Oracle® Fabric Interconnect F2-12 Installation Guide

Part No: E74400-01
November 2016

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Contents

Using This Documentation

- **Overview** – Describes how to prepare for and install the Oracle Fabric Interconnect F2-12.
- **Audience** – Installers, technicians, system administrators, and authorized service providers.
- **Required knowledge** – Advanced experience installing network hardware.

This document uses the terms *virtualization switch* and *switch* to refer to the Oracle Fabric Interconnect F2-12.

Product Documentation Library

Documentation and resources for this product and related products are available at http://www.oracle.com/goto/f2-12/docs.

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Provide feedback about this documentation at http://www.oracle.com/goto/docfeedback.

Understanding the Switch

These topics describe the switch and the installation process.

Related Information

Installation Task Overview

Perform these steps in the order presented to install the switch.

Step	Description	Links
1.	Familiarize yourself with the switch.	■ “Switch Overview” on page 13 ■ “Front Panel Components” on page 14 ■ “Rear Panel Components” on page 15
2.	Understand supplied power, environmental, and airflow characteristics and rack precautions.	■ “Physical Specifications” on page 17 ■ “Electrical Specifications” on page 18 ■ “Environmental Specifications” on page 18 ■ “Airflow Precautions” on page 19 ■ “Rack Compatibility” on page 20 ■ “Rack Precautions” on page 20
3.	Verify shipped components and accessories.	■ “Shipping Kit” on page 24

Step	Description	Links
4.	Record the MAC IDs.	■ “Record the MAC IDs” on page 25
5.	If DHCP is to assign specific IP addresses to the SP and SCP, configure the DHCP server.	■ “Assign IP Addresses to the SP and SCP Through DHCP” on page 26
6.	Heed handling and ESD precautions.	■ “Handling Precautions” on page 26 ■ “ESD Precautions” on page 27
7.	Ready the rack for the switch.	■ “Stabilize the Rack” on page 29 ■ “Mark the Rack” on page 30 ■ “Install the Rackmount Hardware” on page 32 ■ “Install the Cable Management Comb” on page 37 ■ “Route the Power Cords and Management Cables” on page 38
8.	Install the switch and I/O modules (if necessary).	■ “Installation Tools” on page 27 ■ “Install the Switch” on page 39 ■ “Remove a Filler Panel” on page 47 ■ “Install an I/O Module” on page 42
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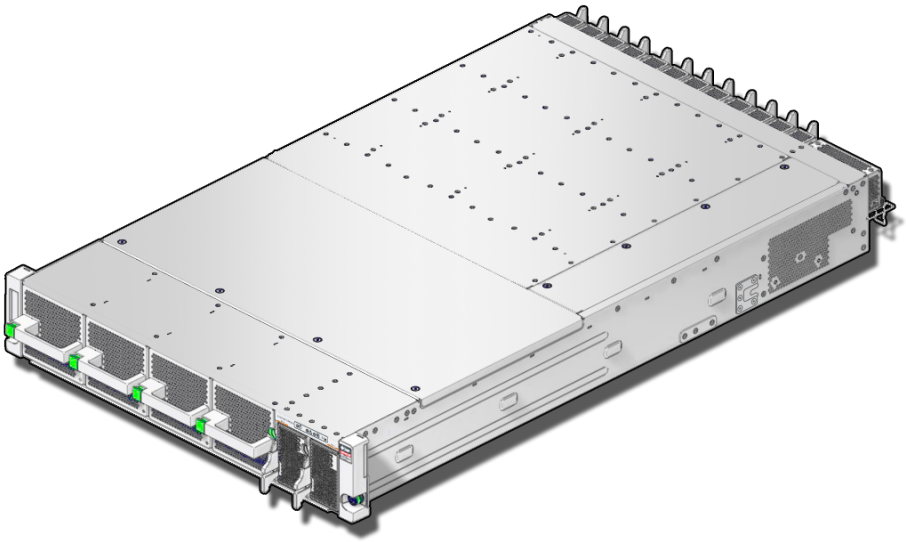
10.	Connect data cables.	■ “(Optional) Assemble the QSFP Cables” on page 58 ■ “(Optional) Assemble the SFP+ Cables” on page 60 ■ “Route the Cables” on page 62 ■ “Connect the RJ-45 Ethernet Cables” on page 63 ■ “Connect the PrizmMT Cables” on page 66 ■ “Connect the QSFP Cables” on page 69 ■ “Connect the LC Cables” on page 71 ■ “Secure Cables to the Cable Management Comb” on page 73
11.	If you are not using DHCP-assigned IP addresses, connect the serial management device.	■ “Connect the SER MGT Cable” on page 75 ■ “Connect a Serial Management Device to the SER MGT Port” on page 77
12.	Apply power to the switch.	■ “Connect Power Cords” on page 77 ■ “Power On the Switch” on page 81
13.	If you are not using DHCP-assigned IP addresses, log in to the SP through the SER MGT port.	■ “Log In to the SP (SER MGT)” on page 82 ■ “Assign a Static IP Address to the SP” on page 83 ■ “Assign a Static IP Address to the SCP” on page 85
14.	Log in to the SP through the network management interface.	■ “Log In to the SP (Network Management)” on page 86
15.	Verify switch functionality.	■ “Verify LED Status” on page 89 ■ “Verify That the Switch Is Operational” on page 94 ■ “Verify Connectivity” on page 96
16.	Administer the switch.	■ “Run the Oracle Fabric OS Configuration Wizard” on page 102 ■ “Oracle Fabric OS Configuration Wizard Parameters” on page 104 ■ “Log In to the Oracle Fabric OS Interface” on page 105 ■ “Log In to the Oracle Fabric Manager Interface” on page 106

Related Information

- "Switch Overview" on page 13
- "Front Panel Components" on page 14
- "Rear Panel Components" on page 15

Switch Overview

The switch is a complete access switching and I/O platform designed to consolidate and virtualize the switching infrastructure for server and storage systems deployed in high-performance enterprise clouds.



The virtualization switch can be configured many ways through I/O modules appropriate for your data center. Through I/O modules, the switch can support up to 48 4x IB ports, 24 16Gb FC ports, 48 10GBASE-T ports, 48 40G Ethernet ports, or a mixture of these ports to provide network and gateway capabilities.

Additionally, the switch has a dedicated port block, which also supports limited customization. Through the port block, the switch supports 4 12x IB ports, 4 1GBASE-T ports, and 2 4x IB/40GbE combination ports provide both network and gateway capabilities.

- If you configure the 2 4x IB/40GbE ports for IB, then the switch can support a maximum of 50 4x IB ports.

- If you configure the 2 4x IB/40GbE ports for GbE, then the switch can support a maximum of 50 40GbE ports.

For more information, see “Rear Panel Components” on page 15.

Separate, dedicated, and optimized on-board SP, ABD, and SCP manage chassis functionality, Ethernet traffic, and IB fabric respectively, through user-friendly CLIs and web interfaces.

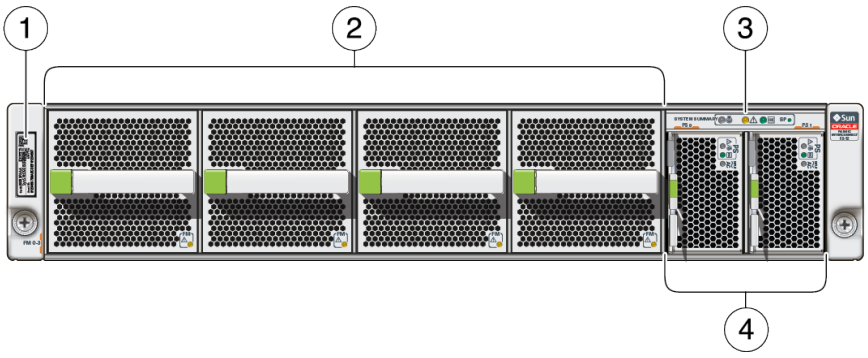
The virtualization switch ships preconfigured for network management through DHCP. However, the procedures in this document are serial management focused, with instructions to configure static IP addresses if desired.

Related Information

- “Installation Task Overview” on page 11
- “Front Panel Components” on page 14
- “Rear Panel Components” on page 15

Front Panel Components

The front panel is the fan and power supply end of the switch. This end of the switch is installed to the cold aisle.



No.	Description
1	RFID tag
2	Fan modules 0 to 3, starting from the left most fan.
3	Chassis status LEDs

No.	Description
4	Power supplies 0 and 1, starting from the left most power supply.

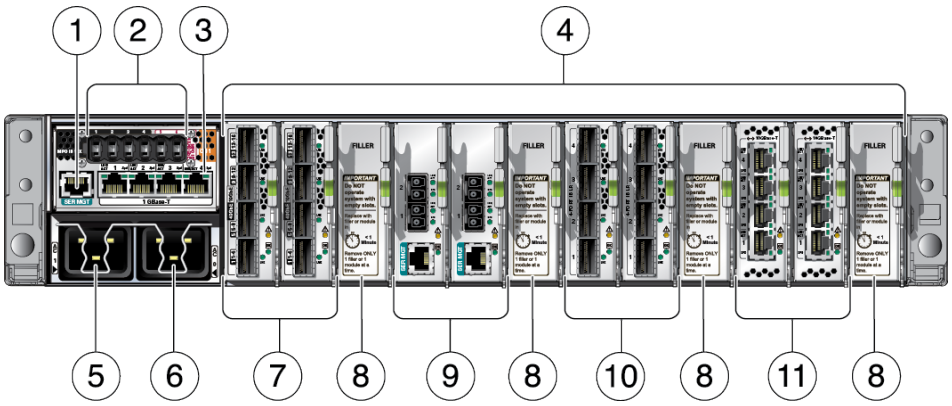
Related Information

- “Installation Task Overview” on page 11
- “Switch Overview” on page 13
- “Rear Panel Components” on page 15

Rear Panel Components

The rear panel is the data cable connection end of the switch. This end of the switch is installed to the hot aisle.

The switch can be populated with any mixture of Oracle F2 I/O modules as needed for your deployment. The illustration shows an example of one hardware configuration for the switch.



No.	Description
1	SER MGT connector
2	PrizmMT connectors: ■ **Ports 1 to 4** – 12x IB, which can be used for high-speed inter-switch links connecting leaf switches, virtualization switches, and spine switches together. ■ **Ports 5 and 6** – Either 4x IB or 40 GbE
3	1GBASE-T RJ-45 connectors – Any one of these connectors can be used for network management.

No.	Description
4	I/O module slots 0 to 11 with slot 0 as the left most slot.
5	Power receptacles for PS1 (AC1 inlet)
6	Power receptacle for PS0 (AC0 inlet)
7	Oracle F2 10 Gb and 40 Gb Ethernet module
8	Filler Panel
9	Oracle F2 Dual Port 16Gb Fibre Channel module
10	Oracle F2 Long Range InfiniBand module
11	Oracle F2 Quad Port 10GBASE-T module

Related Information

- “Installation Task Overview” on page 11
- “Switch Overview” on page 13
- “Front Panel Components” on page 14

Confirming Specifications

These topics describe the specifications of the switch and related precautions for installation.

Related Information

- “Understanding the Switch” on page 11
- “Preparing for Installation” on page 23
- “Installing the Switch” on page 29
- “Connecting Cables” on page 51
- “Powering On the Switch” on page 75
- “Verifying Functionality” on page 89

Physical Specifications

Dimension	Metric	U.S.
RU	2	2
Width	448.0 mm	17.64 in.
Depth	804 mm	31.65 in.
Height	87 mm	3.43 in.
Weight (base chassis)	40.1 kg	88.2 lbs
Weight (fully configured)	55.2 kg	121.4 lbs

Related Information

- “Electrical Specifications” on page 18
- “Environmental Specifications” on page 18
- “Airflow Precautions” on page 19
- “Rack Compatibility” on page 20
- “Rack Precautions” on page 20

Electrical Specifications

Parameter	AC Requirement
Voltage	200 VAC to 277 VAC single phase, 50 to 60 Hz
Current (per input)	16A maximum per input
Current (total)	13A maximum total for all inputs at 208 VAC
Power	2700W (Total input power is approximately equally divided among the operating power supplies.)

Related Information

- “Physical Specifications” on page 17
- “Environmental Specifications” on page 18
- “Airflow Precautions” on page 19
- “Rack Compatibility” on page 20
- “Rack Precautions” on page 20

Environmental Specifications

Parameter	Metric Operating	U.S. Operating
Temperature	5˚C to 35˚C	41˚F to 95˚F
Humidity	5% to 85% noncondensing, 27˚C maximum wet bulb	5% to 85% noncondensing, 80˚F maximum wet bulb
Elevation (Oracle requirement)	Maximum 3000 meters at 40˚C	Maximum 9840 feet at 104˚F

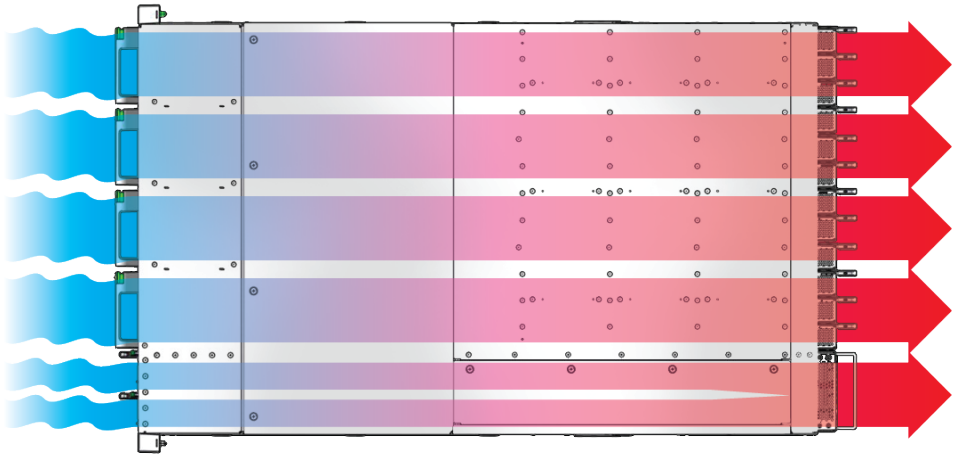
Related Information

- “Physical Specifications” on page 17

Airflow Precautions

Caution - Proper airflow is essential for keeping the switch's internal temperatures within a safe operating range.

Air flows from the front (fan end) of the switch to the rear (connector end) of the switch.



Follow these guidelines to ensure unrestricted airflow in the switch:

- Install the switch so that the front faces the cool aisle and the rear faces the warm aisle.
- Do not direct warm air into the switch.
- Prevent recirculation of air within a rack or cabinet.
- Ensure that either a module or a filler panel is in place while the switch is operating.
- Route cables so that they do not interfere with airflow.

Related Information

- “Physical Specifications” on page 17

Rack Compatibility

This switch and rackmounting hardware is designed for installation into an Oracle Sun Rack II or compatible rack or cabinet.

Related Information

- “Physical Specifications” on page 17
- “Electrical Specifications” on page 18
- “Environmental Specifications” on page 18
- “Airflow Precautions” on page 19
- “Rack Precautions” on page 20

Rack Precautions

Caution - Equipment Loading. Always load equipment into a rack from the bottom to the top so that the rack does not become top heavy and tip over. Deploy your rack's anti-tilt legs to prevent the rack from tipping during equipment installation.

Caution - Elevated Operating Ambient Temperature. If the switch is installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment might be greater than the room ambient temperature. Therefore, install the equipment only in an environment compatible with the ambient temperature specified for the switch.

Caution - Reduced Air Flow. Install the equipment in a rack so that the amount of air flow is adequate for the safe operation of the equipment.

Caution - Mechanical Loading. Mount the equipment in the rack so that the weight is distributed evenly. A hazardous condition can exist with uneven mechanical loading.

Caution - Circuit Overloading. Do not overload the power supply circuits. Before connecting the switch to the supply circuit, review the equipment nameplate power ratings and consider the effect that circuit overloading might have on overcurrent protection and supply wiring.

Caution - Reliable Grounding. Maintain reliable grounding of rackmounted equipment. Give particular attention to supply connections other than direct connections to the branch circuit (for example, use of power strips).

Related Information

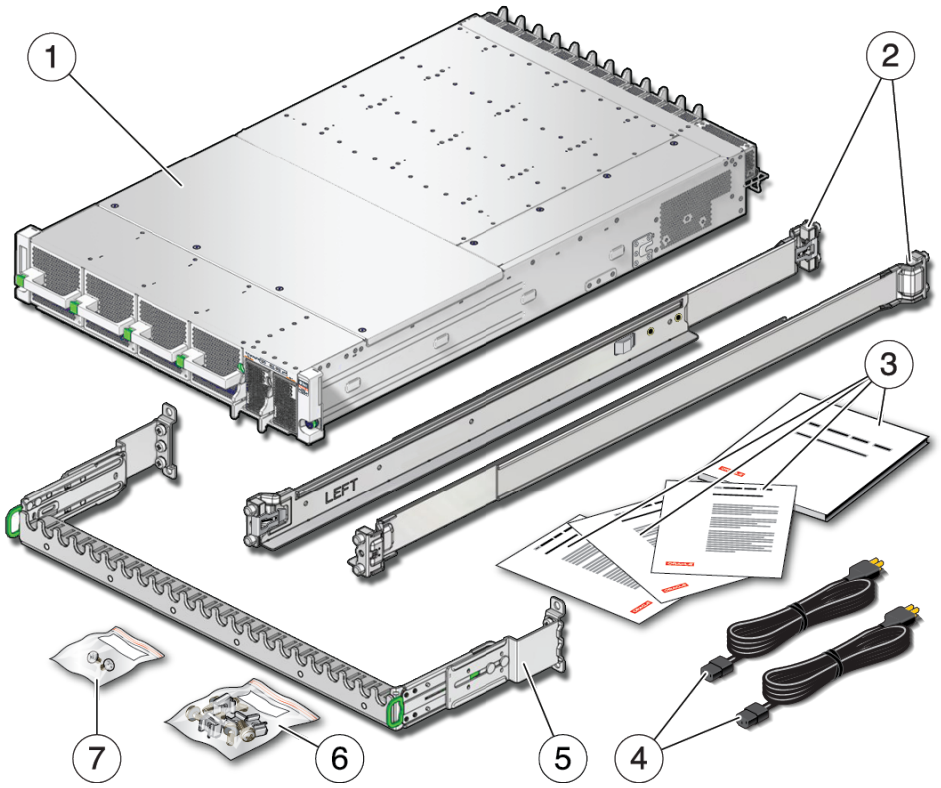
- “Physical Specifications” on page 17
- “Electrical Specifications” on page 18
- “Environmental Specifications” on page 18
- “Airflow Precautions” on page 19
- “Rack Compatibility” on page 20

Preparing for Installation

These topics provide information to prepare for the switch installation process.

Related Information

Shipping Kit



No.	Description
1	Switch
2	Left and right shelf rails
3	Documentation
4	Power cords
5	Cable management comb
6	Fasteners
7	Mushroom screw kit (for use with shelf rails)

Related Information

- “Handling Precautions” on page 26

- “ESD Precautions” on page 27
- “Installation Tools” on page 27

▼ Record the MAC IDs

1. **Identify the prerequisite and subsequent installation tasks that you must perform in conjunction with this task.**

   See “Installation Task Overview” on page 11.

2. **Remove the Customer Information sheet from the outside of the shipping carton.**
3. **On the Customer Information sheet, find the switch serial number.**
4. **Record the serial number to a document intended for this purpose.**
5. **In the Network Interfaces table of the sheet, find the primary MAC ID.**

   This is the MAC ID of the SP within the switch.

6. **Record the SP MAC ID to the document.**
7. **In the Network Interfaces table of the sheet, find the secondary MAC ID.**

   This is the MAC ID of the SCP within the switch.

8. **Record the SCP MAC ID to the document.**
9. **Secure the Customer Information sheet in a safe place.**
10. **Consider your next steps.**

    - **If you will assign IP addresses to the SP and SCP through DHCP, configure your DHCP server now.**

      See “Assign IP Addresses to the SP and SCP Through DHCP” on page 26.

    - **If you will assign static IP addresses to the SP and SCP through the SER MGT port, go to “Handling Precautions” on page 26.**

Related Information

- “Shipping Kit” on page 24
- “Assign IP Addresses to the SP and SCP Through DHCP” on page 26
- “Handling Precautions” on page 26

- "ESD Precautions" on page 27
- "Installation Tools" on page 27

▼ Assign IP Addresses to the SP and SCP Through DHCP

1. **Identify the prerequisite and subsequent installation tasks that you must perform in conjunction with this task.**

   See "Installation Task Overview" on page 11.

2. **Log in to the DHCP server and configure it to assign a predetermined IP address and host name for the SP MAC ID you recorded.**

   Record this IP address and host name for future reference.

3. **Configure the DHCP server to assign a predetermined IP address and host name for the SCP MAC ID you recorded.**

   Record this IP address and host name for future reference.

   When the switch is connected to the management network and powered on, the SP and SCP will receive the predetermined IP addresses.

4. **Continue the installation.**

   See "Handling Precautions" on page 26.

Related Information

- "Shipping Kit" on page 24
- "Record the MAC IDs" on page 25
- "Handling Precautions" on page 26
- "ESD Precautions" on page 27
- "Installation Tools" on page 27

Handling Precautions

Caution - Deploy the anti-tilt legs on the equipment rack before beginning an installation.

