LCOS SX 4.30

CLI Reference

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LANCOM SYSTEMS

Contents

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1 Introduction

LCOS SX is the operating system for the LANCOM switches and is part of the LANCOM operating systems family.

The LANCOM operating systems are the trusted basis for the entire LANCOM product portfolio. Each operating system embodies the LANCOM values of **security**, **reliability**, and **future viability**.

- **Maximum security for your networks**

  as each LANCOM operating system is carefully maintained and developed in-house and with the accustomed quality. They are all guaranteed backdoor-free.

- **Reliability of the highest order**

  as they receive regular Release Updates, Security Updates, and Major Releases over their entire product lifetime.

- **Future viability for your networks**

  according to the LANCOM Lifecycle Policy, i. e. they are free of charge for all LANCOM products and come with major new features.

2 Operation of CLI Management

Initial Configuration

This chapter instructs you how to configure and manage the switch through the CLI interface. With this facility, you can easily access and monitor via the switch´s console port its status, including MIBs status, each port activity, spanning tree status, port aggregation status, multicast traffic, VLAN and priority status, even illegal access record and so on.

The serial port's configuration requirements are as follows:

- Default Baud rate: 115,200 bps
- Character Size: 8 Characters
- Parity: None
- Stop bit: One
- Data bits: 8
- Flow control: none

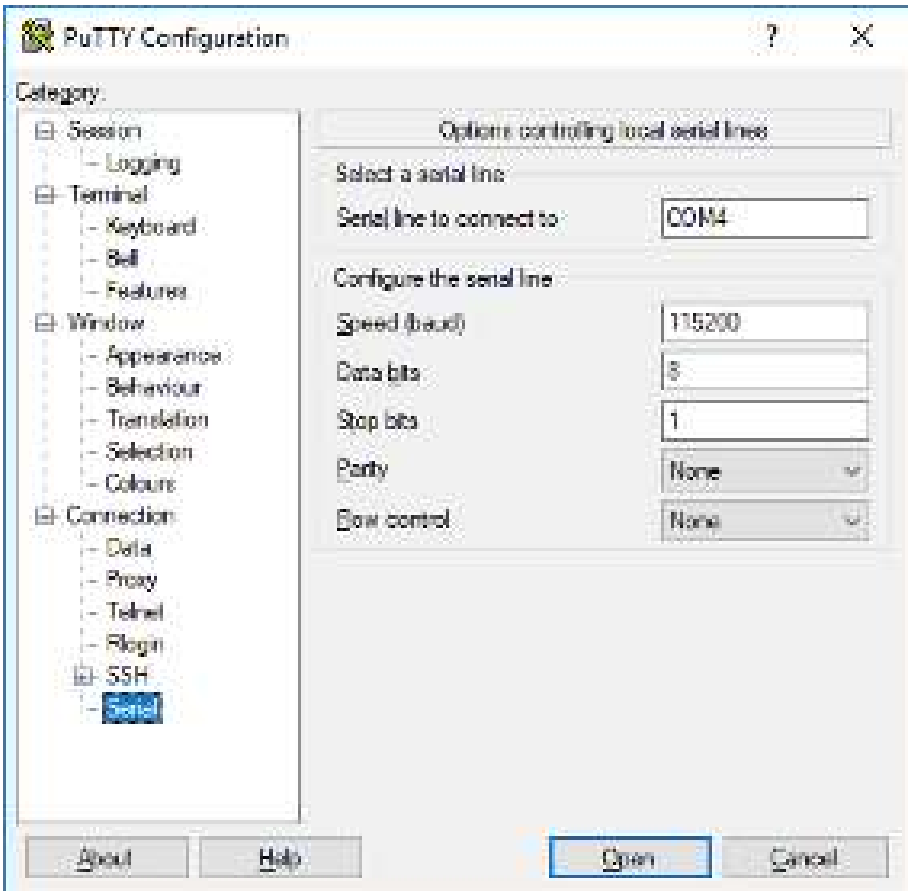

Figure 1: Console configuration

Connecting to the console port

The serial port (RJ45/Console) on the switch's front panel is used to connect to the switch for out-of-band console configuration. You can use the cable (RJ45 to serial) delivered with the switch to connect to a serial port in your PC. Alternatively use a serial to USB adapter.

The command-line-driven configuration program can be accessed from a terminal or a PC running a terminal emulation program.

After the switch has been connected to the PC, you can access it via the console port. For instance, it will show the following screen and ask you to input username and password in order to log.

The default username is `admin`. The default password is empty. For the first time to use, please enter the default username and for the password just press the Enter button. The login process is now completed.

Assign your administrator account a password! You can do this with the command `username` in configuration mode.

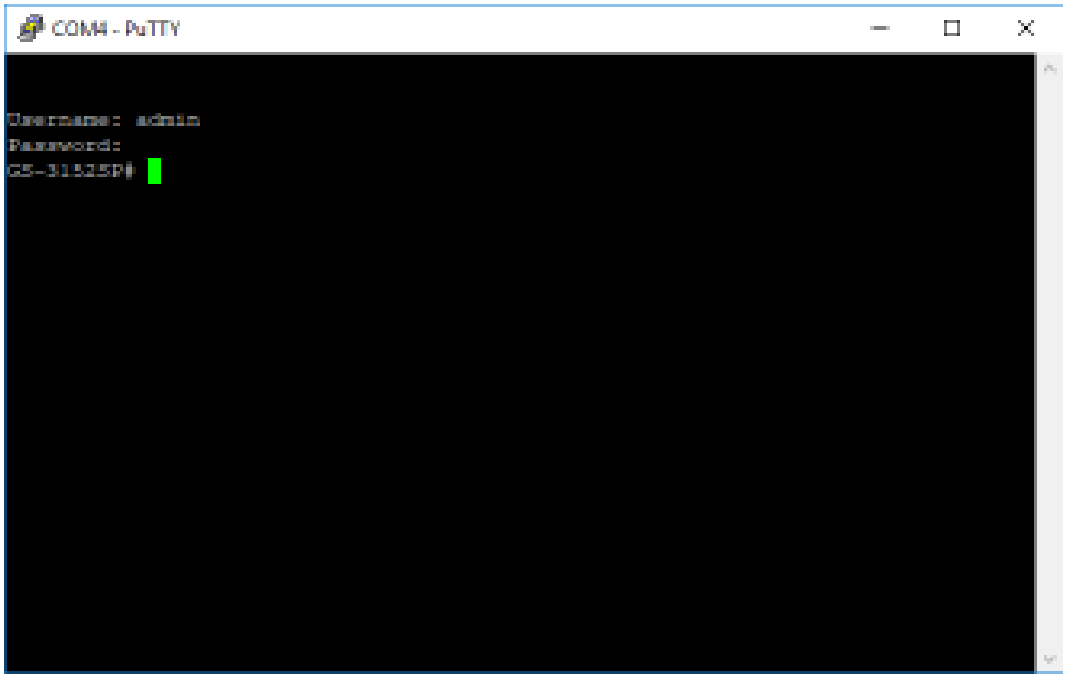

Figure 2: Console configuration

Typing `help` will give you a description of the interactive help system. It uses the `?` to give you help. Typing `?` will give you an overview of the possible commands. Typing a command followed by the `?` will give you all possible arguments of the command.

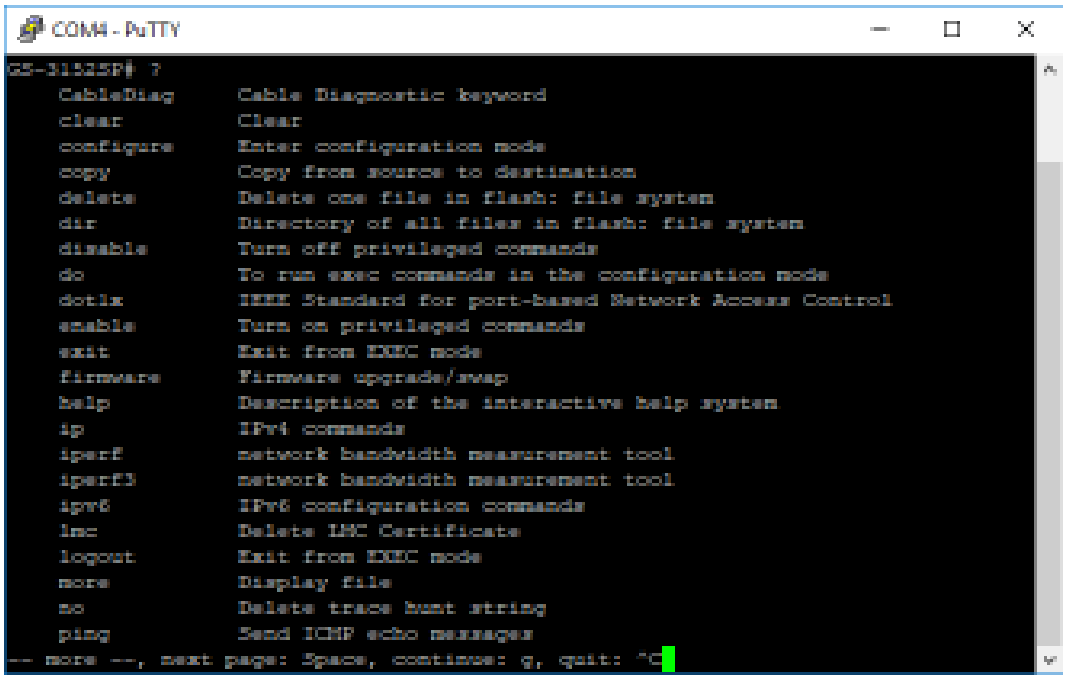

Figure 3: Console configuration

Connecting via SSH using PuTTY

The connection to the switch can also be established via SSH connection using tools like PuTTY:

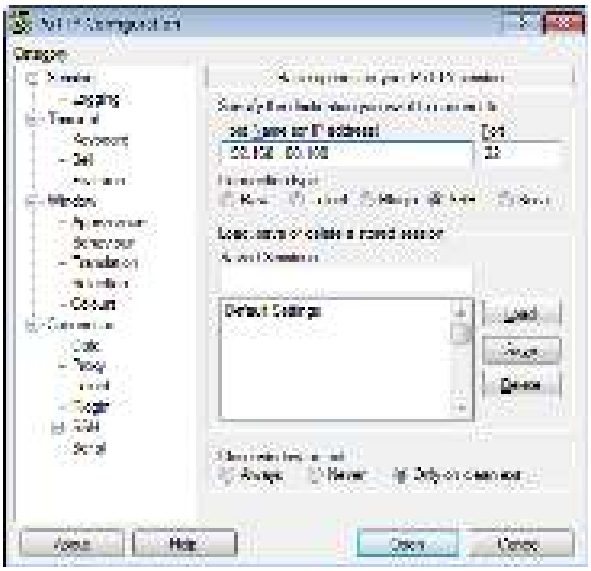

Figure 4: PuTTY configuration

If your switch already has an IP address you would see it in LANconfig and could open the context menu. Click on **Console Session** > **Open SSH Session**.

3 CLI Command Modes

The switch´s commands work in several command modes. Each command mode supports specific CLI commands. For example, the `interface` command only works when entered in global configuration mode.

At the prompt you can see the current command mode and level of access. The command modes are organized as a tree, and users are initially in privileged exec mode. Some of the modes have submodes. To leave the current mode and go back to the previous mode you can always use the `exit` command.

Table 1: Command Modes Summary

Mode	Access mode	Prompt
Exec (User)	To enter user exec mode, enter the `disable` command from privileged exec mode.	<Switch>>
Exec (Privileged)	To enter privileged exec mode, enter the `enable` command from user exec mode or `exit` from configuration mode.	<Switch>#
Configuration	From privileged exec mode, enter the `configure` command.	<Switch>(config)#
Interface configuration	From global configuration mode, specify an interface by entering the `interface` command followed by a port identification.	<Switch>(config-if)#
Local link aggregation interface configuration	From global configuration mode, specify an interface by entering the `interface llag` command followed by a LLAG ID.	<Switch>(config-llag)#
Static VLAN configuration	From global configuration mode, specify a VLAN by entering the `interface vlan` command followed by a VLAN interface number.	<Switch>(config-if-vlan)#
Terminal line configuration	From global configuration mode, specify a terminal line by entering the `line` command followed by appropriate parameters.	<Switch>(config-line)#
IPMC profile configuration	From global configuration mode.	<Switch>(config-ipmc-profile)#
SNMP Server Host configuration	From global configuration mode, specify a SNMP server by entering the `snmp-server host` command followed by the name of a host configuration.	<Switch>(config-snmps-host)#
Spanning tree aggregation mode	From global configuration mode, enter the `spanning-tree aggregation` command.	<Switch>(config-stp-aggr)#

Exec (User) commands

The commands available at the user level are a subset of those available at the privileged level. In general, use the user exec commands to temporarily change terminal settings, perform basic tests, and list system information.

The user exec mode prompt is the device name followed by the greater sign (>).

Exec (Privileged) commands

Because many of the privileged commands configure operating parameters, privileged access should be password-protected to prevent unauthorized use. The privileged command set includes those commands contained in user exec mode, as well as the `configure` command through which you access the remaining command modes.

If your system administrator has set a password, you are prompted to enter it before being granted access to privileged EXEC mode. The password does not appear on the screen and is case sensitive.

The privileged exec mode prompt is the device name followed by the pound sign (#).

Configuration mode commands

Configuration commands apply to features that affect the device as a whole. Use the **configure** command in privileged exec mode to enter configuration mode.

The supported commands can vary depending on the version of software in use. To display a comprehensive list of commands, enter a question mark (?) at the prompt.

```
<Switch>(config)# ?
```

Interface configuration mode commands

Interface configuration commands modify the operation of the interface. Interface configuration commands always follow a global configuration command, which defines the interface type.

Static VLAN configuration mode commands

Use this mode to configure normal-range VLANs (VLAN IDs 1 to 1005) or, when VTP mode is transparent, to configure extended-range VLANs (VLAN IDs 1006 to 4094). When VTP mode is transparent, the VLAN and VTP configuration is saved in the running configuration file, and you can save it to the switch startup configuration file by using the privileged exec command `copy running-config startup-config`. The configurations of VLAN IDs 1 to 1005 are saved in the VLAN database if VTP is in transparent or server mode. The extended-range VLAN configurations are not saved in the VLAN database.

For extended-range VLANs, all characteristics except the MTU size must remain at the default setting.

Terminal line configuration mode commands

Terminal line configuration commands modify the operation of a terminal line. They always follow a line command, which defines a terminal line number. Use these commands to change terminal parameter settings line-by-line or for a range of lines.

4 Global commands

Global commands in privileged execution mode. The prompt of the command line is shown as `<sys_name>#`

Command	Function
CableDiag	Perform cable diagnostics.
clear	Reset functions, see *Clear commands* on page 16.
configure	Enter configuration mode, see *Configuration mode commands* on page 101.
copy	Copy from source to destination.
delete	Delete one file in flash: file system.
dir	Directory of all files in flash: file system.
disable	Turn off privileged commands.
do	To run exec commands in the configuration mode.
dot1x	IEEE Standard for port-based Network Access Control.
enable	Turn on privileged commands.
exit	Exit from EXEC mode
firmware	Firmware upgrade/swap.
help	Description of the interactive help system.
ip	IPv4 commands.
ipv6	IPv6 commands.
lmc	Delete the certificate used for the connection to the LANCOM Management Cloud (LMC).
logout	Exit from EXEC mode
more	Display file.
no	Delete trace hunt string.
ping	Send ICMP echo messages.
reload	Reload system.
send	Send a message to other tty lines.
show	Show command, see *Show commands* on page 39.
startlmc	Connect to LANCOM Management Cloud (LMC).
terminal	Set terminal line parameters.
trace	Toggle LMC tracing.
traceroute	The traceroute command is used to discover the routes that packets actually take when traveling to their destination.

4.1 *CableDiag*

Perform cable diagnostics.

Syntax:

```
CableDiag interface GigabitEthernet <port_type_id>
```

Parameter:

interface

Interface keyword

GigabitEthernet

1 Gigabit Ethernet Port

<port_type_id>

Port ID in 1/<Port ID>

Example:

```
<sys_name># CableDiag interface GigabitEthernet 1/2
Starting Cable Diagnostic - Please wait
Interface               Link Status    Test Result    Length
----------------------  -------------  -------------  -------------
GigabitEthernet 1/2     Link Down      detect error or check cable length is between 7-120
meters
<sys_name>#
```

4.2 Clear commands

Clear commands in privileged execution mode. The prompt of the command line is shown as `<sys_name>#`

Command	Function
access	Clear statistics of access management.
access-list	Clear traffic statistics of an access list entry.
dot1x	Clear the statistics counters of the IEEE Standard for port-based Network Access Control.
ip	Clear Interface Internet Protocol configuration commands.
ipv6	Clear IPv6 configuration commands.
lacp	Clear LACP statistics.
link-oam	Clear Link OAM statistics.
lldp	Clear LLDP statistics.
logging	Clear system logging messages.
mac	Clear MAC address table.
mvr	Clear Multicast VLAN Registration statistics.
port-security	Clear port security.
sflow	Clear statistics flow.
spanning-tree	Clear STP bridge detected protocols or interface statistics.
statistics	Clear statistics for one or more given interfaces.
system	Clear system LED status.

4.2.1 *access*

Clear statistics of access management.

Syntax:

```
clear access management statistics
```

Parameter:

management

Access management configuration

statistics

Statistics data.

Example:

```
<sys_name># clear access management statistics
<sys_name>#
```

4.2.2 *access-list*

Clear traffic statistics of an access list entry.

Syntax:

```
clear access-list ace statistics
```

Parameter:

ace

Access list entry

statistics

Traffic statistics

Example:

```
<sys_name># clear access-list ace statistics
<sys_name>#
```

4.2.3 *dot1x*

Clear the statistics counters of the IEEE Standard for port-based Network Access Control.

Syntax:

```
clear dot1x statistics
```

```
clear dot1x statistics interface { [ * ] | GigabitEthernet | 10GigabitEthernet } <port_type_list>
```

Parameter:

statistics

Clears the statistics counters

interface

Interface

*****

All switches or all ports

GigabitEthernet

1 Gigabit Ethernet port

10GigabitEthernet

10 Gigabit Ethernet port

<port_type_list>

Port list for all port types or <Port list or ID>

Example:

```
<sys_name># clear dot1x statistics interface GigabitEthernet 1/1-48
<sys_name>#
```

4.2.4 *ip*

Clear Interface Internet Protocol configuration commands.

Syntax:

```
clear ip acd [ | ( begin | exclude | include ) <line> ]
clear ip arp
clear ip dhcp detailed statistics { server | client | snooping | relay | helper | all }
 [ interface { [ * ] | GigabitEthernet | 10GigabitEthernet } <port_type_list>]
clear ip dhcp relay statistics
clear ip dhcp server binding <ipv4_ucast>
clear ip dhcp server binding type [ automatic | manual | expired ]
clear ip dhcp server statistics
clear ip dhcp snooping statistics [ interface { [ * ] | GigabitEthernet |
 10GigabitEthernet } <port_type_list> ]
clear ip igmp snooping statistics
clear ip igmp snooping vlan <vlan_list> statistics
clear ip ospf process
clear ip statistics
```

Parameter:

acd

Address Conflict Detection

arp

Clear ARP cache

dhcp

Dynamic Host Configuration Protocol

igmp

Internet Group Management Protocol

ospf
Open Shortest Path First (OSPF)

statistics
Traffic statistics

|
Output modifiers

begin
Begin with the line that matches

exclude
Exclude lines that match

include
Include lines that match

<line>
String to match output lines

detailed
Detailed statistics

relay
DHCP relay agent configuration

server
Miscellaneous DHCP server information

snooping
DHCP snooping

all
Clear all DHCP related statistics

client
DHCP client

helper
DHCP normal L2 or L3 forward

relay
DHCP relay

server
DHCP server

interface
Select an interface to configure

<port_type_list>
Port list for all port types or <Port list or ID>

binding
Clear DHCP binding

statistics
DHCP server statistics

<ipv4_ucast>

IP address of the binding

type

Type of bindings to clear

automatic

Clear (expire) automatic bindings

expired

Clear (remove) expired bindings

manual

Clear (expire) manual bindings

snooping

Snooping IGMP

statistics

Running IGMP snooping counters

vlan

Search by VLAN

<vlan_list>

VLAN identifier (VID)

process

OSPF routing process

Example:

```
<sys_name># clear ip arp
<sys_name>#
```

4.2.5 *ipv6*

Clear IPv6 configuration commands.

Syntax:

```
clear ipv6 mld snooping [ vlan <v_vlan_list> ] statistics
clear ipv6 neighbors
clear ipv6 statistics
```

Parameter:

mld

Multicasat Listener Discovery

neighbors

Ipv6 neighbors

statistics

Traffic statistics

snooping

Snooping MLD

vlan

Ipv6 interface traffic

<vlan_list>

VLAN identifier (VID)

statistics

Running MLD snooping counters

Example:

```
<sys_name># clear ipv6 mld snooping vlan 3 statistics
<sys_name># clear ipv6 neighbors
<sys_name># clear ipv6 statistics
```

4.2.6 *lacp*

Clear LACP statistics.

Syntax:

```
clear lacp statistics
```

Parameter:

statistics

Clear all LACP statistics

Example:

```
<sys_name># clear lacp statistics
<sys_name>#
```

4.2.7 *lldp*

Clear LLDP statistics.

Syntax:

```
clear lldp statistics
clear lldp statistics | [begin | exclude | include] <line>
clear lldp statistics global
clear lldp statistics global | [begin | exclude | include] <line>
clear lldp interface *
clear lldp interface * | [begin | exclude | include] <line>
clear lldp interface * <port_type_list>
clear lldp interface ( GigabitEthernet ) <port_type_list>
```

Parameter:

statistics

Clear LLDP statistics

|

Output modifiers

global

Clear global counters

interface

Interface keyword

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

*****

All switches or all ports

GigabitEthernet

1 Gigabit Ethernet Port

<port_type_list>

Port list for all port types or <Port list or ID>

Example:

```
<sys_name># clear lldp statistics interface *
<sys_name>#
```

4.2.8 *logging*

Clear system logging messages.

Syntax:

```
clear logging
clear logging [ error ] [ informational ] [ notice ] [ warning ]
```

Parameter:

error

Severity 3: Error conditions

informational

Severity 6: Informational messages

notice

Severity 5: Normal but significant condition

warning

Severity 4: Warning conditions

Example:

```
<sys_name># clear logging informational error warning
<sys_name>#
```

4.2.9 *mac*

Clear MAC address table.

Syntax:

```
clear mac address-table
```

Parameter:

address-table

Clear MAC address table

Example:

```
<sys_name># clear mac address-table
<sys_name>#
```

4.2.10 *mvr*

Clear Multicast VLAN Registration statistics.

Syntax:

```
clear mvr name <word16> statistics
clear mvr statistics
clear mvr vlan <vlan_list> statistics
```

Parameter:

name

MVR multicast name

statistics

Running MVR protocol counters

vlan

MVR multicast vlan

<word16>

MVR multicast VLAN name

<vlan_list>

MVR multicast VLAN list

Example:

```
<sys_name># clear mvr vlan 25 statistics
<sys_name>#
```

4.2.11 *port-security*

Clear port security.

Syntax:

```
clear port-security dynamic
clear port-security dynamic address <mac_addr>
clear port-security dynamic address <mac_addr> vlan <vlan_id>
clear port-security dynamic interface *
clear port-security dynamic interface * [ <port_type_list> | vlan <vlan_id>]
clear port-security dynamic interface ( GigabitEthernet ) <port_type_list>
clear port-security dynamic vlan <vlan_id>
```

Parameter:

dynamic

Dynamic entries

address

Clear a specific (VLAN, MAC) tuple

interface

Port interface

vlan

Delete all MAC addresses on a given VLAN

<mac_addr>

vlan

VLAN keyword

<vlan_id>

VLAN on which to clear all MAC addresses

*****

All switches or all ports

GigabitEthernet

1 Gigabit Ethernet port

<port_type_list>

Port list for all port types or <Port list or ID>

<vlan_id>

VLANs on interface to clear all MAC addresses for

Example:

```
<sys_name># clear port-security dynamic vlan 1
<sys_name>#
```

4.2.12 *sflow*

Clear statistics flow.

Syntax:

```
clear sflow statistics receiver
clear sflow statistics samplers
clear sflow statistics samplers interface *
clear sflow statistics samplers interface * <port_type_list>
clear sflow statistics statistics samplers interface ( GigabitEthernet ) <port_type_list>
```

Parameter:

statistics

sflow statistics

receiver

Clear statistics for receiver

samplers

Clear statistics for samplers

interface

Clear statistics for a specific interface or interfaces

*****

All switches or all ports

GigabitEthernet

1 Gigabit Ethernet port

<port_type_list>

Port list for all port types or <Port list or ID>

Example:

```
<sys_name># clear sflow statistics interface GigabitEthernet 1/1-48
<sys_name>#
```

4.2.13 *spanning-tree*

Clear STP bridge detected protocols or statistics.

Syntax:

```
clear spanning-tree detected-protocols
clear spanning-tree detected-protocols interface *
clear spanning-tree detected-protocols interface * <port_type_list>
clear spanning-tree detected-protocols ( GigabitEthernet ) <port_type_list>
clear spanning-tree statistics
clear spanning-tree statistics interface *
clear spanning-tree statistics interface * <port_type_list>
clear spanning-tree statistics interface ( GigabitEthernet ) <port_type_list>
```

Parameter:

detected-protocols

Set the STP migration check

statistics

STP statistic

interface

Choose port

*****

All switches or all ports

GigabitEthernet

1 Gigabit Ethernet port

<port_type_list>

Port list for all port types or <Port list or ID>

Example:

```
<sys_name># clear spanning-tree detected-protocols interface *
<sys_name>#
```

4.2.14 *statistics*

Clear statistics for one or more given interfaces.

Syntax:

```
clear statistics *
clear statistics * <port_type_list>
clear statistics ( GigabitEthernet ) <port_type_list>
clear statistics interface *
clear statistics interface * <port_type_list>
clear statistics interface ( GigabitEthernet ) <port_type_list>
```

Parameter:

interface

Interface

*****

All switches or all ports

GigabitEthernet

1 Gigabit Ethernet port

<port_type_list>

Port list for all port types or <Port list or ID>

Example:

```
<sys_name># clear statistics GigabitEthernet 1/1-48
<sys_name>#
```

4.2.15 *system*

Clear system LED status.

Syntax:

```
clear system led status ( all | fatal | software )
clear system led status ( all | fatal | software ) (| ( begin | exclude | include ) <line>)
```

Parameter:

led

LED

status

Status

all

Clear all error status of the system LED and back to normal indication

fatal

Clear fatal error status of the system LED

software

Clear generic software error status of the system LED

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

Example:

```
<sys_name># clear system led status software
<sys_name>#
```

4.3 *configure*

Using this command you can enter the configuration mode.

Syntax:

```
configure terminal
```

Parameter:

terminal

Configure from the terminal

Example:

```
<sys_name># configure terminal
<sys_name>(config)#
```

4.4 *copy*

Copy from source to destination.

Syntax:

```
copy running-config [ startup-config | <url_file> ]
copy startup-config [ running-config | <url_file> ]
copy <url_file> [ startup-config | running-config ]
copy running-config [ startup-config | <url_file> ] syntax-check
copy startup-config [ running-config | <url_file> ] syntax-check
copy <url_file> [ startup-config | running-config ] syntax-check
copy running-config [ startup-config | <url_file> ] syntax-check | { [ begin | exclude |
 include ] <line> }
copy startup-config [ running-config | <url_file> ] syntax-check | { [ begin | exclude |
 include ] <line> }
copy <url_file> [ startup-config | running-config ] syntax-check | { [ begin | exclude |
 include ] <line> }
copy running-config [ startup-config | <url_file> ] | { [ begin | exclude | include]
 <line> }
copy startup-config [ running-config | <url_file> ] | { [ begin | exclude | include]
 <line> }
copy <url_file> [ startup-config | running-config ] | { [ begin | exclude | include]
 <line> }
```

Parameter:

running-config

Current running configuration

startup-config

Startup configuration

<url_file>

File in FLASH or on TFTP server. Syntax: <flash:filename | tftp://server/path-and-filename>. A valid file name is a text string drawn from alphabet (A-Za-z), digits (0-9), dot (.), hyphen (-), under score (_). The maximum length is 63 and hyphen must not be first character. The file name content that only contains '.' is not allowed.

|

Output modifiers

syntax-check

Perform syntax check on source configuration

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

Example:

```
<sys_name># copy startup-config running-config
<sys_name>#
```

4.5 *delete*

Delete one file in flash: file system.

Syntax:

```
delete <url_file>
```

Parameter:

<url_file>

File in FLASH or on TFTP server. Syntax: <flash:filename | tftp://server/path-and-filename>. A valid file name is a text string drawn from alphabet (A-Za-z), digits (0-9), dot (.), hyphen (-), under score (_). The maximum length is 63 and hyphen must not be first character. The file name content that only contains '.' is not allowed.

Example:

```
<sys_name># delete text
<sys_name>#
```

4.6 *dir*

Directory of all files in flash: file system.

Syntax:

```
dir | [ begin | exclude | include] <line>
```

Parameter:

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

Example:

```
<sys_name># dir
Directory of flash:
r- 2018-07-13 09:27:54      650 default-config
rw 1970-01-01 00:30:38    10466 startup-config
2 files, 11116 bytes total.

Flash size: 3284992 bytes (3.1 MiB)
Flash free: 3239936 bytes (3.1 MiB)
<sys_name>#
```

4.7 *disable*

Turn off privileged commands.

Syntax:

```
disable
disable <0-15>
```

Parameter:

<0-15>

Privilege level

Example:

```
<sys_name># disable 1
<sys_name>#
```

4.8 *do*

To run other exec commands.

Syntax:

```
do <LINE>{[LINE]}
```

Parameter:

LINE

Exec Command

Example:

```
<sys_name># do show clock
System Time     : 2011-01-01T00:03:44+00:00
<sys_name>#
```

4.9 *dot1x*

IEEE Standard for port-based Network Access Control.

Syntax:

```
dot1x initialize
dot1x initialize interface *
dot1x initialize interface * <port_type_list>
dot1x initialize interface GigabitEthernet <port_type_list>
```

Parameter:

initialize

Force re-authentication immediately

interface

Interface

*****

All switches or all ports

GigabitEthernet

1 Gigabit Ethernet Port

<port_type_list>

Port list for all port types or <Port list or ID>

Example:

```
<sys_name># dot1x initialize interface GigabitEthernet 1/1-4
<sys_name>#
```

4.10 *enable*

Turn on privileged commands.

