Configuring Ethernet Management Port

The Ethernet management port functions as a Layer 3 host port dedicated to network management. It enables direct PC connections to the switch for management activities, offering an alternative to the console port. This module describes how to enable the Ethernet management port.

Prerequisites for Ethernet Management Port

Assign an IP address to the Ethernet management port, before connecting a PC to the port.

Ethernet Management Port Overview

The Ethernet management port, known as the Gi0/0 or GigabitEthernet0/0 port, serves as a virtual routing and forwarding (VRF) interface to connect a PC. This port can be utilized for network management tasks as an alternative to the device console port.

When managing a device stack, connect the PC to the Ethernet management port on a stack member.

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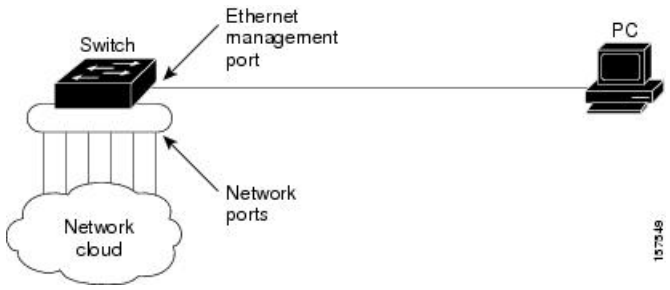
Connecting the Ethernet Management Directly to a Device

Figure 1: Connecting a Device to a PC

This figure displays the connection between the Ethernet management port and a PC for a device or a standalone device.

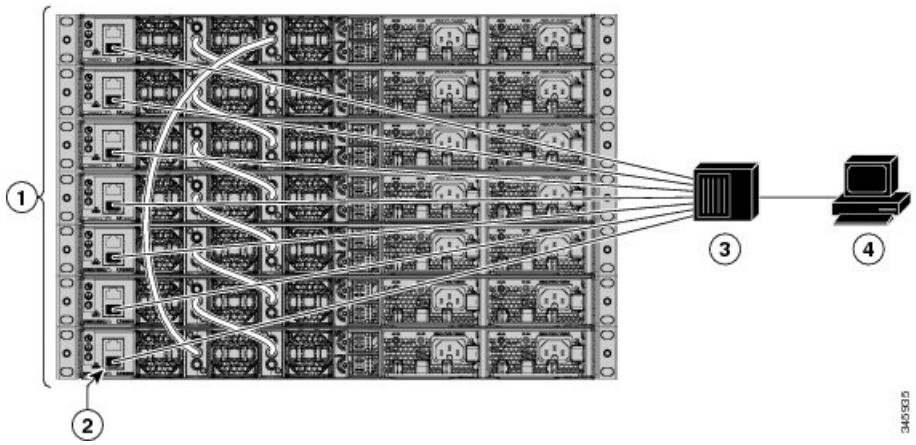


Connecting the Ethernet Management Port to Stack Devices using a Hub

In a stack consisting only stack devices, all the Ethernet management ports on the stack members connect to a hub to which a PC is connected. The active link is from the Ethernet management port on the active device, through the hub, to the PC. If the active device fails and a new active device is elected, the active link is now from the Ethernet management port on the new active device, connecting to the PC.

Figure 2: Connecting a Device Stack to a PC

This figure illustrates how a PC connects to a device stack using a hub.



1	Switch stack	3	Hub
2	Management port	4	PC

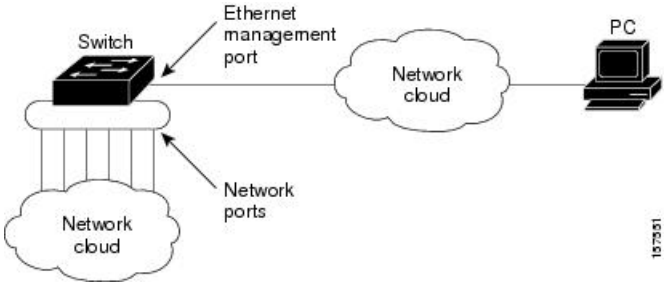
Ethernet Management Port and Routing

Typically, a device cannot route packets between the Ethernet management port and network ports. Network ports provide physical connections for devices such as computers, printers, and other network equipments, and these ports are available on switches, routers, and other networking devices.

Although the Ethernet management port does not inherently support routing, you may need to enable routing protocols on the port.

Figure 3: Network Example with Routing Protocols Enabled

Enable routing protocols on the Ethernet management port if the PC is multiple hops away from the device and packets must traverse multiple Layer 3 devices to reach the PC.



