

Example: Configuring PoE Interfaces on an EX Series Switch

Power over Ethernet (PoE) ports supply electric power over the same ports that are used to connect network devices and allow you to plug in devices that require both network connectivity and electric power, such as VoIP phones, wireless access points, and some IP cameras. For EX Series switches that support PoE ports, the factory default configuration specifies PoE interfaces for the PoE ports. Therefore, you do not need to configure PoE unless you wish to modify the default values or disable a specific PoE interface.

This example describes a default configuration of PoE interfaces on an EX Series switch:

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Requirements

This example uses the following software and hardware components:

- JUNOS Release 9.0 or later for EX Series switches
- One EX4200 switch

Before you configure PoE, be sure you have:

- Performed the initial switch configuration. See *Connecting and Configuring an EX Series Switch (CLI Procedure)* or *Connecting and Configuring an EX Series Switch (J-Web Procedure)* for details.

Overview and Topology

The topology used in this example consists of one EX4200-24T switch, which has a total of 24 ports. Eight of the ports support PoE, which means they provide both network connectivity and electric power for devices such as VoIP phones, wireless access points, and some IP security cameras. The remaining 16 ports provide only network connectivity. You use the standard ports to connect devices that have their own power sources, such as desktop and laptop computers, printers, and servers. Table 1 details the topology used in this configuration example.

Table 1: Components of the PoE Configuration Topology

Property	Settings
Switch hardware	EX4200-24T switch, with 24 Gigabit Ethernet ports: 8 PoE interfaces (<code>ge-0/0/0</code> through <code>ge-0/0/7</code>) and 16 non-PoE interfaces (<code>ge-0/0/8</code> through <code>ge-0/0/23</code>)

Table 1: Components of the PoE Configuration Topology *(continued)*

Property	Settings
VLAN name	default
Connection to a wireless access point (requires PoE)	ge-0/0/0
Connections to Avaya IP telephone—with integrated hub, to connect phone and desktop PC to a single port (requires PoE)	ge-0/0/1 through ge-0/0/7
Direct connections to desktop PCs, file servers, integrated printer/fax/copier machines (no PoE required)	ge-0/0/8 through ge-0/0/20
Unused ports (for future expansion)	ge-0/0/21 through ge-0/0/23

Configuration

To enable the default PoE configuration on the switch:

CLI Quick Configuration By default, PoE interfaces are created for all PoE ports and PoE is enabled. You can simply connect powered devices to the PoE ports.

Step-by-Step Procedure To use the PoE interfaces with default values:

1. Make sure the switch is powered on.
2. Connect the wireless access point to switch interface **ge-0/0/0**.
3. Connect the eight Avaya phones to switch interfaces **ge-0/0/1** through **ge-0/0/7**.

Verification

To verify that PoE interfaces have been created and are operational, perform this task:

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Verifying That the PoE Interfaces Have Been Created

Purpose Verify that the PoE interfaces have been created on the switch.

Action List all the PoE interfaces configured on the switch:

```
user@switch> show poe interface
```

Interface	Enabled	status	max-power	priority	power-consumption	Class
ge-0/0/0	Enabled	ON	15.4W	Low	12.95W	0
ge-0/0/1	Enabled	ON	15.4W	Low	12.95W	0
ge-0/0/2	Enabled	ON	15.4W	Low	12.95W	0
ge-0/0/3	Enabled	ON	15.4W	Low	12.95W	0
ge-0/0/4	Enabled	ON	15.4W	Low	12.95W	0

ge-0/0/5	Enabled	ON	15.4W	Low	12.95W	0
ge-0/0/6	Enabled	ON	15.4W	Low	12.95W	0
ge-0/0/7	Enabled	ON	15.4W	Low	12.95W	0

Meaning The `show poe interface` command lists PoE interfaces configured on the switch, with their status, priority, power consumption, and class. This output shows that eight interfaces have been created with default values and are consuming power at the expected rates.

Troubleshooting

Troubleshooting PoE Interfaces

Problem The PoE port is not supplying power to the port.

Solution Check for the following:

Items to Check	Explanation
Is the switch a full PoE model or partial PoE model?	If you are using a partial PoE model, only interfaces <code>ge-0/0/0</code> through <code>ge-0/0/7</code> can function as PoE ports.
Has the PoE interface been disabled for that port?	Use the <code>show poe interface</code> command to check PoE interface status.
Is the cable properly seated in the port socket?	Check the hardware.
Enable telemetry for the interface.	Check the history of power consumption on the interface by using the <code>show poe telemetry interface</code> command.

- Related Topics**
- Example: Configuring PoE Interfaces with Different Priorities on an EX Series Switch
 - Configuring PoE (CLI Procedure)
 - Configuring PoE (J-Web Procedure)

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