

EX4300 Switch Quick Start

Juniper Networks EX4300 Ethernet Switches provide connectivity for high-density environments and scalability for growing networks. These switches can be deployed wherever you need high density of Gigabit Ethernet ports or redundancy. Typically, EX4300 switches are used in large branch offices, campus wiring closets, and data centers. In data centers, EX4300 switches can be positioned as top-of-rack switches—the top devices in a rack—to provide connectivity for all the devices in the rack and provide options for optimized airflow (hot aisle/cold aisle).

The 48-port EX4300 switches with multigigabit ports—EX4300-48MP and EX4300-48MP-S—provide 24 built-in 10/100/1000BASE-T Ethernet network ports, 24 built-in 100/1000/2500/5000/10000BASE-T Ethernet network ports, and four built-in 40-Gigabit Ethernet quad small form-factor pluggable plus (QSFP+) ports that can house 40-Gigabit QSFP+ transceivers. The 24 built-in 10/100/1000BASE-T Ethernet network ports support 10 Mbps, 100 Mbps, and 1 Gbps speeds. The 24 built-in 100/1000/2500/5000/10000BASE-T Ethernet network ports support 100 Mbps, 1 Gbps, 2.5 Gbps, 5 Gbps, and 10 Gbps speeds. All network ports are equipped for PoE+ and provide up to 95 watts of power. The QSFP+ ports are configured as Virtual Chassis Ports (VCPs) by default. You can use them to connect the switches to other devices in a Virtual Chassis configuration.

EX4300 switches support two power supplies, installed on the rear panel. The cooling system in an EX4300 switch consists of two fan modules, installed on the rear panel, and a single fan in each power supply.

Tools and Parts Required for Installation



NOTE: See the complete hardware documentation at https://www.juniper.net/documentation/en_US/release-independent/junos/information-products/pathway-pages/ex-series/ex4300/ex4300.html.

To mount a Juniper Networks EX4300 Ethernet Switch on two posts of a rack, you need:

- Two mounting brackets and eight mounting screws—provided
- Screws to secure the chassis to the rack or cabinet—not provided
- Phillips (+) screwdriver, number 2—not provided
- Electrostatic discharge (ESD) grounding strap—not provided
- Fan module—if not already installed

To connect the switch to earth ground, you need:

- A grounding cable (minimum 14 AWG (2 mm²), minimum 90° C wire, or as permitted by the local code), a grounding lug (Panduit LCC10-14BWL or equivalent), a pair of 10-32 x .25-in. screws with #10 split-lock washers, and a pair of #10 flat washers—none provided

To connect power to the switch, you need:

- For models that are powered by AC power—An AC power supply (if not already installed), an AC power cord with a plug appropriate for your geographical location, and a power cord retainer



- For models that are powered by DC power—A DC power supply (if not already installed) and DC power source cables (12-14-AWG—not provided) with ring lugs (Molex 0190700067 or equivalent—not provided) attached



NOTE: EX4300-24T, EX4300-24P, EX4300-32F, EX4300-48T, EX4300-48T-AFI, EX4300-48P, EX4300-48MP, and EX4300-48MP-S models do not support DC power. EX4300-24T-S, EX4300-24P-S, EX4300-32F-S, EX4300-32F-DC, EX4300-48T-S, EX4300-48T-DC, EX4300-48T-DC-AFI, and EX4300-48P-S models support DC power.

To perform initial configuration of the switch, you need:

- An Ethernet cable with an RJ-45 connector attached—provided
- An RJ-45 to DB-9 serial port adapter—provided
- A management host, such as a PC, with an Ethernet port—not provided

Power supplies and fan modules for EX4300-24T-S, EX4300-24P-S, EX4300-32F-S, EX4300-48T-S, EX4300-48P-S, and EX4300-48MP-S switches are not shipped by default; you must order them separately.

Register product serial numbers on the Juniper Networks website and update the installation base data if there is any addition or change to the installation base or if the installation base is moved. Juniper Networks will not be held accountable for not meeting the hardware replacement service-level agreement for products that do not have registered serial numbers or accurate installation base data.

