

Layer-2 Link Aggregation Configuration

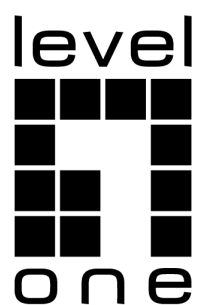


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Chapter 1 Configuring Port Aggregation

The port aggregation configuration task in this chapter describes how to configure port aggregation for the switch.

1.1 Overview

Port aggregation means that several physical ports with the same attributes are bound together to form a logical channel. The port aggregation method can be to statically aggregate several physical ports together regardless of whether the ports connected to these physical ports meet the conditions for aggregation. When using LACP for aggregation, after the port aggregation negotiate with the port and the opposite port, the port can be aggregated into a logical channel.

Supported Features:

- Static aggregation control is supported
Bind a physical port to a logical port, regardless whether they can actually bind to a logical port.
- Aggregation control of LACP dynamic negotiation is supported
When a physical port is configured to bind to a logical port, the physical port with LACP negotiation can be bound to a logical port. Other ports cannot be bound to the logical port.
- Flow balance of port aggregation is supported.
After port aggregation, the data flow of the aggregation port will be distributed to each aggregated physical port.

1.2 Port Aggregation Configuration Task List

- Configuring logical channel used for aggregation
- Aggregation of physical port
- Selecting load balance mode after port aggregation
- Monitoring the concrete condition of port aggregation

1.3 Port Aggregation Configuration Task

1.3.1 Configuring Logical Channel Used to Aggregation

You should establish a logical port before binding all the physical ports together. The logical port is used to control the channel formed by these binding physical ports.

Use the following command to configure the logical channel:

Command	Description
interface p id	Configures aggregated logical channel.

1.3.2 Aggregation of Physical Port

To aggregate multiple physical ports into a logical channel, you can use static aggregation or LACP protocol for negotiation.

In the case when the static aggregation is used, it is required that the link of the physical port should be up, and the VLAN attribute of aggregation port and physical port should be identical, and then this port will be aggregated to the logical channel, regardless of whether the current port accords with the conditions of port aggregation and whether the port that connects with the physical port accords with the aggregation conditions.

With the LACP protocol, port aggregation must be performed after the peer connected to the port and the port have been negotiated through. The link of the port must be up and the port should be negotiated to full-duplex mode. The speed of all physical ports should be same during aggregation process, that is, if there is one physical port that has been aggregated successfully, then the speed of the second physical port must be the same as the first configured one. Also the vlan attributes of all physical ports must be identical to the aggregated port.

LACP provides two aggregation methods, one is Active and the other is Passive. In Active mode, the switch actively initiates the aggregation negotiation process, while In Passive mode, The switch passively accepts the aggregation negotiation process. If both ports use Passive method, then the aggregation fails. This is because both sides will wait for the other side to launch aggregation negotiation process.

VLAN attributes: PVID, Trunk attribute, vlan-allowed range and vlan-untagged range.

Use the following command to perform aggregation on the physical ports:

Command	Description
aggregator-group agg-id mode { lacp static }	Configures aggregation option of the physical port.

1.3.3 Selecting Load Balance Method After Port Aggregation

You can select the load share method to ensure that all ports can share the data traffic after the aggregation of all physical ports. The switch can provides up to ten load balance strategy:

- **src-mac**
It is to share the data traffic according to the source MAC address, that is, the message with same MAC address attributes is to get through a physical port.
- **dst-mac**
It is to share the data traffic according to the destination MAC address, that is, the message with same MAC address attributes is to get through a physical port.
- **both-mac**

It is to share the data traffic according to source and destination MAC addresses, that is, the message with same MAC address attributes is to get through a physical port.

- **src-ip**

It is to share the data traffic according to the source IP address, that is, the message with same IP address attributes is to get through a physical port.

- **dst-ip**

It is to share the data traffic according to the destination IP address, that is, the message with same IP address attributes is to get through a physical port.

- **both-ip**

It is to share the data traffic according to the destination and source IP addresses, that is, the message with same IP address attributes is to get through a physical port.

- **src-port**

It is to share the data traffic according to the source port, that is, the message with the same port attributes is to get through a physical port.

- **l4-sport**

It is to share the data traffic according to the source port and IP address, that is, the message with the same IP address and port attributes is to get through a physical port.

- **l4-dport**

It is to share the data traffic according to the destination port and IP address, that is, the message with the same IP address and port attributes is to get through a physical port.

- **both-l4port**

It is to share the data traffic according to according to the source and destination ports and IP addresses, that is, the message with the same IP address and port attributes is to get through a physical port.

Use the following command to configure load balance method:

Command	Description
aggregator-group load-balance	Configures load balance method.

1.3.4 Monitoring the Concrete Conditions of Port Aggregation

Use the following command to monitor port aggregation state in EXEC mode:

Command	Description
show aggregator-group [id] {detail brief summary}	Displays port aggregation state.