CYGNUS
electronics

L2
GUIA CONFIGURACION CLI

About This Document

This product includes three documents as the table below.

Documents	Description	How to get it
Quick Installation Guide	Including product introductions and installation steps.	In the packing box or contact your dealer.
Web-based Configuration Guide	Including Web network management system configuration instructions.	Please contact your dealer.
CLI-based Configuration Guide	Including CLI-based configuration instructions	Please contact your dealer.

This document is **CLI-based Configuration Guide**, including CLI-based configuration instructions. It is intended for engineers or anyone who needs to configure the device by command line parameters.

The configuration instructions here take 8-Port BTPoE Gigabit + 2-Port SFP Managed Ethernet Switch (full ports 90W) as example. If there is inconsistency between the instruction (eg. port number, PoE function, etc.) and the actual product, please refer to the actual product.

Announcement

The information in this document is subject to change without notice.

The document is only used as operation guide, except for other promises. No warranties of any kind, either express or implied are made in relation to the description, information or suggestion or any other contents of the manual.

The images shown here are indicative only. If there is inconsistency between the image and the actual product, the actual product shall govern.

Command line conventions

The command line conventions that may be found in this document are defined as follows.

Convention	Description
Key word	The keywords of a command line are underlined in light blue, not in boldface.
parameters	Command arguments are underlined in dark, not in boldface.

Change History

Updates between document issues are cumulative. Therefore, the latest document issue contains all updates made in previous issues.

Version	State	Release Date	Description
V1.0	Released	2020-09-27	Initial commercial release.

Content

1 Login through the Console Port

To configure a device that is powered on for the first time, log in to the device through the console port.

A main control board provides a console port. To configure a device, connect the user terminal serial port to the device console port.

After the device is powered on for the first time, you can log in to it from a PC through the console port to configure and manage the device.

1.1 Pre-configuration Tasks

Before logging in to the device through the console port, complete the following tasks:

- Preparing the console cable
- Installing the terminal emulation software on the PC

> **Note:**
>
> Users can use the built-in terminal emulation software (such as the HyperTerminal of Windows 2000/XP) on the PC. If no built-in terminal emulation software is available, use the third-party terminal emulation software.

1.2 Configuration Procedure

Use the terminal emulation software to log in to the device through the console port, and complete the basic configuration for the device.

Default configuration

Data	Default value
Transfer rate	115200 bit/s
Flow control mode	Not support
Test mode	Not support
Stop bits	1
Data bits	8

Procedure

Use the terminal emulation software to log in to the device through the console port.

Insert the SUB-D9 connector of the console cable delivered with the product to the 9-pin serial port on the PC, and insert the RJ-45 connector to the console port of the device, as shown in the following figure.
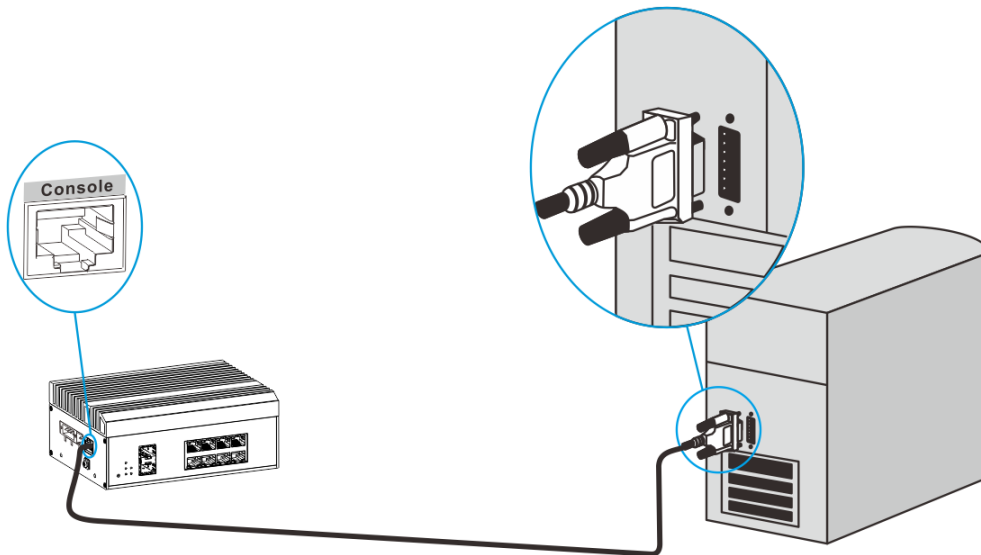
Start the HyperTerminal (Microsoft Windows) or Terminal (Mac OS), and create a connection, set the connection port and communication parameter.