Register your product at <https://tools.juniper.net/svcreg/SRegSerialNum.jsp>.

Update your install base at <https://www.juniper.net/customers/csc/management/updateinstallbase.jsp>.

The fan modules and the power supply modules in the EX4300 switches are hot-removable and hot-insertable field-replaceable units (FRUs) installed in the rear panel of the switch. You can remove and replace them without powering off the switch or disrupting switch functions.



CAUTION:

Do not mix:

- AC and DC power supplies in the same chassis.
- Power supplies and fan modules with different airflow labels (AIR IN (AFI) and AIR OUT (AFO)) in the same chassis.



WARNING: Ensure that you understand how to prevent ESD damage. Wrap and fasten one end of an ESD wrist strap around your bare wrist, and connect the other end of the strap to the ESD point on the switch.



NOTE: Power supplies and fan modules must have the same airflow direction (all AFI or all AFO). The AIR IN (AFI) and AIR OUT (AFO) labels on the power supplies must match the AIR IN (AFI) and AIR OUT (AFO) labels, respectively, on the fan modules.

Part 1: Install a Power Supply (If It Is Not Installed)



NOTE: Each power supply must be connected to a dedicated power source outlet. The power supply slots are on the rear panel.

EX4300-24T, EX4300-24P, EX4300-32F, EX4300-48T, EX4300-48T-AFI, EX4300-48P, EX4300-48MP, and EX4300-48MP-S models do not support DC power. EX4300-24T-S, EX4300-24P-S, EX4300-32F-S, EX4300-32F-DC, EX4300-48T-S, EX4300-48T-DC, EX4300-48T-DC-AFI, and EX4300-48P-S models support DC power.

To install a power supply (see [Figure 1](#), [Figure 2](#), and [Figure 3](#)):

Figure 1: Installing an AC Power Supply in EX4300 Switches Except EX4300-48MP and EX4300-48MP-S

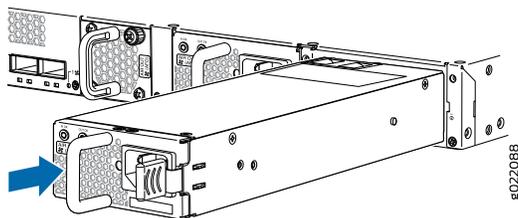


Figure 2: Installing an AC Power Supply in EX4300-48MP and EX4300-48MP-S

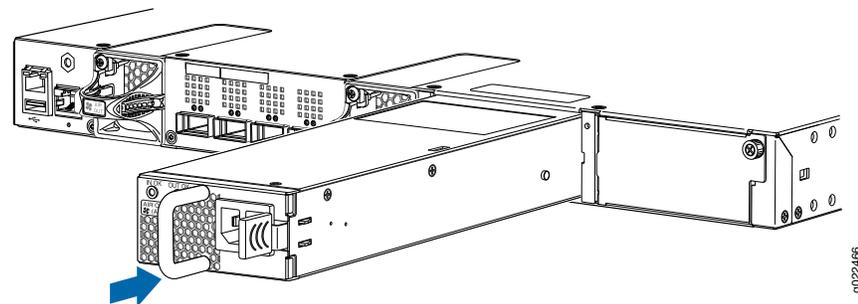
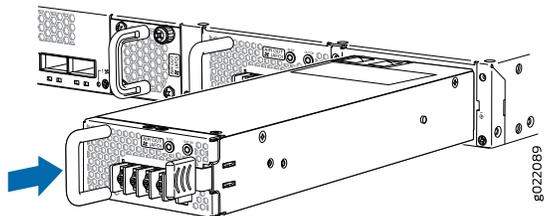


Figure 3: Installing a DC Power Supply in EX4300 Switches Except EX4300-48MP and EX4300-48MP-S



1. If the power supply slot has a cover panel on it, loosen the captive screws on the cover panel by using your fingers or the screwdriver. Hold the screws and gently pull the cover panel outward to remove the cover panel. Save the cover panel for later use.
2. Taking care not to touch power supply pins, leads, or solder connections, remove the power supply from the bag.
3. Using both hands, place the power supply in the power supply slot on the rear panel of the switch and slide it in until the power supply is fully seated and the ejector lever fits into place.

