

H3C Access Controllers Interface Command Reference

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Preface

This command reference describes the interface configuration commands.

This preface includes the following topics about the documentation:

- [Hardware and software compatibility matrix](#)
- [Audience](#)
- [Conventions](#)
- [Documentation feedback](#)

Hardware and software compatibility matrix

Table 1 Hardware and software compatibility matrix

Hardware series	Model	Product version
WX1800H series	<ul style="list-style-type: none">• WX1804H• WX1810H• WX1820H	<ul style="list-style-type: none">• WX1804H-CMW710-E5208P03• WX1810H-CMW710-E5215P01• WX1820H-CMW710-E5208P03
WX2500H series	<ul style="list-style-type: none">• WX2510H• WX2540H• WX2560H	<ul style="list-style-type: none">• WX2510H-CMW710-R5215P01• WX2540H-CMW710-R5215P01• WX2560H-CMW710-R5215P01
WX3000H series	<ul style="list-style-type: none">• WX3010H• WX3010H-L• WX3010H-X• WX3024H• WX3024H-L	<ul style="list-style-type: none">• WX3010H-CMW710-R5215P01• WX3010HL-CMW710-R5215P01• WX3010HX-CMW710-R5215P01• WX3024H-CMW710-R5215P01• WX3024HL-CMW710-R5215P01
WX3500H series	<ul style="list-style-type: none">• WX3508H• WX3510H• WX3520H• WX3540H	<ul style="list-style-type: none">• WX3508H-CMW710-R5215P01• WX3510H-CMW710-R5215P01• WX3520H-CMW710-R5215P01• WX3540H-CMW710-R5215P01
WX5500E series	<ul style="list-style-type: none">• WX5510E• WX5540E	<ul style="list-style-type: none">• WX5510E-CMW710-R5215P01• WX5540E-CMW710-R5215P01
WX5500H series	<ul style="list-style-type: none">• WX5540H• WX5560H• WX5580H	<ul style="list-style-type: none">• WX5540H-CMW710-R5215P01• WX5560H-CMW710-R5215P01• WX5580H-CMW710-R5215P01
Access controller modules	<ul style="list-style-type: none">• EWPXM1MAC0F• EWPXM1WCME0• EWPXM2WCMD0F• LSQM1WCMX20• LSQM1WCMX40• LSUM1WCME0• LSUM1WCMX20RT• LSUM1WCMX40RT	<ul style="list-style-type: none">• WCMX40-CMW710-R5215P01• WCMX40-CMW710-R5215P01• WCMX20-CMW710-R5215P01• WCMX20-CMW710-R5215P01• WCMX40-CMW710-R5215P01• WCMX40-CMW710-R5215P01• WCMX20-CMW710-R5215P01• WCMX20-CMW710-R5215P01• WCMX40-CMW710-R5215P01

Audience

This documentation is intended for:

- Network planners.
- Field technical support and servicing engineers.
- Network administrators working with the H3C access controllers.

Conventions

The following information describes the conventions used in the documentation.




Command conventions


Convention	Description
Boldface	Bold text represents commands and keywords that you enter literally as shown.
<i>Italic</i>	<i>Italic</i> text represents arguments that you replace with actual values.
[]	Square brackets enclose syntax choices (keywords or arguments) that are optional.
{ x y ... }	Braces enclose a set of required syntax choices separated by vertical bars, from which you select one.
[x y ...]	Square brackets enclose a set of optional syntax choices separated by vertical bars, from which you select one or none.
{ x y ... } *	Asterisk marked braces enclose a set of required syntax choices separated by vertical bars, from which you select a minimum of one.
[x y ...] *	Asterisk marked square brackets enclose optional syntax choices separated by vertical bars, from which you select one choice, multiple choices, or none.
&<1-n>	The argument or keyword and argument combination before the ampersand (&) sign can be entered 1 to n times.
#	A line that starts with a pound (#) sign is comments.

GUI conventions













Convention	Description
Boldface	Window names, button names, field names, and menu items are in Boldface. For example, the New User window opens; click OK .
>	Multi-level menus are separated by angle brackets. For example, File > Create > Folder .

Symbols

Convention	Description
 WARNING	An alert that calls attention to important information that if not understood or followed can result in personal injury.
 CAUTION	An alert that calls attention to important information that if not understood or followed can result in data loss, data corruption, or damage to hardware or software.
 IMPORTANT	An alert that calls attention to essential information.
NOTE	An alert that contains additional or supplementary information.

Convention	Description
 TIP	An alert that provides helpful information.

Network topology icons

	Represents a generic network device, such as a router, switch, or firewall.
	Represents a routing-capable device, such as a router or Layer 3 switch.
	Represents a generic switch, such as a Layer 2 or Layer 3 switch, or a router that supports Layer 2 forwarding and other Layer 2 features.
	Represents an access controller, a unified wired-WLAN module, or the access controller engine on a unified wired-WLAN switch.
	Represents an access point.
	Wireless terminator unit.
	Wireless terminator.
	Represents a mesh access point.
	Represents omnidirectional signals.
	Represents directional signals.
	Represents a security product, such as a firewall, UTM, multiservice security gateway, or load balancing device.
	Represents a security module, such as a firewall, load balancing, NetStream, SSL VPN, IPS, or ACG module.

Examples provided in this document

Examples in this document might use devices that differ from your device in hardware model, configuration, or software version. It is normal that the port numbers, sample output, screenshots, and other information in the examples differ from what you have on your device.

Documentation feedback

You can email your comments about product documentation to info@h3c.com.

We appreciate your comments.

Contents

Bulk interface configuration commands	1
display interface range	1
interface range	1
interface range name	3

Bulk interface configuration commands

display interface range

Use **display interface range** to display information about the interface ranges created by using the **interface range name** command.

Syntax

```
display interface range [ name name ]
```

Views

Any view

Predefined user roles

network-admin

network-operator

Parameters

name *name*: Specifies an interface range by its name, a case-sensitive string of 1 to 32 characters. If you do not specify an interface range name, the command displays information about all existing interface ranges.

Examples

Display information about the interface ranges created by using the **interface range name** command.

```
<Sysname> display interface range
```

```
Interface range name t2 gigabitethernet 1/0/1 gigabitethernet 1/0/2
```

```
Interface range name test gigabitethernet 1/0/11 gigabitethernet 1/0/12
```

The output shows the following:

- Interfaces GigabitEthernet 1/0/1 and GigabitEthernet 1/0/2 are added to interface range named **t2**.
- Interfaces GigabitEthernet 1/0/11 and GigabitEthernet 1/0/12 are added to interface range named **test**.

Related commands

interface range name

interface range

Use **interface range** to create an interface range and enter the interface range view.

Syntax

```
interface range interface-list
```

Views

System view

Predefined user roles

network-admin

Parameters

interface-list: Specifies a space-separated list of up to five interface items. Each item specifies an interface by its type and number or a range of interfaces in the form of *interface-type interface-number1 to interface-type interface-number2*. When you specify the **to** keyword, the interfaces before and after the **to** keyword must be on the same device or card. The last-tier value of *interface-number1* must not be greater than *interface-number2*. The values of the other tiers of *interface-number1* must be the same as *interface-number2*.

Usage guidelines

Use the command to enter interface range view to bulk configure multiple interfaces with the same feature instead of configuring them one by one. For example, run the **shutdown** command in interface range view to shut down a range of interfaces.

In interface range view, only the commands supported by the first interface are available. The first interface is specified with the **interface range** command. To view the commands supported by the first interface in the interface range, enter the interface range view and enter a question mark (?) at the interface range prompt.

After a command is executed in interface range view, one of the following situations might occur:

- The system displays an error message and stays in interface range view. It means that the execution failed on member interfaces in the interface range.
 - If the execution failed on the first member interface in the interface range, the command is not executed on any member interfaces.
 - If the execution failed on non-first member interfaces, the command takes effect on the other member interfaces.
- The system returns to system view. It means that:
 - The command is supported in both system view and interface view.
 - The execution failed on a member interface in interface range view and succeeded in system view.
 - The command is not executed on the subsequent member interfaces.

You can use the **display this** command to verify the configuration in interface view of each member interface. In addition, if the configuration in system view is not needed, use the **undo** form of the command to remove the configuration.

To verify the configuration of the first interface in the interface range, execute the **display this** command in interface range view.

When you bulk configure interfaces, follow these guidelines:

- Before you configure an interface as the first interface in an interface range, make sure you can enter the view of the interface by using the **interface interface-type { interface-number | interface-number.subnumber }** command.
- Do not assign both an aggregate interface and any of its member interfaces to an interface range. Some commands, after being executed on both an aggregate interface and its member interfaces, can break up the aggregation.
- No limit is set on the maximum number of interfaces in an interface range. The more interfaces in an interface range, the longer the command execution time.

Examples

```
# Shut down interfaces GigabitEthernet 1/0/1 through GigabitEthernet 1/0/4.
```

```
<Sysname> system-view
[Sysname] interface range gigabitethernet 1/0/1 to gigabitethernet 1/0/4
[Sysname-if-range] shutdown
```


interface range name

Use **interface range name** *name* **interface** *interface-list* to create an interface range, configure a name for the interface range, and enter the interface range view.

Use **interface range name** *name* without the **interface** keyword to enter the view of an interface range with the specified name.

Use **undo interface range name** to delete the interface range with the specified name.

Syntax

interface range name *name* [**interface** *interface-list*]

undo interface range name *name*

Views

System view

Predefined user roles

network-admin

Parameters

name: Specifies an interface range name, a case-sensitive string of 1 to 32 characters.

interface-list: Specifies a space-separated list of up to five interface items. Each item specifies an interface by its type and number or a range of interfaces in the form of *interface-type interface-number1 to interface-type interface-number2*. When you specify the **to** keyword, the interfaces before and after the **to** keyword must be on the same device or card. The last-tier value of *interface-number1* must not be greater than *interface-number2*. The values of the other tiers of *interface-number1* must be the same as *interface-number2*.

Usage guidelines

You can use the command to assign a name to an interface range. Then, you can specify this name rather than the interface range to enter the interface range view.

In interface range view, only the commands supported by the first interface are available. The first interface is specified with the **interface range** command. To view the commands supported by the first interface in the interface range, enter the interface range view and enter a question mark (?) at the interface range prompt.

After a command is executed in interface range view, one of the following situations might occur:

- The system displays an error message and stays in interface range view. It means that the execution failed on member interfaces in the interface range.
 - If the execution failed on the first member interface in the interface range, the command is not executed on any member interfaces.
 - If the execution failed on non-first member interfaces, the command takes effect on the other member interfaces.
- The system returns to system view. It means that:
 - The command is supported in both system view and interface view.
 - The execution failed on a member interface in interface range view and succeeded in system view.
 - The command is not executed on the subsequent member interfaces.

You can use the **display this** command to verify the configuration in interface view of each member interface. In addition, if the configuration in system view is not needed, use the **undo** form of the command to remove the configuration.

To verify the configuration of the first interface in the interface range, execute the **display this** command in interface range view.

To view the member interfaces of an interface range, use the **display interface range** command.

When you bulk configure interfaces, follow these guidelines:

- Before you configure an interface as the first interface in an interface range, make sure you can enter the view of the interface by using the **interface** *interface-type* { *interface-number* | *interface-number.subnumber* } command.
- Do not assign both an aggregate interface and any of its member interfaces to an interface range. Some commands, after being executed on both an aggregate interface and its member interfaces, can break up the aggregation.
- No limit is set on the maximum number of interfaces in an interface range. The more interfaces in an interface range, the longer the command execution time.
- The maximum number of interface range names is limited only by the system resources. As a best practice to guarantee bulk interface configuration performance, configure fewer than 1000 interface range names.

Examples

Add GigabitEthernet 1/0/1 through GigabitEthernet 1/0/12 to interface range named **myEthPort**, and enter the interface range view.

```
<Sysname> system-view
[Sysname] interface range name myEthPort interface gigabitethernet 1/0/1 to
gigabitethernet 1/0/12
[Sysname-if-range-myEthPort]
```

Enter the view of interface range named **myEthPort**.

```
<Sysname> system-view
[Sysname] interface range name myEthPort
[Sysname-if-range-myEthPort]
```

Related commands

display interface range

Contents

Ethernet interface commands	1
Common Ethernet interface commands	1
bandwidth	1
broadcast-suppression	2
dampening	3
default	5
description	5
display counters	6
display counters rate	7
display ethernet statistics	9
display interface	12
display packet-drop	23
duplex	25
flow-control	25
flow-control receive enable	27
flow-interval	28
interface	29
jumboframe enable	29
loopback	31
multicast-suppression	32
port link-mode	34
reset counters interface	35
reset ethernet statistics	36
reset packet-drop interface	36
shutdown	37
speed	37
unicast-suppression	40
Layer 3 Ethernet interface or subinterface commands	42
mac-address	43
mtu	43

Ethernet interface commands

The WX1800H series, WX2500H series, and WX3000H access controllers do not support the **slot** keyword or the *slot-number* argument.

Common Ethernet interface commands

bandwidth

Use **bandwidth** to set the expected bandwidth of an interface.

Use **undo bandwidth** to restore the default.

