

Rack-Mount and Ground the Chassis

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Unpack and inspect the chassis

Note The chassis is thoroughly inspected before shipment. If any damage occurred during transportation or any items are missing, contact your customer service representative immediately. Keep the shipping container in case you need to send the chassis back due to damage.

Procedure

Step 1 Remove the chassis from its cardboard container and save all packaging material.

Step 2 Compare the shipment to the equipment list provided by your customer service representative. Verify that you have all items.

Step 3 Check for damage and report any discrepancies or damage to your customer service representative. Have the following information ready:

- Invoice number of shipper (see the packing slip)
- Model and serial number of the damaged unit
- Description of damage
- Effect of damage on the installation

Related Topics

Package contents

Rack-mount the chassis

This procedure describes how to install the Firepower 4100 in a rack using the rack kit that shipped with the chassis.

The rack is a standard Electronic Industries Association (EIA) rack. It is a 4-post-EIA-310-D, which is the current revision as specified by EIA. The vertical hole spacing alternates at .50 inches (12.70 mm) to .625 inches (15.90 mm) to .625 inches (15.90 mm) and repeats. The start and stop space is in the middle of the .50-inch holes. The horizontal spacing is 18.312 inches (465.1 mm), and the rack opening is specified as a minimum of 17.75 inches (450 mm).

You need the following to install the chassis in a rack (4-post EIA-310-D rack):

- #1 Phillips screwdriver
- Firepower 4100 rack-mount kit that contains the slide rails, mounting ears, and screws

Slide rail assemblies work with 4-post racks and cabinets with square slots, round 7.1-mm holes and 10-32-inch threaded holes on the rack post front. The slide rail works with front to back spacing of rack posts from 24 to 36 inches. The rack-mounting posts need to be 2 to 3.5 mm thick to work with the slide rail rack mounting.

Note Internal obstructions between rails can make slide rail installation more complicated. Use racks that do not have internal obstructions between rails for unhindered slide rail installation.

Safety warnings

Take note of the following rack-mount safety warnings:

Warning **Statement 1006—**Chassis Warning for Rack-Mounting and Servicing

To prevent bodily injury when mounting or servicing this unit in a rack, you must take special precautions to ensure that the system remains stable. The following guidelines are provided to ensure your safety:

- This unit should be mounted at the bottom of the rack if it is the only unit in the rack.
- When mounting this unit in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.
- If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack.

Warning **Statement 1032—**Lifting the Chassis

To prevent personal injury or damage to the chassis, never attempt to lift or tilt the chassis using the handles on modules, such as power supplies, fans, or cards. These types of handles are not designed to support the weight of the unit.

