

# Oracle® F2 10 Gb and 40 Gb Ethernet Module User's Guide

ORACLE®

Part No: E74602-01  
November 2016



**Part No: E74602-01**

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## Using This Documentation

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- **Overview** – Describes how to install and administrate the Oracle F2 10 Gb and 40 Gb Ethernet module.
- **Audience** – Installers, technicians, system administrators, and authorized service providers.
- **Required knowledge** – Advanced experience installing network hardware.

## Product Documentation Library

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

## Feedback

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





# Understanding the Module

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These topics describe the module and the installation process.

- [“Installation Task Overview” on page 9](#)
- [“Shipping Kit Contents” on page 10](#)
- [“Module Overview” on page 10](#)
- [“Receptacles and LEDs” on page 12](#)
- [“Module Status LEDs” on page 13](#)

## Related Information

- [“Confirming Specifications and Requirements” on page 15](#)
- [“Installing the Module” on page 17](#)
- [“Configuring Features” on page 31](#)

## Installation Task Overview

Step	Description	Links
1.	Verify shipped components and accessories.	<a href="#">“Shipping Kit Contents” on page 10</a>
2.	Familiarize yourself with the module, and the receptacles and LEDs on the front panel of the module.	<ul style="list-style-type: none"><li>■ <a href="#">“Module Overview” on page 10</a></li><li>■ <a href="#">“Receptacles and LEDs” on page 12</a></li></ul>
3.	Gather necessary cables.	<a href="#">“Supported Cables” on page 18</a>
4.	Confirm power consumption allowances, and hardware and software requirements.	<ul style="list-style-type: none"><li>■ <a href="#">“Power Specifications” on page 16</a></li><li>■ <a href="#">“Hardware and Firmware Requirements” on page 16</a></li></ul>
5.	Review handling and ESD precautions.	<a href="#">“ESD Precautions” on page 17</a>
6.	Remove any filler panel, if installed.	<a href="#">“Remove the Filler Panel” on page 20</a>
7.	Install the module.	<a href="#">“Install the Module” on page 23</a>
8.	Connect the cables.	<a href="#">“Connect Cables” on page 28</a>
9.	Verify the module installation.	<a href="#">“Verify Module Installation” on page 29</a>
10.	Configure the module features.	<a href="#">“Configuring Features” on page 31</a>

### Related Information

- [“Shipping Kit Contents” on page 10](#)
- [“Module Overview” on page 10](#)
- [“Receptacles and LEDs” on page 12](#)
- [“Module Status LEDs” on page 13](#)

## Shipping Kit Contents

The carton in which the module was shipped should contain these items:

- I/O module
- *Oracle F2 I/O Module Where To Find Documentation*

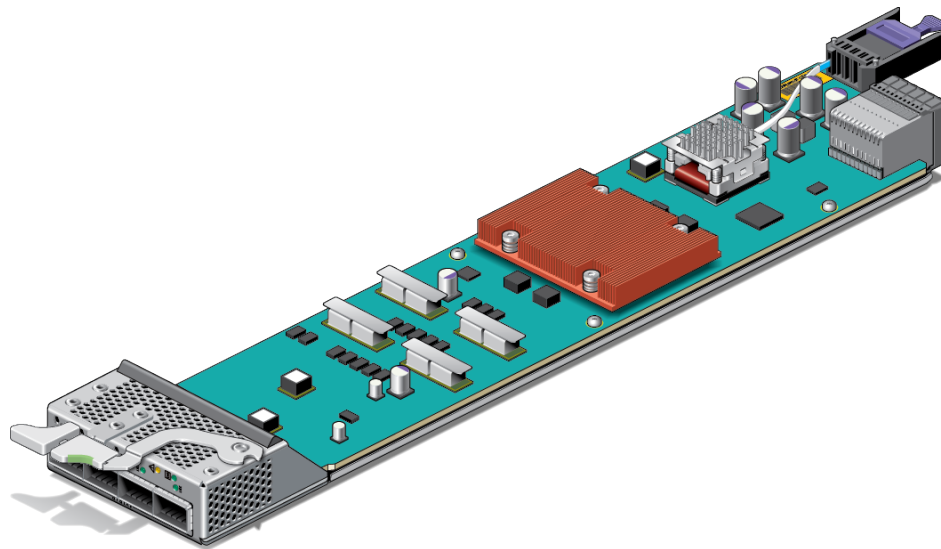
### Related Information

- [“Installation Task Overview” on page 9](#)
- [“Module Overview” on page 10](#)
- [“Receptacles and LEDs” on page 12](#)
- [“Module Status LEDs” on page 13](#)

## Module Overview

Feature	Specification
IB	2 IB 4x interfaces, speed support: <ul style="list-style-type: none"> <li>■ 40 Gbps - QDR</li> <li>■ 56 Gbps - FDR</li> <li>■ 100 Gbps - EDR</li> </ul>
Data rate supported per port	4x10 Gbps or 40 Gbps
Connector	4x QSFP+ ports, support: <ul style="list-style-type: none"> <li>■ 40 GBase - SR4</li> <li>■ 4x10GBase-SR</li> <li>■ 40 GBase - LR4</li> </ul>
Conforms to Ethernet standard	802.3ba

Feature	Specification
Boot ROM	32 Mb SPI Flash
EMI	FCC Class A



The Oracle F2 10 Gb and 40 Gb Ethernet Module occupies one chassis slot in the Oracle F2-12 modular chassis. The module slots in the Oracle Fabric Interconnect F2-12 modular switch can be populated with up to 12 I/O modules to provide InfiniBand fabric attached servers with Ethernet and Fibre Channel connectivity. Additionally, modules are available to provide Ethernet overlay networks with network services. This module has four QSFP+ sockets for connections to Ethernet L2 switches. Each QSFP+ port can connect to either a single 40 Gb switch or up to four 10 Gb switches with splitter cables.

Temperature sensors are used to monitor the operation temperature of critical components. The sensors are programmed with default threshold settings. High temperature condition will be reported as alerts to the switch and its event monitoring systems, for example, SNMP or Oracle ILOM.