Note:

There are several ports on the PC, the one to be connected here is the port connecting with Console cable. Normally select the port COM1.

If the communication parameter for the serial port of the device is changed, please set the communication parameter in the PC the same value, and reconnect.

Enter until the following information is displayed.

User Access Verification!

Username:

Enter the default user name and password.

Username: admin

Password: admin

1.2.1   Configuration Cable Connection

The way of cable connection and configuration of DIN rail switch is the same as that of rack type switch. Take DIN rail switch as an example here.

When the switch is configured through the terminal, the connection steps of calbe configuration are as follows.

·   Connect the SUB-D9 plug of the configured cable to the serial port of the PC to be configured for the switch.

·   Connect the RJ-45 end of the configuration cable to the console port of the switch.

2 CLI Overview

2.1   Command Line Interface

The command line interface (CLI) is an interactive interface between a user and a device. A user can enter commands on the CLI to configure and manage a device and view the output of commands to verify the configuration.

Users can configure a device by clicking options in the graphical user interface (GUI), and also can enter more abundant commands in the CLI. The CLI is as follows:

User Access Verification!

username: admin

password: admin

Input default username and password, login the CLI. Users can enter commands on the command line interface to configure and manage a device.

2.2   Entering Command Views

After successful login, enter "?" or "help" to enter the users view. The command lines under this mode are displayed as followed.

The device provides various configuration commands and query commands to manage and maintain products. To facilitate the use of these commands, they must be classified into groups. Command line interfaces (CLIs) are classified into several command line views. All commands must be executed in command line views. Before a command is executed, the command line view where the command resides is displayed. Command views apply to different configurations.

Following with the main command views list of the device.

Views	How to enter	Description
Users view	When a user logs in to the device, the user enters the user view.	In the user view, users can view the running status and statistics of the device.
Enable view	Enter users view. · Run: enable · Enter	In the enable view, users can look up and set the system parameters of the device, and enter other function views from this view.
Config view	Enter enable view. · Run: config · Enter	In the config view, users can set the global configuration of the device.
Interface view	Enter config view. · Run: interface type interface number · Enter	Users can configure interface parameters in the interface view. The interface parameters include physical attributes, link layer protocols, and IP addresses. Run the interface command and specify an interface type and number to enter an interface view.

Users can exit current command view by running "exit" command line.

Switch_config_g0/1# exit

Switch_config# exit

Switch# exit

Switch>

3 Checking the Configuration

After configuration, users can run the show command to check the configuration and running information on the device.

```
Switch_config# show ?
  clock                    -- current time
  flow_interval            -- The flow_interval
  history                  -- History command
  interface                -- Interface status and configuration
  ip                       -- IP Configuration information
  line                     -- TTY line information
  lldp                     -- Show the lldp information
  logging                  -- Show the contents of logging buffers
  loopback-status          -- show loopback port status
  mac                      -- MAC configuration
  running-config           -- Current configuration
  spanning-tree            -- Display spanning-tree state
  version                  -- Device version information
  vlan                     -- VLAN information
  svn_version              -- ring information
```

4   Port Setting

Interfaces of a device are used to exchange data and interact with other network devices. Interfaces are classified into management interface, physical interface, and logical interfaces as followed.

Interfaces	Description
Management interface	Management interfaces are used to log in to devices. Users can use management interfaces to configure and manage devices. Management interfaces do not transmit service data.
Physical interface	Physical interfaces exist on interface cards and transmit service data.
Logical interfaces	Logical interfaces are manually configured and do not physically exist. They can be used to exchange data and transmit service data.

4.1   Choose Port Range

Before configuring the port, first choose the port range that need to be configured.

Command	Interface type interface number
Parameter Descriptions	· interface type : interface type, including GigaEthernet -- interface · interface number: interface number, in the format as "0/port number", the value of port number value is the port number of the switch.