Syntax:

```
enable
enable <1-15>
```

Parameter:

<1-15>

Choose privileged level

Example:

```
<sys_name># enable 10
<sys_name>#
```

4.11 *exit*

Exit from current mode. If you are in configuration mode, the command will get you back to exec mode. If you are in exec mode, it will log you out.

Syntax:

```
exit
```

Example:

```
<sys_name># exit

Press ENTER to get started
```

4.12 *firmware*

Firmware upgrade/swap.

Syntax:

```
firmware swap
```

```
firmware upgrade <url_file>
```

Parameter:

swap

Swap between active and alternate firmware image

upgrade

Upgrade

<url_file>

Uniform Resource Locator. It is a specific character string that constitutes a reference to a resource. Syntax:

```
<protocol>://[<username>[:<password>]@]<host>[:<port>][/<path>]/<file_name>
```

If the following special characters: space ! " # $ % & ' ( ) * + , / : ; < = > ? @ [\ ] ^ ` { | } ~ need to be contained in the input URL string, they should be percent-encoded. A valid file name is a text string drawn from alphabet (A-Za-z), digits (0-9), dot (.), hyphen (-), under score (_). The maximum length is 63 and hyphen must not be first character. The file name content that only contains '.' is not allowed.

Example:

```
<sys_name># firmware upgrade tftp://192.168.1.1/running-config
Programming image...
<sys_name>#
```

4.13 *help*

Description of the interactive help system.

Syntax:

```
help
```

Example:

```
<sys_name># help
Help may be requested at any point in a command by entering
a question mark '?'.  If nothing matches, the help list will
be empty and you must backup until entering a '?' shows the
available options.
Two styles of help are provided:
1. Full help is available when you are ready to enter a
command argument (e.g. 'show ?') and describes each possible
argument.
2. Partial help is provided when an abbreviated argument is entered
and you want to know what arguments match the input
(e.g. 'show pr?'.)

<sys_name>#
```

4.14 *ip*

IPv4 commands.

Syntax:

```
ip dhcp retry interface vlan <vlan_id>
```

Parameter:

dhcp

DHCP commands

retry

Restart the DHCP query process

interface

Interface

vlan

VLAN interface

<vlan_id>

VLAN ID

Example:

```
<sys_name># ip dhcp retry interface vlan 1
<sys_name>#
```

4.15 *ipv6*

IPv6 commands.

Syntax:

```
ipv6 dhcp-client restart
ipv6 dhcp-client restart interface vlan <vlan_list>
```

Parameter:

dhcp-client restart

Restart DHCPv6 client service globally

dhcp-client restart interface vlan <vlan_list>

Restart DHCPv6 client service for a specific IPv6 VLAN interface

Example:

```
<sys_name># ipv6 dhcp-client restart interface vlan 3
<sys_name>#
```

4.16 *lmc*

Using this command you can delete the certificate used for the connection to the LMC.

Syntax:

```
lmc delete-certificate
```

Example:

```
<sys_name># lmc delete-certificate
done
<sys_name>#
```

4.17 *logout*

Exit from EXEC mode.

Syntax:

```
logout
```

Example:

```
<sys_name># logout
Press ENTER to get started

Username: admin
Password:
<sys_name>#
```

4.18 *more*

Display file.

Syntax:

```
more <url_file>
more <url_file> | [ begin | exclude | include] <line>
```

Parameter:

<url_file>

File in FLASH or on TFTP server. Syntax:

```
<flash:filename | tftp://server/path-and-filename
```

A valid file name is a text string drawn from alphabet (A-Za-z), digits (0-9), dot (.), hyphen (-), under score (_). The maximum length is 63 and hyphen must not be first character. The file name content that only contains '.' is not allowed

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

Example:

```
<sys_name># more tftp://192.168.1.1/ddd | begin a
% Loading /ddd from TFTP server 192.168.1.1
```

4.19 *no*

Delete trace hunt string.

Syntax:

```
no terminal [ editing | exec-timeout | history size | length | width ]
```

Parameter:

terminal

Set terminal line parameters

editing

Enable command line editing

exec-timeout

Set the EXEC timeout

history

Control the command history function

length

Set number of lines on a screen

width

Set width of the display terminal

size

Set history buffer size

Example:

```
<sys_name># no terminal editing
<sys_name>#
```

4.20 *ping*

Send ICMP echo messages.

Syntax:

```
ping ip [ <ipv4_addr> | <domain_name> ]
ping ip [ <ipv4_addr> | <domain_name> ] [ data <0-255> | quiet | repeat <1-60> |
 saddr <ipv4_addr> | size <2-1452> | ttl <1-255> | verbose ]
ping ip [ <ipv4_addr> | <domain_name> ] sif GigabitEthernet <port_type_list>
ping ip [ <ipv4_addr> | <domain_name> ] sif vlan <vlan_id>
ping ipv6 [ <ipv6_addr> | <domain_name> ]
ping ipv6 [ <ipv6_addr> | <domain_name> ] [ data <0-255> | quiet | repeat <1-60> |
 saddr <ipv6_addr> | size <2-1452> | ttl <1-255> | verbose ]
ping ipv6 [ <ipv6_addr> | <domain_name> ] sif GigabitEthernet <port_type_list>
ping ip [ <ipv46_addr> | <domain_name> ] sif vlan <vlan_id>
```

Parameter:

ip

ICMPv4 Echo Request

ipv6

ICMPv6 Echo Request

<ipv4_addr>

Destination IPv4 address

<domain_name>

Destination hostname or FQDN

data <0-255>

Specify payload data byte value 0-255; Default is 0

quiet

Set quiet output

repeat <1-60>

Specify repeat count for packets: 1-60; Default is 5

saddr <ipv4_addr>

Send from interface with source address of interface

size <2-1452>

Specify datagram size in bytes: 2-1452; Default is 56 (excluding MAC, IP and ICMP headers)

ttl <1-255>

Set IPv4 Time-To-Live (TTL) 1-255; Default is 64

verbose

Set verbose output

sif

Send from specified interface

vlan <vlan_id>

Send from VLAN interface with source VLAN interface address

GigabitEthernet

1 Gigabit Ethernet Port

<port_type_list>

Port list for all port types or <Port list or ID>

<ipv6_addr>

Destination IPv6 address

Example:

```
<sys_name># ping ip 192.168.1.1 repeat 3 size 3
PING 192.168.1.1 (192.168.1.1): 3 data bytes
11 bytes from 192.168.1.1: seq=0 ttl=64
11 bytes from 192.168.1.1: seq=1 ttl=64
11 bytes from 192.168.1.1: seq=2 ttl=64

--- 192.168.1.1 ping statistics ---
3 packets transmitted, 3 packets received, 0% packet loss
<sys_name>#
```

4.21 *reload*

Reload system.

Syntax:

```
reload cold
reload warm
reload defaults [ keep-ip ] [ force ]
```

Parameter:

cold

Reload cold.

warm

Reload warm (CPU restart only)

defaults

Reload defaults without rebooting

keep-ip

Attempt to keep VLAN1 IP setup

force

Force reload of defaults on remote session.

Example:

```
<sys_name># reload defaults keep-ip
<sys_name>#
```

4.22 *send*

Send a message to other tty lines.

Syntax:

```
send { * | <0-16> | console 0 | vty <0~15> } <line128>
```

Parameter:

*****

All tty lines

<0-16>

Send a message to multiple lines

console 0

Send a message to the primary terminal line

vty <0~15>

Send a message to multiple virtual terminal lines

<line128>

Message to be sent to lines, in 128 char's

Example:

```
<sys_name># send * aaa

----------------------------------------
*** Message from line 0:
aaa
----------------------------------------
<sys_name>#
```

4.23 *ssh*

Starts the ssh server.

Syntax:

```
ssh crypto apply [force]
ssh keygen [ecdsa <256,384,521> | ed25519 | rsa <2048 - 4096>]
```

Parameter:

crypto apply [force]

Apply the staging config and restart the ssh server. If a connection already exists via ssh, `force` must also be added.

keygen [ecdsa <256,384,521> | ed25519 | rsa <2048 - 4096>]

Creates a new key. If a connection already exists via ssh, this is restarted.

4.24 Show commands

Show commands in privileged execution mode. The prompt of the command line is shown as `<sys_name>#`

Command	Function
3rd-party-licenses	Displays the license text of used 3rd-party licenses.
aaa	Authentication, Authorization and Accounting methods
access	Access management.
access-list	Access list.
aggregation	Aggregation port configuration.
board-data	Model name.
clock	Show time-of-day clock.
dot1x	IEEE Standard for port-based Network Access Control.
event	Show trap event configuration.
green-ethernet	Green ethernet (Power reduction).
history	Display the session command history.
interface	Interface.
ip	Interface Internet Protocol configuration commands.
ipmc	IPv4/IPv6 multicast configuration.
lacp	LACP configuration/status.
licenses	Display license information
line	TTY line information.
link-oam	Link OAM configuration.
lldp	Link Layer Discover Protocol.

Command	Function
lmc	Display information about LANCOM Management Cloud (LMC) configuration and status.
logging	System logging message.
loop-protect	Loop protection configuration.
mac	MAC Address Table information.
monitor	Monitoring different system events.
mrp	MRP status.
mvr	Multicast VLAN Registration configuration.
ntp	Show NTP status.
platform	Show platform configuration.
poe	Power over Ethernet.
power	Show power management.
port-security	Show Port Security overview status.
privilege	Display command privilege
process	Show process information.
pvlan	PVLAN configuration.
qos	Quality of Service.
radius-server	RADIUS configuration.
rmon	RMON statistics.
running-config	Show running system information.
sflow	Statistics flow.
smtp	Show email information.
snmp	Show SNMP server's configurations.
spanning-tree	STP Bridge.
svl	Shared VLAN Learning configuration.
switchport	Display switching mode characteristics.
system	System.
tacacs-server	Show TACACS+ configuration.
terminal	Display terminal configuration parameters.
udld	Unidirectional Link Detection (UDLD) configurations, statistics and status.
upnp	Display UPnP configuration.
user-privilege	Users privilege configuration.
users	Display information about terminal lines.
version	System hardware and software status.
vlan	VLAN status.
voice	Voice appliance attributes.
web	Web.

4.24.1 *3rd-party-licenses*

Displays the license text of used 3rd-party licenses.

Syntax:

```
show 3rd-party-licenses
```

Example:

```
<sys_name># show 3rd-party-licenses
...
<sys_name>#
```

4.24.2 *aaa*

Authentication, Authorization and Accounting methods

Syntax:

```
show aaa
```

```
show aaa | [ begin | exclude | include] <line>
```

Parameter:

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

Example:

```
<sys_name># show aaa
Authentication :
  console : local
  telnet  : local
  ssh     : local
  http    : local
Authorization :
  console : no, commands disabled
  telnet  : no, commands disabled
  ssh     : no, commands disabled
Accounting :
  console : no, commands disabled, exec disabled
  telnet  : no, commands disabled, exec disabled
  ssh     : no, commands disabled, exec disabled
<sys_name>#
```

4.24.3 *access*

Access management.

Syntax:

```
show access management
show access management <1~16>
show access management <1~16> | [ begin | exclude | include] <line>
show access management | [ begin | exclude | include] <line>
show access management statistics
show access management statistics | [ begin | exclude | include] <line>
```

Parameter:

management

Access management configuration

<1~16>

ID of access management entry list (1-16)

statistics

Statistics data

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

Example:

```
<sys_name># show access management 3
Switch access management mode is disabled

W: WEB/HTTPS
S: SNMP
T: TELNET/SSH

Idx VID  Start IP Address                End IP Address                 W S T
--- ---  ------------------------------- ------------------------------ - - -
<sys_name>#
```

4.24.4 *access-list*

Access list.

Syntax:

```
show access-list | [ begin | exclude | include] <line>
show access-list ace statistics
show access-list ace statistics <1~512>
show access-list ace-status
show access-list ace-status [ arp-inspection | conflicts | dhcp | ip | ip-source-guard | ipmc | link-oam | loop-protect | static | upnp ]
show access-list interface *
show access-list interface * <port_type_list>
show access-list interface GigabitEthernet <port_type_list>
show access-list rate-limiter
show access-list rate-limiter <1~16>
```

Parameter:

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

ace

Access list entry

ace-status

The local ACEs status

interface

Select an interface to configure

rate-limiter

Rate limiter

statistics

Traffic statistics

<1~512>

ACE ID

arp-inspection

The ACEs that are configured by ARP Inspection module

conflicts

The ACEs that did not get applied to the hardware due to hardware limitations

dhcp

The ACEs that are configured by DHCP module

ip

The ACEs that are configured by IP module

ip-source-guard

The ACEs that are configured by IP Source Guard module

ipmc

The ACEs that are configured by IPMC module

link-oam

The ACEs that are configured by Link OAM module

loop-protect

The ACEs that are configured by Loop Protect module

static

The ACEs that are configured by users manually

upnp

The ACEs that are configured by UPnP module

*****

All switches or all ports

GigabitEthernet

1 Gigabit Ethernet port

<port_type_list>

Port list for all port types or <Port list or ID>

<1~16>

Rate limiter ID

Example:

```
<sys_name># show access-list statistics ace 3

Switch access-list ace number: 0
<sys_name>#
```

4.24.5 *aggregation*

Aggregation port configuration.

Syntax:

```
show aggregation
show aggregation | [ begin | exclude | include] <line>
show aggregation mode
```

Parameter:

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

mode

Traffic distribution mode

Example:

```
<sys_name># show aggregation mode
Aggregation Mode:

SMAC  : Enabled
DMAC  : Disabled
IP    : Enabled
Port  : Enabled
<sys_name>#
```

4.24.6 *board-data*

Model name.

Syntax:

```
show board-data
```

Example:

```
<sys_name># show board-data
Model Name       : SMB500-48MP-740W

Part Number      : 17108108PF2

Hardware Version : A

<sys_name>#
```

4.24.7 *clock*

Show time-of-day clock.

Syntax:

```
show clock
```

```
show clock detail
```

Parameter:

detail

Display detailed information

Example:

```
<sys_name># show clock
System Time : 2017-01-01 01:30:50

<sys_name>#
```

4.24.8 *dot1x*

IEEE Standard for port-based Network Access Control.

Syntax:

```
show dot1x status
show dot1x status | [ begin | exclude | include] <line>
show dot1x status brief
show dot1x status interface * <port_type_list>
show dot1x status interface GigabitEthernet <port_type_list>
show dot1x statistics [ eapol | radius | all ]
show dot1x statistics [ eapol | radius | all ] | [ begin | exclude | include] <line>
show dot1x statistics [ eapol | radius | all ] interface * <port_type_list>
show dot1x statistics [ eapol | radius | all ] interface GigabitEthernet <port_type_list>
```

Parameter:

status

Shows dot1x status, such as admin state, port state and last source

statistics

Shows statistics for either EAPoL or RADIUS

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

brief

Show status in a brief format (deprecated)

interface

Interface

*****

All switches or all ports

GigabitEthernet

1 Gigabit Ethernet port

<port_type_list>

Port list for all port types or <Port list or ID>

eapol

Show EAPOL statistics

radius

Show Backend Server statistics

all

Show all dot1x statistics

Example:

```
<sys_name># show dot1x statistics radius
                      Rx Access   Rx Other    Rx Auth.    Rx Auth.    Tx          MAC
Interface             Challenges  Requests    Successes   Failures    Responses   Address
--------------------  ----------  ----------  ----------  ----------  ----------  -------
Gi                1/1    0           0           0           0           0           -
Gi                1/2    0           0           0           0           0           -
Gi                1/3    0           0           0           0           0           -
Gi                1/4    0           0           0           0           0           -
Gi                1/5    0           0           0           0           0           -
.
.
.
.
Gi                1/N   0           0           0           0           0           -
<sys_name>#
```

4.24.9 *event*

Show trap event configuration.

Syntax:

```
show event
```

Example:

```
<sys_name># show event
show event
Group Name                        Severity Level    Syslog Mode   Trap Mode     SMTP Mode
   Digital Out
---------------------------------  ----------------  ------------  ------------  ------------
  ------------
AC-Power                          Information       enable        disable       disable
   N/A
ACL                               Information       enable        disable       disable
   N/A
ACL-Log                           Information       enable        disable       disable
   N/A
Access-Mgmt                       Information       enable        disable       disable
   N/A
Auth-Failed                       Warning           enable        disable       disable
   N/A
Battery-Power                     Information       enable        disable       disable
   N/A
Cold-Start                        Warning           enable        disable       disable
   N/A
Config-Info                       Information       enable        disable       disable
   N/A
DI-1-Abnormal                     Information       enable        disable       disable
   disable
DI-1-Normal                       Information       enable        disable       disable
   disable
DMS                               Information       enable        disable       disable
   N/A
Digital-Out                       Information       enable        disable       disable
   N/A
FAN                               Information       enable        disable       disable
   N/A
Firmware-Upgrade                  Information       enable        disable       disable
   N/A
Import-Export                     Information       enable        disable       disable
   N/A
LACP                              Information       enable        disable       disable
   N/A
Link-Status                       Warning           enable        disable       disable
   disable
```

```
Login                          Information     enable      disable     disable
   N/A
Logout                         Information     enable      disable     disable
   N/A
Loop-Protect                   Information     enable      disable     disable
   disable
Mgmt-IP-Change                 Information     enable      disable     disable
   N/A
Module-Change                  Warning         enable      disable     disable
   N/A
NAS                            Information     enable      disable     disable
   N/A
NTP-Sync                       Warning         enable      disable     disable
   N/A
Password-Change                Information     enable      disable     disable
   N/A
Poe_Auto_Power_Reset           Warning         enable      disable     disable
   N/A
Port-Security                  Information     enable      disable     disable
   N/A
Spanning-Tree                  Information     enable      disable     disable
   N/A
Temperature                    Information     enable      disable     disable
   disable
Voltage                        Information     enable      disable     disable
   disable

<sys_name>#
```

4.24.10 *green-ethernet*

Green ethernet (Power reduction).

Syntax:

```
show green-ethernet
show green-ethernet | [ begin | exclude | include] <line>
show green-ethernet [ eee | energy-detect | short-reach ]
show green-ethernet [ eee | energy-detect | short-reach ] interface *
show green-ethernet [ eee | energy-detect | short-reach ] interface * <port_type_list>
show green-ethernet [ eee | energy-detect | short-reach ] interface GigabitEthernet <port_type_list>
show green-ethernet interface *
show green-ethernet interface * <port_type_list>
show green-ethernet interface GigabitEthernet <port_type_list>
```

Parameter:

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

eee

Shows green ethernet EEE status for a specific port or ports

energy-detect

Shows green ethernet energy-detect status for a specific port or ports

short-reach

Shows green ethernet short-reach status for a specific

interface

Shows green ethernet status for a specific port or ports

*****

All switches or all ports

GigabitEthernet

1 Gigabit Ethernet port

<port_type_list>

Port list for all port types or <Port list or ID>

Example:

```
<sys_name># show green-ethernet eee
Interface               Lnk  EEE Capable  EEE Enabled  LP EEE Capable   EEE In Power Save
----------------------  ---  -----------  -----------  ---------------  -----------------
GigabitEthernet 1/1     No   Yes          No           No               No
GigabitEthernet 1/2     No   Yes          No           No               No
GigabitEthernet 1/3     No   Yes          No           No               No
GigabitEthernet 1/4     No   Yes          No           No               No
......
<sys_name>#
```

4.24.11 *history*

Display the session command history.

Syntax:

```
show history
```

```
show history | [ begin | exclude | include] <line>
```

Parameter:

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

Example:

```
<sys_name># show history
  show green-ethernet eee
```

```
  show history
<sys_name>#
```

4.24.12 *interface*

Interface.

Syntax:

```
show interface [ * | GigabitEthernet <port_type_list> ] [ capabilities | description |
 status | transceiver | veriphy ]

show interface [ * | GigabitEthernet <port_type_list> ] statistics | [ begin | exclude |
 include] <line>

show interface [ * | GigabitEthernet <port_type_list> ] statistics

show interface [ * | GigabitEthernet <port_type_list> ] statistics [ bytes | discards |
 errors | packets ] [ up | down ]

show interface [ * | GigabitEthernet <port_type_list> ] statistics [ up | down ] [ bytes |
 discards | errors | packets ]

show interface [ * | GigabitEthernet <port_type_list> ] switchport

show interface [ * | GigabitEthernet <port_type_list> ] switchport | [ begin | exclude |
 include] <line>

show interface [ * | GigabitEthernet <port_type_list> ] switchport [ access | hybrid |
 trunk ]

show interface vlan

show interface vlan <vlan_list>
```

Parameter:

vlan

VLAN status

<vlan_list>

VLAN list

*****

All switches or all ports

GigabitEthernet

1 Gigabit Ethernet port

<port_type_list>

Port list for all port types or <Port list or ID>

capabilities

Display capabilities

description

Description of interface

status

Display status

transceiver

Show interface transceiver

veriphy

Display the latest cable diagnostic results

statistics

Display statistics counters

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

switchport

Show interface switchport information

bytes

Show byte statistics

discards

Show discard statistics

down

Show ports which are down

errors

Show error statistics

filtered

Show filtered statistics

packets

Show packet statistics

priority

Show priority statistics

up

Show ports which are up

access

Show access ports status

hybrid

Show hybrid ports status

trunk

Show trunk ports status

Example:

```
<sys_name># show interface GigabitEthernet 1/1-4 capabilities

GigabitEthernet 1/1 Capabilities:
  Speed cap:             10,100,1000,auto
  Duplex cap:            half,full,auto
  Trunk encap. type:     802.1Q
  Trunk mode:            access,hybrid,trunk
  Channel:               yes
  Broadcast suppression: no
```

```
  Flowcontrol:           yes
  Fast Start:            no
  QoS scheduling:        tx-(8q)
  CoS rewrite:           yes
  ToS rewrite:           yes
  UDLD:                  no
  Inline power:          yes
  RMirror:               yes
  PortSecure:            yes
  Dot1x:                 yes
GigabitEthernet 1/2 Capabilities:
  Speed cap:             10,100,1000,auto
  Duplex cap:            half,full,auto
  Trunk encap. type:     802.1Q
  Trunk mode:            access,hybrid,trunk
  Channel:               yes
  Broadcast suppression: no
  Flowcontrol:           yes
  Fast Start:            no
  QoS scheduling:        tx-(8q)
  CoS rewrite:           yes
  ToS rewrite:           yes
  UDLD:                  no
  Inline power:          yes
  RMirror:               yes
  PortSecure:            yes
  Dot1x:                 yes
<sys_name>#
```

4.24.13 *ip*

Interface Internet Protocol configuration commands.

Syntax:

```
show ip [ acd | arp | domain | http | interface | name-server | ospf | route | ssh |
 statistics ]
show ip [ acd | arp | domain | http | interface | name-server | ospf | route | ssh |
 statistics ] | [ begin | exclude | include] <line>
show ip arp inspection
show ip arp inspection entry
show ip arp inspection entry { [ dhcp-snooping interface ] | [ interface ] |
 [ static interface ] } { * | [ GigabitEthernet <port_type_list> ] }
show ip arp inspection interface * | [ GigabitEthernet <port_type_list> ]
show ip arp inspection vlan <vlan_list>
show ip dhcp detailed statistics [ client | combined | normal-forward | relay | server |
 snooping ]
show ip dhcp detailed statistics [ client | combined | normal-forward | relay | server |
 snooping ] | [ begin | exclude | include] <line>
show ip dhcp detailed statistics [ client | combined | normal-forward | relay | server |
 snooping ] interface * | [ GigabitEthernet <port_type_list> ]
show ip dhcp [ excluded-address | pool | relay | server | snooping ]
show ip dhcp [ excluded-address | pool | relay | server | snooping ] | [ begin | exclude |
 include] <line>
show ip dhcp pool <word32>
show ip dhcp relay statistics
show ip dhcp server [ binding | declined-ip | statistics ]
show ip dhcp server [ binding | declined-ip ] <ipv4_ucast>
show ip dhcp server binding state [ allocated | expired | manual ]
show ip dhcp server binding state [ allocated | expired | manual ] type [ automatic |
 expired | manual ]
show ip dhcp server binding type [ automatic | expired | manual ]
show ip dhcp server binding type [ automatic | expired | manual ] state [ allocated |
 expired | manual ]
show ip dhcp snooping interface * | [ GigabitEthernet <port_type_list> ]
show ip dhcp snooping table
show ip igmp snooping
show ip igmp snooping [ detail | group-database | mrouter | vlan <vlan_list> ]
show ip igmp snooping group-database sfm-information
show ip interface brief
show ip ospf interface
show ip ospf interface vlan <vlan_list>
show ip source binding
show ip source binding dhcp-snooping
show ip source binding dhcp-snooping interface { * | [ GigabitEthernet <port_type_list> ] }
show ip source binding interface { * | [ GigabitEthernet <port_type_list> ] }
show ip source binding static
show ip source binding static interface { * | [ GigabitEthernet <port_type_list> ] }
show ip statistics system
show ip verify source
show ip verify source interface { * | [ GigabitEthernet <port_type_list> ] }
```

Parameter:

acd

Address Conflict Detection

arp

Address Resolution Protocol

dhcp
Dynamic Host Configuration Protocol

domain
Default domain name

http
Hypertext Transfer Protocol

igmp
Internet Group Management Protocol

interface
IP interface status and configuration

name-server
Domain Name System

ospf
Open Shortest Path First (OSPF)

route
Display the current ip routing table

source
source command

ssh
Secure Shell

statistics
Traffic statistics

verify
verify command

inspection
ARP inspection

entry
arp inspection entries

interface
ARP inspection entry interface configuration

vlan
VLAN configuration

dhcp-snooping
learn from dhcp snooping

static
setting from static entries

*****
All switches or all ports

GigabitEthernet
1 Gigabit Ethernet port

<port_type_list>

Port list for all port types or <Port list or ID>

<vlan_list>

Select a VLAN id to show

detailed

DHCP server

excluded-address

Excluded IP database

pool

DHCP pools information

relay

DHCP relay agent configuration

server

DHCP server information

snooping

DHCP snooping

statistics

Traffic statistics

client

DHCP client

combined

Show all DHCP related statistics

normal-forward

DHCP normal L2 or L3 forward

relay

DHCP relay

server

DHCP server

snooping

DHCP snooping

interface

Select an interface to show

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>
String to match output lines

<word32>
Pool name in 32 characters

statistics
Traffic statistics

binding
DHCP address bindings

declined-ip
Declined IP address

statistics
DHCP server statistics

<ipv4_ucast>
IP address in dotted-decimal notation

state
State of binding

type
Type of binding

allocated
Allocated state

committed
Committed state

expired
Expired state

type
Type of binding

automatic
Automatic binding

expired
Expired binding that is aged out

manual
Manual binding for a specific host

detail
Detail running information/statistics of IGMP snooping

group-database
Multicast group database from IGMP

mrouter
Multicast router port status in IGMP

vlan
Search by VLAN

sfm-information

Including source filter multicast information from IGMP

<vlan_list>

VLAN identifier (VID)

vlan

VLAN interface

brief

Brief IP interface status

neighbor

Neighbor list

<vlan_list>

List of VLAN IDs, e.g. 1,3-5,7

source

verify source

system

Example:

```
<sys_name># show ip interface brief
Interface        Address              Method        Status
---------------- -------------------- ------------- ------
VLAN1            192.168.1.1/24       Manual        UP
<sys_name>#
```

4.24.14 *ipmc*

IPv4/IPv6 multicast configuration.

Syntax:

```
show ipmc [ profile | range ]
show ipmc [ profile | range ] | [ begin | exclude | include] <line>
show ipmc [ profile | range ] [ <word16> ] [ detail ]
```

Parameter:

profile

IPMC profile configuration

range

A range of IPv4/IPv6 multicast addresses for the profile

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

<word16>

Profile or range entry name in 16 characters

detail

Detail information of a profile

Example:

```
<sys_name># show ipmc range
<sys_name>#
```

4.24.15 *ipv6*

IPv4/IPv6 multicast configuration.

Syntax:

```
show ipv6 [ dhcp-client | interface | neighbor | route | statistics ]
show ipv6 [ dhcp-client | interface | neighbor | route | statistics ] | [ begin |
 exclude | include] <line>
show ipv6 dhcp-client interface vlan <vlan_list>
show ipv6 interface brief
show ipv6 mld snooping
show ipv6 mld snooping [ vlan <vlan_list> | group-database | detail | mrouter ]
show ipv6 mld snooping group-database sfm-information
show ipv6 statistics interface vlan <vlan_list>
```

Parameter:

dhcp-client

Manage DHCPv6 client service

interface

IPv6 configuration commands

mld

Multicasat Listener Discovery

statistics

Traffic statistics

neighbor

IPv6 neighbors

route

IPv6 routes

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

interface

Select an interface to show

vlan

VLAN of IPv6 interface

<vlan_list>

IPv6 interface VLAN list

brief

Brief summary of IPv6 status and configuration

snooping

Snooping MLD

detail

Detail running information/statistics of MLD snooping

group-database

Multicast group database from MLD

mrouter

Multicast router port status in MLD

vlan

Search by VLAN

sfm-information

Including source filter multicast information from MLD

system

IPv6 system traffic

Example:

```
<sys_name># show ipv6 mld snooping detail

MLD Snooping is enabled to start snooping MLD control plane.
Multicast streams destined to unregistered MLD groups will be flooding.
<sys_name>#
```

4.24.16 *lacp*

LACP configuration/status.

Syntax:

```
show lacp [ internal | statistics | system-id | neighbour ] [ | { begin | exclude |
 include } <line>]
```

```
show lacp [ internal | statistics | system-id | neighbour ] detail
```

Parameter:

internal

Internal LACP configuration

statistics

Internal LACP statistics

system-id

LACP system ID

neighbour

Neighbour LACP status

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

details

LACP state

Example:

```
<sys_name># show lacp internal
Port  Mode      Key   Role    Timeout  Priority
----  --------  ----  ------  -------  --------
1     Disabled  Auto  Active  Fast     32768
2     Disabled  Auto  Active  Fast     32768
3     Disabled  Auto  Active  Fast     32768
4     Disabled  Auto  Active  Fast     32768
5     Disabled  Auto  Active  Fast     32768
6     Disabled  Auto  Active  Fast     32768
7     Disabled  Auto  Active  Fast     32768
<sys_name>#
```

4.24.17 *licenses*

Display license information.