Caution - A lift is required to lift and mount this switch into a rack when using the tasks in this document.

Caution - When performing a two-person task, always communicate your intentions clearly before, during, and after each step to minimize confusion.

Related Information

- “Shipping Kit” on page 24
- “ESD Precautions” on page 27
- “Installation Tools” on page 27

ESD Precautions

When installing the switch chassis, follow antistatic precautions:

- Use an antistatic mat as a work surface.
- Wear an antistatic wrist strap that is attached to either the mat or a metal portion of the switch chassis.

Related Information

- “Shipping Kit” on page 24
- “Handling Precautions” on page 26
- “Installation Tools” on page 27

Installation Tools

These tools are necessary or beneficial for installing the switch:

- Antistatic wrist strap
- Antistatic mat
- No. 2 Phillips screwdriver
- Cage nut installation tool or flat-blade screwdriver
- Serial terminal device and necessary cabling
- Masking tape
- Paper clip
- PrizmMT ferrule cleaner (third-party part) USConec part number 16899
- Flashlight

- Gloves

Related Information

- “Shipping Kit” on page 24
- “Handling Precautions” on page 26
- “ESD Precautions” on page 27

Installing the Switch

These topics describe how to install the switch.

Description	Links
Ready the rack for the switch.	■ "Stabilize the Rack" on page 29 ■ "Mark the Rack" on page 30 ■ "Install the Rackmount Hardware" on page 32 ■ "Install the Cable Management Comb" on page 37 ■ "Route the Power Cords and Management Cables" on page 38
Install the switch into the rack.	■ "Install the Switch" on page 39
If necessary, install I/O modules into the switch.	■ "Remove a Filler Panel" on page 47 ■ "Install an I/O Module" on page 42

Related Information

- "Understanding the Switch" on page 11
- "Confirming Specifications" on page 17
- "Preparing for Installation" on page 23
- "Connecting Cables" on page 51
- "Powering On the Switch" on page 75
- "Verifying Functionality" on page 89

▼ Stabilize the Rack

Caution - To reduce the risk of personal injury, stabilize the rack and extend all anti-tilt devices before installing the switch.

1. **Identify the prerequisite and subsequent installation tasks that you must perform in conjunction with this task.**

   See "Installation Task Overview" on page 11.

2. **Open and remove the front and rear doors from the rack.**

3. **If there are leveling feet beneath the rack to prevent it from rolling, extend these leveling feet fully downward to the floor.**

4. **Fully extend the rack's anti-tilt legs or anti-tilt bar, which are located at the bottom front of the rack.**

5. **Mark the rack to where the switch will install.**

   See “Mark the Rack” on page 30.

Related Information

- “Mark the Rack” on page 30
- “Install the Rackmount Hardware” on page 32
- “Install the Cable Management Comb” on page 37
- “Route the Power Cords and Management Cables” on page 38
- “Install the Switch” on page 39
- “Install an I/O Module” on page 42
- “Remove a Filler Panel” on page 47

▼ Mark the Rack

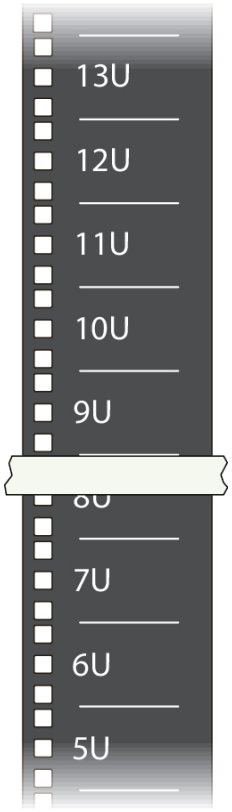
1. **Identify the prerequisite and subsequent installation tasks that you must perform in conjunction with this task.**

   See “Installation Task Overview” on page 11.

2. **Determine where you are installing the switch.**

3. **Mark this location on each rack post with masking tape.**

For example, rack unit 9.



Counting the number of rack units from the bottom of the rack to the mounting location assists you when marking the other rack posts.

4. **Install the rackmount hardware.**

   See “Install the Rackmount Hardware” on page 32.

Related Information

- “Stabilize the Rack” on page 29
- “Install the Rackmount Hardware” on page 32
- “Install the Cable Management Comb” on page 37
- “Route the Power Cords and Management Cables” on page 38

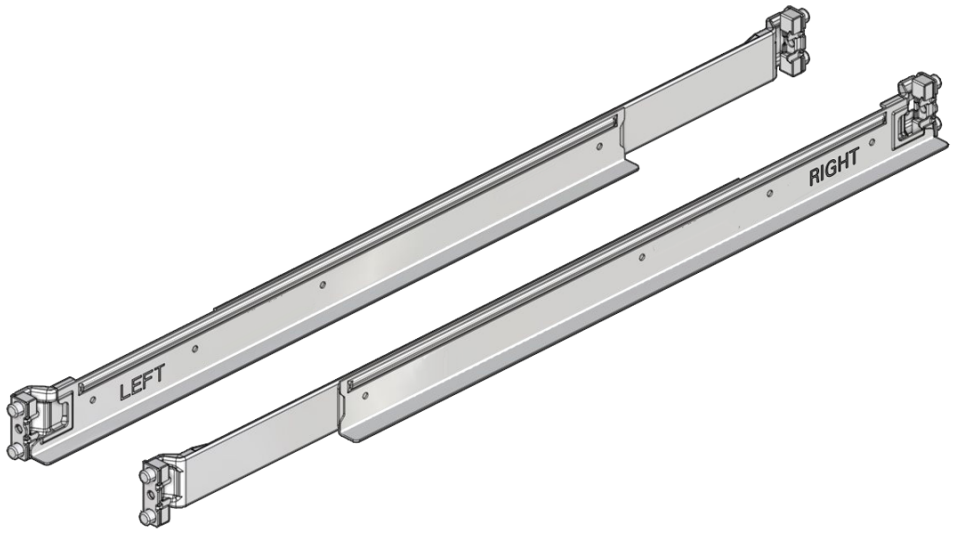
- “Install the Switch” on page 39
- “Install an I/O Module” on page 42
- “Remove a Filler Panel” on page 47

▼ Install the Rackmount Hardware

1. **Identify the prerequisite and subsequent installation tasks that you must perform in conjunction with this task.**

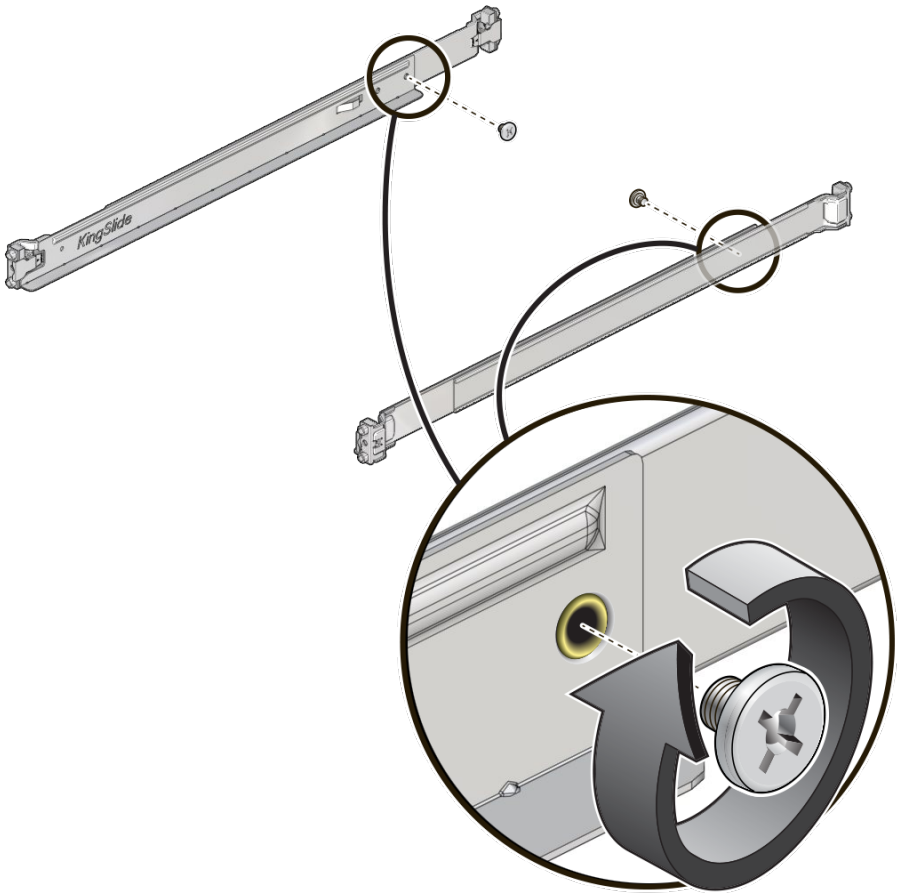
   See “Installation Task Overview” on page 11.

2. **Identify the left and right shelf rails.**

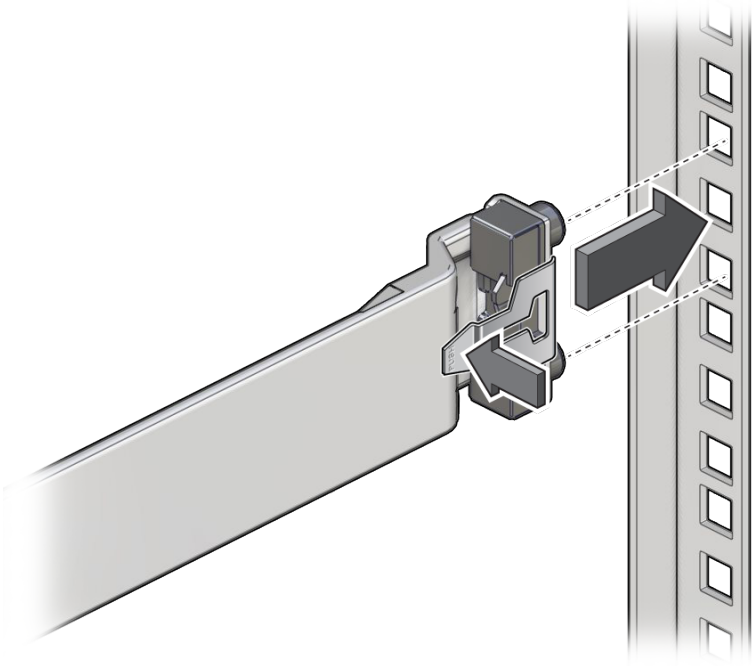


The words LEFT and RIGHT on the shelf rails indicate the front ends of the shelf rails.

3. **Insert the mushroom screw into the last screw hole on the interior of the shelf rail.**



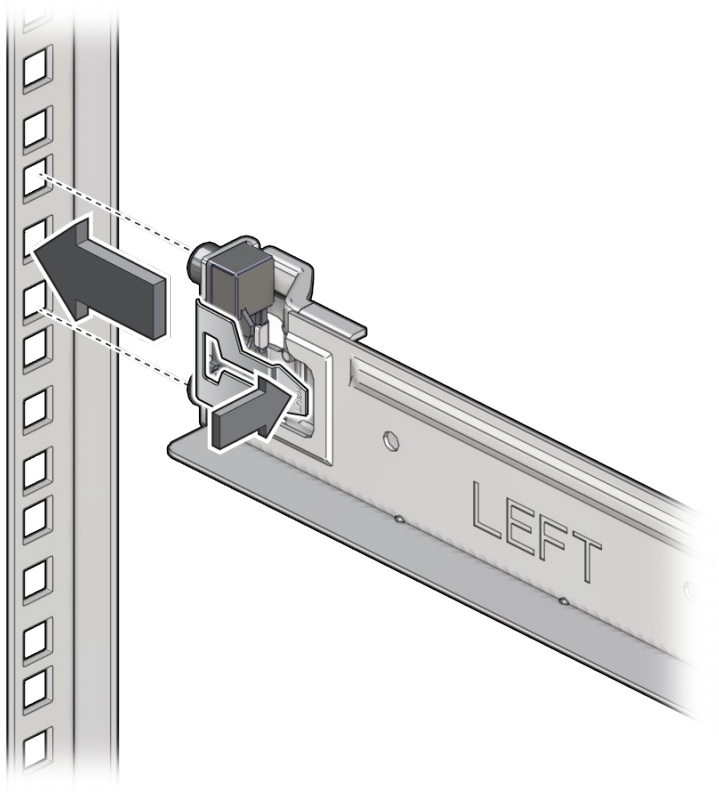
4. **Lift the left shelf rail, and from the front of the rack, position the rear of the shelf rail into the rear rack post.**



5. **Press the shelf rail into the rear rack post while pressing and releasing the release tab.**

   The shelf rail secures to the rear rack post.

6. **Extend the shelf rail toward the front of the rack, and position the front of the shelf rail into the front rack post.**



7. **Press the shelf rail into the front rack post while pressing and releasing the release tab.**

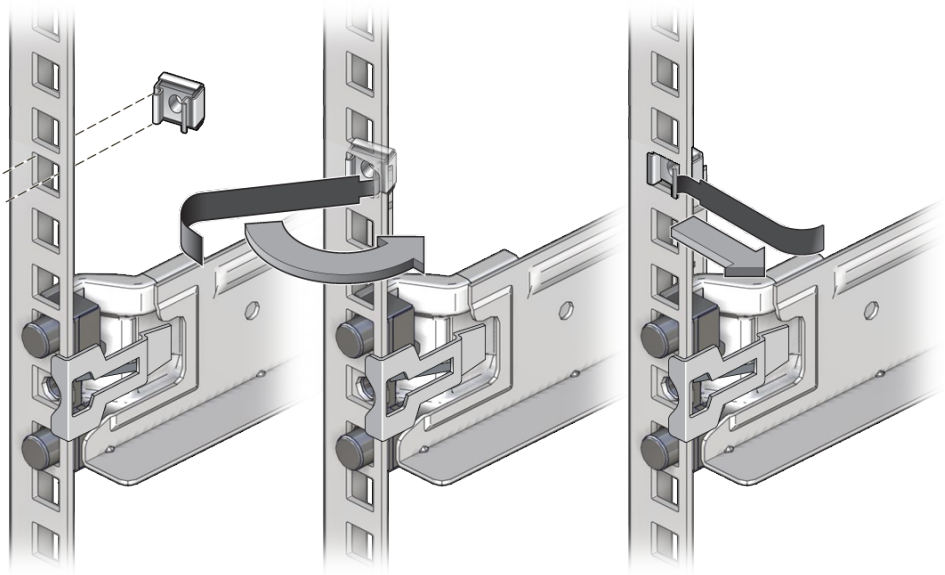
   The shelf rail secures to the front rack post.

8. **Repeat Step 4 through Step 7 for the right shelf rail.**

9. **Install a 10-32 cage nut into each rear rack post, in the upper square hole of the rack unit immediately above where the shelf rail is installed.**

   a. **Orient the cage nut to the upper square hole of the rack unit, with the flanges to the right and left.**

b. Insert the outer flange into the square hole.



c. Using the cage nut installation tool or flat-blade screwdriver as a guide, catch the inner flange and pry it into the square hole.

d. Pull the cage nut installation tool or flat blade screwdriver from the flange.

e. Repeat to install a 10-32 cage nut into the other rear rack post.

10. Install the cable management comb.

See “Install the Cable Management Comb” on page 37.

Related Information

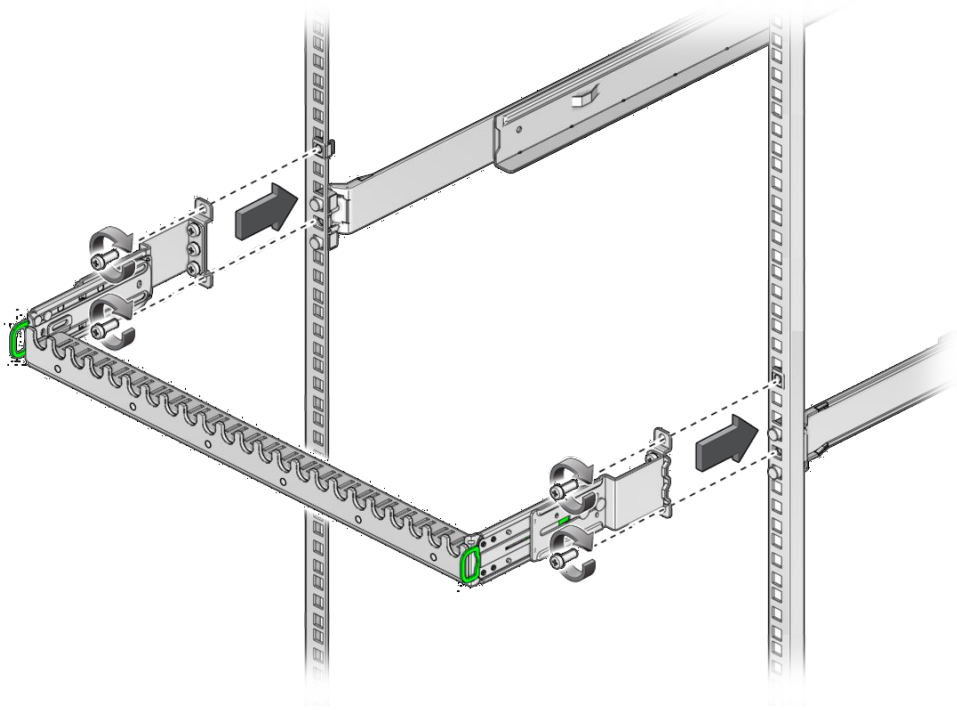
- “Stabilize the Rack” on page 29
- “Mark the Rack” on page 30
- “Install the Cable Management Comb” on page 37
- “Route the Power Cords and Management Cables” on page 38
- “Install the Switch” on page 39
- “Install an I/O Module” on page 42
- “Remove a Filler Panel” on page 47

Install the Cable Management Comb

1. **Identify the prerequisite and subsequent installation tasks that you must perform in conjunction with this task.**

   See "Installation Task Overview" on page 11.

2. **Orient the upper mounting holes of the cable management comb to where you just installed the 10-32 cage nuts.**



3. **Using a No. 2 Philips screwdriver, secure the upper mounting holes of the cable management comb to the 10-32 cage nuts with two 10-32 screws.**

4. **Secure the lower mounting holes of the cable management comb to the hole in the end center of the shelf rails with two 10-32 screws.**

5. **Route the power cords and management cables.**

   See "Route the Power Cords and Management Cables" on page 38.

Related Information

- “Stabilize the Rack” on page 29
- “Mark the Rack” on page 30
- “Install the Rackmount Hardware” on page 32
- “Route the Power Cords and Management Cables” on page 38
- “Install the Switch” on page 39
- “Install an I/O Module” on page 42
- “Remove a Filler Panel” on page 47

▼ Route the Power Cords and Management Cables

The facility power receptacles for the power cords should be located such that the power cords are routed out of the way.

1. **Identify the prerequisite and subsequent installation tasks that you must perform in conjunction with this task.**
   See “Installation Task Overview” on page 11.
2. **Route the female end of the power cords up from the power distribution panel or receptacles at the rear of the rack.**
3. **Route the network management cable and serial management cable (if a full-time serial management cable will be used) from their respective hubs, concentrators, or switches, to the rack.**
4. **Route the cords and management cables to the left rear side where you are installing the switch.**
5. **Add at least 8 inches of slack to the cable lengths to enable connection and disconnection with the switch power receptacles, the SER MGT connector, the PrizmMT connectors, and the RJ-45 connectors.**
6. **Secure the cables to the rack mounting location with this additional slack.**
   Use hook and loop fastener straps to bundle and secure the cables.
7. **Install the switch.**
   See “Install the Switch” on page 39.