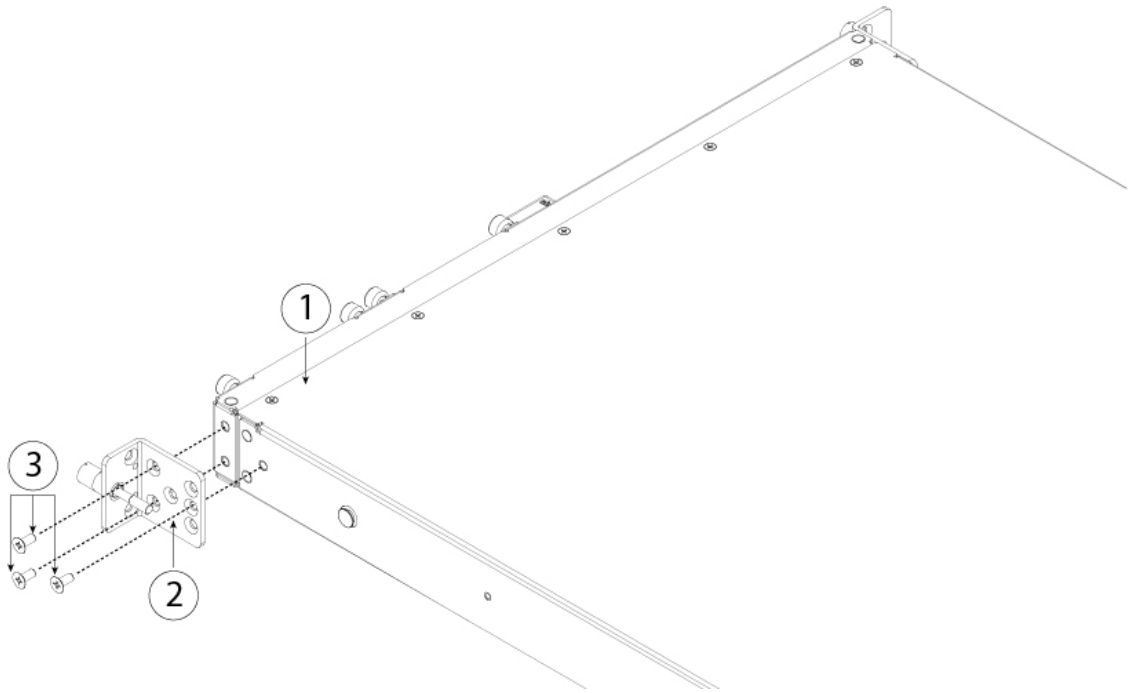
Warning **Statement 1098** —Lifting Requirement

Two people are required to lift the heavy parts of the product. To prevent injury, keep your back straight and lift with your legs, not your back.

Procedure

Step 1 Attach a rack mount bracket to each side of the chassis using the six 8-32 x .375-inch Phillips screws provided in the accessory kit.

Figure 1: Attach the rack mount bracket to the side of the chassis

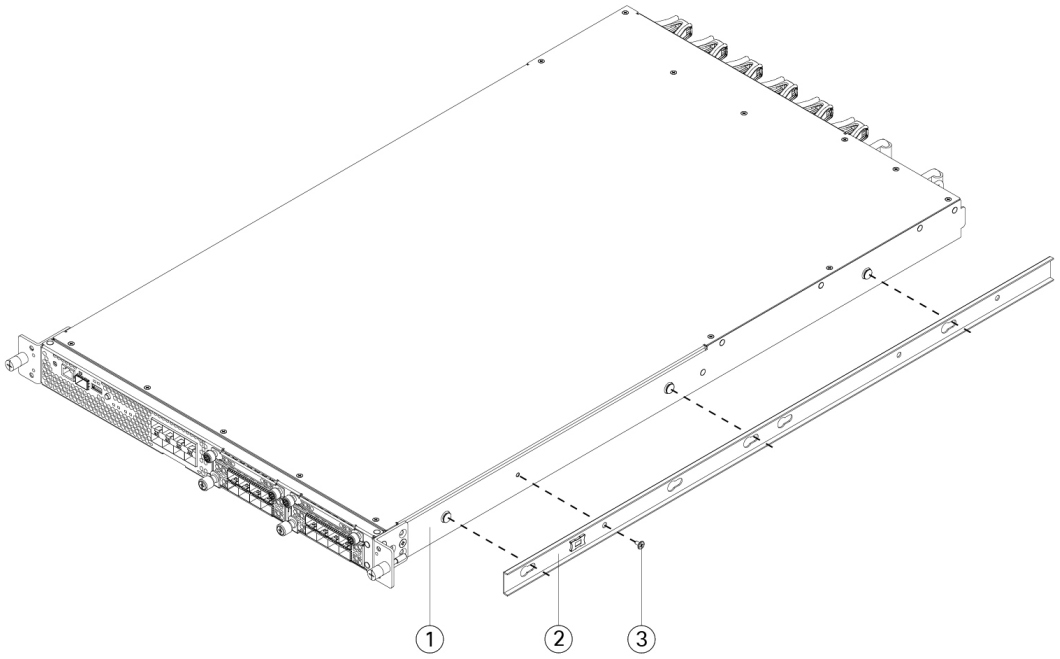


1	Chassis	**2**	Rack-mount bracket
3	8-32 x .375-inch Phillips screws (three per side)		

Step 2 Attach the inner rails to the sides of the chassis:

a) Remove the inner rails from the slide rail assemblies.
b) Align an inner rail with one side of the chassis so that the three keyed slots in the rail align with the three pegs on the side of the chassis.
c) Set the keyed slots over the pegs, and then slide the rail toward the front to lock it in place on the pegs. The rear key slot has a metal clip that locks over the peg.
d) Secure the inner rail to the side of the chassis using one M3 x 6 mm screw.
e) Install the second inner rail to the opposite side of the chassis and secure with the other M3 x 6 mm screw.

Figure 2: Attach the inner rail to the side of the chassis

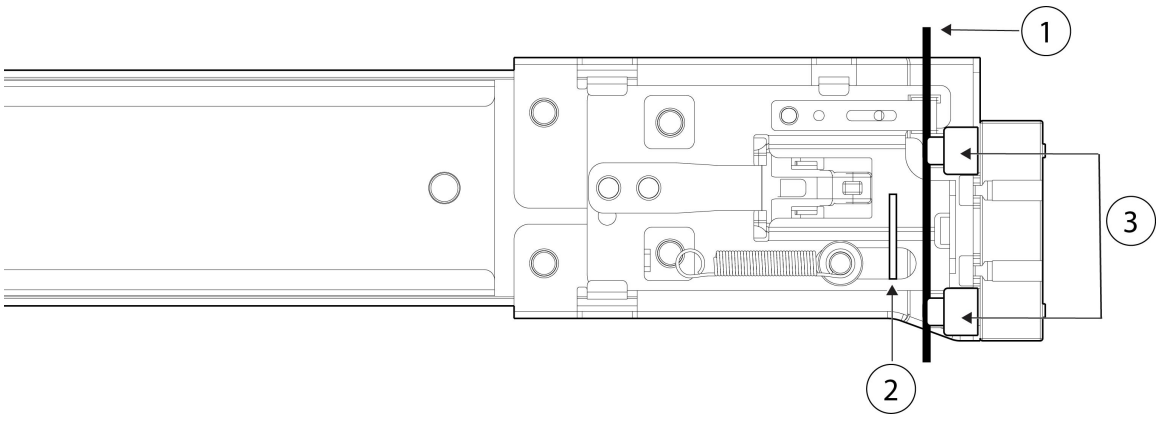


1	Chassis side by front panel	**2**	Inner rail
3	M3 x 6-mm screw (one per side)		

Step 3 Open the front securing plate on both slide-rail assemblies. The front end of the slide-rail assembly has a spring-loaded securing plate that must be open before you can insert the mounting pegs into the rack-post holes.

On the outside of the assembly, push the green arrow button toward the rear to open the securing plate.

Figure 3: Front securing mechanism inside the front end



1	Rack post	**2**	Securing plate shown pulled back to open position

3	Front mounting pegs **Note** Works with square slots, 7.1-mm holes, and 10-32-threaded holes		—

Step 4 Install the slide rails into the rack:

a) Align one slide-rail assembly front end with the front rack-post holes that you want to use.

The slide rail front end wraps around the outside of the rack post and the mounting pegs enter the rack-post holes from the outside front.

Note
The rack post must be between the mounting pegs and the open securing plate.

b) Push the mounting pegs into the rack-post holes from the outside front.
c) Press the securing plate release button marked *PUSH*. The spring-loaded securing plate closes to lock the pegs in place.
d) Adjust the slide-rail length, and then push the rear mounting pegs into the corresponding rear rack-post holes. The slide rail must be level front-to-rear.