Syntax:

```
show licenses
show licenses | {begin | exclude | include } <line>
show licenses { [ component <uint> ] | description | [ mtd <word> ] [ section <uint> ] }
```

Parameter:

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

component <uint>

component key word - Select a specific component ID to show

description

description keyword - Shows the licenses description, else only an overview is shown

mtd <word>

MTD keyword - Select a specific MTD (file) to show

section <uint>

Select a specific section ID to show

Example:

```
<sys_name># show licenses
Image Name   SectionID    ComponentID  Component Name            Version
Type                      Url
-----------  -----------  -----------  ------------------------  ------------------------
------------------------  ---------------------------------------
RedBoot      No licenses found
linux        0            0            libstdc++                 6.3.0
GPLv3 (with exception)    http://ftpmirror.gnu.org/gcc/gcc-6.3.0/gcc-6.3.0.tar.bz2
linux        0            1            uclibc                    1.0.22
L  G  P  L  v  2  .  1  +
http://downloads.uclibc-ng.org/releases/1.0.22/uClibc-ng-1.0.22.tar.xz
linux        0            2            linux-headers             4.9.13
GPLv2                     https://cdn.kernel.org/pub/linux/kernel/v4.x/linux-4.9.13.tar.xz
linux            0                   3                  mscc-linux
835a2802137cfe955a2fa48a9e67cb111058021a GPLv2
linux        0            4            mbedtls                   2.4.0
Apache-2.0                https://tls.mbed.org/code/releases/mbedtls-2.4.0-apache.tgz
<sys_name>#
```

4.24.18 *line*

TTY line information.

Syntax:

```
show line
show line | {begin | exclude | include } <line>
show line [ alive ]
```

Parameter:

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

alive

Display information about alive lines

Example:

```
<sys_name># show line alive
Line is con 0.
---------------
    * You are at this line now.
    Alive from Console.
    Default privileged level is 2.
    Command line editing is enabled
    Display EXEC banner is enabled.
    Display Day banner is enabled.
    Terminal width is 80.
             length is 24.
             history size is 32.
             exec-timeout is 10 min 0 second.

    Current session privilege is 15.
    Elapsed time is 0 day 2 hour 19 min 54 sec.
    Idle time is 0 day 0 hour 0 min 0 sec.

<sys_name>#
```

4.24.19 *lldp*

Link Layer Discover Protocol.

Syntax:

```
show lldp med [ media-vlan-policy | remote-device ]
show lldp med [ media-vlan-policy | remote-device ] | {begin | exclude | include } <line>
show lldp med media-vlan-policy <0~31>
show lldp med remote-device interface [ * | GigabitEthernet <port_type_list> ]
show lldp [ eee | neighbors | preempt | statistics ]
show lldp [ eee | neighbors | preempt | statistics ] | {begin | exclude | include } <line>
show lldp [ eee | neighbors | preempt | statistics ] interface [ * | GigabitEthernet <port_type_list> ]
show lldp
```

Parameter:

eee

Display LLDP local and neighbor EEE information

med

Display LLDP-MED neighbors information

neighbors

Display LLDP neighbors information

preempt

Display LLDP local and neighbor Preempt information

statistics

Display LLDP statistics information

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

interface

Interface to display

*****

All switches or all ports

GigabitEthernet

1 Gigabit Ethernet port

<port_type_list>

Port list for all port types or <Port list or ID>

media-vlan-policy <0~31>

Display media vlan policies

remote-device

Display remote device LLDP-MED neighbors information

Example:

```
<sys_name># show lldp eee interface GigabitEthernet 1/1-4
No LLDP entries found
<sys_name>#
```

4.24.20 *lmc*

Display information about LANCOM Management Cloud (LMC) configuration and status.

Syntax:

```
show lmc
show lmc | {begin | exclude | include } <line>
show lmc transport | {begin | exclude | include } <line>
```

Parameter:

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

transport

LMC transport status

Example:

```
<sys_name> show lmc
LMC Configuration:
Operating                : no
Configuration-Via-DHCP   : yes
DHCP-Client-Auto-Renew   : yes
LMC-Domain               : "cloud.lancom.de"
LMC-Rollout-Project-ID   : ""
LMC-Rollout-Location-ID  : ""
LMC-Rollout-Role         : ""

LMC Status:
Management-Status              : Unpaired
Monitor-Status                 : Disabled
Control-Status                 : Disabled
Config-Modified                : no
Pairing-Token-Present          : no
Zero-Touch-Support             : no
Customer-Device-ID             : ""
Round-Trip-Time                : 0 ms
Active-LMC-Domain              : ""
Active-LMC-Rollout-Project-ID  : ""
Active-LMC-Rollout-Location-ID : ""
Active-LMC-Rollout-Role        : ""
<sys_name>#
```

4.24.21 *logging*

System logging message.

Syntax:

```
show logging
show logging [ <1-4294967295> | error | informational | notice | warning ]
show logging <1-4294967295> [ exclude | include ] <line>
show logging <1-4294967295> switch <switch_list>
show logging | {begin | exclude | include } <line>
```

Parameter:

<1-4294967295>

Logging ID

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

error

Severity 3: Error conditions

informational

Severity 6: Informational messages

notice

Severity 5: Normal but significant condition

warning

Severity 4: Warning conditions

switch <switch_list>

Switch ID list in 1

Example:

```
<sys_name># show logging informational
Switch logging host mode is disabled
Switch logging host address is null
Switch logging level is informational

Number of entries on Switch 1:
Error        : 0
Warning      : 0
Notice       : 55
Informational: 1
All          : 56

ID          Level          Time & Message
----------  -------------  --------------
         1  Informational  1970-01-01T00:00:45+00:00
                           SYS-BOOTING: Switch just made a cold boot.

<sys_name>#
```

4.24.22 *loop-protect*

Loop protection configuration.

Syntax:

```
show loop-protect
```

```
show loop-protect interface [ * | GigabitEthernet <port_type_list> ]
```

Parameter:

interface

Interface status and configuration

*****

All switches or all ports

GigabitEthernet

1 Gigabit Ethernet port

<port_type_list>

Port list for all port types or <Port list or ID>

Example:

```
<sys_name># show loop-protect interface GigabitEthernet 1/3

Loop Protection Configuration
=====================================
Loop Protection   : Disable
Transmission Time : 5 sec
Shutdown Time     : 180 sec

GigabitEthernet 1/3
------------------------------
    Loop protect mode is enabled.
    Action is shutdown.
    Transmit mode is enabled.
    No loop.
    The number of loops is 0.
    Status is down.
<sys_name>#
```

4.24.23 *mac*

MAC Address Table information.

Syntax:

```
show mac address-table
show mac address-table | [ begin | exclude | include] <line>
show mac address-table address <mac_ucast>
show mac address-table address <mac_ucast> vlan <vlan_id>
show mac address-table [ aging-time | conf | count | learning | static ]
show mac address-table count interface [ * | GigabitEthernet <port_type_list> ]
show mac address-table count vlan <vlan_id>
show mac address-table interface [ * | GigabitEthernet <port_type_list> ]
show mac address-table learning interface [ * | GigabitEthernet <port_type_list> ]
show mac address-table learning vlan <vlan_id>
show mac address-table vlan <vlan_id>
```

Parameter:

address-table

MAC Address Table

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

address <mac_ucast>

MAC address lookup with 48 bit MAC address: xx:xx:xx:xx:xx:xx

aging-time

Aging time

conf

User added static MAC addresses

count

Total number of MAC addresses

learning

Learn/disable/secure state

static

All static MAC addresses

interface

Select an interface

*****

All switches or all ports

GigabitEthernet

1 Gigabit Ethernet port

<port_type_list>

Port list for all port types or <Port list or ID>

vlan <vlan_id>

VLAN IDs 1-4095

Example:

```
<sys_name># show mac address-table count interface GigabitEthernet 1/4
Port Dynamic addresses
GigabitEthernet 1/4               0

Total learned dynamic addresses for the switch: 0
Total static addresses in table: 1
<sys_name>#
```

4.24.24 *monitor*

Monitoring different system events.

Syntax:

```
show monitor
```

```
show monitor session [ <1-5> | all | remote ]
```

Parameter:

session

MIRROR session

<1-5>

MIRROR session number

all

Show all MIRROR sessions

remote

Show only remote MIRROR sessions

Example:

```
<sys_name># show monitor session remote

Session 1
---------
Mode                      : Disabled
Type                      : Mirror
Source VLAN(s)            :
CPU Port                  :

Session 2
---------
Mode                      : Disabled
Type                      : Mirror
Source VLAN(s)            :
CPU Port                  :

Session 3
---------
Mode                      : Disabled
Type                      : Mirror
Source VLAN(s)            :
CPU Port                  :

Session 4
---------
Mode                      : Disabled
Type                      : Mirror
Source VLAN(s)            :
CPU Port                  :

Session 5
---------
Mode                      : Disabled
Type                      : Mirror
Source VLAN(s)            :
CPU Port                  :
<sys_name>#
```

4.24.25 *mrp*

MRP status.

Syntax:

```
show mrp status
show mrp status [ all | mvrp ]
show mrp status [ all | mvrp ] interface [ * | GigabitEthernet <port_type_list> ]
show mrp status interface [ * | GigabitEthernet <port_type_list> ]
```

Parameter:

status

Show a collection of MRP statistics for each interface

all

Show MRP statistics for all MRP Applications

mvrp

Show MRP statistics for the MVRP Application

interface

Show a collection of MRP statistics for a specific interface(s)

*****

All switches or all ports

GigabitEthernet

1 Gigabit Ethernet port

<port_type_list>

Port list for all port types or <Port list or ID>

Example:

```
<sys_name># show mrp status interface GigabitEthernet 1/1-4
GigabitEthernet 1/1 :
---------------------
MRP Appl  FailedRegistrations  LastPduOrigin
--------  -------------------  -------------
MVRP      0                    00-00-00-00-00-00

GigabitEthernet 1/2 :
---------------------
MRP Appl  FailedRegistrations  LastPduOrigin
--------  -------------------  -------------
MVRP      0                    00-00-00-00-00-00

<sys_name>#
```

4.24.26 *mvr*

Multicast VLAN Registration configuration.

Syntax:

```
show mvr
show mvr | [ begin | exclude | include] <line>
show mvr detail
show mvr group-database
show mvr sfm-information
show mvr group-database interface [ * | GigabitEthernet <port_type_list> ]
show mvr <word16>
show mvr vlan <vlan_list>
```

Parameter:

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

detail

Detail information/statistics of MVR group database

group-database

Multicast group database from MVR

sfm-information

Including source filter multicast information from MVR

interface

Search by port

*****

All switches or all ports

GigabitEthernet

1 Gigabit Ethernet port

<port_type_list>

Port list for all port types or <Port list or ID>

<word16>

MVR multicast VLAN name

vlan <vlan_list>

Search by MVR multicast VLAN list

Example:

```
<sys_name># show mvr vlan 11

MVR is currently disabled, please enable MVR to start group registration.
% Invalid MVR IGMP VLAN 11.

% Invalid MVR MLD VLAN 11.
<sys_name>#
```

4.24.27 *ntp*

Show NTP status.

Syntax:

```
show ntp status
```

Parameter:

status

Status

Example:

```
<sys_name># show ntp status
NTP Mode : disabled
Idx   Server IP host address (a.b.c.d) or a host name string
---   ----------------------------------------------------
1
2
3
4
5
<sys_name>#
```

4.24.28 *platform*

Show platform configuration.

Syntax:

```
show platform phy | [ begin | exclude | include] <line>
show platform phy [ failover | id | instance ]
show platform phy id interface [ * | GigabitEthernet <port_type_list> ]
show platform phy interface [ * | GigabitEthernet <port_type_list> ]
```

Parameter:

phy

PHYs' information

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

failover

Failover status

id

instance

PHY instance information

interface

*****

All switches or all ports

GigabitEthernet

1 Gigabit Ethernet port

<port_type_list>

Port list for all port types or <Port list or ID>

Example:

```
<sys_name># show platform phy interface GigabitEthernet 1/1
Port   API Inst   WAN/LAN/1G Mode       Duplex     Speed      Link
----   ---------  ---------  ----       ------     -----      ----
1      Default    1G         ANEG       FDX        1G         No
<sys_name>#
```

4.24.29 *poe*

Power over Ethernet.

Syntax:

```
show poe
show poe | [ begin | exclude | include] <line>
show poe [ auto-check | config | power-delay ]
show poe [ auto-check | config | power-delay ] interface [ * | GigabitEthernet <port_type_list> ]
show poe interface [ * | GigabitEthernet <port_type_list> ]
show poe profile
show poe profile id <1-16>
```

Parameter:

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

auto-check

Show PoE Auto Check configuration

config

Display PoE (Power Over Ethernet) config for the switch

power-delay

Display PoE (Power Over Ethernet) Power Delay config for the switch

interface

*****

All switches or all ports

GigabitEthernet

1 Gigabit Ethernet port

<port_type_list>

Port list for all port types or <Port list or ID>

profile

PoE scheduling profile

id <1-16>

PoE scheduling profile ID from 1 to 16

Example:

```
<sys_name># show poe auto-check interface GigabitEthernet 1/1-4

Ping Check : Disabled

Port  Ping IP Address Start up Interval Retry Failure Log      Failure Action    Reboot
                     Time      Time     Time                                     Time
----  --------------- -------- -------- ----- ---------------- ----------------- ------
1     0.0.0.0         60       30       3     error=0,total=0  Nothing           15
2     0.0.0.0         60       30       3     error=0,total=0  Nothing           15
<sys_name>#
```

4.24.30 *port-security*

Show Port Security overview status.

Syntax:

```
show port-security
show port-security | [ begin | exclude | include] <line>
show port-security address
show port-security address interface [ * | GigabitEthernet <port_type_list> ]
show port-security switch interface [ * | GigabitEthernet <port_type_list> ]
```

Parameter:

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

address

Show MAC Addresses learned by Port Security

switch

interface

Port interface

*****

All switches or all ports

GigabitEthernet

1 Gigabit Ethernet port

<port_type_list>

Port list for all port types or <Port list or ID>

Example:

```
<sys_name># show port-security interface GigabitEthernet 1/4
Users:
  P = Port Security (Admin)
  8 = 802.1X
  V = Voice VLAN

Interface  Users Limit Current Violating Violation Mode State
---------- ----- ----- ------- --------- -------------- -------------
Gi 1/4     ---     N/A       0       N/A Disabled       No users

Aging disabled
Hold time: 300 seconds
<sys_name>#
```

4.24.31 *power*

Display information about LANCOM Management Cloud (LMC) configuration and status.

Syntax:

```
show power management
```

Parameter:

management

Power management

Example:

```
<sys_name> show power management
Power Management
=========================
Power                    : A        B
Detected PSU             : SPSU-920 None
Power Good               : Good     Fail
FAN Speed (RPM)          : 8879     0
Temperature (Degree C)   : 34       0
Operating Mode           : Redundant
<sys_name>#
```

4.24.32 *privilege*

Display command privilege

Syntax:

```
show privilege
show privilege | [ begin | exclude | include] <line>
```

Parameter:

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

Example:

```
<sys_name># show privilege
<sys_name>#
```

4.24.33 *process*

Show process information.

Syntax:

```
show process list
show process list | [ begin | exclude | include] <line>
show process list detail
show process load
```

Parameter:

list

list

load

load

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

detail

Optionally show thread call stack

Example:

```
<sys_name># show process load
1.65 1.62 1.63 1/169 183
<sys_name>#
```

4.24.34 *pvlan*

PVLAN configuration.

Syntax:

```
show pvlan
show pvlan <range_list>
show pvlan isolation
show pvlan isolation interface [ * | GigabitEthernet <port_type_list> ]
```

Parameter:

<range_list>

PVLAN ID to show configuration for

isolation

Show isolation configuration

interface

List of port type and port ID, ex. Fast 1/1 Gigabit 2/3-5 Gigabit 3/2-4 10 Gigabit 4/6

*****

All switches or all ports

GigabitEthernet

1 Gigabit Ethernet port

<port_type_list>

Port list for all port types or <Port list or ID>

Example:

```
<sys_name># show pvlan isolation
Port                              Isolation
--------------------------------  ---------
GigabitEthernet 1/1               Disabled
GigabitEthernet 1/2               Disabled
GigabitEthernet 1/3               Disabled
GigabitEthernet 1/4               Disabled
GigabitEthernet 1/5               Disabled
.
.
.
GigabitEthernet 1/N               Disabled
<sys_name>#
```

4.24.35 *qos*

Quality of Service.

Syntax:

```
show qos
show qos | [ begin | exclude | include] <line>
show qos interface
show qos interface [ * | GigabitEthernet <port_type_list> ]
show qos maps
show qos maps [ cos-dscp | dscp-classify | dscp-cos | dscp-egress-translation | dscp-ingress-translation | egress | ingress ]
show qos qce <1-256>
show qos [ storm | wred ]
```

Parameter:

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

interface

Interface

maps

QoS Maps/Tables

qce <1-256>

QoS Control Entry ID

storm

Storm policer

wred

Weighted Random Early Discard

*****

All switches or all ports

GigabitEthernet

1 Gigabit Ethernet port

<port_type_list>

Port list for all port types or <Port list or ID>

cos-dscp

Map for COS to DSCP

dscp-classify

Map for DSCP classify enable

dscp-cos

Map for DSCP to COS

dscp-egress-translation

Map for DSCP egress translation

dscp-ingress-translation

Map for DSCP ingress translation

egress

Map for egress configuration

ingress

Map for ingress configuration

Example:

```
<sys_name># show qos maps cos-dscp
qos map cos-dscp:
=================
Cos  DSCP DP0   DSCP DP1   DSCP DP2   DSCP DP3
---  ---------  ---------  ---------  ---------
0    0  (BE)    0  (BE)    0  (BE)    0  (BE)
1    0  (BE)    0  (BE)    0  (BE)    0  (BE)
2    0  (BE)    0  (BE)    0  (BE)    0  (BE)
3    0  (BE)    0  (BE)    0  (BE)    0  (BE)
4    0  (BE)    0  (BE)    0  (BE)    0  (BE)
5    0  (BE)    0  (BE)    0  (BE)    0  (BE)
6    0  (BE)    0  (BE)    0  (BE)    0  (BE)
7    0  (BE)    0  (BE)    0  (BE)    0  (BE)
<sys_name>#
```

4.24.36 *radius-server*

RADIUS configuration.

Syntax:

```
show radius-server
show radius-server | [ begin | exclude | include] <line>
show radius-server statistics
```

Parameter:

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

statistics

RADIUS statistics

Example:

```
<sys_name># radius-server statistics
Global RADIUS Server Timeout      : 5 seconds
Global RADIUS Server Retransmit   : 3 times
Global RADIUS Server Deadtime     : 0 minutes
Global RADIUS Server Key          :
Global RADIUS Server Attribute 4  :
Global RADIUS Server Attribute 95 :
Global RADIUS Server Attribute 32 :
No servers configured!
<sys_name>#
```

4.24.37 *rmon*

RMON statistics.

Syntax:

```
show rmon alarm
show rmon alarm <1-65535>
show rmon event
show rmon event <1-65535>
show rmon history
show rmon history <1-65535>
show rmon statistics
show rmon statistics <1-65535>
```

Parameter:

alarm

Display the RMON alarm table

event

Display the RMON event table

history

Display the RMON history table

statistics

Display the RMON statistics table

<1-65535>

Alarm entry list

<1-65535>

Event entry list

<1-65535>

History entry list

<1-65535>

Statistics entry list

Example:

```
<sys_name># show rmon statistics 5
<sys_name>#
```

4.24.38 *running-config*

Show running system information.

Syntax:

```
show running-config
show running-config | [ begin | exclude | include] <line>
show running-config all-defaults
show running-config <cword> all-defaults
show running-config interface [ * | GigabitEthernet <port_type_list> ]
show running-config line [ console | vty ] <range_list>
show running-config line [ console | vty ] <range_list> all-defaults
show running-config vlan
show running-config vlan <vlan_list>
show running-config vlan <vlan_list> all-defaults
```

Parameter:

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

all-defaults

Include most/all default values

<cword>

Valid words are 'GVRP' 'MRP' 'MVRP' 'access' 'access-list' 'aggregation' 'alarm' 'arp-inspection' 'auth' 'clock' 'ddmi' 'dhcp' 'dhcp-snooping' 'dhcp6_client_interface' 'dhcp_server' 'dns' 'dot1x' 'green-ethernet' 'http' 'icli' 'ip-igmp-snooping' 'ip-igmp-snooping-port' 'ip-igmp-snooping-vlan' 'ipmc-profile' 'ipmc-profile-range' 'ipv4' 'ipv6' 'ipv6-mld-snooping' 'ipv6-mld-snooping-port' 'ipv6-mld-snooping-vlan' 'json_rpc_notification' 'lacp' 'link-oam' 'lldp' 'logging' 'loop-protect' 'mac' 'mstp' 'mvr' 'mvr-port' 'ntp' 'ospf_global_conf' 'ospf_router_conf' 'ospf_vlan_intf_conf' 'poe' 'port' 'port-security' 'pvlan' 'qos' 'rmon' 'snmp' 'source-guard' 'ssh' 'udld' 'upnp' 'user' 'vlan' 'voice-vlan' 'vtss-rmirror' 'web-privilege-group-level'

interface

Show specific interface or interfaces

*****

All switches or all ports

GigabitEthernet

1 Gigabit Ethernet port

<port_type_list>

Port list for all port types or <Port list or ID>

line

Show line settings

vlan

VLAN

console

Console

vty

VTY

<range_list>

List of console/VTYs

<vlan_list>

List of VLAN numbers

Example:

```
<sys_name># show running-config vlan
Building configuration...
vlan 1
!
!
end
<sys_name>#
```

4.24.39 *sflow*

Statistics flow.

Syntax:

```
show sflow
show sflow | [ begin | exclude | include] <line>
show sflow statistics receiver
show sflow statistics samplers
show sflow statistics samplers [ * | GigabitEthernet <port_type_list> ]
```

Parameter:

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

statistics

sFlow statistics

receiver

Show statistics for receiver

samplers

Show statistics for samplers

*****

All switches or all ports

GigabitEthernet

1 Gigabit Ethernet port

<port_type_list>

Port list for all port types or <Port list or ID>

Example:

```
<sys_name># show sflow statistics samplers interface GigabitEthernet 1/1

Per-Port Statistics:
====================

Interface               Flow Samples     Counter Samples
----------------------- ---------------- ----------------
GigabitEthernet 1/1                   0                0
<sys_name>#
```

4.24.40 *snmp*

Show SNMP server's configurations.

Syntax:

```
show snmp
show snmp | [ begin | exclude | include] <line>
show snmp access
show snmp access <word32> [ v1 | v2c | v3 | any ]
show snmp access <word32> [ v1 | v2c | v3 | any ] [ auth | noauth | priv ]
show snmp community
show snmp community <word32>
show snmp host
show snmp host <word32>
show snmp mib context
show snmp mib ifmib ifIndex
show snmp mib ifmib ifIndex [ aggregation | port | vlan ]
show snmp mib ifmib ifIndex
show snmp security-to-group
show snmp security-to-group [ v1 | v2c | v3 ] <word32>
show snmp trap
show snmp trap <cword>
show snmp user
show snmp user <word32>
show snmp user <word32> <word10-64>
show snmp view
show snmp view <word32> <word255>
```

Parameter:

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

access

Access configuration

community

Community

host

Set SNMP host's configurations

mib

MIB (Management Information Base)

security-to-group

security-to-group configuration

trap

Set SNMP host's configurations

user

User

view

MIB view configuration

<word32>

Group name

v1

v1 security model

v2c

v2c security model

v3

v3 security model

any

any security model

auth

authNoPriv Security Level

noauth

noAuthNoPriv Security Level

priv

authPriv Security Level

<word32>

Specify community name

<word32>

Name of the host configuration

context

MIB context

ifmib

IF-MIB

ifIndex

The IfIndex that is defined in IF-MIB

aggregation

Show aggregation information

port

Show port information

vlan

Show VLAN information

<word32>

Security user name

<cword>

Valid words are 'authenticationFailure' 'coldStart' 'entConfigChange' 'fallingAlarm' 'linkDown' 'linkUp' 'lldpRemTablesChange' 'newRoot' 'risingAlarm' 'topologyChange' 'warmStart'

<word10-64>

Security Engine ID

<word32>

MIB view name

<word255>

MIB view OID

Example:

```
<sys_name># show snmp view
View Name   : default_view
OID Subtree : .1
View Type   : included
<sys_name>#
```

4.24.41 *spanning-tree*

STP Bridge.

Syntax:

```
show spanning-tree
show spanning-tree | [ begin | exclude | include] <line>
show spanning-tree [ active | detailed | summary ]
show spanning-tree detailed interface [ * | GigabitEthernet <port_type_list> ]
show spanning-tree interface [ * | GigabitEthernet <port_type_list> ]
show spanning-tree mst [ <0-7> | configuration ]
show spanning-tree mst <0-7> interface [ * | GigabitEthernet <port_type_list> ]
```

Parameter:

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

active

STP active interfaces

detailed

STP statistics

summary

STP summary

interface

Choose port

*****

All switches or all ports

GigabitEthernet

1 Gigabit Ethernet port

<port_type_list>

Port list for all port types or <Port list or ID>

mst

Multiple STP

<0-7>

STP bridge instance (CIST=0, MSTI1=1...)

configuration

Show MSTI to VLAN mapping

Example:

```
<sys_name># show spanning-tree summary
Protocol Version: MSTP
```

```
Hello Time      : 2
Max Age         : 20
Forward Delay   : 15
Tx Hold Count   : 6
Max Hop Count   : 20
BPDU Filtering  : Disabled
BPDU Guard      : Disabled
Error Recovery  : Disabled
CIST Bridge is active
<sys_name>#
```

4.24.42 *ssh*

Show ssh server's configurations.

Syntax:

```
show ssh fingerprint [ecdsa | ed25519 | rsa]
show ssh status [active | staging]
```

Parameter:

fingerprint [ecdsa | ed25519 | rsa]

Show the fingerprint of the current keys.

status [active | staging]

Status of the currently active ssh configuration or of the staging configuration. If you make changes in configuration mode they will be applied only to the staging config until made active.

4.24.43 *svl*

Shared VLAN Learning configuration.

Syntax:

```
show svl | [ begin | exclude | include] <line>
show svl fid
show svl fid <1~4095>
show svl vlan
show svl vlan <vlan_list>
```

Parameter:

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

fid

Show a given FID

vlan

Show a given VLAN ID

<1~4095>

List of FIDs to show

<vlan_list>

List of VIDs to show

Example:

```
<sys_name>## show svl fid 1
FID   VLANs
----  ------------------------------
   1  1 (default)
<sys_name>#
```

4.24.44 *switchport*

Display switching mode characteristics.

Syntax:

```
show switchport forbidden | [ begin | exclude | include] <line>
show switchport forbidden [ name <vword> | vlan <vlan_list> ]
```

Parameter:

forbidden

Lookup VLAN Forbidden port entry

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

name <vword>

Forbidden VLANs by VLAN name

vlan <vlan_list>

Forbidden VLAN by VLAN ID

Example:

```
<sys_name>## show switchport forbidden vlan 1
VLAN  Name                             Interfaces
```

```
----  -------------------------------  ----------
1     defaulty
<sys_name>#
```

4.24.45 *system*

System.

Syntax:

```
show system [ cpu | led ] status
```

Parameter:

cpu

CPU

led

LED

status

Status

Example:

```
<sys_name># show system led status
System LED: green, solid, normal indication.
<sys_name>#
```

4.24.46 *tacacs-server*

Show TACACS+ configuration.

Syntax:

```
show tacacs-server
```

Example:

```
<sys_name># show tacacs-server
Global TACACS+ Server Timeout      : 5 seconds
Global TACACS+ Server Deadtime     : 0 minutes
Global TACACS+ Server Key          :
No servers configured!
<sys_name>#
```

4.24.47 *terminal*

Display terminal configuration parameters.

Syntax:

```
show terminal | [ begin | exclude | include] <line>
```

Parameter:

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

Example:

```
<sys_name># show terminal
Line is con 0.
---------------
    * You are at this line now.
    Alive from Console.
    Default privileged level is 2.
    Command line editing is enabled
    Display EXEC banner is enabled.
    Display Day banner is enabled.
    Terminal width is 80.
             length is 24.
             history size is 32.
             exec-timeout is 10 min 0 second.

    Current session privilege is 15.
    Elapsed time is 0 day 1 hour 33 min 36 sec.
    Idle time is 0 day 0 hour 0 min 0 sec.
<sys_name>#
```

4.24.48 *udld*

Unidirectional Link Detection (UDLD) configurations, statistics and status.

Syntax:

```
show udld
show udld | [ begin | exclude | include] <line>
show udld interface [ * | GigabitEthernet <port_type_list> ]
```

Parameter:

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

interface

Choose port

*****

All switches or all ports

GigabitEthernet

1 Gigabit Ethernet port

<port_type_list>

Port list for all port types or <Port list or ID>

Example:

```
<sys_name># show udld interface GigabitEthernet 1/3

GigabitEthernet 1/3
------------------------------------------------------------------------
UDLD Mode                  : Disable
Admin State                : Disable
Message Time Interval(Sec): 7
Device ID(local)           : 02-00-C1-A8-D2-E2
Device Name(local)         :
Bidirectional state        : Indeterminant

No neighbor cache information stored
------------------------------------------------------------------------
<sys_name>#
```

4.24.49 *upnp*

Display UPnP configuration.

Syntax:

```
show upnp
show upnp | [ begin | exclude | include] <line>
```

Parameter:

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

Example:

```
<sys_name># show upnp
UPnP Mode                     : disabled
UPnP TTL                      : 4
UPnP Advertising Duration     : 100
UPnP IP Addressing Mode       : dynamic
UPnP Static IP Interface ID   : 1
<sys_name>#
```

4.24.50 *user-privilege*

Users privilege configuration.

Syntax:

```
show user-privilege
```

Example:

```
<sys_name># show user-privilege
username admin privilege 15 password encrypted 323304...a04a9ec8ab2b9401cf64606388516
<sys_name>#
```

4.24.51 *users*

Display information about terminal lines.