Related Information

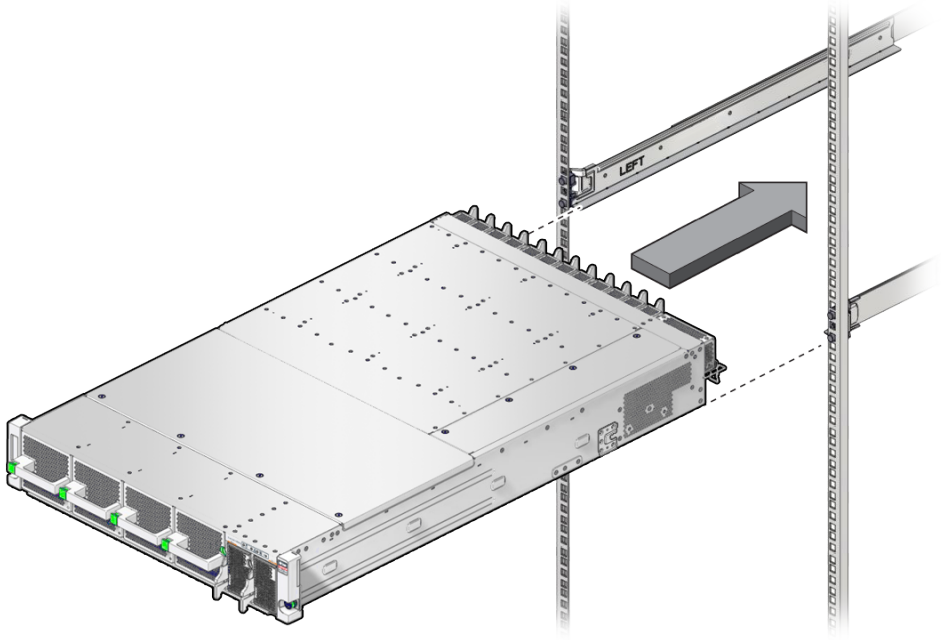
- “Stabilize the Rack” on page 29
- “Mark the Rack” on page 30
- “Install the Rackmount Hardware” on page 32

- “Install the Cable Management Comb” on page 37
- “Install the Switch” on page 39
- “Install an I/O Module” on page 42
- “Remove a Filler Panel” on page 47

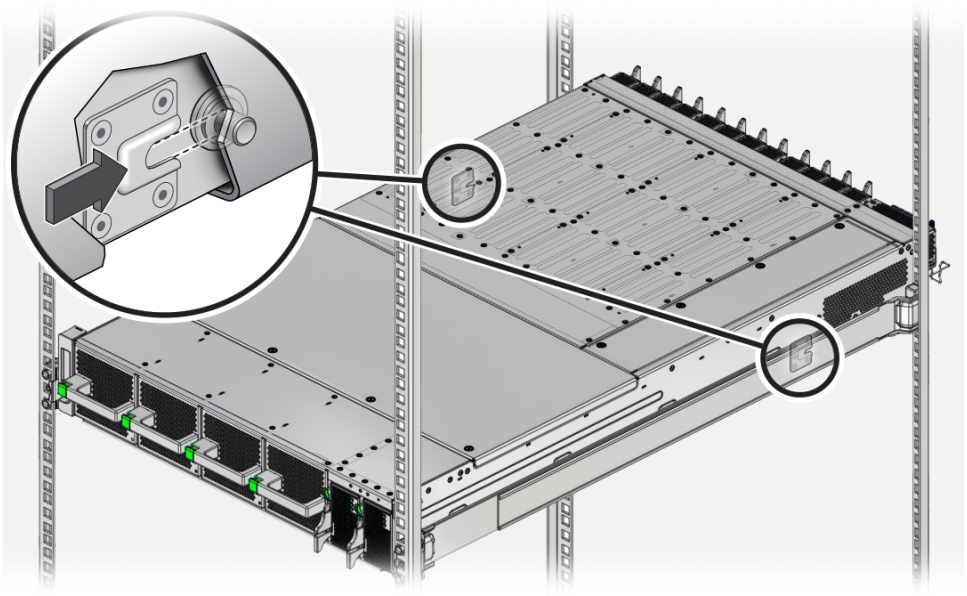
Install the Switch

Caution - The weight of the switch is such that a lift or two people are used to raise the switch to the shelf rails.

1. **Identify the prerequisite and subsequent installation tasks that you must perform in conjunction with this task.**
   See “Installation Task Overview” on page 11.
2. **Locate the bracket on each side of the switch.**
   This bracket will used to correctly seat the switch in the rack.
3. **Carefully lift the switch and begin sliding it into the rack, from the front of the rack rearward.**



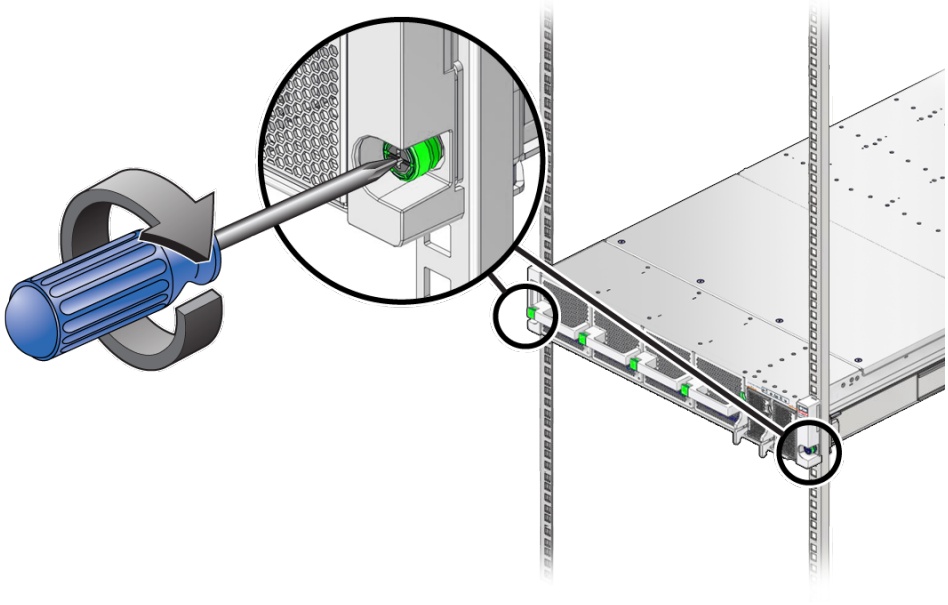
4. **While sliding the switch into the rack, on each side of the switch, make sure each mushroom screw slips into the slot in its bracket.**



5. **If the screws are not seated in each bracket's slot, slide the switch out far enough to realign the brackets and screws, then slide the switch in again.**

   The switch is correctly installed when you have slid it completely into the rack, and each screw is seated in its bracket.

6. **When the chassis is correctly installed, use a No. 2 Phillips screwdriver to secure the switch chassis to the front rack posts with the captive screws at each side.**



7. **Consider your next task.**

   - **If you are installing I/O modules, do that now.**

     See “Install an I/O Module” on page 42.

   - **If you are not installing additional components, go to Step 8.**

8. **Consider your next task.**

   - See “(Optional) Assemble the QSFP Cables” on page 58 or “(Optional) Assemble the SFP+ Cables” on page 60.
   - See “Route the Cables” on page 62.

Related Information

- “Stabilize the Rack” on page 29
- “Mark the Rack” on page 30
- “Install the Rackmount Hardware” on page 32
- “Install the Cable Management Comb” on page 37

- “Route the Power Cords and Management Cables” on page 38
- “Install an I/O Module” on page 42
- “Remove a Filler Panel” on page 47

Install an I/O Module

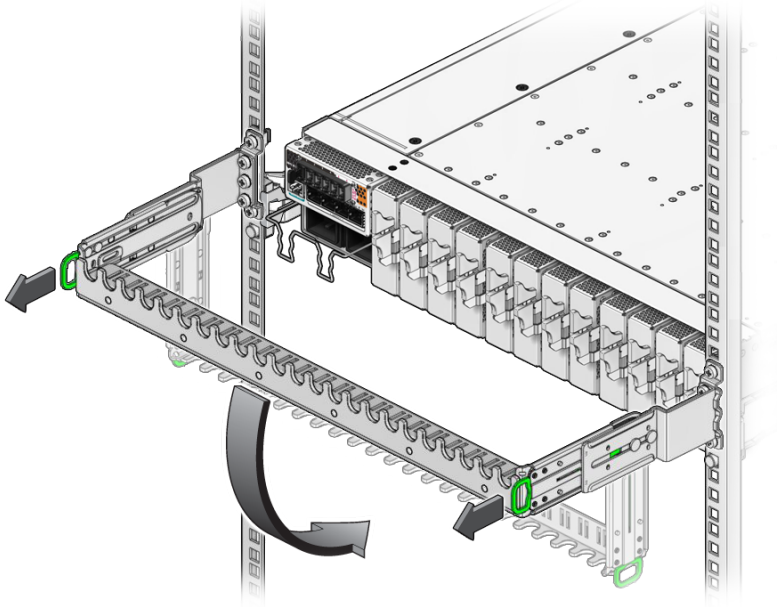
This procedure depicts installing the Oracle F2 10 Gb and 40 Gb Ethernet module, however the procedure is the same for all I/O modules. I/O modules can be installed in any module slot in the chassis.

1. **Identify the prerequisite and subsequent installation tasks that you must perform in conjunction with this task.**

   See “Installation Task Overview” on page 11.

2. **If the rack rear door is installed, open it.**

3. **Grasp the two green loops of the cable management comb, pull them out to release the comb, then swing the comb 90 ° downward.**



4. **Remove the I/O module from its antistatic packaging and set it aside on an antistatic mat.**

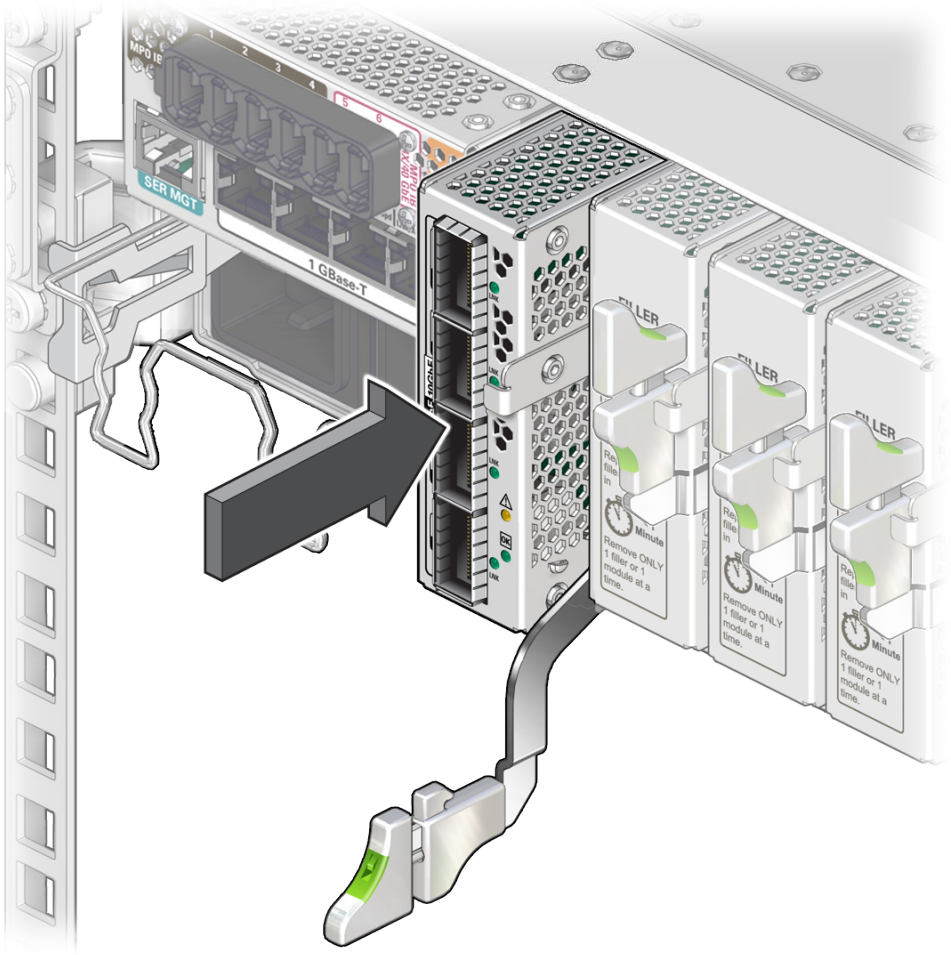
5. **Remove the filler panel from the slot where you are installing the I/O module.**

   See “Remove a Filler Panel” on page 47.

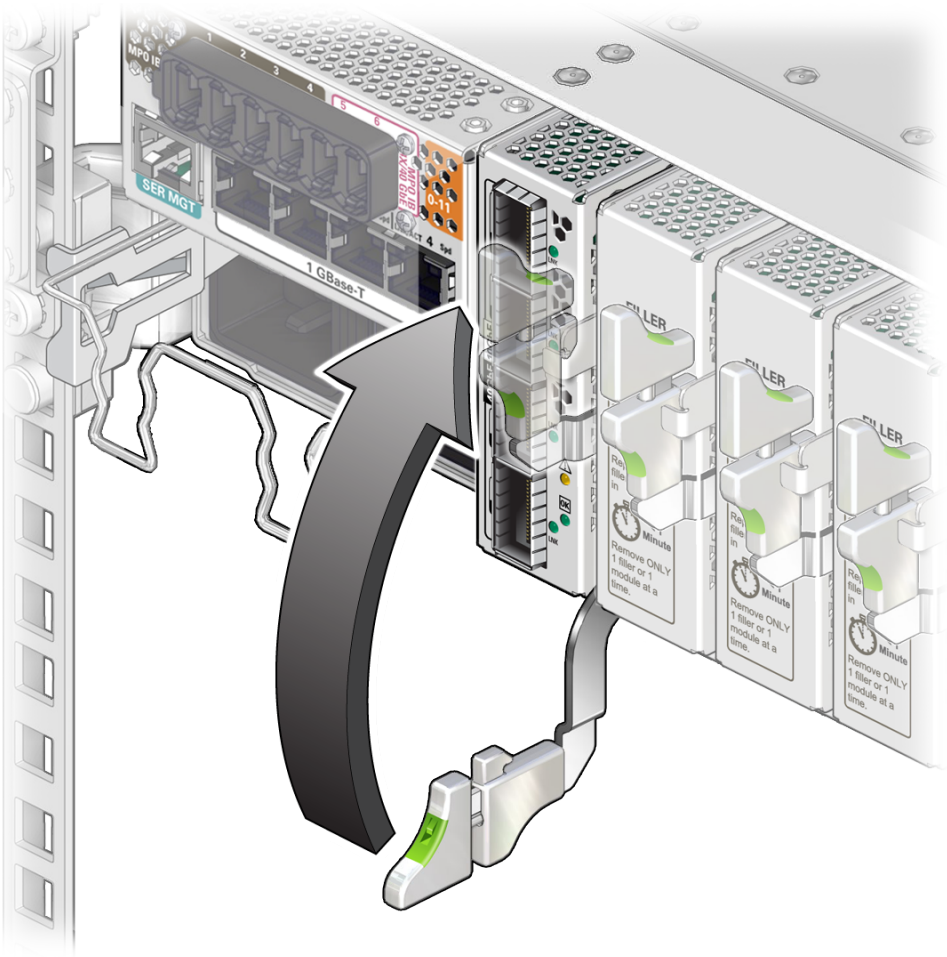
6. **On the I/O module, squeeze the upper and lower halves of the release lever together, and swing the release lever to the fully open position.**

7. **Align the I/O module to the slot where you are installing it.**

The LEDs and data cable receptacles face you, and the release lever is to the lower right.

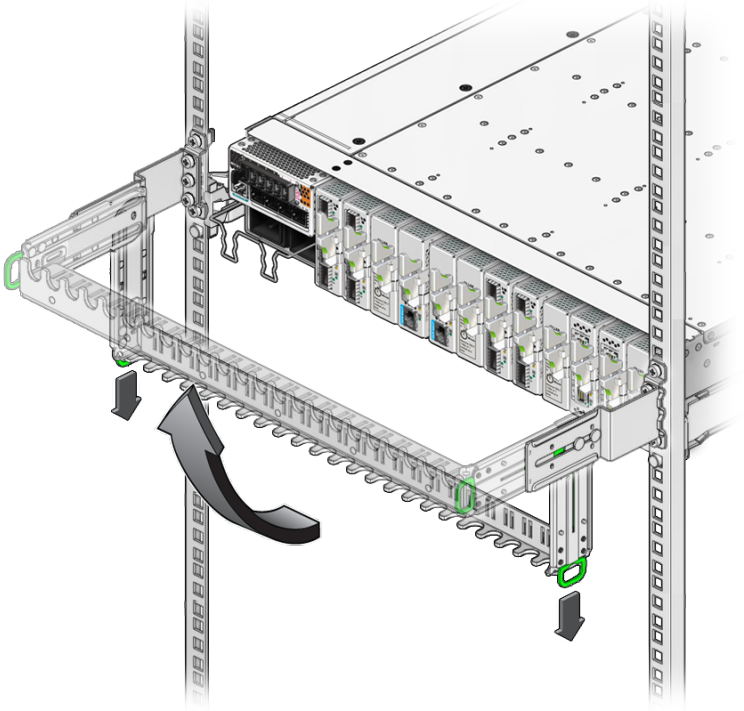


8. **Slide the I/O module into the chassis until the release lever begins to rise, then close the release lever to secure the I/O module in the slot.**



9. **Repeat Step 4 to Step 8 for all I/O modules to be installed.**

10. **Grasp the two green loops of the cable management comb, pull them out to release the comb, then swing the comb up to the horizontal position.**



11. **Cable the switch.**

- **See “(Optional) Assemble the QSFP Cables” on page 58 or “(Optional) Assemble the SFP+ Cables” on page 60.**
- **See “Route the Cables” on page 62**

Related Information

- “Stabilize the Rack” on page 29
- “Mark the Rack” on page 30
- “Install the Rackmount Hardware” on page 32
- “Install the Cable Management Comb” on page 37
- “Route the Power Cords and Management Cables” on page 38
- “Install the Switch” on page 39
- “Remove a Filler Panel” on page 47

Remove a Filler Panel

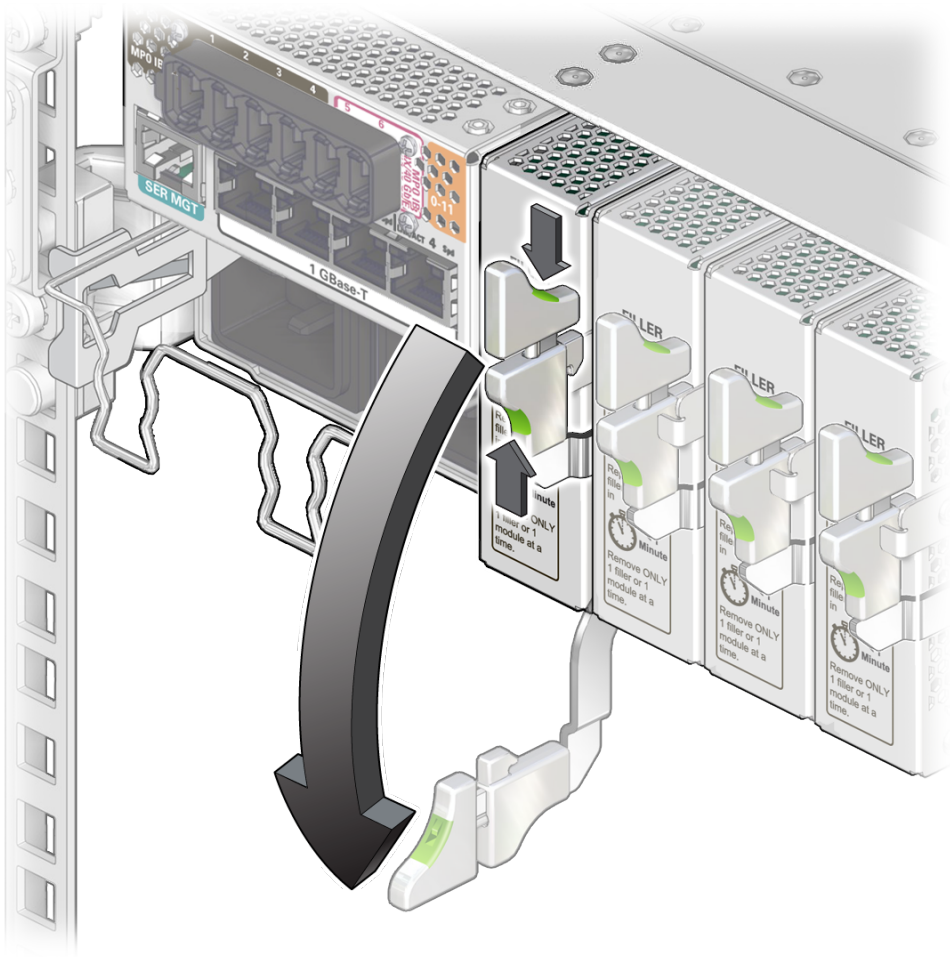
Caution - To maintain thermal stability, never operate the switch with an empty slot. Remove filler panels only as you replace them with an I/O module in a one-for-one basis.

1. **Identify the prerequisite and subsequent installation tasks that you must perform in conjunction with this task.**

   See "Installation Task Overview" on page 11.

