

Interface Configuration

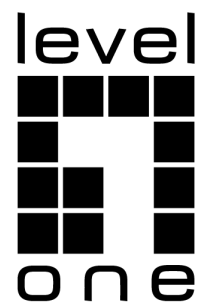


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Chapter 1 Introduction

This section helps user to learn various kinds of interface that our switch supports and consult configuration information about different interface types.

For detailed description of all interface commands used in this section, refer to *Interface configuration command*. For files of other commands appeared in this section, refer to other parts of the manual.

The introduction includes communication information that can be applied to all interface types.

1.1 Supported Interface Types

For information about interface types, please refer to the following table.

Interface Type	Task	Reference
Ethernet interface	Configures gigabit Ethernet interface. Configures 10 gigabit Ethernet interface. Configures 40 gigabit Ethernet interface.	<i>Configuring Ethernet Interface</i>
Logical Interface	Aggregation interface VLAN interface	<i>Configuring Logistical Interface</i>

The two supported kinds of interface: Ethernet interface and logical interface. The Ethernet interface type depends on one device depends on the standard communication interface and the interface card or interfaced module installed on the switch. The logical interface is the interface without the corresponding physical device, which is established by user manually.

The supported Ethernet interfaces of our switch include:

- Gigabit Ethernet interface
- 10Gigabit Ethernet interface
- 40Gigabit Ethernet interface

The supported logical interface of our switch include:

- aggregation interface
- VLAN interface

1.2 Interface Configuration Introduction

The following description applies to the configuration process of all interfaces. Take the following steps to perform interface configuration in global configuration mode.

- (1) Run the **interface** command to enter the interface configuration mode and start configuring interface. At this time, the switch prompt becomes 'config_' plus the shortened form of the interface to be configured. Use these interfaces in terms of their numbers. Numbers are assigned during installation(exworks) or when an interface card are added to the system. Run the **show interface** command to display these interfaces. Each interface that the device supports provides its own state as follows:

```
Switch(config)#show interface g0/0/1
g0/0/1 is administratively down, line protocol is down
  Ifindex is 3
  Hardware is Giga-TX, address is 8479.7335.06c1 (bia 8479.7335.06c1)
  Encapsulation ARPA
  Auto-duplex,  Auto-speed,  Flow-Control Off
  5 minutes input rate 0 bits/sec, 0 packets/sec
  5 minutes output rate 0 bits/sec, 0 packets/sec
  Real time input rate 0%, 0 bits/sec, 0 packets/sec
  Real time output rate 0%, 0 bits/sec, 0 packets/sec
    Received 0 packets, 0 bytes
      0 broadcasts, 0 ucasts  0 multicasts
    0 FCS, 0 PAUSE  0 jabber, 0 jumbo
    0 undersize, 0 collision 0 error
    0 overrun, 0 oversize
    0 63B packets, 0 64B packets
    0 65B~127B packets, 0 128B~255B packets
    0 256B~511B packets, 0 512B~1023B packets
    0 good 1519B packets, 0 bad 1519B packets
    Transmitted 0 packets, 0 bytes
      0 broadcasts, 0 ucasts  0 multicasts
    0 FCS, 0 jumbo 0 underrun
    0 63B packets, 0 64B packets
    0 65B~127B packets, 0 128B~255B packets
    0 256B~511B packets, 0 512B~1023B packets
    0 good 1519B packets, 0 pause
```

Note:

There is no need to add blank between interface type and interface number. For example, in the above line, g0/2 or g 0/2 is both right.

- (2) You can configure the interface configuration commands in interface configuration mode. Various commands define protocols and application programs to be executed on the interface. These commands will stay until user exits the interface configuration mode or switches to another interface.

- (3) Once the interface configuration has been completed, use the show command in the following chapter 'Monitoring and Maintaining Interface' to test the interface state.

Chapter 2 Interface Configuration

2.1 Configuring Interface Common Attribute

The following content describes the command that can be executed on an interface of any type and configures common attributes of interface.

2.1.1 Adding Description

Adding description about the related interface helps to memorize content attached to the interface. This description only serves as the interface note to help identify uses of the interface and has no effect on any feature of the interface. This description will appear in the output of the following commands: **show running-config**. Use the following command in interface configuration mode if user wants to add a description to any interface.

Command	Description
description <i>string</i>	Adds description to the currently-configured interface.

For examples relevant to adding interface description, please refer to the following section 'Interface Description Example'.

2.1.2 Enabling/Disabling Interface

Use the following command to disable the interface:

Command	Description
[no] shutdown	Enable/Disable Interface

2.2 Monitoring and Maintaining Interface

The following tasks can monitor and maintain interface:

- Checking interface state
- Initializing and deleting interface
- Shutting down and enabling interface

2.2.1 Checking Interface State

Our switch supports displaying several commands related to interface information, including version number of software and hardware, interface state. The following table lists a portion of interface monitor commands. For the description of these commands, please refer to 'Interface configuration command'.

Use the following commands:

Command	Description
show interface [name]	Displays interface state.
show running-config interface [name]	Displays current configuration.

2.2.2 Initializing and Deleting Interface

You can dynamically establish and delete logical interfaces. This also applies to the sub interface and channelized interface. Use the following command to initialize and delete interface in global configuration mode:

Command	Description
no interface [name]	Deletes virtual interface.

2.2.3 Shutting down and Enabling Interface

When an interface is shut down, all features of this interface are disabled, and also this interface is marked as unavailable interface in all monitor command displays. This information can be transmitted to other switches via dynamic routing protocol.

Use the following command to shutdown or enable an interface in the interface configuration mode:

Command	Description
shutdown	Shuts down an interface.
no shutdown	Enables an interface.

You can use the **show interface** command and the **show running-config** command to check whether an interface has been shut down. An interface that has been shut down is displayed as 'administratively down' in the **show interface** command display. For more details, please refer to the following example in 'Interface Shutdown Example'.

2.3 Configuring Logistical Interface

This section describes how to configure a logical interface. The contents are as follows:

- Configuring aggregation interface
- Configuring VLAN interface

2.3.1 Configuring Aggregation Interface

The inadequate bandwidth of a single Ethernet interface gives rise to the birth of the aggregation interface. It can bind several full-duplex interface with the same rate together, greatly improving the bandwidth.

Run the following command to define the aggregation interface:

Command	Description
Interface <i>pnumber</i>	Configures the aggregation interface

2.3.2 Configuring VLAN Interface

VLAN interface is the routing interface in switch. The VLAN command in global configuration mode only adds layer 2 VLAN to system without defining how to deal with the IP packet whose destination address is itself in the VLAN. If there is no VLAN interface, this kind of packets will be dropped.

Run the following command to define VLAN interface:

Command	Description
Interface <i>vlan</i> <i>number</i>	Configures VLAN interface.

Chapter 3 Interface Configuration Example

3.1 Configuring Public Attribute of Interface

3.1.1 Interface Description Example

The following example shows how to add description related to an interface. This description appears in the configuration file and interface command display.

```
interface vlan1
ip address 192.168.1.23 255.255.255.0
```

3.1.2 Interface Shutdown Example

The following example shows how to shut down the g0/0/1:

```
interface g0/0/1
shutdown
```

The following example shows how to enable the interface:

```
interface g0/0/1
no shutdown
```