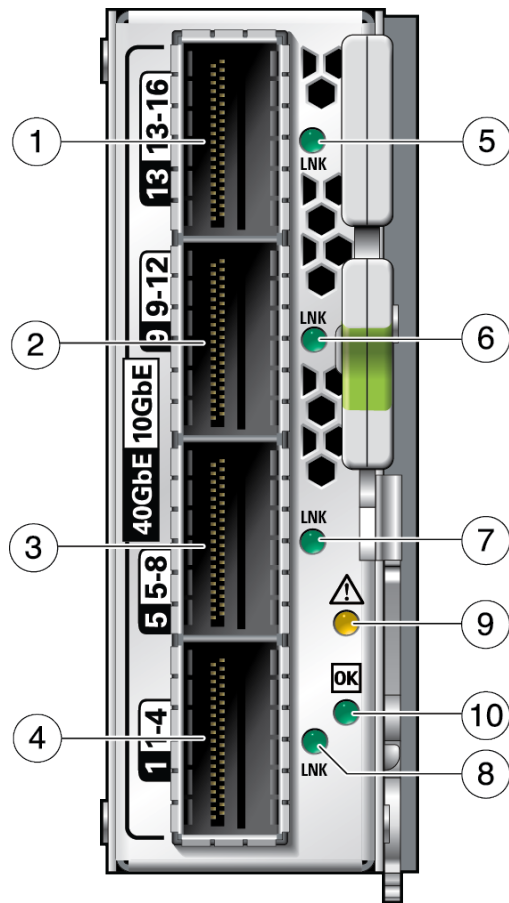
For information about switch temperature readings and temperature alerts, refer to the *Oracle EDR InfiniBand Switches and Virtualized I/O Systems Administration Guide* at [http://docs.oracle.com/cd/E65867\\_01/html/E65872/index.html](http://docs.oracle.com/cd/E65867_01/html/E65872/index.html).

### Related Information

- [“Installation Task Overview” on page 9](#)
- [“Shipping Kit Contents” on page 10](#)

- “Receptacles and LEDs” on page 12
- “Module Status LEDs” on page 13

## Receptacles and LEDs



On the front panel there are four link (LNK) LEDs to the right of each port and two LEDs above and to the right of the bottom LNK LED, that signal the port state. This figure and this table explains the meaning of the LEDs.



No.	Description
1	QSFP port 13 (40 GbE mode)

No.	Description
	QSFP port 13-16 (4x10 GbE mode)
2	QSFP port 9 (40 GbE mode)
	QSFP port 9-12 (4x10 GbE mode)
3	QSFP port 5 (40 GbE mode)
	QSFP port 5-8 (4x10 GbE mode)
4	QSFP port 1 (40 GbE mode)
	QSFP port 1-4 (4x10 GbE mode)
5, 6, 7, 8	QSFP link LEDs (Green)
9	Module FAULT LED (Amber)
10	Module OK LED (Green)

### Related Information

- [“Installation Task Overview” on page 9](#)
- [“Shipping Kit Contents” on page 10](#)
- [“Module Overview” on page 10](#)
- [“Module Status LEDs” on page 13](#)

## Module Status LEDs

Glyph	Name	Color	State and Meaning
	Attention	Amber	Indicates these conditions: <ul style="list-style-type: none"> <li>■ <b>On:</b> Module fault and requires attention</li> <li>■ <b>Blink:</b> Initializing</li> <li>■ <b>Off:</b> Module normal operation</li> </ul>
	OK	Green	Indicates these conditions: <ul style="list-style-type: none"> <li>■ <b>On:</b> Module Powered and operational</li> <li>■ <b>Blink:</b> Initializing (Hot-plug is not allowed)</li> <li>■ <b>Off:</b> Module not operational</li> </ul>

## Port Status LEDs

During runtime operation, each port's LED indicates real-time status for the port.

Each port's LNK/ACT LEDs work together to indicate the port's current status.

Name	Color	State and Meaning
LNK/ACT	Green	Indicates these conditions: <ul style="list-style-type: none"><li data-bbox="951 422 1122 447">■ <b>On</b> – Link is up.</li><li data-bbox="951 453 1154 478">■ <b>Off</b> – Link is down.</li></ul>

### Related Information

- [“Installation Task Overview” on page 9](#)
- [“Shipping Kit Contents” on page 10](#)
- [“Module Overview” on page 10](#)
- [“Receptacles and LEDs” on page 12](#)
- [“Module Status LEDs” on page 13](#)

# Confirming Specifications and Requirements

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These topics describe the module specifications and requirements.

- [“Physical Specifications” on page 15](#)
- [“Power Specifications” on page 16](#)
- [“Hardware and Firmware Requirements” on page 16](#)

## Related Information

- [“Understanding the Module” on page 9](#)
- [“Installing the Module” on page 17](#)
- [“Configuring Features” on page 31](#)

## Physical Specifications

Dimension	Metric	U.S.
Length	405.5 mm	15.96 in.
Height	81.6 mm	3.21 in.
Weight	1.04 kg	2.3 lb

## Related Information

- [“Power Specifications” on page 16](#)
- [“Hardware and Firmware Requirements” on page 16](#)

## Power Specifications

Description	Value
Maximum power consumption	108.072W
Typical power consumption	100.299W
Operating voltage	Input: 12V +/- 5% (minimum: 11.4V, maximum: 12.6V)

### Related Information

- [“Physical Specifications” on page 15](#)
- [“Hardware and Firmware Requirements” on page 16](#)

## Hardware and Firmware Requirements

For the latest information regarding the minimum requirements and interoperability of the module, refer to the *Oracle Fabric Interconnect F2-12 Product Notes* at:

<http://www.oracle.com/goto/f2-12/docs>

### Related Information

- [“Physical Specifications” on page 15](#)
- [“Power Specifications” on page 16](#)



# Installing the Module

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Perform these tasks in the order presented to install the module.

