

## Configuring Port Mirroring to Analyze Traffic (CLI Procedure)

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You configure port mirroring in order to copy packets so that you can analyze traffic using a protocol analyzer application. You can mirror traffic entering or exiting an interface, or entering a VLAN in an EX3200 or EX4200 switch or exiting a VLAN in an EX8200 switch. You can send the mirrored packets to a local interface to monitor traffic locally or to a VLAN to monitor traffic remotely.

We recommend that you disable port mirroring when you are not using it and select specific input interfaces in preference to using the **all** keyword. You can also limit the amount of mirrored traffic by using a firewall filter or the **ratio** keyword to mirror only a selection of packets.



**NOTE:** If you want to create additional analyzers without deleting the existing analyzer, first disable the existing analyzer using the **disable analyzer analyzer-name** command or the J-Web configuration page for port mirroring.



**NOTE:** Interfaces used as output for a port mirror analyzer must be configured as family **ethernet-switching**.

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- Configuring Port Mirroring for Local Traffic Analysis on page 1
- Configuring Port Mirroring for Remote Traffic Analysis on page 2
- Filtering the Traffic Entering a Port Mirroring Analyzer on page 3

### Configuring Port Mirroring for Local Traffic Analysis

To mirror interface traffic or VLAN traffic on the switch to an interface on the switch:

1. Choose a name for the port mirroring configuration—in this case, **employee-monitor**—and specify the input—in this case, packets entering **ge-0/0/0** and **ge-0/0/1**:

```
[edit ethernet-switching-options]
user@switch# set analyzer employee-monitor input ingress interface
ge-0/0/0.0
```

```
[edit ethernet-switching-options]
user@switch# set analyzer employee-monitor input ingress interface
ge-0/0/1.0
```

2. Optionally, you can specify a statistical sampling of the packets by setting a ratio:

```
[edit ethernet-switching-options]
user@switch# set analyzer employee-monitor ratio 200
```

When the ratio is set to 200, 1 of every 200 packets is mirrored to the analyzer. You can use statistical sampling to reduce the volume of mirrored traffic, as a high volume of mirrored traffic can be performance intensive for the switch.

3. Configure the destination interface for the mirrored packets:

```
[edit ethernet-switching-options]
user@switch# set analyzer employee-monitor output interface ge-0/0/10.0
```

## Configuring Port Mirroring for Remote Traffic Analysis

To mirror traffic that is traversing interfaces or a VLAN on the switch to a VLAN for analysis from a remote location:

1. Configure a VLAN to carry the mirrored traffic. This VLAN is called `remote-analyzer` and given the ID of 999 by convention in this documentation:

```
[edit]
user@switch# set vlans remote-analyzer vlan-id 999
```

2. Set the uplink module interface that is connected to the distribution switch to trunk mode and associate it with the `remote-analyzer` VLAN:

```
[edit]
user@switch# set interfaces ge-0/1/1 unit 0 family ethernet-switching
port-mode trunk vlan members 999
```

3. Configure the analyzer:
  - a. Choose a name and set the loss priority to high. Loss priority should always be set to high when configuring for remote port mirroring:

```
[edit ethernet-switching-options]
user@switch# set analyzer employee-monitor loss-priority high
```

- b. Specify the traffic to be mirrored—in this example the packets entering ports `ge-0/0/0` and `ge-0/0/1`:

```
[edit ethernet-switching-options]
user@switch# set analyzer employee-monitor input ingress interface
ge-0/0/0.0
```

```
[edit ethernet-switching-options]
user@switch# set analyzer employee-monitor input ingress interface
ge-0/0/1.0
```

- c. Specify the `remote-analyzer` VLAN as the output for the analyzer:

```
[edit ethernet-switching-options]
user@switch# set analyzer employee-monitor output vlan 999
```

4. Optionally, you can specify a statistical sampling of the packets by tting a ratio:

```
[edit ethernet-switching-options]
user@switch# set analyzer employee-monitor ratio 200
```

When the ratio is set to 200, 1 out of every 200 packets is mirrored to the analyzer. You can use this to reduce the volume of mirrored traffic as a very high volume of mirrored traffic can be performance intensive for the switch.

## ***Filtering the Traffic Entering a Port Mirroring Analyzer***

To filter which packets are mirrored to an analyzer, create the analyzer, then use it as the action in the firewall filter. You can use firewall filters in both local and remote port mirroring configurations.

If the same analyzer is used in multiple filters or terms, the packets are copied to the analyzer output port or analyzer VLAN only once.

To filter mirrored traffic, create an analyzer and then create a firewall filter. The filter can use any of the available match conditions and must have an action of **analyzer *analyzer-name***. The action of the firewall filter provides the input to the analyzer.

To configure port mirroring with filters:

1. Configure the analyzer name (here, **employee-monitor**) and output:
  - a. For local analysis, set the output to the local interface to which you will connect the computer running the protocol analyzer application:

```
[edit ethernet-switching-options]
user@switch# set analyzer employee-monitor output interface ge-0/0/10.0
```

- b. For remote analysis, set the loss priority to high and set the output to the remote-analyzer VLAN:

```
[edit ethernet-switching-options]
user@switch# set analyzer employee-monitor loss-priority high output vlan 999
```

2. Create a firewall filter using any of the available match conditions and specify the action as **analyzer *employee-monitor***:

This step shows a firewall filter called **example-filter**, with two terms:

- a. Create the first term to define the traffic that should not pass through to the analyzer:

```
[edit firewall family ethernet-switching]
user@switch# set filter example-filter term no-analyzer from source-address ip-address
```

```
[edit firewall family ethernet-switching]
user@switch# set filter example-filter term no-analyzer from destination-address ip-address
```

```
[edit firewall family ethernet-switching]
user@switch# set filter example-filter term no-analyzer then accept
```

- b. Create the second term to define the traffic that should pass through to the analyzer:

```
[edit firewall family ethernet-switching]
user@switch# set filter example-filter term to-analyzer from
destination-port 80
```

```
[edit firewall family ethernet-switching]
user@switch# set filter example-filter term to-analyzer then analyzer
employee-monitor
```

3. Apply the firewall filter to the interfaces or VLAN that are input to the analyzer:

```
[edit]
user@switch# set interfaces ge-0/0/0 unit 0 family ethernet-switching
filter input example-filter
```

```
[edit]
user@switch# set vlan rspan filter input example-filter
```

- Related Topics**
- Configuring Port Mirroring to Analyze Traffic (J-Web Procedure)
  - Example: Configuring Port Mirroring for Local Monitoring of Employee Resource Use on EX Series Switches
  - Example: Configuring Port Mirroring for Remote Monitoring of Employee Resource Use on EX Series Switches
  - Example: Configuring Firewall Filters for Port, VLAN, and Router Traffic on EX Series Switches
  - Port Mirroring on EX Series Switches Overview
  - Firewall Filters for EX Series Switches Overview

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