, a PC) by using the serial console cable:

1. Plug the DB-9 female connector of the serial console cable to the serial port of the PC.
2. Connect the RJ-45 connector to the serial console port of the switch.

NOTE:

- Identify the mark on the console port and make sure you are connecting to the correct port.
 - The serial ports on PCs do not support hot swapping. To connect a PC to an operating switch, first connect the PC end. To disconnect a PC from an operating switch, first disconnect the switch end.
-

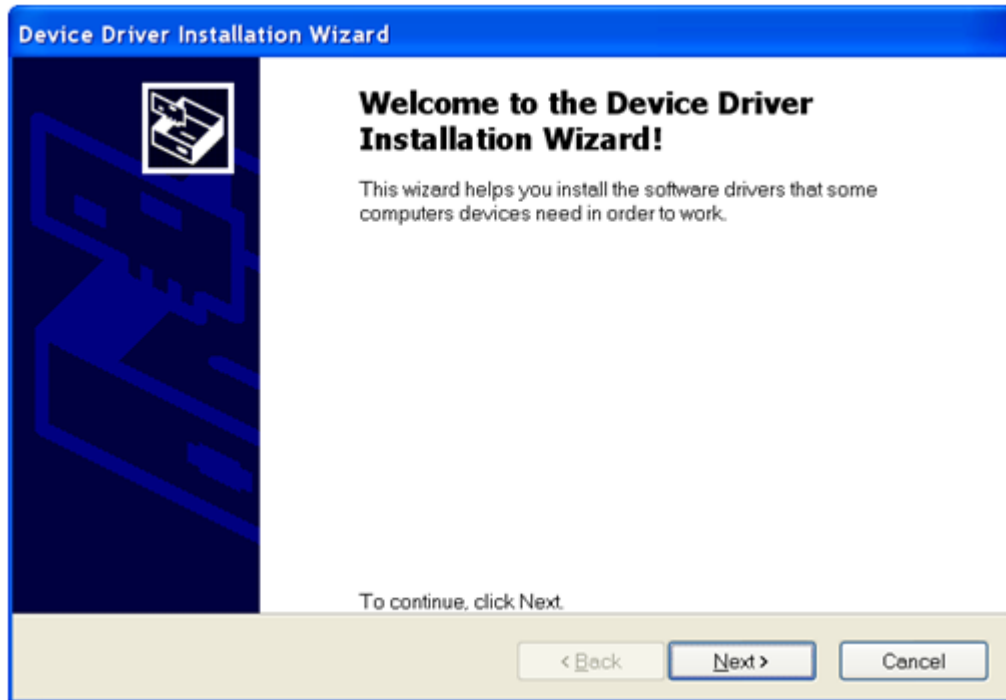
Connecting a mini USB console cable

A USB mini console cable has a USB mini-Type B connector at one end to connect to the Mini USB console port of the switch, and a standard USB Type A connector at the other end to connect to the USB port on the configuration terminal.

To connect the switch to a configuration terminal by using a USB mini console cable:

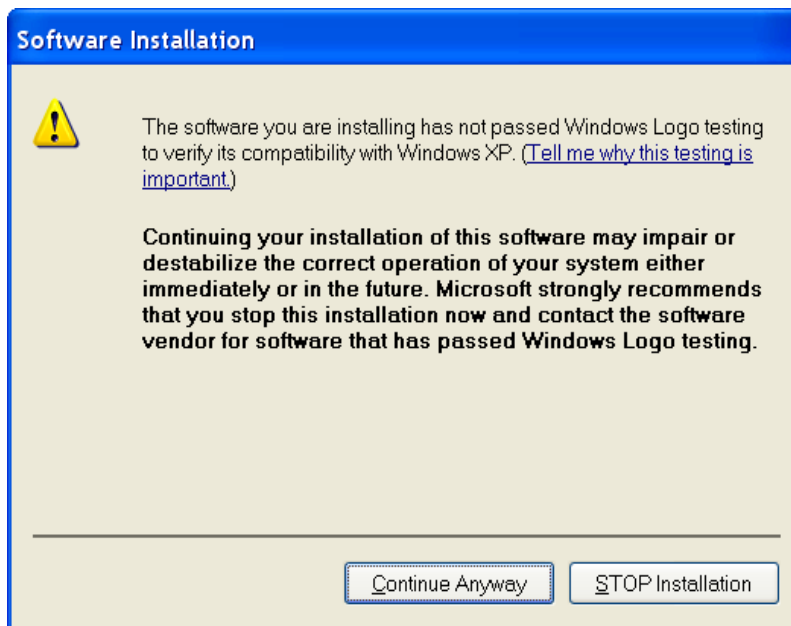
1. Connect the standard USB Type A connector to the USB port on the configuration terminal.
2. Connect the USB mini Type B connector to the Mini USB console port on the switch.
3. Click http://www.h3c.com/en/home/USB_Console/, or copy it to the address bar on the browser to log in to download page of the USB console driver, and download the driver.
4. [Select a driver program according to the operating system you use:](#)
 - **XR21V1410_XR21B1411_Windows_Ver1840_x86_Installer.EXE**—32-bit operating system.
 - **XR21V1410_XR21B1411_Windows_Ver1840_x64_Installer.EXE**—64-bit operating system.
5. Click **Next** on the installation wizard.

Figure3-3 Device Driver Installation Wizard



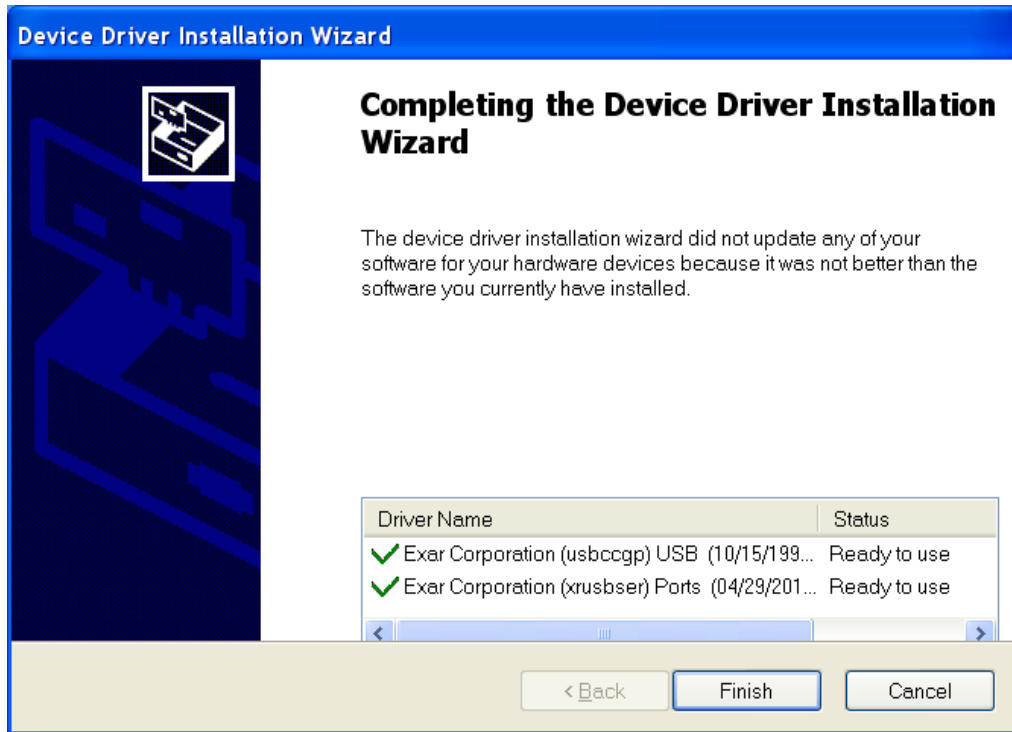
6. Click **Continue Anyway** if the following dialog box appears.