Description	Links
If necessary, order additional hardware.	<a href="#">“Order Additional Hardware” on page 18</a>
Follow cable cautions and ESD precautions.	<a href="#">“Supported Cables” on page 18</a>
	<a href="#">“Cable Cautions” on page 19</a>
	<a href="#">“ESD Precautions” on page 17</a>
Understand the connectors.	<a href="#">“Receptacles and LEDs” on page 12</a>
Install the module.	<a href="#">“Install the Module” on page 23</a>
Verify the module installation.	<a href="#">“Verify Module Installation” on page 29</a>

- [“ESD Precautions” on page 17](#)
- [“Order Additional Hardware” on page 18](#)
- [“Supported Cables” on page 18](#)
- [“Cable Cautions” on page 19](#)
- [“Remove the Filler Panel” on page 20](#)
- [“Install the Module” on page 23](#)
- [“Connect Cables” on page 28](#)
- [“Verify Module Installation” on page 29](#)

## Related Information

- [“Installing the Module” on page 17](#)
- [“Confirming Specifications and Requirements” on page 15](#)
- [“Configuring Features” on page 31](#)

## ESD Precautions

When installing the module, 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

- [“Order Additional Hardware” on page 18](#)
- [“Supported Cables” on page 18](#)
- [“Cable Cautions” on page 19](#)
- [“Remove the Filler Panel” on page 20](#)
- [“Install the Module” on page 23](#)
- [“Connect Cables” on page 28](#)
- [“Verify Module Installation” on page 29](#)

## ▼ Order Additional Hardware

- **Ensure that you have the appropriate cables and transceivers.**  
See [“Supported Cables” on page 18](#).

### Related Information

- [“ESD Precautions” on page 17](#)
- [“Supported Cables” on page 18](#)
- [“Cable Cautions” on page 19](#)
- [“Remove the Filler Panel” on page 20](#)
- [“Install the Module” on page 23](#)
- [“Connect Cables” on page 28](#)
- [“Verify Module Installation” on page 29](#)

## Supported Cables

The Oracle F2 10 Gb and 40 Gb Ethernet Module comes with a factory default port mode of 40GbE. This module supports MPO or LC duplex type of optical fiber cables, depending on the optical transceiver installed.

Check for available cables and transceivers in the *Oracle EDR Infiniband Fabric Connectivity Guide* at:




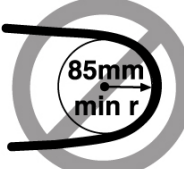
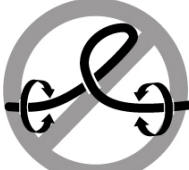
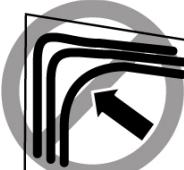
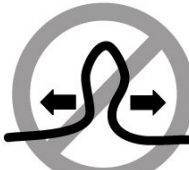

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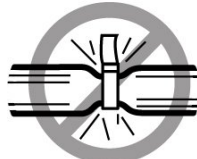
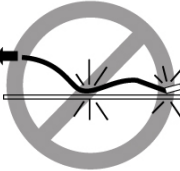

### Related Information

- [“ESD Precautions” on page 17](#)
- [“Order Additional Hardware” on page 18](#)
- [“Cable Cautions” on page 19](#)
- [“Remove the Filler Panel” on page 20](#)
- [“Install the Module” on page 23](#)
- [“Connect Cables” on page 28](#)
- [“Verify Module Installation” on page 29](#)

## Cable Cautions

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

	<p>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.</p>		<p>Do not step on the cable or connectors. Plan cable paths away from foot traffic or rolling loads.</p>
	<p>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.</p>		<p>Do not bend the cables to a radius tighter than 85 mm (3.4 inches). Ensure that cable turns are as wide as possible.</p>
	<p>Do not twist the cable to open a kink. If it is not severe, open the kink by unlooping the cable.</p>		<p>Do not pack the cable to fit a tight space. Use an alternative cable route.</p>
	<p>Do not straighten the cable to correct a bend that is too tight. Leave the cable bend as is.</p>		<p>Do not hang the cable for a length more than 2 meters (7 feet). Minimize the hanging weight with intermediate retention points.</p>

	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.

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**Note** - Unplugged fiber cable ends should be covered with dust caps whenever possible to increase protection against damage or contamination.

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### Related Information

- [“ESD Precautions” on page 17](#)
- [“Order Additional Hardware” on page 18](#)
- [“Supported Cables” on page 18](#)
- [“Remove the Filler Panel” on page 20](#)
- [“Install the Module” on page 23](#)
- [“Connect Cables” on page 28](#)
- [“Verify Module Installation” on page 29](#)

## ▼ Remove the Filler Panel

Use this procedure to remove a filler panel or existing module from the slot where you are installing the module.

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**Note** - 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.

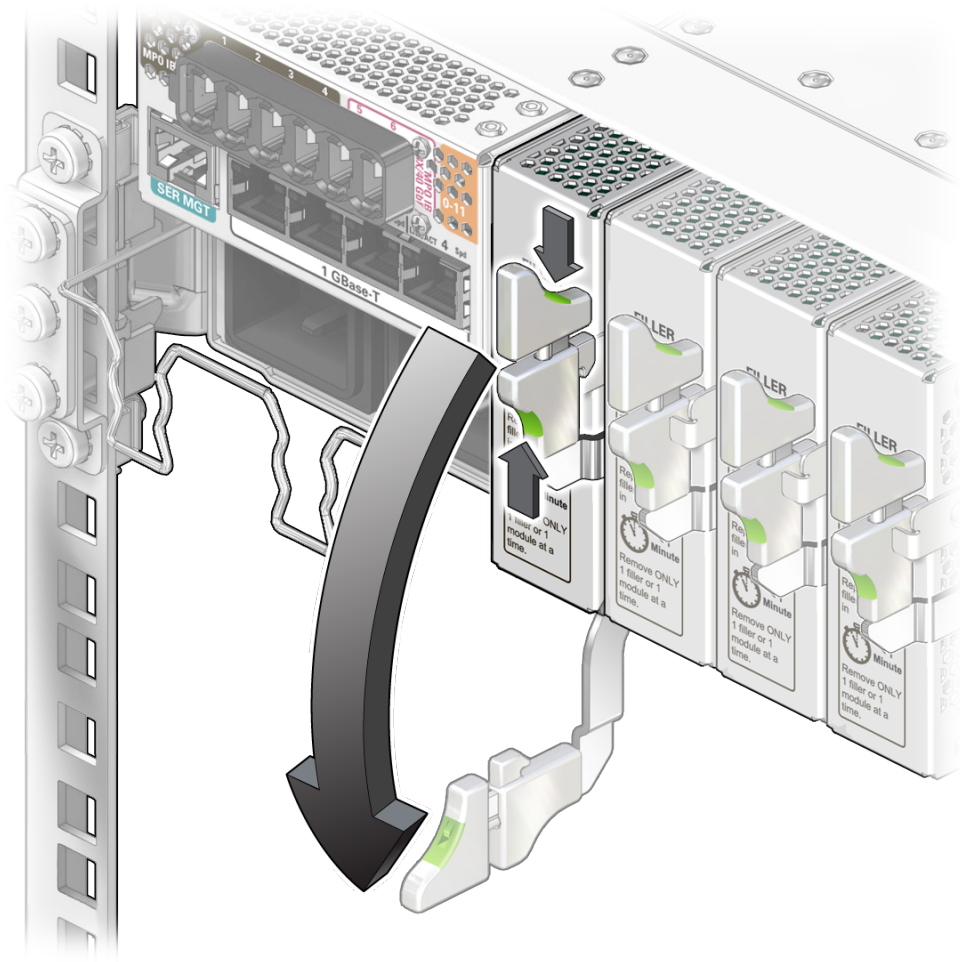
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1. **Identify the prerequisite and subsequent installation tasks that you must perform in conjunction with this task.**