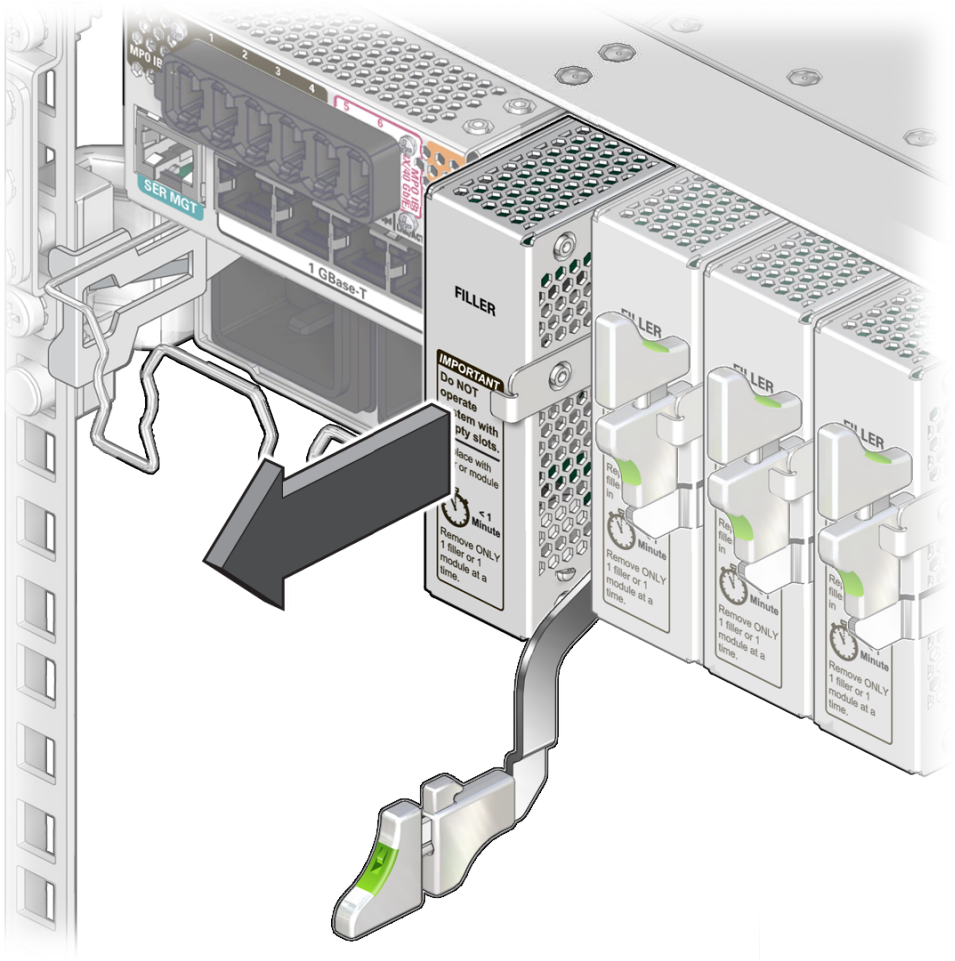
2. **At the location where you are installing the module, remove the filler panel.**

a. **Squeeze the upper and lower halves of the release lever together, and pull the lever in a downward motion.**



The filler panel is unseated from the slot connection.

b. **Use the release lever to pull the filler panel from the switch chassis.**



c. **Use your free hand to take the weight of the filler panel, as it comes free of the chassis.**

d. **Set the filler panel aside.**

3. **Finish installing an I/O module.**

See “Install an I/O Module” on page 42.

Related Information

- “Stabilize the Rack” on page 29
- “Mark the Rack” on page 30
- “Install the Rackmount Hardware” on page 32
- “Install the Cable Management Comb” on page 37
- “Route the Power Cords and Management Cables” on page 38
- “Install the Switch” on page 39
- “Install an I/O Module” on page 42

Connecting Cables

These topics provide cabling information and describe how to cable the switch.

Description	Links
Understand cable requirements.	■ “Chassis Cable Requirements” on page 51 ■ “I/O Module Cable Requirements” on page 52
Identify cable differences.	“Standard MT and PrizmMT Cables” on page 53
Heed cable precautions.	“General Cable Precautions” on page 56
If necessary, assemble the optical data cables.	■ “(Optional) Assemble the QSFP Cables” on page 58 ■ “(Optional) Assemble the SFP+ Cables” on page 60
Route the data cables.	“Route the Cables” on page 62
Connect the data cables.	■ “Connect the RJ-45 Ethernet Cables” on page 63 ■ “Connect the PrizmMT Cables” on page 66 ■ “Connect the QSFP Cables” on page 69 ■ “Connect the LC Cables” on page 71
Secure the cables to the management comb.	“Secure Cables to the Cable Management Comb” on page 73

Related Information

- “Understanding the Switch” on page 11
- “Confirming Specifications” on page 17
- “Preparing for Installation” on page 23
- “Installing the Switch” on page 29
- “Powering On the Switch” on page 75
- “Verifying Functionality” on page 89

Chassis Cable Requirements

Minimal functionality of the switch requires this cabling:

- **Management console** – The management console is the physical medium that the administrator uses to interact with the SP. There are two ways of making this connection:
  - **Network Management** – Network management permits you to use your existing management network to connect an RJ-45 cable to any one of the four connectors on the left rear of the switch. This is the preferred means of connecting to the SP, because it gives you the flexibility to use any host on the management network to interact with the SP and the Oracle ILOM web interface. To improve security, a VLAN ID can be configured for the SP.
  - **Serial management** – A serial device, such as a TIP connection, a serial terminal, or a terminal server, is cabled to the SER MGT port on the front of the switch. An advantage of serial management with a dedicated serial terminal is that the connection is more secure than through network management. Because of the nature of the serial signal, a serial management cable cannot be used reliably if it is more than 30 feet (9 meters) long.
- **Power supplies** – Country-specific power cords shipped with the switch supply facility power to the switch from power distribution units inside of the rack.
- **RJ-45 Ethernet ports** – These 4 ports provide switched 1GBASE-T functionality through CAT 6 rated cabling.
- **PrizmMT ports** - Four ports require PrizmMT 12x IB cables, and two ports require PrizmMT 4x cables.

Related Information

- “Standard MT and PrizmMT Cables” on page 53
- “General Cable Precautions” on page 56
- “(Optional) Assemble the QSFP Cables” on page 58
- “(Optional) Assemble the SFP+ Cables” on page 60
- “Route the Cables” on page 62
- “Connect the RJ-45 Ethernet Cables” on page 63
- “Connect the PrizmMT Cables” on page 66
- “Standard MT and PrizmMT Cable Precautions” on page 55
- “Connect the QSFP Cables” on page 69
- “Secure Cables to the Cable Management Comb” on page 73

I/O Module Cable Requirements

The I/O modules require cables specific to the I/O module's functionality.

- **Oracle F2 10 Gb and 40 Gb Ethernet module** – MPO and LC duplex type optical fiber cable.
- **Oracle F2 Dual Port 16Gb Fibre Channel module** – LC type optical fiber cables.

- **Oracle F2 Long Range InfiniBand module** – MPO optical fiber cable.
- **Oracle F2 Quad Port 10GBASE-T module** – Cat 5e or Cat 6 rated UTP RJ-45 cables.

Additional information for cables and connections is available in a connectivity guide for Oracle's EDR switch and Virtualized I/O Systems. Refer to `https://community.oracle.com/docs/DOC-1006347`.

Related Information

- "Standard MT and PrizmMT Cables" on page 53
- "Standard MT and PrizmMT Cable Precautions" on page 55
- "General Cable Precautions" on page 56
- "(Optional) Assemble the QSFP Cables" on page 58
- "(Optional) Assemble the SFP+ Cables" on page 60
- "Route the Cables" on page 62
- "Connect the RJ-45 Ethernet Cables" on page 63
- "Connect the PrizmMT Cables" on page 66
- "Connect the QSFP Cables" on page 69
- "Secure Cables to the Cable Management Comb" on page 73

Standard MT and PrizmMT Cables

Even though PrizmMT and standard MT optical fiber cables look similar, they are not. PrizmMT cables use clear plastic ferrules that have lenses to focus the laser light across the connection air gap. Standard MT cables rely upon physical contact of fiber tips at each connection. Standard MT and Prizm MT cables have some considerations regarding storage, handling, and connecting to devices. See "Standard MT and PrizmMT Cable Precautions" on page 55.

Caution - Connecting an PrizmMT cable to a standard MT receptacle, such as on a QSFP transceiver damages the PrizmMT ferrule and renders the cable unusable.

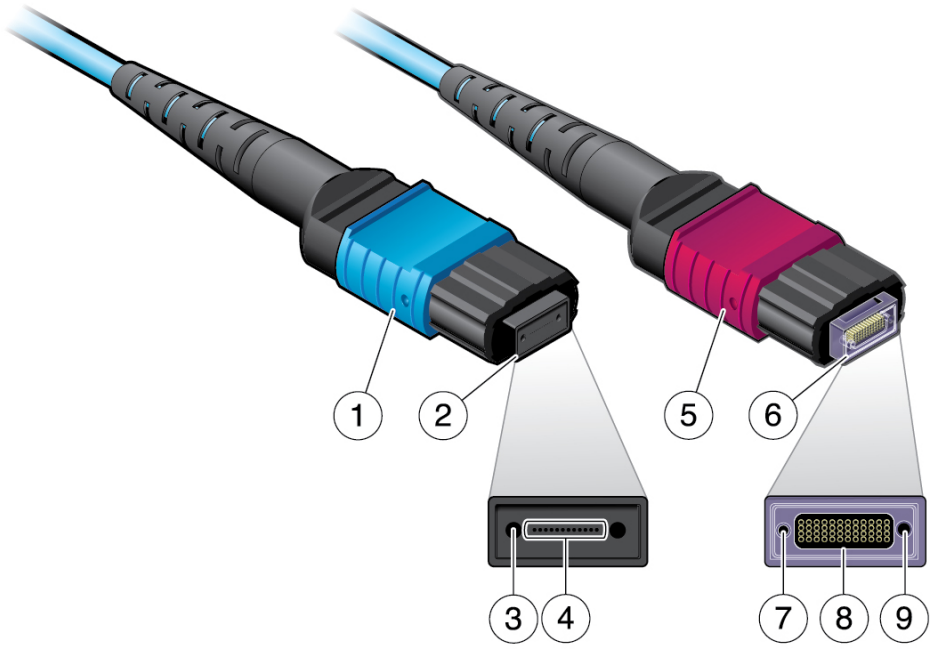
To help distinguish between PrizmMT and Standard MT cables, PrizmMT cables are identified with certain features. The features are ferrule, housing color, and alignment method and fiber spacing.

Technology	Ferrule	Housing Color	Alignment Method and Spacing
4x PrizmMT optical cable	PrizmMT (clear with lenses)	Magenta	Post and hole —Wide

Technology	Ferrule	Housing Color	Alignment Method and Spacing
12x PrizmMT optical cable	PrizmMT (clear with lenses)	Black	Post and hole—Wide
4x standard MT optical cable	Standard MT (black)	Aqua	Pins or holes—Narrow

Caution - Some supported cables have a PrizmMT connector on one end, and a Standard MT connector on the other. Pay close attention when connecting these cables. Do not confuse one connector with the other. Damage might occur.

The following illustration shows the difference between the standard MT cable and the PrizmMT cable. The standard MT cable is on the left and the PrizmMT cable is on the right.



No.	Description
1	Aqua housing (standard MT)
2	Standard ferrule (standard MT)
3	Alignment pin holes (standard MT)
4	Contact type optical fibers (standard MT)
5	Magenta housing (PrizmMT)
6	PrizmMT ferrule (PrizmMT)

No.	Description
7	Alignment post (PrizmMT)
8	Focused optical fiber array (PrizmMT)
9	Alignment hole (PrizmMT)

Related Information

- “Chassis Cable Requirements” on page 51
- “I/O Module Cable Requirements” on page 52
- “Standard MT and PrizmMT Cable Precautions” on page 55
- “General Cable Precautions” on page 56
- “(Optional) Assemble the QSFP Cables” on page 58
- “(Optional) Assemble the SFP+ Cables” on page 60
- “Route the Cables” on page 62
- “Connect the RJ-45 Ethernet Cables” on page 63
- “Connect the PrizmMT Cables” on page 66
- “Connect the QSFP Cables” on page 69
- “Secure Cables to the Cable Management Comb” on page 73

Standard MT and PrizmMT Cable Precautions

Be aware of the following considerations for storing, connecting, and removing standard MT and PrizmMT cables:

- Whenever cables are not in use, put a dust cap on each end to prevent dust and debris from accumulating.
- Before connecting the cable:
  - Clean every connection, both sides, every time the connection is to be mated. Even when the dust caps are in place, dust or debris may have been inside the dust cap from a prior use, then transfer onto the ferrule.
  - Check the keying of the connector and the keying of the port. The raised rectangular feature on the housing gives you a visual indication of how the cable and port will mate.
  - Check for a white dot on the cable housing to help you determine how the cable should be inserted into the port. For any vertical receptacle, the white dot must be facing down.
- When connecting a cable:
  - Do not attempt to defeat the internal shutters on the ports because you can possibly damage the cable's ferrule.
  - Ensure the tip of the ferrule does not forcefully contact the edges of the ports or your risk damaging the equipment. Instead, carefully insert the tip of the ferrule into the center of the port.

- When removing a cable, the connector can unlatch from the port only by pulling on the colored cable housing. By pulling on the cable and not the housing, you risk pulling the cable out of the housing.
- For additional cable handling precautions, see “General Cable Precautions” on page 56.

Related Information

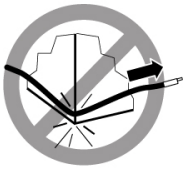
- “Chassis Cable Requirements” on page 51
- “I/O Module Cable Requirements” on page 52
- “Standard MT and PrizmMT Cables” on page 53
- “(Optional) Assemble the QSFP Cables” on page 58
- “(Optional) Assemble the SFP+ Cables” on page 60
- “Route the Cables” on page 62
- “Connect the RJ-45 Ethernet Cables” on page 63
- “Connect the PrizmMT Cables” on page 66
- “Connect the QSFP Cables” on page 69
- “Secure Cables to the Cable Management Comb” on page 73

General Cable Precautions

To prevent data cable damage, you *must* follow these cautions.

Do not uncoil the cable, as a kink might occur. Hold the coil closed as you unroll the cable, pausing to allow the cable to relax as it is unrolled.

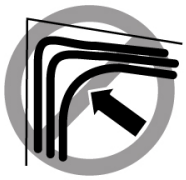
Do not step on the cable or connectors. Plan cable paths away from foot traffic or rolling loads.



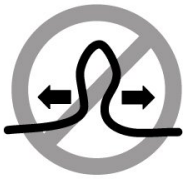
Do not pull the cable out of the shipping box, through any opening, or around any corners. Unroll the cable as you lay it down and move it through turns.

Do not bend the cables to a radius tighter than 85 mm (3.4 inches). Ensure that cable turns are as wide as possible.

Do not twist the cable to open a kink. If it is not severe, open the kink by unlooping the cable.



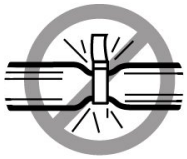
Do not pack the cable to fit a tight space. Use an alternative cable route.



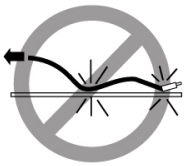
Do not straighten the cable to correct a bend that is too tight. Leave the cable bend as is.

Do not hang the cable for a length more than 2 meters (7 feet). Minimize the hanging weight with intermediate retention points.

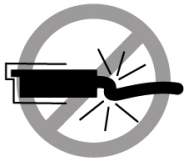
Do not drop the cable or connectors from any height. Gently set the cable down, resting the cable connectors on a stable surface.



Do not cinch the cable with hard fasteners or cable ties. Use soft hook-and-loop fastener for bundling and securing cables.



Do not drag the cable or its connectors over any surface. Carry the entire cable to and from the points of connection.



Do not force the cable connector into the receptacle by pushing on the cable. Apply connection or disconnection forces at the connector only.

Related Information

- “Chassis Cable Requirements” on page 51
- “I/O Module Cable Requirements” on page 52
- “Standard MT and PrizmMT Cables” on page 53
- “Standard MT and PrizmMT Cable Precautions” on page 55
- “(Optional) Assemble the QSFP Cables” on page 58
- “(Optional) Assemble the SFP+ Cables” on page 60
- “Route the Cables” on page 62
- “Connect the RJ-45 Ethernet Cables” on page 63
- “Connect the PrizmMT Cables” on page 66
- “Connect the QSFP Cables” on page 69
- “Secure Cables to the Cable Management Comb” on page 73

(Optional) Assemble the QSFP Cables

If the optical QSFP cables are unassembled, you must assemble the cables before attaching them to the switch.

Note - The ends of the optical fiber cable and the receptacles of the transceivers must be clean and optically clear before assembly. Do not remove the protective caps from the optical fiber cable or the plugs from the transceivers until instructed to do so.

1. **Identify the prerequisite and subsequent installation tasks that you must perform in conjunction with this task.**

   See "Installation Task Overview" on page 11.

2. **Remove the QSFP optical transceivers, and fiber optic cables from their packaging.**

3. **Sort the components into groupings ready for assembly.**

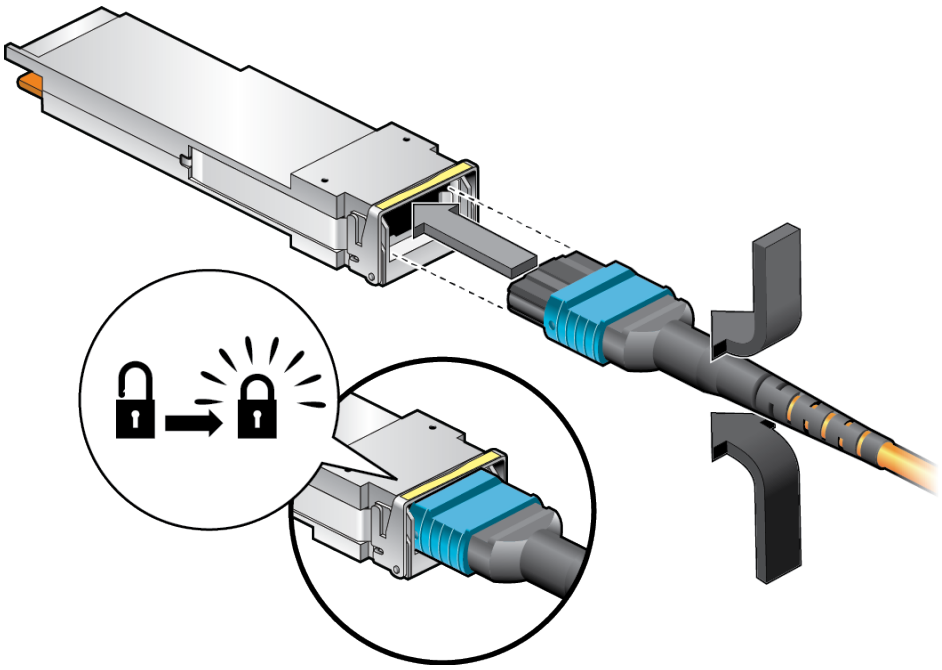
   - **If you are assembling an InfiniBand cable or Ethernet pass-through cable, you need two QSFP optical transceivers and a fiber optic cable.**
   - **If you are to assemble an Ethernet splitter cable, you will need one QSFP optical transceiver, four SFP+ optical transceivers, and an optical splitter cable.**

4. **Remove the plug from the QSFP optical transceiver.**

5. **Remove the cap from the MTP connector of the fiber optic cable.**

6. **Holding the shaft of the MTP connector, insert the MTP connector into the receptacle of the QSFP optical transceiver.**

Note - The MPO connector and QSFP receptacle are keyed for proper fitting. There are different types of QSFP receptacles. For example, some have a retaining clip, shown, and some have a retaining strap.



7. **Push the connector into the transceiver until it clicks.**

8. **Consider your next step.**

   - **If you are assembling an InfiniBand cable or Ethernet pass-through cable, repeat Step 4 to Step 7 for the other end of the cable, and then go to Step 10.**
   - **If you are assembling an Ethernet splitter cable, go to Step 9.**

9. **Repeat from Step 4 for all QSFP optical transceivers and MTP connectors.**

10. **Repeat from Step 3 for all data cables to be assembled.**

11. **Route the data cables.**

    See "Route the Cables" on page 62.

Related Information

- “Chassis Cable Requirements” on page 51
- “I/O Module Cable Requirements” on page 52
- “Standard MT and PrizmMT Cables” on page 53
- “Standard MT and PrizmMT Cable Precautions” on page 55
- “General Cable Precautions” on page 56
- “(Optional) Assemble the SFP+ Cables” on page 60
- “Route the Cables” on page 62
- “Connect the RJ-45 Ethernet Cables” on page 63
- “Connect the PrizmMT Cables” on page 66
- “Connect the QSFP Cables” on page 69
- “Secure Cables to the Cable Management Comb” on page 73

▼ (Optional) Assemble the SFP+ Cables

If the optical SFP+ cables are unassembled, you must assemble the cables before attaching them to the switch.

Note - The ends of the optical fiber cable and the receptacles of the transceivers must be clean and optically clear before assembly. Do not remove the protective caps from the optical fiber cable or the plugs from the transceivers until instructed to do so.

1. **Identify the prerequisite and subsequent installation tasks that you must perform in conjunction with this task.**

   See “Installation Task Overview” on page 11.

2. **Remove the SFP+ optical transceivers and fiber optic cables from their packaging.**

3. **Sort the components into groupings ready for assembly.**

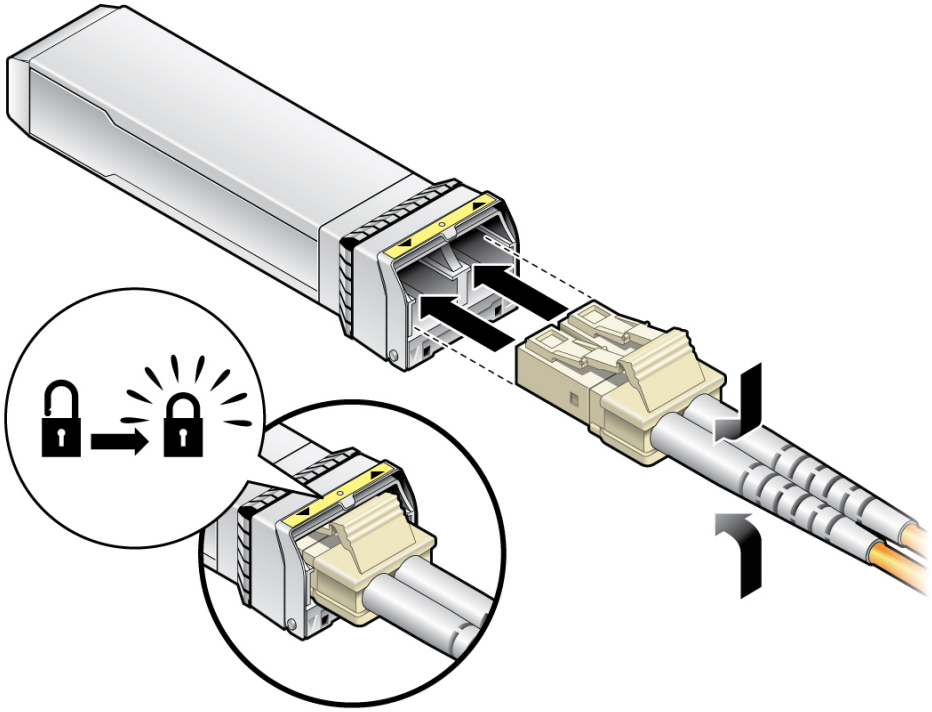
   If you are to assemble an Ethernet splitter cable, you will need one QSFP optical transceiver, four SFP+ optical transceivers, and an optical splitter cable.