Syntax

bandwidth *bandwidth-value*

undo bandwidth

Default

The expected bandwidth (in kbps) is the interface baud rate divided by 1000.

Views

Ethernet interface view

Ethernet subinterface view

Predefined user roles

network-admin

Parameters

bandwidth-value: Specifies the expected bandwidth in the range of 1 to 400000000 kbps.

Usage guidelines

The expected bandwidth is an informational parameter used only by higher-layer protocols for calculation. You cannot adjust the actual bandwidth of an interface by using this command.

Examples

Set the expected bandwidth of interface GigabitEthernet 1/0/1 to 1000 kbps.

```
<Sysname> system-view
[Sysname] interface gigabitethernet 1/0/1
[Sysname-GigabitEthernet1/0/1] bandwidth 1000
```

Set the expected bandwidth of subinterface GigabitEthernet 1/0/1.1 to 1000 kbps.

```
<Sysname> system-view
[Sysname] interface gigabitethernet 1/0/1.1
[Sysname-GigabitEthernet1/0/1.1] bandwidth 1000
```

Related commands

speed

broadcast-suppression

Use **broadcast-suppression** to enable broadcast suppression and set the broadcast suppression threshold.

Use **undo broadcast-suppression** to disable broadcast suppression.

Syntax

broadcast-suppression { *ratio* | **pps** *max-pps* | **kbps** *max-kbps* }

undo broadcast-suppression

Default

Ethernet interfaces do not suppress broadcast traffic.

Views

Ethernet interface view

Predefined user roles

network-admin

Parameters

ratio: Sets the broadcast suppression threshold as a percentage of the interface bandwidth. The value range for this argument is 0 to 100. A smaller value means that less broadcast traffic is allowed to pass through.

pps *max-pps*: Specifies the maximum number of broadcast packets that the interface can forward per second. The value range for the *max-pps* argument (in pps) is 0 to 1.4881 × the interface bandwidth.

kbps *max-kbps*: Specifies the maximum number of kilobits of broadcast traffic that the Ethernet interface can forward per second. The value range for this argument (in kbps) is 0 to the interface bandwidth.

Usage guidelines

The following matrix shows the command and hardware compatibility:

Hardware series	Model	Command compatibility
WX1800H series	WX1804H WX1810H WX1820H	No
WX2500H series	WX2510H WX2540H WX2560H	No
WX3000H series	WX3010H WX3010H-X WX3010H-L WX3024H WX3024H-L WX3024H-F	Yes: <ul style="list-style-type: none">• WX3010H• WX3024H• WX3024H-F No: <ul style="list-style-type: none">• WX3010H-X• WX3010H-L• WX3024H-L

Hardware series	Model	Command compatibility
WX3500H series	WX3508H WX3510H WX3520H WX3540H	No
WX5500E series	WX5510E WX5540E	No
WX5500H series	WX5540H WX5560H WX5580H	No
Access controller modules	EWPXM1MAC0F EWPXM1WCME0 EWPXM2WCMD0F LSQM1WCMX20 LSQM1WCMX40 LSUM1WCME0 LSUM1WCMX20RT LSUM1WCMX40RT	No

The broadcast storm suppression features limits the size of broadcast traffic to a threshold on an interface. When the broadcast traffic on the interface exceeds this threshold, the system drops packets until the traffic drops below this threshold.

The configured suppression threshold value in pps or kbps might be converted into a multiple of a step supported by the chip. As a result, the effective suppression threshold might be different from the configured one. To determine the suppression threshold that takes effect, see the prompts on the device.

Examples

Set the broadcast suppression threshold to 10000 kbps on GigabitEthernet 1/0/1.

```
<Sysname> system-view
[Sysname] interface gigabitethernet 1/0/1
[Sysname-GigabitEthernet1/0/1] broadcast-suppression kbps 10000
The actual value is 10048 on port GigabitEthernet1/0/1 currently.
```

The output shows that the value that takes effect is 10048 kbps (157 times of 64), because the chip only supports step 64.

Related commands

multicast-suppression

unicast-suppression

dampening

Use **dampening** to enable the device to dampen an interface when the interface is flapping.

Use **undo dampening** to restore the default.

Syntax

dampening [*half-life reuse suppress max-suppress-time*]

undo dampening

Default

Interface dampening is disabled on Ethernet interfaces.

Views

Ethernet interface view

Predefined user roles

network-admin

Parameters

half-life: Specifies the amount of time (in seconds) after which a penalty is decreased. The interface has an initial penalty of 0. When the interface flaps, the penalty increases by 1000 for each down event until the maximum penalty is reached. When the interface stops flapping, the penalty decreases by half each time the half-life timer expires until the penalty drops to the reuse threshold. The value range for the half-life timer is 1 to 120 seconds, and the default is 54 seconds.

reuse: Specifies the reuse threshold. When the accumulated penalty decreases to this threshold, the interface is not dampened. Interface state changes are reported to the higher layers. The value range for the reuse threshold is 200 to 20000, and the default is 750. The reuse threshold must be less than the suppression threshold.

suppress: Specifies the suppression threshold. This threshold is the accumulated penalty that triggers the device to dampen the interface. In dampened state, the interface does not report its state changes to the higher layers. The value range for the suppression threshold is 200 to 20000, and the default is 2000.

max-suppress-time: Specifies the maximum amount of time the interface can be dampened. If the penalty is still higher than the reuse threshold when this timer expires, the penalty stops increasing for down events. The penalty starts to decrease until it drops below the reuse threshold. The value range for the maximum suppression interval is 1 to 255 seconds, and the default is 162 seconds (three times the half-life timer).

NOTE:

- The maximum penalty is equal to $2^{(\text{Max-suppress-time}/\text{half-life})} \times \text{reuse threshold}$. It is not user configurable.
 - The penalty does not increase for up events.
-

Usage guidelines

The interface dampening feature uses an exponential decay mechanism to prevent excessive interface flapping events from adversely affecting routing protocols and routing tables in the network.

If an interface is not dampened, its state changes are reported. For each state change, the system also generates an SNMP notification and log message.

After a flapping interface is dampened, it does not report its state changes to the CPU. For state change events, the interface only generates SNMP notifications and log messages. Suppression of interface state change events protects the system processing resources.

This command does not take effect on the administratively down events. When you execute the **shutdown** command, the penalty restores to 0, and the interface reports the down event to the higher layer protocols.

If you do not specify any keywords, this command uses the default values.

Examples

```
# Enable interface dampening on interface GigabitEthernet 1/0/1.
```

```
<Sysname> system-view
[Sysname] interface gigabitethernet 1/0/1
[Sysname-GigabitEthernet1/0/1] dampening
```

Enable interface dampening on interface GigabitEthernet 1/0/1, and set the following parameters:

- Half life time to 2 seconds.
- Reuse value to 800.
- Suppression threshold to 3000.
- Maximum suppression interval to 5 seconds.

```
<Sysname> system-view
[Sysname] interface gigabitethernet 1/0/1
[Sysname-GigabitEthernet1/0/1] dampening 2 800 3000 5
```

Related commands

- **display interface**

default

Use **default** to restore the default settings for an Ethernet interface or subinterface.

Syntax

default

Views

Ethernet interface view

Ethernet subinterface view

Predefined user roles

network-admin

Usage guidelines

CAUTION:

The **default** command might interrupt ongoing network services. Make sure you are fully aware of the impacts of this command when you use it in a live network.

This command might fail to restore the default settings for some commands because of command dependencies or system restrictions. You can use the **display this** command in interface view to identify these commands, and use their **undo** forms or follow the command reference to restore their default settings. If your restoration attempt still fails, follow the error message instructions to solve the problem.

Examples

Restore the default settings for interface GigabitEthernet 1/0/1.

```
<Sysname> system-view
[Sysname] interface gigabitethernet 1/0/1
[Sysname-GigabitEthernet1/0/1] default
```

Restore the default settings for subinterface GigabitEthernet 1/0/1.1.

```
<Sysname> system-view
[Sysname] interface gigabitethernet 1/0/1.1
[Sysname-GigabitEthernet1/0/1.1] default
```

description

Use **description** to change the description of an interface.

Use **undo description** to restore the default.

Syntax

description *text*

undo description

Default

The description of an interface is the interface name plus **Interface** (for example, **GigabitEthernet1/0/1 Interface**).

Views

Ethernet interface view

Ethernet subinterface view

Predefined user roles

network-admin

Parameters

text: Specifies the interface description, a case-sensitive string of 1 to 255 characters.

Examples

Change the description of interface GigabitEthernet 1/0/1 to **lan-interface**.

```
<Sysname> system-view
```

```
[Sysname] interface gigabitethernet 1/0/1
```

```
[Sysname-GigabitEthernet1/0/1] description lan-interface
```

Change the description of Ethernet subinterface GigabitEthernet 1/0/1.1 to **subinterface1/0/1.1**.

```
<Sysname> system-view
```

```
[Sysname] interface gigabitethernet 1/0/1.1
```

```
[Sysname-GigabitEthernet1/0/1.1] description subinterfacel/0/1.1
```

display counters

Use **display counters** to display interface traffic statistics.

Syntax

```
display counters { inbound | outbound } interface [ interface-type [ interface-number | interface-number.subnumber ] ]
```

Views

Any view

Predefined user roles

network-admin

network-operator

Parameters

inbound: Displays inbound traffic statistics.

outbound: Displays outbound traffic statistics.

interface-type: Specifies an interface type.

interface-number: Specifies an interface number.

interface-number.subnumber. Specifies a subinterface number. The *interface-number* argument is an interface number. The *subnumber* argument is the number of a subinterface created under the interface. The value range for the *subnumber* argument is 1 to 4094.

Usage guidelines

This command displays traffic statistics within a statistics polling interval specified by using the **flow-interval** command.

To clear the Ethernet interface traffic statistics, use the **reset counters interface** command. For more information, see "reset counters interface."

If you do not specify an interface type, this command displays traffic statistics for all interfaces that have traffic counters.

If you specify an interface type but do not specify an interface number or subinterface number, this command displays traffic statistics for all interfaces of the specified type.

If you specify an interface type and an interface or subinterface number, this command displays traffic statistics for the specified interface or subinterface.

Examples

Display inbound traffic statistics for all GigabitEthernet interfaces.

```
<Sysname> display counters inbound interface gigabitethernet
```

Interface	Total (pkts)	Broadcast (pkts)	Multicast (pkts)	Err (pkts)
GE1/0/1	100	100	0	0
GE1/0/2	0	0	0	0
GE1/0/3	0	0	0	0
GE1/0/4	0	0	0	0

Overflow: More than 14 digits (7 digits for column "Err").

--: Not supported.

Table 1 Command output

Field	Description
Interface	Abbreviated interface name.
Total (pkts)	Total number of packets received or sent through the interface.
Broadcast (pkts)	Total number of broadcast packets received or sent through the interface.
Multicast (pkts)	Total number of multicast packets received or sent through the interface.
Err (pkts)	Total number of error packets received or sent through the interface.
Overflow: More than 14 digits (7 digits for column "Err")	The command displays Overflow when any of the following conditions exist: <ul style="list-style-type: none"> The data length of an Err field value is greater than 7 decimal digits. The data length of a non-Err field value is greater than 14 decimal digits.
--: Not supported	The statistical item is not supported.

Related commands

- **flow-interval**
- **reset counters interface**

display counters rate

Use **display counters rate** to display traffic rate statistics for interfaces in up state over the last statistics polling interval.

Syntax

```
display counters rate { inbound | outbound } interface [ interface-type [ interface-number | interface-number.subnumber ] ]
```

Views

Any view

Predefined user roles

network-admin

network-operator

Parameters

inbound: Displays inbound traffic rate statistics.

outbound: Displays outbound traffic rate statistics.

interface-type: Specifies an interface type.

interface-number: Specifies an interface number.

interface-number.subnumber: Specifies a subinterface number. The *interface-number* argument is an interface number. The *subnumber* argument is the number of a subinterface created under the interface. The value range for the *subnumber* argument is 1 to 4094.

Usage guidelines

If you do not specify an interface type, this command displays traffic rate statistics for all up interfaces that have traffic counters over the last statistics polling interval.

If you specify an interface type, this command displays traffic rate statistics for all up interfaces of the specified type over the last statistics polling interval.

If an interface that you specify is always down over the last statistics polling interval, the system prompts that the interface does not support the command.

You can configure the statistics polling interval by using the **flow-interval** command.

Examples

```
# Display the inbound traffic rate statistics for all GigabitEthernet interfaces.
```

```
<Sysname> display counters rate inbound interface gigabitethernet
```

```
Usage: Bandwidth utilization in percentage
```

Interface	Usage (%)	Total (pps)	Broadcast (pps)	Multicast (pps)
GE1/0/1	3	200	100	100
GE1/0/2	5	300	200	100
GE1/0/3	5	300	200	100

```
Overflow: More than 14 digits.
```

```
--: Not supported.
```

Table 2 Command output

Field	Description
Interface	Abbreviated interface name.
Usage (%)	Bandwidth usage (in percentage) of the interface over the last statistics polling interval.
Total (pkts/sec)	Average receiving or sending rate (in pps) for unicast packets over the last statistics polling interval.