Procedure	· Enter interface view.
	      Run: Interface interface type interface number
	      Enter

Example	Switch> enable Switch# config Switch_config# interface gigaethernet 0/8 switch_config_g0/8#

4.2   Enable/disable the Port

The port is disable by default. Using the command line, users can enable the port.

·   Enable the interface

Command	no shutdown
Parameter Descriptions	Null

Procedure	· Enter interface view.
	      Run: Interface gigaEthernet 0/8
	      Enter
	· Run: no shutdown
	      Enter

Example	switch_config_g0/8# no shutdown switch_config_g0/8#

·   Disable the interface

Command	shutdown
Parameter	Null

Descriptions	

Procedure	· Enter interface view.
	      Run: <u>Interface gigaEthernet 0/8</u>
	      Enter
	 · Run: <u>shutdown</u>
	      Enter

Example	switch_config_g0/8# shutdown switch_config_g0/8#

4.3   Configure the port

·   Change port description

Command	<u>description</u> description
Parameter Descriptions	· <u>description</u>: The description of the port, supporting 31-string. No default value.

Procedure	· Enter interface view.
	      Run: <u>description</u> description
	      Enter

Example	switch_config_g0/8# description interface 8 switch_config_g0/8#

·   Configure port speed

Command	<u>speed</u> speed
Parameter Descriptions	· <u>speed</u>: the speed of the port, supporting 10M, 100M, 1000M and auto. The device speed is auto by default.

Procedure	· Enter interface view.
	      Run: <u>speed</u> <u>speed</u>
	      Enter.

Example	switch_config_g0/8# speed 1000 switch_config_g0/8#

·   Switch the port speed to auto

Command	<u>speed auto</u>
Parameter Descriptions	Null

Procedure	· Enter interface view.
	      Run: <u>speed auto</u>
	      Enter.

Example	switch_config_g0/8# speed auto switch_config_g0/8#

4.4   Configure Duplex Mode

The device is working in auto-duplex mode by default.

Using the command line, users can switch the mode by Auto, Full and Half.

Command	duplex auto duplex Full duplex Half
Parameter Descriptions	Null

Procedure	· Enter interface view.
	    Run: duplex auto
	    Enter

Example	switch_config_g0/8# duplex auto switch_config_g0/8# switch_config_g0/8# duplex full switch_config_g0/8# switch_config_g0/8# duplex half switch_config_g0/8#

4.5   Clear Interface Traffic Statistics

To monitor the status of an interface or locate faults on the interface, collect traffic statistics on the interface. Before collecting traffic statistics on an interface within a period, clear the existing traffic statistics on this interface.

Interface statistics cannot be restored after they are cleared. Please confirm your action before you perform the operations.

·   Clearing Interface Traffic Statistics

Command	clear counters
Parameter Descriptions	Null

Procedure	· Enter enable view.
	    Run: clear counters
	    Enter.

Example	Switch# clear counters Switch#

5 VLAN Configuration

5.1 Port-based VLAN Configuration

The VLAN technology enables a physical LAN to be divided into multiple broadcast domains, each of which is called a VLAN.

The Ethernet technology is used to share communication media and data based on the Carrier Sense Multiple Access/Collision Detection (CSMA/CD). If there are a large number of hosts on an Ethernet network, collision becomes a serious problem and can lead to broadcast storms. Switches can be used to connect LANs, preventing collision. However, broadcast packets cannot be isolated.

The VLAN technology divides a physical LAN into multiple broadcast domains, each of which is called a VLAN. Hosts within a VLAN can communicate with each other, while hosts in different VLANs cannot communicate with each other directly. Therefore, the broadcast packets are limited in each VLAN.

The switch supports port-based VLAN assignment function. Users in the same VLAN can communicate with each other.

· Choose the port range.

Command	Interface interface type interface number

Parameter Descriptions	· interface type : interface type, including
	   GigaEthernet -- GigaEthernet interface
	   TenGigaEthernet -- TenGigaEthernet interface
	· interface number: interface number, in the format as "0/port number", the value of port number value is the port number of the switch.