4. **Remove the plug from an SFP+ optical transceiver.**

5. **Remove the caps from an LC connector of the fiber optic cable.**

6. **Holding the shafts of the LC connector, insert it into the receptacles of the SFP+ optical transceiver.**

Note - The LC connector and SFP+ receptacles are keyed for proper fitting.



7. **Push the connector into the transceiver until it clicks.**
8. **Repeat from Step 4 for all SFP+ optical transceivers and LC connectors.**
9. **Repeat from Step 3 for all data cables to be assembled.**
10. **Route the data cables.**
    See “Route the Cables” on page 62.

Related Information

- “Chassis Cable Requirements” on page 51
- “I/O Module Cable Requirements” on page 52
- “Standard MT and PrizmMT Cables” on page 53
- “Standard MT and PrizmMT Cable Precautions” on page 55
- “General Cable Precautions” on page 56

▼ Route the Cables

When cabling a topology, start at the nodes of the fabric or hosts of the network, and work toward the switch.

1. **Identify the prerequisite and subsequent installation tasks that you must perform in conjunction with this task.**

   See "Installation Task Overview" on page 11.

2. **Prepare the cables to connect the nodes or hosts to the switch.**

   See "(Optional) Assemble the QSFP Cables" on page 58 or "(Optional) Assemble the SFP+ Cables" on page 60.

3. **Prepare and verify that the nodes or hosts are operational, properly configured, and ready to accept fabric or network cabling.**

4. **For each node or host, begin data cabling.**

   a. **Attach the cable to the appropriate connector of the node or host.**

   b. **Route and bundle the data cable through the topology following the cautions provided in this document.**

      See "General Cable Precautions" on page 56.

   c. **Bring the cables to the location in the rack where the switch is installed.**

   d. **Repeat Step 4a through Step 4c for each node or host.**

5. **Connect the cables to the switch.**

   See "Connect the RJ-45 Ethernet Cables" on page 63.

Related Information

- "Chassis Cable Requirements" on page 51

▼ Connect the RJ-45 Ethernet Cables

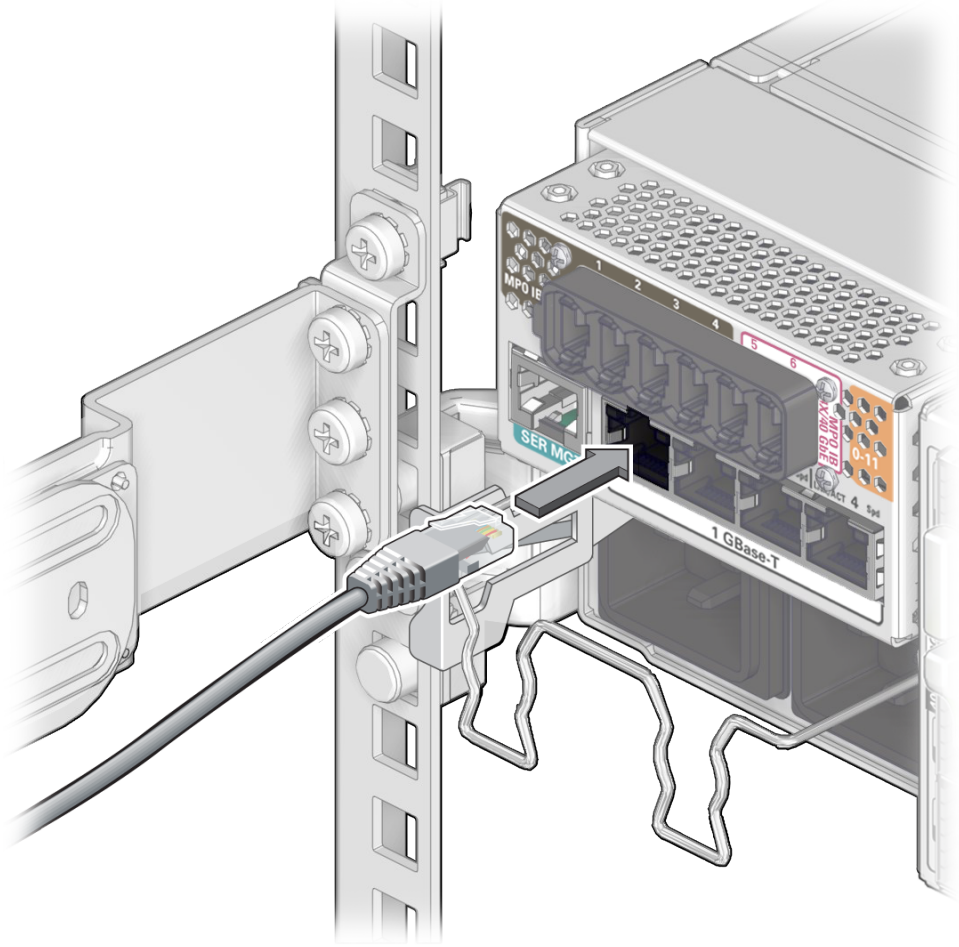
Use this procedure to connect RJ-45 cables to an Oracle F2 Quad Port 10GBASE-T I/O module as well as to the switch chassis.

1. **Identify the prerequisite and subsequent installation tasks that you must perform in conjunction with this task.**

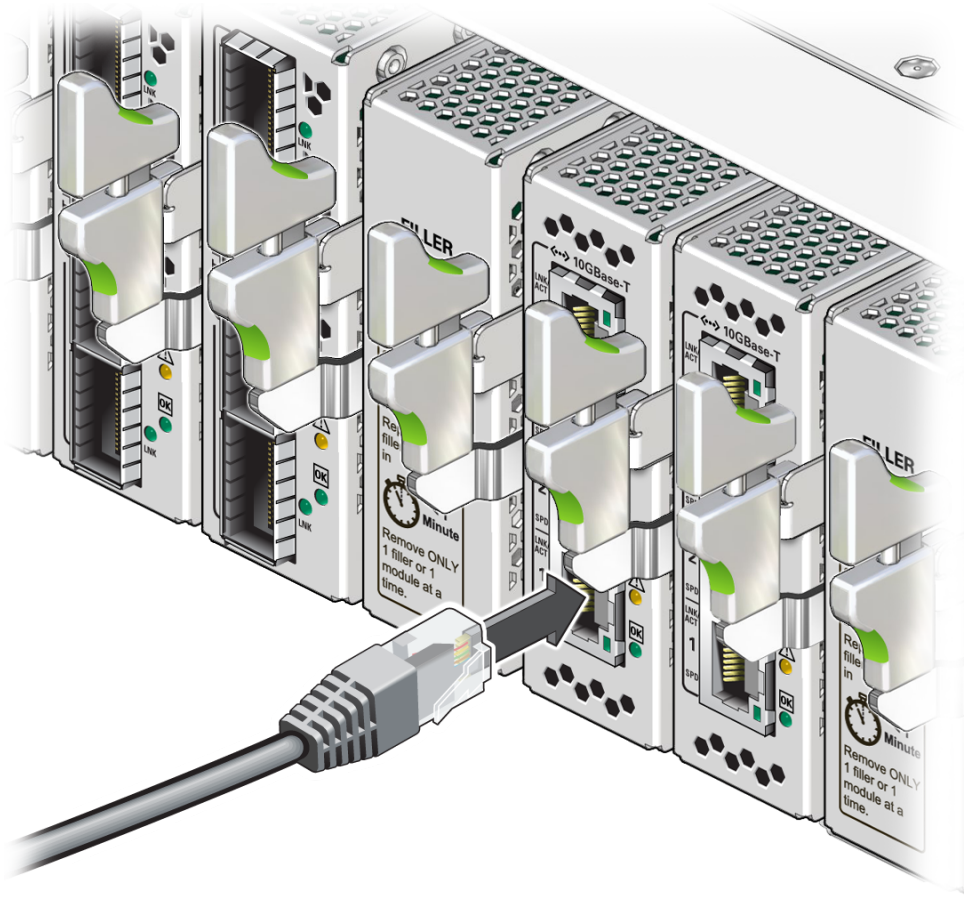
   See "Installation Task Overview" on page 11.

2. **Orient the RJ-45 connector to where it will connect to the switch.**

For the chassis, the tab on the connector is up.



For the Oracle F2 Quad Port 10GBASE-T module, the tab on the connector is to the right.



3. **Insert the connector into the receptacle until it clicks, securing it in place.**
4. **Lay the cable into a slot on the cable management comb.**
5. **Repeat Step 2 and Step 3 for each cable to be connected.**
6. **Consider your next task.**

   - **Connect the PrizmMT cables if necessary.**
     See “Connect the PrizmMT Cables” on page 66.

- **Connect the QSFP cables if necessary.**
  See “Connect the QSFP Cables” on page 69.
- **Connect the LC cables if necessary.**
  See “Connect the LC Cables” on page 71.
- **Secure the cables to the cable management comb.**
  See “Secure Cables to the Cable Management Comb” on page 73.

Related Information

- “Chassis Cable Requirements” on page 51
- “I/O Module Cable Requirements” on page 52
- “Standard MT and PrizmMT Cables” on page 53
- “Standard MT and PrizmMT Cable Precautions” on page 55
- “General Cable Precautions” on page 56
- “(Optional) Assemble the QSFP Cables” on page 58
- “(Optional) Assemble the SFP+ Cables” on page 60
- “Route the Cables” on page 62
- “Connect the PrizmMT Cables” on page 66
- “Connect the QSFP Cables” on page 69
- “Secure Cables to the Cable Management Comb” on page 73

▼ Connect the PrizmMT Cables

Use this procedure to connect the PrizmMT cables to the chassis gateway ports.

Note - Only PrizmMT receptacles labeled 5 and 6 are for 4x magenta-colored housing PrizmMT cables. All other PrizmMT receptacles are for 12x black-colored housing PrizmMT cables. The 12x cables (black-colored housing) are used for connecting the virtualization switch to leaf switches, spine switches, and other F2-12 switches through inter-switch links.

1. **Identify the prerequisite and subsequent installation tasks that you must perform in conjunction with this task.**
   See “Installation Task Overview” on page 11.
2. **Remove any filler plug (if installed) from the PrizmMT receptacle where you are installing the cable, and visually inspect the receptacle.**
   The receptacle should be clean and free of dirt or debris.

3. **Clean the receptacle:**

   a. **Remove the adapter from the end of the PrizmMT cleaner.**

   b. **Insert the cleaner tip into the receptacle.**

   c. **Pump the cleaner into the receptacle, advancing the cleaning cloth inside.**

   d. **Remove the cleaner from the receptacle and verify cleanliness.**

   e. **Replace the adapter onto the end of the PrizmMT cleaner.**

4. **Remove the protective cap from the cable connector and visually inspect the connector.**

   The connector should be clean and free of dirt or debris.

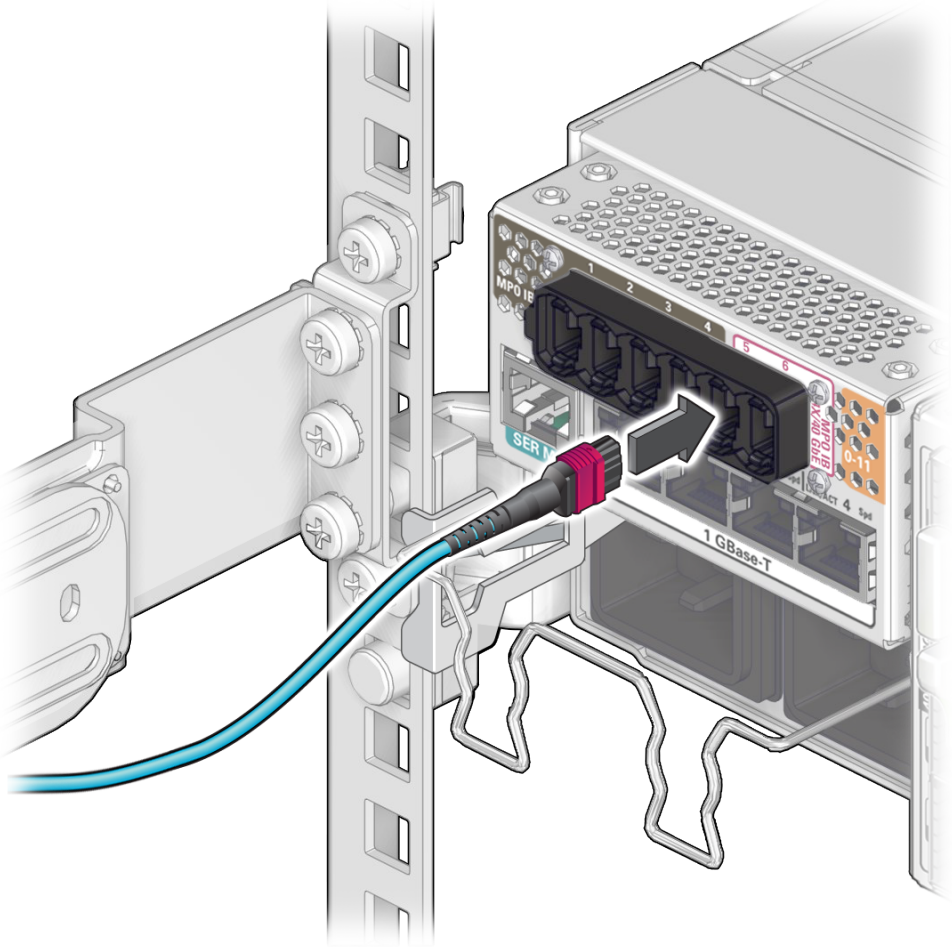
5. **Identify the cable-alignment features on the cable, such as the keying on the cable connector and port, and the white dot on the housing.**

   See “Standard MT and PrizmMT Cable Precautions” on page 55.

6. **Align the PrizmMT connector to where it will connect.**

   For the chassis, the receptacle is vertical, so the connector is correctly aligned when the white dot on the housing is facing down.

Caution - When aligning the PrizmMT connector and port receptacle, ensure the tip of the ferrule does not forcefully contact the edges of the ports or you risk damaging the equipment. Instead, carefully insert the tip of the ferrule into the center of the port.



7. **Firmly press the PrizmMT connector into the receptacle until you feel the connector securely latch into the receptacle.**
8. **Lay the cable into a slot on the cable management comb.**
9. **Repeat Step 2 through Step 8 for each cable to be connected.**
10. **If link quality issues occur, and you suspect cleanliness is the cause:**

a. **Unplug the cable(s).**

b. **For each end of the cable, repeat Step 3b.**

c. **Plug in the cable(s).**

11. **When cables are connected, consider your next task.**

- **Connect the QSFP cables if necessary.**
  See “Connect the QSFP Cables” on page 69.
- **Connect the LC cables if necessary.**
  See “Connect the LC Cables” on page 71.

12. **Lay the cables into place.**
    See “Secure Cables to the Cable Management Comb” on page 73.

Related Information

- “Chassis Cable Requirements” on page 51
- “I/O Module Cable Requirements” on page 52
- “Standard MT and PrizmMT Cables” on page 53
- “Standard MT and PrizmMT Cable Precautions” on page 55
- “General Cable Precautions” on page 56
- “(Optional) Assemble the QSFP Cables” on page 58
- “(Optional) Assemble the SFP+ Cables” on page 60
- “Route the Cables” on page 62
- “Connect the RJ-45 Ethernet Cables” on page 63
- “Connect the QSFP Cables” on page 69
- “Secure Cables to the Cable Management Comb” on page 73

▼ Connect the QSFP Cables

1. **Identify the prerequisite and subsequent installation tasks that you must perform in conjunction with this task.**
   See “Installation Task Overview” on page 11.

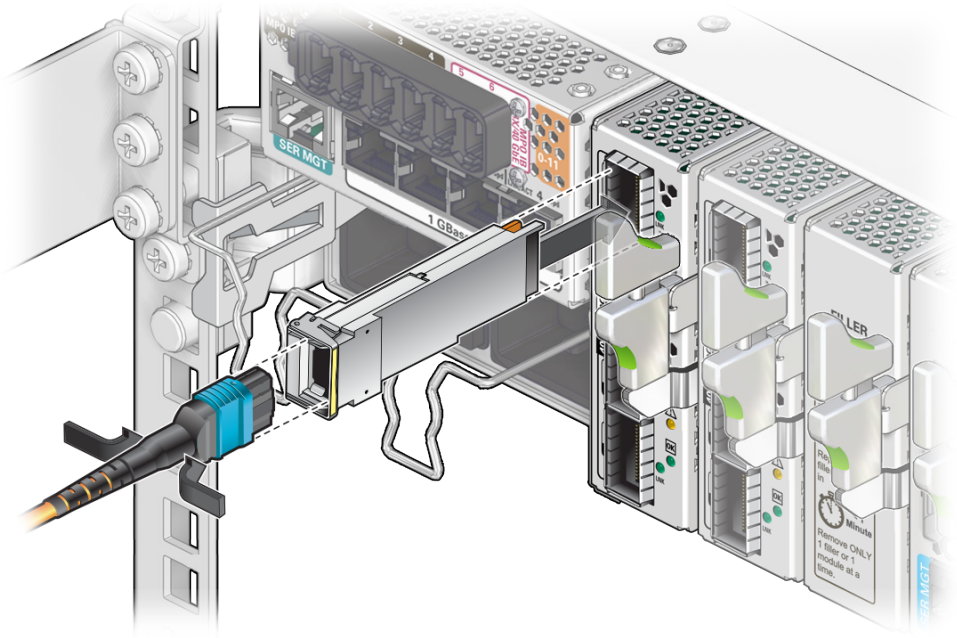
2. **Remove the protective cap from the connector or transceiver, and visually inspect the cable connector.**

The shell should not be bent and should be parallel to the inner boards. If the connector is bent or damaged, use a different cable.

3. **Ensure that the retraction strap is folded back against the cable.**

4. **Orient the cable connector to the QSFP receptacle squarely and vertically.**

   For the Oracle F2 10 Gb and 40 Gb Ethernet module, ensure that the L groove is to the right.



5. **Slowly move the connector in.**

   As you slide the connector in, the shell should be in the center of the QSFP receptacle.

   - **If the connector stops or binds after about 1/4 in. (5 mm) travel, back out and repeat from Step 4.**
   - **If the connector stops or binds with about 1/8 in. (2 mm) still to go, back out and repeat Step 5.**

6. **Connect the cable.**

7. **Lay the cable into a slot on the cable management comb.**

8. **Continue to push the connector in until you feel it seat.**

9. **Repeat Step 6 through Step 7 for each cable to be connected.**

10. **Secure the cables to the cable management comb.**

    See “Secure Cables to the Cable Management Comb” on page 73.

Related Information

- “Chassis Cable Requirements” on page 51
- “I/O Module Cable Requirements” on page 52
- “Standard MT and PrizmMT Cables” on page 53
- “Standard MT and PrizmMT Cable Precautions” on page 55
- “General Cable Precautions” on page 56
- “(Optional) Assemble the QSFP Cables” on page 58
- “(Optional) Assemble the SFP+ Cables” on page 60
- “Route the Cables” on page 62
- “Connect the RJ-45 Ethernet Cables” on page 63
- “Connect the PrizmMT Cables” on page 66
- “Secure Cables to the Cable Management Comb” on page 73

▼ Connect the LC Cables

1. **Identify the prerequisite and subsequent installation tasks that you must perform in conjunction with this task.**

   See “Installation Task Overview” on page 11.

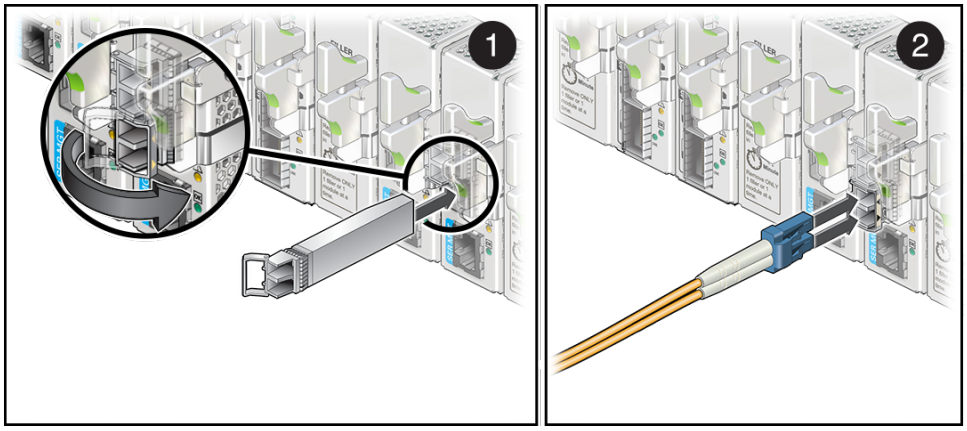
2. **Remove the protective caps from the LC connector.**

3. **If the module does not already have an SFP+ connector installed, complete Step 6 through Step 7, then return to this procedure.**

4. **Orient the cable connector to the LC receptacle squarely and vertically.**

   Ensure that the release tabs are to the right.

