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Juniper NETWORKS QFX5120-32C Ethernet Switch User Guide

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QFX5120–32C Quick Start
Published 2023-09-29
RELEASE

Contents

Begin

In this guide, we provide a simple, three-step path, to quickly get you up and running with your new QFX5120-32C switch. We've simplified and shortened the installation and configuration steps, and included how-to videos. You'll

learn how to install an AC-powered QFX5120-32 switch in a rack, power it up, and deploy it on your network. There's a separate Day One+ guide for the QFX5120-48 switch (see QFX5120 on the Day One+ webpage). For details on installing a DC powered QFX5120-32C, see QFX5120 Switch Hardware Guide.

NOTE: Are you interested in getting hands-on experience with the topics and operations covered in this guide? Visit Juniper Networks Virtual Labs and reserve your free sandbox today! You'll find the Junos Day One Experience sandbox in the stand alone category.

Meet the QFX5120-32C Ethernet Switch

The Juniper Networks® QFX5120-32C is a compact, 1-U fixed configuration switch with 32 100GbE or 40GbE QSFP28 ports, making it ideal for data centers that require top-of-rack and spine-and-leaf deployments. You can also use the QFX5120-32C for high-density server connectivity, with options to channelize the QSFP28 ports. Along with 32 QSFP28 ports, the QFX5120-32C has two SFP+ ports, an RJ-45 management port, an RJ-45 console port, and a USB port. Dual hot-swappable AC or DC power supplies provide 1+1 redundancy. Six hot-swappable fan trays with N+1 redundancy maintain high system availability.

The QFX5120 supports many network automation features and plug-and-play features, including zerotouch provisioning (ZTP), making it simple to deploy on your network.

Install the QFX5120-32C

What's in the Box?

- QFX5120-32C switch with six preinstalled fan modules and two preinstalled AC power supplies
- Two AC power cords appropriate for your geographical location
- A four-post rack mounting kit that contains:
- Two front mounting brackets
- Two side mounting rails
- Twenty flat head M4X8 screws to attach the front mounting brackets and side mounting rails to the switch chassis
- Two rear mounting (L-shaped) brackets
- Two pan head M4X8 screws to attach the rear mounting brackets to the side mounting rails

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).

What Else Do I Need?

You'll need to provide:

- Someone to help you secure the switch to the rack
- Eight mounting screws to secure the switch to the rack
- A number 2 Phillips (+) screwdriver
- An electrostatic discharge (ESD) grounding strap
- A management host such as a laptop or desktop PC
- An Ethernet cable
- An RJ-45 to DB-9 serial port adapter
- A serial-to-USB adapter (if your laptop or desktop PC doesn't have a serial port)
- A grounding cable: 12 AWG (2.5 mm²), minimum 90° C wire, or as permitted by the local code, with a

4.3-mm circular lug attached

⚠️ **CAUTION**: Ensure that a licensed electrician has attached the appropriate grounding lug to the grounding cable that you supply. Using a grounding cable with an incorrectly attached lug can damage the switch.

