

# Link Aggregation Configuration Commands

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# Chapter 1 Link Aggregation Configuration Commands

## 1.1 Link Aggregation Configuration Commands

### 1.1.1 aggregator-group

#### Description

To configure interface aggregation, use the **aggregator-group** command. Use the negative form of this command to restore the default value.

**aggregator-group** *id* mode {lACP-negotiation |static }

**no aggregator-group**

#### Parameter

Parameter	Description
<i>id</i>	ID number of the logical port. Value range: none.
<b>lACP-negotiation</b>	Uses LACP negotiation. Value range:N/A.
<b>static</b>	Negotiation is not used on an port. Value range:N/A.

#### Default

Disabled

#### Instruction

Port link aggregation is to bind several ports with the familiar attribute to one logical port. LACP negotiation can be used to form binding process. Also the binding process can be forced to be formed without any LACP negotiation .

If the static aggregation is used, please make sure the attribute of the ports to be binded is the same,that is, they are all full-duplex mode and with the same rate. Meantime make sure the connection of the ports to be binded is peer-to-peer connection. Also the remote ports of the peer-to-peer connection are also binded to one logical port.

You can select LACP negotiation mode when configuring port aggregation. Active—Places a port into an active negotiating state, in which the port initiates negotiations with remote ports by sending LACP packets. Passive—Places a port into a passive negotiating state, in which the port responds to LACP packets it receives but does not initiate LACP negotiation.

Switches of partial models doesn't support dynamic negotiation mode, therefore relevant configuration commands are not provided.

### Command mode

Interface configuration mode

### Example

```
Switch(config_f0/24)#aggregator-group 3 mode lacp-negotiation
Creating a port-aggregator interface Port-aggregator3
Switch(config_f0/24)#int f0/23
Switch(config_f0/23)#aggregator-group 3 mode lacp-negotiation
```

## 1.1.2 aggregator-group load-balance

### Description

To configure the load balance after port aggregation, use the **aggregator-group load-balance** command. Use the negative form of this command to restore the default value.

**aggregator-group load-balance** { dst-mac | src-mac | both-mac | src-ip | dst-ip | both-ip }

**no aggregator-group load-balance**

### Parameter

parameter	description
dst-mac	Sets destination mac address as standard. Value range: N/A.
src-mac	Sets source mac address as standard. Value range: N/A.
both-mac	Sets source and destination mac address as standard. Value range:N/A.
dst-ip	Sets destination ip address as standard. Value range:N/A.
src-ip	Sets source ip address as standard. Value range:N/A.
both-ip	Sets source and destination ip address as standard. Value range:N/A.

### Default

dst-mac

## Instruction

To ensure load balance of each physical port after port aggregation, use this command to equably distribute data flow on each physical port.

When `dst-mac` mode is selected, the distribution of data flow sets destination MAC address of the data packet as standard. The same MAC address is only sent out on a certain physical interface. The `src-mac` uses source MAC address as standard.

The supporting capability in load balance policy varies according to different models of switches. The command prompt only shows the sharing policy that the switch supports. If the switch doesn't support any sharing policy or just supports one of them, the relevant subcommands will not be displayed.

## Command mode

Global configuration mode

## Example

The following command modifies load balance of the port-aggregator 3 to `src` mode:

```
Switch(config)#port-aggregator load-balance 3 src-mac  
Switch(config)#
```

### 1.1.3 show aggregator-port

## Description

To show the concrete information of aggregator-group, use the **show aggregator-port** command.

```
show aggregator-port [id] {detail|brief|summary}
```

## Parameter

parameter	Description
<i>id</i>	Concrete logical port ID

## Default

None

## Instruction

This command is used to show port aggregation information.

**Command mode**

EXEC/ All configuration modes

## 1.1.4 show interface port-aggregator

**Description**

To show concrete information of the aggregator-group, use the **show interface port-aggregator** command.

**show interface port-aggregator** *id***Parameter**

Parameter	Description
<i>id</i>	The concrete port ID, in the range from 1 to 16.

**Default**

none

**Instruction**

This command is used to show port aggregation information.

**Command mode**

EXEC/All configuration modes

**Example**

The following example shows information about port-aggregator 1.

```
Switch#sho int po1
Port-aggregator1 is down, line protocol is down
Hardware is PortAggregator, Address is 0000.0000.0000(0000.0000.0000)
MTU 1500 bytes, BW 1000 kbit, DLY 2000 usec
Encapsulation ARPA, loopback not set
Members in this Aggregator:
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
0 packets input, 0 bytes, 0 no buffer
Received 0 broadcasts, 0 multicasts
```

0 input errors, 0 input discards  
0 CRC, 0 frame, 0 overrun, 0 ignored  
0 packets output, 0 bytes, 0 underruns  
Transmitted 0 broadcasts, 0 multicasts  
0 output errors, , 0 discards  
0 output buffer failures, 0 output buffers swapped out

**Note:** Members in this Aggregator indicates the physical port aggregated to the logical port.

Statistics descriptions are as follows:

Packets input indicates total number of error-free packets received by the system, including unicasts, multicasts and broadcasts.

Bytes indicate total number of in the error-free packets received by the system.

Broadcasts indicate total number of broadcast packets received by the interface.

Multicasts indicate total number of multicast packets received by the interface.

Input errors indicate the received error packets.

Input discards indicate the received packets are discarded, like the received packets when the interface protocol is down.

Packets output indicates total number of messages transmitted by the system, including unicasts, multicasts and broadcasts.

Bytes indicate total number of bytes transmitted by the system.

Broadcasts indicate total number of broadcast packets transmitted by the system.

Multicasts indicate total number of multicast packets transmitted by the system.

Input errors indicate the sending error packets.

Input discards indicate the sending packets are discarded, like the sending packets when the interface protocol is down.

### 1.1.5 debug lacp errors

#### **Description**

To debug LACP errors information, use the **debug lacp errors** command.

**debug lacp errors**

**no debug lacp errors**

**Parameter**

None

**Default**

None

**Instruction**

This command is used to debug all errors information during lacp operation to locate the error.

**Command mode**

EXEC

**Example**

```
Switch# debug lacp error
Switch#
```

**1.1.6 debug lacp state****Description**

To debug lacp state, use the **debug lacp state** command.

**debug lacp state****no debug lacp state****Parameter**

None

**Default**

None

**Command mode**

EXEC



**Example**

```
Switch# debug lacp state
Switch#
```

**1.1.7 debug lacp packet****Description**

To debug lacp packet information, use the **debug lacp packet** command.

```
debug lacp packet
no debug lacp packet
```

**Parameter**

None

**Default**

None

**Command mode**

EXEC

**Example**

```
Switch# debug lacp packet
Switch#
```