Field	Description
Broadcast (pkts/sec)	Average receiving or sending rate (in pps) for broadcast packets over the last statistics polling interval.
Multicast (pkts/sec)	Average receiving or sending rate (in pps) for multicast packets over the last statistics polling interval.
Overflow: more than 14 decimal digits	The command displays Overflow if the data length of a statistical item is greater than 14 decimal digits.
--: not supported	The statistical item is not supported.

Related commands

- **flow-interval**
- **reset counters interface**

display ethernet statistics

Use **display ethernet statistics** to display the Ethernet module statistics.

Syntax

display ethernet statistics slot *slot-number*

Views

Any view

Predefined user roles

network-admin

network-operator

Parameters

slot *slot-number*: Specifies an IRF member device by its member ID.

Examples

(IRF-incapable devices.) Display the Ethernet module statistics.

```
<Sysname> display ethernet statistics
ETH receive packet statistics:
  Totalnum      : 10447      ETHIINum      : 4459
  SNAPNum       : 0          RAWNum        : 0
  LLCNum        : 0          UnknownNum    : 0
  ForwardNum    : 4459      ARP           : 0
  MPLS          : 0          ISIS          : 0
  ISIS2         : 0          IP            : 0
  IPV6          : 0

ETH receive error statistics:
  NullPoint     : 0          ErrIfindex    : 0
  ErrIfcb       : 0          IfShut        : 0
  ErrAnalyse    : 5988      ErrSrcMAC     : 5988
  ErrHdrLen     : 0

ETH send packet statistics:
  L3OutNum      : 211       VLANOutNum    : 0
```

```

FastOutNum      : 155          L2OutNum       : 0
ETH send error statistics:
MbufRelayNum    : 0           NullMbuf       : 0
ErrAdjFwd       : 0           ErrPrepend     : 0
ErrHdrLen       : 0           ErrPad         : 0
ErrQoSTrs      : 0           ErrVLANTrs    : 0
ErrEncap        : 0           ErrTagVLAN    : 0
IfShut         : 0           IfErr         : 0

```

(IRF-capable devices.) Display the Ethernet module statistics for IRF member device 2.

```
<Sysname> display ethernet statistics slot 2
```

```

ETH receive packet statistics:
Totalnum        : 10447       ETHIINum       : 4459
SNAPNum         : 0           RAWNum         : 0
LLCNum          : 0           UnknownNum     : 0
ForwardNum      : 4459       ARP            : 0
MPLS            : 0           ISIS          : 0
ISIS2           : 0           IP             : 0
IPV6            : 0
ETH receive error statistics:
NullPoint       : 0           ErrIfindex     : 0
ErrIfcb         : 0           IfShut        : 0
ErrAnalyse     : 5988       ErrSrcMAC      : 5988
ErrHdrLen       : 0

```

```

ETH send packet statistics:
L3OutNum        : 211         VLANOutNum     : 0
FastOutNum      : 155         L2OutNum       : 0
ETH send error statistics:
MbufRelayNum    : 0           NullMbuf       : 0
ErrAdjFwd       : 0           ErrPrepend     : 0
ErrHdrLen       : 0           ErrPad         : 0
ErrQoSTrs      : 0           ErrVLANTrs    : 0
ErrEncap        : 0           ErrTagVLAN    : 0
IfShut         : 0           IfErr         : 0

```

Table 3 Output description

Field	Description
ETH receive packet statistics	Statistics about the Ethernet packets received on the Ethernet module.

Field	Description
Totalnum	<p>Total number of received packets:</p> <ul style="list-style-type: none"> • ETHII Num—Number of packets encapsulated by using Ethernet II. • SNAP Num—Number of packets encapsulated by using SNAP. • RAW Num—Number of packets encapsulated by using RAW. • LLC Num—Number of packets encapsulated by using LLC. • Unknown Num—Number of packets encapsulated by using unknown methods. • Forward Num—Number of packets forwarded at Layer 2 or sent to the CPU. • ARP—Number of ARP packets. • MPLS—Number of MPLS packets. The device does not support this field in the current software version. • ISIS—Number of IS-IS packets. The device does not support this field in the current software version. • ISIS2—Number of large 802.3/802.2 frames encapsulated by using IS-IS. The device does not support this field in the current software version. • IP—Number of IP packets. • IPv6—Number of IPv6 packets.
ETH receive error statistics	<p>Statistics about the error Ethernet packets in the outbound direction on the Ethernet module. Errors might be included in packets or occur during the receiving process. The items include:</p> <ul style="list-style-type: none"> • NullPoint—Number of packets that include null pointers. • ErrIfindex—Number of packets that include incorrect interface indexes. • ErrIfcb—Number of packets that include incorrect interface control blocks. • IfShut—Number of packets that are being received when the interface is shut down. • ErrAnalyse—Number of packets that include packet parsing errors. • ErrSrcMAC—Number of packets that include incorrect source MAC addresses. • ErrHdrLen—Number of packets that include header length errors.
ETH send packet statistics	<p>Statistics about the Ethernet packets sent by the Ethernet module:</p> <ul style="list-style-type: none"> • L3OutNum—Number of packets sent out of Layer 3 Ethernet interfaces. • VLANOutNum—Number of packets sent out of VLAN interfaces. • FastOutNum—Number of packets fast forwarded. • L2OutNum—Number of packets sent out of Layer 2 Ethernet interfaces. • MbufRelayNum—Number of packets transparently sent.

Field	Description
ETH send error statistics	<p>Statistics about the error Ethernet packets in the outbound direction on the Ethernet module:</p> <ul style="list-style-type: none"> • NullMbuf—Number of packets with null pointers. • ErrAdjFwd—Number of packets with adjacency table errors. • ErrPrepend—Number of packets with extension errors. • ErrHdrLen—Number of packets with header length errors. • ErrPad—Number of packets with padding errors. • ErrQoS—Number of packets that failed to be sent by QoS. • ErrVLAN—Number of packets that failed to be sent in VLANs. • ErrEncap—Number of packets that failed to be sent due to link header encapsulation failures. • ErrTagVLAN—Number of packets that failed to be sent due to VLAN tag encapsulation failures. • IfShut—Number of packets that are being sent when the interface is shut down. • IfErr—Number of packets with incorrect outgoing interfaces.

Related commands

reset ethernet statistics

display interface

Use **display interface** to display interface information.

Syntax

```
display interface [ interface-type [ interface-number | interface-number.subnumber ] ] [ brief
[ description | down ] ]
```

Views

Any view

Predefined user roles

network-admin

network-operator

Parameters

interface-type: Specifies an interface type.

interface-number: Specifies an interface number.

interface-number.subnumber: Specifies a subinterface number. The *interface-number* argument is an interface number. The *subnumber* argument is the number of a subinterface created under the interface. The value range for the *subnumber* argument is 1 to 4094.

brief: Displays brief interface information. If you do not specify this keyword, the command displays detailed interface information.

description: Displays complete interface descriptions. If you do not specify this keyword, the command displays only the first 27 characters of each interface description.

down: Displays information about interfaces in down state and the causes. If you do not specify this keyword, the command displays information about interfaces in all states.

Usage guidelines

If you do not specify an interface type, this command displays information about all interfaces except VA interfaces.

If you specify an interface type but do not specify an interface number or subinterface number, this command displays information about all interfaces of that type.

If you specify both the interface type and interface or subinterface number, this command displays information about the specified interface or subinterface.

Examples

(WX2500 ACs.) Display information about Layer 3 interface GigabitEthernet 1/0/1.

```
<Sysname> display interface gigabitethernet1/0/1
GigabitEthernet1/0/1
Current state: Administratively DOWN
Line protocol state: DOWN
Description: GigabitEthernet1/0/1 Interface
Bandwidth: 1000000kbps
Maximum transmission unit: 1500
Internet protocol processing: Disabled
IP packet frame type: Ethernet II, hardware address: 3822-d666-bd0c
IPv6 packet frame type: Ethernet II, hardware address: 3822-d666-bd0c
Loopback is not set
Media type is twisted pair, promiscuous mode set
Port priority: 2
Unknown-speed mode, unknown-duplex mode
Last link flapping: 6 hours 39 minutes 28 seconds
Last clearing of counters: Never
  Last 300 second input:  0 packets/sec 0 bytes/sec  0%
  Last 300 second output: 0 packets/sec 0 bytes/sec  0%
Input  (total): 0 packets, 0 bytes
           0 unicasts, 0 broadcasts, 0 multicasts, - pauses
Input  (normal): 0 packets, 0 bytes
           0 unicasts, 0 broadcasts, 0 multicasts, 0 pauses
Input: 0 input errors, 0 runts, 0 giants, 0 throttles
           0 CRC, 0 frame, 0 overruns, - aborts
           - ignored, - parity errors
Output (total): 0 packets, 0 bytes
           0 unicasts, 0 broadcasts, 0 multicasts, - pauses
Output (normal): 0 packets, 0 bytes
           0 unicasts, 0 broadcasts, 0 multicasts, 0 pauses
Output: 0 output errors, - underruns, - buffer failures
           0 aborts, 0 deferred, 0 collisions, 0 late collisions
           - lost carrier, - no carrier
Peak input rate: 0 bytes/sec, at 2013-07-07 16:07:11
Peak output rate: 0 bytes/sec, at 2013-07-07 16:07:11
```

Display detailed information about Layer 2 interface GigabitEthernet 1/0/1.

```
<Sysname> display interface gigabitethernet 1/0/1
GigabitEthernet1/0/1
Current state: DOWN
```


Line protocol state: DOWN
IP packet frame type: Ethernet II, hardware address: 000c-2963-b767
Description: GigabitEthernet1/0/1 Interface
Bandwidth: 100000Kbps
Loopback is not set
Media type is twisted pair, promiscuous mode set
Unknown-speed mode, unknown-duplex mode
Link speed type is autonegotiation, link duplex type is autonegotiation
Flow-control is not enabled
Maximum frame length: 4000
Allow jumbo frame to pass
Broadcast max-ratio: 100%
Multicast max-ratio: 100%
Unicast max-ratio: 100%
PVID: 1
MDI type: Automdix
Port link-type: Access
 Tagged VLANs: None
 Untagged VLANs: 1
Port priority: 2
Last clearing of counters: 14:34:09 Tue 11/01/2011
 Peak input rate: 0 bytes/sec, at 2013-07-17 22:06:19
 Peak output rate: 0 bytes/sec, at 2013-07-17 22:06:19
 Last 300 second input: 0 packets/sec 0 bytes/sec -%
 Last 300 second output: 0 packets/sec 0 bytes/sec -%
 Input (total): 0 packets, 0 bytes
 0 unicasts, 0 broadcasts, 0 multicasts, 0 pauses
 Input (normal): 0 packets, 0 bytes
 0 unicasts, 0 broadcasts, 0 multicasts, 0 pauses
 Input: 0 input errors, 0 runts, 0 giants, 0 throttles
 0 CRC, 0 frame, 0 overruns, 0 aborts
 0 ignored, 0 parity errors
 Output (total): 0 packets, 0 bytes
 0 unicasts, 0 broadcasts, 0 multicasts, 0 pauses
 Output (normal): 0 packets, 0 bytes
 0 unicasts, 0 broadcasts, 0 multicasts, 0 pauses
 Output: 0 output errors, 0 underruns, 0 buffer failures
 0 aborts, 0 deferred, 0 collisions, 0 late collisions
 0 lost carrier, 0 no carrier

Table 4 Command output

Field	Description
Current state	<p>State of the interface:</p> <ul style="list-style-type: none"> • Administratively DOWN—The interface was shut down with the shutdown command. • DOWN—The interface is administratively up but physically down. There might not be a physical link present or the link has failed. • DOWN (Link-Aggregation interface down)—The aggregate interface to which the interface belongs was shut down with the shutdown command. • DOWN (Tunnel-Bundle administratively down)—The tunnel bundle interface to which the interface belongs was shut down with the shutdown command. The device does not support this field in the current software version. • ETH-rddc Shutdown—The interface was shut down by the Reth module. The device does not support this field in the current software version. • IRF-link-down—The interface was shut down because IRF detected that the IRF link was down on the MDC of the IRF member device where the interface resides. The device does not support this field in the current software version. • mac-address moving down—The interface was shut down because of a MAC address move. • MAD ShutDown—The interface was shut down because the IRF fabric to which the interface belongs split and was in recovery state. The device does not support this field in the current software version. • Storm-Constrain—The interface was shut down because the number of multicast, broadcast, or unknown unicast packets exceeds the threshold. The device does not support this field in the current software version. • STP DOWN—The interface was shut down by BPDU guard. • UP—The interface is both administratively and physically up.