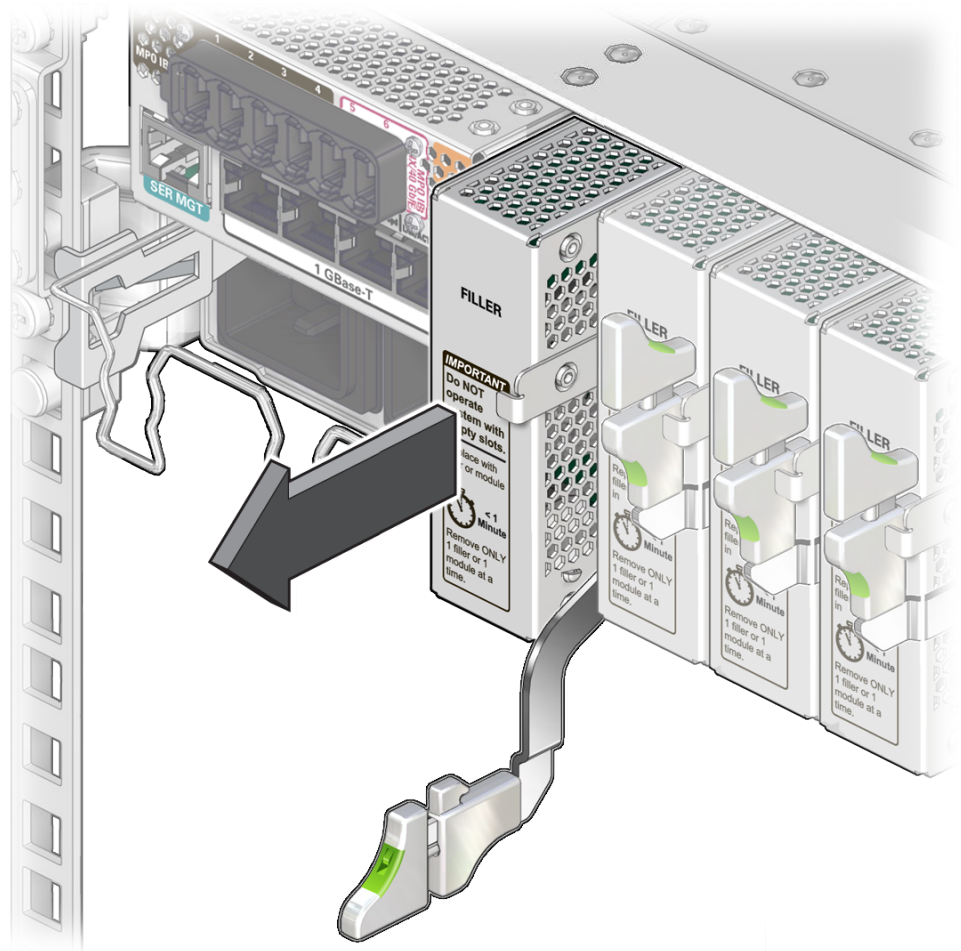
See [“Installation Task Overview” on page 9](#).

2. If the rack rear door is installed, open it.
3. At the location where you are installing the module, remove the filler panel, if installed.
  - a. Squeeze the top and bottom of the release lever, 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 and save it for future use.
4. Install the module.  
See ["Install the Module"](#) on page 23.

### Related Information

- [“ESD Precautions” on page 17](#)
- [“Order Additional Hardware” on page 18](#)
- [“Supported Cables” on page 18](#)
- [“Cable Cautions” on page 19](#)
- [“Install the Module” on page 23](#)
- [“Connect Cables” on page 28](#)
- [“Verify Module Installation” on page 29](#)

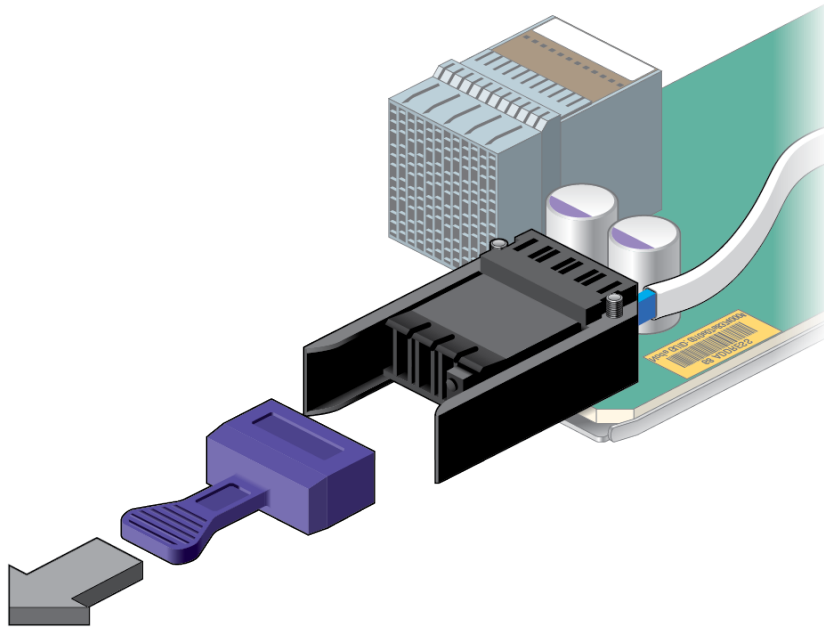
## ▼ Install the Module

1. **Identify the prerequisite and subsequent installation tasks that you must perform in conjunction with this task.**  
See [“Installation Task Overview” on page 9](#).
2. **If the rack rear door is installed, open it.**
3. **Remove the module from its antistatic packaging.**
4. **Remove the port plug from the MBOM connector at the rear of the module.**