Note - Depending on whether you assembled the LC cable and SFP+ connector, the connector might be attached to the cable instead of inserted into the module receptacle. Also, ensure the metal clip on the transceiver is in the closed position prior to connecting the cable to the transceiver.



5. **Push the connector in until you feel a click.**
6. **Lay the cable into a slot on the cable management comb.**
7. **Repeat Step 2 through Step 8 for each cable to be connected.**
8. **Secure the cables to the cable management Comb.**

   See “Secure Cables to the Cable Management Comb” on page 73.

Related Information

- “Chassis Cable Requirements” on page 51
- “I/O Module Cable Requirements” on page 52
- “Standard MT and PrizmMT Cables” on page 53
- “Standard MT and PrizmMT Cable Precautions” on page 55
- “General Cable Precautions” on page 56
- “(Optional) Assemble the QSFP Cables” on page 58
- “(Optional) Assemble the SFP+ Cables” on page 60
- “Route the Cables” on page 62
- “Connect the RJ-45 Ethernet Cables” on page 63
- “Connect the PrizmMT Cables” on page 66

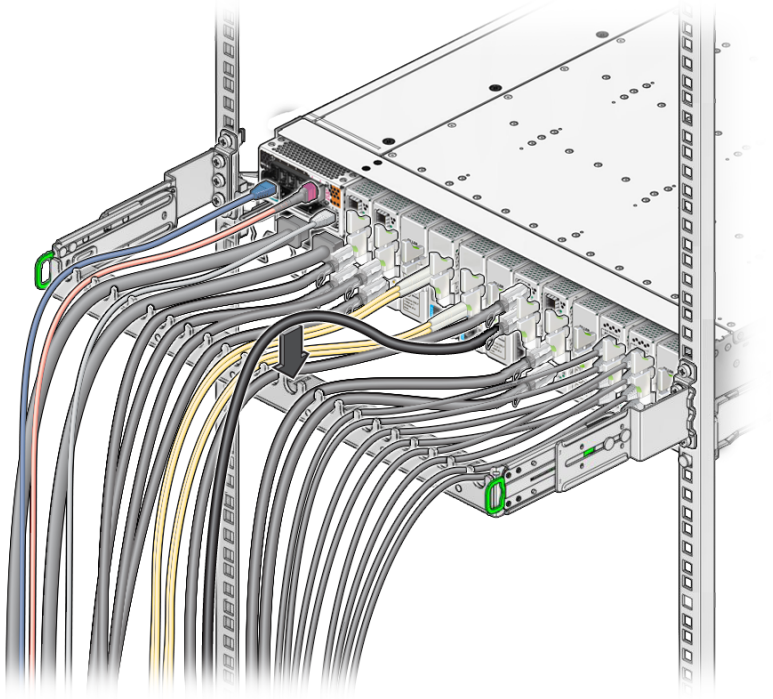
- “Secure Cables to the Cable Management Comb” on page 73

Secure Cables to the Cable Management Comb

1. **Identify the prerequisite and subsequent installation tasks that you must perform in conjunction with this task.**

   See “Installation Task Overview” on page 11.

2. **While connecting the RJ-45, SFP+, QSFP, and PrizmMT cables to the switch, lay the cables into an available slot on the cable management comb.**



3. **Route the data cables so that they do not interfere with other cables, or with servicing the switch or other systems.**

   Use hook and loop fastener straps to bundle and secure the cables.

Note - Do not use cable zip ties to bundle or secure the cables, because the ties damage the fibers inside the cables.

---

4. **Consider your next task.**

   - **If you have DHCP-assigned IP addresses, connect the power cords.**
     See “Connect Power Cords” on page 77.
   - **Otherwise, connect the SER MGT cable.**
     See “Connect the SER MGT Cable” on page 75.

Related Information

- “Chassis Cable Requirements” on page 51
- “I/O Module Cable Requirements” on page 52
- “Standard MT and PrizmMT Cables” on page 53
- “Standard MT and PrizmMT Cable Precautions” on page 55
- “General Cable Precautions” on page 56
- “(Optional) Assemble the QSFP Cables” on page 58
- “(Optional) Assemble the SFP+ Cables” on page 60
- “Route the Cables” on page 62
- “Connect the RJ-45 Ethernet Cables” on page 63
- “Connect the PrizmMT Cables” on page 66
- “Connect the QSFP Cables” on page 69

Powering On the Switch

These topics describe how to power on the switch for the first time.

Description	Links
If you are not using DHCP-assigned IP addresses, connect the serial management device.	■ “Connect the SER MGT Cable” on page 75 ■ “Connect a Serial Management Device to the SER MGT Port” on page 77
Connect the power cords.	■ “Connect Power Cords” on page 77
Power on the switch.	■ “Power On the Switch” on page 81
If you are not using DHCP-assigned IP addresses, log in to the SP through the SER MGT port.	■ “Log In to the SP (SER MGT)” on page 82 ■ “Assign a Static IP Address to the SP” on page 83 ■ “Assign a Static IP Address to the SCP” on page 85
Log in to the SP through the network management interface.	■ “Log In to the SP (Network Management)” on page 86

Related Information

- “Understanding the Switch” on page 11
- “Confirming Specifications” on page 17
- “Preparing for Installation” on page 23
- “Installing the Switch” on page 29
- “Connecting Cables” on page 51
- “Verifying Functionality” on page 89

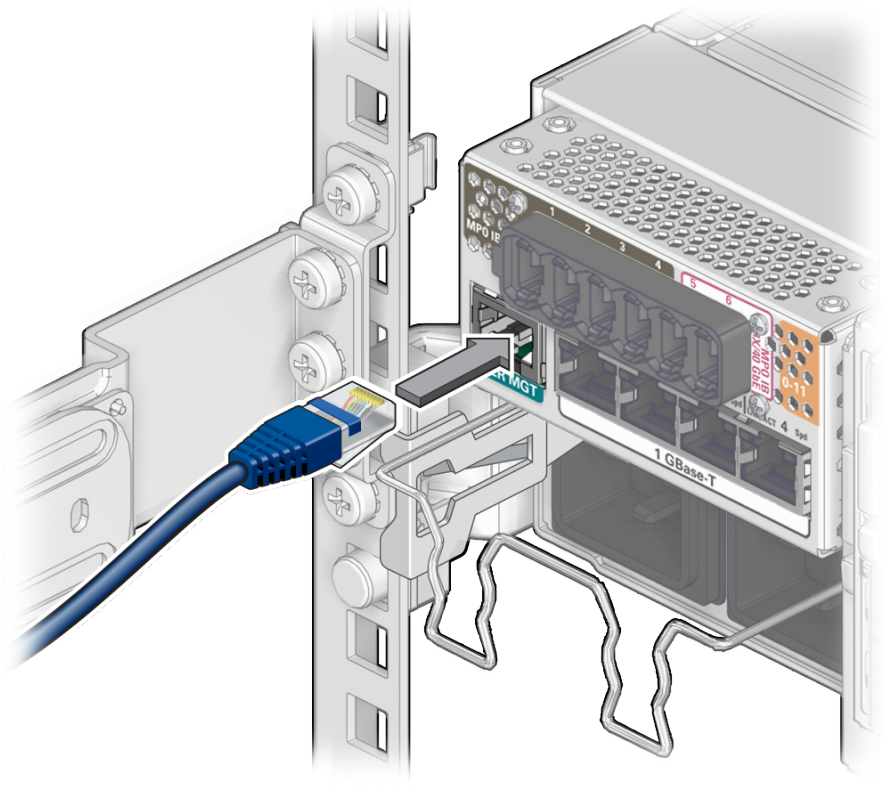
▼ Connect the SER MGT Cable

1. **Identify the prerequisite and subsequent installation tasks that you must perform in conjunction with this task.**

   See “Installation Task Overview” on page 11.

2. **Orient the RJ-45 connector to the SER MGT receptacle.**

The tab is down for the receptacle.



3. **Insert the connector into the receptacle until it clicks, securing it in place.**

4. **Connect the other end of the SER MGT cable to a serial device.**
   See “Connect a Serial Management Device to the SER MGT Port” on page 77.

Related Information

- “Connect a Serial Management Device to the SER MGT Port” on page 77
- “Connect Power Cords” on page 77
- “Power On the Switch” on page 81
- “Log In to the SP (SER MGT)” on page 82
- “Assign a Static IP Address to the SP” on page 83
- “Assign a Static IP Address to the SCP” on page 85
- “Log In to the SP (Network Management)” on page 86

Connect a Serial Management Device to the SER MGT Port

1. **Identify the prerequisite and subsequent installation tasks that you must perform in conjunction with this task.**
   See "Installation Task Overview" on page 11.
2. **Configure the serial management device to these parameters:**
   - 9600 baud
   - 8 data bits
   - No parity
   - 1 stop bit
   - No handshake
3. **Connect the SER MGT cable from the switch to the serial management device.**
4. **If necessary, route the SER MGT cable so that it does not interfere with other cables, with servicing the switch, or with other systems.**
5. **Connect the power cords.**
   See "Connect Power Cords" on page 77.

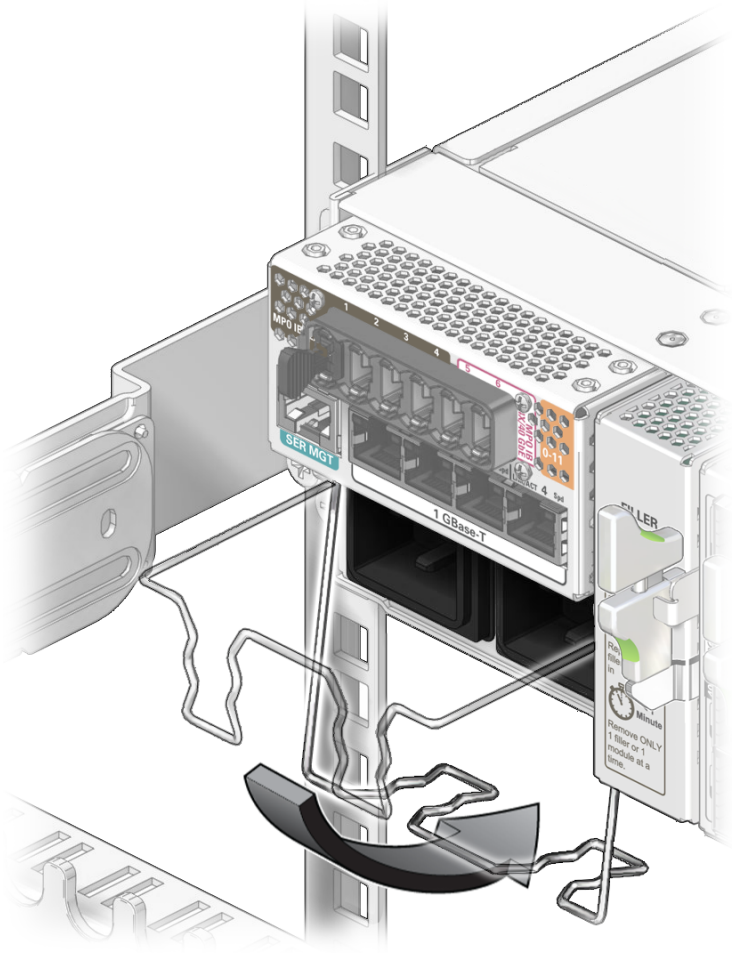
Related Information

- "Connect the SER MGT Cable" on page 75
- "Connect Power Cords" on page 77
- "Power On the Switch" on page 81
- "Log In to the SP (SER MGT)" on page 82
- "Assign a Static IP Address to the SP" on page 83
- "Assign a Static IP Address to the SCP" on page 85
- "Log In to the SP (Network Management)" on page 86

Connect Power Cords

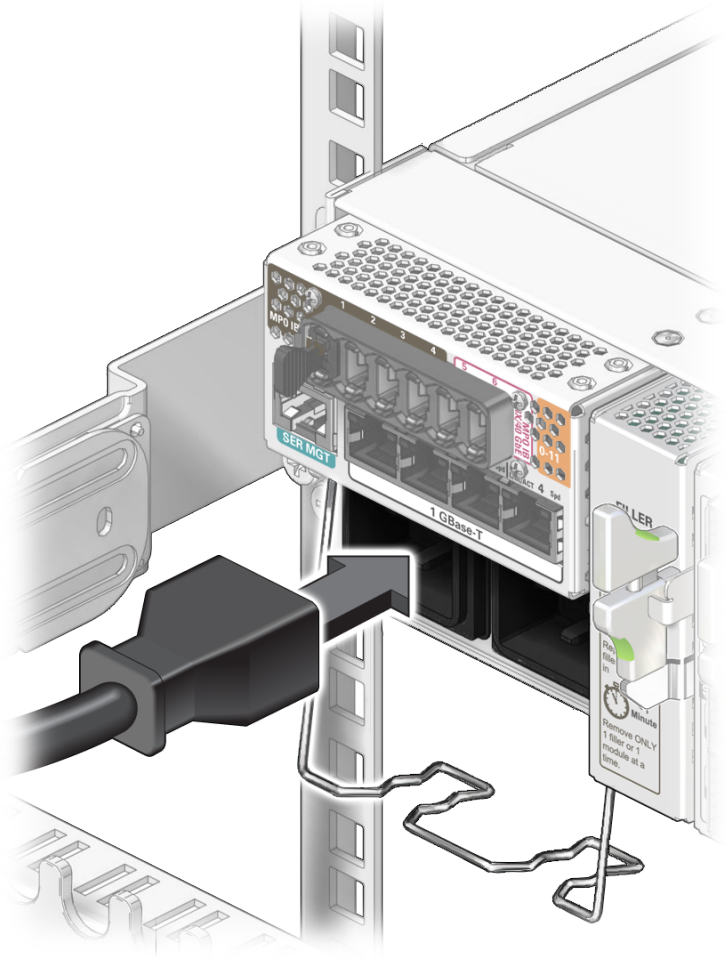
1. **Identify the prerequisite and subsequent installation tasks that you must perform in conjunction with this task.**
   See "Installation Task Overview" on page 11.
2. **Ensure that the circuit breakers for the facility power receptacle or power distribution device are switched off.**

3. **Lower the retaining wire from in front of the power receptacles at the rear of the switch chassis.**

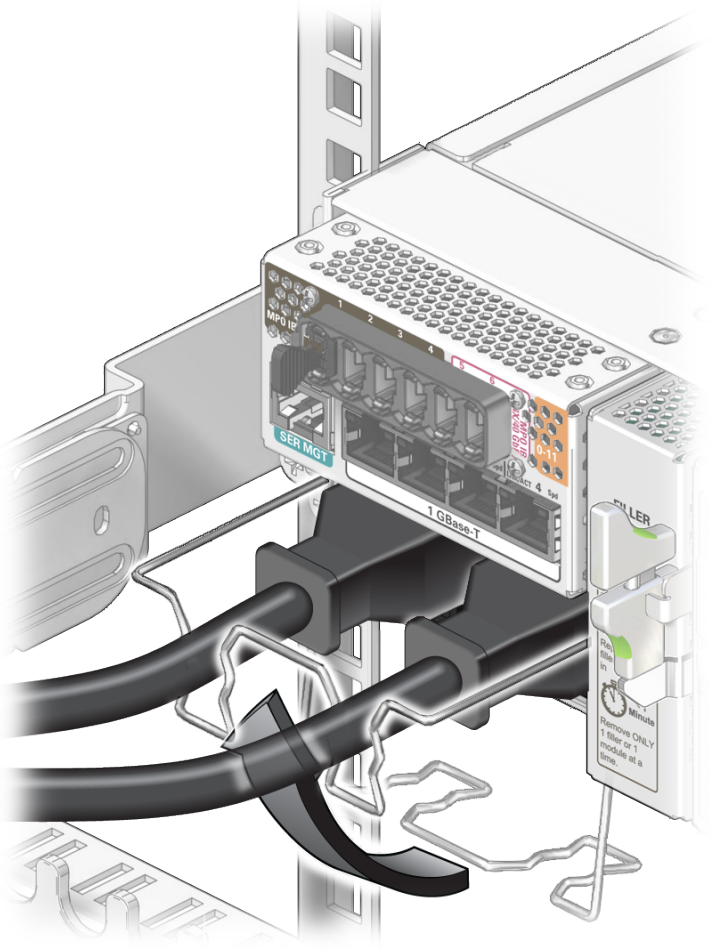


4. **Plug both power cords into the receptacles.**

In this illustration, AC1 is the left power receptacle, and AC0 is the right power receptacle.



5. **Raise the retaining wire back up and snap it over the power cords to secure them.**



6. **Plug each power cord into the facility power receptacle or power distribution device.**

Note - To provide redundancy, connect each power cord to a separate power source. The switch can operate with only one power source, but there is no redundancy in that case.

Caution - Do not apply power at this time.

7. **Power on the switch.**

   See “Power On the Switch” on page 81.

Related Information

- “Connect the SER MGT Cable” on page 75
- “Connect a Serial Management Device to the SER MGT Port” on page 77
- “Power On the Switch” on page 81
- “Log In to the SP (SER MGT)” on page 82
- “Assign a Static IP Address to the SP” on page 83
- “Assign a Static IP Address to the SCP” on page 85
- “Log In to the SP (Network Management)” on page 86

▼ Power On the Switch

When live power is delivered to the receptacles at the rear of the chassis, standby and main power is made available by the power supplies. The switch immediately comes to full power. Both the SP and SCP begin their boot processes.

1. **Identify the prerequisite and subsequent installation tasks that you must perform in conjunction with this task.**

   See “Installation Task Overview” on page 11.

2. **Ensure that:**

   - Nodes of the IB fabric and hosts of the Ethernet and Fibre Channel networks are operational and securely cabled to the switch.
   - Serial management console is operational, configured with correct parameters, and cabled to the switch. See “Connect a Serial Management Device to the SER MGT Port” on page 77.
   - Management network is operational and securely cabled to the switch.
   - Facility power source or power distribution device is properly cabled to the switch, available, and standing by.
   - All data, management, and power cabling to the switch is secure at the switch.

3. **Energize the circuit breakers so that facility power is delivered to the switch.**

   These actions occur in order:

   - All chassis status LEDs illuminate, then go dark.
   - The power supply LEDs indicate input power, then output power.
   - The fans spin up.
   - Full power is applied to all circuits and systems inside the switch.

- Both the SP and SCP are powered on and booting up.

  Note - You might see the boot sequence on the serial device.

- The SP LED blinks slowly.

When the SP LED stops blinking and stays lit, and the OK LED lights, it is possible to log in to the SP.

4. **Consider your next steps.**

   - **If you have DHCP-assigned IP addresses, log in to the SP through the network.**
     See “Log In to the SP (Network Management)” on page 86.
   - **Otherwise, log in to the SP through the SER MGT port.**
     See “Log In to the SP (SER MGT)” on page 82.

Related Information

- “Connect the SER MGT Cable” on page 75
- “Connect a Serial Management Device to the SER MGT Port” on page 77
- “Connect Power Cords” on page 77
- “Log In to the SP (SER MGT)” on page 82
- “Assign a Static IP Address to the SP” on page 83
- “Assign a Static IP Address to the SCP” on page 85
- “Log In to the SP (Network Management)” on page 86

▼ Log In to the SP (SER MGT)

1. **Identify the prerequisite and subsequent installation tasks that you must perform in conjunction with this task.**
   See “Installation Task Overview” on page 11.

2. **On the serial management device, press the Return or Enter key several times to synchronize the connection.**
   The login prompt is displayed.

   hostname `login:`

   where *hostname* is the host name of the SP. If no host name is assigned, `ORACLESP-unknown` might be displayed.

3. **Log in to the SP with user name `root` and password `changeme`.**

```
hostname login: root
Password: changeme
->
```

The `->` prompt is displayed.

Note - You can change the password at a later time. Refer to the *Oracle EDR InfiniBand Switch and Virtualized I/O System Administration Guide*, changing the administrator password.

---

4. **Consider your next task.**

- **If you have a full-time SER MGT connection, go to "Verify LED Status" on page 89 or "Assign a Static IP Address to the SP" on page 83.**
- **If your SER MGT connection is only temporary, go to "Assign a Static IP Address to the SP" on page 83.**

Related Information

- "Connect the SER MGT Cable" on page 75
- "Connect a Serial Management Device to the SER MGT Port" on page 77
- "Connect Power Cords" on page 77
- "Power On the Switch" on page 81
- "Assign a Static IP Address to the SP" on page 83
- "Assign a Static IP Address to the SCP" on page 85
- "Log In to the SP (Network Management)" on page 86

▼ Assign a Static IP Address to the SP

The switch ships with DHCP IP address assignment for the SP.

1. **Identify the prerequisite and subsequent installation tasks that you must perform in conjunction with this task.**
   See "Installation Task Overview" on page 11.

2. **Access the Oracle ILOM CLI.**
   See "Log In to the SP (SER MGT)" on page 82.

3. **Configure the network management parameters.**

```
-> set /SP/network property=value property=value ...
```

where:

- *property* is the parameter of the network to configure.
- *value* is the value of the *property* to configure.