Part 2: Install a Fan Module (If It Is Not Installed)



NOTE: The fan module slots are installed on the rear panel of the switches.

To install a fan module (see [Figure 4](#) and [Figure 5](#)):

Figure 4: Installing a Fan Tray in EX4300 Switches Except EX4300-48MP and EX4300-48MP-S

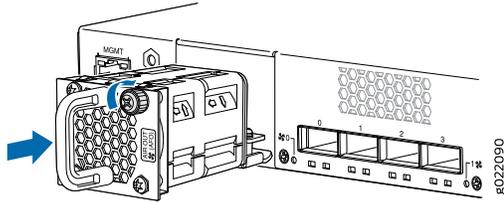
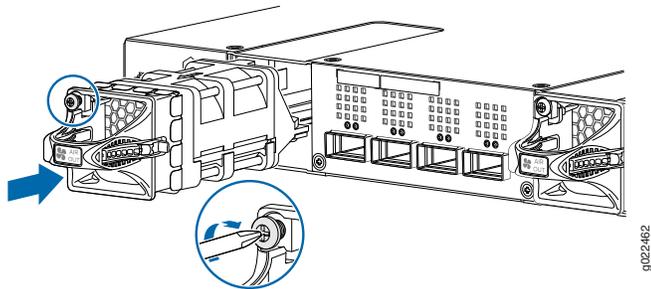


Figure 5: Installing a Fan Tray in EX4300-48MP and EX4300-48MP-S

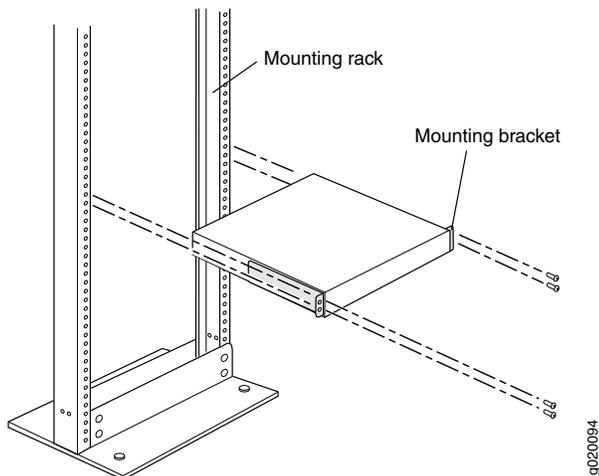


1. Remove the fan module from its bag.
2. Hold the handle of the fan module with one hand and support the weight of the module with the other hand. Place the fan module in the fan module slot on the rear panel of the switch and slide it in until the fan module is fully seated.
3. Tighten the captive screws on the faceplate of the fan module by using your fingers. If you are unable to tighten the screws by using your fingers, use the screwdriver.

Part 3: Mount the Switch on Two Posts of a Rack

You can mount the switch on two posts of a 19-in. rack or cabinet by using the mounting brackets provided with the switch. Two persons are required for this procedure. To mount the switch on two posts of a rack (see [Figure 6](#)):

Figure 6: Mounting the Switch on Two Posts of a Rack



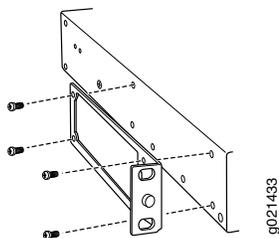
1. Place the rack or cabinet in its permanent location, allowing adequate clearance for airflow and maintenance, and secure it to the building structure.



NOTE: While mounting multiple units on a rack, mount the heaviest unit at the bottom and mount the other units from the bottom to the top in decreasing order of weight.

2. Position the mounting brackets along the side panels of the chassis, aligning them with the front panel side, the rear panel side, or with the center of the side panels depending on how you want to mount the switch (see [Figure 7](#)).