Figure3-4 Software Installation



7. Click **Finish**.

Figure3-5 Completing the device driver installation wizard



Setting terminal parameters

To configure and manage the switch through the serial console port or mini USB console port, you must run a terminal emulator program, TeraTermPro or PuTTY, on your configuration terminal. You can use the emulator program to connect a network device, a Telnet site, or an SSH site. For more information about the terminal emulator programs, see the user guides for these programs

Configure the terminal parameters as follows:

- **Bits per second**—9600.
- **Data bits**—8.
- **Stop bits**—1.
- **Parity**—None.
- **Flow control**—None.

Starting the switch

1. Before powering on the switch, verify that the following requirements are met:
 - The power cords are correctly connected.
 - The input power voltage meets the requirement of the switch.
 - The console cable is correctly connected.
 - The configuration terminal (a PC, for example) has started, and the parameters are set correctly.
2. Power on the switch.

During the startup process, you can access Boot ROM menus to perform tasks such as software upgrade and file management. The Boot ROM interface and menu options vary by

software versions. For more information about Boot ROM menu options, see the software-matching release notes for the device.

3. After the startup completes, you can access the CLI to configure the switch.

For more information about the configuration commands and CLI, see *H3C S6805 & S6825 & S6850 & S9850 Switch Series Configuration Guides* and *H3C S6805 & S6825 & S6850 & S9850 Switch Series Command References*.

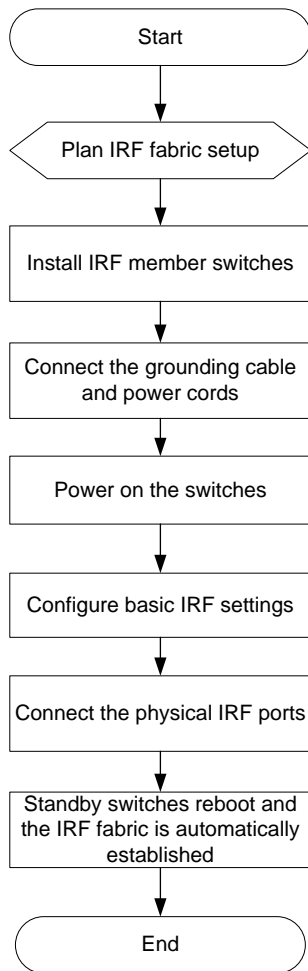
4 Setting up an IRF fabric

You can use H3C IRF technology to connect and virtualize S6805 switches into a large virtual switch called an "IRF fabric" for flattened network topology, and high availability, scalability, and manageability.

The switch can set up an IRF fabric only with switches from the same switch series.

IRF fabric setup flowchart

Figure4-1 IRF fabric setup flowchart



To set up an IRF fabric:

Step	Description
1. Plan IRF fabric setup.	Plan the installation site and IRF fabric setup parameters: <ul style="list-style-type: none">• Planning IRF fabric size and the installation site• Identifying the master switch and planning IRF member IDs• Planning IRF topology and connections• Identifying physical IRF ports on the member switches

Step	Description
	<ul style="list-style-type: none"> Planning the cabling scheme
2. Install IRF member switches.	See "Installing the switch in a 19-inch rack."
3. Connect ground wires and power cords.	See "Grounding the switch by using a grounding strip" and "Connecting the power cord."
4. Power on the switches.	N/A
5. Configure basic IRF settings.	See IRF configuration in <i>H3C S6805 & S6825 & S6850 & S9850 Switch Series Virtual Technologies Configuration Guide</i> .
6. Connect the physical IRF ports.	<p>Connect the physical IRF ports on switches by using QSFP28 transceiver modules and fibers, QSFP28 fiber cables, QSFP 28 copper cables, QSFP+ transceiver modules and fibers, QSFP+ fiber cables, or QSFP+ copper cables.</p> <p>All switches except the master switch automatically reboot, and the IRF fabric is established.</p>

Planning IRF fabric setup

This section describes issues that an IRF fabric setup plan must cover.

