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Loop detection commands

display loopback-detection

Use **display loopback-detection** to display the loop detection configuration and status.

Syntax

```
display loopback-detection
```

Views

Any view

Predefined user roles

network-admin

network-operator

Example

```
# Display the loop detection configuration and status.
```

```
<Sysname> display loopback-detection
```

```
Loopback detection is enabled.
```

```
Loopback detection interval is 30 second(s).
```

```
Loopback is detected on following interfaces:
```

Interface	Action mode	VLANs
Ten-GigabitEthernet1/0/3	None	10

Table 1 Command output

Field	Description
Action mode	Loop protection action: <ul style="list-style-type: none">• Block—When a loop is detected on a port, the device performs the following operations:<ul style="list-style-type: none">○ Generates a log.○ Disables the port from learning MAC addresses.○ Blocks the port.• None—When a loop is detected on a port, the device generates a log but performs no action on the port.• No-learning—When a loop is detected on a port, the device generates a log and disables the port from learning MAC addresses.• Shutdown—When a loop is detected on a port, the device performs the following operations:<ul style="list-style-type: none">○ Generates a log.○ Shuts down the port to disable the port from receiving or sending frames. The device automatically sets the port to the forwarding state after a time interval. Set the time interval by using the shutdown-interval command (see <i>Fundamentals Command Reference</i>).
VLANs	VLANs to which the interface belongs and where loops are detected .

loopback-detection action

Use **loopback-detection action** to set the loop protection action on a per-port basis.

Use **undo loopback-detection action** to restore the default.

Syntax

In Layer 2 Ethernet interface view or S-channel interface view:

loopback-detection action { block | no-learning | shutdown }

undo loopback-detection action

In Layer 2 aggregate interface view, S-channel aggregate interface view, or S-channel bundle interface view:

loopback-detection action shutdown

undo loopback-detection action

Default

When the device detects a loop on a port, it generates a log but performs no action on the port.

Views

Layer 2 Ethernet interface view

Layer 2 aggregate interface view

S-channel interface view

S-channel aggregate interface view

S-channel bundle interface view

Predefined user roles

network-admin

Parameters

block: Enables the block mode. If a loop is detected, the device performs the following operations:

- Generates a log.
- Disables MAC address learning.
- Blocks the port.

Layer 2 aggregate interfaces do not support this keyword.

no-learning: Enables the no-learning mode. If a loop is detected, the device generates a log and disables MAC address learning on the port. Layer 2 aggregate interfaces do not support this keyword.

shutdown: Enables the shutdown mode. If a loop is detected, the device generates a log and shuts down the port. The device automatically sets the port to the forwarding state after the time interval set by using the **shutdown-interval** command (see *Fundamentals Command Reference*).

Usage guidelines

To set the loop protection action globally, use the **loopback-detection global action** command.

The global configuration applies to all ports. The per-port configuration applies to the individual ports. The per-port configuration takes precedence over the global configuration.

Example

```
# Set the loop protection action to shutdown on Ten-GigabitEthernet 1/0/1.
<Sysname> system-view
[Sysname] interface ten-gigabitethernet 1/0/1
[System-Ten-GigabitEthernet1/0/1] loopback-detection action shutdown
```

Related commands

display loopback-detection

loopback-detection global action

loopback-detection enable

Use **loopback-detection enable** to enable loop detection on a per-port basis.

Use **undo loopback-detection enable** to disable loop detection on a port.

Syntax

loopback-detection enable vlan { *vlan-id-list* | **all** }

undo loopback-detection enable vlan { *vlan-id-list* | **all** }

Default

Loop detection is disabled on ports.

Views

Layer 2 Ethernet interface view

Layer 2 aggregate interface view

S-channel interface view

S-channel aggregate interface view

S-channel bundle interface view

Predefined user roles

network-admin

Parameters

vlan-id-list: Specifies a space-separated list of up to 10 VLAN items. Each item specifies a VLAN ID or a range of VLAN IDs in the form of *vlan-id1* to *vlan-id2*. The value range for VLAN IDs is 1 to 4094. The ID for *vlan-id2* must be no less than the ID for *vlan-id1*.

all: Specifies all existing VLANs.

