

Table of Contents

Chapter 1 Port Loopback Detection Configuration	1-1
1.1 Port Loopback Detection Features	1-1
1.1.1 Configuring Loopback Detection for Ethernet Ports.....	1-1
Chapter 2 Port Loopback Detection Configuration Commands.....	2-1
2.1.1 display loopback-detection.....	2-1
2.1.2 loopback-detection control enable	2-2
2.1.3 loopback-detection enable	2-3
2.1.4 loopback-detection interval-time	2-4
2.1.5 loopback-detection per-vlan enable	2-4

Chapter 1 Port Loopback Detection Configuration

1.1 Port Loopback Detection Features

1.1.1 Configuring Loopback Detection for Ethernet Ports

The goal of loopback detection is to check whether the ports of switch have loopback.

After users enable loopback detection for Ethernet ports, the switch will monitor whether the ports have loopback on a regular basis; if the switch detects loopback for a particular port, it will put that port under control.

- For Access port: If system detects loopback for a port, it will shut down that port, send a Trap message to the terminal, and delete the corresponding MAC address forwarding entry.
- For Trunk ports and Hybrid ports: If system detects loopback for a port, it will send a Trap message to the terminal. If the loopback detection and control function for that port is enabled at the same time, the system will then shut down the given port, send a Trap message to the terminal, and delete the corresponding MAC address forwarding entry.

Table 1-1 Configure loopback detection for Ethernet ports

Operation	Command	Description
Enter system view	system-view	—
Enable the global port loopback detection	loopback-detection enable	Optional. By default, the global port loopback detection function is disabled.
Set the time interval for loopback detection function	loopback-detection interval-time <i>time</i>	Optional. Set to 30 seconds by default.
Enter the Ethernet port view	interface <i>interface-type</i> <i>interface-number</i>	—
Enable the loopback detection function for a specified port	loopback-detection enable	Optional. By default, the loopback detection function is disabled.
Enable the loopback detection and control function for Trunk ports and Hybrid ports	loopback-detection control enable	Optional. By default, the loopback detection and control function is disabled.

Operation	Command	Description
Configure the system to detect loopback in all the VLANs with Trunk ports and Hybrid ports	loopback-detection per-vlan enable	Optional. By default, system only detects loopback for the default VLANs with Trunk ports and Hybrid ports.
Display the loopback detection information	display loopback-detection	Optional. This command can be used under any view



Caution:

- Loopback detection function for a port is enabled only when the **loopback-detection enable** command is enabled under both system view and port view.
 - When the **undo loopback-detection enable** command is used under system view, the loopback detection function will be disabled for all ports.
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Chapter 2 Port Loopback Detection Configuration Commands

2.1.1 display loopback-detection

Syntax

display loopback-detection

View

Any view

Parameter

None

Description

Use the **display loopback-detection** command to display whether loopback detection function is enabled or not. If it is enabled, then the time interval for the loopback detection function as well as information on the port will be displayed.

Example

Display whether loopback detection function is enabled or not.

```
<Quidway> display loopback-detection
Port Ethernet1/0/1 loopback-detection is running
System Loopback-detection is running
Detection interval time is 30 seconds
There is no port existing loopback link
```

Table 2-1 Explain fields involved in loopback detection function

Fields	Explanation
Port Ethernet1/0/1 loopback-detection is running	Loopback detection function for Ethernet1/0/1 is enabled.
System Loopback-detection is running	System loopback detection function is enabled.
Detection interval time is 30 seconds	Detection time interval is set to be 30 seconds.
There is no port existing loopback link	Currently no port is detected with loopback.

2.1.2 loopback-detection control enable

Syntax

loopback-detection control enable

undo loopback-detection control enable

View

Ethernet port view

Parameter

None

Description

Use the **loopback-detection control enable** command to enable loopback detection and control function for Trunk ports and Hybrid ports.

Use the **undo loopback-detection control enable** command to disable loopback detection and control function for Trunk ports and Hybrid ports.