Field	Description
Line protocol state	<p>Data link layer state of the interface. The state is determined through parameter negotiation at the data link layer.</p> <ul style="list-style-type: none"> • UP—The interface is up at the data link layer. • UP (spoofing)—The data link layer protocol of the interface is UP. However, its link is an on-demand link or not present. This attribute is typical of Null interfaces and loopback interfaces. • DOWN—The data link layer protocol of the interface is down. • DOWN (protocol)—The data link layer of the interface is shut down by one or more protocols. The <i>protocol</i> argument can be an arbitrary combination of these protocols: DLDP, OAM, LAGG, BFD, and MACSEC. <ul style="list-style-type: none"> ○ When <i>protocol</i> contains DLDP, the data link layer of the interface is down because DLDP detected that the link was unidirectional. The device does not support this field in the current software version. ○ When <i>protocol</i> contains OAM, the data link layer of the interface is down because OAM detected remote link failures. The device does not support this field in the current software version. ○ When <i>protocol</i> contains LAGG, the data link layer of the interface is down because the aggregate interface does not have Selected ports. The device does not support this field in the current software version. ○ When <i>protocol</i> contains BFD, the data link layer of the interface is down because BFD detected a link failure. The device does not support this field in the current software version. ○ When <i>protocol</i> contains MACSEC, the data link layer of the interface is down because MACSEC failed to negotiate the encryption parameters. The device does not support this field in the current software version.
Bandwidth	Expected bandwidth of the interface.
Maximum transmission unit	MTU of the interface.
Internet protocol processing: Disabled	The interface cannot process IP packets.
Internet Address is 192.168.1.200/24 Primary	Primary IP address of the interface.
IP packet frame type	Ethernet framing format. PKTFMT_ETHNT_2 indicates that the frames are encapsulated in Ethernet II framing format.
hardware address	MAC address of the interface.
IPv6 packet frame type	IPv6 packet framing format.
Output queue	Information about the output queue.
Urgent queuing	Urgent queue.
Protocol queuing	Protocol queue.
FIFO queuing	FIFO queue.
Size	Number of packets in the queue.
Length	Queue length.
Discards	Number of discarded packets.
Loopback is set internal	An internal loopback test is running on the interface.

Field	Description
Loopback is set external	An external loopback test is running on the interface.
Loopback is not set	No loopback test is running on the interface.
10Mbps-speed mode	The interface is operating at 10 Mbps.
100Mbps-speed mode	The interface is operating at 100 Mbps.
1000Mbps-speed mode	The interface is operating at 1000 Mbps.
Unknown-speed mode	The speed of the interface is unknown because the speed negotiation fails or the interface is physically disconnected.
half-duplex mode	The interface is operating in half duplex mode.
full-duplex mode	The interface is operating in full duplex mode.
unknown-duplex mode	The duplex mode of the interface is unknown because the duplex mode negotiation fails or the interface is physically disconnected.
Link speed type is autonegotiation	The interface is configured with the speed auto command.
Link speed type is force link	The interface is manually configured with a speed (for example, 10 Mbps or 100 Mbps) by using the speed command.
link duplex type is autonegotiation	The interface is configured with the duplex auto command.
link duplex type is force link	The interface is manually configured with a duplex mode (for example, half or full) by using the duplex command.
Flow-control is not enabled	Generic flow control is disabled on the interface.
Maximum frame length	Maximum length of Ethernet frames allowed to pass through the interface.
Allow jumbo frame to pass	The interface allows jumbo frames to pass through.
Broadcast max-	Broadcast storm suppression threshold in ratio, pps, or kbps. The unit of the threshold depends on your configuration.
Multicast max-	Multicast storm suppression threshold in ratio, pps, or kbps. The unit of the threshold depends on your configuration.
Unicast max-	Unknown unicast storm suppression threshold in ratio, pps, or kbps. The unit of the threshold depends on your configuration.
PVID	Port VLAN ID (PVID) of the interface.
MDI type	MDIX mode of the interface: <ul style="list-style-type: none"> • automdix. • mdi. • mdix.
Port link-type	Link type of the interface: <ul style="list-style-type: none"> • access. • trunk. • hybrid.
Tagged VLANs	VLANs for which the interface sends packets without removing VLAN tags.
Untagged VLANs	VLANs for which the interface sends packets after removing VLAN tags.
Port priority	Priority of the interface.

Field	Description
Last link flapping	The amount of time that has elapsed since the most recent physical state change of the interface. This field displays Never if the interface has been physically down since device startup.
Last clearing of counters	Time when the reset counters interface command was last used to clear the interface statistics. This field displays Never if the reset counters interface command has never been used on the interface since device startup.
Last 300 second input: 0 packets/sec 0 bytes/sec 0% Last 300 second output: 0 packets/sec 0 bytes/sec 0%	Average inbound or outbound traffic rate (in pps and Bps) in the last 300 seconds, and the ratio of the actual rate to the interface bandwidth. A hyphen (-) indicates that the statistical item is not supported.
Input(total): 0 packets, 0 bytes 0 unicasts, 0 broadcasts, 0 multicasts, 0 pauses	The two fields on the first line represent the inbound traffic statistics (in packets and bytes) for the interface. All inbound normal packets, abnormal packets, and normal pause frames were counted. The four fields on the second line represent: <ul style="list-style-type: none"> Number of inbound unicast packets. Number of inbound broadcasts. Number of inbound multicasts. Number of inbound pause frames. A hyphen (-) indicates that the statistical item is not supported.
Input(normal): 0 packets, 0 bytes 0 unicasts, 0 broadcasts, 0 multicasts, 0 pauses	The two fields on the first line represent the inbound normal traffic and pause frame statistics (in packets and bytes) for the interface. The four fields on the second line represent: <ul style="list-style-type: none"> Number of inbound normal unicast packets. Number of inbound normal broadcasts. Number of inbound normal multicasts. Number of inbound normal pause frames. A hyphen (-) indicates that the statistical item is not supported.
input errors	Statistics of incoming error packets.
runts	Number of inbound frames meeting the following conditions: <ul style="list-style-type: none"> Shorter than 64 bytes. In correct format. Containing valid CRCs.
giants	Number of inbound giants. Giants refer to frames larger than the maximum frame length supported on the interface. For an Ethernet interface that does not permit jumbo frames, the maximum frame length is as follows: <ul style="list-style-type: none"> 1518 bytes (without VLAN tags). 1522 bytes (with VLAN tags). For an Ethernet interface that permits jumbo frames, the maximum Ethernet frame length is set when you configure jumbo frame support on the interface.
throttles	Number of inbound frames that had a non-integer number of bytes.
CRC	Total number of inbound frames that had a normal length, but contained CRC errors.
frame	Total number of inbound frames that contained CRC errors and a non-integer number of bytes.

Field	Description
overruns	Number of packets dropped because the input rate of the port exceeded the queuing capability.
aborts	<p>Total number of illegal inbound packets:</p> <ul style="list-style-type: none"> • Fragment frames—CRC error frames shorter than 64 bytes. The length (in bytes) can be an integral or non-integral value. • Jabber frames—CRC error frames greater than the maximum frame length supported on the Ethernet interface (with an integral or non-integral length). <ul style="list-style-type: none"> ○ For an Ethernet interface that does not permit jumbo frames, the maximum frame length is 1518 bytes (without VLAN tags) or 1522 bytes (with VLAN tags). ○ For an Ethernet interface that permits jumbo frames, the maximum Ethernet frame length is set when you configure jumbo frame support on the interface. • Symbol error frames—Frames that contained a minimum of one undefined symbol. • Unknown operation code frames—Non-pause MAC control frames. • Length error frames—Frames whose 802.3 length fields did not match the actual frame length (46 to 1500 bytes).
ignored	Number of inbound frames dropped because the receiving buffer of the port ran low.
parity errors	Total number of frames with parity errors.
Output(total): 0 packets, 0 bytes 0 unicasts, 0 broadcasts, 0 multicasts, 0 pauses	<p>The two fields on the first line represent the outbound traffic statistics (in packets and bytes) for the interface. All outbound normal packets, abnormal packets, and normal pause frames were counted.</p> <p>The four fields on the second line represent:</p> <ul style="list-style-type: none"> • Number of outbound unicast packets. • Number of outbound broadcasts. • Number of outbound multicasts. • Number of outbound pause frames. <p>A hyphen (-) indicates that the statistical item is not supported.</p>
Output(normal): 0 packets, 0 bytes 0 unicasts, 0 broadcasts, 0 multicasts, 0 pauses	<p>The two fields on the first line represent the outbound normal traffic and pause frame statistics (in packets and bytes) for the interface.</p> <p>The four fields on the second line represent:</p> <ul style="list-style-type: none"> • Number of outbound normal unicast packets. • Number of outbound normal broadcasts. • Number of outbound normal multicasts. • Number of outbound normal pause frames. <p>A hyphen (-) indicates that the statistical item is not supported.</p>
output errors	Number of outbound packets with errors.
underruns	Number of packets dropped because the output rate of the interface exceeded the output queuing capability. This is a low-probability hardware anomaly.
buffer failures	Number of packets dropped because the transmitting buffer of the interface ran low.
aborts	Number of packets that failed to be transmitted, for example, because of Ethernet collisions.

Field	Description
deferred	Number of frames that the interface deferred to transmit because of detected collisions.
collisions	Number of frames that the interface stopped transmitting because Ethernet collisions were detected during transmission.
late collisions	Number of frames that the interface deferred to transmit after transmitting their first 512 bits because of detected collisions.
lost carrier	Number of carrier losses during transmission. This counter increases by one when a carrier is lost, and applies to serial WAN interfaces. The device does not support this field in the current software version.
no carrier	Number of times that the port failed to detect the carrier when attempting to send frames. This counter increases by one when a port failed to detect the carrier, and applies to serial WAN interfaces. The device does not support this field in the current software version.
Peak input rate	Peak rate of inbound traffic in Bps, and the time when the peak inbound traffic rate occurred.
Peak output rate	Peak rate of outbound traffic in Bps, and the time when the peak outbound traffic rate occurred.

Display brief information about all interfaces.

```
<Sysname> display interface brief
```

```
Brief information on interfaces in route mode:
```

```
Link: ADM - administratively down; Stby - standby
```

```
Protocol: (s) - spoofing
```

Interface	Link	Protocol	Primary IP	Description
CMTunnell	DOWN	DOWN	--	
InLoop0	UP	UP(s)	--	
Loop0	UP	UP(s)	--	
MGE0/0/0	UP	UP	192.168.100.66	
NULL0	UP	UP(s)	--	
Tun0	DOWN	DOWN	--	
Tun1	DOWN	DOWN	--	
Tun2	DOWN	DOWN	--	
Tun99	DOWN	DOWN	--	
Tun101	DOWN	DOWN	--	
Vlan1	DOWN	DOWN	--	
Vlan2	DOWN	DOWN	--	
Vlan10	DOWN	DOWN	10.1.1.1	
Vlan20	DOWN	DOWN	--	
Vlan100	DOWN	DOWN	--	

```
Brief information on interfaces in bridge mode:
```

```
Link: ADM - administratively down; Stby - standby
```

```
Speed: (a) - auto
```

```
Duplex: (a)/A - auto; H - half; F - full
```

```
Type: A - access; T - trunk; H - hybrid
```

Interface	Link	Speed	Duplex	Type	PVID	Description
-----------	------	-------	--------	------	------	-------------

```

BAGG1          DOWN auto   A    A    1
BAGG2          DOWN auto   A    A    20
BAGG3          DOWN auto   A    T    1
GE1/0/1       DOWN auto   A    A    1
GE1/0/2       DOWN auto   A    T    1
GE1/0/3       DOWN auto   A    A    1
GE1/0/4       ADM auto    A    A    1
GE1/0/5       DOWN auto   A    A    1
GE1/0/6       DOWN auto   A    A    1
GE1/0/7       DOWN auto   A    A    1
GE1/0/8       DOWN auto   A    A    1
XGE1/0/9      DOWN auto   A    A    1
XGE1/0/10    DOWN auto   A    A    1

```

Display brief information about interface GigabitEthernet 1/0/3, including the complete description of the interface.

```

<Sysname> display interface gigabitethernet 1/0/3 brief description
Brief information on interfaces in bridge mode:
Link: ADM - administratively down; Stby - standby
Speed: (a) - auto
Duplex: (a)/A - auto; H - half; F - full
Type: A - access; T - trunk; H - hybrid
Interface      Link Speed  Duplex Type PVID Description
GE1/0/3        UP   100M(a) F(a)  A    1    link to router C

```

Display information about interfaces in DOWN state and the causes.

```

<Sysname> display interface brief down
Brief information on interfaces in route mode:
Link: ADM - administratively down; Stby - standby
Interface      Link Cause
GE1/0/1        DOWN Not connected

```

```

Brief information on interfaces in bridge mode:
Link: ADM - administratively down; Stby - standby
Interface      Link Cause
GE1/0/2        DOWN Not connected
GE1/0/4        DOWN Not connected
GE1/0/5        DOWN Not connected
GE1/0/7        DOWN Not connected

```

Table 5 Command output

Field	Description
Brief information on interfaces in route mode:	Brief information about Layer 3 interfaces.
Link: ADM - administratively down; Stby - standby	Link status: <ul style="list-style-type: none"> ADM—The interface has been shut down by the network administrator. To recover its physical layer state, use the undo shutdown command. Stby—The interface is operating as a backup interface. To see the primary interface, use the display interface-backup state command.