Procedure	· Enter interface view.
	   Run: interface gigaEthernet 0/port number
	   Or run: interface ten gigaEthernet 0/port number
	   Enter

Example	Switch_config# interface gigaEthernet 0/8 Switch_config_g0/8#

· Configure the port mode

Command	switchport mode mode

Parameter Descriptions	· mode : Switch port modes, including
	   1) access, Access mode
	   2) trunk, Trunk mode

Procedure	· Enter interface view.
	   Run: switchport mode mode
	   Enter

Example	Switch_config_g0/8# switchport mode trunk Switch_config_g0/8#

· Configure PVID

Command	switchport pvid VLAN ID
Parameter Descriptions	· VLAN ID: VLAN ID of the VLAN, ranges from 1~4094
Procedure	· Enter interface view. Run: switchport pvid VLAN ID

	Enter
Example	Switch_config_g0/8# switchport pvid 10 Switch_config_g0/8#

· Configure port vlan-allowed

Command 5	switchport trunk vlan-allowed VLAN ID
Parameter Descriptions	· VLAN ID: VLAN IDs such as (1,3,5,7) Or (1,3-5,7) Or (1-7)
Procedure	· Enter interface view. Run: switchport trunk vlan-allowed Enter
Example	Switch_config_g0/8# switchport trunk vlan-allowed 12 Switch_config_g0/8#

· Configure port vlan-untagged

Command 6	switchport trunk vlan-untagged VLAN ID
Parameter Descriptions	· VLAN ID: VLAN IDs such as (1,3,5,7) Or (1,3-5,7) Or (1-7)
Procedure	· Enter interface view. Run: switchport trunk vlan-untagged VLAN ID Enter
Example	Switch_config_g0/8# switchport trunk vlan-untagged 13 Switch_config_g0/8#

· Checking the configuration.

Command	show vlan interface interface type interface number
Example	Switch_config_g0/8# show vlan interface gigaEthernet 0/8 Interface VLAN Name Property PVID VLAN-allowed VLAN-untagged ------------------- -------- ---- ------------ ------------- GigaEthernet0/8 trunk 10 12 13 Switch_config_g0/8#

· Query VLAN information of the switch

Command	show vlan
Parameter Descriptions	Null
Procedure	· Enter config view Run: show vlan Enter
Example	Switch_config# show vlan VLAN Status Name Ports ---- ------- ----------------------------- ------------------------------ 1 Static Default G0/1 , G0/2 , G0/3 , G0/4 G0/5 , G0/6 , G0/7 , G0/8

			T0/1 , T0/2
2	Static	Default	G0/1 , G0/3 , G0/4
3	Static	Default	G0/2
12	Static	Default	G0/8

Switch_config#

5.2 GVRP

The switch supports to enable/disable GVRP function by command line.

· Enable GVRP

Command	gvrp
Parameter Descriptions	Null
Procedure	· Enter config view. Run: gvrp Enter
Example	Switch_config# gvrp Switch_config#

· Disable GVRP

Command	no gvrp
Parameter Descriptions	Null
Procedure	· Enter config view. Run: no gvrp Enter
Example	Switch_config# no gvrp Switch_config#

6 Congestion Management Configuration

After configuring congestion management, when there is congestion in the network, to process higher priority packet first, the device will decide the packet forwarding queue based on the setting scheduling policy.

The default scheduling policy is SP scheduling.

The switch supports the following scheduling policy.

· SP scheduling (Strict Priority)

· WRR scheduling (Weighted Round Robin)

· DRR scheduling (Deficit Round Robin)

· WFQ scheduling (Weighted Fair Queuing)

· WRED scheduling (Weighted Random Early Detection)

Following with the steps.

· Configuring scheduler policy

Command	scheduler policy sp
	scheduler policy wrr
	scheduler policy drr
	scheduler policy wfq
	scheduler policy wred
Parameter Descriptions	Null
Procedure	· Enter config view. · Run: scheduler policy sp Or scheduler policy wrr Or scheduler policy drr Or scheduler policy wfq Or scheduler policy wred Enter
Example	switch_config# scheduler policy wfq switch_config#

Checking the configuration.

Command	show running-config
Example	Switch_config# show running-config Building configuration. Current Configuration: ! !version 1.1.3a_M28_B4M_T1 ! username admin password 0 admin ! no spanning-tree ! scheduler policy wfq --More--

7 IP Address Configuration

The switch supports to configure the IP address of the switch, including IPv4 and IPv6.