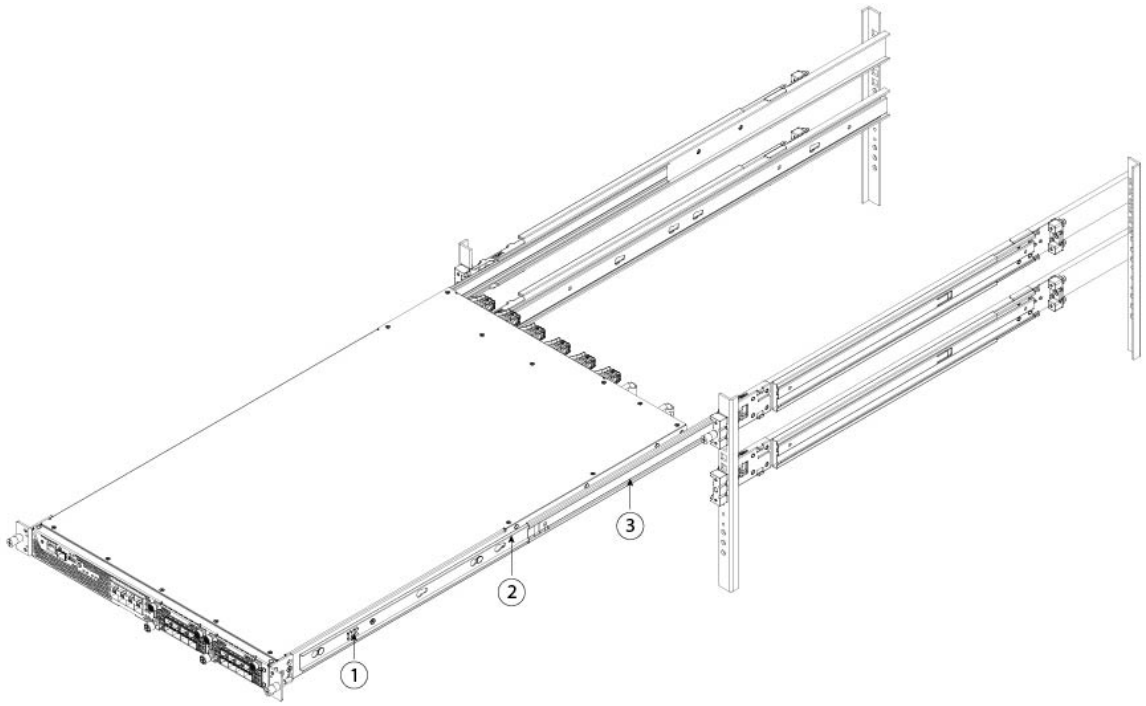
The rear mounting pegs enter the rear rack-post holes from the inside of the rack post.

e) Attach the second slide-rail assembly to the opposite side of the rack. Make sure that the two slide-rail assemblies are at the same height with each other and are level front-to-back.
f) Pull the inner slide rails on each assembly out toward the rack front until they hit the internal stops and lock in place.

Step 5 Insert the chassis into the slide rails.

a) Align the rear of the inner rails that are attached to the chassis sides with the front ends of the empty slide rails on the rack.
b) Push the inner rails into the slide rails on the rack until they stop at the internal stops.
c) Slide the release clip toward the rear on both inner rails, and then continue pushing the chassis into the rack until the mounting brackets meet the front of the slide rail.

Figure 4: Inner rail release clip



1	Inner rail release clip	**2**	Inner rail attached to chassis
3	Outer rail attached to rack post		

Step 6 Use the captive screws on the front of the mounting brackets to fully secure the chassis to the rack.

What to do next

Ground the chassis. See Ground the chassis, on page 6 for the procedure.

Install the FIPS opacity shield if necessary. See Install the FIPS opacity shield for the procedure.

Install the cables according to your software configuration as described in the Cisco Firepower 4100 Getting Started Guide.