Planning IRF fabric size and the installation site

Choose switch models and identify the number of required IRF member switches, depending on the user density and upstream bandwidth requirements. The switching capacity of an IRF fabric equals the total switching capacities of all member switches.

Plan the installation site depending on your network solution as follows:

- Place all IRF member switches in one rack for centralized high-density access.
- Distribute the IRF member switches in different racks to implement the top-of-rack (ToR) access solution for a data center.

As your business grows, you can add member switches into the IRF fabric to increase the switching capacity without any topology change or replacement.

Identifying the master switch and planning IRF member IDs

Determine which switch you want to use as the master for managing all member switches in the IRF fabric. An IRF fabric has only one master switch. You configure and manage all member switches in the IRF fabric at the command line interface of the master switch.

NOTE:

IRF member switches will automatically elect a master. You can affect the election result by assigning a high member priority to the intended master switch. For more information about master election, see IRF configuration in *H3C S6805 & S6825 & S6850 & S9850 Switch Series Virtual Technologies Configuration Guide*.

Prepare an IRF member ID assignment scheme. An IRF fabric uses member IDs to uniquely identify and manage its members, and you must assign each IRF member switch a unique member ID.

Planning IRF topology and connections

You can create an IRF fabric in daisy chain topology, or more reliably, ring topology. In ring topology, the failure of one IRF link does not cause the IRF fabric to split as in daisy chain topology. Rather, the IRF fabric changes to a daisy chain topology without interrupting network services.

You connect the IRF member switches through IRF ports, the logical interfaces for the connections between IRF member switches. Each IRF member switch has two IRF ports: IRF-port 1 and IRF-port 2. To use an IRF port, you must bind at least one physical port to it.

When connecting two neighboring IRF member switches, you must connect the physical ports of IRF-port 1 on one switch to the physical ports of IRF-port 2 on the other switch.

The IRF port connections in the two figures are for illustration only, and more connection methods are available.

