Juniper NETWORKS EX4300 Line of Ethernet Switches User Manual

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Contents

Step 1: Begin

IN THIS SECTION

In this guide, we provide a simple, three-step path, to quickly get you up and running with your new EX4300. We've sbmrVbC;7 and shortened the bns|-VV-■on and conC]†r-■on steps, and included how to videos. You'll learn how to install an AC-powered EX4300, power it up, and conC]†r; basic s;■n]s

NOTE: Are you interested in];■n] hands-on experience with the topics and or;r-■ons covered in this guide? Visit Juniper Networks Virtual Labs and reserve your free sandbox today! You'll Cn7 the Junos Day One Experience sandbox in the stand alone category. EX switches are not virtualized. In the 7;mons|r-■onķ focus on the virtual QFX device. Both the EX and QFX switches are conC]†r;7 with the same Junos commands.

Meet the EX4300 Line of Ethernet Switches

The Juniper Networks® EX4300 Ethernet Switches are Cx;7ŋconC]†r-■on rV-orms that can be deployed as standalone systems or as part of a Virtual Chassis switching architecture. The EX4300 switches are available in 24-port, 32-port, and 48-port models, with or without PoE+, with AC or DC power supplies, and with 7b@;r;n| - brYow 7br;c■onsÍ EX4300 switches also provide uplink ports and a slot for installing an or■on-V uplink module.

Model	10/100/1000BASE-T Ports	PoE/PoE+ Ports
EX4300-24	24	0
EX4300-24P	24	24
EX4300-48T	48	0
EX4300-48MP	24 (plus 24 100/1000/2500/5000/10000BASE-T ports	48
EX4300-32F	32 100/1000BASE-X ports	0

In this guide, we show you how to install an AC-powered EX4300 switch with the fan modules and power supplies preinstalled. If you need bns|r†c■ons for installing fans, power supplies, and or■on-V uplink modules, see the EX4300 Switch Hardware Guide.


EX4300-24T


EX4300-48T


EX4300-24P


EX4300-48P


EX4300-32F


EX4300-48MP

Install the EX4300

IN THIS SECTION

You can install the EX4300 switch on a table or desktop, on a wall, or in a two-post or four-post rack.

The mo†n■n] kit that ships in the box has the brackets you need to install the EX4300 switch in a twopost rack.

We'll walk you through how to do that.

NOTE: If you want to install the switch on the wall or in a four-post rack, you'll need to order separate mo†n■n] kits. The four-post rack mount kit also has brackets for mo†n■n] the EX4300 switch in a recessed rosb■on in the rack.

What's in the Box?

- EX4300 switch
- An AC power cord appropriate for your geographical Voc-■on
- Two mon■n] brackets and eight mo†n■n] screws

What Else Do I Need?

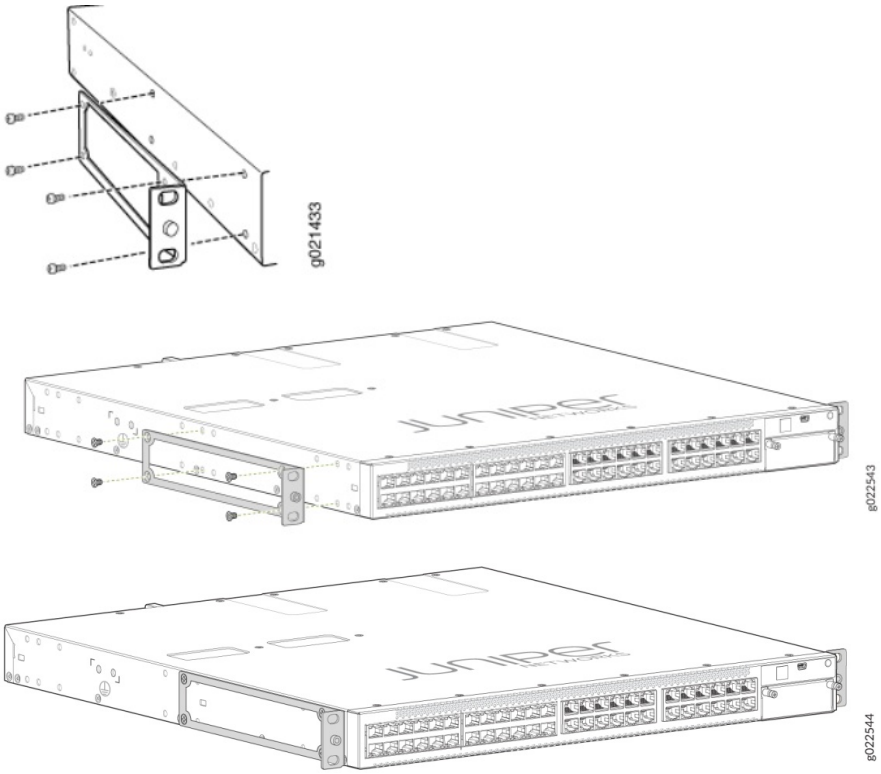
You'll need to provide the following:

- Four rack mount screws to secure the chassis to the rack
- A number two Phillips (+) screwdriver
- An ;V;c|ros|-■c discharge (ESD) grounding strap
- A management host such as a laptop or desktop PC
- A serial-to-USB adapter (if your laptop or desktop PC doesn't have a serial port)
- Someone to help you secure the switch to the rack
- An Ethernet cable with RJ-45 connectors -,-c_;7 and an RJ-45 to DB-9 serial port adapter

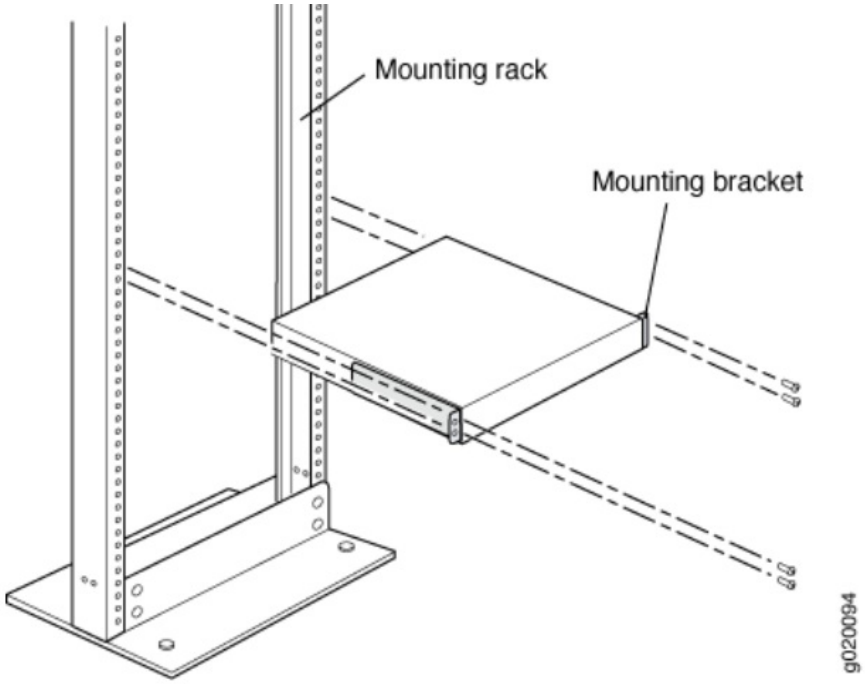
NOTE: We no longer include a DB-9 to RJ-45 cable or a DB-9 to RJ-45 adapter with a CAT5E copper cable as part of the device package. If you require a console cable, you can order it separately with the part number JNP-CBL-RJ45-DB9 (DB-9 to RJ-45 adapter with a CAT5E copper cable).

Install the EX4300 Switch in a Two-Post Rack

1. Review General Safety Guidelines and Warnings
2. Wrap and fasten one end of the ESD grounding strap around your bare wrist, and connect the other end to a site ESD point.
3. Attach the mounting brackets to the sides of the EX4300 switch using the eight screws and a You'll notice there are three locations on the side panel where you can attach the mounting brackets: front, center, and rear. Attach the mounting brackets to the location that best suits where you want the EX4300 switch to sit in the rack.



4. Lift the EX4300 switch and position it in the rack. Line up the bottom hole in each mounting bracket with a hole in each rack rail, making sure the EX4300 switch is level.



5. While you're holding the EX4300 switch in place, have someone insert and tighten the rack mount screws to secure the mounting brackets to the rack rails. Make sure to tighten the screws in the two bottom holes first and then tighten the screws in the two top holes next.
6. Check that the mounting brackets on each side of the rack are level.

Power On

Now you're ready to connect the EX4300 switch to a dedicated AC power source. The switch comes with the AC power cord for your geographic location.

Here's how to connect the EX4300 switch to AC power:

1. 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.
2. On the rear panel, connect the retainer clip and power cord to the AC power socket (see Figure 1 on page 6 and Figure 2 on page 7):
    - a. Push the end of the retainer strip into the hole next to the AC power socket until it snaps into place.
    - b. Press the small tab on the retainer strip to loosen the loop.
    - c. Slide the loop until you have enough space to insert the power cord coupler into the AC power socket.
    - d. Plug in the power cord to the power socket on the switch.
    - e. Slide the loop toward the power supply until it is snug against the base of the coupler.
    - f. Press the tab on the loop and draw out the loop into a tight circle.