**Caution** - Ensure that the port plug is removed from the module prior to inserting the module in the I/O slot.

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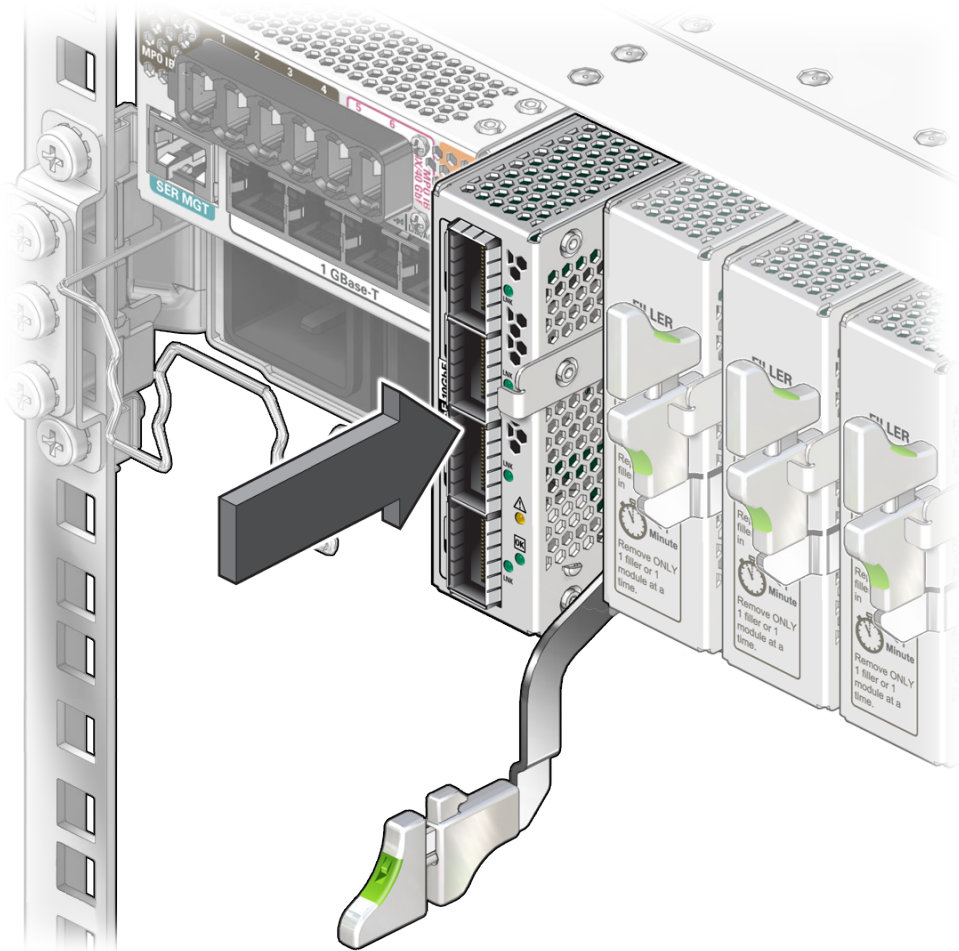


5. **Squeeze the top and bottom of the release lever, and move the release lever to the fully open position.**



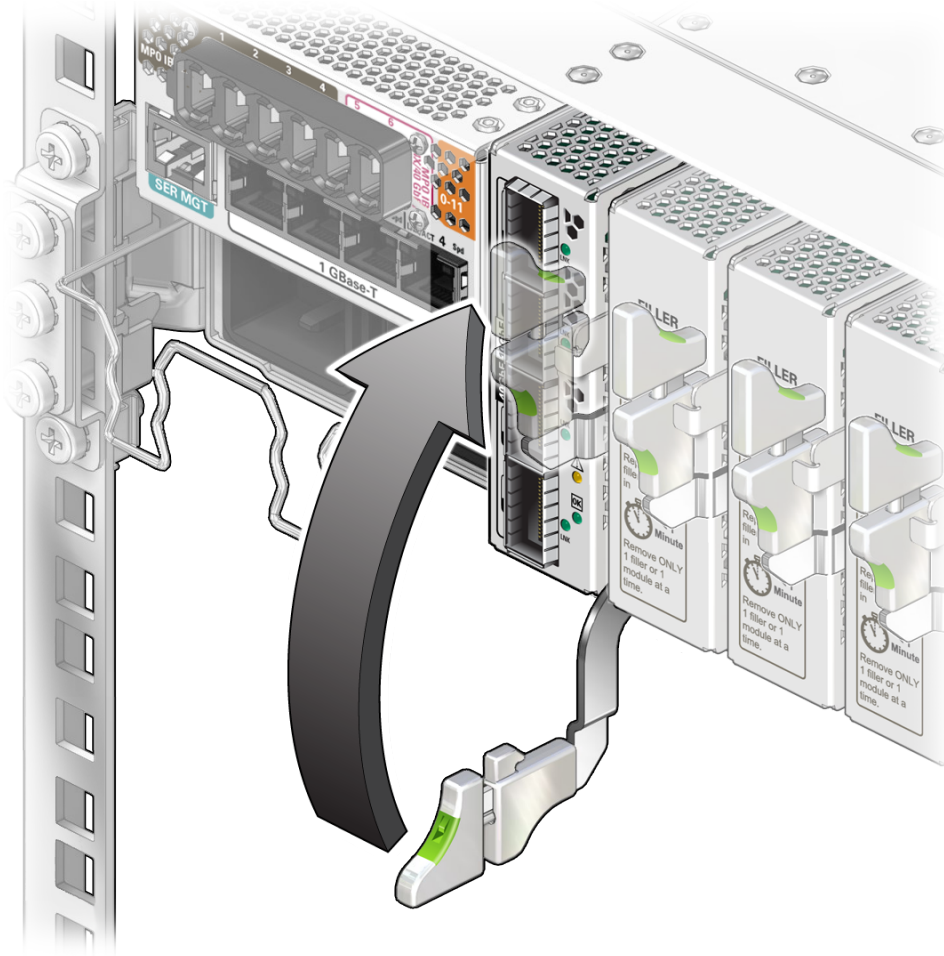
6. **Align the module to the slot where you are installing it.**  
The LEDs and data cable receptacles face you, and the release lever is to the lower right.