· Configuring IPv4

Command	IP address IP address subnet mask
Parameter Descriptions	· IP address: the IP address of the Ethernet interface, no default value. · Subnet: the subnet mask of the IP address.

Procedure	· Enter config view.
	    Run: IP address IP address subnet mask
	    Enter

Example	Switch_config# ip address 192.168.1.222 255.255.255.0 Switch_config#

· Configuring IPv6

Command	ipv6 address IPv6 global address
Parameter Descriptions	IPv6 global address: ipv6 address, in the form of: X:X:X:X::X/<0-128>
Procedure	· Enter config view. · Run: Ipv6 address IP address subnet mask Enter
Example	Switch_config # ipv6 address 2000::1111/64 Switch_config #

Checking the configuration.

Command	show interface vlan

Example	Switch_config_v6# show interface vlan
	interface vlan 1
	  IP address 192.168.1.1 255.255.255.0
	
	interface vlan 2
	  IP address 192.168.2.1 255.255.255.0
	
	interface vlan 6
	  IP address 192.168.1.161 255.255.255.255
	  ipv6 address 2000::1111/64

8 IP Multicast Configuration Based-on VLAN

Internet Group Management Protocol Snooping (IGMP-Snooping) maintains information about the outgoing interfaces of multicast packets by snooping multicast protocol packets exchanged between the Layer 3 multicast device and user hosts. The IGMP-Snooping protocol manages and controls the forwarding of multicast packets at the data link layer.

The switch supports to enable/disable the function, and configure IGMP Snooping timer.

· Enable the IGMP Snooping function

Command	IP igmp-snooping
Parameter Descriptions	Null

Procedure	· Enter config view.
	   Run: IP igmp-snooping
	   Enter

Example	switch_config# IP igmp-snooping switch_config#

· Disable the IGMP Snooping function

Command	no IP igmp-snooping
Parameter Descriptions	Null

Procedure	· Enter config view.
	   Run: no IP igmp-snooping
	   Enter

Example	switch_config# no IP igmp-snooping switch_config#

· Enable the IGMP Snooping query function

Command	IP igmp-snooping querier
Parameter Descriptions	Null

Procedure	· Enter config view.
	   Run: igmp-snooping querier
	   Enter

Example	switch_config# IP igmp-snooping querier switch_config#

· Configuring query interval time

Command	IP igmp-snooping timer querier interval time
Parameter Descriptions	· interval time: Interval time ranges from 60~1000 in seconds

Procedure	· Enter config view.
	   Run: IP igmp-snooping timer querier interval time
	   Enter

Example	switch_config# IP igmp-snooping timer querier 60 switch_config#

· Configuring group members survival time

Command	IP igmp-snooping　timer　survival time
Parameter Descriptions	· survival time: Survival time ranges from 120~5000 in seconds.
Procedure	· Enter config view. Run: IP igmp-snooping　timer　survival time Enter
Example	switch_config# IP igmp-snooping　timer　survival 120 switch_config#

9 Port Security Configuration

9.1 MAC Table Configuration

A MAC address table records the MAC address, interface number, and VLAN ID of the device connected to the device.

Each device maintains a MAC address table. A MAC address table records the MAC address, interface number, and VLAN ID of the connected devices. When forwarding a data frame, the device searches the MAC table for the outbound interface according to the destination MAC address in the frame. This helps the device reduce broadcasting.

Categories of MAC Address Entries

The MAC address entry can be classified into the dynamic entry, the static entry and the blackhole entry.

The dynamic entry is created by learning the source MAC address. It has aging time.

The static entry is set by users and is delivered to each SIC. It does not age.

The blackhole entry is usaed to discard the frame with the specified source MAC address or destination MAC address. Users manually set the blackhole entries and send them to each SIC. Blackhole entries have no aging time.

The dynamic entry will be lost after the system is reset or the interface board is hot swapped or reset. The static entry and the blackhole entry, however, will not be lost.

The switch supports configuring:

· Aging time of MAC table

· Static MAC table

· Query MAC table

9.1.1 Configuring Aging Time of MAC Table

Using the command line, users can change the aging time of MAC table.

The default value is 300s.

Command	mac address-table aging-time aging time
Parameter Descriptions	· aging time: Aging time in seconds, ranges from 10-1000000.