Figure 7: Attaching the Mounting Bracket to the Side Panel of the Chassis



3. Attach the brackets to the chassis by using the mounting screws. Tighten the screws.



NOTE: The switch with one power supply installed in it weighs approximately 15.4 lb (7 kg). Installing the switch requires one person to lift it and a second person to secure it to the rack.

4. Have one person grasp both sides of the switch, lift the switch, and position it in the rack, aligning the mounting bracket holes with the threaded holes in the rack rail. Align the bottom hole in each mounting bracket with a hole in each rail, making sure that the chassis is level.
5. Have the second person secure the chassis to the rack by using appropriate screws. Tighten the screws.

Part 4: Connect Power to the Switch



NOTE: Grounding is required for DC systems and recommended for AC systems. An AC-powered switch gets additional grounding when you plug the power supply in the switch into a grounded AC power outlet by using the power cord.



NOTE: The power supply slots are on the rear panel.

To connect power to an EX4300 switch powered by AC power supply (see [Figure 8](#) and [Figure 9](#)):

Figure 8: Connecting Power to an EX4300 Switch Powered by AC Power Supply Except EX4300-48MP and EX4300-48MP-S

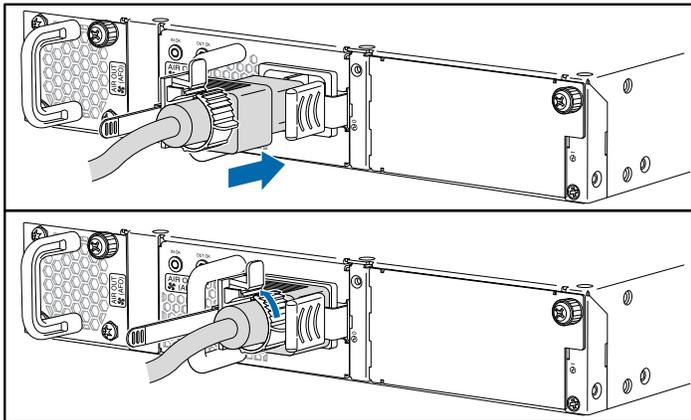
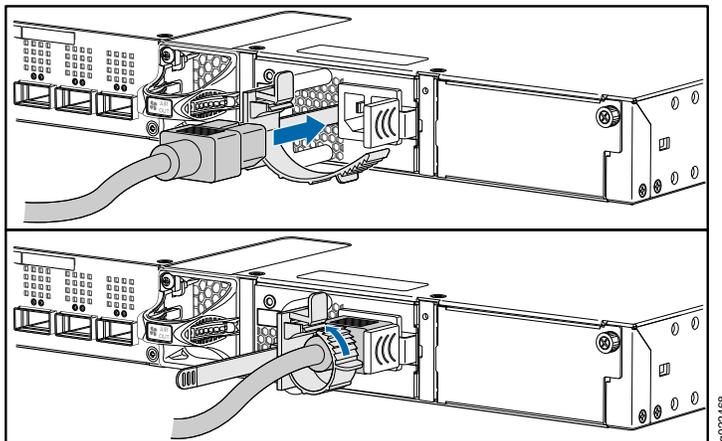


Figure 9: Connecting Power to EX4300-48MP and EX4300-48MP-S



1. Push the end of the retainer strip into the hole next to the inlet on the power supply faceplate until it snaps into place.
2. Press the tab on the retainer strip to loosen the loop. Slide the loop until you have enough space to insert the power cord coupler into the inlet.
3. Insert the power cord coupler firmly into the inlet.
4. Slide the loop toward the power supply until it is snug against the base of the coupler.
5. Press the tab on the loop and draw out the loop into a tight circle.

6. If the AC power source outlet has a power switch, set it to the off position.
7. Insert the power cord plug into the power source outlet.
8. If the AC power source outlet has a power switch, set it to the on position.
9. Verify that the **IN OK** and the **OUT OK** LEDs on the power supply are lit green and on steadily.