If the Ethernet management port and the network ports are associated with the same routing process

- routes from the Ethernet management port are propagated through the network ports to the network, and
- routes from the network ports are propagated through the Ethernet management port to the network.

However, since routing is not supported between the Ethernet management port and the network ports, traffic between these ports cannot be transmitted or received. This scenario can lead to data packet loops between the ports, which disrupt the device and network operation. To prevent such loops, configure route filters to block routes between the Ethernet management port and the network ports.

Supported Features on the Ethernet Management Port

The Ethernet management port supports

- Cisco Discovery Protocol,
- express setup (only in device stacks),
- DHCP-based autoconfiguration,
- DHCP relay agent,
- interface features, such as,
  - speed: 10 Mb/s, 100 Mb/s, 1000 Mb/s, and autonegotiation,
  - duplex mode: full, half, and autonegotiation, and
  - loopback detection.
- IP ping,
- network assistant,
- Telnet with passwords,
- TFTP,
- Secure Shell (SSH), and
- SNMP (IF-MIB).

Caution Before enabling a feature on the Ethernet management port, verify if it is supported. Configuring an unsupported feature may result in improper functionality or device failure.

How to Configure the Ethernet Management Port

This section outlines the procedures for configuring the Ethernet management port, including disabling and enabling the port.

Disabling and Enabling the Ethernet Management Port

By default, the Ethernet management port is enabled.

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**interface gigabitethernet0/0** **Example:** `Device(config)# interface gigabitethernet0/0`	Configures the Ethernet management port, and enters interface configuration mode.
Step 4	**shutdown** **Example:** `Device(config-if)# shutdown`	Disables the Ethernet management port.
Step 5	**no shutdown** **Example:** `Device(config-if)# no shutdown`	Enables the Ethernet management port.
Step 6	**end** **Example:** `Device(config-if)# end`	Exits interface configuration mode and returns to privileged EXEC mode.
Step 7	**show interfaces gigabitethernet0/0** **Example:** `Device# show interfaces gigabitethernet0/0`	Displays the link status. To determine the link status to the PC, monitor the Ethernet management port LED. When the link is active, the LED will be green, and when the link is down, the LED will be off . An amber LED indicates a POST failure.

What to do next

Proceed to manage or configure your device using the Ethernet management port.

Example for Configuring IP Address on the Ethernet Management Port

This example shows how to configure an IP address on the GigabitEthernet0/0 management port.

```
Device> enable
Device# configure terminal
Device(config)# interface gigabitethernet0/0
Device(config-if)# vrf forwarding Mgmt-vrf
Device(config-if)# ip address 192.168.247.10 255.255.0.0
Device(config-if)# end


Device# show running-config interface gigabitethernet0/0

Building configuration...

Current configuration : 118 bytes
!
interface GigabitEthernet0/0
vrf forwarding Mgmt-vrf
ip address 192.168.247.10 255.255.0.0
negotiation auto
end
```

This example shows how to configure an IP address on the TenGigabitEthernet0/1 management interface.

```
Device> enable
Device# configure terminal
Device(config)# interface TenGigabitEthernet0/1
Device(config-if)# vrf forwarding Mgmt-vrf
Device(config-if)# ip address 192.168.247.20 255.255.0.0
Device(config-if)# negotiation auto
Device(config-if)# end


Device# show running-config interface TenGigabitEthernet0/1

Building configuration...

Current configuration : 118 bytes
!
interface TenGigabitEthernet0/1
 vrf forwarding Mgmt-vrf
 ip address 192.168.247.20 255.255.0.0
 negotiation auto
end
```

Additional References for Ethernet Management Port

Related Documents

Related Topic	Document Title
Bootloader configuration	See the Performing Device Setup chapter of the *System Management Configuration Guide*.
Bootloader commands	See the *System Management Commands* section of the *Command Reference (Catalyst 9300 Series Switches)* .

Feature History for Ethernet Management Port

This table provides release and related information for features explained in this module.

These features are available on all releases subsequent to the one they were introduced in, unless noted otherwise.

Release	Feature	Feature Information
Cisco IOS XE Everest 16.5.1a	Ethernet Management Port	The Ethernet management port is a VRF interface to which you can connect a PC. You can use the Ethernet management port instead of the device console port for network management.
Cisco IOS XE 17.17.1	LLDP Support on the Ethernet Management Port	During ZTP, automation tools use LLDP information from the management port is used to identify the device. This feature was implemented on Cisco Catalyst 9300L Series Switches.

Use Cisco Feature Navigator to find information about platform and software image support. To access Cisco Feature Navigator, go to https://cfnng.cisco.com/.