Procedure	· Enter config view.
	   Run: mac address-table aging-time aging time
	   Enter

Example	switch_config# mac address-table aging-time 1000 switch_config#

Checking the configuration.

Command	show running-config
Example	Switch_config# show running-config Building configuration. Current Configuration: !version 1.1.3c_M28P_B4M_T0 ! hostname username admin password 0 admin ! no spanning-tree !

	spanning-tree rstp priority 4096 ! IP igmp-snooping IP igmp-snooping querier ! mac address-table aging-time 1000 --More--

9.1.2 Configuring Static MAC Table

Using the command lines, users can add and delete the MAC table.

No default value.

· Add the MAC table

Command	mac address-table static HH:HH:HH:HH:HH:HH vlan vlan id interface interface type interface number
Parameter Descriptions	· HH:HH:HH:HH:HH:HH: 48 bit mac address · VLAN id: VLAN id of mac address table, the value ranges from 1 to 4094. · interface type : interface type, including GigaEthernet -- GigaEthernet interface TenGigaEthernet -- TenGigaEthernet interface · interface number: interface number, in the format as "0/port number", the value of port number value is the port number of the switch.
Procedure	· Enter config view. Run: mac address-table static HH:HH:HH:HH:HH:HH vlan vlan id interface interface type interface number Enter
Example	switch_config# mac address-table static 00:00:00:00:00:06 vlan 1 interface gigaEthernet 0/8 switch_config#

Checking the configuration.

Command	show mac address-table static

Example	Switch_config# show mac address-table static
	  Interface VLAN ID Type MAC Address
	  ===
	  g0/8 1 Static 00:00:00:00:00:06
	Switch_config#

· Delete the MAC table

Command	no mac address-table static HH:HH:HH:HH:HH:HH vlan vlan id
Parameter Descriptions	· HH:HH:HH:HH:HH:HH: 48 bit mac address · VLAN id: VLAN id of mac address table, the value ranges from 1 to 4094.
Procedure	· Enter config view. Run: no mac address-table static HH:HH:HH:HH:HH:HH vlan vlan id Enter
Example	Switch_config# no mac address-table static 00:00:00:00:00:01 vlan 1 Switch_config#

Checking the configuration.

Command	no mac address-table static HH:HH:HH:HH:HH:HH vlan vlan id show mac address-table static
Example	Switch_config# show mac address-table static Interface VLAN ID Type MAC Address === g0/3 3 Static 00:00:00:00:00:03 g0/2 2 Static 00:00:00:00:00:02 g0/1 1 Static 00:00:00:00:00:01 Switch_config# no mac address-table static 00:00:00:00:00:01 vlan 1 Switch_config# show mac address-table static Interface VLAN ID Type MAC Address === g0/3 3 Static 00:00:00:00:00:03 g0/2 2 Static 00:00:00:00:00:02

9.1.3 Query MAC Table

Using the command line, users can query the MAC table.

No default value.

· Query all the MAC table, including dynamic and static MAC table

Command	show mac address-table
Parameter Descriptions	Null
Example	Switch_config# show mac address-table Interface VLAN ID Type MAC Address === g0/1 1 Dynamic 00:0b:82:c4:c3:22 g0/1 1 Dynamic 00:0c:29:f8:63:05 g0/1 1 Dynamic 40:8d:5c:3f:4d:ba g0/1 1 Dynamic c6:08:80:03:5e:b3 g0/1 1 Dynamic 00:e0:66:70:b7:0b g0/1 1 Dynamic 00:0b:82:c0:07:a7 g0/1 1 Dynamic 00:0b:82:c0:07:a9 g0/1 1 Dynamic 00:0b:82:c4:c2:f7 g0/1 1 Dynamic 00:0b:82:c0:07:a5 g0/1 1 Dynamic 00:0b:82:c0:07:ab g0/1 1 Dynamic 00:0b:82:c4:c3:24 g0/1 1 Dynamic 00:0b:82:c0:09:db g0/3 3 Static 00:00:00:00:00:03 g0/1 1 Dynamic 40:b0:34:22:76:6b g0/1 1 Dynamic 10:bf:48:b8:66:c5 g0/1 1 Dynamic 3c:f5:cc:26:c2:39 g0/1 1 Dynamic 00:0b:82:c0:07:ac g0/1 1 Dynamic 10:7b:44:80:8b:86 g0/1 1 Dynamic 4c:ed:fb:75:12:0d

g0/1	1	Dynamic	d4:ae:52:cc:d2:d9
g0/1	1	Dynamic	f8:32:e4:ba:ca:a9
g0/1	1	Dynamic	00:0b:82:dc:06:5a
--More--			