Syntax:

```
show users
```

```
show users | [ begin | exclude | include] <line>
```

```
show users myself
```

Parameter:

myself

Display information about mine

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

Example:

```
<sys_name># show users myself
Line is con 0.
    * You are at this line now.
    Connection is from Console.
    User name is admin.
    Privilege is 15.
    Elapsed time is 0 day 1 hour 51 min 34 sec.
    Idle time is 0 day 0 hour 0 min 0 sec.
<sys_name>#
```

4.24.52 *version*

System hardware and software status.

Syntax:

```
show version
show version | [ begin | exclude | include] <line>
show version brief
```

Parameter:

brief

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

Example:

```
<sys_name># show version

MAC Address      : 02-00-c1-a8-d2-e2
Previous Restart : Cold

System Contact   :
System Name      :
System Location  :
System Time      : 1970-01-01T05:45:54+00:00
System Uptime    : 05:45:54


Bootloader
----------
Version          : version 1_5-38e0421
Date             : 18:42:33, May 24 2018

Active Image
------------
Version          :
Date             : 2018-07-13T17:27:19+08:00
Upload filename  : istax_sparxIV_90_48.mfi

Backup Image
------------
Version          :
Date             : 2018-06-20T18:14:46+08:00
Upload filename  : istax_sparxIV_90_48.mfi

------------------
SID : 1
------------------
Chipset ID       : VSC7449
Board Type       : SparX-IV_90_48
Port Count       : 53
Product          : Microsemi SMB500-48MP-740W Switch
Software   Version   :   SMB500-48MP-740Wdev-build   by   sherry@akira-virtual-machine
2018-07-13T17:27:19+08:00    Config:istax_sparxIV_90_48    Profile:istax_sparxIV_90_48
SDK:2017.02-081-smb
Build Date       : 2018-07-13T17:27:19+08:00
Code Revision    : Enviroment variable 'CODE_REVISION' not set during compile
<sys_name>#
```

4.24.53 *vlan*

VLAN status.

Syntax:

```
show vlan
show vlan all
show vlan all [ brief | id <vlan_list> | name <vword32> ]
show vlan brief
show vlan brief all
show vlan id <vlan_list>
show vlan id <vlan_list> all
show vlan ip-subnet
show vlan ip-subnet <ipv4_addr>
show vlan mac
show vlan mac address <mac_ucast>
show vlan name <vword32>
show vlan name <vword32> all
show vlan protocol
show vlan protocol eth2 [ <0x600-0xffff> | arp | at | ip | ipx ]
show vlan protocol llc <0x0-0xff> <0x0-0xff>
show vlan protocol snap [ <0x0-0xffffff> | rfc-1042 | snap-8021h ] <0x0-0xffff>
show vlan status
show vlan status [ admin | all | combined | conflicts | gvrp | mstp | mvr |
 nas | rmirror | vcl | voice-vlan ]
show vlan status [ admin | all | combined | conflicts | gvrp | mstp | mvr |
 nas | rmirror | vcl | voice-vlan ] interface [ * | GigabitEthernet <port_type_list> ]
show vlan status interface [ * | GigabitEthernet <port_type_list> ] [ admin | all |
 combined | conflicts | gvrp | mstp | mvr | nas | rmirror | vcl | voice-vlan ]
```

Parameter:

all

Show all VLANs (if left out only access VLANs are shown)

brief

VLAN summary information

id <vlan_list>

VLAN status by VLAN ID

ip-subnet

Show VCL IP Subnet entries

mac

Show VLAN MAC entries

name <vword32>

VLAN status by VLAN name

protocol

Protocol-based VLAN status

status

Show the VLANs configured for each interface

<ipv4_addr>

Destination IPv4 address

mac address <mac_ucast>
Show a specific MAC entry

eth2
Ethernet protocol based VLAN status

llc
LLC-based VLAN group

snap
SNAP-based VLAN group

<0x600-0xffff>
Ether Type (Range: 0x600 - 0xFFFF)

arp
Ether Type is ARP

at
Ether Type is AppleTalk

ip
Ether Type is IP

ipx
Ether Type is IPX

<0x0-0xff>
DSAP (Range: 0x00 - 0xFF)

<0x0-0xff>
SSAP (Range: 0x00 - 0xFF)

<0x0-0xffffff>
SNAP OUI (Range 0x000000 - 0XFFFFFF)

rfc-1042
SNAP OUI is rfc-1042

snap-8021h
SNAP OUI is 8021h

<0x0-0xffff>
PID (Range: 0x0 - 0xFFFF)

admin
Show the VLANs configured by administrator

all
Show VLANs configured VLANs for all VLAN users

combined
Show the combined set of configured VLANs

conflicts
Show VLAN configurations that have conflicts

gvrp
Show the VLANs configured by GVRP

interface

Show the VLANs configured for a specific interface or interfaces

*****

All switches or all ports

GigabitEthernet

1 Gigabit Ethernet port

<port_type_list>

Port list for all port types or <Port list or ID>

mstp

Show the VLANs configured by MSTP

mvr

Show the VLANs configured by MVR

nas

Show the VLANs configured by NAS

rmirror

Show the VLANs configured by remote mirroring

vcl

Show the VLANs configured by VCL

voice-vlan

Show the VLANs configured by Voice VLAN

Example:

```
<sys_name># show vlan status all interface GigabitEthernet 1/4
GigabitEthernet 1/4 :
---------------------
VLAN User   PortType       PVID  Frame Type     Ing Filter  Tx Tag            UVID  Conflicts
----------  -------------  ----  -------------  ----------  ----------------  ----  ---------
Combined    C-Port          1     All            Enabled     None                1     No
Admin       C-Port          1     All            Enabled     None                1
NAS                                                                                    No
GVRP                                                                                   No
MVR                                                                                    No
Voice VLAN                                                                             No
MSTP                                                                                   No


VCL                                                                                    No
RMirror                                                                                No
<sys_name>#
```

4.24.54 *voice*

Voice appliance attributes.

Syntax:

```
show voice vlan
show voice vlan | [ begin | exclude | include] <line>
show voice vlan interface [ * | GigabitEthernet <port_type_list> ]
show voice vlan oui
show voice vlan oui <oui>
```

Parameter:

vlan

VLAN for voice traffic

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

interface

Select an interface to configure

*****

All switches or all ports

GigabitEthernet

1 Gigabit Ethernet port

<port_type_list>

Port list for all port types or <Port list or ID>

oui

OUI configuration

<oui>

OUI value

Example:

```
<sys_name># show voice vlan interface GigabitEthernet 1/1

GigabitEthernet 1/1 :
---------------------
GigabitEthernet 1/1 switchport voice vlan mode is disabled
GigabitEthernet 1/1 switchport voice security is disabled
GigabitEthernet 1/1 switchport voice discovery protocol is oui

<sys_name>#
```

4.24.55 *web*

Web.

Syntax:

```
show web privilege group [ <cword> ] level
show web privilege group [ <cword> ] level | [ begin | exclude | include] <line>
show web privilege group level
show web privilege group level | [ begin | exclude | include] <line>
```

Parameter:

privilege

Web privilege

group

Web privilege group

<cword>

Valid words are 'Aggregation' 'Alarm' 'DDMI' 'DHCP' 'DHCPv6_Client' 'Diagnostics' 'FRR' 'Firmware' 'Green_Ethernet' 'IP' 'IPMC_Snooping' 'LACP' 'LLDP' "LMC" 'Loop_Protect' 'MAC_Table' 'MRP' 'MVR' 'Miscellaneous' 'NTP' 'POE' 'Ports' 'Private_VLANs' 'QoS' 'RMirror' 'Security(access)' 'Security(network)' 'Spanning_Tree' 'System' "TFTP" 'Trap_Event' 'UDLD' 'UPnP' 'VCL' 'VLAN_Translation' 'VLANs' 'Voice_VLAN' 'Watchdog' 'XXRP' 'sFlow' 'uFDMA_AIL' 'uFDMA_CIL'

level

Web privilege group level

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

Example:

```
<sys_name># show web privilege group level
Group Name                       Privilege Level
                                 CRO CRW SRO SRW
-------------------------------- --- --- --- ---
Aggregation                        5  10   5  10
Alarm                              5  10   5  10
DDMI                               5  10   5  10
DHCP                               5  10   5  10
DHCPv6_Client                      5  10   5  10
Diagnostics                        5  10   5  10


.
.
.
VLANs                              5  10   5  10
Voice_VLAN                         5  10   5  10
XXRP                               5  10   5  10
<sys_name>#
```

4.25 *startlmc*

Connect this switch with the LANCOM Management Cloud (LMC). The LMC shows a pairing token that you have to use with this command.

Syntax:

```
startlmc <Pairing Token>
```

Parameter:

<Pairing Token>

The pairing token is the activation code as shown by the LMC.

Example:

```
Switch# startlmc <token>

Switch#
```

4.26 *terminal*

Set terminal line parameters.

Syntax:

```
terminal [ editing | help ]
terminal exec-timeout <0-1440>
terminal exec-timeout <0-1440> <0-3600>
terminal history size <0-32>
terminal length <0,3-512>
terminal width <0,40-512>
```

Parameter:

editing

Enable command line editing

help

Description of the interactive help system

exec-timeout <0-1440>

Set the EXEC timeout in minutes

<0-3600>

Timeout in seconds

history size <0-32>

Control the command history function by setting the number of commands in the history buffer, 0 means disable

length <0,3-512>

Set number of lines on a screen, 0 for no pausing

width <0,40-512>

Set width of the display terminal by setting the number of characters on a screen line, 0 for unlimited width

Example:

```
<sys_name># terminal exec-timeout 3
<sys_name>#
```

4.27 *trace*

Toggle LMC tracing.

Syntax:

```
trace on | off
```

Parameter:

on

Enable LMC traces

off

Disable LMC traces

Example:

```
<sys_name># trace on
Enable LMC traces
I0101 00:41:42.385625    88 TraceImpl.h:52] All traces enabled
<sys_name>#
```

4.28 *traceroute*

The traceroute command is used to discover the routes that packets actually take when traveling to their destination.

Syntax:

```
traceroute ip [ <domain_name> | <ipv4_addr> ]
traceroute ip [ <domain_name> | <ipv4_addr> ] { [ dscp <0-63> ] | [ firstttl <1-30> ] |
 [ icmp ] | [ maxttl <1-255> ] | numeric | [ probes <1-60> ] | [ saddr <ipv4_addr> ] |
 [ timeout <1-86400> ] }
traceroute ip [ <domain_name> | <ipv4_addr> ] sif GigabitEthernet <port_type_list>
traceroute ip [ <domain_name> | <ipv4_addr> ] sif vlan <vlan_id>
traceroute ipv6 [ <domain_name> | <ipv6_addr> ]
traceroute ipv6 [ <domain_name> | <ipv6_addr> ] { [ dscp <0-63> ] | [ firstttl <1-30> ] |
 [ icmp ] | [ maxttl <1-255> ] | numeric | [ probes <1-60> ] | [ saddr <ipv6_addr> ] |
 [ timeout <1-86400> ] }
traceroute ipv6 [ <domain_name> | <ipv6_addr> ] sif GigabitEthernet <port_type_list>
traceroute ipv6 [ <domain_name> | <ipv6_addr> ] sif vlan <vlan_id>
```

Parameter:

ip

Traceroute (IPv4)

ipv6

Traceroute (IPv6)

<domain_name>

Destination hostname or FQDN

<ipv4_addr>

Destination IPv4 address

<ipv6_addr>

Destination IPv6 address

dscp <0-63>

Specify DSCP value (default 0)

firstttl <1-30>

Specify first number of hops (starting TTL) (default 1)

icmp

Use ICMP instead of UDP

maxttl <1-255>

Specify max number of hops (max TTL) (default 30)

numeric

Print numeric addresses

probes <1-60>

Specify number of probes per hop (default 3)

saddr <ipv4_addr>

Send from interface with source IPv4 address

timeout <1-86400>

Specify time to wait for a response in seconds (default 3)

sif

Send from specified interface

GigabitEthernet

1 Gigabit Ethernet port

<port_type_list>

Port list for all port types or <Port list or ID>

vlan <vlan_id>

Send from VLAN interface with source address

saddr <ipv6_addr>

Send from interface with source IPv6 address

Example:

```
<sys_name># traceroute ip 192.168.1.1 probes 3
traceroute to 192.168.1.1 (192.168.1.1), 30 hops max, 38 byte packets
1  192.168.1.1 (192.168.1.1)  0.146 ms  0.149 ms  0.100 ms
<sys_name>#
```

5 Configuration mode commands

General configuration features. The prompt of the command line is shown as `<sys_name>(config)#`

Command	Function
configure	Enter the configuration mode to configure the switch from the terminal.
aaa	Authentication, Authorization and Accounting.
access	Access management.
access-list ace	Access list entry.
access-list rate-limiter	Access list rate limiter.
aggregation	Aggregation mode.
banner	Define a banner.
clock	Configure time-of-day clock.
default	Set a command to its defaults.
dms	Enable DMS mode.
do	To run exec mode commands in the configuration mode.
dot1x	IEEE Standard for port-based Network Access Control.
enable	Modify enable password parameters.
end	Go back to EXEC mode.
enforce-password-rules	Pasword rules configuration.
event	Trap event severity level.
exit	Exit from current mode.
green-ethernet	Green ethernet (Power reduction).
gvrp	Enable GVRP feature.
help	Description of the interactive help system.
hostname	Set system's network name.
interface	Select an interface to configure.
interface llag	Changes to the configuration mode “Local link aggregation interface configuration” (config-llag).
interface	Select an interface to configure.
ip	Interface Internet Protocol configuration commands.
ipmc	IPv4/IPv6 multicast configuration.
ipv6	IPv6 configuration commands.
json	JavaScript Object Notation RPC
lacp	LACP settings.
line	Configure a terminal line.
lldp	Link Layer Discover Protocol
lmc	Configure LANCOM Management Cloud (LMC) parameters.
logging	System logging message.

Command	Function
loop-protect	Loop protection configuration.
mac	MAC table entries/configuration.
monitor	Monitoring different system events.
mvr	Multicast VLAN Registration configuration.
mvrp	Enable MVRP feature globally
no	no commands
ntp	Configure NTP.
poe	Power Over Ethernet.
port-security	Configure port security.
power	Set power management.
privilege	Command privilege parameters.
prompt	Set prompt.
qos	Quality of Service.
radius-server	Configure RADIUS.
rmon	Remote Monitoring.
router	Routing process.
sflow	Statistics flow.
snmp-server	Set SNMP server's configurations, see *snmp-server commands* on page 194.
spanning-tree	Spanning Tree protocol, see *spanning-tree commands* on page 200.
svl	Shared VLAN Learning.
switchport	Set VLAN switching mode characteristics.
system	Set the SNMP server's configurations.
tacacs-server	Configure TACACS+.
udld	Enable UDLD in the aggressive or normal mode and to set the configurable message timer on all fiber-optic ports.
upnp	Set UPnP's configurations.
username	Establish User Name Authentication.
vlan	VLAN commands.
voice	Voice appliance attributes.
web	Web.

5.1 *aaa*

Authentication, Authorization and Accounting.

Syntax:

```
aaa authentication login [ ssh | telnet | http | console ] [ local | radius | tacacs ]
aaa authorization ( console | ssh | telnet ) tacacs commands <0-15>
aaa authorization ( console | ssh | telnet ) tacacs commands <0-15> config-commands
aaa accounting ( Console | ssh | telnet ) tacacs exec
aaa accounting ( Console | ssh | telnet ) tacacs commands <0-15>
aaa lock login-failures <0-99>
aaa lock minutes <1-99>
```

Parameter:

authentication

Authentication

authorization

Authorization

accounting

Accounting

login

Login

http

Configure HTTP authentication

ssh

Configure SSH authentication / command authorization / command accounting

telnet

Configure telnet authentication / command authorization / command accounting

console

Configure console authentication / command authorization / command accounting

local

Use local database for authentication

radius

Use RADIUS for authentication

tacacs

Use TACACS+ for authentication / authorization / accounting

commands

Enable command authorization / accounting

<0-15>

Command privilege level. Commands equal and above this level are authorized / accounted

config-commands

Include configuration commands

exec

Enable EXEC accounting

lock login-failures <0-99>

Lock configuration after given number of login failures

lock minutes <1-99>

Lock configuration for given number of minutes

Example:

```
<sys_name>(config)# aaa authentication login http radius
<sys_name>(config)#
```

5.2 *access*

Access management.

Syntax:

```
access management <1..16>
access <1..16> <1..4095> [ <ipv4_ucast> | <ipv6_ucast> ] { [ web ] [ snmp ] [ telnet ] |
 all }
access <1..16> <1..4095> [ <ipv4_ucast> | <ipv6_ucast> ] { [ web ] | [ snmp ] |
 [ telnet ] | [all] }
access <1..16> <1..4095> [ <ipv4_ucast> | <ipv6_ucast> ] to <ipv4_ucast>
```

Parameter:

management

Access management configuration

< 1-16>

ID of access management entry

<1..4095>

The VLAN ID for the access management entry

<ipv4_ucast>

Start IPv4 unicast address

<ipv6_ucast>

Start IPv6 unicast address

all

All services

snmp

SNMP service

telnet

TELNET/SSH service

to <ipv4_ucast>

End address of the IPv4 unicast address range

web

Web service

Example:

```
<sys_name>(config)# access management 10 3 192.168.1.1 all
<sys_name>(config)#
```

5.3 *access-list ace*

Access list entry.

Syntax:

```
access-list ace <1-512> action [ deny | permit ]
```

```
access-list ace <1-384> action { ( deny | permit ) [ dmac-type | frame-type | ingress |
logging | mirror | next | policy | rate-limiter | redirect | shutdown | tag |
tag-priority | vid ] }
```

```
access-list ace <1-512> action filter interface ( * | GigabitEthernet |
10GigabitEthernet ) [ <port_type_list> | dmac-type | frame-type | ingress |
logging | mirror | next | policy | rate-limiter | redirect | shutdown | tag |
tag-priority | vid ]
```

```
access-list ace <1-512> action ( deny | permit ) dmac-type ( any | broadcast |
multicast | unicast ) [ frame-type | ingress | logging | mirror | next | policy |
rate-limiter |  redirect | shutdown | tag | tag-priority | vid ]
```

```
access-list ace <1-512> action ( deny | permit ) frame-type { ( any [ dmac-type |
ingress | logging | mirror | next | policy | rate-limiter | redirect | shutdown |
tag | tag-priority | vid ] ) }
```

```
access-list ace <1-512> action ( deny | permit ) frame-type { ( arp [ arp-flag |
arp-opcode | dip | dmac-type | ingress | logging | mirror | next | policy |
rate-limiter | redirect | shutdown | sip | smac | tag | tag-priority | vid ] ) }
```

```
access-list ace <1-512> action ( deny | permit ) frame-type { ( etype [ dmac |
dmac-type | etype-value | ingress | logging | mirror | next | policy | rate-limiter |
redirect | shutdown | smac | tag | tag-priority | vid ] ) }
```

```
access-list ace <1-512> action ( deny | permit ) frame-type { ( ipv4 [ dip | dmac-type |
ingress | ip-flag | ip-protocol | logging | mirror | next | policy | rate-limiter |
redirect | shutdown | sip | tag | tag-priority | vid ] ) }
```

```
access-list ace <1-512> action ( deny | permit ) frame-type { ( ipv4-icmp
[ dip | dmac-type | icmp-code | icmp-type | ingress | ip-flag | ip-protocol | logging |
mirror | next | policy | rate-limiter | redirect | shutdown | sip | tag | tag-priority | vid ] ) }
```

```
access-list ace <1-512> action ( deny | permit ) frame-type { ( ipv4-tcp | ipv4-udp )
[ dip | dmac-type | dport | ingress | ip-flag | logging | mirror | next | policy |
rate-limiter | redirect | shutdown | sip | sport | tag | tag-priority | vid ] ) }
```

```
access-list ace <1-512> action ( deny | permit ) frame-type { ( ipv6 | ipv6-udp )
[ dmac-type | hop-limit | ingress | logging | mirror | next | policy | rate-limiter |
redirect | shutdown | sip | tag | tag-priority | vid ] ) }
```

```
access-list ace <1-512> action ( deny | permit ) frame-type { ( ipv6-icmp [ dip |
dmac-type | icmp-code | icmp-type | ingress | logging | mirror | next | policy |
rate-limiter | redirect | shutdown | sip | tag | tag-priority | vid ] ) }
```

```
access-list ace <1-512> action ( deny | permit ) frame-type { ( ipv6-tcp [ dmac-type |
dport | hop-limit | ingress | logging | mirror | next | policy | rate-limiter |
redirect | shutdown | sip | sport | tag | tag-priority | tcp-flag | vid ] ) }
```

```
access-list ace <1-512> action ( deny | permit ) ingress { ( any [ dmac-type |
frame-type | logging | mirror | next | policy | rate-limiter | redirect | shutdown |
tag | tag-priority | vid ] ) | { interface ( * | GigabitEthernet | 10GigabitEthernet )
```

```
[ <port_type_list> |  dmac-type | frame-type | ingress | logging | mirror | next |
policy | rate-limiter |  redirect | shutdown | tag | tag-priority | vid ] }
```

```
access-list ace <1-512> action ( deny | permit ) logging [ disable | dmac-type |
frame-type | ingress | mirror | next | policy | rate-limiter | redirect | shutdown |
tag | tag-priority | vid ]
```

```
access-list ace <1-512> action ( deny | permit ) mirror [ disable | dmac-type |
frame-type | ingress | logging | next | policy | rate-limiter | redirect | shutdown |
tag | tag-priority | vid ]
```

```
access-list ace <1-512> action ( deny | permit ) next ( <1-512> | last ) [ dmac-type |
frame-type | ingress | logging | mirror | policy | rate-limiter | redirect | shutdown |
tag | tag-priority | vid ]
```

```
access-list ace <1-512> action ( deny | permit ) policy <0-127> [ dmac-type |
frame-type | ingress | logging | mirror | next | policy-bitmask | rate-limiter |
redirect | shutdown | tag | tag-priority | vid ]
```

```
access-list ace <1-512> action ( deny | permit ) rate-limiter ( <1-16> | disable )
[ dmac-type | frame-type | ingress | logging | mirror | next | policy | redirect |
shutdown | tag | tag-priority | vid ]
```

```
access-list ace <1-512> action ( deny | permit ) redirect { ( disable [ dmac-type |
frame-type | ingress | logging | mirror | next | policy | rate=limiter| shutdown | tag |
tag-priority | vid ] ) } | { interface ( * | GigabitEthernet | 10GigabitEthernet )
[ <port_type_list> | dmac-type | frame-type | ingress | logging | mirror | next |
policy | rate-limiter | shutdown | tag | tag-priority | vid ] }
```

```
access-list ace <1-512> action ( deny | permit ) shutdown [ disable | dmac-type |
frame-type | ingress | logging | mirror | next | policy | rate-limiter | redirect | tag |
tag-priority | vid ]
```

```
access-list ace <1-512> action ( deny | permit ) tag ( any | tagged | untagged )
[ dmac-type | frame-type | ingress | logging | mirror | next | policy | rate-limiter |
redirect | shutdown | tag-priority | vid ]
```

```
access-list ace <1-512> action ( deny | permit ) tag-priority ( 0-1 | 0-3 | 2-3 | 4-5 |
4-7 | 6-7 | <0-7> | any ) [ dmac-type | frame-type | ingress | logging | mirror | next |
policy | rate-limiter | redirect | shutdown | tag | vid ]
```

```
access-list ace <1-512> action ( deny | permit ) vid ( <1-4095> | any ) [ dmac-type |
frame-type | ingress | logging | mirror | next | policy | rate-limiter | redirect |
shutdown | tag | tag-priority ]
```

```
access-list ace update <1-512> [ action | dmac-type | frame-type | ingress | logging |
mirror | next | policy | rate-limiter | redirect | shutdown | tag | tag-priority | vid ]
```

Parameter:

<1-512>

ACE ID

update

Update an existing ACE

action

Access list action

dmac-type

The type of destination MAC address

frame-type

Frame type

ingress

Ingress

logging

Logging frame information.

The logging feature only works when the packet length is less than 1518 (without VLAN tags) and the system log memory size and logging rate is limited.

mirror

Mirror frame to destination mirror port

next

Insert the current ACE before the next ACE ID

policy

Policy

rate-limiter

Rate limiter

redirect

Redirect frame to specific port

shutdown

Shutdown incoming port.

The shutdown feature only works when the packet length is less than 1518 (without VLAN tags).

tag

Tag

tag-priority

Tag priority

vid

VID field

deny

Deny

filter

Filter

permit

Permit

interface

Select an interface to configure

*****

All switches or all ports

GigabitEthernet

Gigabit Ethernet ports

10GigabitEthernet

10 Gigabit Ethernet ports

<port_type_list>

Port list for all port types or <Port list or ID>

any

Don't care about the type of destination MAC address

broadcast

Broadcast destination MAC address

multicast

Multicast destination MAC address

unicast

Unicast destination MAC address

any

Don't care about the frame type

arp

Frame type of ARP

etype

Frame type of EtherType

ipv4

Frame type of IPv4

ipv4-icmp

Frame type of IPv4 ICMP

ipv4-tcp

Frame type of IPv4 TCP

ipv4-udp

Frame type of IPv4 UDP

arp-flag

ARP flag

arp-opcode

ARP/RARP opcode field

dip

Destination IP address field

sip

Source IP address field

smac

Source MAC address field

dmac

Destination MAC address field

etype-value

Ether type value

ip-flag

IP flag

ip-protocol

IPv4 protocol field

icmp-code

ICMP code field

icmp-type

ICMP type field

dport

TCP/UDP destination port field

sport

TCP/UDP source port field

tcp-flag

TCP flag

hop-limit

IPv6 hop limiter field

disable

Disable logging or rate-limiter

last

Place the current ACE to the end of access list

<0-127>

Policy ID

policy-bitmask

The bitmask for policy ID

<1-16>

Rate limiter ID

any

Don't care about tagged or untagged

tagged

Tagged

untagged

Untagged

0-1

The range of tag priority

0-3

The range of tag priority

2-3

The range of tag priority

4-5

The range of tag priority

4-7

The range of tag priority

6-7

The range of tag priority

<0-7>

The value of tag priority

any

Don't care about the value of the tag priority field

<1-4095>

The value of VID field

any

Don't care about the value of the VID field

Example:

```
<sys_name>(config)# access-list ace 10 action deny
<sys_name>(config)#
```

5.4 *access-list rate-limiter*

Access list rate limiter.

Syntax:

```
access-list rate-limiter ( 10pps <0-500000> ) | ( 25kbps <0-400000> ) |
 <1~16> (10pps <0-500000> | 25kbps <0-400000>)
```

Parameter:

10pps

10 packets per second

25kbps

25k bits per second

<1~16>

Rate limiter ID

<0-500000>

Rate value

<0-400000>

Rate value

Example:

```
<sys_name>(config)# access-list rate-limiter 25kbps 0
<sys_name>(config)#
```

5.5 *aggregation*

Aggregation mode.

Syntax:

```
aggregation mode [ dmac | ip | port | smac ]
```

Parameter:

mode

Traffic distribution mode

dmac

Destination MAC affects the distribution

ip

IP address affects the distribution

port

IP port affects the distribution

smac

Source MAC affects the distribution

Example:

```
<sys_name>(config)# aggregation mode dmac
<sys_name>(config)#
```

5.6 *banner*

Define a banner.

Syntax:

```
banner [ <LINE> ]
```

```
banner ( exec | login | motd ) <LINE>
```

Parameter:

<LINE>

c banner-text c, where 'c' is a delimiting character

exec

Set EXEC process creation banner

login

Set login banner

motd

Set Message of the Day banner

Example:

```
<sys_name>(config)#) banner exec LINE
Enter TEXT message.  End with the character 'L'.
L
<sys_name>(config)#
```

5.7 *clock*

Configure time-of-day clock.

Syntax:

```
clock summer-time <word16> date ( [ <1-12> ] ) | ( <1-12> <1-31> <2000-2097> <hhmm>
<1-12> <1-31> <2000-2097> <hhmm> [ <1-1439> ] )
```

```
clock summer-time <word16> recurring ( [ <1-5> ] ) | (<1-5> <1-7> <1-12> <hhmm> <1-5>
<1-7> <1-12> <hhmm> [ <1-1439> ] )
```

```
clock timezone <word16> <-23-23> [ <0-59> <0-9> ]
```

Parameter:

summer-time

Configure summer (daylight savings) time

timezone

Configure time zone

<word16>

Name of the time zone (the string '' is a special syntax that is reserved for null input)

date

Configure absolute summer time

recurring

Configure recurring summer time

<1-12>

Month to start resp. end

<1-31>

Day of month te to start resp. end

<2000-2097>

Year to start resp. emd

<hhmm>

Time to start resp. end (hh:mm)

<1-1439>

Offset to add in minutes

<1-5>

Number of week to start

<1-7>

Day of week to start

<-23-23>

Hours offset from UTC

<0-59>

Minutes offset from UTC

<0-9>

Sub type of time zone

Example:

```
<sys_name>(config)# clock timezone taipei 8
<sys_name>(config)#
```

5.8 *default*

Set a command to its defaults.

Syntax:

```
default access-list rate-limiter [ <1-16> ]
```

Parameter:

access-list

Access list

rate-limiter

Rate limiter

<1-16>

Rate limiter ID

Example:

```
<sys_name>(config)# default access-list rate-limiter 3
<sys_name>(config)#
```

5.9 *dms*

Enable DMS mode.

Syntax:

```
dms
dms mode [ disabled | enabled | high-priority ]
```

Parameter:

mode

DMS mode

disabled

DMS mode is disabled

enabled

DMS mode is enabled

high-priority

DMS mode is high priority

Example:

```
<sys_name>(config)# dms mode high-priority
<sys_name>(config)#
```

5.10 *do*

To run exec mode commands in the configuration mode.

Syntax:

```
do <LINE> [ <LINE> ]
```

Parameter:

<LINE>

Exec mode command

Example:

```
<sys_name>(config)# do clear statistics interface GigabitEthernet 1/1-1
<sys_name>(config)#
```

5.11 *dot1x*

IEEE Standard for port-based Network Access Control.