Figure4-2 IRF fabric in daisy chain topology

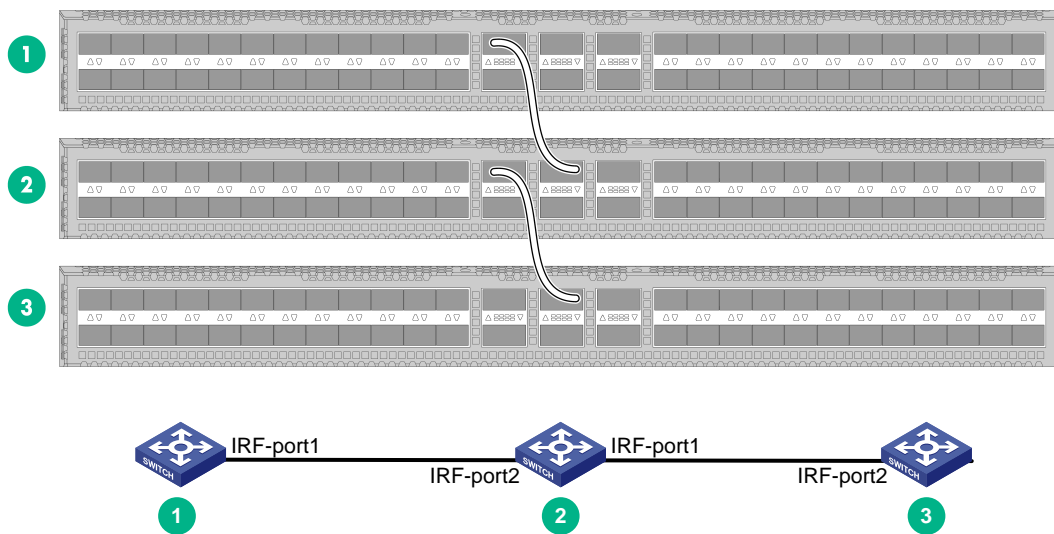
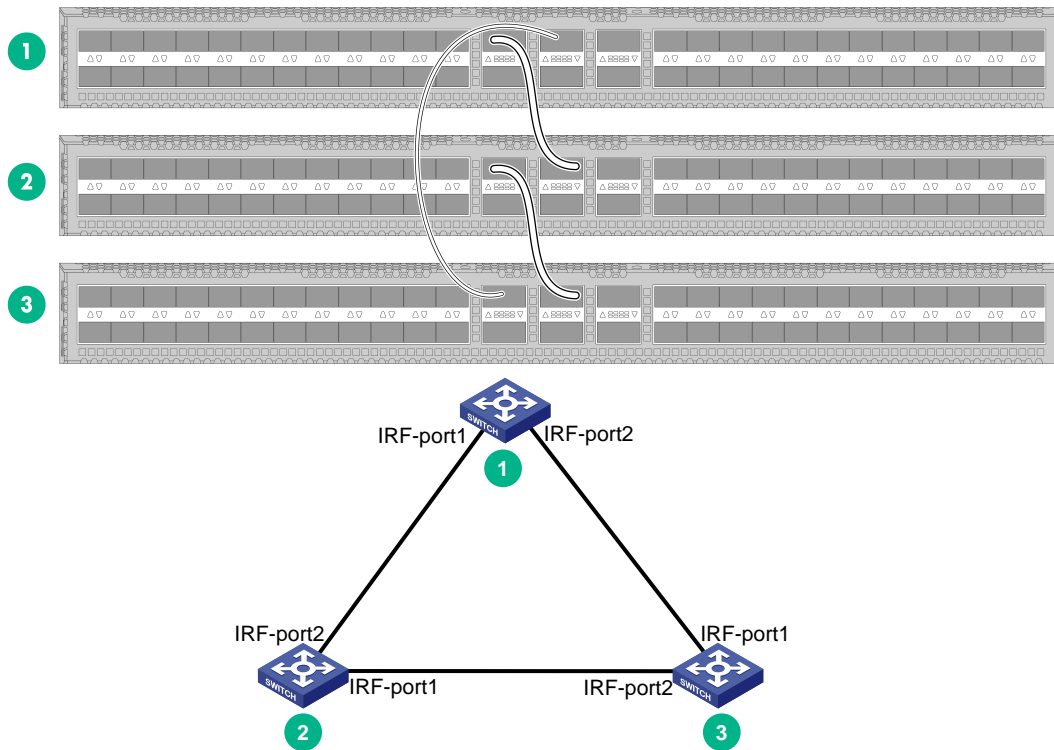


Figure4-3 IRF fabric in ring topology



You can set up 100/40-GE IRF physical connections by connecting only QSFP28 ports between S6805 switches.

You can bind several ports to an IRF port for increased bandwidth and availability.

Identifying physical IRF ports on the member switches

Identify the QSFP28 ports for IRF connections on the member switches according to your topology and connection scheme.

All the QSFP28 ports on the switch can be used for IRF connections.

Planning the cabling scheme

You can use only QSFP28 transceiver modules and optical fibers, QSFP28 fiber cables, QSFP28 copper cables, QSFP transceiver modules and optical fibers, QSFP fiber cables, or QSFP copper cables to connect the switches for IRF connections.

If the IRF member switches are far away from one another, choose QSFP+/QSFP28 transceiver modules and optical fibers. If the IRF member switches are all in one equipment room, use QSFP/QSFP28 copper or fiber cables. For more information about transceiver modules and cables available for the switch, see *H3C S6805 Switch Series Hardware Information and Specifications*.

The following subsections describe several H3C recommended IRF connection schemes by using QSFP28 transceiver modules and optical fibers, QSFP28 copper cables, and QSFP28 fiber cables. All these schemes use a ring topology.