7. Slide the module into the chassis.



8. When the module is almost completely seated in the slot and the release lever begins to rise, press down slightly on the top of the module to ensure that the notch at the end of the release lever catches on to the groove in the slot in order to secure the module.

**Note** - Ensure the handle appears in the fully locked position, as in the illustration, when fully engaged.



9. Wait approximately 30 seconds to verify that the green OK LED lights.
10. Connect the data cables to the module.  
See [“Connect Cables”](#) on page 28.

### Related Information

- [“ESD Precautions”](#) on page 17

- [“Order Additional Hardware” on page 18](#)
- [“Supported Cables” on page 18](#)
- [“Cable Cautions” on page 19](#)
- [“Remove the Filler Panel” on page 20](#)
- [“Connect Cables” on page 28](#)
- [“Verify Module Installation” on page 29](#)

## ▼ Connect Cables

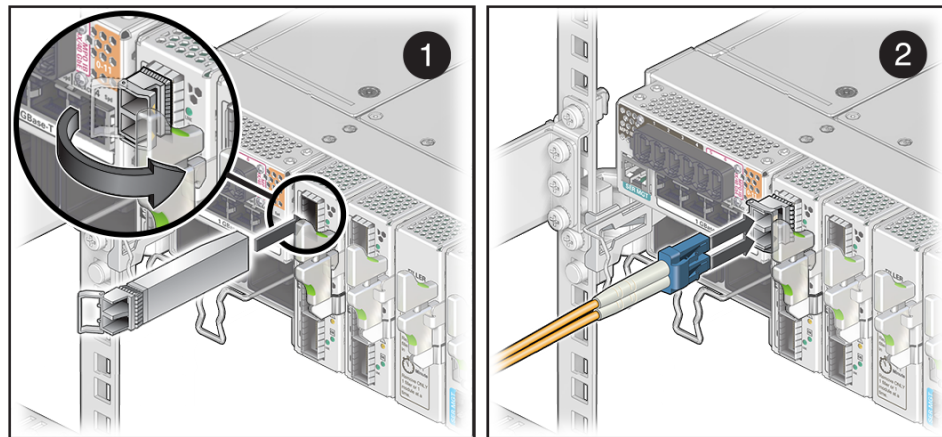
1. **Identify the prerequisite and subsequent installation tasks that you must perform in conjunction with this task.**  
See [“Installation Task Overview” on page 9](#).
2. **Attach the cable to the appropriate connector of the node or host.**
3. **Route and bundle the data cables through the physical topology.**
4. **Bring the cable to the location in the rack where the module is installed.**
5. **If a plug is present, remove the plug from the optical transceiver receptacle. Orient the optical transceiver squarely and horizontally with the selected QSFP + port, then carefully insert the transceiver into the port on the module until you feel a detent or click.**

---

**Note** - Ensure the metal clip on the optical transceiver is in the closed position.

---

6. Remove the protective cap from the fiber cable connector. Orient the cable connector into the transceiver's receptacle squarely and horizontally, until you feel a detent or click.



7. Repeat Step 2 to Step 6 for any other transceivers and cables to be connected.
8. If the rack rear door is installed, close and secure it.
9. Verify the module installation.  
See [“Verify Module Installation”](#) on page 29.

#### Related Information

- [“ESD Precautions”](#) on page 17
- [“Order Additional Hardware”](#) on page 18
- [“Supported Cables”](#) on page 18
- [“Cable Cautions”](#) on page 19
- [“Remove the Filler Panel”](#) on page 20
- [“Install the Module”](#) on page 23
- [“Verify Module Installation”](#) on page 29

## ▼ Verify Module Installation

1. Identify the prerequisite and subsequent installation tasks that you must perform in conjunction with this task.  
See [“Installation Task Overview”](#) on page 9.

2. **Verify LED status.**  
See [“Module Status LEDs”](#) on page 13.
3. **Through software, verify the module status and port status through [Oracle Fabric OS CLI](#), or [Oracle Fabric ManagerGUI](#).**  
See [“Configuring Features”](#) on page 31.
4. **After verifying module functionality, you can now configure the module.**  
See [“Configuring Features”](#) on page 31.

### **Related Information**

- [“ESD Precautions”](#) on page 17
- [“Order Additional Hardware”](#) on page 18
- [“Supported Cables”](#) on page 18
- [“Cable Cautions”](#) on page 19
- [“Remove the Filler Panel”](#) on page 20
- [“Install the Module”](#) on page 23
- [“Connect Cables”](#) on page 28

## Configuring Features

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This I/O module arrives fully configured according to your specifications. All of the module's I/O ports that are used for gateways, IB ports, or FC ports are automatically activated.

Configuring, managing, and monitoring the module functionality occurs through [Oracle ILOM](#), [Oracle Fabric OS CLI](#), or [Oracle Fabric Manager GUI](#).

- “[Configuring the Virtualization Switch and I/O Modules](#)” in *Oracle Fabric OS 1.0.2 Administration Guide* for configuring, managing, and monitoring the module via CLI.
- *Oracle® Fabric Manager 5.0.2 Administration Guide* at [http://docs.oracle.com/cd/E64523\\_01](http://docs.oracle.com/cd/E64523_01) for configuring, managing, and monitoring the module via a GUI.
- *Oracle Fabric OS 1.0.2 Command Reference* at [http://docs.oracle.com/cd/E64522\\_01/index.html](http://docs.oracle.com/cd/E64522_01/index.html) for syntax and examples.
- *Oracle EDR InfiniBand Switch and Virtualized I/O Systems Administration Guide* at [http://docs.oracle.com/cd/E65867\\_01/html/E65872/index.html](http://docs.oracle.com/cd/E65867_01/html/E65872/index.html) for more information on ILOM commands.

These topics describe how to configure features for the module.