Syntax:

```
dot1x authentication timer re-authenticate <1-3600>
dot1x authentication timer inactivity <10-1000000>
dot1x feature { [ guest-vlan ] [ radius-qos ] [ radius-vlan ] }
dot1x guest-vlan [ <1-4095> | supplicant ]
dot1x max-reauth-req <1-255>
dot1x re-authentication
dot1x system-auth-control
dot1x timeout ( tx-period <1-65535> ) | ( quiet-period <10-1000000> )
dot1x macbased-credentials { [ identity <identity> ] [ password <password> ] }
```

Parameter:

authentication

Authentication

feature

Globally enables/disables a dot1x feature functionality

guest-vlan

Globally enables/disables state of guest-vlan

radius-qos

Globally enables/disables state of RADIUS-assigned QoS.

radius-vlan

Globally enables/disables state of RADIUS-assigned VLAN.

guest-vlan

Guest VLAN

max-reauth-req <1-255>

The number of times a request identity EAPOL frame is sent without response before considering entering the guest VLAN

re-authentication

Set re-authentication state

system-auth-control

Set the global NAS state

timeout

Time-out

timer

Timer

inactivity <10-1000000>

Time in seconds between check for activity on successfully authenticated MAC addresses.

re-authenticate <1-3600>

The period between re-authentication attempts in seconds.

<1-4095>

Guest VLAN ID used when entering the Guest VLAN

supplicant

The switch remembers if an EAPOL frame has been received on the port for the life-time of the port. Once the switch considers whether to enter the Guest VLAN, it will first check if this option is enabled or disabled. If disabled (unchecked, default), the switch will only enter the Guest VLAN if an EAPOL frame has not been received on the port for the life-time of the port. If enabled (checked), the switch will consider entering the Guest VLAN even if an EAPOL frame has been received on the port for the life-time of the port.

quiet-period <10-1000000>

Time in seconds before a MAC-address that failed authentication gets a new authentication chance.

tx-period <1-65535>

The time in seconds between EAPOL retransmissions.

macbased-credentials { [identity <identity>] [password <password>] }

Sets a static macbased auth and password identity. By defining a global MAB password for each switch, it is possible to better allocate MAC addresses to internal clients and distinguish whether this MAC moves from one client to another.

Example:

```
<sys_name>(config)# dot1x authentication timer re-authenticate 1000
<sys_name>(config)#
```

5.12 *enable*

Modify enable password parameters.

Syntax:

```
enable password ( level <1-15> <word32> ) | ( <word32> )
enable secret ( 0 | 5 ) ( level <1-15> <word32> ) | ( <word32> )
```

Parameter:

password

Assign the privileged level clear password

secret

Assign the privileged level secret

level <1-15>

Set exec level password

<word32>

The UNENCRYPTED (clear-text) password

0

Specifies an UNENCRYPTED password will follow

5

Specifies an ENCRYPTED secret will follow

Example:

```
<sys_name>(config)# enable password level 10 999
<sys_name>(config)#
```

5.13 *end*

Go back to EXEC mode.

Syntax:

```
end
```

Example:

```
<sys_name>(config)# end
<sys_name>#
```

5.14 *enforce-password-rules*

Pasword rules configuration. This switch forces the following policy for the device and the administrator passwords:

- The length of the password must be at least 8 and the maximum allowed length is 32 characters.
- The password has to contain at least 3 of the following 4 character classes: lowercase and uppercase letters, numeric and special characters.

Please take into account that after enabling this switch, the policy is not checked immediately on existing passwords. Conformance will be checked only on future password changes.

Syntax:

```
enforce-password-rules
```

Example:

```
<sys_name>(config)# enforce-password-rules
<sys_name>(config)#
```

5.15 *event*

Trap event severity level.

Syntax:

```
event group [ acl | acl-log | access-mgmt | auth-failed | cold-start | config-info |
fan | firmware-upgrade | import-export | lacp | link-status | login | logout |
loop-protect | mgmt-ip-change | module-change | nas | NTP-Sync |
Over-Max-PoE-Power-Limitation | Password-Change | PoE-Auto-Check | PoE-PD-Off |
PoE-PD-On | PoE-PD-Over-Current | Poe-Auto-Power-Reset | port-security |
```

```
spanning-tree | Temperature | Voltage ] { [ level < 0-7 > ] | { syslog [ enable |
disable ] } | { trap [ enable | disable ] } | { smtp [ enable | disable ] }}
```

```
event group [ acl | acl-log | access-mgmt | auth-failed | cold-start | config-info |
fan | firmware-upgrade | import-export | lacp | link-status | login | logout |
loop-protect | mgmt-ip-change | module-change | nas | NTP-Sync |
Over-Max-PoE-Power-Limitation | Password-Change | PoE-Auto-Check | PoE-PD-Off |
PoE-PD-On | PoE-PD-Over-Current | Poe-Auto-Power-Reset | port-security | spanning-tree |
Temperature | Voltage ] [ level | syslog | trap | smtp ]
```

```
event group [ acl | acl-log | access-mgmt | auth-failed | cold-start | config-info |
fan | firmware-upgrade | import-export | lacp | link-status | login | logout |
loop-protect | mgmt-ip-change | module-change | nas | NTP-Sync |
Over-Max-PoE-Power-Limitation | Password-Change | PoE-Auto-Check | PoE-PD-Off |
PoE-PD-On | PoE-PD-Over-Current | Poe-Auto-Power-Reset | port-security | spanning-tree |
Temperature | Voltage ] [ level | syslog | trap ] < 0-7 > { syslog
[ enable | disable ] [ trap ] } | { trap [ enable | disable ] [ syslog ] }
```

Parameter:

group

Trap Event group name

acl

Group ID ACL

acl-log

Group ID ACL-Log

access-mgmt

Group ID ACCESS-MGMT

auth-failed

Group ID AUTH-FAILED

cold-start

Group ID COLD-START

config-info

Group ID CONFIG-INFO

fan

Group ID FAN

firmware-upgrade

Group ID FIRMWARE-UPGRADE

import-export

Group ID IMPORT-EXPORT

lacp

Group ID LACP

link-status

Group ID LINK-STATUS

login

Group ID LOGIN

logout

Group ID LOGOUT

loop-protect

Group ID LOOP-PROTECT

mgmt-ip-change

Group ID MGMT-IP-CHANGE

module-change

Group ID MODULE-CHANGE

nas

Group ID NAS

NTP-Sync

Group ID NTP-SYNC

Over-Max-PoE-Power-Limitation

Group ID OVER-MAX-POE-POWER-LIMITATION

Password-Change

Group ID PASSWORD-CHANGE

PoE-Auto-Check

Group ID POE-AUTO-CHECK

PoE-PD-Off

Group ID POE-PD-OFF

PoE-PD-On

Group ID POE-PD-ON

PoE-PD-Over-Current

Group ID POE-PD-OVER-CURRENT

Poe-Auto-Power-Reset

Group ID POE-AUTO-POWER-RESET

port-security

Group ID PORT-SECURITY

spanning-tree

Group ID SPANNING-TREE

Temperature

Group ID TEMPERATURE

Voltage

Group ID VOLTAGE

level

Event group level

smtp

SMTP mode

syslog

Syslog mode

trap

Trap mode

<0-7>

<0> Emergency ,<1> Alert ,<2> Critical ,<3> Error ,<4> Warning ,<5> Notice ,<6> Informational

enable

Enable Syslog | Trap | SMTP mode

disable

Disable Syslog | Trap | SMTP mode

Example:

```
<sys_name>(config)# event group lacp trap enable
<sys_name>(config)#
```

5.16 *exit*

Exit from current mode.

Syntax:

```
exit
```

Parameter:
Example:

```
<sys_name>(config)# exit
<sys_name>#
```

5.17 *green-ethernet*

Green ethernet (Power reduction).

Syntax:

```
green-ethernet eee optimize-for-power
```

Parameter:

eee

Powering down of PHYs when there is no traffic.

optimize-for-power

Set if EEE shall be optimized for least power consumption (else optimized for least traffic latency).

Example:

```
<sys_name>(config)# green-ethernet eee optimize-for-power
<sys_name>(config)#
```

5.18 *gvrp*

Enable GVRP feature.

Syntax:

```
gvrp
gvrp max-vlans <1-4094>
gvrp time [ join-time <1-20> ] [ leave-time <60-300> ] [ leave-all-time <1000-5000> ]
```

Parameter:

max-vlans <1-4094>

Number of simultaneously VLANs that GVRP can control

time

Configure GARP protocol timer parameters. IEEE 802.1D-2004, clause 12.11.

join-time <1-20>

Set GARP protocol parameter JoinTime in units of centiseconds. Range is 1-20. Default is 20.

leave-time <60-300>

Set GARP protocol parameter LeaveTime in units of centiseconds. Range is 60-300. Default is 60.

leave-all-time <1000-5000>

Set GARP protocol parameter LeaveAllTime in units of centiseconds Range is 1000-5000. Default is 1000.

Example:

```
<sys_name>(config)# gvrp max-vlans 333
<sys_name>(config)# gvrp time join-time 13 leave-all-time 3000 leave-time 200
<sys_name>(config)#
```

5.19 *help*

Description of the interactive help system.

Syntax:

```
help
```

Example:

```
<sys_name>(config)# help
Help may be requested at any point in a command by entering
a question mark '?'.  If nothing matches, the help list will
be empty and you must backup until entering a '?' shows the
```

```
available options.
Two styles of help are provided:
1. Full help is available when you are ready to enter a
   command argument (e.g. 'show ?') and describes each possible
   argument.
2. Partial help is provided when an abbreviated argument is entered
   and you want to know what arguments match the input
   (e.g. 'show pr?'.)

<sys_name>(config)#
```

5.20 *hostname*

Set system's network name.

Syntax:

```
hostname <line128>
```

Parameter:

<line128>

This system's network name.

Example:

```
<sys_name>(config)# hostname abc
<sys_name>(config)#
```

5.21 *interface*

Select an interface to configure.

Syntax:

```
interface { * [ <port_type_list> ] } | { ( GigabitEthernet | 10GigabitEthernet )
<port_type_list> { [ * | GigabitEthernet | 10GigabitEthernet ] } [ <port_type_list> ] }
```

Parameter:

*****

All switches or all ports

GigabitEthernet

Gigabit Ethernet Ports

10GigabitEthernet

10 Gigabit Ethernet Ports

<port_type_list>

Port list for all port types or <Port list or ID>

Possible commands in this mode

Command	Function
access-list	Configure access list.
aggregation	Create an aggregation.
description	Configures port description.
duplex	Interface duplex.
end	Go back to EXEC mode.
excessive-restart	Restart backoff algorithm after 16 collisions (No excessive-restart means discard frame after 16 collisions).
flowcontrol	Traffic flow control.
frame-length-check	Drop frames with mismatch between EtherType/Length field and actually payload size.
green-ethernet	Green Ethernet (Power reduction).
gvrp	Enable GVRP on interface or interfaces.
ip	Interface Internet Protocol configuration commands.
ipv6	IPv6 configuration commands.
lacp	LACP port configuration.
lldp	Link Layer Discover Protocol.
loop-protect	Loop protection configuration on port.
mac	MAC keyword.
media-type	Media type.
mrp	MRP.
mtu	Maximum transmission unit.
mvr	Multicast VLAN Registration configuration.
mvrp	Enable MVRP on the interface.
poe	Power Over Ethernet.
port-security	Enable/disable port security per interface.
priority-flowcontrol	Priority Flow Control (802.1Qbb).
pvlan	Private VLAN.
qos	Quality of Service.
rmon	Configure Remote Monitoring on an interface.
sflow	Statistics flow.
shutdown	Shutdown of the interface.
spanning-tree	Spanning Tree protocol.
speed	Configures interface speed.
switchport	Set VLAN switching mode characteristics.
udld	UDLD configurations.

Example:

```
<sys_name>(config)# interface GigabitEthernet 1/1-48
<sys_name>(config-if)# exit
```

5.21.1 *access-list*

Configure access list.

Syntax:

```
access-list action { deny | permit }
access-list logging
access-list mirror
access-list policy <0-127>
access-list port-state
access-list rate-limiter <1-16>
access-list redirect interface ( * | GigabitEthernet | 10GigabitEthernet )
[ <port_type_list> ]
access-list shutdown
```

Parameter:

action { deny | permit }

Deny or permit access list action

logging

Logging frame information.

The logging feature only works when the packet length is less than 1518 (without VLAN tags) and the System Log memory size and logging rate is limited.

mirror

Mirror frame to destination mirror port

policy <0-127>

Policy ID

port-state

Re-enable shutdown port that was shutdown by access-list module

rate-limiter <1-16>

Rate limiter ID

redirect interface (* | GigabitEthernet | 10GigabitEthernet) [<port_type_list>]

Redirect frame to specific port

interface

Select an interface to configure

*****

All switches or all ports

GigabitEthernet

Gigabit Ethernet ports

10GigabitEthernet

10 Gigabit Ethernet ports

<port_type_list>

Port list for all port types or <Port list or ID>

shutdown

Shutdown incoming port.

The shutdown feature only works when the packet length is less than 1518 (without VLAN tags).

Example:

```
<sys_name>(config-if)# shutdown
<sys_name>(config-if)#
```

5.21.2 *aggregation*

Create an aggregation

Syntax:

```
aggregation group <1-26> mode ( active | on | passive)
```

Parameter:

group <1-26> mode (active | on | passive)

Create an aggregation group with group ID 1 to 26 and one of the following modes:

active

Active LACP

on

Static aggregation

passive

Passive LACP

Example:

```
<sys_name>(config-if)# aggregation group 1 mode passive
<sys_name>(config-if)#
```

5.21.3 *description*

Configures port description.

Syntax:

```
description <line16> [<line16>] [<line16>] [<line16>]
```

Parameter:

<line16>

Up to 16 characters describing this interface.

Example:

```
<sys_name>(config-if)# description Uplink
<sys_name>(config-if)#
```

5.21.4 *duplex*

Interface duplex

Syntax:

```
duplex auto [ full | half ]
duplex full
duplex half
```

Parameter:

auto [full | half]

Auto negotiation of duplex mode while advertising either full or half duplex.

full

Forced full duplex

half

Forced half duplex

Example:

```
<sys_name>(config-if)# duplex auto
<sys_name>(config-if)#
```

5.21.5 *end*

Go back to EXEC mode.

Syntax:

```
end
```

Example:

```
<sys_name>(config-if)# end
<sys_name>#
```

5.21.6 *excessive-restart*

Restart backoff algorithm after 16 collisions (No excessive-restart means discard frame after 16 collisions).

Syntax:

```
excessive-restart
```

Example:

```
<sys_name>(config-if)# excessive-restart
10GigabitEthernet 1/1 does not support this mode/speed
10GigabitEthernet 1/2 does not support this mode/speed
10GigabitEthernet 1/3 does not support this mode/speed
```

```
10GigabitEthernet 1/4 does not support this mode/speed
<sys_name>(config-if)#
```

5.21.7 *flowcontrol*

Traffic flow control.

Syntax:

```
flowcontrol ( on | off )
```

Parameter:

on

Enable flow control

off

Disable flow control

Example:

```
><sys_name>(config-if)# flowcontrol on
<sys_name>(config-if)#
```

5.21.8 *frame-length-check*

Drop frames with mismatch between EtherType/Length field and actually payload size.

Syntax:

```
frame-length-check
```

Example:

```
><sys_name>(config-if)# frame-length-check
<sys_name>(config-if)#
```

5.21.9 *green-ethernet*

Green Ethernet (Power reduction).

Syntax:

```
green-ethernet eee [urgent-queues [ <range_list> ] ]
green-ethernet energy-detect
green-ethernet short-reach
```

Parameter:

eee [urgent-queues [<range_list>]]

Powering down of physical interfaces when there is no traffic.

Optionally enable EEE urgent queue for all or a specific EEE interface. An urgent queue means that latency is kept to a minimum for traffic going to that queue.

EEE power savings will be reduced.

energy-detect

Enable power saving for ports with no link partner

short-reach

Enable power saving for all ports which are connected to a link partner with a short cable

Example:

```
><sys_name>(config-if)#  green-ethernet short-reach
10GigabitEthernet 1/1 is not short reach capable. Skipping
10GigabitEthernet 1/2 is not short reach capable. Skipping
10GigabitEthernet 1/3 is not short reach capable. Skipping
10GigabitEthernet 1/4 is not short reach capable. Skipping
<sys_name>(config-if)#
```

5.21.10 *gvrp*

Enable GVRP (GARP VLAN Registration Protocol) on interface or interfaces.

Syntax:

```
gvrp
```

Example:

```
><sys_name>(config-if)#  gvrp
<sys_name>(config-if)#
```

5.21.11 *ip*

Interface Internet Protocol configuration commands.

Syntax:

```
ip arp inspection check-vlan
ip arp inspection logging ( all | deny | permit )
ip arp inspection trust
ip dhcp snooping trust
ip igmp snooping filter <word16>
ip igmp snooping immediate-leave
ip igmp snooping max-groups <1-10>
ip igmp snooping mrouter
ip verify source [ limit <0-2> ]
```

Parameter:

arp inspection check-vlan

ARP (Address Resolution Protocol) inspection VLAN mode configuration

arp inspection logging (all | deny | permit)

ARP inspection logging mode configuration. Log all, only denied or only permitted entries.

arp inspection trust

ARP inspection trust configuration

dhcp snooping trust

DHCP Snooping trust configuration

igmp snooping filter <word16>

Access control on IGMP multicast group registration with a profile name in 16 characters

igmp snooping immediate-leave

IGMP immediate leave configuration

igmp snooping max-groups <1-10>

Maximum number of IGMP group registration

igmp snooping mrouter

IGMP multicast router port configuration

verify source [limit <0-2>]

Verify the source with an optional limit number

Example:

```
<sys_name>(config-if)# ip dhcp snooping trust
<sys_name>(config-if)#
```

5.21.12 *ipv6*

IPv6 configuration commands.

Syntax:

```
ipv6 mld snooping filter <word16>
ipv6 mld snooping immediate-leave
ipv6 mld snooping max-groups <1-10>
ipv6 mld snooping mrouter
```

Parameter:

mld snooping filter <word16>

Access control on MLD (Multicast Listener Discovery) multicast group registration with a profile name in 16 characters

mld snooping immediate-leave

MLD immediate leave configuration

mld snooping max-groups <1-10>

MLD group throttling configuration gives the maximum number of MLD group registration in the range from 1 to 10

mld snooping mrouter

MLD multicast router port configuration

Example:

```
<sys_name>(config-if)# ipv6 mld snooping mrouter
<sys_name>(config-if)#
```

5.21.13 *lacp*

LACP port configuration.

Syntax:

```
lacp port-priority <1-65535>
lacp timeout ( fast | slow )
```

Parameter:

port-priority <1-65535>

LACP priority of the port, lower means higher priority

timeout (fast | slow)

The period between BPDU transmissions. Either transmit BPDU each second (fast) or each 30th second (slow)

Example:

```
<sys_name>(config-if)# lacp timeout slow
<sys_name>(config-if)#
```

5.21.14 *lldp*

Link Layer Discover Protocol.

Syntax:

```
lldp cdp-aware
lldp med media-vlan policy-list <range_list>
lldp med transmit-tlv [capabilities] [location] [network-policy] [poe]
lldp med type ( connectivity | end-point )
lldp receive
lldp tlv-select management-address
lldp tlv-select port-description
lldp tlv-select system-capabilities
lldp tlv-select system-description
lldp tlv-select system-name
lldp transmit
lldp trap
```

Parameter:

cdp-aware

Configures if the interface shall be CDP aware (CDP discovery information is added to the LLDP neighbor table)

med media-vlan policy-list <range_list>

MED (Media Endpoint Discovery) VLAN assignment of policies to the interface

med transmit-tlv [capabilities] [location] [network-policy] [poe]

LLDP-MED Location Type Length Value parameter. Additionally enable transmission of the optional capabilities TLV, location TLV, network-policy TLV and PoE TLV.

med type (connectivity | end-point)

Select if the interface is working as 'Network Connectivity Device' or an 'Endpoint Device'. The difference between working as 'Network Connectivity Device' and an 'Endpoint Device' is a question of who is initializing the LLDP-MED TLVs transmission. A 'Network Connectivity Device' is not starting LLDP-MED TLVs transmission until it has detected an 'Endpoint Device' as link partner. An 'Endpoint Device' will start LLDP-MED TLVs transmission at once.

receive

Enable/Disable decoding of received LLDP frames

tlv-select management-address

Enable/Disable transmission of management address

tlv-select port-description

Enable/Disable transmission of port description

tlv-select system-capabilities

Enable/Disable transmission of system capabilities.

tlv-select system-description

Enable/Disable transmission of system description

tlv-select system-name

Enable/Disable transmission of system name

transmit

Enable/Disabled transmission of LLDP frames

trap

Configures if an SNMP trap shall be emitted when the LLDP neighbor table changes for the interface

Example:

```
<sys_name>(config-if)# lldp tlv-select system-name
<sys_name>(config-if)#
```

5.21.15 *loop-protect*

Loop protection configuration on port.

Syntax:

```
loop-protect
loop-protect action [log] [shutdown]
loop-protect tx-mode
```

Parameter:

<cr>

Enable loop protection configuration on port

action [log] [shutdown]

Define the action if a loop is detected. Generate a log entry and/or shutdown the port.

tx-mode

Actively generate PDUs

Example:

```
<sys_name>(config-if)# loop-protect action log shutdown
<sys_name>(config-if)#
```

5.21.16 *mac*

MAC keyword.

Syntax:

```
mac address-table learning [secure]
```

Parameter:

address-table learning [secure]

Enable MAC address table learning. Optionally set the port secure mode.

Example:

```
<sys_name>(config-if)# mac address-table learning secure
<sys_name>(config-if)#
```

5.21.17 *media-type*

Media type.

Syntax:

```
media-type dual
media-type rj45
media-type sfp
```

Parameter:

dual

Dual media interface (cu & fiber interface)

rj45

RJ45 interface (copper interface)

sfp

SFP interface (fiber interface)

5.21.18 *mrp*

MRP.

Syntax:

```
mrp periodic
mrp timers default
mrp timers join-time <1-20>
mrp timers leave-all-time <1000-5000>
mrp timers leave-time <60-300>
```

Parameter:

periodic

Enable MRP periodic transmission on the interface

timers default

timers lets you configure the MRP protocol timer parameters. See IEEE 802.1Q-2014, clause 10.7.

This command sets all MRP timers to their default values

timers join-time <1-20>

Set MRP protocol parameter JoinTime in units of centiseconds. Range is 1-20. Default is 20.

timers leave-all-time <1000-5000>

Set MRP protocol parameter LeaveAllTime in units of centiseconds Range is 1000-5000. Default is 1000.

timers leave-time <60-300>

Set MRP protocol parameter LeaveTime in units of centiseconds. Range is 60-300. Default is 60.

Example:

```
<sys_name>(config-if)# mrp timers default
<sys_name>(config-if)#
```

5.21.19 *mtu*

Maximum transmission unit.

Syntax:

```
mtu <1518-10240>
```

Parameter:

<1518-10240>

Maximum frame size in bytes

Example:

```
<sys_name>(config-if)# mtu 10240
<sys_name>(config-if)#
```

5.21.20 *mvr*

Multicast VLAN Registration configuration.

Syntax:

```
mvr immediate-leave
mvr name <word16> type ( receiver | source )
mvr vlan <vlan_list> type ( receiver | source )
```

Parameter:

immediate-leave

Immediate leave configuration

name <word16> type (receiver | source)

Configure a MVR multicast name with a type of either a MVR receiver or source port

vlan <vlan_list> type (receiver | source)

Configure a MVR multicast VLAN with a type of either a MVR receiver or source port

Example:

```
<sys_name>(config-if)# mvr immediate-leave
<sys_name>(config-if)#
```

5.21.21 *mvrp*

Enable MVRP on the interface.

Syntax:

```
mvrp
```

Example:

```
<sys_name>(config-if)# mvrp
<sys_name>(config-if)#
```

5.21.22 *poe*

Power Over Ethernet.

Syntax:

```
poe delay-mode
poe delay-time <0-300>
poe failure-action ( failure-action | reboot-Remote-PD )
poe hour <0-23>
poe interval-time <10-120>
poe mode ( disable | enable )
poe ping-ip-addr <ipv4_addr>
poe ping-retry-time <1-5>
poe port-profile name <line32> [ <line32> ] …
poe power limit <fword2.1>
poe priority ( critical | high | low )
poe reboot-time <3-120>
poe schedule-all
poe schedule-mode
poe startup-time <30-600>
poe weekday (Mon|Tue|Wed|Thr|Fri|Sat|Sun) hour <0-23>
```

Parameter:

delay-mode

Configure PoE power delay mode

delay-time <0-300>

Setting power delay time from 0 to 300(sec)

failure-action (failure-action | reboot-Remote-PD)

Configure PoE auto check failure action to do nothing (failure-action) or to reboot the remote PD

hour <0-23>

Configure PoE power scheduling per hour

interval-time <10-120>

Configure PoE auto check interval time from 10 to 120 seconds

mode (disable | enable)

Enable or disable PoE

ping-ip-addr <ipv4_addr>

Configure PoE ping IP address

ping-retry-time <1-5>

Configure PoE auto check retries

port-profile name <line32> [<line32>] …

PoE scheduling profile with up to 8 profile names, each name with a maximum of 32 characters

power limit <fword2.1>

Setting maximum power for port in allocation mode (Class 4 PDs limited to 30W)

priority (critical | high | low)

Interface priority critical, high or low

reboot-time <3-120>

Configure PoE auto check reboot time in seconds

schedule-all

Configure PoE schedule all of hours

schedule-mode

Configure PoE Schedule mode

startup-time <30-600>

Configure PoE auto check start up time in seconds

weekday (Mon|Tue|Wed|Thr|Fri|Sat|Sun) hour <0-23>

Configure PoE power scheduling for a specific day of a week. Enter Hour i.e. as 0,1,5-8

Example:

```
<sys_name>(config-if)# poe weekday Mon hour 8-18
<sys_name>(config-if)#
```

5.21.23 *port-security*

Enable/disable port security per interface.

Syntax:

```
port-security
port-security maximum <0-1024>
port-security maximum-violation <0-1024>
port-security violation ( protect | restrict | shutdown )
```

Parameter:

<cr>

Enable/disable port security per interface

maximum <0-1024>

Maximum number of MAC addresses that can be learned on this set of interfaces

maximum-violation <0-1024>

Maximum number of violating MAC addresses (used when violation is set to restrict)

violation (protect | restrict | shutdown)

The action taken if limit is exceeded

protect
Do nothing

restrict
Keep recording violating MAC addresses

shutdown
Shutdown the port

Example:

```
<sys_name>(config-if)# port-security
<sys_name>(config-if)#
```

5.21.24 *priority-flowcontrol*

Priority Flow Control (802.1Qbb).

Syntax:

```
priority-flowcontrol prio <0~7>
```

Parameter:

prio <0~7>
Set priority Flow Control (802.1Qbb) to a value of 0 to 7

Example:

```
<sys_name>(config-if)# priority-flowcontrol prio 0
<sys_name>(config-if)#
```

5.21.25 *pvlan*

Private VLAN.

Syntax:

```
pvlan <range_list>
pvlan isolation
```

Parameter:

<range_list>
List of PVLANs. Range is from 1 to number of ports.

isolation
Port isolation

Example:

```
<sys_name>(config-if)# pvlan 1-48
<sys_name>(config-if)#
```

5.21.26 *qos*

Quality of Service.

Syntax:

```
qos class <0-7>
qos cos <0-7>
qos dei <0-1>
qos dpl <0-3>
qos dscp-classify ( any | selected | zero)
qos dscp-remark ( remap | rewrite )
qos dscp-translate
qos egress-map <0-511>
qos ingress-map <0-255>
qos map cos-tag cos <0~7> dpl <0~1> pcp <0-7> dei <0~1>
qos map tag-cos pcp <0-7> dei <0~1> cos <0~7> dpl <0~3>
qos pcp <0-7>
qos policer <1-13128147> [ flowcontrol | fps | kbps | kfps | mbps ]
qos queue-policer queue <0-7> <1-13128147> [ kbps | mbps ]
qos queue-shaper queue <0-7> <1-13107100> [ kbps | mbps ] [ rate-type ( data | line ) ]
qos shaper <1-13107100> [ kbps ] [ rate-type ( data | line ) ]
qos storm ( broadcast | unicast | unknown ) <1-13128147> [ fps | kbps | kfps | mbps ]
qos tag-remark ( mapped | pcp <0-7> dei <0~1> )
qos trust ( dscp | tag )
qos wred-group  <1-3>
qos wrr <1-100> <1-100> [ <1-100> <1-100> <1-100> <1-100> <1-100> <1-100>]
```

Parameter:

class <0-7>

Class of service ID (0-7) configuration

cos <0-7>

Class of service (0-7) configuration

dei <0-1>

Drop Eligible Indicator (0-1) configuration

dpl <0-3>

Drop precedence level (0-3) configuration

dscp-classify (any | selected | zero)

DSCP ingress classification

any

Classify to new DSCP always

selected

Classify to new DSCP if classify is enabled for specific DSCP value in global DSCP classify map

zero

Classify to new DSCP if DSCP is 0

dscp-remark (remap | rewrite)

DSCP egress remarking

remap

Rewrite DSCP field using classified DSCP remapped through global dscp-egress-translation map

rewrite

Rewrite DSCP field with classified DSCP value (no translation)

dscp-translate

DSCP ingress translation

egress-map <0-511>

Egress map association with map ID 0-511

ingress-map <0-255>

Ingress map association with map ID 0-255

map cos-tag cos <0~7> dpl <0~1> pcp <0-7> dei <0~1>

QoS Map/Table configuration for cos to tag configuration

cos <0~7>

Specify class of service or range

dpl <0~1>

Specify drop precedence level or range

pcp <0-7>

Specify PCP (Priority Code Point)

dei <0~1>

Specify DEI (Drop Eligible Indicator)

map tag-cos pcp <0-7> dei <0~1> cos <0~7> dpl <0~3>

QoS Map/Table configuration for tag to cos configuration

pcp <0-7>

Specific PCP or range

dei <0~1>

Specify DEI (Drop Eligible Indicator)

cos <0~7>

Specify class of service

dpl <0~3>

Specify drop precedence level

pcp <0-7>

Priority Code Point (0-7) configuration

policer <1-13128147> [flowcontrol | fps | kbps | kfps | mbps]

Policer configuration by setting the policer rate (default kbps). Internally rounded up to the nearest value supported by the port policer. Optionally enable flow controll and set the policerr rate in another unit:

fps

Unit is frames per second

kbps

Unit is kilobits per second (default)

kfps

Unit is kiloframes per second

mbps

Unit is Megabits per second

queue-policer queue <0-7> <1-13128147> [kbps | mbps]

Queue policer configuration

queue <0-7>

Specific queue or range

<1-13128147> [kbps | mbps]

Policer rate (default kbps—kilobits per second). Internally rounded up to the nearest value supported by the queue policer. Optionally set unit to Megabits per second.

queue-shaper queue <0-7> <1-13107100> [kbps | mbps] [rate-type (data | line)]

Queue shaper configuration

queue <0-7>

Specific queue or range

<1-13107100> [kbps | mbps]

Shaper rate (default kbps—kilobits per second). Internally rounded up to the nearest value supported by the queue shaper. Optionally set unit to Megabits per second.

rate-type (data | line)

Setup shaping rate type as data or line rate shaping

shaper <1-13107100> [kbps] [rate-type (data | line)]

Shaper configuration

<1-13107100> [kbps]

Shaper rate (default kbps—kilobits per second). Internally rounded up to the nearest value supported by the queue shaper.

rate-type (data | line)

Setup shaping rate type as data or line rate shaping

storm (broadcast | unicast | unknown) <1-13128147> [fps | kbps | kfps | mbps]

Storm policer

(broadcast | unicast | unknown)

Police broadcast, unicast or unknown (flooded) frames

policer <1-13128147> [fps | kbps | kfps | mbps]

Policer configuration by setting the policer rate (default kbps). Internally rounded up to the nearest value supported by the port policer. Optionally set the policerr rate in another unit:

fps

Unit is frames per second

kbps

Unit is kilobits per second (default)

kfps

Unit is kiloframes per second

mbps

Unit is Megabits per second

trust (dscp | tag)

Trust configuration with DSCP value or VLAN tag

tag-remark (mapped | pcp <0-7> dei <0~1>)

Tag remarking configuration

mapped

Use mapped values (COS, DPL -> PCP, DEI)

pcp <0-7> dei <0~1>

Specify default PCP and DEI

wred-group <1-3>

WRED group (1-3) configuration

wrr <1-100> <1-100> [<1-100> <1-100> <1-100> <1-100> <1-100> <1-100>]

Weighted round robin configuration for queues 0 and 1. Optionally give weights for queue 2 to 7.