    Figure 1: Connecting AC Power to an EX4300 Switch (Except the EX4300-48MP)

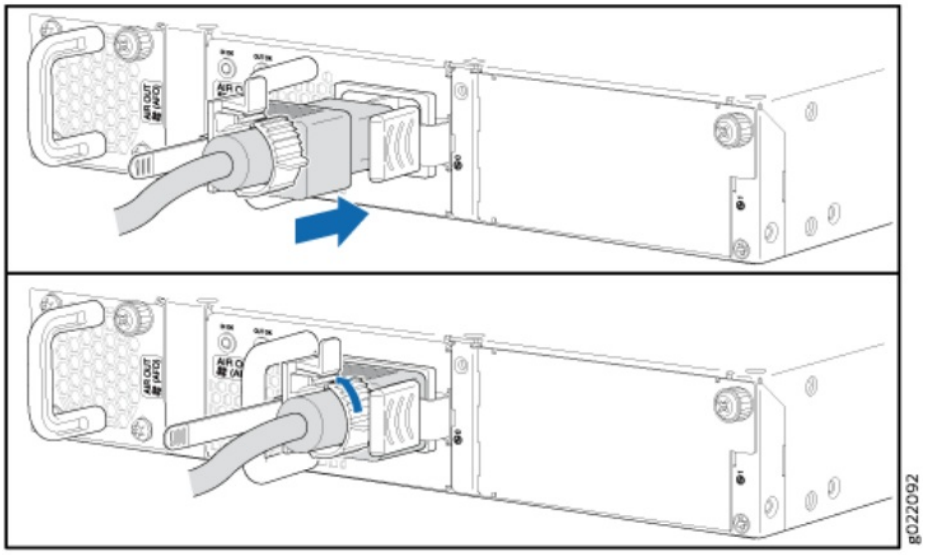
    

    Figure 2: Connecting Power to an EX4300-48MP Switch
3. If the AC power source outlet has a power switch, turn it off.
4. Plug in the AC power cord to the AC power source outlet.
5. If the AC power source outlet has a power switch, turn it on.
6. Check to see that the IN OK and the OUT OK LEDs on each power supply are lit green.
   If the OUT OK LED is lit amber, turn off the AC power source outlet or unplug the switch. You'll need to replace the power supply. See Removing an AC Power Supply from an EX4300 System.

Step 2: Up and Running

IN THIS SECTION

Now that the EX4300 switch is powered on, let's do some initial configuration to get the switch up and running on your network. It's simple to provision and manage the EX4300 switch and other devices on your network. Choose the configuration tool that's right for you:

- Juniper Mist. To use Mist, you'll need an account on the Mist Cloud Platform. See Overview of Connecting Mist Access Points and Juniper EX Series Switches.
- Juniper Networks Contrail Service Orchestration (CSO). To use CSO, you'll need an authentication code. See

SD-WAN Deployment Overview in the Contrail Service Orchestration (CSO) Deployment Guide.

- CLI commands

Plug and Play

The EX4300 switches already have factory-default settings configured right out of the box to make them plug-and-play devices. The default settings are stored in a configuration file that:

- Sets values for system parameters such as syslog and commit
- Configures Ethernet switching on all interfaces
- Enables IGMP snooping
- Enables the LLDP and RSTP protocols

These settings load as soon as you power on the EX4300 switch. If you want to see what's in the factory-default configuration file for your EX4300 switch, see EX4300 Switch Default Configuration.

Customize the Basic Configuration Using the CLI

Have these values handy before you begin to customize settings for the switch:

- Hostname
- Root authentication password
- Management port IP address
- Default gateway IP address
- (Optional) DNS server and SNMP read community

1. Verify that the serial port settings for your laptop or desktop PC are set to the default:
    - Baud rate-9600
    - Flow control-None
    - Data-8
    - Parity—None
    - Stop bits—1
    - DCD state—Disregard
2. Connect the console port on the EX4300 switch to a laptop or desktop PC using the Ethernet cable and the RJ-45 to DB-9 serial port adapter (not provided). If your laptop or desktop PC doesn't have a serial port, use a serial-to-USB adapter (not provided).
3. At the Junos OS login prompt, type root to log in. You don't need to enter a password. If the so[w-r; boots before you connect your laptop or desktop PC to the console port, you might need to press the Enter key for the prompt to appear.

    NOTE: EX switches running current Junos software are enabled for Zero Touch Provisioning (ZTP). However, when you configure an EX switch for the very first time, you'll need to disable ZTP. We show you how to do that here. If you see any ZTP-related messages on the console, just ignore them.

    FreeBSD/arm (w) (ttyu0):

    login: root
4. Start the CLI.

root@:RE:0% cli

{master:0} root>

5. Enter configuration mode

   {master: 0) root> configure (master:0}[edit] root#
6. Delete the ZTP configuration. Factory default configurations can vary over different releases. You may see a message that the statement does not exist. Don't worry, it's safe to proceed.