· Query a specific MAC address

Command	show mac address-table HH:HH:HH:HH:HH:HH
Parameter Descriptions	· HH:HH:HH:HH:HH:HH: 48 bit mac address
Example	Switch_config# show mac address-table 00:0b:82:c4:c3:22 Interface VLAN ID Type MAC Address == g0/1 1 Dynamic 00:0b:82:c4:c3:22

· Query dynamic MAC table

Command	show mac address-table dynamic
Parameter Descriptions	Null
Example	Switch_config# show mac address-table dynamic

Interface VLAN ID   Type   MAC Address
==

Interface	VLAN ID	Type	MAC Address
g0/1	1	Dynamic	00:0b:82:c4:c3:22
g0/1	1	Dynamic	00:0c:29:f8:63:05
g0/1	1	Dynamic	40:8d:5c:3f:4d:ba
g0/1	1	Dynamic	c6:08:80:03:5e:b3
g0/1	1	Dynamic	00:e0:66:70:b7:0b
g0/1	1	Dynamic	00:0b:82:c0:07:a7
g0/1	1	Dynamic	00:0b:82:c0:07:a9
g0/1	1	Dynamic	00:0b:82:c4:c2:f7
g0/1	1	Dynamic	00:0b:82:c0:07:a5
g0/1	1	Dynamic	00:0b:82:c0:07:ab
g0/1	1	Dynamic	00:0b:82:c4:c3:24
g0/1	1	Dynamic	00:0b:82:c0:09:db
g0/1	1	Dynamic	40:b0:34:22:76:6b
g0/1	1	Dynamic	3c:f5:cc:26:c2:39
g0/1	1	Dynamic	00:0b:82:c0:07:ac
g0/1	1	Dynamic	10:7b:44:80:8b:86
g0/1	1	Dynamic	4c:ed:fb:75:12:0d
g0/1	1	Dynamic	d4:ae:52:cc:d2:d9
g0/1	1	Dynamic	f8:32:e4:ba:ca:a9
g0/1	1	Dynamic	00:0b:82:dc:06:5a
g0/1	1	Dynamic	40:8d:5c:8e:1d:2d
g0/1	1	Dynamic	3c:f5:cc:26:c2:03

· Query static MAC table

Command	show mac address-table static
Parameter	Null

Descriptions	

Example	Switch_config# show mac address-table static
	  Interface VLAN ID Type MAC Address
	===
	  g0/3 3 Static 00:00:00:00:00:03

· Query MAC table interface

Command	show mac address-table interface interface type interface number

Parameter Descriptions	· interface type : interface type, including
	  GigaEthernet -- GigaEthernet interface
	  TenGigaEthernet -- TenGigaEthernet interface
	· interface number: interface number, in the format as "0/port number", the value of port number value is the port number of the switch.

Example	Switch_config# show mac address-table interface gigaEthernet 0/3
	  Interface VLAN ID Type MAC Address
	===
	  g0/3 3 Static 00:00:00:00:00:03
	Switch_config#

· Query MAC table in the VLAN

Command	show mac address-table vlan VLAN ID
Parameter Descriptions	· VLAN ID: VLAN ID, ranges from 1~4094