Example:

```
<sys_name>(config-if)# qos class 5
<sys_name>(config-if)#
```

5.21.27 *rmon*

Configure Remote Monitoring on an interface.

Syntax:

```
rmon collection history <1-65535> [ buckets <1-3600> ] [ interval <1-3600> ]
rmon collection stats <1-65535>
```

Parameter:

collection history <1-65535> [buckets <1-3600>] [interval <1-3600>]

Configure history (Entry ID 1-65535) for remote monitoring collection on an interface

buckets <1-3600>

Requested buckets of intervals. Default is 50 buckets

interval <1-3600>

Interval to sample data for each bucket. Default is 1800 seconds

collection stats <1-65535>

Configure statistics (Entry ID 1-65535) for remote monitoring collection on an interface

Example:

```
<sys_name>(config-if)# rmon collection stats 1
<sys_name>(config-if)#
```

5.21.28 *sflow*

Statistics flow.

Syntax:

```
sflow
sflow counter-poll-interval <1-3600>
sflow max-sampling-size <14-200>
sflow sampler-type ( all | rx | tx )
sflow sampling-rate <1-4294967295>
```

Parameter:

<cr>

Configure statistics flow

counter-poll-interval <1-3600>

The interval—in seconds—between counter poller samples.

max-sampling-size <14-200>

Specifies the maximum number of bytes to transmit per flow sample. To have room for any frame, the maximum datagram size should be roughly 100 bytes larger than the maximum header size.

sampler-type (all | rx | tx)

Specifies the types of flow sample.

sampling-rate <1-4294967295>

Specifies the statistical sampling rate. The sample rate is specified as N to sample 1/Nth of the packets n the monitored flows. There are no restrictions on the value, but the switch will adjust it to the closest possible sampling rate.

Example:

```
<sys_name>(config-if)# sflow
<sys_name>(config-if)#
```

5.21.29 *shutdown*

Shutdown of the interface.

Syntax:

```
shutdown
```

Example:

```
<sys_name>(config-if)# shutdown
<sys_name>(config-if)#
```

5.21.30 *spanning-tree*

Spanning Tree protocol.

Syntax:

```
spanning-tree
spanning-tree auto-edge
spanning-tree bpdu-guard
spanning-tree edge
spanning-tree link-type ( auto | point-to-point | shared )
spanning-tree mst <0-7> ( cost ( <1-200000000> | auto ) | port-priority <0-240> )
spanning-tree restricted-role
spanning-tree restricted-tcn
```

Parameter:

<cr>

Configure Spanning Tree protocol

auto-edge

Auto detect edge status

bpdu-guard

Enable/disable BPDU guard

edge

Edge port

link-type (auto | point-to-point | shared)

Port link-type

auto

Auto detect

point-to-point

Forced to point-to-point

shared

Forced to shared

mst <0-7> (cost (<1-200000000> | auto) | port-priority <0-240>)

STP bridge instance

<0-7>

Instance (CIST=0, MSTI1=1…)

cost (<1-200000000> | auto)

STP Cost of this port with a cost range between 1-200000000 or use auto cost

port-priority <0-240>

STP priority of this port. Port priority must be divisible by 16, supported values are 0/16/32/48/64/80/96/112/128/144/160/176/192/208/224/240. Default value is 128

restricted-role

Port role is restricted (never root port)

restricted-tcn

Restrict topology change notifications

Example:

```
<sys_name>(config-if)# spanning-tree auto-edge
<sys_name>(config-if)#
```

5.21.31 *speed*

Configures interface speed.

Syntax:

```
speed 10 | 100 | 1000 | 10g | auto
```

Parameter:

10

10Mbps

100

100Mbps

1000

1Gbps

10g

10Gbps

auto

Auto negotiation. If you use 10, 100, or 1000 keywords with the auto keyword the port will only advertise the specified speeds.

Example:

```
<sys_name>(config-if)# speed auto
<sys_name>(config-if)#
```

5.21.32 *switchport*

Set VLAN switching mode characteristics.

Syntax:

```
switchport access vlan <vlan_id>
switchport forbidden vlan ( add | remove ) <vlan_list>
switchport hybrid acceptable-frame-type ( all | tagged | untagged )
switchport hybrid allowed vlan ( <vlan_list> | add  <vlan_list> | all |
except <vlan_list> | none | remove <vlan_list> )
switchport hybrid egress-tag ( all [ except-native ] | none )
switchport hybrid ingress-filtering
switchport hybrid native vlan <vlan_id>
switchport hybrid port-type ( c-port | s-custom-port | s-port | unaware )
switchport mode ( access | hybrid | trunk )
switchport trunk allowed vlan ( <vlan_list> | add  <vlan_list> | all |
except <vlan_list> | none | remove <vlan_list> )
switchport trunk native vlan <vlan_id>
switchport trunk vlan tag native
switchport vlan ip-subnet <ipv4_subnet> vlan <vlan_id>
switchport vlan mac <mac_ucast> vlan <vlan_id>
switchport vlan mapping <1-52>
switchport vlan protocol group <word16> vlan <vlan_id>
switchport voice vlan discovery-protocol ( both | lldp | oui )
switchport voice vlan mode ( auto | disable | force )
switchport voice vlan security
```

Parameter:

access vlan <vlan_id>

Set access mode characteristics of the interface to VLAN ID of the VLAN when this port is in access mode

forbidden vlan (add | remove) <vlan_list>

Adds or removes forbidden VLANs from the current list of forbidden VLANs

hybrid acceptable-frame-type (all | tagged | untagged)

Change PVID for hybrid port. Set acceptable frame type on a port when interface is in hybrid mode. Either allow all, only tagged or only untagged frames.

hybrid allowed vlan (<vlan_list> | add <vlan_list> | all | except <vlan_list> | none | remove <vlan_list>)

Change PVID for hybrid port. Set allowed VLAN characteristics when interface is in hybrid mode:

<vlan_list>

VLAN IDs of the allowed VLANs when this port is in hybrid mode

add <vlan_list>

Add VLANs to the current list

all

All VLANs

except <vlan_list>

All VLANs except the following

none

No VLANs

remove <vlan_list>

Remove VLANs from the current list

hybrid egress-tag (all [except-native] | none)

Change PVID for hybrid port. Set the Egress VLAN tagging configuration to either tag all frames or do no egress tagging. When you tag all frames you can optionally except frames classified to native VLAN of the hybrid port

hybrid ingress-filtering

VLAN Ingress filter configuration

hybrid native vlan <vlan_id>

Set native VLAN for the VLAN ID when interface is in hybrid mode

hybrid port-type (c-port | s-custom-port | s-port | unaware)

Set port type to

c-port

Customer port

s-custom-port

Custom Provider port

s-port

Provider port

unaware

Port is not aware of VLAN tags

mode (access | hybrid | trunk)

Set mode of the interface to ACCESS unconditionally, HYBRID unconditionally or TRUNK unconditionally

trunk allowed vlan (<vlan_list> | add <vlan_list> | all | except <vlan_list> | none | remove <vlan_list>)

Set allowed VLAN characteristics when interface is in trunk mode:

<vlan_list>

VLAN IDs of the allowed VLANs when this port is in trunk mode

add <vlan_list>

Add VLANs to the current list

all

All VLANs

except <vlan_list>

All VLANs except the following

none

No VLANs

remove <vlan_list>

Remove VLANs from the current list

trunk native vlan <vlan_id>

Set native VLAN

trunk vlan tag native

Change PVID for trunk port to tag native VLAN parameters

vlan ip-subnet <ipv4_subnet> vlan <vlan_id>

VCL IP Subnet-based VLAN configuration.

ip-subnet <ipv4_subnet>

Source IP address and mask (Format: xx.xx.xx.xx/mm.mm.mm.mm)

vlan <vlan_id>

VLAN ID required for the group to VLAN mapping (Range: 1-4094)

vlan mac <mac_ucast> vlan <vlan_id>

MAC-based VLAN commands

<mac_ucast>

48 bit unicast MAC address. (Format: xx:xx:xx:xx:xx:xx)

vlan <vlan_id>

VLAN ID required for the group to VLAN mapping (Range: 1-4094)

vlan mapping <1-52>

Maps an interface to a VLAN translation group.

vlan protocol group <word16> vlan <vlan_id>

Protocol-based VLAN group commands:

<word16>

Group Name (Range: 1 - 16 characters)

vlan <vlan_id>

VLAN ID required for the group to VLAN mapping (Range: 1-4094)

voice vlan discovery-protocol (both | lldp | oui)

Set Voice VLAN port discovery protocol:

both

Detect telephony device by OUI address and LLDP

lldp

Detect telephony device by LLDP

oui

Detect telephony device by OUI address

voice vlan mode (auto | disable | force)

Set Voice VLAN port mode:

auto

Enable auto detect mode

disable

Disjoin Voice VLAN

force

Force to join Voice VLAN

voice vlan security

Enable Voice VLAN port security mode

Example:

```
<sys_name>(config-if)# switchport voice vlan security
<sys_name>(config-if)#
```

5.21.33 *udld*

UDLD configuration on this interface port.

Syntax:

```
udld port [ aggressive ] [ message time-interval <7-90> ]
```

Parameter:

aggressive

Enable UDLD in the aggressive mode on an interface

message time-interval <7-90>

Configures the period of time between UDLD probe messages on ports that are in the advertisement phase and are determined to be bidirectional. The range is from 7 to 90 seconds (Currently default message time interval 7 sec is supported).

Example:

```
<sys_name>(config-if)# udld port aggressive message time-interval 7
<sys_name>(config-if)#
```

5.22 *interface llag*

Changes to the configuration mode “Local link aggregation interface configuration” (config-llag)

```
interface llag  1-26
```

Parameter:

1-26

Local link aggregation interface (LLAG) configuration for the given ID 1-26. Changes to the configuration mode “Local link aggregation interface configuration” (config-llag)

Possible commands in this mode

Command	Function
lacp	Link Aggregation Control Protocol (LACP).

Example:

```
<sys_name>(config)# interface llag 1
<sys_name>(config-llag)#
```

5.22.1 *lacp*

Link Aggregation Control Protocol (LACP) is a control protocol to set up Link Aggregation Groups (LAG) automatically. You can set up a dynamic LAG by using LACP. Simply put, LACP is not a link aggregation instance but a protocol for defining it. The information is delivered as packet in Link Aggregation Control Protocol Data Units (LACPDUs). And each port on both switches can be configured to be active or passive via the control protocol to be either preferential to transfer LACPDUs or not.

Syntax:

```
lacp failover [[ non-revertive | revertive ] | [ begin | exclude | include] &lt;line> ]
lacp max-bundle <1-16> [ | [ begin | exclude | include] &lt;line> ]
```

Parameter:

failover [[non-revertive | revertive] | [begin | exclude | include] <line>]

The failover mode sends and receives traffic only through the master port in either revertive or non-revertive mode. Output can be modified.

non-revertive

C onfigures the lower priority port to continue as the active port even after the higher priority port is capable of being operational.

revertive

By default, LACP link protection is revertive.

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

max-bundle <1-16> [| [begin | exclude | include] <line>]

Maximum number of bundled ports allowed in the port channel. Output can be modified:

|

Output modifiers

begin

Begin with the line that matches

exclude

Exclude lines that match

include

Include lines that match

<line>

String to match output lines

Example:

```
<sys_name>(config-llag)# lacp max-bundle 3
<sys_name>(config-llag)#
```

5.23 *interface vlan*

Changes to the configuration mode “Static VLAN configuration” (config-if-vlan)

Syntax:

```
interface vlan  <vlan_list>
```

Parameter:

vlan <vlan_list>

VLAN interface configurations for the given list of VLAN interface numbers. Changes to the configuration mode “Static VLAN configuration” (config-if-vlan).

Possible commands in this mode

Command	Function
ip	Configure the IP v4 address or Internet Group Management Protocol (IGMP) of a VLAN interface.
ipv6	Configure the IPv6 address or the Multicast Listener Discovery (MLD) of a VLAN interface.

Example:

```
<sys_name>(config)# interface vlan 3
<sys_name>(config-if-vlan)#
```

5.23.1 *ip*

Configure the IP v4 address or Internet Group Management Protocol (IGMP) of a VLAN interface.

Syntax:

```
ip address <ipv4_addr> <ipv4_netmask>
ip address dhcp
ip address dhcp client-id GigabitEthernet <port_type_id> [ fallback … | hostname … ]
ip address dhcp client-id 10GigabitEthernet <port_type_id> [ fallback … | hostname … }
ip address dhcp client-id ascii <word31> [ fallback … | hostname … ]
ip address dhcp client-id hex <word64> [ fallback … | hostname … ]
ip address dhcp fallback <ipv4_addr> <ipv4_netmask> [ client-id … | hostname … | timeout <uint> ]
ip address dhcp hostname <domain_name63>
ip dhcp server
ip igmp snooping
ip igmp snooping compatibility { auto | v1 | v2 | v3 }
ip igmp snooping last-member-query-interval <0-31744>
ip igmp snooping priority <0-7>
ip igmp snooping querier { address <ipv4_ucast> | election }
ip igmp snooping query-interval <1-31744>
ip igmp snooping query-max-response-time <0-31744>
ip igmp snooping robustness-variable <1-255>
ip igmp snooping unsolicited-report-interval <0-31744>
```

Parameter:

address <ipv4_addr> <ipv4_netmask>

Configure an IPv4 address and netmask

address dhcp

Enable DHCP

address dhcp client-id GigabitEthernet <port_type_id> [fallback … | hostname …]

Configure the DHCP client identifier for a specific port ID. In the same command you could also define a fallback and hostname.

address dhcp client-id 10GigabitEthernet <port_type_id> [fallback … | hostname … }

Configure the DHCP client identifier for a specific port ID. In the same command you could also define a fallback and hostname.

address dhcp client-id ascii <word31> [fallback … | hostname …]

Configure the DHCP client identifier as an unique ASCII string. In the same command you could also define a fallback and hostname.

address dhcp client-id hex <word64> [fallback … | hostname …]

Configure the DHCP client identifier as an unique hexadecimal value. In the same command you could also define a fallback and hostname.

address dhcp fallback <ipv4_addr> <ipv4_netmask> [timeout <uint>]

Configure the DHCP fallback address and netmask with an optional time-out in seconds (Default: 60 seconds). Legal values are 0 to 4294967295 seconds. In the same command you could also define a client ID and hostname.

address dhcp hostname <domain_name63>

Configure the DHCP host name. This has to be a valid name consisting of a sequence of domain labels separated by '.', each domain label starting and ending with an alphanumeric character and possibly also containing '-' characters. The length of a domain label must be 63 characters or less.

dhcp server

Enable DHCP server per VLAN

igmp snooping

Configure Snooping Internet Group Management Protocol (IGMP)

compatibility { auto | v1 | v2 | v3 }

Either force IGMPv1, v2, v3 or set the compatibility to all three versions (auto).

last-member-query-interval <0-31744>

Last Member Query Interval in tenths of seconds

priority <0-7>

Interface CoS priority ranges from 0 to 7

querier address <ipv4_ucast>

IGMP Querier address configuration with a valid IPv4 unicast address

querier election

Act as an IGMP Querier to join Querier-Election

query-interval <1-31744>

Query Interval in seconds

query-max-response-time <0-31744>

Query Response Interval in tenths of seconds

robustness-variable <1-255>

Packet loss tolerance count from 1 to 255

unsolicited-report-interval <0-31744>

Unsolicited Report Interval in seconds

Example:

```
<sys_name>(config-if-vlan)# ip address dhcp
<sys_name>(config-if-vlan)# ip address dhcp client-id GigabitEthernet 1/1
<sys_name>(config-if-vlan)#
```

5.23.2 *ipv6*

Configure the IPv6 address or the Multicast Listener Discovery (MLD) of a VLAN interface.

Syntax:

```
ipv6 address <ipv6_subnet>
ipv6 address dhcp [rapid-commit]
ipv6 mld snooping
ipv6 mld snooping compatibility { auto | v1 | v2 }
ipv6 mld snooping last-member-query-interval <0-31744>
ipv6 mld snooping priority <0-7>
ipv6 mld snooping querier election
ipv6 mld snooping query-interval <1-31744>
ipv6 mld snooping query-max-response-time <0-31744>
ipv6 mld snooping robustness-variable <1-255>
ipv6 mld snooping unsolicited-report-interval <0-31744>
```

Parameter:

address <ipv6_subnet>

Configure the IPv6 address of a VLAN interface as an IPv6 prefix x:x::y/z

address dhcp [rapid-commit]

Enable the DHCPv6 client function with optional Rapid-Commit

mld snooping

Enable snooping MLD

compatibility { auto | v1 | v2 }

Either force MLDv1 or v2 or set the compatibility to both versions (auto).

last-member-query-interval <0-31744>

Last Member Query Interval in tenths of seconds

priority <0-7>

Interface CoS priority ranges from 0 to 7

querier election

Act as a MLD Querier to join Querier-Election

query-interval <1-31744>

Query Interval in seconds

query-max-response-time <0-31744>

Query Response Interval in tenths of seconds

robustness-variable <1-255>

Packet loss tolerance count from 1 to 255

unsolicited-report-interval <0-31744>

Unsolicited Report Interval in seconds

Example:

```
<sys_name>(config-if-vlan)# ipv6 address dhcp
<sys_name>(config-if-vlan)#
```

5.24 *ip*

Interface Internet Protocol configuration commands.

Syntax:

```
ip arp inspection

ip arp inspection entry interface ( GigabitEthernet | 10GigabitEthernet ) <port_type_id>
<vlan_id> <mac_ucast> <ipv4_ucast>

ip arp inspection translate [ interface ( GigabitEthernet | 10GigabitEthernet )
<port_type_id> <vlan_id> <mac_ucast> <ipv4_ucast> ]

ip arp inspection vlan <vlan_list> [ logging ( all | deny | permit) ]

ip dhcp excluded-address <low_ip> [ <high_ip> ]

ip dhcp pool {pool_name}

ip dhcp relay information [ option ]

ip dhcp relay information policy ( drop | keep | replace )

ip dhcp server

ip dhcp snooping

ip dns proxy

ip domain name <domain_name> | dhcp [ ipv4 | ipv6 ] [ interface vlan <vlan_id> ]

ip helper-address <ipv4_ucast>

ip http ( secure-certificate [ delete | generate | generate keysize 4096 |
upload <url_file> ] ) | [ secure-redirect | secure-server ]

ip igmp host-proxy [ leave-proxy ]

ip igmp snooping [ vlan <vlan_list> ]

ip igmp ssm-range <ipv4_mcast>

ip igmp unknown-flooding

ip name-server <1-4> [ <ipv4_ucast> | <ipv6_ucast> | dhcp ( interface | ipv4 | ipv6 )
vlan <vlan_id> [ ipv4 | ipv6 ] ]

ip route <ipv4_addr> <ipv4_netmask> <ipv4_ucast> [ distance <1-255> ]

ip source binding interface ( GigabitEthernet | 10GigabitEthernet ) <port_type_id>
<vlan_id> <ipv4_ucast> <mac_ucast>

ip routing

ip ssh keyregen

ip verify source [ translate ]
```

Parameter:

arp

Address Resolution Protocol

dhcp

Configure DHCP server parameters

dns

Domain Name System

domain

IP DNS Resolver

helper-address

DHCP helper server address

http

Hypertext Transfer Protocol

igmp

Internet Group Management Protocol

name-server

Domain Name System

route

Add IP route

routing

Enable routing for IPv4 and IPv6

source

source command

routing

Enable routing for IPv4 and IPv6

ssh keyregen

Regenerate ssh key

verify

verify command

inspection

ARP inspection

entry

ARP inspection entry

translate

ARP inspection translate all entries

vlan

ARP inspection vlan setting

interface

Select an interface to configure

GigabitEthernet

Gigabit Ethernet Ports

10GigabitEthernet

10 Gigabit Ethernet Ports

<port_type_list>

Port list for all port types or <Port list or ID>

<vlan_id>

Select a VLAN id to configure

<mac_ucast>

Select a MAC address to configure

<ipv4_ucast>

Select an IP Address to configure

<vlan_list>

ARP inspection vlan list

logging

ARP inspection vlan logging mode configuration

all

log all entries

deny

log denied entries

permit

log permitted entries

excluded-address

Prevent DHCP from assigning certain addresses

pool

Configure DHCP address pools

<pool_name>

Pool name in 32 characters

relay

DHCP relay agent configuration

server

Enable DHCP server

snooping

DHCP snooping

<low_ip>

Low IP address

<high_ip>

High IP address

<word32>

Pool name in 32 characters

Information

DHCP information option (Option 82)

option

DHCP option

policy

Policy for handling the receiving DHCP packet already include the information option

drop

Drop the package when receive a DHCP message that already contains relay information

keep

Keep the original relay information when receive a DHCP message that already contains it

replace

Replace the original relay information when receive a DHCP

proxy

DNS proxy service

name

Define the default domain name

<domain_name>

Default domain name

dhcp

Dynamic Host Configuration Protocol

Interface

Select an interface to configure

ipv4

DNS setting is derived from DHCPv4

ipv6

DNS setting is derived from DHCPv6; Default selection

<ipv4_ucast>

IP address of the DHCP relay server

secure-certificate

HTTPS certificate

secure-redirect

Secure HTTP web redirection

secure-server

Secure HTTP web server

delete

Delete the current certificate

generate

Generate a new self-signed RSA certificate

generate keysize 4096

Generate a new self-signed RSA certificate with 4096 bits (only GS-31/35)

upload

Upload a certificate PEM file

<url_file>

Uniform Resource Locator. It is a specific character string that constitutes a reference to a resource. Syntax <protocol> ://[<username>[:<password>]@] <host>[:<port>][/<path>]/<file_name> If the following special characters: space !"#$%&'()*+,/:;<=>?@[\]^`{|}~ need to be contained in the input URL string, they should be percent-encoded. A valid file name is a text string drawn from alphabet (A-Za-z), digits (0-9), dot (.), hyphen (-), under score (_). The maximum length is 63 and hyphen must not be first character. The file name content that only contains '.' is not allowed.

host-proxy

IGMP proxy configuration

snooping

Snooping IGMP

ssm-range

IPv4 address range of Source Specific Multicast

unknown-flooding

Flooding unregistered IPv4 multicast traffic

leave-proxy

IGMP proxy for leave configuration

vlan

IGMP VLAN

<vlan_list>

VLAN identifier (VID)

<ipv4_mcast>

Valid IPv4 multicast address

<1-4>

Preference of DNS server. Default selection is 1

<ipv4_ucast>

A valid IPv4 unicast address

<ipv6_ucast>

A valid IPv6 unicast address

dhcp

Dynamic Host Configuration Protocol

<ipv4_addr>

Network

<ipv4_netmask>

Netmask

<ipv4_ucast>

Gateway

distance <1-255>

Distance value for this route (Default: 1)

<mac_ucast>

Select a MAC address to configure

source

verify source

translate

IP verify source translate all entries

Example:

```
<sys_name>(config)# ip arp inspection
<sys_name>(config)#
```

Example:

```
## Enable DHCP
<sys_name># configure
<sys_name>(config)# ip dhcp pool dhcppool
<sys_name>(config)# network 192.168.10.0 255.255.255.0
<sys_name>(config)# lease 1 0 0             ## IP lease time is 1 day
<sys_name>(config)# ip dhcp excluded-address 192.168.10.10 192.168.10.20

<sys_name>(config)# interface vlan 1
<sys_name>(config-if-vlan)# ip dhcp server  ## enable dhcp server in vlan 1
<sys_name>(config-if-vlan)# exit

<sys_name>(config)# ip dhcp server          ## enable dhcp server in system

<sys_name>(config)# exit
<sys_name>#
```

Example:

```
## Disable DHCP
<sys_name># configure
<sys_name>(config)# interface vlan 1
<sys_name>(config-if-vlan)# no ip dhcp server  ## disable dhcp server in vlan 1
<sys_name>(config-if-vlan)# exit

<sys_name>(config)# no ip dhcp server          ## disable dhcp server in system
<sys_name>(config)# no ip dhcp excluded-address 192.168.10.10 192.168.10.20
<sys_name>(config)# no ip dhcp pool dhcppool
<sys_name>(config)# exit
<sys_name>#
```

5.25 *ipmc*

IPv4/IPv6 multicast configuration.

Syntax:

```
ipmc profile <word16>
ipmc range <word16> [ <ipv4_mcast> | <ipv6_mcast> ]
```

Parameter:

profile

IPMC profile configuration

range

A range of IPv4/IPv6 multicast addresses for the profile

<word16>

Profile name in 16 characters

<word16>

Range entry name in 16 characters

<ipv4_mcast>

Valid IPv4 multicast address

<ipv6_mcast>

Valid IPv6 multicast address

Example:

```
<sys_name>(config)# ipmc profile test
<sys_name>(config-ipmc-profile)#
```

5.26 *ipv6*

IPv6 configuration commands.

Syntax:

```
ipv6 mld host-proxy [ leave-proxy ]
ipv6 mld snooping [ vlan <vlan_list> ]
ipv6 mld ssm-range <ipv6_mcast>
ipv6 mld unknown-flooding
```

Parameter:

mld

Multicasat Listener Discovery

host-proxy

MLD proxy configuration

snooping

Snooping MLD

ssm-range

IPv6 address range of Source Specific Multicast

unknown-flooding

Flooding unregistered IPv6 multicast traffic

leave-proxy

MLD proxy for leave configuration

vlan

MLD VLAN

<vlan_list>

VLAN identifier (VID)

<ipv6_mcast>

Valid IPv6 multicast address

Example:

```
<sys_name>(config)# ipv6 mld host-proxy
<sys_name>(config)# ipv6 mld snooping
<sys_name>(config)#
```

5.27 *json*

JavaScript Object Notation RPC

Syntax:

```
json notification host <word32>
json notification listen <cword>
```

Parameter:

notification

Notification request object

host

Notification host

listen

JSON-RPC notification event subscription

<word32>

Name of Notification host

<cword>

Valid words are

- acl.status.ace.crossedThreshold.update
- aggregation.status.notification.update
- alarm.status.update
- arpInspection.status.crossedThreshold.update
- ddmi.status.interface.crossedThreshold.update
- ethernetLinkOam.statistics.interface.criticalLinkEvent.update
- ip.status.acd.ipv4.update
- ip.status.interface.dhcpClient.update
- ip.status.interface.ipv4.update
- ip.status.interface.ipv6.update
- ip.status.interface.link.update
- ip.status.route.ipv4.update
- ip.status.route.ipv6.update
- port.status.update
- portSecurity.status.global.notification.update
- portSecurity.status.interface.notification.update
- qos.status.global.update

Example:

```
<sys_name>(config)# json notification host test
<sys_name>(config-json-noti-host)#
```

5.28 *lacp*

LACP settings.

Syntax:

```
lacp system-priority <1-65535>
```

Parameter:

system-priority

System priority

<1-65535>

Priority value, lower means higher priority

Example:

```
<sys_name>(config)# lacp system-priority 333
<sys_name>(config)#
```

5.29 *lease*

Set lease time for DHCP pool.

Syntax:

```
lease { <day> [ <hour> [ <min> ] ] | infinite }
```

Parameter:

<day>

Days

<hour>

Hours

<min>

Minutes

infinite

Infinite lease

Example:

```
<sys_name>(config)# lease 1 0 0
<sys_name>(config)#
```

5.30 *line*

Configure a terminal line.