Connecting the IRF member switches in one rack

Figure4-4 shows an example for connecting four IRF member switches in a rack. The switches in the ring topology (see Figure4-5) are in the same order as connected in the rack.

Figure4-4 Connecting the switches in one rack

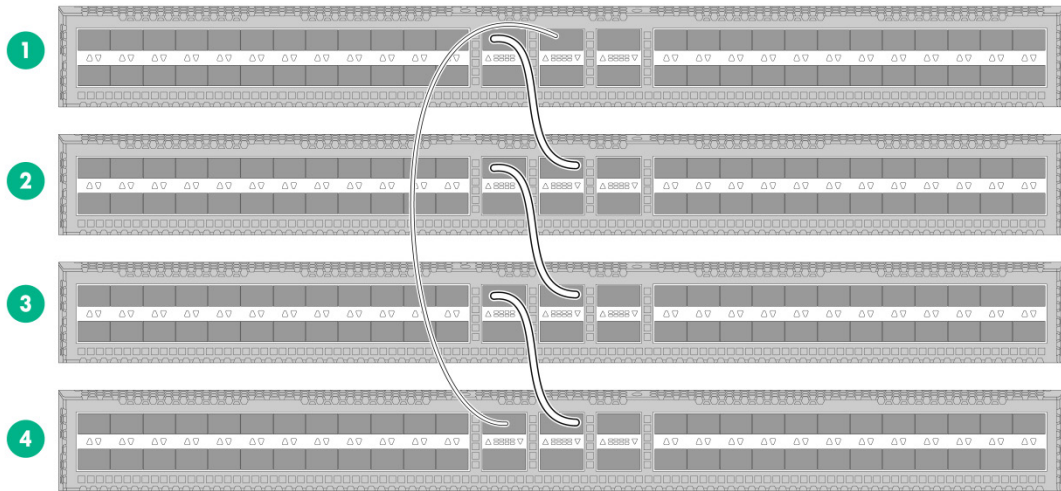
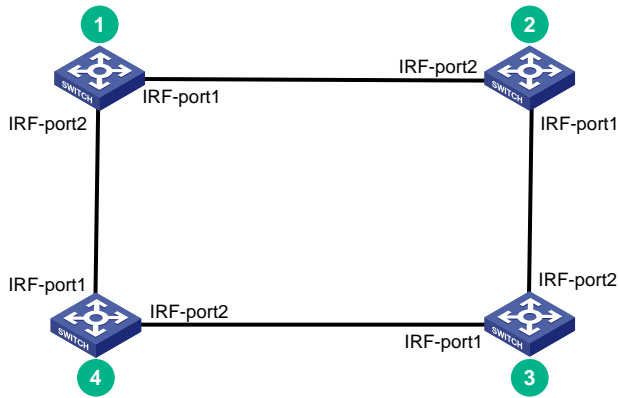


Figure4-5 IRF fabric topology

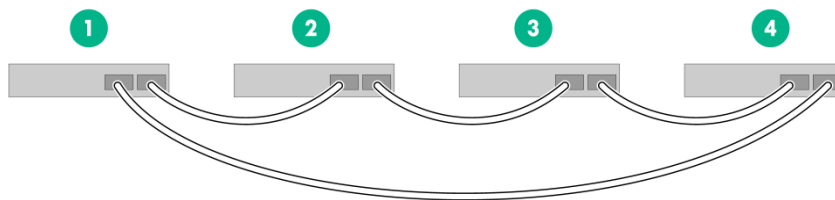


Connecting the IRF member switches in a ToR solution

You can install IRF member switches in different racks side by side to deploy a top of rack (ToR) solution.

Figure4-6 shows an example for connecting four top of rack IRF member switches by using QSFP28 cables and QSFP28 transceiver modules and optical fibers. The topology is the same as Figure4-5.