- When the loopback detection and control function is enabled, if system detects loopback for a port, it will shut down that port, send a Trap message to the terminal, and delete the corresponding MAC address forwarding entry.
- When the loopback detection and control function is disabled, if system detects loopback for a port, it will only send a Trap message to the terminal and the port will still work under normal working state.

By default, the loopback detection and control function is disabled for both the Trunk and Hybrid ports.



Caution:

The above command does not work for Access ports as, as the loopback detection function is always enabled for Access ports.

Example

Enable the loopback detection and control function for Trunk port GigabitEthernet1/0/1.

```
<Quidway> system-view
System View: return to User View with Ctrl+Z.
[Quidway] loopback-detection enable
[Quidway] interface GigabitEthernet1/0/1
[Quidway-GigabitEthernet1/0/1] loopback-detection enable
```

```
[Quidway-GigabitEthernet1/0/1] loopback-detection control enable
```

2.1.3 loopback-detection enable

Syntax

loopback-detection enable

undo loopback-detection enable

View

System view/Ethernet port view

Parameter

None

Description

Use the **loopback-detection enable** command to enable the loopback detection function globally or for a specific port.

Use the **undo loopback-detection enable** command to disable the loopback detection function globally or for a specific port.



Caution:

- Loopback detection for a port is enabled only when the **loopback-detection enable** command is enabled under both system view and port view.
- When the **undo loopback-detection enable** command is used under system view, the loopback detection function will be disabled for all ports.

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- For Access port: If system detects loopback for a port, it will shut down that port, send a Trap message to the terminal, and delete the corresponding MAC address forwarding entry.
 - For Trunk ports and Hybrid ports: If system detects loopback for a port, it will send a Trap message to the terminal. If the loopback detection and control function for that port is enabled at the same time, the system will then shut down the given port, send a Trap message to the terminal, and delete the corresponding MAC address forwarding entry.

By default, the loopback detection function is disabled.

Related command: **loopback-detection control enable**.

Example

Enable the loopback detection function for GigabitEthernet1/0/1 port.

```
<Quidway> system-view
System View: return to User View with Ctrl+Z.
[Quidway] loopback-detection enable
[Quidway] interface GigabitEthernet1/0/1
[Quidway-GigabitEthernet1/0/1] loopback-detection enable
```

2.1.4 loopback-detection interval-time

Syntax

loopback-detection interval-time *time*
undo loopback-detection interval-time

View

System view

Parameter

Time: Time interval for detecting the external loopback for a port, in seconds, Ranges between 5 and 300 and defaults to 30 seconds.

Description

Use the **loopback-detection interval-time** command to set the time interval for detecting the external loopback for a port.

Use the **undo loopback-detection interval-time** command to restore the time interval to default value.

Related command: **display loopback-detection**.

Example

Set the time interval for regular external loopback detection to 10 seconds.

```
<Quidway> system-view
System View: return to User View with Ctrl+Z.
[Quidway] loopback-detection interval-time 10
```

2.1.5 loopback-detection per-vlan enable

Syntax

loopback-detection per-vlan enable
undo loopback-detection per-vlan enable

View

Ethernet port view

Parameter

None

Description

Use the **loopback-detection per-vlan enable** command to enable loopback detection function for all VLANs with Trunk ports and Hybrid ports.

Use the **undo loopback-detection per-vlan enable** command to enable loopback detection function only for the default VLANs with Trunk ports and Hybrid ports.

By default, system detects loopback only for the default VLANs with Trunk ports and Hybrid ports.



Caution:

The above command does not work for Access ports.

Example

Configure system to detect the loopback for all VLANs with Trunk port GigabitEthernet1/0/1.

```
<Quidway> system-view
```

```
System View: return to User View with Ctrl+Z.
```

```
[Quidway] interface GigabitEthernet1/0/1
```

```
[Quidway-GigabitEthernet1/0/1] loopback-detection per-vlan enable
```