- An 8-mm screw to secure the grounding lug

Install the QFX5120-32C in a Four-Post Rack

1. Review the 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. Position the switch in the rack so that the F2B labels on the fan modules are facing the cold aisle, or the B2F labels on the fan modules are facing the hot aisle.
4. Attach the front mounting brackets to the switch.
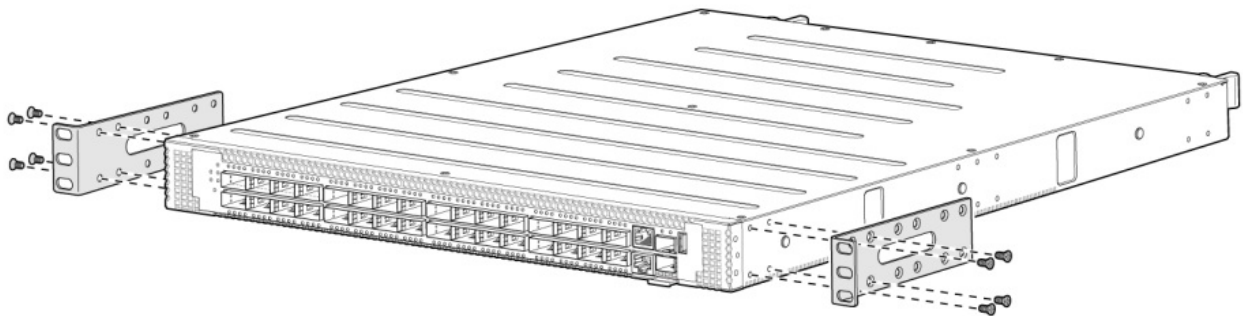
5. Attach the side mounting rails to the switch.
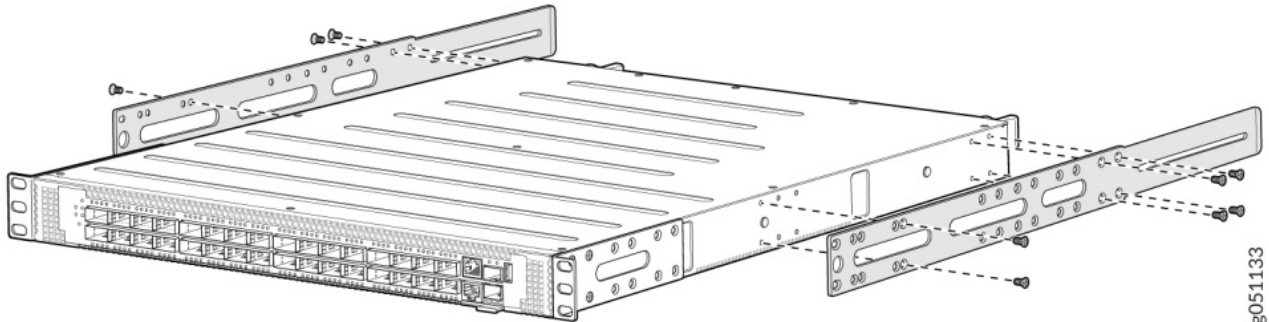
6. Lift the switch and position it in the rack. Line up the bottom hole in each mounting bracket with a hole in each rack post, making sure the switch is level.
7. While you're holding the switch in place, have a second person insert and tighten the rack mounting screws to secure the mounting rails to the rack posts. Make sure to tighten the screws in the two bottom holes first, and then tighten the screws in the two top holes.
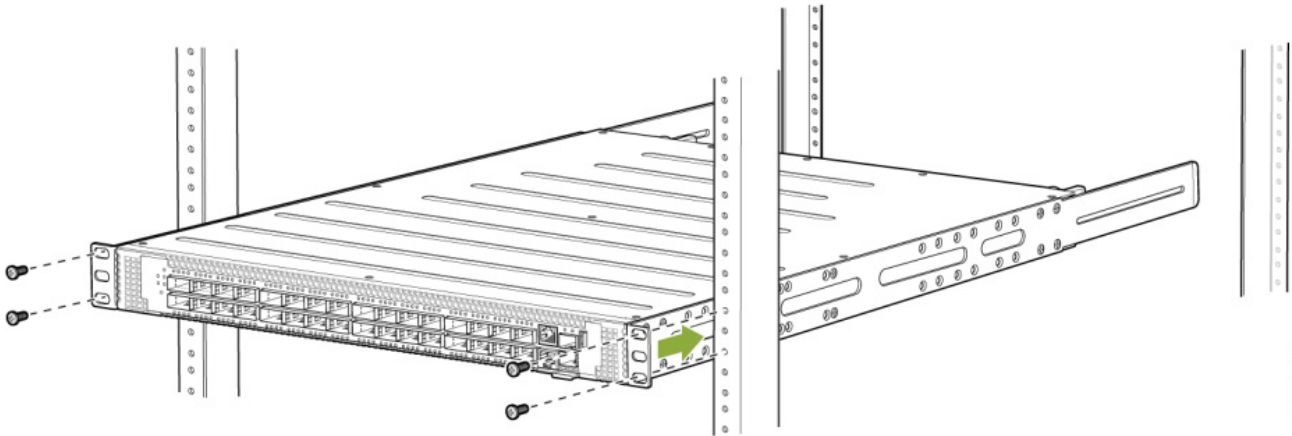
8. Continue holding the switch in place, and have the second person slide the rear mounting brackets into the side mounting rails.