Field	Description
Protocol: (s) – spoofing	This field displays UP (s) , where s represents the spoofing flag, when the following conditions exist: <ul style="list-style-type: none"> The data link layer protocol of the interface is UP. The link of the interface is an on-demand link or not present. This attribute is typical of interface Null 0 and loopback interfaces.
Interface	Interface name.
Link	Physical link state of the interface: <ul style="list-style-type: none"> UP—The interface is physically up. DOWN—The interface is physically down. ADM—The interface has been administratively shut down. To bring up the interface, use the undo shutdown command. Stby—The interface is a standby interface.
Protocol	Data link layer protocol state of the interface: <ul style="list-style-type: none"> UP—The data link layer protocol of the interface is up. DOWN—The data link layer protocol of the interface is down. UP(s)—The data link layer protocol of the interface is up. However, the link is an on-demand link or not present. This value is typical of interface Null 0 and loopback interfaces.
Primary IP	Primary IP address of the interface. A hyphen (-) indicates that the interface is not configured with an IP address.
Description	Partial or complete interface description set by using the description command: <ul style="list-style-type: none"> If you do not specify the description keyword for the display interface brief command, this field displays only the first 27 characters of the interface description. If you specify the description keyword for the display interface brief command, this field displays the complete interface description.
Brief information of interfaces in bridge mode:	Brief information about Layer 2 interfaces.
Speed: (a) - auto	If the speed of an interface is automatically negotiated, the speed attribute of the interface includes the autonegotiation flag (the letter a in parentheses). If an interface is configured to autonegotiate its speed but the autonegotiation has not started, its speed attribute is displayed as auto .
Duplex: (a)/A - auto; H - half; F – full	If the duplex mode of an interface is automatically negotiated, the duplex mode attribute of the interface includes the letter a in parentheses. H indicates the half duplex mode. F indicates the full duplex mode. If an interface is configured to autonegotiate its duplex mode but the autonegotiation has not started, its duplex mode attribute is displayed as A .
Type: A - access; T - trunk; H – hybrid	Link type options for interfaces.
Speed	Interface rate, in bps.
Duplex	Duplex mode of the interface: <ul style="list-style-type: none"> A—Autonegotiation. F—Full duplex. F(a)—Autonegotiated full duplex.

Field	Description
	<ul style="list-style-type: none"> • H—Half duplex. • H(a)—Autonegotiated half duplex.
Type	Link type of the interface: <ul style="list-style-type: none"> • A—Access. • H—Hybrid. • T—Trunk.
PVID	Port VLAN ID.
Cause	Cause for the physical link state of an interface to be DOWN : <ul style="list-style-type: none"> • Administratively—The interface is manually shut down by using the shutdown command. To restore the physical state of the interface, use the undo shutdown command. • DOWN (Link-Aggregation interface down)—The interface is a member port of an aggregate interface, and the aggregate interface is shut down. • DOWN (Loopback detection down)—The interface is shut down because the loopback detection module has detected loops. • DOWN (Monitor-Link uplink down)—The interface is shut down because the monitor link module has detected that the uplink is down. • IRF-link-down—When IRF detects that the IRF link is down on an MDC of a member device, the physical interfaces except the excluded ports on the MDC are physically down. The device does not support this field in the current software version. • MAD ShutDown—After an IRF split, all interfaces except the excluded ports in the IRF in recovery state are physically down. The device does not support this field in the current software version. • Not connected—The interface is down because no physical connection exists (possibly because the network cable is disconnected or faulty). • Storm-Constrain—The interface is shut down because the unknown unicast traffic, multicast traffic, or broadcast traffic exceeds the upper threshold. The device does not support this field in the current software version. • STP DOWN—The interface is shut down by the STP BPDU guard function. • Port Security Disabled—The interface is shut down by the intrusion detection mechanism because the port receives illegal packets. • Standby—The interface is in Standby state.

Related commands

reset counters interface

display packet-drop

Use **display packet-drop** to display information about packets dropped on an interface or multiple interfaces.

Syntax

```
display packet-drop { interface [ interface-type [ interface-number ] ] | summary }
```

Views

Any view

Predefined user roles

network-admin

network-operator

Parameters

interface-type: Specifies an interface type. If you do not specify an interface type, this command displays information about dropped packets on all interfaces on the device.

interface-number: Specifies an interface number. If you specify an interface type only, this command displays information about dropped packets on the specified type of interfaces.

summary: Displays the summary of dropped packets on all interfaces.

Examples

Display information about dropped packets on GigabitEthernet 1/0/1.

```
<Sysname> display packet-drop interface gigabitethernet 1/0/1
GigabitEthernet1/0/1:
Packets dropped due to full GBP or insufficient bandwidth: 301
Packets dropped due to Fast Filter Processor (FFP): 261
Packets dropped due to STP non-forwarding state: 321
Packets dropped due to rate-limit: 143
Packets dropped due to broadcast-suppression: 301
Packets dropped due to unicast-suppression: 215
Packets dropped due to multicast-suppression: 241
Packets dropped due to Tx packet aging: 246
```

Display the summary of dropped packets on all interfaces.

```
<Sysname> display packet-drop summary
All interfaces:
Packets dropped due to full GBP or insufficient bandwidth: 301
Packets dropped due to Fast Filter Processor (FFP): 261
Packets dropped due to STP non-forwarding state: 321
Packets dropped due to rate-limit: 143
Packets dropped due to broadcast-suppression: 301
Packets dropped due to unicast-suppression: 215
Packets dropped due to multicast-suppression: 241
Packets dropped due to Tx packet aging: 246
```

Table 6 Command output

Field	Description
Packets dropped due to full GBP or insufficient bandwidth	Packets that are dropped because the buffer is used up or the bandwidth is insufficient.
Packets dropped due to Fast Filter Processor (FFP)	Packets that are filtered out.
Packets dropped due to STP non-forwarding state	Packets that are dropped because STP is in the non-forwarding state.
Packets dropped due to rate-limit	Packets that are dropped due to the rate limit set on the device.
Packets dropped due to broadcast-suppression	Packets that are dropped due to broadcast

Field	Description
	suppression. The device does not support this field in the current software version.
Packets dropped due to unicast-suppression	Packets that are dropped due to unknown unicast suppression. The device does not support this field in the current software version.
Packets dropped due to multicast-suppression	Packets that are dropped due to multicast suppression. The device does not support this field in the current software version.
Packets dropped due to Tx packet aging	Outbound packets that are timed out.

duplex

Use **duplex** to set the duplex mode for an Ethernet interface.

Use **undo duplex** to restore the default.

Syntax

duplex { auto | full | half }

undo duplex

Default

10-GE interfaces operate in full duplex mode, and all other types of Ethernet interfaces operate in autonegotiation mode.

Views

Ethernet interface view

Predefined user roles

network-admin

Parameters

auto: Configures the interface to autonegotiate the duplex mode with the peer.

full: Configures the interface to operate in full duplex mode. In this mode, the interface can receive and transmit packets simultaneously.

half: Configures the interface to operate in half duplex mode. In this mode, the interface can only receive or transmit packets at a given time.

Usage guidelines

The WX3010H and WX3024H devices do not support 100-Mbps half duplex mode.

Examples

Configure interface GigabitEthernet 1/0/1 to operate in full duplex mode.

```
<Sysname> system-view
[Sysname] interface gigabitethernet 1/0/1
[Sysname-GigabitEthernet1/0/1] duplex full
```

flow-control

Use **flow-control** to enable TxRx-mode generic flow control on an Ethernet interface.

Use **undo flow-control** to disable TxRx-mode generic flow control on the Ethernet interface.

Syntax

flow-control

undo flow-control

Default

TxRx-mode generic flow control is disabled on an Ethernet interface.

Views

Ethernet interface view

Predefined user roles

network-admin

Usage guidelines

The following matrix shows the command and hardware compatibility:

Hardware series	Model	Command compatibility
WX1800H series	WX1804H WX1810H WX1820H	No
WX2500H series	WX2510H WX2540H WX2560H	No
WX3000H series	WX3010H WX3010H-X WX3010H-L WX3024H WX3024H-L WX3024H-F	Yes
WX3500H series	WX3508H WX3510H WX3520H WX3540H	Yes
WX5500E series	WX5510E WX5540E	No
WX5500H series	WX5540H WX5560H WX5580H	No
Access controller modules	EWPXM1MAC0F EWPXM1WCME0 EWPXM2WCMD0F LSQM1WCMX20 LSQM1WCMX40 LSUM1WCME0 LSUM1WCMX20RT LSUM1WCMX40RT	No

With TxRx-mode generic flow control configured, an interface can both send and receive flow control frames:

- When congested, the interface sends a flow control frame to its peer.
- Upon receiving a flow control frame from the peer, the interface suspends sending packets.

To implement flow control on a link, enable generic flow control at both ends of the link.

Examples

```
# Enable TxRx-mode generic flow control on GigabitEthernet 1/0/1.
```

```
<Sysname> system-view  
[Sysname] interface gigabitethernet 1/0/1  
[Sysname-GigabitEthernet1/0/1] flow-control
```

flow-control receive enable

Use **flow-control receive enable** to enable Rx-mode generic flow control on an Ethernet port.

Use **undo flow-control** to disable Rx-mode generic flow control on an Ethernet port.

Syntax

flow-control receive enable

undo flow-control

Default

Rx-mode generic flow control is disabled on Ethernet interfaces.

Views

Ethernet interface view

Predefined user roles

network-admin

Usage guidelines

The following matrix shows the command and hardware compatibility:

Hardware series	Model	Command compatibility
WX1800H series	WX1804H WX1810H WX1820H	No
WX2500H series	WX2510H WX2540H WX2560H	No
WX3000H series	WX3010H WX3010H-X WX3010H-L WX3024H WX3024H-L WX3024H-F	Yes: • WX3024H-L • WX3010H-L No: • WX3010H • WX3010H-X • WX3024H • WX3024H-F

Hardware series	Model	Command compatibility
WX3500H series	WX3508H WX3510H WX3520H WX3540H	Yes
WX5500E series	WX5510E WX5540E	No
WX5500H series	WX5540H WX5560H WX5580H	No
Access controller modules	EWPXM1MAC0F EWPXM1WCME0 EWPXM2WCMD0F LSQM1WCMX20 LSQM1WCMX40 LSUM1WCME0 LSUM1WCMX20RT LSUM1WCMX40RT	No

With Rx-mode flow control enabled, an interface can receive but cannot send flow control frames.

- When the interface receives a flow control frame from its peer, it suspends sending packets to the peer.
- When traffic congestion occurs on the interface, it cannot send flow control frames to the peer.

To handle unidirectional traffic congestion on a link, configure the **flow-control receive enable** command at one end, and the **flow-control** command at the other. To enable both ends of the link to handle traffic congestion, configure the **flow-control** command at both ends.

Examples

```
# Enable Rx-mode generic flow control on GigabitEthernet 1/0/1.
<Sysname> system-view
[Sysname] interface gigabitethernet 1/0/1
[Sysname-GigabitEthernet1/0/1] flow-control receive enable
```

flow-interval

Use **flow-interval** to set the statistics polling interval.

Use **undo flow-interval** to restore the default.

Syntax

flow-interval *interval*

undo flow-interval

Default

The statistics polling interval is 300 seconds.

Views

Ethernet interface view

Predefined user roles

network-admin

Parameters

interval: Sets the statistics polling interval, in seconds. The interval is in the range of 5 to 300 and must be a multiple of 5.

Examples

```
# Set the statistics polling interval to 100 seconds on GigabitEthernet 1/0/1.
<Sysname> system-view
[Sysname] interface gigabitethernet 1/0/1
[Sysname-GigabitEthernet1/0/1] flow-interval 100
```

interface

Use **interface** to enter interface or subinterface view.

Syntax

```
interface interface-type { interface-number | interface-number.subnumber }
```

Views

System view

Predefined user roles

network-admin

Parameters

interface-type: Specifies an interface type.

interface-number: Specifies an interface number.

interface-number.subnumber: Specifies a subinterface number. The *interface-number* argument is an interface number. The *subnumber* argument is the number of a subinterface created under the interface. The value range for the *subnumber* argument is 1 to 4094.

Usage guidelines

When the *interface-number.subnumber* argument is specified, and the specified subinterface does not exist, this command creates the subinterface and enters subinterface view.

Examples

```
# Enter GigabitEthernet 1/0/1 interface view.
<Sysname> system-view
[Sysname] interface gigabitethernet 1/0/1
[Sysname-GigabitEthernet1/0/1]

# Create Ethernet subinterface GigabitEthernet 1/0/1.1 and enter GigabitEthernet 1/0/1.1
subinterface view.
<Sysname> system-view
[Sysname] interface gigabitethernet 1/0/1.1
[Sysname-GigabitEthernet1/0/1.1]
```

jumboframe enable

Use **jumboframe enable** to allow jumbo frames within the specified length to pass through.

Use **undo jumboframe enable** to prevent jumbo frames from passing through.

Syntax

jumboframe enable [*value*]

undo jumboframe enable

Default

The device allows jumbo frames within a specific length to pass through.