Ground the chassis

Note Grounding the chassis is required, even if the rack is already grounded. A grounding pad with two threaded M4 holes is provided on the chassis for attaching a grounding lug. The grounding lug must be Nationally Recognized Testing Laboratory (NRTL)-listed. In addition, a copper conductor (wires) must be used and the copper conductor must comply with National Electrical Code (NEC) code for ampacity.

You need the following items that you provide:

- Wire-striping tool
- Crimping tool
- Grounding cable
- Two star lock washers for the 10-32 x 0.375-inch screws used to secure the ground lug
- You need the following items from the accessory kit:
  - Grounding lug #6 AWG, 90 degree, #10 post
  - Two 10-32 x 0.375-inch screws used to secure the grounding lug

Safety warnings

Take note of the following ground connection warnings:

Warning **Statement 1024—**Ground Conductor

This equipment must be grounded. To reduce the risk of electric shock, never defeat the ground conductor or operate the equipment in the absence of a suitably installed ground conductor. Contact the appropriate electrical inspection authority or an electrician if you are uncertain that suitable grounding is available.

Warning **Statement 1046—**Installing or Replacing the Unit

To reduce risk of electric shock, when installing or replacing the unit, the ground connection must always be made first and disconnected last.

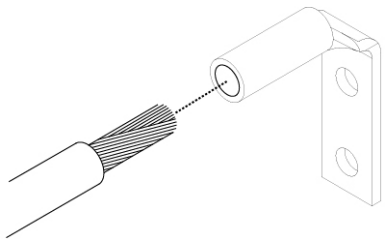
If your unit has modules, secure them with the provided screws.

Procedure

Step 1 Use a wire-stripping tool to remove approximately 0.75 inches (19 mm) of the covering from the end of the grounding cable.

Step 2 Insert the stripped end of the grounding cable into the open end of the grounding lug.

Figure 5: Insert the cable into the grounding lug

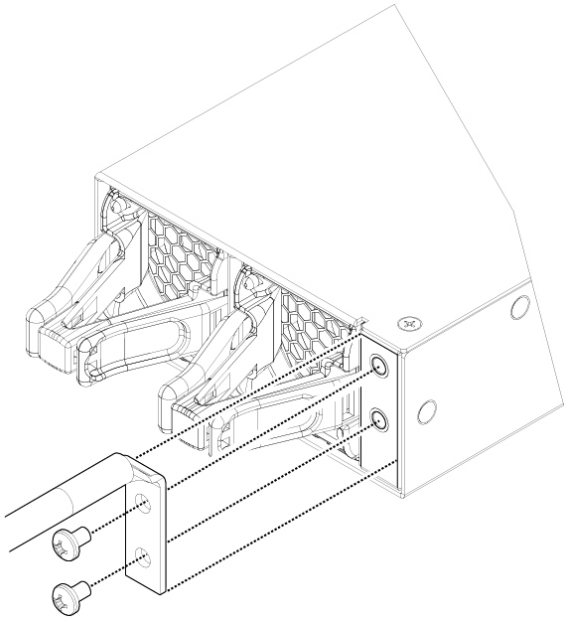


Step 3 Use the crimping tool to secure the grounding cable in the grounding lug.

Step 4 Remove the adhesive label from the grounding pad on the chassis.

Step 5 Place the grounding lug against the grounding pad so that there is solid metal-to-metal contact, and insert the two screws with washers through the holes in the grounding lug and into the grounding pad.

Figure 6: Attach the grounding lug



Step 6 Make sure that the lug and cable do not interfere with other equipment.

Step 7 Prepare the other end of the grounding cable and connect it to an appropriate grounding point in your site to ensure adequate earth ground.

What to do next

Install the FIPS opacity shield if necessary. See Install the FIPS opacity shield for the procedure.

Install the cables according to your default software configuration as described in the Cisco Firepower 4100 Getting Started Guide.