9. Secure the rear mounting brackets to the rack posts using the rack mount screws. Secure the rear mounting brackets to the side mounting rails by using the pan head M4X8 screws.
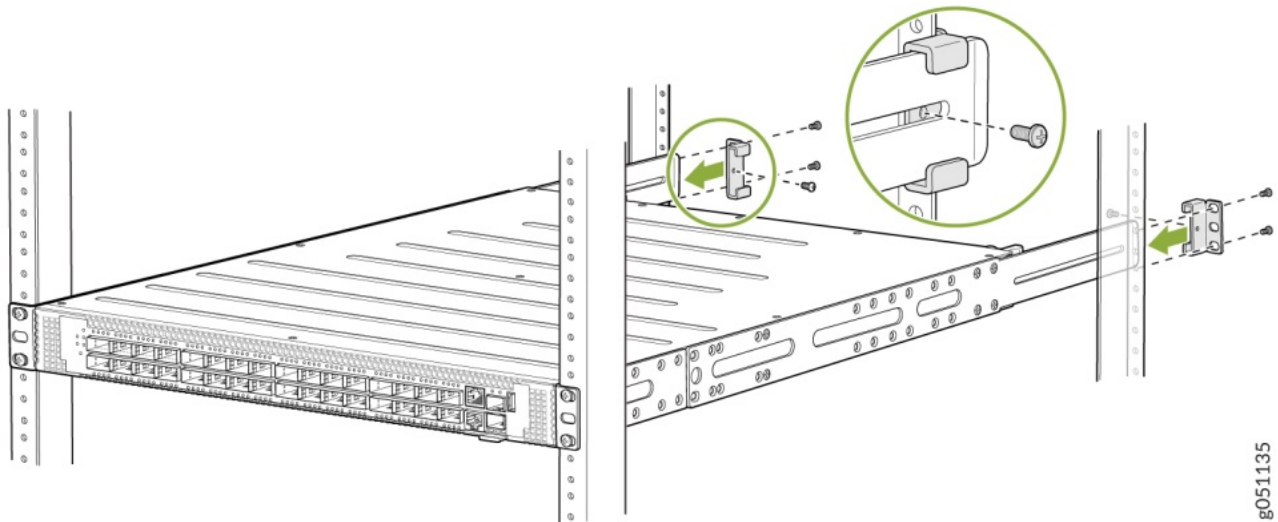

Power On

Now that you've mounted your switch in the rack, you're ready to connect it to power.
The AC-powered QFX5120-32C comes with two AC power supplies preinstalled on the rear panel.

1. Wrap and fasten one end of the ESD grounding strap around your bare wrist, and connect the other end to one of the ESD grounding points on the switch.

2. Connect one end of the grounding cable to a proper earth ground, such as the rack.

3. Place the grounding lug attached to the grounding cable over the protective earthing terminal on the rear panel.
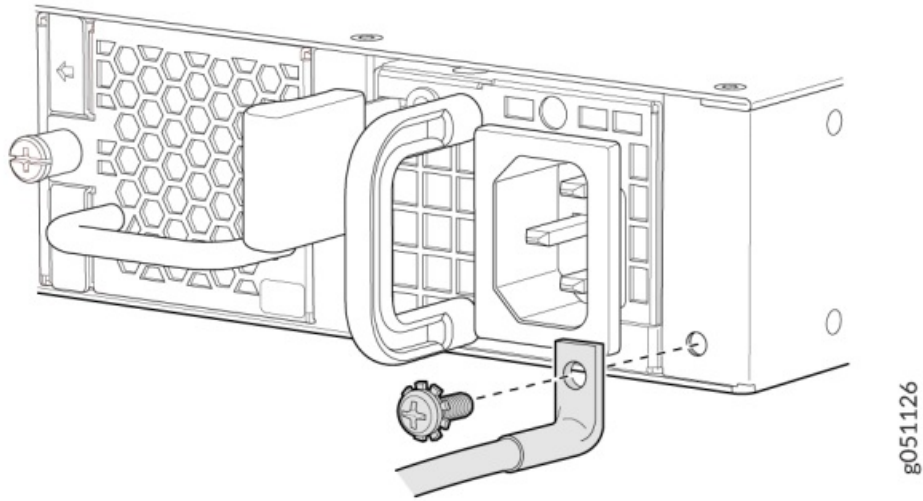
4. Secure the grounding lug to the protective earthing terminal using the 8-mm screw.

5. Dress the grounding cable, and ensure that it doesn't block access to or touch other device components, and that it doesn't drape where people could trip over it.