Views

Layer 2 Ethernet interface view

Layer 3 Ethernet interface view

Predefined user roles

network-admin

Parameters

value: Sets the maximum length (in bytes) of Ethernet frames that are allowed to pass through. The following matrix shows the value ranges for the *value* argument:

Hardware series	Model	Value range
WX1800H series	WX1804H WX1810H WX1820H	1518 to 4000
WX2500H series	WX2510H WX2540H WX2560H	1518 to 4000: • WX2510H • WX2540H 1700 to 4000: WX2560H
WX3000H series	WX3010H WX3010H-X WX3010H-L WA3024H WX3024H-L WA3024H-F	1700 to 4000: • WX3010H • WX3010H-X • WA3024H • WA3024H-F 1700 to 4080: • WX3010H-L • WX3024H-L
WX3500H series	WX3508H WX3510H WX3520H WX3540H	1700 to 4000
WX5500E series	WX5510E	1700 to 4000
	WX5540E	1700 to 3996
WX5500H series	WX5540H WX5560H WX5580H	1700 to 3996

Hardware series	Model	Value range
Access controller modules	EWPXM1MAC0F EWPXM1WCME0 EWPXM2WCMD0F LSQM1WCMX20 LSQM1WCMX40 LSUM1WCME0 LSUM1WCMX20RT LSUM1WCMX40RT	1700 to 3996

Usage guidelines

If you set the *value* argument multiple times, the most recent configuration takes effect.

Examples

Allow jumbo frames to pass through GigabitEthernet 1/0/1.

```
<Sysname> system-view
[Sysname] interface gigabitethernet 1/0/1
[Sysname-GigabitEthernet1/0/1] jumboframe enable
```

loopback

⚠ CAUTION:

After you enable loopback testing on an Ethernet interface, the interface does not forward data traffic.

Use **loopback** to enable loopback testing on an Ethernet interface.

Use **undo loopback** to disable loopback testing on an Ethernet interface.

Syntax

loopback { **external** | **internal** }

undo loopback

Default

Loopback testing is disabled on an Ethernet interface.

Views

Ethernet interface view

Predefined user roles

network-admin

Parameters

external: Enables external loopback testing on the Ethernet interface.

internal: Enables internal loopback testing on the Ethernet interface.

Usage guidelines

The **shutdown** and **loopback** commands are exclusive with each other.

After you enable loopback testing on an Ethernet interface, the Ethernet interface switches to full duplex mode. After you disable loopback testing, the Ethernet interface restores to its duplex setting.

Examples

```
# Enable internal loopback testing on GigabitEthernet 1/0/1.
<Sysname> system-view
[Sysname] interface gigabitethernet 1/0/1
[Sysname-GigabitEthernet1/0/1] loopback internal
```

multicast-suppression

Use **multicast-suppression** to enable multicast storm suppression and set the multicast storm suppression threshold.

Use **undo multicast-suppression** to disable multicast storm suppression.

Syntax

```
multicast-suppression { ratio | pps max-pps | kbps max-kbps }
undo multicast-suppression
```

Default

Ethernet interfaces do not suppress multicast traffic.

Views

Ethernet interface view

Predefined user roles

network-admin

Parameters

ratio: Sets the multicast suppression threshold as a percentage of the interface bandwidth. The value range for this argument (in percentage) is 0 to 100. A smaller value means that less multicast traffic is allowed to pass through.

pps max-pps: Specifies the maximum number of multicast packets that the interface can forward per second. The value range for the *max-pps* argument (in pps) is 0 to $1.4881 \times$ the interface bandwidth.

kbps max-kbps: Specifies the maximum number of kilobits of multicast traffic that the Ethernet interface can forward per second. The value range for this argument (in kbps) is 0 to the interface bandwidth.

Usage guidelines

The following matrix shows the command and hardware compatibility:

Hardware series	Model	Command compatibility
WX1800H series	WX1804H WX1810H WX1820H	No
WX2500H series	WX2510H WX2540H WX2560H	No

Hardware series	Model	Command compatibility
WX3000H series	WX3010H WX3010H-X WX3010H-L WX3024H WX3024H-L WX3024H-F	Yes: <ul style="list-style-type: none"> • WX3010H • WX3024H • WX3024H-F No: <ul style="list-style-type: none"> • WX3010H-X • WX3010H-L • WX3024H-L
WX3500H series	WX3508H WX3510H WX3520H WX3540H	No
WX5500E series	WX5510E WX5540E	No
WX5500H series	WX5540H WX5560H WX5580H	No
Access controller modules	EWPXM1MAC0F EWPXM1WCME0 EWPXM2WCMD0F LSQM1WCMX20 LSQM1WCMX40 LSUM1WCME0 LSUM1WCMX20RT LSUM1WCMX40RT	No

The multicast storm suppression feature limits the size of multicast traffic to a threshold on an interface. When the multicast traffic on the interface exceeds this threshold, the system drops packets until the traffic drops below this threshold.

The configured suppression threshold value in pps or kbps might be converted into a multiple of a step supported by the chip. As a result, the effective suppression threshold might be different from the configured one. To determine the suppression threshold that takes effect, see the prompts on the device.

Examples

Set the multicast storm suppression threshold to 10000 kbps on GigabitEthernet 1/0/1.

```
<Sysname> system-view
[Sysname] interface gigabitethernet 1/0/1
[Sysname-GigabitEthernet1/0/1] multicast-suppression kbps 10000
The actual value is 10048 on port GigabitEthernet1/0/1 currently.
```

The output shows that the value that takes effect is 10048 kbps (157 times of 64), because the chip only supports step 64.

Related commands

broadcast-suppression

unicast-suppression

port link-mode

Use **port link-mode** to change the link mode of an Ethernet interface.

Use **undo port link-mode** to restore the default.

Syntax

port link-mode { bridge | route }

undo port link-mode

Views

Ethernet interface view

Predefined user roles

network-admin

Parameters

bridge: Specifies the Layer 2 mode.

route: Specifies the Layer 3 mode.

Usage guidelines

The following matrix shows the command and hardware compatibility:

Hardware series	Model	Command compatibility
WX1800H series	WX1804H WX1810H WX1820H	Yes
WX2500H series	WX2510H WX2540H WX2560H	Yes
WX3000H series	WX3010H WX3010H-X WX3010H-L WX3024H WX3024H-L WX3024H-F	No
WX3500H series	WX3508H WX3510H WX3520H WX3540H	No
WX5500E series	WX5510E WX5540E	No
WX5500H series	WX5540H WX5560H WX5580H	No

Hardware series	Model	Command compatibility
Access controller modules	EWPXM1MAC0F EWPXM1WCME0 EWPXM2WCMD0F LSQM1WCMX20 LSQM1WCMX40 LSUM1WCME0 LSUM1WCMX20RT LSUM1WCMX40RT	No

Interfaces operate differently depending on the hardware structure. For a device:

- Some Ethernet interfaces can operate only as Layer 3 Ethernet interfaces (in route mode).
- Some Ethernet interfaces can operate either as Layer 2 or Layer 3 Ethernet interfaces. You can use this command to set the link mode to bridge or route for these Ethernet interfaces.

Changing the link mode of an Ethernet interface also restores all commands except **shutdown** on the Ethernet interface to their defaults in the new link mode.

Examples

Configure GigabitEthernet 1/0/1 to operate in Layer 2 mode.

```
<Sysname> system-view
```

```
[Sysname] interface gigabitethernet 1/0/1
```

```
[Sysname-GigabitEthernet1/0/1] port link-mode bridge
```

reset counters interface

Use **reset counters interface** to clear the Ethernet interface or subinterface statistics.

Syntax

reset counters interface [*interface-type* [*interface-number* | *interface-number.subnumber*]]

Views

User view

Predefined user roles

network-admin

Parameters

interface-type: Specifies an interface type.

interface-number: Specifies an interface number.

interface-number.subnumber: Specifies a subinterface number. The *interface-number* argument is an interface number. The *subnumber* argument is the number of a subinterface created under the interface. The value range for the *subnumber* argument is 1 to 4094.

Usage guidelines

Use this command to clear history statistics if you want to collect traffic statistics for a specific time period.

If you do not specify an interface type, this command clears statistics for all interfaces except VA interfaces.

If you specify only the interface type, this command clears statistics for all interfaces of that type.

If you specify both the interface type and the interface or subinterface number, this command clears statistics for the specified interface or subinterface.

Examples

```
# Clear the statistics for GigabitEthernet 1/0/1.  
<Sysname> reset counters interface gigabitethernet 1/0/1
```

Related commands

- **display interface**
- **display counters interface**
- **display counters rate interface**

reset ethernet statistics

Use **reset ethernet statistics** to clear the Ethernet module statistics.

Syntax

```
reset ethernet statistics [ slot slot-number ]
```

Views

User view

Predefined user roles

network-admin

Parameters

slot *slot-number*: Specifies an IRF member device by its member ID. If you do not specify a member device, this command clears statistics for all IRF member devices.

Examples

```
# Clear the Ethernet module statistics for IRF member device 2.  
<Sysname> reset ethernet statistics slot 2
```

Related commands

```
display ethernet statistics
```

reset packet-drop interface

Use **reset packet-drop interface** to clear the dropped packet statistics for an interface or multiple interfaces.

Syntax

```
reset packet-drop interface [ interface-type [ interface-number ] ]
```

Views

User view

Predefined user roles

network-admin

Parameters

interface-type: Specify an interface type. If you do not specify an interface type, this command clears dropped packet statistics for all interfaces on the device.

interface-number: Specify an interface number. If you do not specify this argument, the command clears dropped packet statistics for all interfaces of the specified type.

Examples

```
# Clear dropped packet statistics for GigabitEthernet 1/0/1.
<Sysname> reset packet-drop interface gigabitethernet 1/0/1

# Clear dropped packet statistics for all interfaces.
<Sysname> reset packet-drop interface
```

Related commands

display packet-drop

shutdown

Use **shutdown** to shut down an Ethernet interface or subinterface.

Use **undo shutdown** to bring up an Ethernet interface or subinterface.

Syntax

```
shutdown
undo shutdown
```

Default

An Ethernet interface or subinterface is up.

Views

Ethernet interface view
Ethernet subinterface view

Predefined user roles

network-admin

Usage guidelines

Some interface configurations might require an interface restart before taking effect.

The **shutdown** and **loopback** commands are exclusive with each other.

Examples

```
# Shut down and then bring up GigabitEthernet 1/0/1.
<Sysname> system-view
[Sysname] interface gigabitethernet 1/0/1
[Sysname-GigabitEthernet1/0/1] shutdown
[Sysname-GigabitEthernet1/0/1] undo shutdown

# Shut down and then bring up GigabitEthernet 1/0/1.1.
<Sysname> system-view
[Sysname] interface gigabitethernet 1/0/1.1
[Sysname-GigabitEthernet1/0/1.1] shutdown
[Sysname-GigabitEthernet1/0/1.1] undo shutdown
```

speed

Use **speed** to set the speed of an Ethernet interface.

Use **undo speed** to restore the default.

Syntax

speed { 100 | 1000 | 10000 | auto }

undo speed

Default

An Ethernet interface automatically negotiates a speed with its peer.

Views

Ethernet interface view

Predefined user roles

network-admin

Parameters

100: Sets the interface speed to 100 Mbps. The following matrix shows the keyword and hardware compatibility:

Hardware series	Model	Command compatibility
WX1800H series	WX1804H WX1810H WX1820H	Yes
WX2500H series	WX2510H WX2510H-F WX2540H WX2540H-F WX2560H	Yes
WX3000H series	WX3010H WX3010H-X WX3010H-L WX3024H WX3024H-L WX3024H-F	Yes
WX3500H series	WX3508H WX3510H WX3520H WX3520H-F WX3540H	Yes
WX5500E series	WX5510E WX5540E	No
WX5500H series	WX5540H WX5560H WX5580H	No
Access controller modules	EWPXM1MAC0F EWPXM1WCME0 EWPXM2WCMD0F LSQM1WCMX20	Yes

Hardware series	Model	Command compatibility
	LSQM1WCMX40 LSUM1WCME0 LSUM1WCMX20RT LSUM1WCMX40RT	

1000: Sets the interface speed to 1000 Mbps.

10000: Sets the interface speed to 10000 Mbps. The following matrix shows the keyword and hardware compatibility:

Hardware series	Model	Command compatibility
WX1800H series	WX1804H WX1810H WX1820H	No
WX2500H series	WX2510H WX2540H WX2560H	No
WX3000H series	WX3010H WX3010H-L WX3010H-X WX3024H-L WX3024H WX3024H-F	No: <ul style="list-style-type: none"> • WX3010H • WX3010H-L • WX3024H-L Yes: <ul style="list-style-type: none"> • WX3010H-X • WX3024H • WX3024H-F
WX3500H series	WX3508H WX3510H WX3520H WX3540H	No
WX5500E series	WX5510E WX5540E	Yes
WX5500H series	WX5540H WX5560H WX5580H	Yes
Access controller modules	EWPXM1MAC0F EWPXM1WCME0 EWPXM2WCMD0F LSQM1WCMX20 LSQM1WCMX40 LSUM1WCME0 LSUM1WCMX20RT LSUM1WCMX40RT	Yes

auto: Enables the interface to negotiate a speed with its peer.

Usage guidelines

The WX3010H and WX3024H devices do not support 100-Mbps half duplex mode.

For an Ethernet copper port, use the **speed** command to set its speed to match the speed of the peer interface.

For a fiber port, use the **speed** command to set its speed to match the rate of a transceiver module.