Usage guidelines

To enable loop detection globally, use the **loopback-detection global enable** command.

The loop protection action on a port can be triggered even if loop detection is disabled on the port when the following requirements are met:

- Loop detection is enabled globally or on any other port on the device.
- The port receives a loop detection frame of any VLAN.

Example

```
# Enable loop detection on Ten-GigabitEthernet 1/0/1 for VLAN 10 through VLAN 20.
<Sysname> system-view
[Sysname] interface ten-gigabitethernet 1/0/1
[System-Ten-GigabitEthernet1/0/1] loopback-detection enable vlan 10 to 20
```

Related commands

display loopback-detection

loopback-detection global enable

loopback-detection global action

Use **loopback-detection global action** to set the global loop protection action.

Use **undo loopback-detection global action** to restore the default.

Syntax

loopback-detection global action shutdown

undo loopback-detection global action

Default

When the device detects a loop on a port, it generates a log but performs no action on the port.

Views

System view

Predefined user roles

network-admin

Parameters

shutdown: Enables the shutdown mode. If a loop is detected, the device generates a log and shuts down the port. The device automatically sets the port to the forwarding state after you set the time interval by using the **shutdown-interval** command (see *Fundamentals Command Reference*).

Usage guidelines

To set the loop protection action on a per-port basis, use the **loopback-detection action** command in interface view.

The global configuration applies to all ports. The per-port configuration applies to the individual ports. The per-port configuration takes precedence over the global configuration.

Example

```
# Set the global loop protection action to shutdown.
<Sysname> system-view
[System] loopback-detection global action shutdown
```

Related commands

display loopback-detection

loopback-detection action

loopback-detection global enable

Use **loopback-detection global enable** to enable loop detection globally.

Use **undo loopback-detection global enable** to disable loop detection globally.

Syntax

loopback-detection global enable vlan { *vlan-id-list* | all }

undo loopback-detection global enable vlan { *vlan-id-list* | all }

Default

Loop detection is globally disabled.

Views

System view

Predefined user roles

network-admin

Parameters

vlan-id-list: Specifies a space-separated list of up to 10 VLAN items. Each item specifies a VLAN ID or a range of VLAN IDs in the form of *vlan-id1* to *vlan-id2*. The value range for VLAN IDs is 1 to 4094. The ID for *vlan-id2* must be equal to or greater than the ID for *vlan-id1*.

all: Specifies all existing VLANs.

Usage guidelines

To enable loop detection on a per-port basis, use the **loopback-detection enable** command in interface view.

The loop protection action on a port can be triggered even if loop detection is disabled on the port when the following requirements are met:

- Loop detection is enabled globally or on any other port on the device.
- The port receives a loop detection frame of any VLAN.

Example

```
# Globally enable loop detection for VLAN 10 through VLAN 20.
<Sysname> system-view
[System] loopback-detection global enable vlan 10 to 20
```

Related commands

display loopback-detection
loopback-detection enable

loopback-detection interval-time

Use **loopback-detection interval-time** to set the loop detection interval.

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

Syntax

```
loopback-detection interval-time interval  
undo loopback-detection interval-time
```

Default

The loop detection interval is 30 seconds.

Views

System view

Predefined user roles

network-admin

Parameters

interval: Sets the loop detection interval in the range of 1 to 300 seconds.

Usage guidelines

With loop detection enabled, the device sends loop detection frames at the specified interval. A shorter interval offers more sensitive detection but consumes more resources. Consider the system performance and loop detection speed when you set the loop detection interval.

Example

```
# Set the loop detection interval to 10 seconds.
<Sysname> system-view
```

```
[Sysname] loopback-detection interval-time 10
```

Related commands

display loopback-detection