6. Ensure that the power supplies are fully inserted in the switch.

7. Connect the power cord to the AC power socket on the power supply:

   a. Push the end of the retainer strip into the hole next to the AC power socket until it snaps into place.

   b. Ensure that the loop in the retainer strip faces the power cord.

   c. Press the small tab on the retainer strip to loosen the loop. Slide the loop until you have enough space to plug the power cord into the switch.

   d. Plug the power cord into the switch.

   e. Slide the loop toward the switch until it is snug against the base of the power cord coupler.

   f. Press the tab on the loop, and draw out the loop into a tight circle.
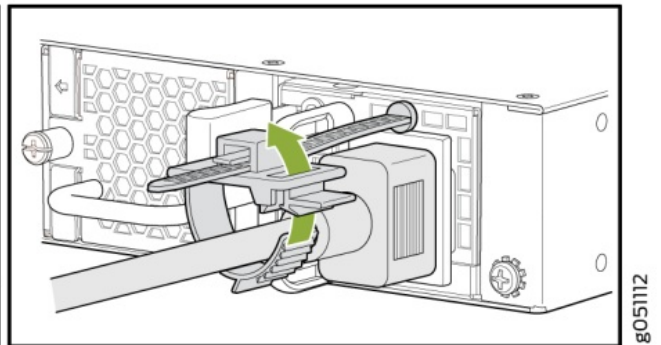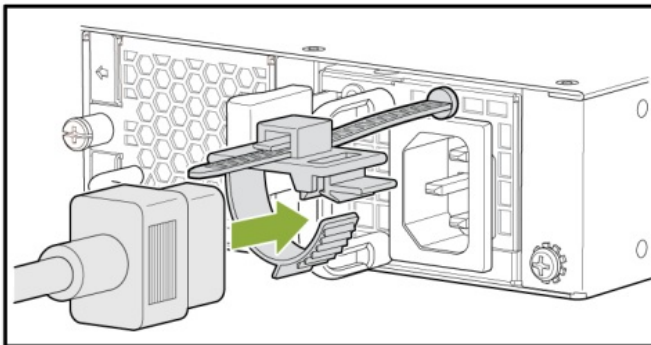
8. If the AC power source outlet has a power switch, turn it off.

9. Plug in the power cord to the AC power source outlet. The switch powers on as soon as you plug it in. There is no power switch on the QFX5120-32C.

10. If the AC power source outlet has a power switch, turn it on.

11. Verify that the LED on the power supply is lit steadily green. If the LED is lit steadily red or is blinking red, disconnect the power supply from the power source, and replace the power supply (see Maintain the QFX5120 Power System in the QFX5120 Switch Hardware Guide).

12. Repeat steps 7-11 to power on the second power supply.

Up and Running

Now that the QFX5120-32C is powered on, let's do some initial configuration to get it up and running on the

network. It's simple to configure and manage the QFX5120-32C using the CLI.

Plug and Play
The QFX5120-32C switch ships with factory-default settings that enable plug-and-play operation.
These settings load as soon as you power on the switch.

Customize the Basic Configuration

Have the following information ready before you begin customizing the switch:

- Root authentication password
- Management port IP address
- Default gateway IP address
- DNS server IP address

  You can easily customize the factory-default configuration with just a few commands. When you commit changes to the configuration, a new configuration file is created. This becomes the active configuration.

  You can always revert to the factory-default configuration anytime you want.

1. Verify that the your laptop or desktop PC has the following default serial port settings:
   • Baud Rate—9600

   • Data—8

   • Flow Control—None

   • Parity—None

   • Stop Bits—1

   • DCD State—Disregard
2. Connect the console port (labeled CON) on the QFX5120-32C rear panel to a serial port on your laptop or desktop PC using the Ethernet cable and RJ-45 to DB-9 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 software 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.

   login: root
4. Start the CLI.

   root@:RE:0% cli

   root>
5. Enter the configuration mode.

   root> configure

   [edit] root#
6. Add a password to the root administration user account. Enter a plain-text password, an encrypted password, or an SSH public key string.

   Plain-text password:

   [edit] root# set system root-authentication plain-text-password

   New password: password

   Retype new password: password

   Encrypted password:

[edit] root# set system root-authentication encrypted-password encrypted-password

SSH-ECDSA password:

[edit] root# set system root-authentication ssh-ecdsa public-key

SSH-ED25519 password:

[edit] root# set system root-authentication ssh-ed25519 public-key

SSH-RSA password:

[edit] root# set system root-authentication ssh-rsa public-key

7. Configure the default gateway.

[edit] root# set routing-options static route 0/0 next-hop address

8. Configure the IP address and prefix length for the management interface on the switch.

[edit] root# set interfaces em0 unit 0 family inet address address/prefix-length

NOTE: The management port em0 (labeled MGMT) is on the front panel of the QFX5120-32C.