Examples

```
# Configure GigabitEthernet 1/0/1 to autonegotiate the speed.
<Sysname> system-view
[Sysname] interface gigabitethernet 1/0/1
[Sysname-GigabitEthernet1/0/1] speed auto
```

unicast-suppression

Use **unicast-suppression** to enable unknown unicast storm suppression and set the unknown unicast storm suppression threshold.

Use **undo unicast-suppression** to disable unknown unicast storm suppression.

Syntax

```
unicast-suppression { ratio | pps max-pps | kbps max-kbps }
undo unicast-suppression
```

Default

Ethernet interfaces do not suppress unknown unicast traffic.

Views

Ethernet interface view

Predefined user roles

network-admin

Parameters

ratio: Sets the unknown unicast suppression threshold as a percentage of the interface bandwidth. The value range for this argument (in percentage) is 0 to 100. A smaller value means that less unknown unicast traffic is allowed to pass through.

pps *max-pps*: Specifies the maximum number of unknown unicast packets that the interface can forward per second. The value range for the *max-pps* argument (in pps) is 0 to 1.4881 × the interface bandwidth.

kbps *max-kbps*: Specifies the maximum number of kilobits of unknown unicast traffic that the Ethernet interface can forward per second. The value range for this argument (in kbps) is 0 to the interface bandwidth.

Usage guidelines

The following matrix shows the command and hardware compatibility:

Hardware series	Model	Command compatibility
WX1800H series	WX1804H WX1810H WX1820H	No

Hardware series	Model	Command compatibility
WX2500H series	WX2510H WX2540H WX2560H	No
WX3000H series	WX3010H WX3010H-X WX3010H-L WX3024H WX3024H-L WX3024H-F	Yes: <ul style="list-style-type: none"> • WX3010H • WX3024H • WX3024H-F No: <ul style="list-style-type: none"> • WX3010H-X • WX3010H-L • WX3024H-L
WX3500H series	WX3508H WX3510H WX3520H WX3540H	No
WX5500E series	WX5510E WX5540E	No
WX5500H series	WX5540H WX5560H WX5580H	No
Access controller modules	EWPXM1MAC0F EWPXM1WCME0 EWPXM2WCMD0F LSQM1WCMX20 LSQM1WCMX40 LSUM1WCME0 LSUM1WCMX20RT LSUM1WCMX40RT	No

The unknown unicast storm suppression feature limits the size of unknown unicast traffic to a threshold on an interface. When the unknown unicast traffic on the interface exceeds this threshold, the system discards packets until the unknown unicast traffic drops below this threshold.

The configured suppression threshold value in pps or kbps might be converted into a multiple of a step supported by the chip. As a result, the effective suppression threshold might be different from the configured one. To determine the suppression threshold that takes effect, see the prompts on the device.

Examples

Set the unknown unicast storm suppression threshold to 10000 kbps on GigabitEthernet 1/0/1.

```
<Sysname> system-view
[Sysname] interface gigabitethernet 1/0/1
[Sysname-GigabitEthernet1/0/1] unicast-suppression kbps 10000
```

The actual value is 10048 on port GigabitEthernet1/0/1 currently.

The output shows that the value that takes effect is 10048 kbps (157 times of 64), because the chip only supports step 64.

Related commands

broadcast-suppression

multicast-suppression

Layer 3 Ethernet interface or subinterface commands

The following matrix shows the Layer 3 Ethernet interface/subinterface and hardware compatibility:

Hardware series	Model	Feature compatibility
WX1800H series	WX1804H WX1810H WX1820H	Yes
WX2500H series	WX2510H WX2540H WX2560H	Yes
WX3000H series	WX3010H WX3010H-X WX3010H-L WX3024H WX3024H-F WX3024H-L	Yes: <ul style="list-style-type: none">• WX3010H• WX3024H• WX3024H-F No: <ul style="list-style-type: none">• WX3010H-X• WX3010H-L• WX3024H-L
WX3500H series	WX3508H WX3510H WX3520H WX3540H	No
WX5500E series	WX5510E WX5540E	No
WX5500H series	WX5540H WX5560H WX5580H	No
Access controller modules	EWPXM1MAC0F EWPXM1WCME0 EWPXM2WCMD0F LSQM1WCMX20 LSQM1WCMX40 LSUM1WCME0 LSUM1WCMX20RT LSUM1WCMX40RT	No

mac-address

Use **mac-address** to set the MAC address of an Ethernet interface.

Use **undo mac-address** to restore the default.

Syntax

mac-address *mac-address*

undo mac-address

Default

The default setting for this command varies by device model.

Views

Layer 3 Ethernet interface view

Predefined user roles

network-admin

Parameters

mac-address: Specifies a MAC address in the format of H-H-H.

Usage guidelines

When you set a MAC address for a Layer 3 Ethernet subinterface, select a MAC address different from that of the main interface.

Examples

```
# Set the MAC address of GigabitEthernet 1/0/1 to 0001-0001-0001.
```

```
<Sysname> system-view
```

```
[Sysname] interface gigabitethernet 1/0/1
```

```
[Sysname-GigabitEthernet1/0/1] mac-address 1-1-1
```

mtu

Use **mtu** to set the MTU for an Ethernet interface or subinterface.

Use **undo mtu** to restore the default.

Syntax

mtu *size*

undo mtu

Default

The following matrix shows the default values for the *size* argument:

Hardware series	Model	Default
WX1800H series	WX1804H WX1810H WX1820H	1500

Hardware series	Model	Default
WX2500H series	WX2510H WX2540H WX2560H	1500: WX2510H WX2560H 1600: WX2540H
WX3000H series	WX3010H WX3010H-X WX3010H-L WX3024H WX3024H-L WX3024H-F	1500: <ul style="list-style-type: none"> • WX3010H • WX3024H • WX3024H-F Not supported: <ul style="list-style-type: none"> • WX3010H-X • WX3010H-L • WX3024H-L
WX3500H series	WX3508H WX3510H WX3520H WX3540H	Not supported.
WX5500E series	WX5510E WX5540E	Not supported.
WX5500H series	WX5540H WX5560H WX5580H	Not supported.
Access controller modules	EWPXM1MAC0F EWPXM1WCME0 EWPXM2WCMD0F LSQM1WCMX20 LSQM1WCMX40 LSUM1WCME0 LSUM1WCMX20RT LSUM1WCMX40RT	Not supported.

Views

Layer 3 Ethernet interface view

Layer 3 Ethernet subinterface view

Predefined user roles

network-admin

Parameters

size: Sets the MTU in bytes. The following matrix shows the value ranges for the *size* argument:

Hardware series	Model	Value range
WX1800H series	WX1804H WX1810H WX1820H	46 to 1560

Hardware series	Model	Value range
WX2500H series	WX2510H WX2540H WX2560H	46 to 1560
WX3000H series	WX3010H WX3024H WX3024H-F	46 to 1560
	WX3010H-X WX3010H-L WX3024H-L	N/A
WX3500H series	WX3508H WX3510H WX3520H WX3540H	N/A
WX5500E series	WX5510E WX5540E	N/A
WX5500H series	WX5540H WX5560H WX5580H	N/A
Access controller modules	EWPXM1MAC0F EWPXM1WCME0 EWPXM2WCMD0F LSQM1WCMX20 LSQM1WCMX40 LSUM1WCME0 LSUM1WCMX20RT LSUM1WCMX40RT	N/A

Examples

Set the MTU to 1430 bytes for Layer 3 Ethernet interface GigabitEthernet 1/0/1.

```
<Sysname> system-view
[Sysname] interface gigabitethernet 1/0/1
[Sysname-GigabitEthernet1/0/1] mtu 1430
```

Set the MTU to 1430 bytes for Layer 3 Ethernet subinterface GigabitEthernet 1/0/1.1.

```
<Sysname> system-view
[Sysname] interface gigabitethernet 1/0/1.1
[Sysname-GigabitEthernet1/0/1.1] mtu 1430
```


Contents

Loopback, null, and inloopback interface commands.....	1
bandwidth.....	1
default.....	1
description.....	2
display interface inloopback.....	3
display interface loopback.....	5
display interface null.....	8
interface loopback.....	10
interface null.....	10
reset counters interface loopback.....	11
reset counters interface null.....	11
shutdown.....	12

Loopback, null, and inloopback interface commands

bandwidth

Use **bandwidth** to configure the expected bandwidth of an interface.

Use **undo bandwidth** to restore the default.

Syntax

bandwidth *bandwidth-value*

undo bandwidth

Default

The expected bandwidth of a loopback interface is 0 kbps.

Views

Loopback interface view

Predefined user roles

network-admin

Parameters

bandwidth-value: Specifies the expected bandwidth in the range of 1 to 400000000 kbps.

Usage guidelines

The expected bandwidth is an informational parameter used only by higher-layer protocols for calculation. You cannot adjust the actual bandwidth of an interface by using this command.

Examples

```
# Set the expected bandwidth of Loopback 0 to 1000 kbps.
```

```
<Sysname> system-view
```

```
[Sysname] interface loopback 0
```

```
[Sysname-LoopBack0] bandwidth 1000
```

default

Use **default** to restore the default settings for a loopback or null interface.

Syntax

default

Views

Loopback interface view

Null interface view

Predefined user roles

network-admin

Usage guidelines

CAUTION:

The **default** command might interrupt ongoing network services. Make sure you are fully aware of the impacts of this command before using it on a live network.

This command might fail to restore the default settings for some commands for reasons such as command dependencies and system restrictions. Use the **display this** command in interface view to identify these commands, and then use their **undo** forms or follow the command reference to restore their default settings. If your restoration attempt still fails, follow the error message instructions to resolve the problem.

Examples

```
# Restore the default settings for interface loopback 0.
```

```
<Sysname> system-view
[Sysname] interface loopback 0
[Sysname-LoopBack0] default
```

description

Use **description** to set a description for an interface.

Use **undo description** to restore the default.

Syntax

description *text*

undo description

Default

The description of a loopback or null interface is the *interface name* plus **Interface** (for example, **LoopBack0 Interface**).

Views

Loopback interface view

Null interface view

Predefined user roles

network-admin

Parameters

text: Specifies an interface description, a case-sensitive string of 1 to 255 characters.

Usage guidelines

Configure a description for an interface for easy identification and management purposes.

You can use the **display interface** command to view the configured description.

Examples

```
# Set the description to for RouterID for interface loopback 0.
```

```
<Sysname> system-view
[Sysname] interface loopback 0
[Sysname-LoopBack0] description for RouterID
```

display interface inloopback

Use **display interface inloopback** to display information about the inloopback interface.

Syntax

```
display interface [ inloopback [ 0 ] ] [ brief [ description | down ] ]
```

Views

Any view

Predefined user roles

network-admin

network-operator

Parameters

0: Specifies interface Inloopback 0.

brief: Displays brief interface information. If you do not specify this keyword, the command displays detailed interface information.

description: Displays complete interface descriptions. If you do not specify this keyword, the command displays only the first 27 characters of interface descriptions. The description of an inloopback interface is always **InLoopBack0 Interface** and cannot be configured.

down: Displays information about interfaces in down state and the causes. If you do not specify this keyword, the command displays information about interfaces in all states.

Usage guidelines

If the **inloopback** keyword is not specified, the command displays information about all interfaces of the device.

If the **inloopback** keyword is specified but the **0** keyword is not specified, the command displays information about interface Inloopback 0. This is because the device has only one inloopback interface Inloopback 0.

Examples

Display detailed information about interface Inloopback 0.

```
<Sysname> display interface inloopback
InLoopBack0
Current state: UP
Line protocol state: UP(spoofing)
Description: InLoopBack0 Interface
Maximum transmit unit: 1536
Physical: InLoopBack
Last 300 seconds input rate: 0 bytes/sec, 0 bits/sec, 0 packets/sec
Last 300 seconds output rate: 0 bytes/sec, 0 bits/sec, 0 packets/sec
Input: 0 packets, 0 bytes, 0 drops
Output: 0 packets, 0 bytes, 0 drops
```

Table 1 Command output

Field	Description
Current state	Physical layer state of the interface, which is always UP , meaning that the inloopback interface can receive and transmit packets.

Field	Description
Line protocol state	Data link layer protocol state of the interface, which is always UP(spoofing) . UP(spoofing) means that the data link layer protocol state of the interface is up, but the link is an on-demand link or is not present.
Description	Description string of the interface, which is always InLoopBack0 Interface and cannot be configured.
Maximum transmit unit	MTU of the interface, which is always 1536 and cannot be configured
Physical: InLoopBack	The physical type of the interface is inloopback.
Last 300 seconds input rate: 0 bytes/sec, 0 bits/sec, 0 packets/sec	Average input rate during the last 300 seconds (displayed when the interface supports traffic statistics collection): <ul style="list-style-type: none"> • bytes/sec—Average number of bytes received per second. • bits/sec—Average number of bits received per second. • packets/sec—Average number of packets received per second.
Last 300 seconds output rate: 0 bytes/sec, 0 bits/sec, 0 packets/sec	Average output rate over the last 300 seconds (displayed when the interface supports traffic statistics collection): <ul style="list-style-type: none"> • bytes/sec—Average number of bytes sent per second. • bits/sec—Average number of bits sent per second. • packets/sec—Average number of packets sent per second.
Input: 0 packets, 0 bytes, 0 drops	Total number and size (in bytes) of incoming packets of the interface and the number of dropped packets (displayed when the interface supports traffic statistics collection).
Output: 0 packets, 0 bytes, 0 drops	Total number and size (in bytes) of outgoing packets of the interface and the number of dropped packets (displayed when the interface supports traffic statistics collection).