These properties are supported:

- `pendingipaddress` – *value* is the IP address of the SP to be configured.
- `pendingipdiscovery` – *value* is the method of IP discovery to be configured, either `static` or `dhcp`.
- `pendingipgateway` – *value* is the IP address of the routing gateway to be configured.
- `pendingipnetmask` – *value* is the netmask to be configured.

Note - You can configure one, several, or all properties in one command line.

For example:

```
-> set /SP/network pendingipdiscovery=static pendingipaddress=123.45.67.89
 pendingipgateway=123.45.67.1 pendingipnetmask=255.255.255.0
Set 'pendingipdiscovery' to 'static'
Set 'pendingipaddress' to '123.45.67.89'
Set 'pendingipgateway' to '123.45.67.1'
Set 'pendingipnetmask' to '255.255.255.0'
->
```

4. **Commit the changes.**

```
-> set /SP/network commitpending=true
Set 'commitpending' to 'true'
->
```

The static IP address has been configured to `123.45.67.89`. You can now manage the SP from any one of the four RJ-45 connectors on the left side of the rear panel.

5. **Consider your next steps.**

- **Configure a static IP address for the SCP.**
  See “Assign a Static IP Address to the SCP” on page 85.
- **Log in to the SP through the management network.**
  See “Log In to the SP (Network Management)” on page 86.

Related Information

- “Connect the SER MGT Cable” on page 75
- “Connect a Serial Management Device to the SER MGT Port” on page 77

- "Connect Power Cords" on page 77
- "Power On the Switch" on page 81
- "Log In to the SP (SER MGT)" on page 82
- "Assign a Static IP Address to the SCP" on page 85
- "Log In to the SP (Network Management)" on page 86

Assign a Static IP Address to the SCP

The switch ships with DHCP IP address assignment for the SCP.

1. **Identify the prerequisite and subsequent installation tasks that you must perform in conjunction with this task.**

   See "Installation Task Overview" on page 11.

2. **Access the Oracle ILOM CLI.**

   See "Log In to the SP (SER MGT)" on page 82 or "Log In to the SP (Network Management)" on page 86.

3. **Start the host console.**

```
-> start /HOST/console
Are you sure you want to start /HOST/console (y/n)? y
Serial console started.  To stop, type ESC (
```

4. **Press the Enter key.**

```
hostname login:
```

5. **Log in as the `root` user.**

```
hostname login: root
Password:changeme
Last login: Fri May 25 09:51:36 on ttyS0
[root@hostname ~]#
```

   The default *password* is `changeme`.

6. **If this is the first time the switch has been started, or if the switch config has been cleared, through the Oracle Fabric OS Configuration Wizard:**

   a. **Specifying the SCP address allocation method, either static or dhcp.**

   b. **(Optional) For a static SCP address, specify the IP address and netmask in dotted decimal notation.**

c. **Set the switch's host name.**

See “Run the Oracle Fabric OS Configuration Wizard” on page 102.

Note - If the Oracle Fabric OS Configuration Wizard does not start, you can set the SCP IP address and netmask, and host name through the `set system management-interface`, `set system management-interface -netmask`, and `set system hostname` commands in the Oracle Fabric OS.

7. **(Optional) If the SER MGT connection is temporary, you can disconnect it now.**

8. **Log in to the SP through the management network.**

See “Log In to the SP (Network Management)” on page 86.

Related Information

- “Connect the SER MGT Cable” on page 75
- “Connect a Serial Management Device to the SER MGT Port” on page 77
- “Connect Power Cords” on page 77
- “Power On the Switch” on page 81
- “Log In to the SP (SER MGT)” on page 82
- “Assign a Static IP Address to the SP” on page 83
- “Log In to the SP (Network Management)” on page 86

▼ Log In to the SP (Network Management)

1. **Identify the prerequisite and subsequent installation tasks that you must perform in conjunction with this task.**

See “Installation Task Overview” on page 11.

2. **Open an SSH session and connect to the SP by specifying the IP address you previously configured.**

For example, type:

```
% ssh -l root IP_address
password: password
->
```

where *IP_address* is the IP address of the SP. Initially, the password is `changeme`.

Note - You can change the password at a later time. Refer to the *Oracle EDR InfiniBand Switch and Virtualized I/O System Administration Guide*, changing the root user password for instructions.

The Oracle ILOM shell prompt (`->`) is displayed.

3. **Verify switch functionality.**

   See "Verify LED Status" on page 89.

Related Information

- "Connect the SER MGT Cable" on page 75
- "Connect a Serial Management Device to the SER MGT Port" on page 77
- "Connect Power Cords" on page 77
- "Power On the Switch" on page 81
- "Log In to the SP (SER MGT)" on page 82
- "Assign a Static IP Address to the SP" on page 83
- "Assign a Static IP Address to the SCP" on page 85

Verifying Functionality

These topics describe how to verify the functionality of the switch and begin use of it.

Description	Links
Verify switch functionality.	■ "Verify LED Status" on page 89 ■ "Chassis Status LEDs" on page 90 ■ "1GBase-T Cable Status LEDs" on page 91 ■ "Power Supply Status LEDs" on page 92 ■ "Fan Module Status LED" on page 93 ■ "I/O Module Status LEDs" on page 93 ■ "I/O Module Port LEDs" on page 94 ■ "Verify That the Switch Is Operational" on page 94 ■ "Verify Connectivity" on page 96
Administer the switch.	■ "Log In to the Oracle Fabric OS Interface" on page 105 ■ "Run the Oracle Fabric OS Configuration Wizard" on page 102 ■ "Oracle Fabric OS Configuration Wizard Parameters" on page 104 ■ "Log In to the Oracle Fabric Manager Interface" on page 106

Related Information

- "Understanding the Switch" on page 11
- "Confirming Specifications" on page 17
- "Preparing for Installation" on page 23
- "Installing the Switch" on page 29
- "Connecting Cables" on page 51
- "Powering On the Switch" on page 75

▼ Verify LED Status

1. **Identify the prerequisite and subsequent installation tasks that you must perform in conjunction with this task.**

See “Installation Task Overview” on page 11.

2. **At the switch, observe the state of the various chassis and component LEDs.**

   - Chassis status LEDs.

     See “Chassis Status LEDs” on page 90.
   - Power supply LEDs.

     See “Power Supply Status LEDs” on page 92.
   - Fan module LEDs.

     See “Fan Module Status LED” on page 93.
   - RJ-45 receptacle LEDs.

     See “1GBase-T Cable Status LEDs” on page 91.
   - I/O module LEDs.

     See “I/O Module Status LEDs” on page 93.

3. **Verify that the switch is operating.**

   See “Verify That the Switch Is Operational” on page 94.

Related Information

- “Verify That the Switch Is Operational” on page 94
- “Verify Connectivity” on page 96
- “Log In to the Oracle Fabric Manager Interface” on page 106
- “Log In to the Oracle Fabric OS Interface” on page 105
- “Run the Oracle Fabric OS Configuration Wizard” on page 102
- “Oracle Fabric OS Configuration Wizard Parameters” on page 104

Chassis Status LEDs

Status LEDs for the entire system are located on the front panel of the virtualization switch above the power supplies.

Glyph	Name	Color	State and Meaning
	Locate	White	Indicates these conditions: ■ **On** – No function. ■ **Fast blinking** – Switch is identifying itself. ■ **Off** – Disabled.

Glyph	Name	Color	State and Meaning
			This indicator is an LED only, not a combination LED and button.
⚠	Attention	Amber	Indicates these conditions: ■ **On** – Fault detected. ■ **Off** – No faults detected.
OK	OK	Green	Indicates these conditions: ■ **On** – Switch is functional without fault. ■ **Off** – Switch is off or initializing.
SP	Service Processor (SP)	Green	Indicates these conditions: ■ **On** – SP is ready. ■ **Slow blinking** – SP is booting up. ■ **Off** – SP is powered off, resetting, or at fault.

Related Information

- “Verify LED Status” on page 89
- “Verify That the Switch Is Operational” on page 94
- “Verify Connectivity” on page 96
- “Log In to the Oracle Fabric Manager Interface” on page 106
- “Log In to the Oracle Fabric OS Interface” on page 105
- “Run the Oracle Fabric OS Configuration Wizard” on page 102
- “Oracle Fabric OS Configuration Wizard Parameters” on page 104

1GBase-T Cable Status LEDs

The table shows the status of the 1GBase-T ports on the switch's port block above the power plugs.

Glyph	Name	Color	State and Meaning
LNK/ACT	Link and activity	Green	Indicates these conditions: ■ **On** – Link is up. ■ **Intermittent flash** – There is activity on the link. ■ **Off** – Link is down.
SPD	Speed	Green	Indicates these conditions: ■ **On** – Link is at high speed. ■ **Slow blinking** – Link is at medium speed. ■ **Off** – Link is at slow speed.

Related Information

- “Verify LED Status” on page 89
- “Verify That the Switch Is Operational” on page 94
- “Verify Connectivity” on page 96
- “Log In to the Oracle Fabric Manager Interface” on page 106
- “Log In to the Oracle Fabric OS Interface” on page 105
- “Run the Oracle Fabric OS Configuration Wizard” on page 102
- “Oracle Fabric OS Configuration Wizard Parameters” on page 104

Power Supply Status LEDs

Glyph	Name	Color	State and Meaning
	OK	Green	Indicates these conditions: ■ **On** – 12 VDC is supplied. ■ **Off** – No DC voltage is present.
	Attention	Amber	Indicates these conditions: ■ **On** – Fault detected, 12 VDC shut down. ■ **Off** – No faults detected.
	AC	Green	Indicates these conditions: ■ **On** – AC power present and good. ■ **Off** – AC power not present.

Related Information

- “Verify LED Status” on page 89
- “Verify That the Switch Is Operational” on page 94
- “Verify Connectivity” on page 96
- “Log In to the Oracle Fabric Manager Interface” on page 106
- “Log In to the Oracle Fabric OS Interface” on page 105
- “Run the Oracle Fabric OS Configuration Wizard” on page 102
- “Oracle Fabric OS Configuration Wizard Parameters” on page 104

Fan Module Status LED

Glyph	Name	Color	State and Meaning
	Attention	Amber	Indicates these conditions: ■ **On** – Fault detected, ■ **Off** – No faults detected.

Related Information

- “Verify LED Status” on page 89
- “Verify That the Switch Is Operational” on page 94
- “Verify Connectivity” on page 96
- “Log In to the Oracle Fabric Manager Interface” on page 106
- “Log In to the Oracle Fabric OS Interface” on page 105
- “Run the Oracle Fabric OS Configuration Wizard” on page 102
- “Oracle Fabric OS Configuration Wizard Parameters” on page 104

I/O Module Status LEDs

Glyph	Name	Color	State and Meaning
	Attention	Amber	Indicates these conditions: ■ **On** – Fault detected. ■ **Off** – No faults detected.
	OK	Green	Indicates these conditions: ■ **On** – I/O module is functional without fault. ■ **Blinking** – Module is initializing. Hot plug is not allowed in this state. ■ **Off** – I/O module is off or initializing.

Related Information

- “Verify LED Status” on page 89
- “Verify That the Switch Is Operational” on page 94
- “Verify Connectivity” on page 96
- “Log In to the Oracle Fabric Manager Interface” on page 106
- “Log In to the Oracle Fabric OS Interface” on page 105

- "Run the Oracle Fabric OS Configuration Wizard" on page 102
- "Oracle Fabric OS Configuration Wizard Parameters" on page 104

I/O Module Port LEDs

I/O modules have link, activity, and speed LEDs (`LNK/ACT` and `SPD`, respectively) that indicate the state of a physical connection or traffic on a port. Port LEDs glow when the port senses an electrical or optical signal, detects a negotiated link speed, or both. Each port has its own LED (s), and the information displayed by the LEDs differs depending on the type of I/O module. Refer to:

- *Oracle F2 Dual Port 16 Gb Fibre Channel Module User's Guide*
- *Oracle F2 10 Gb and 40 Gb Ethernet Module User's Guide*
- *Oracle F2 Quad Port 10GBASE-T Module User's Guide*
- *Oracle F2 Long Range InfiniBand Module User's Guide*

▼ Verify That the Switch Is Operational

1. **Identify the prerequisite and subsequent installation tasks that you must perform in conjunction with this task.**
   See "Installation Task Overview" on page 11.

2. **Access the Oracle ILOM CLI.**
   See "Log In to the SP (SER MGT)" on page 82 or "Log In to the SP (Network Management)" on page 86.

3. **Display the installed I/O modules.**

```
-> show /SYS -t fru_description
Target                        | Property               | Value
------------------------------+------------------------+--------------------
/SYS/MB                       | fru_description        | PCBA,NM3 F2-12,Management
 Board.
/SYS/MODULES/MODULE0          | fru_description        | PCBA,40GE/4x10GE,IO MODULE
/SYS/MODULES/MODULE1          | fru_description        | PCBA,40GE/4x10GE,IO MODULE
/SYS/MODULES/MODULE3          | fru_description        | PCBA,16GB FC,IO MODULE
/SYS/MODULES/MODULE4          | fru_description        | PCBA,16GB FC,IO MODULE
/SYS/MODULES/MODULE6          | fru_description        | PCBA,IB LR,IO MODULE
/SYS/MODULES/MODULE7          | fru_description        | PCBA,IB LR,IO MODULE
/SYS/MODULES/MODULE9          | fru_description        | PCBA,10GBASE-T,IO MODULE
/SYS/MODULES/MODULE10         | fru_description        | PCBA,10GBASE-T,IO MODULE
/SYS/PS0                      | fru_description        | A261_POWER_SUPPLY
```

```
/SYS/PS1                      | fru_description        | A261_POWER_SUPPLY
/SYS/SP                       | fru_description        | PCA,PILOT3 SP, OPUS

->
```

Note - If an I/O module is not installed in a slot, that slot is not reported.

4. **Check the health of the switch.**

```
-> show /System -t health
Target                                          | Property  | Value
------------------------------------------------+-----------+-------
/System                                         | health    | OK
/System/Power                                   | health    | OK
/System/Power/Power_Supplies/Power_Supply_0     | health    | OK
/System/Power/Power_Supplies/Power_Supply_1     | health    | OK
/System/Cooling                                 | health    | OK
/System/Cooling/Fans/Fan_0                      | health    | OK
/System/Cooling/Fans/Fan_1                      | health    | OK
/System/Cooling/Fans/Fan_2                      | health    | OK
/System/Cooling/Fans/Fan_3                      | health    | OK
/System/Cooling/Fans/Fan_4                      | health    | OK
/System/Cooling/Fans/Fan_5                      | health    | OK
/System/Cooling/Fans/Fan_6                      | health    | OK
/System/Cooling/Fans/Fan_7                      | health    | OK
/System/Networking                              | health    | OK
/System/Networking/Switches/Switch_0            | health    | OK
/System/Networking/Switches/Switch_1            | health    | OK
/System/Networking/Modules/Module_0             | health    | OK
/System/Networking/Modules/Module_1             | health    | OK
/System/Networking/Modules/Module_3             | health    | OK
/System/Networking/Modules/Module_4             | health    | OK
/System/Networking/Modules/Module_6             | health    | OK
/System/Networking/Modules/Module_7             | health    | OK
/System/Networking/Modules/Module_9             | health    | OK
/System/Networking/Modules/Module_10            | health    | OK

->
```

Note - If an I/O module is not installed in a slot, that slot is not reported.

5. **If any target has a `health` value other than `OK`, investigate why.**

   Refer to detecting and managing faults in the *Oracle Fabric Interconnect F2-12 Service Manual*.

6. **Identify any open problems.**

```
-> show /System/Open_Problems
Open Problems (0)
```

```
Date/Time                 Subsystems          Component
------------------------  ------------------  ------------
->
```

7. **If any open problems are discovered, investigate the problem.**
   Refer to detecting and managing faults in the *Oracle Fabric Interconnect F2-12 Service Manual*.

8. **Verify the switch's connectivity.**
   See “Verify Connectivity” on page 96.

Related Information

- “Verify LED Status” on page 89
- “Verify Connectivity” on page 96
- “Log In to the Oracle Fabric Manager Interface” on page 106
- “Log In to the Oracle Fabric OS Interface” on page 105
- “Run the Oracle Fabric OS Configuration Wizard” on page 102
- “Oracle Fabric OS Configuration Wizard Parameters” on page 104

▼ Verify Connectivity

1. **Identify the prerequisite and subsequent installation tasks that you must perform in conjunction with this task.**
   See “Installation Task Overview” on page 11.

2. **If you are at the switch, check the LEDs of the 1GBASE-T RJ-45 connectors and I/O modules.**
   See:

   - “1GBase-T Cable Status LEDs” on page 91
   - “I/O Module Status LEDs” on page 93

3. **Access the Oracle ILOM CLI.**
   See “Log In to the SP (SER MGT)” on page 82 or “Log In to the SP (Network Management)” on page 86.

4. **Verify Ethernet connectivity.**

   a. **Start the EMS console.**

   ```
   -> start /System/Networking/Switches/Switch_0/fs_cli
   Are you sure you want to start /System/Networking/Switches/Switch_0/fs_cli
   (y/n)? y
   ```

```
                Management Switch for Oracle Fabric Interconnect F2-12
SEFOS login:
```

b. Log in to SEFOS.

```
SEFOS login: root
Password: admin123
SEFOS#
```

The default password is `admin123`.

c. Display the state of the Ethernet ports.

```
SEFOS# show interfaces status

Port        Status           Duplex   Speed       Negotiation     Capability
---        ------           ------   -----       -----------     ----------
Gi0/1       connected        Full     1 Gbps      Auto            Auto-MDIX on
Gi0/2       not connected    Half     -           Auto            Auto-MDIX on
Gi0/3       not connected    Half     -           Auto            Auto-MDIX on
Gi0/4       not connected    Half     -           Auto            Auto-MDIX on
Gi0/5       connected        Full     1 Gbps      Auto            Auto-MDIX on
Gi0/6       connected        Full     1 Gbps      Auto            Auto-MDIX on
Gi0/7       not connected    Half     -           Auto            Auto-MDIX on
Gi0/8       connected        Full     1 Gbps      Auto            Auto-MDIX on
Gi0/9       connected        Full     1 Gbps      Auto            Auto-MDIX on
Gi0/10      not connected    Half     -           Auto            Auto-MDIX on
Gi0/11      connected        Full     1 Gbps      Auto            Auto-MDIX on
Gi0/12      connected        Full     1 Gbps      Auto            Auto-MDIX on
Gi0/13      not connected    Half     -           Auto            Auto-MDIX on
Gi0/14      connected        Full     1 Gbps      Auto            Auto-MDIX on
Gi0/15      connected        Full     1 Gbps      Auto            Auto-MDIX on
Gi0/16      not connected    Half     -           Auto            Auto-MDIX on
Gi0/17      connected        Full     1 Gbps      Auto            Auto-MDIX on
Gi0/18      connected        Full     1 Gbps      Auto            Auto-MDIX on
SEFOS#
```

In the output:

- `Port` – Port of the EMS module as connected to chassis components.
  - `Gi0/1` to `Gi0/4` – Four 1GBASE-T ports on the left rear of the switch.
  - `Gi0/5` to `Gi0/11` – One port per slot on the rear panel. `Gi0/5` is connected to slot 0, and `Gi0/16` is connected to slot 11.
  - `Gi0/17` and `Gi0/18` are internal to the switch architecture.
- `Status` – State of the port.
- `Duplex`, `Speed`, and `Negotiation` – Parameters of the link.
- `Capability` – Indicates if auto-crossover capability is on.

d. If the output of a known installed card is `not connected`, or the status of a known-connected port is anything other than `connected`, investigate why.

Refer to detecting and managing faults in the *Oracle Fabric Interconnect F2-12 Service Manual* and to the EMS module documentation.

e. Exit the EMS console.

```
SEFOS# exit
Connection closed by foreign host

Entering character mode
Escape character is '^]'.
start: The session with /System/Networking/Switches/Switch_0/fs_cli has ended.
->
```

5. Verify configuration.

a. Start the host.

```
-> start /HOST/console
Are you sure you want to start /HOST/console (y/n)? y

Serial console started.  To stop, type ESC (
```

b. Press Enter to display the login prompt.

```
hostname login:
Password:
```

where *hostname* is the host name of the SCP.

c. Use the appropriate option to complete the login prompt:

- **If this is the first time you have booted up the virtualization switch, complete the Oracle Fabric OS configuration wizard.**

  See "Run the Oracle Fabric OS Configuration Wizard" on page 102

- **If you have already completed the Oracle Fabric OS configuration wizard, log in as `admin` with password that was configured through the Oracle Fabric OS configuration wizard.**

```
hostname login: admin
Password: password

                        Welcome to OFOS Controller
Copyright (c) 2012, 2016, Oracle and/or its affiliates.  All rights reserved.
```

```
            Enter "help" for information on available commands.

     Enter the command "show system copyright" for licensing information

admin@hostname[OFOS]
```

Note - From here forward in this document, the `admin@`*hostname*`[OFOS]` prompt is replaced with simply `[OFOS]`.

d. Display the state of the I/O modules.

```
[OFOS] show iocards
slot           state            descr    type                       v-resources
-------------------------------------------------------------------------------
0              up/up                     gwEthernet4Port40GbCard    0
1              up/up                     gwEthernet4Port40GbCard    0
3              up/up                     sanFc2Port16GbCard         0
4              up/up                     sanFc2Port16GbCard         0
6              up/up                     ibLr4Port100GbCard
7              up/up                     ibLr4Port100GbCard
9              up/up                     gwEthernet4Port10GbCard    0
10             up/up                     gwEthernet4Port10GbCard    0
embedded       up/up                     spineIb4Gw2PortCard        0
9 records displayed
[OFOS]
```

In the output:

- `slot` – Slot number as seen on the rear panel.
- `state`– Operational and administrative state of the I/O module in the listed slot.
- `descr` – An optional description of the module or slot.
- `type` – Type of module installed in the slot.
  - `gwEthernet4Port40GbCard` – Oracle F2 10 Gb and 40 Gb Ethernet module
  - `sanFc2Port16GbCard` – Oracle F2 Dual Port 16Gb Fibre Channel module
  - `ibLr4Port100GbCard` – Oracle F2 Long Range InfiniBand module
  - `gwEthernet4Port10GbCard` – Oracle F2 Quad Port 10GBASE-T module
  - `spineIb4Gw2PortCard` – The interfaces at the left rear of the switch.
- `v-resources` – Indicates a value for internal switch use. This value is not useful to customers.

e. If the output displays a known installed card as not identified, or if a slot is in a `down` state, investigate why.