The management interface provides a dedicated out-of-band management channel to manage devices on the network. If you need to configure in-band management, see Configure Junos OS on the QFX5120 in the QFX5120 Switch Hardware Guide.

9. Configure the IP address of a DNS server.

[edit] root# set system name-server address

10. Configure the SSH service.

[edit] root# set system services ssh root-login allow

11. Commit the configuration to activate it on the switch.

[edit] root# commit

12. When you've finished configuring the switch, exit the configuration mode.

[edit] root# exit

root>

Keep Going

Congratulations! Your QFX5120-32C is configured and ready to go. Here are some things you can do next.

What's Next?

If you want to	Then
Download, activate, and manage your software licenses to unlock additional features for your QFX series switch	See **Activate Junos OS Licenses** in the **JuniperLicensing Guide**
Configure essential user access features such as login classes, user accounts, access privilege levels, and user authentication methods	See the **User Access and Authentication Administration Guide for Junos OS**
Configure SNMP, RMON, Destination Class Usage (DCU) and Source Class Usage (SCU) data, and accounting profiles	See the **Network Management and Monitoring Guide**
Configure essential security services	See the **Security Services Administration Guide**
Configure time-based protocols for your network devices running Junos OS	See the **Time Management Administration Guide**
See, automate, and protect your network with Juniper Security	Visit the **Security Design Center**
Get hands-on experience with the procedures covered in this guide	Visit **Juniper Networks Virtual Labs** and reserve your free sandbox. You'll find the Junos Day One Experience sandbox in the stand alone category. EX switches are not virtualized. In the demonstration, focus on the virtual QFX device. Both the EX and QFX switches are configured with the same Junos commands.

General Information

If you want to	Then
See all documentation available for the QFX5120	See the **QFX5120 Documentation** in the Juniper Networks TechLibrary
Find more information about how to install and configure the QFX5120	See the **QFX5120 Switch Hardware Guide**
Manage software upgrades for your QFX5120	See **Installing Software on QFX Series Devices**
Stay up-to-date about new and changed features and known and resolved issues	See the **Junos OS Release Notes**

Learn With Videos

Our video library continues to grow! We've created many, many videos that demonstrate how to do everything from install your hardware to configure advanced Junos OS network features. Here are some great video and training resources that will help you expand your knowledge of Junos OS.

If you want to	Then
View a Web-based training video which provides an overview of the QFX5120 and describes how to install and configure it	**QFX5120 Ethernet Switch (WBT)**
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 ma in 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 QFX5120-32C Ethernet Switch [pdf] User Guide
QFX5120-32C Ethernet Switch, QFX5120-32C, Ethernet Switch, Switch

References

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- J **QFX5120 Ethernet Switch**
- J **Get Started with Free Juniper Training**
- 𝄞 **Installing Software on QFX Series Devices (Junos OS) | Junos OS | Juniper Networks**
- 𝄞 **QFX5120 Switch Hardware Guide | Juniper Networks**
- 𝄞 **General Safety Guidelines and Warnings | Juniper Networks**
- 𝄞 **Activate Your Licenses | Licensing | Juniper Networks**
- 𝄞 **Junos OS Documentation | Juniper Networks**
- 𝄞 **QFX5120 Documentation | Juniper Networks**
- 𝄞 **Security Design Center | Juniper Networks**
- 𝄞 **QFX5120 Quick Start | Quick Start | Step 1: Begin | Juniper Networks**
- 𝄞 **Configure Junos OS on the QFX5120 | Juniper Networks**
- 𝄞 **Connect the QFX5120 to Power | Juniper Networks**
- 𝄞 **Network Management and Monitoring Guide | Junos OS | Juniper Networks**
- 𝄞 **Security Services Administration Guide | Junos OS | Juniper Networks**

- 〽 **[Time Management Administration Guide | Junos OS | Juniper Networks](#)**
- 〽 **[User Access and Authentication Administration Guide for Junos OS | Junos OS | Juniper Networks](#)**
- **[User Manual](#)**

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