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Loopback, null, and inloopback interface commands

bandwidth

Use **bandwidth** to set the expected bandwidth for 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 1 to 1000 kbps.  
<Sysname> system-view  
[Sysname] interface loopback 1  
[Sysname-LoopBack1] bandwidth 1000
```

default

Use **default** to restore the default settings for an 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 impact 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 Loopback 1.
```

```
<Sysname> system-view
[Sysname] interface loopback 1
[Sysname-LoopBack1] default
```

description

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

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

Syntax

description *text*

undo description

Default

The interface description uses the *interface name* **Interface** format, for example, LoopBack1 **Interface**.

Views

Loopback interface view

Null interface view

Predefined user roles

network-admin

Parameters

text: Specifies the 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

```
# Configure the description of Loopback 1 as for RouterID.
```

```
<Sysname> system-view
[Sysname] interface loopback 1
[Sysname-LoopBack1] 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 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

The device has only one inloopback interface Inloopback 0. If you specify the **inloopback** keyword, the command displays information about the interface Inloopback 0 regardless of whether you specify the **0** keyword.

Examples

```
# Display detailed information about Inloopback 0.
```

```
<Sysname> display interface inloopback
InLoopBack0
Current state: UP
Line protocol state: UP(spoofing)
Description: InLoopBack0 Interface
Maximum transmission 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 link state of the interface, which is always UP , meaning that the inloopback interface can receive and transmit packets.
Line protocol state	Data link layer state of the interface, which is always UP(spoofing) . UP(spoofing) represents that the data link layer protocol of the interface is up, but the link is an on-demand link or does not exist. This attribute is typical of null interfaces and loopback interfaces.

Field	Description
Description	Description of the interface, which is always InLoopBack0 Interface and cannot be configured.
Maximum transmission 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 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
Link	Physical link 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) . UP(s) represents that the data link layer protocol of the interface is up, but the link is an on-demand link or does not exist. The (s) attribute represents the spoofing flag. This value is typical of null interfaces and loopback interfaces.
Primary IP	IP address of the interface. Because inloopback interfaces do not support CLI configuration, this field does not display a value.
Description	Description of the interface. 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

loopback *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.

Examples

```
# Display detailed information about Loopback 0.
```

```
<Sysname> display interface loopback 0
LoopBack0
Current state: UP
Line protocol state: UP(spoofing)
Description: LoopBack0 Interface
Bandwidth: 1000 kbps
Maximum transmission 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
```

Table 3 Command output

Field	Description
Current state	Physical link state of the interface: <ul style="list-style-type: none">• UP—The loopback interface can receive and transmit packets.• Administratively DOWN—The interface has been shut down

Field	Description
	by using the shutdown command.
Line protocol state	Data link layer state of the interface. UP (spoofing) means that the data link layer protocol of the interface is up, but the link is an on-demand link or does not exist. This attribute is typical of null interfaces and loopback interfaces.
Description	Description of the interface.
Bandwidth	Expected bandwidth of the interface. This field is not displayed when the value is 0.
Maximum transmission unit	MTU of the interface.
Internet protocol processing: Disabled	The interface is not assigned an IP address and cannot process IP packets.
Internet address: 1.1.1.1/32 (primary)	IP address of the interface. The primary attribute indicates that the address is the primary IP address.
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): 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
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 shut down by using the shutdown command. To restore the physical state of the interface, use the undo shutdown command. • Stby—The interface is a backup interface in standby state.
Protocol	Data link layer protocol state of the interface, which is always UP(s) . UP(s) represents that the data link layer protocol of the interface is up, but the link is an on-demand link or does not exist. The (s) attribute represents the spoofing flag. This value is typical of null interfaces and loopback interfaces.
Primary IP	Primary IP address of the interface.
Description	Description of the interface.
Cause	Cause for the physical link state of the interface to be DOWN . Administratively represents that the interface has been manually shut down by using the shutdown command. To restore the physical state of the interface, use 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 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

The device has only one null interface Null 0. If you specify the **null** keyword, the command displays information about the interface Null 0 regardless of whether you specify the **0** keyword.

Examples

Display detailed information about Null 0.

```
<Sysname> display interface null 0
NULL0
Current state: UP
Line protocol state: UP(spoofing)
Description: NULL0 Interface
Bandwidth: 1000000 kbps
Maximum transmission 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 brief information about 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 its view, or enter the view of an existing loopback interface.

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

Syntax

interface loopback *interface-number*

undo interface loopback *interface-number*

Default

No loopback interfaces exist.

Views

System view

Predefined user roles

network-admin

Parameters

interface-number: Specifies a loopback interface by its number. The value range for this argument is 0 to 127.

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.

For example, you can:

- Configure a loopback interface as the source interface for establishing an FTP connection.
- Use the loopback interface address as the Router ID in BGP.

Examples

```
# Create Loopback 1.  
<Sysname> system-view  
[Sysname] interface loopback 1  
[Sysname-LoopBack1]
```

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 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 1.  
<Sysname> reset counters interface loopback 1
```

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 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 Loopback 1.  
<Sysname> system-view  
[Sysname] interface loopback 1  
[Sysname-LoopBack1] shutdown
```