Syntax:

```
line { <0~16> | console 0 | vty <0~15> }
```

Parameter:

<0~16>

List of line numbers

console

Console terminal line

vty

Virtual terminal

0

Console Line number

<0~15>

List of vty numbers

Example:

```
<sys_name>(config)# line console 0
<sys_name>(config-line)#
```

5.31 *lldp*

Link Layer Discover Protocol

Syntax:

```
lldp holdtime <2-10>
```

```
lldp med datum [ wgs84 | nad83_navd88 | nad83_mllw ]
```

```
lldp med fast <1-10>
```

```
lldp med location-tlv altitude [ meters | floors ] <word11>
```

```
lldp med location-tlv civic-addr ( additional-code | additional-info | apartment |
block | building | city | country | county | district | floor | house-no |
house-no-suffix | landmark | leading-street-direction | name | p-o-box | plase-type |
```

```
postal-community-name | room-number | state | street | street-suffix |
trailing-street-suffix | zip-code ) <line250> [ <line250> ]
```

```
lldp med location-tlv elin-addr <dword25>
```

```
lldp med location-tlv latitude ( north | south ) <word8>
```

```
lldp med location-tlv longitude ( west | east ) <word9>
```

```
lldp med media-vlan-policy <0-31> ( guest-voice | guest-voice-signaling |
softphone-voice | streaming-video | video-conferencing | video-signaling | voice |
voice-signaling ) tagged <vlan_id> [ dscp <0-63> ] | [ l2-priority <0-7> ] dscp <0-63>
```

```
lldp med media-vlan-policy <0-31>  ( guest-voice | guest-voice-signaling |
softphone-voice | streaming-video | video-conferencing | video-signaling | voice |
voice-signaling ) ubtagged [ dscp <0-63> ]
```

```
lldp reinit <1-10>
```

```
lldp timer <5-32768>
```

```
lldp transmission-delay <1-8192>
```

Parameter:

holdtime

Sets LLDP hold time (The neighbor switch will discarded the LLDP information after 'hold time' multiplied with 'timer' seconds).

med

Media Endpoint Discovery.

reinit

LLDP tx reinitialization delay in seconds.

timer

Sets LLDP TX interval (The time between each LLDP frame transmitted in seconds).

transmission-delay

Sets LLDP transmission-delay. LLDP transmission delay (the amount of time that the transmission of LLDP frames will delayed after LLDP configuration has changed) in seconds.)

<2-10>

2-10 seconds.

datum

Datum (geodetic system) type.

fast <1-10>

Number of times to repeat LLDP frame transmission at fast start.

location-tlv

LLDP-MED Location Type Length Value parameter

media-vlan-policy

Create a policy, which can be assigned to an interface.

nad83_mllw

Mean lower low water datum 1983

nad83_navd88

North American vertical datum 1983

wgs84

World Geodetic System 1984

altitude

Altitude parameter.

civic-addr

Civic address information and postal information. The total number of characters for the combined civic address information must not exceed 250 characters.

A non empty civic address location will use 2 extra characters in addition to the civic address location text.

The 2 letter country code is not part of the 250 characters limitation.

elin-addr

Emergency Call Service ELIN identifier data format is defined to carry the ELIN identifier as used during emergency call setup to a traditional CAMA or ISDN trunk-based PSAP. This format consists of a numerical digit string, corresponding to the ELIN to be used for emergency calling. Emergency Location Identification Number, (e.g. E911 and others), such as defined by TIA or NENA.

latitude

Latitude parameter.

longitude

Longitude parameter.

floors

Specify the altitude in floor

meter

Specify the altitude in meters

<word11>

Altitude value. Valid range -2097151.9 to 2097151.9

additional-code

Additional code - Example: 1320300003.

additional-info

Additional location info - Example: South Wing.

apartment

Unit (Apartment, suite) - Example: Apt 42.

block

Neighborhood, block.

building

Building (structure) - Example: Low Library.

city

City, township, shi (Japan) - Example: Copenhagen.

country

The two-letter ISO 3166 country code in capital ASCII letters - Example: DK, DE or US.

county

County, parish, gun (Japan), district.

district

City division, borough, city district, ward, chou (Japan).

floor

Floor - Example: 4.

house-no

House number - Example: 21.

house-no-suffix

House number suffix - Example: A, 1/2.

landmark

Landmark or vanity address - Example: Columbia University.

leading-street-direction

Leading street direction - Example: N.

name

Name (residence and office occupant) - Example: John Doe.

p-o-box

Post office box (P.O. BOX) - Example: 12345.

place-type

Place type - Example: Office.

postal-community-name

Postal community name - Example: Leonia.

room-number

Room number - Example: 450F.

state

National subdivisions (state, canton, region, province, prefecture).

street

Street - Example: Oxford Street.

street-suffix

Street suffix - Example: Ave, Platz.

trailing-street-suffix

Trailing street suffix - Example: SW.

zip-code

Postal/zip code - Example: 2791.

<line250>

Value for the corresponding selected civic address.

<dword25>

ELIN value

north

Setting latitude direction to north.

south

Setting latitude direction to south.

<word8>

Latitude degrees (0.0000-90.0000).

east

Setting longitude direction to east.

west

Setting longitude direction to west.

<word9>

Longitude degrees (0.0000-180.0000).

<0-31>

Policy id for the policy which is created.

guest-voice

Create a guest voice policy.

guest-voice-signaling

Create a guest voice signaling policy.

softphone-voice

Create a softphone voice policy.

streaming-video

Create a streaming video policy.

video-conferencing

Create a video conferencing policy.

video-signaling

Create a video signaling policy.

voice

Create a voice policy.

voice-signaling

Create a voice signaling policy.

tagged

The policy uses tagged frames.

untagged

The policy uses untagged frames.

<vlan_id>

The VLAN the policy uses tagged frames.

dscp

Differentiated Services Code Point. If not given then DSCP value is set to 0.

l2-priority

Layer 2 priority. If not given then L2 priority value is set to 0.

<0-63>

DSCP value 0-63.

<0-7>

Priority 0-7.

<1-10>

1-10 seconds.

<5-32768>

5-32768 seconds.

<1-8192>

1-8192 seconds.

Example:

```
<sys_name>(config)# lldp holdtime 5
<sys_name>(config)# lldp med fast 5
<sys_name>(config)# lldp reinit 3
<sys_name>(config)# lldp timer 555
<sys_name>(config)# lldp transmission-delay 333
Note: According to IEEE 802.1AB-clause 10.5.4.2 the transmission-delay must not be larger
than LLDP timer * 0.25. LLDP timer changed to 13332
<sys_name>(config)#
```

5.32 *lmc*

Configure LANCOM Management Cloud (LMC) parameters.

Syntax:

```
lmc Configuration-via-DHCP no | yes
lmc DHCP-Client-Auto-Renew no | yes
lmc domain <hostname>
lmc operating no|try|yes
lmc proxy-url <url>
lmc proxy-username <username>
lmc proxy-password <password>
lmc rollout-location <word36>
lmc rollout-project <word36>
lmc rollout-role <word36>
```

Parameter:

Configuration-via-DHCP no | yes

Using this parameter you can allow the configuration of LMC-Servers via DHCP option 43.

no

Always use the static LMC configuration.

yes

Use configuration via DHCP option 43 if present.

DHCP-Client-Auto-Renew no | yes

Using this parameter you can automatically renew the DHCP lease if the connection to the LMC fails.

no

No renewal of the DHCP lease on connection failure to the LMC.

yes

Automatic renewal of the DHCP lease on connection failure to the LMC.

domain <hostname>

Using this parameter you can set the hostname of the LMC.

operating no|try|yes

Using this command you can enable the LMC client.

no

Disable the LMC client.

try

Disable the LMC client after 24 hours, if the device is not claimed by a project of the LMC. A reset or reboot of the switch starts the timer again.

yes

Enable the LMC client.

proxy-url <url>

Set the URL of a proxy needed to reach the LANCOM Management Cloud.

proxy-username <username>

Set the username of the account to access the proxy.

proxy-password <password>

Set the password of the account to access the proxy.

rollout-location <word36>

Set the location ID (max. 36 characters) of this switch in the LMC.

rollout-project <word36>

set the project ID (max. 36 characters) of this switch in the LMC.

rollout-role <word36>

set the role (max. 36 characters) of this switch in the LMC.

Example:

```
<sys_name>(config)# lmc operating try
<sys_name>(config)#
```

5.33 *logging*

System logging message.

Syntax:

```
logging host [ <hostname> | <ipv4_ucast> | <ipv6_ucast> | <domain_name> ]
logging hostname
logging notification listen <kword127> level ( error | informational | notice |
warning ) <line255>
logging on
logging port <1-65535>
```

Parameter:

host

Host

hostname

Include hostname in syslog messages

notification

Notification

on

Enable Switch logging host mode

port <1-65535>

Service port number

<hostname>

A valid name consist of a sequence of domain labels separated by '.', each domain label starting and ending with an alphanumeric character and possibly also containing '-' characters. The length of a domain label must be 63 characters or less.

<ipv4_ucast>

The IPv4 address of the log server

<ipv6_ucast>

The IPv6 address of the log server

<domain_name>

The domain name of the log server

error

Severity 3: Error conditions

informational

Severity 6: Informational messages

notice

Severity 5: Normal but significant condition

warning

Severity 4: Warning conditions

listen

Listen

<kword127>

A name identifying the listen command

level

Severity level

<line255>

Identification of the notification source

Example:

```
<sys_name>(config)# logging host 3 192.155.3.2
<sys_name>(config)# logging on
<sys_name>(config)#
```

5.34 *loop-protect*

Loop protection configuration.

Syntax:

```
loop-protect
loop-protect shutdown-time <0-604800>
loop-protect transmit-time <1-10>
```

Parameter:

<cr>

Enable loop protection

shutdown-time <0-604800

Loop protection shutdown time interval in seconds

transmit-time <1-10>

Loop protection transmit time interval in seconds

Example:

```
<sys_name>(config)# loop-protect
<sys_name>(config)# loop-protect shutdown-time 333
<sys_name>(config)# loop-protect transmit-time 3
<sys_name>(config)#
```

5.35 *mac*

MAC table entries/configuration.

Syntax:

```
mac address-table aging-time <0,10-1000000>
```

```
mac address-table learning vlan <vlan_list>
```

```
mac address-table static <mac_addr> vlan <vlan_id> [ interface { *
[ <port_type_list> ] } | { ( GigabitEthernet | 10GigabitEthernet ) <port_type_list>
{ [ * | GigabitEthernet | 10GigabitEthernet ] } [ <port_type_list> ] }
```

Parameter:

address-table

MAC table entries/configuration

aging-time <0,10-1000000>

MAC address aging time in seconds, 0 disables aging

learning

MAC learning

static

Static MAC address

vlan <vlan_list>

VLAN

<mac_addr>

48 bit MAC address: xx:xx:xx:xx:xx:xx

vlan <vlan_id>

VLAN IDs 1-4095

interface

Select an interface to configure

*****

All switches or all ports

GigabitEthernet

Gigabit Ethernet ports

10GigabitEthernet

10 Gigabit Ethernet ports

<port_type_list>

Port list for all port types or <Port list or ID>

Example:

```
<sys_name>(config)# mac address-table aging-time 3333
<sys_name>(config)#
```

5.36 *monitor*

Monitoring different system events.

Syntax:

```
monitor session <1-5>
```

```
monitor session <1-5> destination [ interface { * [ <port_type_list> ] } |
{ ( GigabitEthernet | 10GigabitEthernet ) <port_type_list> { [ * | GigabitEthernet |
10GigabitEthernet ] } [ <port_type_list> ] }
```

```
monitor session <1-5> destination remote vlan <vlan_id> reflector-port
( GigabitEthernet | 10GigabitEthernet ) <port_type_list>
```

```
monitor session <1-5> source cpu [ both | rx | tx ]
```

```
monitor session <1-5> source interface * ( [ <port_type_list> ] | [ both ] |
[ rx ] | [ tx ] )
```

```
monitor session <1-5> source interface [ ( GigabitEthernet | 10GigabitEthernet )
<port_type_list> ]
```

```
monitor session <1-5> source remote vlan <vlan_id>
```

```
monitor session <1-5> source vlan <vlan_id>
```

Parameter:

session

Configure a MIRROR session

<1-5>

MIRROR session number

destination

MIRROR destination interface or VLAN

source

MIRROR source interface, VLAN

interface

MIRROR destination interface

*****

All switches or all ports

GigabitEthernet

Gigabit Ethernet Ports

10GigabitEthernet

10 Gigabit Ethernet Ports

<port_type_list>

Port list for all port types or <Port list or ID>

vlan

MIRROR destination remote number

<vlan_id>

Remote MIRROR destination RMIRROR VLAN number

reflector-port

Remote MIRROR reflector interface

cpu

MIRROR source CPU

interface

MIRROR source interface

remote

MIRROR source remote

vlan

MIRROR source VLAN

both

MIRROR source CPU receive both

rx

MIRROR source CPU receive Rx

tx

MIRROR source CPU receive Tx

Example:

```
<sys_name>(config)# monitor session 1 source vlan 1
<sys_name>(config)#
```

5.37 *mvr*

Multicast VLAN registration configuration.

Syntax:

```
mvr
mvr ( name | vlan <vlan_list> ) <word16> channel <word16>
mvr ( name | vlan <vlan_list> ) <word16> election
mvr ( name | vlan <vlan_list> ) <word16> frame [ priority <0-7> ] | [ tagged ]
mvr ( name | vlan <vlan_list> ) <word16> igmp-address <ipv4_ucast>
mvr ( name | vlan <vlan_list> ) <word16> last-member-query-interval <0-31744>
mvr ( name | vlan <vlan_list> ) <word16> mode [ compatible | dynamic ]
```

Parameter:

<cr>

Enable Multicast VLAN registration

name

MVR multicast name

vlan

MVR multicast VLAN

<word16>

MVR multicast VLAN name

channel <word16>

MVR channel configuration with profile name in 16 characters

election

Act as an IGMP Querier to join Querier-Election

frame

MVR control frame in TX

igmp-address <ipv4_ucast>

MVR address configuration used in IGMP with a valid IPv4 unicast address

last-member-query-interval <0-31744>

Last Member Query Interval in tenths of seconds

mode

MVR mode of operation

priority <0-7>

Interface CoS priority ranges from 0 to 7

tagged

Tagged IGMP/MLD frames will be sent

compatible

Compatible MVR operation mode

dynamic

Dynamic MVR operation mode

Example:

```
<sys_name>(config)# mvr vlan 10 mode dynamic
<sys_name>(config)#
```

5.38 *mvrp*

Enable MVRP feature globally

Syntax:

```
mvrp
mvrp managed vlan <vlan_list>
mvrp managed vlan ( add | except | remove ) <vlan_list>
mvrp managed vlan ( all | none )
```

Parameter:

<cr>

Enable MVRP feature

managed

Set list of MVRP-managed VLANs

vlan

Set managed VLANs of MVRP

<vlan_list>

VLAN IDs of the managed VLANs of MVRP

add

Add VLANs to the current list

all

All VLANs

except

All VLANs except the following

none

No VLANs

remove

Remove VLANs from the current list

Example:

```
<sys_name>(config)# mvrp managed vlan all
<sys_name>(config)#
```

5.39 *network*

Set network number and mask for DHCP pool.

Syntax:

```
network <ip> <subnet_mask>
```

Parameter:

<ip>

Network number

<subnet_mask>

Network mask in dotted-decimal notation, excluding 255.255.255.255

Example:

```
<sys_name>(config)# lease 1 0 0
<sys_name>(config)#
```

5.40 no commands

With the no form of a command you can reset that command to its default or disable that functionality.

Syntax:

```
no <configuration command>
```

Example:

```
<sys_name>(config)# no access management
<sys_name>(config)#
```

5.41 *ntp*

Configure NTP.

Syntax:

```
ntp
ntp interval <6-10>
ntp server <1-5> ip-address [ <domain_name> | <ipv4_ucast> | <ipv6_ucast> ]
```

Parameter:

<cr>

Enable NTP

interval <6-10>

The minimum number of seconds between successive NTP polls of the server in seconds as a power of two.

server

Configure NTP server

<1-5>

index number

ip-address

IP address

<domain_name>

Domain name

<ipv4_ucast>

IPv4 address

<ipv6_ucast>

IPv6 address

Example:

```
<sys_name>(config)# ntp server 3 ip-address 192.168.1.1
<sys_name>(config)#
```

5.42 *poe*

Power over Ethernet.

Syntax:

```
poe legacy-pd-detection
poe management mode [ allocation-consumption | allocation-reserved-power |
class-consumption | class-reserved-power | lldp-consumption | lldp-reserved-power ]
poe ping-check ( disable | enable )
poe profile id <1-16> ( Fri | Mon | Sat | Sun | Thr | Tue | Wed ) <0-23> <0-55> <0-23>
<0-55>
poe profile id <1-16> name <line32>
poe reboot-chip mode ( disable | enable )
poe reboot-chip ( Fri | Mon | Sat | Sun | Thr | Tue | Wed ) <0-23> <0-55>
```

Parameter:

legacy-pd-detection

PoE legacy mode on

management

Use management mode to configure PoE power management method.

ping-check

Enable/Disable PoE Ping Check.

profile

PoE scheduling profile

reboot-chip mode [disable | enable]

Enable or disable the PoE reboot

reboot-chip (Fri | Mon | Sat | Sun | Thr | Tue | Wed) <0-23> <0-55>

Configure PoE reboot scheduling on Friday, Monday, Saturday, Sunday, Thursday, Tuesday or Wednesday. <0-23> is the hour, <0-55> the minute, value must be a multiple of 5.

allocation-consumption

Max. port power determined by allocated, and power is managed according to power consumption.

allocation-reserved-power

Max. port power determined by allocated, and power is managed according to reserved power.

class-consumption

Max. port power determined by class, and power is managed according to power consumption.

class-reserved-power

Max. port power determined by class, and power is managed according to reserved power.

lldp-consumption

Max. port power determined by LLDP Media protocol, and power is managed according to power consumption.

lldp-reserved-power

Max. port power determined by LLDP Media protocol, and power is managed according to reserved power.

disable

Disable PoE Ping Check

enable

Enable PoE Ping Check

id <1-16>

PoE scheduling profile id, from 1 to 16

Fri

Configure PoE Power scheduling on Friday

Mon

Configure PoE Power scheduling on Monday

Sat

Configure PoE Power scheduling on Saturday

Sun

Configure PoE Power scheduling on Sunday

Thr

Configure PoE Power scheduling on Thursday

Tue

Configure PoE Power scheduling on Tuesday

Wed

Configure PoE Power scheduling on Wednesday

name <line32>

PoE scheduling profile name, the name length is 32

<0-23>

Start/End hour

<0-55>

Start/End minute, value must be multiples of 5

Example:

```
<sys_name>(config)# poe profile id 4 Mon 0 0 0 0
<sys_name>(config)#
```

5.43 *port-security*

This command is obsolete.

Syntax:

```
port-security aging time <10-10000000>
port-security hold time <10-10000000>
```

Parameter:

aging time <10-10000000>

Enable or disable port security aging by giving the time in seconds between check for activity on learned MAC addresses

hold time <10-10000000>

Configure time in seconds, that violating MAC addresses are held non-forwarding

Example:

```
<sys_name>(config)# port-security hold time 10
<sys_name>(config)#
```

5.44 *power*

Configure power management.

Syntax:

```
power Boost | Redundant
```

Parameter:

Boost

Both power supplies together deliver the overall performance of the switch.

Redundant

The focus is on reliability. The overall performance corresponds to that of the weaker power supply. The other power supply takes over in case of failure.

Example:

```
<sys_name>(config)#  power Redundant
<sys_name>(config)#
```

5.45 *privilege*

Command privilege parameters.

Syntax:

```
privilege <cword> level <0-15> <line128>
```

Parameter:

<cword>

Valid words are 'config-vlan' 'configure' 'dhcp-pool' 'exec' 'if-vlan' 'interface' 'ipmc-profile' 'json-noti-host' 'line' 'llag' 'qos-map-egress' 'qos-map-ingress' 'router-if' 'snmps-host' 'stp-aggr'

level <0-15>

Set privilege level of command

<line128>

Initial valid words and literals of the command to modify, in 128 characters.

Example:

```
<sys_name>(config)# privilege configure level 1 test
<sys_name>(config)#
```

5.46 *prompt*

Set prompt.

Syntax:

```
prompt <word32>
```

Parameter:

<word32>

Up to 32 chars of prompt. Precede prompt variables with a percent sign (%). Prompt variables: %h = hostname, %% = percent sign, %s = space, %t = tab, %D = date, %T = time, %Z = date and time (like '%DT%T' but ensures atomicity in case of %T rollover)

Example:

```
<sys_name>(config)# prompt %h
<sys_name>(config)#
```

5.47 *qos*

Quality of Service.

Syntax:

```
qos map cos-dscp <0-7> dpl <0-3> dscp [ <0-63> | af11 | af12 | af13 | af21 |af22 |
 af23 | af31 | af32 | af33 | af41 | af42 | af43 | be | cs1 | cs2 | cs3 | cs4 | cs5 |
 cs6 | cs7 | ef | va ]
```

```
qos map ( dscp-classify | dscp-cos | dscp-egress-translation |
 dscp-ingress-translation ) [ <0-63> | af11 | af12 | af13 | af21 |af22 | af23 | af31 |
```

```
 af32 | af33 | af41 | af42 | af43 | be | cs1 | cs2 | cs3 | cs4 | cs5 | cs6 | cs7 |
 ef | va ]
qos map egress <0-511>
qos map ingress <0-255>
qos qce <1-256> [ action ] cos ( <0-7> | default ) [ dmac | dpl | dscp | frame-type |
 inner-tag | interface | last | next | pcp-dei | policy | smac | tag ]
qos qce <1-256> [ action ] dpl ( <0-3> | default ) [ cos | dmac | dscp | frame-type |
 inner-tag | interface | last | next | pcp-dei | policy | smac | tag ]
qos qce <1-256> [ action ] dscp [ <0-63> | af11 | af12 | af13 | af21 |af22 | af23 |
 af31 | af32 | af33 | af41 | af42 | af43 | be | cs1 | cs2 | cs3 | cs4 | cs5 | cs6 |
 cs7 | ef | va ]
qos qce <1-256> [ action ] ingress-map ( <0-255> | default ) [ cos | dmac | dpl | dscp |
 frame-type | inner-tag | interface | last | next | pcp-dei | policy | smac | tag ]
qos qce <1-256> [ action ] pcp-dei ( ( <0-7> <0-1>) | default ) [ cos | dmac | dscp |
 frame-type | inner-tag | interface | last | next | policy | smac | tag ]
qos qce <1-256> [ action ] policy ( <0-127> | default ) [ cos | dmac | dpl | dscp |
 frame-type | inner-tag | interface | last | next | pcp-dei | smac | tag ]
qos qce <1-256> dmac ( <mac_addr> | any | broadcast | multicast | unicast ) [ action |
 frame-type | inner-tag | interface | last | next | smac | tag ]
qos qce <1-256> frame-type ( any | etype | ipv4 | ipv6 | llc | snap ) [ action | dmac |
 frame-type | inner-tag | interface | last | next | smac | tag | vid ]
qos qce <1-256> inner-tag ( dei ( <0-1> | any ) | pcp ( <pcp> | any ) | type ( any |
 c-tagged | s-tagged | tagged | untagged) | vid ( <vcap_vr> | any) ) [ action | dmac |
 frame-type | inner-tag | interface | last | next | pcp | smac | tag | vid ]
qos qce <1-256> interface { * [ <port_type_list> | action | dmac | frame-type |
 inner-tag | last | next | smac | tag ] } | { ( GigabitEthernet | 10GigabitEthernet )
 <port_type_list> [ * | GigabitEthernet | 10GigabitEthernet  action | dmac |
 frame-type | inner-tag | last | next | smac | tag ]
qos qce <1-256> next <1-256> [ action | dmac | frame-type | inner-tag | interface |
 smac | tag | vid ]
qos qce <1-256> smac ( <mac_addr> | any) ) [ action | dmac | frame-type | inner-tag |
 interface | last | next | tag ]
qos qce <1-256> tag ( dei ( <0-1> | any ) | pcp ( <pcp> | any ) | type ( any |
 c-tagged | s-tagged | tagged | untagged) | vid ( <vcap_vr> | any) ) [ action | dmac |
 frame-type | inner-tag | interface | last | next | pcp | smac | tag | vid ]
qos qce refresh
qos qce update <1-256> [ action | dmac | frame-type | inner-tag | interface | last |
 next | smac | tag ]
qos storm ( broadcast | multicast | unicast ) <-13128147> [ fps | kbps | kfps | mbps ]
qos wred group <1-3> queue <0-7> dpl <1-3> min-fl <0-100> [ fill-level]
```

Parameter:

map

Global QoS Map/Table

qce

QoS Control Entry

storm

Storm policer

wred

Weighted Random Early Discard

cos-dscp

Map for COS to DSCP

dscp-classify

Map for DSCP classify enable

dscp-cos

Map for DSCP to COS

dscp-egress-translation

Map for DSCP egress translation

dscp-ingress-translation

Map for DSCP ingress translation

egress

Map for egress configuration

ingress

Map for ingress configuration

<0~7>

Specific class of service or range

dpl

Specify drop precedence level

<0~3>

Specific drop precedence level or range

dscp

Specify DSCP

<0-63>

Specific DSCP

af11

Assured Forwarding PHB AF11(DSCP 10)

af12

Assured Forwarding PHB AF12(DSCP 12)

af13

Assured Forwarding PHB AF13(DSCP 14)

af21

Assured Forwarding PHB AF21(DSCP 18)

af22

Assured Forwarding PHB AF22(DSCP 20)

af23

Assured Forwarding PHB AF23(DSCP 22)

af31

Assured Forwarding PHB AF31(DSCP 26)

af32

Assured Forwarding PHB AF32(DSCP 28)

af33

Assured Forwarding PHB AF33(DSCP 30)

af41

Assured Forwarding PHB AF41(DSCP 34)

af42

Assured Forwarding PHB AF42(DSCP 36)

af43

Assured Forwarding PHB AF43(DSCP 38)

be

Default PHB(DSCP 0) for best effort traffic

cs1

Class Selector PHB CS1 precedence 1(DSCP 8)

cs2

Class Selector PHB CS2 precedence 2(DSCP 16)

cs3

Class Selector PHB CS3 precedence 3(DSCP 24)

cs4

Class Selector PHB CS4 precedence 4(DSCP 32)

cs5

Class Selector PHB CS5 precedence 5(DSCP 40)

cs6

Class Selector PHB CS6 precedence 6(DSCP 48)

cs7

Class Selector PHB CS7 precedence 7(DSCP 56)

ef

Expedited Forwarding PHB(DSCP 46)

va

Voice Admit PHB(DSCP 44)

<0-511>

Map ID

<0-255>

Map ID

<1-256>

QCE ID

refresh

Refresh QCE tables in hardware

update

Update an existing QCE

action

Setup action

dmac

Setup matched DMAC

frame-type

Setup matched frame type

inner-tag

Setup inner tag options

interface

Interfaces

last

Place QCE at the end

next

Place QCE before the next QCE ID

smac

Setup matched SMAC

tag

Setup tag options

cos

Setup class of service action

dpl

Setup drop precedence level action

dscp

Setup DSCP action

ingress-map

Setup ingress map action

pcp-dei

Setup PCP and DEI action

policy

Setup ACL policy action

<mac_addr>

Matched DMAC (XX-XX-XX-XX-XX-XX)

any

Match any DMAC

broadcast

Match broadcast DMAC

multicast

Match multicast DMAC

unicast

Match unicast DMAC

<0-7>

Assign class of service

default

Keep existing class of service

<0-3>

Assign drop precedence level

default

Keep existing drop precedence level

<0-255>

Assign ingress map id

default

Keep existing ingress map

<0-7>

Assign PCP

default

Keep existing PCP and DEI

<0-1>

Assign DEI

<0-127>

Assign ACL policy

default

Keep existing ACL policy

<mac_addr>

Matched DMAC (XX-XX-XX-XX-XX-XX)

any

Match any DMAC

broadcast

Match broadcast DMAC

multicast

Match multicast DMAC

unicast

Match unicast DMAC

any

Match any frame type

etype

Match EtherType frames

ipv4

Match IPv4 frames

ipv6

Match IPv6 frames

llc

Match LLC frames

snap

Match SNAP frames

dei

Setup matched DEI

pcp

Setup matched PCP

type

Setup matched tag type

vid

Setup matched VLAN ID

<0-1>

Matched DEI

any

Match any DEI

<pcp>

Matched PCP value/range

any

Match any PCP

any

Match tagged and untagged frames

c-tagged

Match C-tagged frames

s-tagged

Match S-tagged frames

untagged

Match untagged frames

<vcap_vr>

Matched VLAN ID value/range

any

Match any VLAN ID

*****

All switches or all ports

GigabitEthernet

Gigabit Ethernet Ports

10GigabitEthernet

10 Gigabit Ethernet Ports

<port_type_list>

Port list for all port types or <Port list or ID>

broadcast

Police broadcast frames

multicast

Police multicast frames

unicast

Police unicast frames

<1-13128147>

Policer rate (default fps). Internally rounded up to the nearest value supported by the storm policer. Supported rates are divisible by 10 fps or 25 kbps.

fps

Unit is frames per second (default)

kbps

Unit is kilobits per second

kfps

Unit is kiloframes per second

mbps

Unit is Megabits per second

group

Specify group

<1~3>

Specific group or range

queue

Specify queue

<0~7>

Specific queue or range

dpl

Specify DPL

<1~3>

Specific DPL or range

min-fl

Specify minimum fill level

<0-100>

Specific minimum fill level in percent

max

Specify maximum drop probability or fill level

<1-100>

Specific maximum drop probability or fill level in percent (default is drop probability)

fill-level

Specify fill level

Example:

```
<sys_name>(config)# qos wred group 1 queue 0 dpl 1 min-fl 0 max 1 fill-level
<sys_name>(config)#
```

5.48 *radius-server*

Configure RADIUS.