Refer to detecting and managing faults in the *Oracle Fabric Interconnect F2-12 Service Manual*.

6. Verify connectivity.

a. Display the state of the gateway ports.

```
[OFOS] show ioports
name           type                  state               descr     v-resources
-------------------------------------------------------------------------------
0/1            gwEthernet40GbPort    up/up                         0
0/2            gwEthernet40GbPort    up/up                         0
0/3            gwEthernet40GbPort    up/up                         0
0/4            gwEthernet40GbPort    up/up                         0
1/1            gwEthernet40GbPort    up/up                         0
1/2            gwEthernet40GbPort    up/up                         0
1/3            gwEthernet40GbPort    up/up                         0
1/4            gwEthernet40GbPort    up/up                         0
3/1            sanFc16GbPort         up/up                         0
3/2            sanFc16GbPort         up/up                         0
4/1            sanFc16GbPort         up/up                         0
4/2            sanFc16GbPort         up/up                         0
9/1            gwEthernet10GbPort    up/up                         0
9/2            gwEthernet10GbPort    up/up                         0
9/3            gwEthernet10GbPort    up/up                         0
9/4            gwEthernet10GbPort    up/up                         0
10/1           gwEthernet10GbPort    up/up                         0
10/2           gwEthernet10GbPort    up/up                         0
10/3           gwEthernet10GbPort    up/up                         0
10/4           gwEthernet10GbPort    up/up                         0
embedded/5     gwEthernet40GbPort    up/up                         0
embedded/6     gwEthernet40GbPort    up/up                         0
22 records displayed
[OFOS]
```

In the output:

- `name` – Slot number and port as seen on the rear panel/port number for the interface.

  Note - In the output, `embedded` is the group of on-board interfaces at the left rear of the switch.

- `type` – Type of gateway available in the slot.
  - `gwEthernet40GbPort` – 40 Gb Ethernet
  - `gwEthernet10GbPort` – 10 Gb Ethernet
  - `sanFc16GbPort` – 16 Gb Fibre Channel
- `state`– Operational and administrative state of the I/O module in the listed slot.
- `descr` – An optional description of the module or slot.

- `v-resources` – Indicates a value for internal switch use. This value is not useful to customers.

b. Display the state of the IB ports.

```
[OFOS] show infiniband-port
name                 state               mode_state           guid
-------------------------------------------------------------
6/1                  up/down             switching            0
6/2                  up/down             switching            0
6/3                  up/down             switching            0
6/4                  up/down             switching            0
7/1                  up/down             switching            0
7/2                  up/down             switching            0
7/3                  up/down             switching            0
7/4                  up/down             switching            0
embedded/1           up/down             switching            0
embedded/2           up/down             switching            0
embedded/3           up/down             switching            0
embedded/4           up/down             switching            0
12 records displayed
[OFOS]
```

In the output:

- `name` – Slot number as seen on the rear panel or port number for the interface.

Note - In the output, `embedded` is the group of on-board interfaces at the left rear of the switch.

- `state`– Operational and administrative state of the listed port.
- `mode_state` – State of the IB port as configured for switching or routing.
- `guid` – Node GUID of each switch port.

c. If the output of these commands displays a slot or local port is identified as being in a `down` state, or if a `mode_state` is other than `switching`, investigate why.

Refer to the detecting and managing faults in the *Oracle Fabric Interconnect F2-12 Service Manual*, and to the Oracle Fabric OS documentation for assistance.

d. Exit the host console.

Type **`exit`** and press the Enter key, then press the Esc key and type **`(`**.

```
[OFOS] exit
[root@azn111-222 ~]#
Serial console stopped.
```

```
->
```

7. **Log in to the Oracle Fabric OS.**
   See “Log In to the Oracle Fabric OS Interface” on page 105.

Related Information

- “Verify LED Status” on page 89
- “Verify That the Switch Is Operational” on page 94
- “Log In to the Oracle Fabric Manager Interface” on page 106
- “Log In to the Oracle Fabric OS Interface” on page 105
- “Run the Oracle Fabric OS Configuration Wizard” on page 102
- “Oracle Fabric OS Configuration Wizard Parameters” on page 104

▼ Run the Oracle Fabric OS Configuration Wizard

Caution - Running the Oracle Fabric OS configuration wizard destroys preconfigured data. If you are manually running the wizard, consider backing up configuration data before proceeding.

The Oracle Fabric OS configuration wizard runs the first time the switch is started, or after each time the system configuration is reset or cleared. To run the Oracle Fabric OS configuration wizard, you must be in the Oracle ILOM to access the SCP through the host console.

1. **If you are not in Oracle ILOM CLI, access it now by completing the following steps:**

   a. **Log in to Oracle ILOM CLI.**

   b. **Type `start /HOST/console`**

   c. **Log in as `root` with the default password `changeme`.**

   d. **Enter the OFOS to start the Oracle Fabric OS configuration wizard by typing `su admin`.**
      For more information, refer to “Access the Oracle Fabric OS” in *Oracle EDR InfiniBand Switch and Virtualized I/O Systems Administration Guide*.

2. **Consider your next step.**

   - **If the Oracle Fabric OS configuration wizard has started automatically, go to Step 3.**

- **If you want to manually run the Oracle Fabric OS configuration wizard, at the Oracle Fabric OS prompt, type:**

```
[OFOS} system clear config
This is a destructive operation. Your configuration will be cleared and the
system will be restarted. Please type 'confirm' to clear the configuration and
restart the system.
> confirm
```

  Then log in to the Oracle Fabric OS again.

3. **Review the parameters that the Oracle Fabric OS configuration wizard requests.**

   See “Oracle Fabric OS Configuration Wizard Parameters” on page 104.

4. **Permit the Oracle Fabric OS configuration wizard to run.**

   Type **Y**.

5. **Answer the questions as the wizard requests.**

   When completed, the wizard reboots the Oracle Fabric OS.

6. **Return to verifying the switch connectivity or log in to the Oracle Fabric OS or Oracle Fabric Manager with the newly configured values.**

   See:

   - **“Verify Connectivity” on page 96**
   - **“Log In to the Oracle Fabric OS Interface” on page 105**
   - **“Log In to the Oracle Fabric Manager Interface” on page 106**

Related Information

- “Verify LED Status” on page 89
- “Verify That the Switch Is Operational” on page 94
- “Verify Connectivity” on page 96
- “Log In to the Oracle Fabric Manager Interface” on page 106
- “Log In to the Oracle Fabric OS Interface” on page 105
- “Oracle Fabric OS Configuration Wizard Parameters” on page 104

Oracle Fabric OS Configuration Wizard Parameters

Note - If the Oracle Fabric OS configuration wizard is able to automatically determine a parameter, it will not ask you to provide it.

Parameter	Value
Would you like to use the OFOS Configuration Wizard?	Yes/No
What is the switch's host name?	alphanumeric string
What is the domain for the switch?	alphanumeric string
Do you want to enable a strong password configuration?	Yes/No
If yes, what is the minimum number of characters in the password?	1 - 8 Zero bypasses the parameter.
If yes, what is the minimum number of lower case letters in the password?	1 - 8 Zero bypasses the parameter.
If yes, what is the minimum number of digits in the password?	1 - 8 Zero bypasses the parameter.
If yes, what is the minimum number of special characters in the password?	1 - 8 Zero bypasses the parameter.
If yes, what is the minimum number of upper case letters in the password?	1 - 8
What is the password for the `root` user? **Note -** This password will also be used to log into Oracle Fabric Manager.	alphanumeric string, which must comply with strong password parameters (if configured).
What is the password for the `admin` user? **Note -** This password will also be used to manage the switch from within Oracle Fabric Manager.	alphanumeric string, which must comply with strong password parameters (if configured).
What IP address type will be used for the switch ?	Static/DHCP
What is the switch management address?	IP address in dotted decimal notation.
What is the switch's subnet mask?	Subnet mask in dotted decimal notation.
What is the switch's default gateway?	IP address in dotted decimal notation.
What are the switch's DNS server address(es)?	IP address in dotted decimal notation.
What is the switch's timezone?	Tab through to choose from displayed.

Parameter	Value
What is the chassis MAC address? **Note -** MAC addresses must be unique for each switch for vNICs to operate correctly.	Choose from displayed, or enter specific private MAC address.

Related Information

- “Verify LED Status” on page 89
- “Verify That the Switch Is Operational” on page 94
- “Verify Connectivity” on page 96
- “Log In to the Oracle Fabric Manager Interface” on page 106
- “Log In to the Oracle Fabric OS Interface” on page 105
- “Run the Oracle Fabric OS Configuration Wizard” on page 102

▼ Log In to the Oracle Fabric OS Interface

When you log in to the Oracle Fabric OS interface for the very first time, the Oracle Fabric OS configuration wizard starts. Only after completing the Oracle Fabric OS configuration wizard can you manage the switch through the Oracle Fabric OS Interface.

1. **Choose a method of accessing the Oracle Fabric OS interface:**

   - **From a management network attached host, start an SSH session and connect to the SCP by specifying the IP address you previously configured.**

     ```
     $ ssh admin@SCP_IP_address
     admin@SCP_IP_address's password: password

                            Welcome to OFOS Controller
     Copyright (c) 2012, 2016, Oracle and/or its affiliates.  All rights reserved.

                 Enter "help" for information on available commands.

          Enter the command "show system copyright" for licensing information
     admin@hostname[OFOS]
     ```

     where:

     - *admin* is the username of the Oracle Fabric OS administrator.
     - *SCP_IP_address* is the IP address assigned by DHCP or that you configured in “Assign a Static IP Address to the SCP” on page 85.
     - *password* is the password of the SCP's password you configured through the Oracle First Boot wizard.

- *hostname* is the host name assigned by DHCP or that you configured in "Assign a Static IP Address to the SCP" on page 85.

- **Start an SSH session to the SCP's IP address, then issue `su admin` to start the Oracle Fabric OS.**

  At the completion of this command, the Oracle Fabric OS CLI is displayed for the Oracle Fabric OS controller.

```
[root@SCP_IP_address ~]# su admin
                         Welcome to OFOS Controller
Copyright (c) 2012, 2016, Oracle and/or its affiliates.  All rights reserved.

             Enter "help" for information on available commands.

     Enter the command "show system copyright" for licensing information
admin@ovn82-102[OFOS]
```

2. **Consider your next steps.**

   - **If this is the first login to the Oracle Fabric OS, the Oracle Fabric OS configuration wizard runs automatically.**

     See "Run the Oracle Fabric OS Configuration Wizard" on page 102.

   - **Otherwise, you can now administer the switch through the Oracle Fabric OS.**

     Refer to the Oracle Fabric OS documentation for further instructions.

Related Information

- "Verify LED Status" on page 89
- "Verify That the Switch Is Operational" on page 94
- "Verify Connectivity" on page 96
- "Log In to the Oracle Fabric Manager Interface" on page 106
- "Run the Oracle Fabric OS Configuration Wizard" on page 102
- "Oracle Fabric OS Configuration Wizard Parameters" on page 104

▼ Log In to the Oracle Fabric Manager Interface

When you log in to the Oracle Fabric OS interface for the very first time, the Oracle Fabric OS configuration wizard starts. Oracle Fabric Manager uses information that the Oracle Fabric OS configuration wizard requires. You must complete the Oracle Fabric OS configuration wizard before you can manage the switch through Oracle Fabric Manager.

1. **Run the Oracle Fabric OS configuration wizard.**

See “Run the Oracle Fabric OS Configuration Wizard” on page 102.

2. **From a management network attached host, start a web browser.**

3. **Log in to the Oracle Fabric Manager.**

   `https://`*SCP_IP_address*`:8443/xms`

   where *SCP_IP_address* is the IP address of the SCP assigned by DHCP or that you configured in “Assign a Static IP Address to the SCP” on page 85.

   The Oracle Fabric Manager login page is displayed.

4. **Type the username and password of the Oracle Fabric Manager administrator.**

   The default username is `root`, and the password is `changeme`, which is the SCP's root user and password. If you configured a different password, such as when you ran the Oracle Fabric OS configuration wizard, use that password.

5. **Select a language from the drop-down menu and click Log In.**

   The Fabric Manager Dashboard is displayed.

6. **From the Navigation pane, open the Managed Devices folder, and click Discovery Devices.**

7. **Find the switch in the list of devices, and highlight it.**

8. **Click the check mark icon.**

9. **Type the user name and password, and click Submit.**

   The default username is `admin`. Use the password you configured when you ran the Oracle Fabric OS configuration wizard.

   The Discovery Devices pane updates, and the green circle checkmark in the Manage Status column indicates that the switch is enabled for management.

10. **From the Navigation pane, click the reload button at the bottom of the pane.**

    The Navigation pane is reloaded with additional functionality.

11. **From the Navigation pane, open the General folder, and click Dashboard.**

    The Fabric Manager Dashboard is displayed.

12. **You can now administer the switch through the Oracle Fabric Manager.**

    For further instructions, refer to the *Oracle Fabric Manager 5.0.2 Administration Guide*.

Related Information

- “Verify LED Status” on page 89

- “Verify That the Switch Is Operational” on page 94
- “Verify Connectivity” on page 96
- “Log In to the Oracle Fabric OS Interface” on page 105
- “Run the Oracle Fabric OS Configuration Wizard” on page 102
- “Oracle Fabric OS Configuration Wizard Parameters” on page 104

Glossary

1

10 Gb/40Gb module I/O module for the Oracle Fabric Interconnect F2-12 that supports Ethernet interfaces at 10Gb and 40Gb per second.

16G Fibre Channel module I/O module for the Oracle Fabric Interconnect F2-12 that supports Fibre Channel interfaces.

A

adapter Physical device, such as an HCA or NIC, that enables a host to communicate through a fabric or network.

C

CFM Cubic feet per minute. A standard of measuring airflow.

CMB Abbreviation for cable management bracket. A component that supports and groups cables extending from the chassis.

D

DN Abbreviation for distinguished name. An Active Directory term.

E

EDR Extended Data Rate. A throughput of InfiniBand (IB) technology, typically 100Gbps. See also IB.

EMS module Embedded Management Switch module. A component within the switch chassis that provides an Ethernet switch and management controller, using the SEFOS operating system. See also SEFOS.

Ethernet gateway A device that either enables data transference from one protocol to another, for example IB to Ethernet. Or a device that serves as a routing node for an Ethernet network.

Ethernet management switch An Ethernet switch that enables single point management of multiple service processors (SP) or hosts through their respective network management interfaces. See also SP.

F

fabric interconnect Short name for an IB switch that provides gateway services and additional functionality.

fan module A hot-swappable replaceable component that provides cooling air to the chassis interior.

Fibre Channel A data transference technology used primarily for storage systems.

FM Abbreviation of fan module. See also fan module.

G

GB Abbreviation of GigaByte. 1 GB is approximately 1000 MB.

GbE (also Gb) Abbreviation of Gigabit Ethernet. A unit of throughput for Ethernet technology.

GUID Globally unique identifier. A 32-digit hexadecimal number that uniquely identifies an IB node. See also IB.

H

housing The colored plastic portion of the PrizmMT connector, magenta for 4x, black for 12x. Though it functions as a release device and not as a containment, the term "housing" was assigned by the manufacturer, USConec.

I

I/O module A user-replaceable physical interface component for the Oracle Fabric Interconnect F2-12.

I^2C A hardware bus employing the IPMI protocol to query and affect I^2C nodes. See also IPMI and Oracle ILOM.

IB InfiniBand. A high bandwidth messaging technology, used for very high performance computing.

IB switch A physical device that provides connections between nodes within an IB fabric.

ILOM See Oracle ILOM.

IPMI Intelligent Platform Management Interface. A protocol for monitoring and controlling chassis components over the I^2C bus.

L

LDAP Lightweight Directory Access Protocol. A protocol for providing directory services over IP.

LDAP over SSL A scheme of securing LDAP through a Secure Sockets Layer tunnel. See also LDAP.

long-range IB module I/O module for the Oracle Fabric Interconnect F2-12 that supports QDR IB throughput over distances up to 40 kilometers.

LR IB IOM I/O module for the Oracle Fabric Interconnect F2-12 that supports QDR IB throughput over distances up to 40 kilometers.

LR transceiver A transceiver used for long range Fibre Channel communication.

M

MAC Machine Allocation Code. A 12-digit hexadecimal number that uniquely identifies a network node.

MIB Management Information Base. A plain text file that contains a collection of object identifiers (OID). Used when managing a switch with the SNMP protocol. See also OID and SNMP.

module A user-replaceable component for a chassis, typically externally accessible. See also I/O module and fan module.

MOS My Oracle Support, at: http://support.oracle.com

N

network management A means of managing an SP or SCP through an Ethernet network. See also serial management, SP, and SCP.

O

OID Object identifier. Component of a MIB that serves a particular purpose and has parameters that are interpreted by the SNMP protocol. See also MIB and SNMP.

Oracle F2 10 Gb and 40Gb Ethernet Module An I/O module that provides either 10GbE or 40GbE functionality.

Oracle F2 Dual Port 16G Fibre Channel Module An I/O module that provides 16Gb Fibre Channel functionality.

Oracle F2 Long Range InfiniBand Module An I/O module that provides QDR InfiniBand functionality over long distances.

Oracle F2 Quad Port 10GBASE-T Module An I/O module that provides four 10GbE interface functionality.

Oracle Fabric Interconnect F2-12 A virtualization switch. See also virtualization switch.

Oracle Fabric Manager A web-based GUI to administer the switch and fabric.

Oracle Fabric OS Oracle Fabric Operating System. The operating system within the SCP, that manages the fabric. See also SCP.

Oracle ILOM Oracle Integrated Lights-Out Manager. An interface using the IPMI protocol and the I^2C bus to monitor and control the hardware components of a chassis.

Oracle Linux OS Oracle Linux operating system. A UNIX-based operating system, often embedded into service processors. See also SP.

Oracle Solaris OS Oracle Solaris operating system. A UNIX-based operating system, typically used for high-performance Enterprise computing platforms.

P

PrizmMT cable An optical fiber connector and cable used for IB 4x and 12x technology. Is configured with a PrizmMT ferrule. Appears similar to, but is not compatible with standard MT cables and connectors. See also standard MT cable.

Q

QSFP Quad small form-factor pluggable. A form-factor for high-speed data interconnects.

R

RJ-45 Standard for an eight-pin modular form-factor for Ethernet interconnects.

S

SCP System control processor. A type of service processor that manages more complex and resource intensive services, such as IB technology, fabric management interfaces, the Subnet Manager, and so on. The SCP might also be the chassis host. See also SP.

SEFOS Sun Ethernet Fabric Operating System. The operating system used by the EMS module to administer the Ethernet network. See also EMS module.

SER MGT Serial management. A low-speed serial datastream used to interface with the SP. See also SP.

serial management A means of managing an SP or SCP through a serial datastream. See also SER MGT, network management, SP, and SCP.

SFP+ Small form-factor pluggable. A form-factor for high-speed data interconnects.

SNMP Simple Network Management Protocol. A machine interface for remote monitoring and controlling of a switch. Uses MIBs and OIDs to exchange messages containing data or instructions. See also MIB and OID.

SP Service processor. A device that monitors and controls a chassis, regardless of the chassis host state, through an Oracle ILOM interface. See also Oracle ILOM and SCP.

SR transceiver A transceiver used for short range Fibre Channel communication.

SSH Secure Shell. A secure network communication protocol, utilizing DSA and RSA algorithms. See also DSA and RSA.

standard MT cable An optical fiber connector and cable used for IB 4x technology. Appears similar to, but is not compatible with PrizmMT cables and connectors. See also PrizmMT cable.

switch front The intake end of the switch chassis that faces the cold aisle when mounted in a rack. Typically is the end with fan modules and power supplies.

switch rear The exhaust end of the switch chassis that faces the hot aisle when mounted in a rack. Typically is the end populated with high-speed data connections.

V

VAC Voltage alternating current.

VDC Voltage direct current.

virtualization switch A switch supporting multiple interfaces having virtualization capabilities.

W

WWN World Wide Name. An identifier used for Fibre Channel and other storage interface devices.

WWNN World Wide Node Name. A Fibre Channel name specifically for a node.

WWPN World Wide Port Name. A Fibre Channel name specifically for a port.

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