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# Monitor Link commands

## display monitor-link group

Use `display monitor-link group` to display information about monitor link groups.

### Syntax

```
display monitor-link group { group-id | all }
```

### Views

Any view

### Predefined user roles

network-admin

network-operator

### Parameters

*group-id*: Specifies a monitor link group by its ID. The value range for the *group-id* argument is 1 to 16.

**all**: Specifies all monitor link groups.

### Usage guidelines

This command does not display information about ports that belong to a link aggregation group.

### Examples

# Display information about all monitor link groups.

```
<Sysname> display monitor-link group all
```

```
Monitor link protocol status: Disabled
```

```
Monitor link group 1 information:
```

```
Group status      : N/A
Downlink up-delay: 0(s)
Last-up-time      : -
Last-down-time    : -
Up-port-threshold: 1
```

```
Member                Role      Status
-----
XGE1/0/1              UPLINK   UP
XGE1/0/2              DOWNLINK UP
```

**Table 1 Command output**

Field	Description
Monitor link protocol status	Whether Monitor Link is enabled: <ul style="list-style-type: none"><li>• Enabled.</li><li>• Disabled.</li></ul>
Group status	Monitor link group status: <ul style="list-style-type: none"><li>• <b>DOWN.</b></li><li>• <b>UP.</b></li></ul>

Field	Description
	<ul style="list-style-type: none"> <li><b>N/A</b>—Monitor Link is disabled globally. The monitor link group does not operate.</li> </ul>
Downlink up-delay	Switchover delay of the downlink interfaces in the monitor link group, in seconds.
Last-up-time	Last time when the monitor link group came up.
Last-down-time	Last time when the monitor link group went down.
Up-port-threshold	Uplink interface threshold for triggering monitor link group state switchover.
Member	Member interfaces of the monitor link group.
Role	Interface role, which can be uplink interface or downlink interface.
Status	Member interface state: <ul style="list-style-type: none"> <li><b>DOWN.</b></li> <li><b>DOWN (Monitor Link)</b>—The member interface is shut down by Monitor Link.</li> <li><b>UP.</b></li> </ul>

## downlink up-delay

Use `downlink up-delay` to set the switchover delay for the downlink interfaces in a monitor link group.

Use `undo downlink up-delay` to restore the default.

### Syntax

```
downlink up-delay delay
```

```
undo downlink up-delay
```

### Default

The switchover delay is 0 seconds. The downlink interfaces come up as soon as an uplink interface in the monitor link group comes up.

### Views

Monitor link group view

### Predefined user roles

network-admin

### Parameters

*delay*: Sets the switchover delay in the range of 1 to 300 seconds.

### Usage guidelines

To avoid frequent state changes of downlink interfaces in the event that the uplink interfaces in the monitor link group flap, you can configure a switchover delay. The switchover delay is the time that the downlink interfaces wait before they come up following an uplink interface.

### Examples

```
# Set the switchover delay to 50 seconds for the downlink interfaces in monitor link group 1.
```

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

```
[Sysname] monitor-link group 1
```

```
[Sysname-mtlk-group1] downlink up-delay 50
```

## monitor-link disable

Use **monitor-link disable** to disable Monitor Link globally.

Use **undo monitor-link disable** to enable Monitor Link globally.

### Syntax

```
monitor-link disable  
undo monitor-link disable
```

### Default

Monitor Link is enabled globally.

### Views

System view

### Predefined user roles

network-admin

### Usage guidelines

All monitor link groups can operate only after you enable Monitor Link globally. When you disable Monitor Link globally, all monitor link groups cannot operate and the downlink interfaces brought down by the monitor link groups resume their original states.

### Examples

```
# Disable Monitor Link globally.  
<Sysname> system-view  
[Sysname] monitor-link disable
```

## monitor-link group

Use **monitor-link group** to create a monitor link group and enter its view, or enter the view of an existing monitor link group.

Use **undo monitor-link group** to remove a monitor link group.

### Syntax

```
monitor-link group group-id  
undo monitor-link group group-id
```

### Default

No monitor link groups exist.

### Views

System view

### Predefined user roles

network-admin

### Parameters

*group-id*: Specifies a monitor link group ID. The value range for the *group-id* argument is 1 to 16.

## Examples

```
# Create monitor link group 1 and enter its view.  
<Sysname> system-view  
[Sysname] monitor-link group 1  
[Sysname-mtlk-group1]
```

## port

Use **port** to assign an interface to a monitor link group.

Use **undo port** to remove an interface from a monitor link group.

## Syntax

```
port interface-type { interface-number | interface-number.subnumber }  
{ downlink | uplink }
```

```
undo port interface-type interface-number
```

## Default

No member interfaces exist in a monitor link group.

## Views

Monitor link group view

## Predefined user roles

network-admin

## Parameters

*interface-type*: Specifies an interface by its type.