Figure4-6 ToR cabling



Configuring basic IRF settings

After you install the IRF member switches, power on the switches and then log in to each IRF member switch to configure basic IRF settings, including their member IDs, member priorities, and IRF port bindings.

For the approaches to accessing the switch, see login management in *H3C S6805 & S6825 & S6850 & S9850 Switch Series Fundamentals Configuration Guide*.

For information about configuring IRF settings, see IRF configuration in *H3C S6805 & S6825 & S6850 & S9850 Switch Series Virtual Technologies Configuration Guide*.

Connecting the physical IRF ports

CAUTION:

Wear an ESD wrist strap when you connect fiber or copper cables or transceiver modules and optical fibers. For more information, see the installation guide for the transceiver modules and cables.

Use fiber or copper cables or transceiver modules and optical fibers to connect the IRF member switches as planned.

Accessing the IRF fabric to verify the configuration

To verify the basic functionality of the IRF fabric:

1. Log in to the IRF fabric through the console port of any member switch.
2. Create a Layer 3 interface, assign it an IP address, and make sure the IRF fabric and the remote network management station can reach each other.
3. Use Telnet or SNMP to access the IRF fabric from the network management station. For more information about the accessing method, see login management in *H3C S6805 & S6825 & S6850 & S9850 Switch Series Fundamentals Configuration Guide*.
4. Display the running status of the IRF fabric by using the commands in [Table4-1](#).

Table4-1 Displaying and maintaining IRF configuration and running status

Task	Command
Display information about the IRF fabric.	<code>display irf</code>
Display all members' IRF configurations.	<code>display irf configuration</code>
Display IRF fabric topology information.	<code>display irf topology</code>

NOTE:

To avoid IP address collision and network issues, configure at least one multi-active detection (MAD) mechanism to detect the presence of multiple identical IRF fabrics and handle collisions. For more information about MAD detection, see *H3C S6805 & S6825 & S6850 & S9850 Switch Series Virtual Technologies Configuration Guide*.

5 Maintenance and troubleshooting

Power supply failure

Symptom

The status LED on a power supply is not steady green (active state) or flashing green (standby state).

You can use the status LED on a power supply to identify a power supply failure. For more information about the status LED on a power supply, see *H3C PSR250-12A & PSR250-12A1 Series Power Modules User Manual* and *H3C PSR450 Power Module Series User Manual*.

Solution

To resolve the issue:

1. Verify that the power cord is correctly connected.
2. Verify that the power source is as required by the power supply.
3. Verify that the operating temperature of the switch is in an acceptable range and good ventilation is provided for the power supply.
4. If the issue persists, contact H3C Support

To replace a power supply, see "[Installing and removing a power supply](#)."

Fan tray failure

△ CAUTION:

If more than one fan tray fails during the switch operation, do not remove the failed fan trays simultaneously. Replace the fan trays one by one and finish replacing each fan tray within 3 minutes.

Symptom

The status LED on a fan tray is steady on and the system outputs a message that indicates a fan tray failure.

Solution

See "[Installing and removing a fan tray](#)" to replace the failed fan tray.

Configuration terminal display issues

No display on the configuration terminal

Symptom

The configuration terminal does not have display when the switch is powered on.

Solution

To resolve the issue:

1. Verify that the power system is operating correctly.
2. Verify that the console cable has been connected correctly and the console cable is in good condition.
3. Verify that terminal parameter settings are correct:
 - **Baud rate**—9600.
 - **Data bits**—8.
 - **Stop bits**—1.
 - **Parity**—None.
 - **Flow control**—None.
4. If the issue persists, contact H3C Support.

Garbled display on the configuration terminal

Symptom

The configuration terminal displays garbled text when the switch is powered on.

Solution

To resolve the issue:

1. Verify that the terminal parameter settings are correct:
 - **Baud rate**—9600.
 - **Data bits**—8.
 - **Stop bits**—1.
 - **Parity**—None.
 - **Flow control**—None.
2. If the issue persists, contact H3C Support.