- “[Oracle ILOM Module Targets Overview](#)” on page 31
- “[Administering Oracle F2 10 Gb and 40 Gb Ethernet Module Features](#)” on page 32

### Related Information

- “[Understanding the Module](#)” on page 9
- “[Confirming Specifications and Requirements](#)” on page 15
- “[Installing the Module](#)” on page 17

## Oracle ILOM Module Targets Overview

This topic describes the I/O module targets supported by the Oracle ILOM CLI. It also provides a brief introduction to Oracle ILOM commands. Users can find more information on how to get help for Oracle ILOM, and how to issue commands through Oracle ILOM CLI, in the *Oracle*

*EDR InfiniBand Switch and Virtualized I/O Systems Administration Guide* at [http://docs.oracle.com/cd/E65867\\_01/html/E65872/index.html](http://docs.oracle.com/cd/E65867_01/html/E65872/index.html)

The table lists ILOM commands available for I/O modules.

Task	Commands	Link
I/O module management.	<pre>start /SYS/MODULES/MODULEx stop /SYS/MODULES/MODULEx reset /SYS/MODULES/MODULEx set /SYS/MODULES/MODULEx show /SYS/MODULES/MODULEx</pre>	<a href="#">“Understanding Oracle ILOM Targets” in Oracle EDR InfiniBand Switch and Virtualized I/O Systems Administration Guide</a>

## Administering Oracle F2 10 Gb and 40 Gb Ethernet Module Features

The module supports numerous standard features through the Oracle Fabric OS or Oracle Fabric Manager interfaces. In addition, this module supports commands for gw port, multi-config port, LAG, public network, and vNIC.

- [“Oracle F2 10 Gb and 40 Gb Ethernet Module Commands” on page 32](#)
- [“General I/O Card Commands” on page 34](#)
- [“General I/O Port Commands” on page 35](#)

## Oracle F2 10 Gb and 40 Gb Ethernet Module Commands

These tables document the common tasks for managing this module and the links for the procedures to complete these tasks. These tables are listed in the sequential order in which they are to be performed, if applicable.

A gateway port is an external port that connects to the Internet. This table lists gateway port commands available for this module.

**TABLE 1** Gateway Port Commands

Task	Commands	Links
Configure and manage a gw port	<code>set gw-port slot/port {up down}</code>	<ul style="list-style-type: none"> <li>■ <a href="#">“Configuring Ethernet Connectivity” in Oracle Fabric OS 1.0.2 Administration Guide</a></li> </ul>



Task	Commands	Links
Display gw port information	show gw-port	<ul style="list-style-type: none"> <li>■ <a href="#">“Configuring Public Networks, PVIs and Server Profiles” in Oracle Fabric OS 1.0.2 Command Reference</a></li> </ul>

If your deployment requires additional ports, you can configure up to two more ports. This table lists the multi-configuration port commands.

**TABLE 2** Multi-Configuration Port Commands

Task	Commands	Link
Configure and manage a multi-config port	set multiconfig-port slot/port [-port-type= {gwEthernet40GbPort gwEthernet10GbPort}	<a href="#">“Configure an Additional Port” in Oracle Fabric OS 1.0.2 Administration Guide</a>
Display multi-config port information	show multiconfig-port	

LAGs combine multiple physical gateway ports into one logical port group to increase bandwidth and provide HA. This table lists the LAG commands available for this module.

**TABLE 3** LAG Commands For 10G Ports

Task	Commands	Link
Configure and manage a LAG	add lag slot.index port port_number -descr=  set lag {* *.* name} [-descr=value]  remove lag {* *.* name}	<ul style="list-style-type: none"> <li>■ <a href="#">“Working with a LAG” in Oracle Fabric OS 1.0.2 Administration Guide</a></li> <li>■ <a href="#">“Configuring LAGs” in Oracle Fabric OS 1.0.2 Command Reference</a></li> </ul>
Display LAG information	show lag {* *.* name} [-alarms]	

**Note** - LAGs can be made across any of the 10G ports, with the 4k vlan range shared across all ports. The 4x40G ports have a separate Gateway for each port, with each 40G port having 4k vlan range. LAGs can not be made across these 40G ports. However, if a 40G port personality is converted into 4x10G ports, then LAGs can be made across the 10G ports.

Public network enables access to other networks or an external Ethernet network. This table lists the public network commands available for this module.

**TABLE 4** Public Network Commands

Task	Commands	Link
Configure and manage a public network	add public-network name ID uplink slot/port[slot.port [-group-name=value] [-type=value] [-mtu=value] [-	<a href="#">“Working with Public Networks” in Oracle Fabric OS 1.0.2 Administration Guide</a>

Task	Commands	Link
	<p>pkey=value] [-trunk-mode={true false}]</p> <p>remove public-network <i>name</i></p> <p>set public-network name [-pkey=value] [-mtu=value] [-new-name=value]</p> <p>remove vnic <i>vnic name</i></p>	
Display public network information	show public-network	

A vNIC is a virtual NIC that appears to the OS as a physical NIC and enables a server to have an Ethernet network attachment without having a physical NIC present. This table lists the vNIC commands available for this module via OFOS CLI.

**TABLE 5** vNIC Commands

Task	Commands	Links
Configure and manage a vNIC	<p>add server-profile <i>name</i></p> <p>add vnic <i>name.server_profile_name</i> <i>cloud_name</i></p> <p>set vnic <i>vnic-name.server-profile</i></p> <p>remove vnic <i>vnic-name.server-profile</i></p>	<p>For procedures and a list of available subcommands, options and their syntax, refer to:</p> <ul style="list-style-type: none"> <li>■ <a href="#">“Configuring Ethernet Connectivity With vNICs and vHBAs” in Oracle Fabric OS 1.0.2 Administration Guide</a></li> <li>■ <a href="#">“Configuring vNICs” in Oracle Fabric OS 1.0.2 Command Reference</a></li> </ul>
Display vNIC information	show vnic { <i>* vnic-name.server-profile</i> } [-detail]	

### Related Information

- [“General I/O Card Commands” on page 34](#)
- [“General I/O Port Commands” on page 35](#)

## General I/O Card Commands

This table documents the common task for managing I/O modules of any type. For procedures on configuring, managing, and displaying an I/O module, refer to the documentation in the links.