Example	Switch_config# show mac address-table vlan 1
	  Interface VLAN ID Type MAC Address
	===
	  g0/1 1 Dynamic 00:0b:82:c4:c3:22
	  g0/1 1 Dynamic 00:0c:29:f8:63:05
	  g0/1 1 Dynamic 40:8d:5c:3f:4d:ba
	  g0/1 1 Dynamic c6:08:80:03:5e:b3
	  g0/1 1 Dynamic 00:e0:66:70:b7:0b
	  g0/1 1 Dynamic 00:0b:82:c0:07:a7
	  g0/1 1 Dynamic 00:0b:82:c0:07:a9
	  g0/1 1 Dynamic 00:0b:82:c4:c2:f7
	  g0/1 1 Dynamic 00:0b:82:c0:07:a5
	  g0/1 1 Dynamic 00:0b:82:c0:07:ab
	  g0/1 1 Dynamic 00:0b:82:c4:c3:24
	  g0/1 1 Dynamic 00:0b:82:c0:09:db
	  g0/1 1 Dynamic 40:b0:34:22:76:6b
	  g0/1 1 Dynamic 3c:f5:cc:26:c2:39
	  g0/1 1 Dynamic 00:0b:82:c0:07:ac
	  g0/1 1 Dynamic 10:7b:44:80:8b:86
	  g0/1 1 Dynamic 4c:ed:fb:75:12:0d
	  g0/1 1 Dynamic d4:ae:52:cc:d2:d9
	  g0/1 1 Dynamic f8:32:e4:ba:ca:a9
	  g0/1 1 Dynamic 00:0b:82:dc:06:5a
	  g0/1 1 Dynamic 40:8d:5c:8e:1d:2d

	g0/1	1	Dynamic	3c:f5:cc:26:c2:03
	--More--			

10 System Management

10.1.1 Restore the System

The switch supports to restore the system remotely.

Command	delete
Parameter Descriptions	Null
Procedure	· Enter enable view. · Run: delete Enter
Example	Switch# delete Are you sure to reset factory default(y/n)? Switch# delete Are you sure to reset factory default(y/n)? Commit succeed, if you want to enable the configuration, will reboot! Switch# umount: can't remount ramfs read-only umount: devtmpfs busy - remounted read-only swapoff: /etc/fstab: No such file or directory The system is going down NOW! Sent SIGTERM to all processes Sent SIGKILL to all processes Requesting system reboot Monitor version 1.06c is Booting. Hit ctrl+c to stop autoboot: 0 .... Switch con0 is now available Press Return to get started.

10.1.2 Reboot the System

The switch supports to reboot the system remotely.

Command	reboot
Parameter Descriptions	Null
Procedure	· Enter enable view. · Run: reboot Enter
Example	Switch# reboot Do you want to reboot the Switch(y/n)? Switch# umount: can't remount ramfs read-only umount: devtmpfs busy - remounted read-only swapoff: /etc/fstab: No such file or directory The system is going down NOW! Sent SIGTERM to all processes

	Sent SIGKILL to all processes
	Requesting system reboot
	Restarting system.
	Monitor version 1.06c is Booting.
	Hit ctrl+c to stop autoboot: 0
	....
	....
	....
	Switch con0 is now available
	Press Return to get started.

10.2 User Setting

The switch manages users at levels. User levels are marked by numbers from 1 to 15, in ascending order. The access privilege of user is determined by the level of this user.

Command	username user name privilege privilege level password password
Parameter Descriptions	· user name: user name, the length should be less than 16. · privilege level: privilege level, the value ranges from 1 to 15. · password: password, the length should be less than 16.
Procedure	· Enter config view. · Run: username user name privilege privilege level password password Enter
Example	Switch_config# username admin123 privilege 15 password 123456789 Switch_config#

10.3 LLDP Configuration

Based on Layer 2 information obtained using LLDP, the NMS can quickly detect configuration conflicts between devices and locate network faults. Users can use the NMS to monitor link status of LLDP-enabled devices and quickly locate faults on the network.

The function is on by default, and the default hold time is 120s.

· Enable/disable LLDP function

Command	lldp enable
Parameter Descriptions	Null
Command	no lldp enable
Parameter Descriptions	Null

· Configuring LLDP timer

a) Hold time

The time that the receiver must keep the packet.

Command	lldp holdtime hold time
Parameter Descriptions	· hold time: ranges from 0 to 65535s.
Procedure	· Enter config view.

	· Run: lldp enable
	   Enter
	· Run: lldp holdtime hold time
	   Enter

Example	switch_config# lldp enable switch_config# lldp holdtime 160 switch_config#

b) Interval time

When the LLDP status of the device keeps unchanged or the device does not discover new neighbors, the device sends LLDP packets to the neighbors at a certain interval.

Command	lldp timer interval time
Parameter Descriptions	· interval time: ranges from 0 to 65535s.

Procedure	· Enter config view.
	   Run: lldp enable
	   Enter
	· Run: lldp timer interval time
	   Enter

Example	switch_config# lldp enable switch_config# lldp timer 200 switch_config#