To connect power to an EX4300 switch powered by DC power supply:



NOTE: EX4300-24T, EX4300-24P, EX4300-32F, EX4300-48T, EX4300-48T-AFI, EX4300-48P, EX4300-48MP, and EX4300-48MP-S models do not support DC power. EX4300-24T-S, EX4300-24P-S, EX4300-32F-S, EX4300-32F-DC, EX4300-48T-S, EX4300-48T-DC, EX4300-48T-DC-AFI, and EX4300-48P-S models support DC power.

The DC power supply has terminals labeled V+, V-, V-, and V+ for connecting DC power source cables labeled positive (+) and negative (-).



CAUTION: Ensure that you install the power supply first and then connect DC power source cables, before closing the input breaker ON.



WARNING: Ensure that the input circuit breaker is open so that the cable leads will not become active while you are connecting DC power.

1. Connect one end of the grounding cable to a proper earth ground.



CAUTION: A licensed electrician must attach the lug to the grounding cable.

2. Secure the grounding lug over the earthing terminal (located on the left side panel of the chassis) with washers and screws by using an appropriate screwdriver.
3. Remove the terminal block cover. The terminal block cover is a piece of clear plastic that snaps into place over the terminal block.
4. Remove the screws on the terminals by using the screwdriver. Save the screws.
5. Connect each power supply to the power source. Secure power source cables to the power supplies by screwing the ring lugs attached to the cables to the appropriate terminals by using the screw from the terminals (see [Figure 10](#)).
 - To connect a power supply to a power source:
 - a. Secure the ring lug of the positive (+) DC power source cable to one of the + terminals on the DC power supply.
 - b. Secure the ring lug of the negative (-) DC power source cable to the - terminal adjacent to the + terminal that you connected to on the DC power supply.

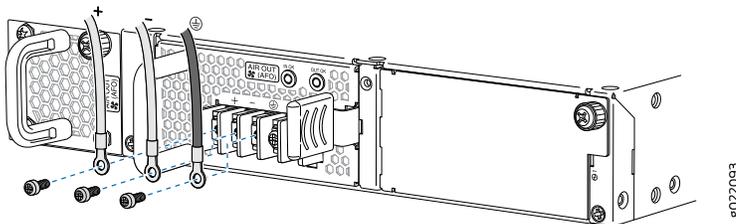
- c. Connect the ground wire to earth ground if the switch is not in a grounded rack.
- d. Tighten the screws on the power supply terminals until they are snug by using the screwdriver. Do not overtighten—apply between 5 lb-in (0.56 Nm) and 6 lb-in (0.68 Nm) of torque to the screws.

If you have a second installed power supply, connect it in the same way you did the first.

- To connect one power supply to two power sources:
 - a. Secure the ring lug of the positive (+) DC power source cable from the first DC power source to a + terminal on the power supply.
 - b. Secure the ring lug of the negative (–) DC power source cable from the first DC power source to the – terminal adjacent to the + terminal on the DC power supply to which you connected the ring lug of the positive (+) DC power source cable from the first DC power source.
 - c. Secure the ring lug of the positive (+) DC power source cable from the second DC power source to the other + terminal on the power supply.
 - d. Secure the ring lug of the negative (–) DC power source cable from the second DC power source to the – terminal adjacent to the + terminal on the DC power supply to which you connected the ring lug of the positive (+) DC power source cable from the second DC power source.
 - e. Connect the ground wire to earth ground if the switch is not in a grounded rack.
 - f. Tighten the screws on the power supply terminals on both the power supplies until snug using the screwdriver. Do not overtighten—apply between 8 lb-in. (0.9 Nm) and 9 lb-in. (1.02 Nm) of torque to the screws.

If you have a second installed power supply, connect it in the same way you did the first.

Figure 10: Connecting Power to an EX4300 Switch Powered by DC Power Supply



- 6. Replace the terminal block cover.
- 7. Close the input circuit breaker.
- 8. Verify that the **IN OK** and the **OUT OK** LEDs on the power supply are lit green and on steadily.