Task	Command	Links
Configure and manage an I/O Card	set iocard <i>slot</i> reset	<ul style="list-style-type: none"> <li>■ <a href="#">“Managing a Module” in Oracle Fabric OS 1.0.2 Administration Guide</a></li> </ul>

Task	Command	Links
	remove iocard <i>slot</i>	<ul style="list-style-type: none"> <li>■ <a href="#">“iocard” in Oracle Fabric OS 1.0.2 Command Reference</a></li> <li>■ <a href="#">“Add I/O Modules to a Domain” in Oracle Fabric Manager 5.0.2 Administration Guide</a></li> </ul>
	remove iocard <i>slot</i> vnics	
Display I/O card information	show iocard *  <i>slot</i>	

### Related Information

- [“Oracle F2 10 Gb and 40 Gb Ethernet Module Commands” on page 32](#)
- [“General I/O Port Commands” on page 35](#)

## General I/O Port Commands

This table documents the commands for managing any type of I/O port. For procedures on configuring, managing, and displaying I/O ports, refer to the documentation in the links.

Task	Commands	Links
Configure and manage a I/O port	set ioport <i>slot/port</i> clear-stats	<ul style="list-style-type: none"> <li>■ <a href="#">“Managing a Module” in Oracle Fabric OS 1.0.2 Administration Guide</a></li> <li>■ <a href="#">“ioport” in Oracle Fabric OS 1.0.2 Command Reference</a></li> </ul>
Display I/O port information	show ioport <i>slot/port</i> alarms	
	show ioport <i>slot/port</i> stats	

### Related Information

- [“Oracle F2 10 Gb and 40 Gb Ethernet Module Commands” on page 32](#)
- [“General I/O Card Commands” on page 34](#)



# Glossary

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## A

**Admin State** Administrative State. The intention of the operator by setting a given resource up or down. See also [Oper State](#).

## C

**CLI** The Oracle Fabric OS CLI. (This CLI is separate from the Oracle Fabric Manager CLI.)

## E

**EDR** Enhanced Data Rate.

## F

**fabric** Oracle's EDR InfiniBand fabric. A 100-Gb converged fabric for network, storage, and interprocess communication.

## G

**gateway** The connections between the IB fabric and the data center LAN. Ethernet gateways present a collection of NICs to the Ethernet LAN.

**gateway port** A general term that includes both IB ports and Ethernet gateway ports.

**GB** Abbreviation of Gigabyte.

**GbE** Abbreviation of GigabitEthernet.

<b>Gbit/sec</b>	Abbreviation of Gigabits per second.
<b>GUI</b>	Graphical user interface. The recommended interface for Oracle Fabric Manager 5.0.2.
<b>H</b>	
<b>HA</b>	High Availability.
<b>HBA</b>	Host bus adaptor. A Fibre Channel NIC used in a SAN fabric. HBAs are replacing SCSI HBAs.
<b>HCA</b>	Host channel adapter. An InfiniBand NIC used in an InfiniBand network. Provides high-speed connectivity and virtual interfaces, based on the IB interface. An HCA can have one or two ports.
<b>I</b>	
<b>I/O</b>	Input/output. In computer architecture, the combination of the CPU and main memory (that is, memory that the CPU can read and write to directly, with individual instructions) is considered the "heart" of a computer. Any movement of information to or from that complex, for example to or from a disk drive, is considered I/O.
<b>I/O module</b>	A user-replaceable physical interface component for the Oracle Fabric Interconnect F2-12 and Oracle InfiniBand Switch IS2-254.
<b>I/O port</b>	A single port on an Ethernet module, an <a href="#">HBA</a> module, or one of the 38 IB server ports.
<b>IB</b>	InfiniBand. A high bandwidth messaging technology used for very high performance computing.
<b>ILOM</b>	See <a href="#">Oracle ILOM</a> .
<b>L</b>	
<b>LAG</b>	Link Aggregation Group.
<b>LID</b>	Local identifier for the HCA or local identifier number that the IB path uses.
<b>M</b>	
<b>module</b>	A user-replaceable component for a switch chassis. Typically externally accessible. See also I/O module.

---

<b>MPO</b>	Multi-Fiber Push-On connector system for MT-compatible ferrules, push-pull design.
<b>MTU</b>	Maximum Transmission Unit. The largest physical packet size (in bytes) that a network can transmit. MTU values are only applicable to Ethernet ports, and the MTU of the I/O port must match the MTU of the neighboring switch.
<b>N</b>	
<b>NIC</b>	Network interface card.
<b>O</b>	
<b>Oper State</b>	Operative State. Indicates whether a resource is configured and operating properly. See also <a href="#">Admin State</a> .
<b>Oracle EDR InfiniBand Fabric</b>	The fabric used to build and manage an Oracle cloud network infrastructure.
<b>Oracle Fabric Manager</b>	Oracle Fabric Manager is a GUI that enables you to configure and manage Oracle fabric devices and the virtual network and storage resources associated with the fabric devices.
<b>Oracle Fabric OS</b>	The Oracle Fabric OS 1.0.2 runs on the Oracle InfiniBand Switch IS2-46 (leaf switch) and the Oracle Fabric Interconnect F2-12 (virtualization switch). The Oracle Fabric OS manages the switches, the Oracle EDR InfiniBand Fabric devices, and virtual network and storage resources.
<b>Oracle ILOM</b>	Oracle Integrated Lights Out Manager (ILOM) is the service processor embedded on all Oracle's SPARC Enterprise T-series and Sun Fire x86 servers, including all rack mounts and blades. Oracle ILOM enables full out-of-band management, providing a remote management capability.
<b>S</b>	
<b>server profile</b>	One instance of a server I/O configuration that is assignable to a single physical server through an IB port.
<b>state</b>	Displayed in Oracle Fabric Manager and the CLI as a pair of statuses, for example: up/up. The first is the <a href="#">Admin State</a> while the second is the <a href="#">Oper State</a> . When using SNMP, these statuses are returned individually.
<b>subnet manager</b>	Configures all aspects of an IB fabric, including assigning <a href="#">LIDs</a> to all HCAs and switch ports in the fabric, providing lookup service for end nodes, configuring program switch forwarding

tables based upon the selected routing algorithm, and programming PKEY tables for HCAs and switches.

## V

- virtualization switch** Oracle Fabric Interconnect F2- Switch. This virtualization switch supports several I/O modules that provide FC and Ethernet connectivity.
- VLAN** Virtual local area network. A private, independent, logical network that is created within a physical network. A VLAN behaves like an ordinary LAN, but connected devices don't have to be physically connected to the same network segment.
- vNIC** Virtual network interface card. An Ethernet interface, provided without a physical NIC.



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