*interface-number*: Specifies an interface by its number.

*interface-number.subnumber*: Specifies a subinterface by its number. The argument *subnumber* is in the range of 1 to 4094.

**downlink**: Specifies a downlink interface.

**uplink**: Specifies an uplink interface.

## Usage guidelines

You can assign an interface to only one monitor link group.

You can also assign an interface to a monitor link group by using the **port monitor-link group** command in interface view.

If you have configured an interface as the downlink interface of a monitor link group, do not configure its subinterfaces as the uplink interfaces of any monitor link group.

Because the state of subinterfaces is associated with the state of the interface, do not add them to the same monitor link group.

If you have configured a Selected port of an aggregation group as the downlink interface of a monitor link group, do not configure an Unselected port of the aggregation group as the uplink interface of the monitor link group.

Do not assign an aggregate interface and member ports of the aggregate group to the same monitor link group.

## Examples

```
# Configure Ten-GigabitEthernet 1/0/1 as an uplink interface and Ten-GigabitEthernet 1/0/2 as a
downlink interface for monitor link group 1.
```

```
<Sysname> system-view
[Sysname] monitor-link group 1
[Sysname-mtlk-group1] port ten-gigabitethernet 1/0/1 uplink
[Sysname-mtlk-group1] port ten-gigabitethernet 1/0/2 downlink
```

## Related commands

```
port monitor-link group
```

# port monitor-link group

Use **port monitor-link group** to assign an interface to a monitor link group.

Use **undo port monitor-link group** to remove an interface from a monitor link group.

## Syntax

```
port monitor-link group group-id { downlink | uplink }
undo port monitor-link group group-id
```

## Default

An interface is not a monitor link group member.

## Views

- Layer 2 Ethernet interface view
- Layer 3 Ethernet interface/subinterface view
- Layer 2 aggregate interface view
- Layer 3 aggregate interface/subinterface view
- Loopback interface view

## Predefined user roles

```
network-admin
```

## Parameters

**group-id**: Specifies a monitor link group by its ID. The value range for the *group-id* argument is 1 to 16.

**downlink**: Specifies a downlink interface.

**uplink**: Specifies an uplink interface.

## Usage guidelines

You can assign an interface to only one monitor link group.

You can also assign an interface to a monitor link group by using the **port** command in monitor link group view.

If you have configured an interface as the downlink interface of a monitor link group, do not configure its subinterfaces as the uplink interfaces of any monitor link group.

Because the state of subinterfaces is associated with the state of the interface, do not add the interface and its subinterfaces to the same monitor link group.

If you have configured a Selected port of an aggregation group as the downlink interface of a monitor link group, do not configure an Unselected port of the aggregation group as the uplink interface of the monitor link group.

Do not assign an aggregate interface and member ports of the aggregate group to the same monitor link group.

## Examples

```
# Configure Ten-GigabitEthernet 1/0/1 as an uplink interface and Ten-GigabitEthernet 1/0/2 as a
downlink interface for monitor link group 1.
```

```
<Sysname> system-view
[Sysname] monitor-link group 1
[Sysname-mtlk-group1] quit
[Sysname] interface ten-gigabitethernet 1/0/1
[Sysname-Ten-GigabitEthernet1/0/1] port monitor-link group 1 uplink
[Sysname-Ten-GigabitEthernet1/0/1] quit
[Sysname] interface ten-gigabitethernet 1/0/2
[Sysname-Ten-GigabitEthernet1/0/2] port monitor-link group 1 downlink
```

## Related commands

`port`

# uplink up-port-threshold

Use `uplink up-port-threshold` to configure the uplink interface threshold for triggering monitor link group state switchover.

Use `undo uplink up-port-threshold` to restore the default.

## Syntax

```
uplink up-port-threshold number-of-port
```

```
undo uplink up-port-threshold
```

## Default

The uplink interface threshold for triggering monitor link group state switchover is 1.

## Views

Monitor link group view

## Predefined user roles

network-admin

## Parameters

*number-of-port*: Specifies the uplink interface threshold for triggering monitor link group state switchover, in the range of 1 to 1024.

## Usage guidelines

When the number of uplink interfaces in up state in a monitor link group is less than the specified threshold, the monitor link group goes down and shuts down its downlink interfaces. When the number of uplink interfaces in up state reaches the threshold, the monitor link group comes up and brings up all its downlink interfaces.

As a best practice, use the `display monitor-link group` command to display the total number of uplink interfaces before executing the `uplink up-port-threshold` command. If you set the threshold to be greater than the total number of uplink interfaces, the monitor link group cannot come up and data will be lost.

## Examples

# Set the uplink interface threshold for triggering monitor link group state switchover to 5.

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

```
[Sysname] monitor-link group 1
```

```
[Sysname-mtlk-group1] uplink up-port-threshold 5
```