Part 5: Perform Initial Configuration



NOTE: To run the EZSetup script, the switch must have the factory-default configuration as the active configuration. If you have configured any configuration on the switch and want to run EZSetup, see the documentation at https://www.juniper.net/documentation/en_US/release-independent/junos/topics/task/configuration/ex-series-switch-default-factory-configuration-reverting.html to revert to the factory-default configuration.

To connect and configure the switch from the console:

1. Set the following values on the console server or PC:
 - Baud rate—9600
 - Flow control—none
 - Data—8
 - Parity—none
 - Stop bits—1
 - DCD state—disregard
2. Connect the console port on the rear panel of the switch to a laptop or PC by using the RJ-45 to DB-9 serial port adapter.



NOTE: You can also use the mini-USB port on the front panel to connect the switch to a laptop or PC (see the documentation at https://www.juniper.net/documentation/en_US/release-independent/junos/topics/task/installation/port-ex-series-mini-usb-management-console-connecting.html).

3. At the Junos OS shell prompt **root%**, type **ezsetup**.
4. (Optional) Enter the hostname.
5. Enter the root password that you want to use for this device.
6. When prompted, reenter the password.
7. Enable the SSH and Telnet services.



NOTE: You will not be able to log in to the switch as the root user through Telnet. Root login is allowed only through SSH.

8. Configure in-band management or out-of-band management:
 - The default option for SSH is **yes**. Press Enter to accept the default option and enable SSH.
 - The default option for Telnet is **no**. At the prompt, enter yes and press Enter to enable Telnet.
8. Configure in-band management or out-of-band management:
 - In in-band management, you configure a network interface or an uplink module (expansion module) interface as the management interface and connect it to the management device.
In this scenario, can do either of the following:
 - Use the automatically created VLAN named *default* for management of all data interfaces as members of the default VLAN. Specify the management IP address and the default gateway.

- Create a new management VLAN. Specify the VLAN name, VLAN ID, management IP address, and default gateway. Select the ports that must be part of this VLAN.
 - In out-of-band management, you use a dedicated management channel (**MGMT** port) to connect to the management device. Specify the IP address and gateway of the management interface. Use this IP address to connect to the switch.
9. (Optional) Specify the SNMP read community, location, and contact to configure SNMP parameters.
10. (Optional) Specify the system date and time. Select the time zone from the list.
- The configured parameters are displayed.
11. Enter **yes** to commit the configuration.
- The configuration is committed as the active configuration for the switch.

You can now log in by using the CLI and continue configuring the switch.

Safety Warnings Summary

This is a summary of safety warnings. The complete list of warnings, including translations, is available at https://www.juniper.net/documentation/en_US/release-independent/junos/information-products/pathway-pages/ex-series/product/.



WARNING:

Failure to observe these safety warnings can result in personal injury or death.

- Permit only trained and qualified personnel to install or replace switch components.
- Perform only the procedures described in this quick start and the EX Series documentation. Other services must be performed only by authorized service personnel.
- Before installing the switch, read the planning instructions in the EX Series documentation to make sure that the site meets power, environmental, and clearance requirements for the switch.
- Before connecting the switch to a power source, read the installation instructions in the EX Series documentation.
- Installing the switch requires one person to lift the switch and a second person to install the mounting screws.
- If the rack has stabilizing devices, install them in the rack before mounting or servicing the switch in the rack.
- Before installing or after removing an electrical component, always place it component-side up on an antistatic mat placed on a flat, stable surface or in an antistatic bag.
- Do not work on the switch or connect or disconnect cables during electrical storms.
- Before working on equipment that is connected to power lines, remove jewelry, including rings, necklaces, and watches. Metal objects heat up when connected to power and ground and can cause serious burns or become welded to the terminals.

Power Cable Warning (Japanese)

The attached power cable is only for this product. Do not use this cable for another product.

注意

附属の電源コードセットはこの製品専用です。
他の電気機器には使用しないでください。

9017253

Contacting Juniper Networks

For technical support, see <http://www.juniper.net/support/requesting-support.html>.