Display brief information about interface Inloopback 0.

```
<Sysname> display interface inloopback 0 brief
Brief information on interfaces in route mode:
Link: ADM - administratively down; Stby - standby
Protocol: (s) - spoofing
Interface          Link Protocol Primary IP      Description
InLoop0           UP   UP(s)   --
```

Table 2 Command output

Field	Description
Brief information on interfaces in route mode:	Brief information about the inloopback interface.
Link: ADM - administratively down; Stby - standby	Explains the Link field values: <ul style="list-style-type: none"> • ADM—The interface has been shut down by the network administrator. To recover its physical layer state, run the undo shutdown command. • Stby—The interface is a standby interface. To view the primary interface information, run the display interface-backup state command.

Field	Description
Protocol: (s) - spoofing	Explains the Protocol field value. (s) represents spoofing. If the data link layer protocol of an interface is up, but its link is an on-demand link or is not present, the Protocol field displays UP(s) . This attribute is typical of interface Null 0, Inloopback 0, and loopback interfaces.
Interface	Interface name.
Link	Physical layer state of the interface, which is always UP , meaning that the link is physically up.
Protocol	Data link layer protocol state of the interface, which is always UP(s) .
Primary IP	IP address of the interface. Because inloopback interfaces do not support CLI configuration, this field does not display a value.
Description	Interface description configured by using the description command. Because inloopback interfaces do not support CLI configuration, this field does not display a value.

display interface loopback

Use **display interface loopback** to display information about the specified or all existing loopback interfaces.

Syntax

```
display interface [ loopback [ interface-number ] ] [ brief [ description | down ] ]
```

Views

Any view

Predefined user roles

network-admin

network-operator

Parameters

interface-number: Specifies a loopback interface by its number, which can be the number of any existing loopback interface. If you do not specify this argument, the command displays information about all existing loopback interfaces on the device.

brief: Displays brief interface information. If you do not specify this keyword, the command displays detailed interface information.

description: Displays complete interface descriptions. If you do not specify this keyword, the command displays only the first 27 characters of interface descriptions.

down: Displays information about interfaces in down state and the causes. If you do not specify this keyword, the command displays information about interfaces in all states.

Usage guidelines

This command is supported only after a loopback interface is created.

If the **loopback** keyword is not specified, the command displays information about all interfaces of the device.

If the **loopback** keyword is specified but the *interface-number* argument is not specified, the command displays information about all existing loopback interfaces.

Examples

Display detailed information about interface loopback 0. (Suppose the loopback interface supports traffic statistics collection.)

```
<Sysname> display interface loopback 0
LoopBack0
Current state: UP
Line protocol state: UP(spoofing)
Description: LoopBack0 Interface
Bandwidth: 1000kbps
Maximum transmit unit: 1536
Internet protocol processing: Disabled
Physical: Loopback
Last clearing of counters: Never
Last 300 seconds input rate: 0 bytes/sec, 0 bits/sec, 0 packets/sec
Last 300 seconds output rate: 0 bytes/sec, 0 bits/sec, 0 packets/sec
Input: 0 packets, 0 bytes, 0 drops
Output: 0 packets, 0 bytes, 0 drops
```

Display detailed information about interface loopback 0. (Suppose the loopback interface does not support traffic statistics collection.)

```
<Sysname> display interface loopback 0
LoopBack0
Current state: UP
Line protocol state: UP(spoofing)
Description: LoopBack0 Interface
Maximum transmit unit: 1536
Internet protocol processing : Disabled
Physical: Loopback
Last clearing of counters: Never
```

Table 3 Command output

Field	Description
Current state	Physical layer state of the interface: <ul style="list-style-type: none"> UP—The loopback interface can receive and transmit packets. Administratively DOWN—The interface was manually shut down by using the shutdown command.
Line protocol state	Data link layer protocol state of the interface. UP (spoofing) means that the data link layer protocol state of the interface is up, but the link is an on-demand link or is not present.
Description	Description string of the interface.
Bandwidth	Expected bandwidth of the interface. This field is not displayed when the value is 0.
Maximum transmit unit	MTU of the interface.
Internet protocol processing: Disabled	Indicates that the interface cannot process Layer 3 packets (displayed when the interface is not configured with an IP address).
Internet address: is 1.1.1.1/32(primary)	Primary IP address of the interface (displayed when the interface is configured with a primary IP address).

Field	Description
Physical: Loopback	The physical type of the interface is loopback.
Last clearing of counters	Time when statistics on the logical interface were last cleared by using the reset counters interface command. If the statistics of the interface have never been cleared by using the reset counters interface command since the device started, this field displays Never .
Last 300 seconds input rate: 0 bytes/sec, 0 bits/sec, 0 packets/sec	Average input rate during the last 300 seconds (displayed when the interface supports traffic statistics collection): <ul style="list-style-type: none"> • bytes/sec—Average number of bytes received per second. • bits/sec—Average number of bits received per second. • packets/sec—Average number of packets received per second.
Last 300 seconds output rate: 0 bytes/sec, 0 bits/sec, 0 packets/sec	Average output rate over the last 300 seconds (displayed when the interface supports traffic statistics collection): <ul style="list-style-type: none"> • bytes/sec—Average number of bytes sent per second. • bits/sec—Average number of bits sent per second. • packets/sec—Average number of packets sent per second.
Input: 0 packets, 0 bytes, 0 drops	Total number and size (in bytes) of incoming packets of the interface and the number of dropped packets (displayed when the interface supports traffic statistics collection).
Output: 0 packets, 0 bytes, 0 drops	Total number and size (in bytes) of outgoing packets of the interface and the number of dropped packets (displayed when the interface supports traffic statistics collection).

Display brief information about all loopback interfaces.

```
<Sysname> display interface loopback brief
Brief information on interfaces in route mode:
Link: ADM - administratively down; Stby - standby
Protocol: (s) - spoofing
Interface          Link Protocol Primary IP      Description
Loop1              UP   UP(s)   --           forLAN1
```

Display information about all loopback interfaces in down state and the causes.

```
<Sysname> display interface loopback brief down
Brief information on interfaces in route mode:
Link: ADM - administratively down; Stby - standby
Interface          Link Cause
Loop1              ADM   Administratively
```

Table 4 Command output

Field	Description
Brief information on interfaces in route mode:	Brief information about loopback interfaces.
Link: ADM - administratively down; Stby - standby	Explains the Link field values: <ul style="list-style-type: none"> • ADM—The interface has been shut down by the network administrator. To recover its physical layer state, run the undo shutdown command. • Stby—The interface is a standby interface. To view the primary interface information, run the display interface-backup state command.

Field	Description
Protocol: (s) - spoofing	Explains the Protocol field value. (s) represents spoofing. If the data link layer protocol of an interface is up, but its link is an on-demand link or is not present, the Protocol field displays UP(s) . This attribute is typical of interface Null 0, Inloopback 0, and loopback interfaces.
Interface	Interface name.
Link	Physical layer state of the interface: <ul style="list-style-type: none"> • UP—The interface is up. • DOWN—The interface is physically down. • ADM—The interface has been administratively shut down. To recover its physical state, run the undo shutdown command. • Stby—The interface is a standby interface.
Protocol	Data link layer protocol state of the interface.
Description	Interface description configured by using the description command. If the description keyword is not specified in the display interface brief command, the Description field allows a maximum of 27 characters. If the description keyword is specified in the display interface brief command, the field displays the complete interface description.
Cause	Cause of the interface down event. If the interface has been shut down by using the shutdown command, this field displays Administratively . To restore the physical state of the interface, execute the undo shutdown command.

Related commands

- **interface loopback**
- **reset counters interface loopback**

display interface null

Use **display interface null** to display information about the null interface.

Syntax

```
display interface [ null [ 0 ] ] [ brief [ description | down ] ]
```

Views

Any view

Predefined user roles

network-admin

network-operator

Parameters

0: Specifies interface Null 0.

brief: Displays brief interface information. If you do not specify this keyword, the command displays detailed interface information.

description: Displays complete interface descriptions. If you do not specify this keyword, the command displays only the first 27 characters of interface descriptions.

down: Displays information about interfaces in down state and the causes. If you do not specify this keyword, the command displays information about interfaces in all states.

Usage guidelines

If the **null** keyword is not specified, the command displays information about all interfaces of the device.

If the **null** keyword is specified but the **0** keyword is not specified, the command displays information about interface Null 0. This is because the device has only one null interface Null 0.

Examples

Display detailed information about interface Null 0. (Suppose the null interface supports traffic statistics collection.)

```
<Sysname> display interface null 0
NULL0
Current state: UP
Line protocol state: UP(spoofing)
Description: NULL0 Interface
Bandwidth: 1000000kbps
Maximum transmit unit: 1500
Internet protocol processing: Disabled
Physical: NULL DEV
Last clearing of counters: Never
Last 300 seconds input rate:  0 bytes/sec, 0 bits/sec, 0 packets/sec
Last 300 seconds output rate: 0 bytes/sec, 0 bits/sec, 0 packets/sec
Input: 0 packets, 0 bytes, 0 drops
Output: 0 packets, 0 bytes, 0 drops
```

Display detailed information about interface Null 0. (Suppose the null interface does not support traffic statistics collection.)

```
<Sysname> display interface null 0
NULL0
Current state: UP
Line protocol state: UP(spoofing)
Description:  NULL0 Interface
Maximum transmit unit: 1500
Internet protocol processing: Disabled
Physical: NULL DEV
Last clearing of counters: Never
```

Display brief information about interface Null 0.

```
<Sysname> display interface null 0 brief
Brief information on interfaces in route mode:
Link: ADM - administratively down; Stby - standby
Protocol: (s) - spoofing
Interface          Link Protocol Primary IP      Description
NULL0              UP   UP(s)    --
```

For the command output, see [Table 3](#) and [Table 4](#).

Related commands

- **interface null**
- **reset counters interface null**

interface loopback

Use **interface loopback** to create a loopback interface and enter loopback interface view.

Use **undo interface loopback** to remove a loopback interface.

Syntax

interface loopback *interface-number*

undo interface loopback *interface-number*

Default

No loopback interface exists.

Views

System view

Predefined user roles

network-admin

Parameters

interface-number: Specifies a loopback interface by its number. The value is 0.

Usage guidelines

The physical layer state and link layer protocols of a loopback interface are always up unless the loopback interface is manually shut down. You can use a loopback interface to achieve the following purposes:

- Prevent the connection from being affected by the physical state of the interface.
- Improve the reliability of the connection.

Examples

```
# Create interface loopback 0.  
<Sysname> system-view  
[Sysname] interface loopback 0  
[Sysname-LoopBack0]
```

interface null

Use **interface null** to enter null interface view.

Syntax

interface null 0

Default

A device has only one null interface (Null 0), which cannot be created or deleted.

Views

System view

Predefined user roles

network-admin

Parameters

0: Specifies interface Null 0. The null interface number is always 0.

Examples

```
# Enter Null 0 interface view.  
<Sysname> system-view  
[Sysname] interface null 0  
[Sysname-NULL0]
```

reset counters interface loopback

Use **reset counters interface loopback** to clear the statistics on the specified or all loopback interfaces.

Syntax

```
reset counters interface loopback [ interface-number ]
```

Views

User view

Predefined user roles

network-admin

Parameters

interface-number: Specifies a loopback interface by its number, which can be the number of any existing loopback interface. If you do not specify the *interface-number* argument, the command clears the statistics on all loopback interfaces.

Usage guidelines

To determine whether a loopback interface works correctly within a period by collecting the traffic statistics within that period, first use the **reset counters interface [loopback [*interface-number*]]** command to clear the statistics. Then have the interface automatically collect the statistics.

This command is available only if a minimum of one loopback interface has been created.

Examples

```
# Clear the statistics on loopback interface Loopback 0.  
<Sysname> reset counters interface loopback 0
```

Related commands

```
display interface loopback
```

reset counters interface null

Use **reset counters interface null** to clear the statistics on the null interface.

Syntax

```
reset counters interface [ null [ 0 ] ]
```

Views

User view

Predefined user roles

network-admin

Parameters

0: Specifies the number of the null interface, which is always 0.

Usage guidelines

To determine whether the null interface works correctly within a period by collecting the traffic statistics within that period, first use the **reset counters interface [null [0]]** command to clear the statistics. Then have the interface automatically collect the statistics.

Examples

```
# Clear the statistics on interface Null 0.  
<Sysname> reset counters interface null 0
```

Related commands

display interface null

shutdown

Use **shutdown** to shut down a loopback interface.

Use **undo shutdown** to bring up a loopback interface.

Syntax

```
shutdown  
undo shutdown
```

Default

A loopback interface is up.

Views

Loopback interface view

Predefined user roles

network-admin

Usage guidelines

Use the **shutdown** command with caution, because the command disconnects the connection of the interface and disables the interface from communicating.

Examples

```
# Shut down interface loopback 0.  
<Sysname> system-view  
[Sysname] interface loopback 0  
[Sysname-LoopBack0] shutdown
```