   (master:0}[edit] root delete chassis auto-image-upgrade
7. Add a password to the root administration user account. Enter a plain-text password, an encrypted password, or an SSH public key string. In this example, we show you how to enter a plain-text password. [master:0}[edit] root set system root-authentication plain-text-password New password: password Retype new password: password
8. Activate the current configuration to stop ZTP messages on the console. {master:0)[edit] root commit configuration check succeeds commit complete
9. Configure the hostname. (master:0)[edit] root# set system host-name name
10. Configure the IP address and prefix length for the management interface on the switch. As part of this step, you remove the factory default DHCP setting for the management interface.

    (master:@)[edit] root delete interfaces vne unit family inet dhcp root set interfaces vne unit @ family inet address address/prefix-length **NOTE:** The management port vee (labeled MGMT) is on the front panel of the EX4300 switch.
11. Configure the default gateway for the management network.

    master:0}[edit]

    root set routing-options static route 0/0 next-hop address
12. Configure the SSH service. By default the root user cannot login remotely. In this step you enable the SSH service and also enable root login via SSH. [master:0][edit] root set system services ssh root-login allow
13. Optional: Configure the IP address of a DNS server. [master:0)[edit] root# set system name-server address
14. Optional: Configure an SNMP read community. [master:0}[edit] root set snap community community _ name
15. Optional: Continue customizing the configuration using the CLI. See the Getting Started Guide for Junos OS for more details.
16. Commit the configuration to activate it on the switch. (master:@)[edit] root commit
17. When you've finished configuring the switch, exit configuration mode. (master:0][edit] root# exit (master:0) root@name

Step 3: Keep Going

IN THIS SECTION

Congratulations! Now that you've done the initial configuration, your EX4300 switch is ready to use. Here are some things you can do next:

What's Next?

If you want to	Then
Download, activate, and manage your software licen ses to unlock additional features for your EX series s witch	See Activate Junos OS Licenses in the Juniper Licensing Guide
Configure roles and authentication methods	See Understanding Roles and Services for Junos OS in Common Criteria and FIPS in the Common Criteria Evaluated Configuration Guide for EX4300 Devices guid e
Configure administrative credentials and permission s	See Understanding the Associated Password Rules for a n Authorized Administrator in the Common Criteria Evalu ated Configuration Guide for EX4300 Devices guide
Configure SSH and console connection	See Configuring a System Login Message and Announcement in the Common Criteria Evaluated Config uration Guide for EX4300 Devices guide

General Information

If you want to	Then
See all documentation available for the EX4300 switc h	Visit EX4300 Documentation in the Juniper Networks T echLibrary
Find more in-depth information about installing and co nfiguring the EX4300 switch	Browse through the EX4300 Switch Hardware Guide
Stay up-to-date on new and changed features and kn own and resolved issues	See Junos OS Release Notes
Manage software upgrades on your EX Series switch	See Installing Software on EX Series Switches

Learn With Videos

If you want to	**Then**
View a Web-based training video which provides an ove rview of the EX4300 and describes how to install and d eploy i	Watch the EX4300 Ethernet Switch Overview and De ployment (WBT) video
Get short and concise tips and instructions that provide quick answers, clarity, and insight into specific features and functions of Juniper technologies	See Learning with Juniper on Juniper Networks main YouTube page
View a list of the many free technical trainings we offer at Juniper	Visit the Getting Started page on the Juniper Learning Portal

Documents / Resources

	Juniper NETWORKS EX4300 Line of Ethernet Switches [pdf] User Manual EX4300 Line of Ethernet Switches, EX4300, Line of Ethernet Switches, Ethernet Switches, Switches

References

- Juniper Networks Inc. - Sign In
- Get Started with Free Juniper Training
- EX4300 Ethernet Switch Overview and Deployment
- Contrail Archives | Juniper Networks
- Contrail Archives | Juniper Networks
- Common Criteria and FIPS Documentation Archives | Juniper Networks
- Common Criteria and FIPS Documentation Archives | Juniper Networks
- Common Criteria and FIPS Documentation Archives | Juniper Networks
- Getting Started with Junos OS | Junos OS | Juniper Networks
- Installing Software on EX Series Switches | Junos OS | Juniper Networks
- EX4300 Switch Hardware Guide | Juniper Networks
- General Safety Guidelines and Warnings | Juniper Networks
- Configuring Junos OS on the EX4300 | Juniper Networks
- Maintaining the EX4300 Power System | Juniper Networks
- Juniper Licensing User Guide | Licensing | Juniper Networks
- Activate Your Licenses | Licensing | Juniper Networks
- Overview of EX Series Switches and the Juniper Mist Cloud | Juniper Networks
- EX4300 Documentation | Juniper Networks
- EX2300 Documentation | Juniper Networks
- Security Design Center | Juniper Networks
- User Manual