Syntax:

```
radius-server attribute 32 <line1-253>
radius-server attribute 4 <ipv4_ucast>
radius-server attribute 95 <ipv6_ucast>
radius-server deadtime <1-1440>
radius-server dynamic-authorization { mode | port <port> | duplicate-window <dupwindow> | message-authenticator
 enforce | event-timestamp enforce }
radius-server host <word1-255> [ auth-port <0-65535> ] [ acct-port <0-65535> ]
[ timeout <1-1000> ] [ retransmit <Retries :1-1000> ]
radius-server host <word1-255> key [ <line1-63> | ( encrypted <word96-224> ) |
unencrypted ]
radius-server key [ <line1-63> | ( encrypted <word96-224> ) | unencrypted ]
radius-server mac-format { called-station | calling-station | macbased-identity } groupsize <groupsize> separator
 { hyphen | dot | colon } { uppercase | lowercase }
radius-server retransmit <1-1000>
radius-server timeout <1-1000>
```

Parameter:

attribute

NAS attributes

deadtime

Time to stop using a RADIUS server that doesn't respond

mode

Enable RADIUS Dynamic Authorization Server mode.

port <port>

Configure the listen port for the Dynamic Authorization Server.

duplicate-window <dupwindow>

Configure the duplicate detection window.

message-authenticator enforce

Message-Authenticator Attribute handling.

event-timestamp enforce

Event-Timestamp Attribute handling.

host

Specify a RADIUS server

key

Set RADIUS encryption key

called-station

Mac format in RADIUS called-station attribute

calling-station

Mac format in RADIUS calling-station attribute

macbased-identity

Mac format for identity for macbased-auth

groupsize <groupsize> separator { hyphen | dot | colon } { uppercase | lowercase }

Definition of the MAC format

retransmit

Specify the number of retries to active server

timeout

Time to wait for a RADIUS server to reply

32

attribute number 32 = NAS-Identifier

4

attribute number 4 = NAS-IPv4-Address

95

attribute number 95 = NAS-IPv6-Address

<line1-253>

NAS-Identifier

<ipv4_ucast>

NAS-IPv4-Address

<ipv6_ucast>

<NAS-IPv6-Address>

<1-1440>

Time in minutes

<word1-255>

Hostname or IPv4/IPv6 address

acct-port

UDP port for RADIUS accounting server

auth-port

UDP port for RADIUS authentication server

key

Server specific key (overrides default)

retransmit

Specify the number of retries to active server (overrides default)

timeout

Time to wait for this RADIUS server to reply (overrides default)

<0-65535>

UDP port number or 0 to disable authentication

<1-1000>

Number of retries for a transaction

<1-1000>

Wait time in seconds

<line1-63>

The UNENCRYPTED (Plain Text) secret key. Notice that you have no chance to get the Plain Text secret key after this command. The system will always display the ENCRYPTED password.

encrypted

Specifies an ENCRYPTED secret key will follow

unencrypted

Specifies an UNENCRYPTED secret key will follow

<word96-224>

The ENCRYPTED (hidden) secret key. Notice the ENCRYPTED secret key will be decoded by system internally. You cannot directly use it as same as the Plain Text and it is not human-readable text normally

Example:

```
<sys_name>(config)# radius-server host device key 12
<sys_name>(config)#
```

5.49 *rmon*

Remote Monitoring.

Syntax:

```
rmon alarm <1-65535> [ ifInOctets | ifInUcastPkts | ifInNUcastPkts | ifInDiscards |
 ifInErrors | ifInUnknownProtos | ifOutOctets | ifOutUcastPkts | ifOutNUcastPkts |
 ifOutDiscards | ifOutErrors ] <uint> <1-2147483647> [ absolute | delta ]
 rising-threshold <-2147483648-2147483647> [ <0-65535> | falling-threshold ]
 <-2147483648-2147483647> [ <0-65535> ] { [ rising | falling | both ] }
```

```
rmon event <1-65535> [ log ] | [ trap <word127> ] | [ description <line127> ]
```

Parameter:

alarm

Configure an RMON alarm

event

Configure an RMON event

<1-65535>

Alarm entry ID

ifInDiscards

The number of inbound packets that are discarded even the packets are normal

ifInErrors

The number of inbound packets that contained errors preventing them from being deliverable to a higher-layer protocol

ifInNUcastPkts

The number of broadcast and multicast packets delivered to a higher-layer protocol

ifInOctets

The total number of octets received on the interface, including framing characters

ifInUcastPkts

The number of unicast packets delivered to a higher-layer protocol

ifInUnknownProtos

The number of the inbound packets that were discarded because of the unknown or unsupported protocol

ifOutDiscards

The number of outbound packets that are discarded event the packets is normal

ifOutErrors

The The number of outbound packets that could not be transmitted because of errors

ifOutNUcastPkts

The number of broadcast and multicast packets that request to transmit

ifOutOctets

The number of octets transmitted out of the interface, including framing characters

ifOutUcastPkts

The number of unicast packets that request to transmit

<uint>

Interface index

<1-2147483647>

Sample interval

absolute

Test each sample directly

delta

Test delta between samples

rising-threshold

Configure the rising threshold

<-2147483648-2147483647>

rising threshold value

<0-65535>

Event to fire on rising threshold crossing

falling-threshold

Configure the falling threshold

<-2147483648-2147483647>

falling threshold value

<0-65535>

Event to fire on falling threshold crossing

both

Trigger alarm when the first value is larger than the rising threshold or less than the falling threshold (default)

falling

Trigger alarm when the first value is less than the falling threshold

rising

Trigger alarm when the first value is larger than the rising threshold

<1-65535>

Event entry ID

description

Specify a description of the event

log

Generate RMON log when the event fires

trap

Generate SNMP trap when the event fires

<line127>

Event description

<word127>

OBSOLETE: SNMP community string

Example:

```
<sys_name>(config)# rmon alarm 10000 ifInErrors 6 9999 absolute rising-threshold 0
falling-threshold 0 both
<sys_name>(config)#
```

5.50 *router*

Routing process.

Syntax:

```
router ospf
```

Parameter:

ospf

Open Shortest Path First (OSPF)

Example:

```
<sys_name>(config)# router ospf
<sys_name>(config-router)#
```

5.51 *sflow*

Statistics flow.

Syntax:

```
sflow agent-ip { ipv4 <ipv4_addr> | ipv6 <ipv6_addr> }
sflow collector-address
sflow collector-address{ <domain_name> | <ipv4_addr> | <ipv6_addr> }
sflow collector-port <1-65535>
sflow max-datagram-size <200-1468>
sflow timeout <0-2147483647>
```

Parameter:

agent-ip

The agent IP address used as agent-address in UDP datagrams. Defaults to IPv4 loopback address

collector-address

Collector address

collector-port <1-65535>

Collector UDP port number

max-datagram-size <200-1468>

Maximum datagram size in bytes

timeout <0-2147483647>

Receiver timeout measured in seconds. The switch decrements the timeout once per second, and as long as it is non-zero, the receiver receives samples. Once the timeout reaches 0, the receiver and all its configuration is reset to defaults

ipv4 <ipv4_addr>

IPv4 address

ipv6 <ipv6_addr>

IPv6 address

<domain_name>

Domain name identifying the collector receiver

<ipv4_addr>

IPv4 address identifying the collector receiver

<ipv6_addr>

IPv6 address identifying the collector receiver

Example:

```
<sys_name>(config)# sflow agent-ip ipv4 192.168.1.2
<sys_name>(config)# sflow collector-port 3
<sys_name>(config)# sflow max-datagram-size 333
<sys_name>(config)# sflow timeout 3333
<sys_name>(config)#
```

5.52 snmp-server commands

Set SNMP server's configurations.

Command	Function
	Enable SNMP server.
access	Access configuration.
community	Set the SNMP community.
contact	Set the SNMP server's contact string.
engine-id	Set SNMP engine ID.
host	Set SNMP host's configurations.
security-to-group	Security-to-group configuration.
user	Set the SNMPv3 user's configurations.
view	MIB view configuration.

5.52.1 *access*

Access configuration.

Syntax:

```
snmp-server access <word32> model [ v1 | v2c | v3 | any ] level [ auth | noauth | priv ]
```

```
snmp-server access <word32> model [ v1 | v2c | v3 | any ] level [ auth | noauth | priv ]
[ read | write ] <word32>
```

Parameter:

<word32>

Group name

model

Security model

v1>

v1 security model

v2c>

v2c security model

v3>

v3 security model

any

any security model

level

Security level

auth

authNoPriv Security Level

noauth

noAuthNoPriv Security Level

priv

authPriv Security Level

read <word32>

Specify a read view for the group

write <word32>

Specify a write view for the group

Example:

```
<sys_name>(config)# snmp-server access text model v2c level noauth write text
<sys_name>(config)#
```

5.52.2 *community*

Set the SNMP community.

Syntax:

```
snmp-server community <word32> <word32>
snmp-server community <word32> encrypted <word96-160>
snmp-server community <word32> ip-range <ipv4_addr> <ipv4_netmask>
snmp-server community <word32> ipv6-range <ipv6_subnet>
```

Parameter:

<word32>

Security name

encrypted

Use encrypted community secret

ip-range

Use IPv4 range

ipv6-range

Use IPv6 range

<word96-160>

Encrypted community secret

<ipv4_addr>

IPv4 address

<ipv4_netmask>

IPv4 netmask

<ipv6_subnet>

IPv6 subnet

Example:

```
<sys_name>(config)# snmp-server community a a
<sys_name>(config)#
```

5.52.3 *contact*

Set the SNMP server's contact string.

Syntax:

```
snmp-server contact <line255>
```

Parameter:

<line255>

Contact string

Example:

```
<sys_name>(config)# snmp-server contact aa
<sys_name>(config)#
```

5.52.4 *engine-id*

Set SNMP engine ID.

Syntax:

```
snmp-server engine-id local <word10-64>
```

Parameter:

local

Set SNMP local engine ID

<word10-64>

Local engine ID

Example:

```
<sys_name>(config)# snmp-server engine-id local 1234567890
<sys_name>(config)#
```

5.52.5 *host*

Set SNMP host's configurations.

Syntax:

```
snmp-server host <word32>
snmp-server host <encrypted <word96-224>>
```

Parameter:

<word32>

Name of the host configuration

encrypted <word96-224>

Specifies an ENCRYPTED secret key will follow. Notice the ENCRYPTED secret key will be decoded by system internally. You cannot directly use it as same as the Plain Text and it is not human-readable text normally

Example:

```
<sys_name>(config)# snmp-server engine-id host aa
<sys_name>(config-snmps-host)#
```

5.52.6 *location*

Set the SNMP server's location string.

Syntax:

```
snmp-server location <line255>
```

Parameter:

<line255>

Location string

Example:

```
<sys_name>(config)# snmp-server location aa
<sys_name>(config)#
```

5.52.7 *security-to-group*

Security-to-group configuration.

Syntax:

```
snmp-server security-to-group model [ v1 | v2c | v3 ] name <word32> group <word32>
```

Parameter:

model

Security model

v1

v1 security model

v2c

v2c security model

v3

v3 security model

name <word32>

security user name

group <word32>

security group name

Example:

```
<sys_name>(config)# snmp-server model v2c name text group text
<sys_name>(config)#
```

5.52.8 *user*

Set the SNMPv3 user's configurations.

Syntax:

```
snmp-server user <word32> engine-id <word10-64>
snmp-server user <word32> engine-id <word10-64> md5 <word8-32>
snmp-server user <word32> engine-id <word10-64> md5 <word8-32> priv [ aes | des ]
snmp-server user <word32> engine-id <word10-64> md5 encrypted <word16-64>
snmp-server user <word32> engine-id <word10-64> md5 encrypted <word16-64> priv
[ aes | des ]
```

Parameter:

<word32>

Security user name

engine-id

engine ID

<word10-64>

Engine ID octet string

md5

Set MD5 protocol

<word8-32>

MD5 unencrypted password

encrypted

Specifies an encrypted password will follow

aes

Set AES protocol

des

Set DES protocol

<word16-64>

MD5 encrypted password

Example:

```
<sys_name>(config)#   snmp-server   user   A   engine-id   123456789876   md5   encrypted
122222222222213123213123 priv aes
<sys_name>(config)#
```

5.52.9 *view*

MIB view configuration.

Syntax:

```
snmp-server view <word32> <word255> [ include | exclude ]
```

Parameter:

<word32>

MIB view name

<word255>

MIB view OID

include

Included type from the view

exclude

Excluded type from the view

Example:

```
<sys_name>(config)# snmp-server view text .1 include
<sys_name>(config)#
```

5.53 spanning-tree commands

Spanning Tree protocol.

Command	Function
aggregation	Aggregation mode.
edge	Edge ports.
mode	STP protocol mode.
mst	STP bridge instance.
recovery	The error recovery timeout.
transmit	BPDUs to transmit.

5.53.1 *aggregation*

Aggregation mode.

Syntax:

```
spanning-tree aggregation
```

Example:

```
<sys_name>(config)# spanning-tree aggregation
<sys_name>(config-stp-aggr)#
```

5.53.2 *edge*

Edge ports.

Syntax:

```
spanning-tree edge [ bpdu-filter | bpdu-guard ]
```

Parameter:

bpdu-filter

Enable BPDU filter (stop BPDU tx/rx)

bpdu-guard

Enable BPDU guard

Example:

```
<sys_name>(config)# spanning-tree edge bpdu-guard
<sys_name>(config-stp-aggr)#
```

5.53.3 *mode*

STP protocol mode.

Syntax:

```
spanning-tree mode [ stp | rstp | mstp ]
```

Parameter:

stp

Multiple Spanning Tree (802.1s)

rstp

Rabid Spanning Tree (802.1w)

mstp

802.1D Spanning Tree

Example:

```
<sys_name>(config)# spanning-tree mode stp
<sys_name>(config-stp-aggr)#
```

5.53.4 *mst*

STP bridge instance.

Syntax:

```
spanning-tree mst <0-7> priority <0-61440>
spanning-tree mst <0-7> vlan <vlan_list>
spanning-tree mst forward-time <4-30>
spanning-tree mst hello-time <1-10>
spanning-tree mst max-age <6-40>
spanning-tree mst max-age <6-40> forward-time
spanning-tree mst max-hops <6-40>
spanning-tree mst name <word32> revision <0-65535>
```

Parameter:

<0-7>

instance (CIST=0, MSTI1=1, …)

forward-time <4-30>

Delay in seconds between port states

hello-time <1-10>

MSTP bridge hello time

max-age <6-40>

Max bridge age in seconds before timeout

max-hops <6-40>

MSTP bridge max hop count

name <word32>

Name keyword with the name of the bridge

priority

Priority of the instance

<0-61440>

Represents the STP bridge priority. Supported values are 0 / 4096 / 8192 / 12288 / 16384 / 20480 / 24576 / 28672 / 32768 / 36864 / 40960 / 45056 / 49152 / 53248 / 57344 / 61440 i.e divisible by 4096. Default value is 32768.

vlan

VLAN keyword

<vlan_list>

Range of VLANs

forward-time

revision <0-65535>

Revision keyword with revision number

Example:

```
<sys_name>(config)# spanning-tree mst name a revision 4
<sys_name>(config-stp-aggr)#
```

5.53.5 *recovery*

The error recovery timeout.

Syntax:

```
spanning-tree recovery interval <30-86400>
```

Parameter:

interval <30-86400>

The interval range in seconds.

Example:

```
<sys_name>(config)# spanning-tree recovery interval 33
<sys_name>(config-stp-aggr)#
```

5.53.6 *transmit*

BPDUs to transmit.

Syntax:

```
spanning-tree transmit hold-count <1-10>
```

Parameter:

hold-count <1-10>

Maximum number of transmit BPDUs per seconnds. Default is 6.

Example:

```
<sys_name>(config)# spanning-tree transmit hold-count 3
<sys_name>(config-stp-aggr)#
```

5.54 *ssh*

Change ssh server configuration.

Syntax:

```
ssh [no] crypto [cipher <name> | hash <name> | key-exchange <name> | key-signature <name>]
ssh [no] keepalive <int>
```

Parameter:

[no] crypto [cipher <name> | hash <name> | key-exchange <name> | key-signature <name>]

`no` sets the default value. This is different depending on given function.

[no] keepalive <int>

`no` sets the default value of 0 as keepalive interval thus disabling it. Otherwise set the keepalive interval to the given value.

5.55 *svl*

Shared VLAN Learning.

Syntax:

```
svl fid <1-4095> vlan <vlan_list>
```

Parameter:

fid

Filter ID keyword

<1-4095>

Filter ID

vlan

VLAN keyword

<vlan_list>

VLAN list

Example:

```
<sys_name>(config)# svl fid 1 vlan 3
<sys_name>(config)#
```

5.56 *switchport*

Set VLAN switching mode characteristics.

Syntax:

```
switchport vlan mapping <1-53> <vlan_list> <vlan_id>
switchport vlan mapping <1-53> [ both | egress | ingress ] <vlan_id> <vlan_id>
```

Parameter:

vlan

VLAN

mapping

VLAN translation entry configuration

<1-53>

Group id

<vlan_list>

VLAN ID List (deprecated)

both

Bi-directional Translation

egress

Egress-only Translation

ingress

Ingress-only Translation

<vlan_id>

Translated VLAN ID

<vlan_id>

VLAN ID

Example:

```
<sys_name>(config)# switchport vlan mapping 3 3 3
%% Failed to add VLAN Translation mapping.
% (VLAN Translation Error - The provided Translation VLAN ID is the same as the VLAN ID -
makes no sense to translate a VLAN to itself)
<sys_name>(config)#
```

5.57 *system*

Set the SNMP server's configurations.

Syntax:

```
system [ contact | description | location | name ] <line128>
system reboot [ Fri | Mon | Sat | Sun | Thr | Tue | Wed ] <0-23> <0-55>
system reboot mode [ disable | enable ]
```

Parameter:

contact <line128>

Set the SNMP server's contact string

description <line128>

Set the SNMP server's system description string

location <line128>

Set the SNMP server's location string

name <line128>

Set the SNMP server's system model name string

reboot mode [disable | enable]

Enable or disable the switch reboot mode

reboot [Fri | Mon | Sat | Sun | Thr | Tue | Wed] <0-23> <0-55>

Configure switch reboot scheduling on Friday, Monday, Saturday, Sunday, Thursday, Tuesday or Wednesday. <0-23> is the hour, <0-55> the minute, value must be a multiple of 5.

Example:

```
<sys_name>(config)# system contact 222
<sys_name>(config)# system location 333
<sys_name>(config)# system name GE
<sys_name>(config)#
```

5.58 *tacacs-server*

Configure TACACS+.

Syntax:

```
tacacs-server deadtime <1-1440>
tacacs-server host <word1-255>
tacacs-server host <word1-255> key <line1-63>
tacacs-server host <word1-255> key encrypted <word96-224>
tacacs-server host <word1-255> key unencrypted <line1-63>
tacacs-server host <word1-255> port <0-65535>
tacacs-server host <word1-255> timeout <1-1000>
tacacs-server key <line1-63>
tacacs-server key encrypted <word96-224>
tacacs-server key unencrypted <line1-63>
tacacs-server timeout <1-1000>
```

Parameter:

deadtime <1-1440>

Time in minutes to stop using a TACACS+ server that doesn't respond

host <word1-255>

Specify a TACACS+ server as hostname or IPv4/IPv6 address

key

Set TACACS+ encryption key

encrypted <word96-224>

Specifies an ENCRYPTED secret key will follow. Notice the ENCRYPTED secret key will be decoded by system internally. You cannot directly use it as same as the Plain Text and it is not human-readable text normally

unencrypted <line1-63>

Specifies an UNENCRYPTED secret key will follow. Notice that you have no chance to get the Plain Text secret key after this command. The system will always display the ENCRYPTED password.

port <0-65535>

TCP port for TACACS+ server

timeout <1-1000>

Time in seconds to wait for this TACACS+ server to reply (overrides default)

Example:

```
<sys_name>(config)# tacacs-server deadtime 300
<sys_name>(config)# tacacs-server key 33
<sys_name>(config)# tacacs-server timeout 300
<sys_name>(config)#
```

5.59 *udld*

Enable UDLD in the aggressive or normal mode and to set the configurable message timer on all fiber-optic ports.

Syntax:

```
udld [ aggressive | enable ]
udld message time-interval <7-90>
```

Parameter:

aggressive

Enables UDLD in aggressive mode on all fiber-optic ports.

enable

Enables UDLD in normal mode on all fiber-optic ports.

message time-interval <7-90>

Configures the period of time between UDLD probe messages on ports that are in the advertisement phase and are determined to be bidirectional. The range is from 7 to 90 seconds (Currently default message time interval 7 sec is supported)

Example:

```
<sys_name>(config)# udld aggressive
% Only fiber ports are allowed, port_no: 1
% Only fiber ports are allowed, port_no: 2
% Only fiber ports are allowed, port_no: 3
% Only fiber ports are allowed, port_no: 4
.
.
.
.
.
% Only fiber ports are allowed, port_no: 45
% Only fiber ports are allowed, port_no: 46
% Only fiber ports are allowed, port_no: 47
% Only fiber ports are allowed, port_no: 48
<sys_name>(config)#
```

5.60 *upnp*

Set UPnP's configurations.

Syntax:

```
upnp
upnp advertising-duration <66-86400>
upnp ip-addressing-mode [ dynamic | static ]
upnp static interface vlan <vlan_id>
```

Parameter:

advertising-duration <66-86400>

Set advertising duration

ip-addressing-mode

Set IP addressing mode

static

Set static VLAN interface ID

dynamic

Dynamic IP addressing mode

static

Static IP addressing mode

interface

Select an interface to configure

vlan

VLAN Interface

<vlan_id>

VLAN identifier (VID)

Example:

```
<sys_name>(config)# upnp advertising-duration 188
<sys_name>(config)# upnp static interface vlan 33
<sys_name>(config)#
```

5.61 *username*

Establish User Name Authentication.

Syntax:

```
username <word31> privilege <0-15> password [ encrypted <word128> | none |
 unencrypted <line31> ]
```

Parameter:

<word31>

User name allows letters, numbers and underscores

privilege <0-15>

Set user privilege level

password

Specify the password for the user

encrypted <word128>

The ENCRYPTED (hidden) user password. Notice the ENCRYPTED password will be decoded by system internally. You cannot directly use it as same as the Plain Text and it is not human-readable text normally.

none

NULL password

unencrypted <line31>

The UNENCRYPTED (Plain Text) user password. Any printable characters including space is accepted. Notice that you have no chance to get the Plain Text password after this command. The system will always display the ENCRYPTED password.

Example:

```
<sys_name>(config)# username alan privilege 15 password none
<sys_name>(config)#
```

5.62 *vlan*

VLAN commands.

Syntax:

```
vlan <vlan_list>
vlan ethertype s-custom-port <0x0600-0xffff>
vlan protocol eth2 [ <0x600-0xffff> | arp | at | ip | ipx ] group <word16>
vlan protocol llc <0x0-0xff> <0x0-0xff> group <word16>
vlan protocol snap [ <0x0-0xffffff> | rfc-1042 | snap-8021h ] <0x0-0xffff> group <word16>
```

Parameter:

<vlan_list>

ISL VLAN IDs

ethertype s-custom-port

Ethertype for Custom S-ports

protocol

Protocol-based VLAN commands

eth2

Ethernet-based VLAN commands

llc

LLC-based VLAN group

snap

SNAP-based VLAN group

<0x0600-0xffff>

Ether Type (Range: 0x0600-0xffff)

arp

Ether Type is ARP

at

Ether Type is AppleTalk

ip

Ether Type is IP

ipx

Ether Type is IPX

group

Protocol-based VLAN group commands

<word16>

Group Name (Range: 1 - 16 characters)

<0x0-0xff>

DSAP (Range: 0x00 - 0xFF)

<0x0-0xff>

SSAP (Range: 0x00 - 0xFF)

<0x0-0xffffff>

SNAP OUI (Range 0x000000 - 0XFFFFFF)

rfc-1042

SNAP OUI is RFC-1042

snap-8021h

SNAP OUI is 8021h

<0x0-0xffff>

PID (Range: 0x0 - 0xFFFF)

Example:

```
<sys_name>(config)# vlan ethertype s-custom-port 0x1111
<sys_name>(config)# vlan protocol eth2 0x6000 group aa
<sys_name>(config)#
```

5.63 *voice*

Voice appliance attributes.

Syntax:

```
voice vlan
voice vlan aging-time <10-10000000>
voice vlan class <0-7>
voice vlan oui <oui>
voice vlan oui <oui> description <line32>
voice vlan vid <vlan_id>
```

Parameter:

vlan

VLAN for voice traffic

aging-time <10-10000000>

Set secure learning aging time in seconds

class <0-7>

Set traffic class

oui <oui>

OUI configuration

description <line32>

Set description for the OUI

vid <vlan_id>

VLAN ID, 1-4095

Example:

```
<sys_name>(config)# voice vlan aging-time 3333
<sys_name>(config)# voice vlan class 7
```

```
<sys_name>(config)# voice vlan vid 3333
<sys_name>(config)#
```

5.64 *web*

Web.

Syntax:

```
web privilege group <cword> level [ configRoPriv | configRwPriv | statusRoPriv |
 statusRwPriv ] <0-15>
```

Parameter:

privilege

Web privilege

group <cword>

Web privilege group. Valid words are 'Aggregation' 'Alarm' 'DDMI' 'DHCP' 'DHCPv6_Client' 'Diagnostics' 'FRR' 'Firmware' 'Green_Ethernet' 'IP' 'IPMC_Snooping' 'LACP' 'LLDP' 'Loop_Protect' 'MAC_Table' 'MRP' 'MVR' 'Miscellaneous' 'NTP' 'POE' 'Ports' 'Private_VLANs' 'QoS' 'RMirror' 'Security(access)' 'Security(network)' 'Spanning_Tree' 'System' 'UDLD' 'UPnP' 'VCL' 'VLAN_Translation' 'VLANs' 'Voice_VLAN' 'XXRP' 'sFlow' 'uFDMA_AIL' 'uFDMA_CIL'

level … <0-15>

Web privilege group level

configRoPriv

Configuration Read-only level

configRwPriv

Configuration Read-write level

statusRoPriv

Status/Statistics Read-only level

statusRwPriv

Status/Statistics Read-write level

Example:

```
<sys_name>(config)# web privilege group DDMI level configRoPriv 3
<sys_name>(config)#
```

6 CLI Command / Privilege Reference

This chapter introduces the CLI privilege level and shows the needed privilege for each command. The privilege level determines whether or not the user could run the particular commands. If the user could run the particular command, then the user has to run the command in the correct mode (see also *CLI Command Modes* on page 13).

Privilege level

Every command has a privilege level (0-15). Users can run a command if the session's privilege level is greater than or equal to the command's privilege level. The session's privilege level initially comes from the login account's privilege level, though it is possible to change the session's privilege level after logging in.

Table 2:

Privilege level	Types of commands at this privilege level
0	Display basic system information
13	Configure features except for login accounts, the authentication method sequence, multiple logins, and administrator and enable passwords.
15	Configure login accounts, the authentication method sequence, multiple logins, and administrator and enable passwords.

Command summary

Command	Description	P	Mode
aaa authentication login { telnet | ssh | http } { [local | radius | tacacs] ... }	Use the aaa authentication login command to configure the authentication methods.	15	GLOBAL_CONFIG
access-list { redirect | port-copy } interface { <port_type_id> | <port_type_list> }	Use the no access-list redirect interface configuration command to configure the access-list redirect interface.	15	INTERFACE_PORT_LIST
access-list ace [update] <1-256> [next {<1-256>|last}] [ingress {switch <switch_id>|switchport {<1-53>|<1~53>}|interface {<port_type_id>|<port_type_list>}|any}] [policy <0-255> [policy-bitmask <0x0-0xFF>]] [tag {tagged|untagged|any}] [vid {<1-4095>|any}] [tag-priority {<0-7>|0-1|2-3|4-5|6-7|0-3|4-7|any}] [dmac-type {unicast|multicast|broadcast|any}] [frametype { any| etype [etype-value {<0x600-0x7ff,0x801-0x805,0x807-0x86dc, 0x86de-0xffff>|any}] [smac {<mac_addr>|any}] [dmac {<mac_addr>|any}]| arp [sip {<ipv4_subnet>|any}] [dip {<ipv4_subnet>|any}] [smac {<mac_addr>|any}] [arp-opcode {arp|rarp|other|any}] [arp-flag [arp-request {<0-1>|any}] [arp-smac {<0-1>|any}] [arp-tmac {<0-1>|any}] [arp-len {<0-1>|any}] [arp-ip	Use the access-list ace global configuration command to set the access-list ace. The command without the update keywrod will creates or overwrites an existing ACE, any unspecified parameter will be set to its default value. Use the update keyword to update an existing ACE and only specified parameter are modified. The ACE must ordered by an appropriate sequence, the received frame will only be hit on the first matched ACE. Use the next or last keyword to adjust the ACE's sequence order.	15	GLOBAL_CONFIG

Command	Description	P	Mode
{<0-1>|any}] [arp-ether {<0-1>|any}]]| ipv4 [sip {<ipv4_subnet>|any}] [dip {<ipv4_subnet>|any}] [ip-protocol {<0,2-5,7-16,18-255>|any}] [ip-flag [ip-ttl {<0-1>|any}] [ip-options {<0-1>|any}] [ip-fragment {<0-1>|any}]]| ipv4-icmp [sip {<ipv4_subnet>|any}] [dip {<ipv4_subnet>|any}] [icmp-type {<0-255>|any}] [icmp-code {<0-255>|any}] [ip-flag [ip-ttl {<0-1>|any}] [ip-options {<0-1>|any}] [ip-fragment {<0-1>|any}]]| ipv4-udp [sip {<ipv4_subnet>|any}] [dip {<ipv4_subnet>|any}] [sport {<0-65535> [to <0-65535>]|any}] [dport {<0-65535> [to <0-65535>]|any}] [ip-flag [ip-ttl {<0-1>|any}] [ip-options {<0-1>|any}] [ip-fragment {<0-1>|any}]]| ipv4-tcp [sip {<ipv4_subnet>|any}] [dip {<ipv4_subnet>|any}] [sport {<0-65535> [to <0-65535>]|any}] [dport {<0-65535> [to <0-65535>]|any}] [ip-flag [ip-ttl {<0-1>|any}] [ip-options {<0-1>|any}] [ip-fragment {<0-1>|any}]] [tcp-flag [tcp-fin {<0-1>|any}] [tcp-syn {<0-1>|any}] [tcp-rst {<0-1>|any}] [tcp-psh {<0-1>|any}] [tcp-ack {<0-1>|any}] [tcp-urg {<0-1>|any}]]| ipv6 [next-header {<0-5,7-16,18-57,59-255>|any}] [sip {<ipv6_addr> [sip-bitmask <uint>]|any}] [hop-limit {<0-1>|any}]| ipv6-icmp [sip {<ipv6_addr> [sip-bitmask <uint>]|any}] [icmp-type {<0-255>|any}] [icmp-code {<0-255>|any}] [hop-limit {<0-1>|any}]| ipv6-udp [sip {<ipv6_addr> [sip-bitmask <uint>]|any}] [sport {<0-65535> [to <0-65535>]|any}] [dport {<0-65535> [to <0-65535>]|any}] [hop-limit {<0-1>|any}]| ipv6-tcp [sip {<ipv6_addr> [sip-bitmask <uint>]|any}] [sport {<0-65535> [to <0-65535>]|any}] [dport {<0-65535> [to <0-65535>]|any}] [hop-limit {<0-1>|any}] [tcp-flag [tcp-fin {<0-1>|any}] [tcp-syn {<0-1>|any}] [tcp-rst {<0-1>|any}] [tcp-psh {<0-1>|any}] [tcp-ack {<0-1>|any}] [tcp-urg {<0-1>|any}]]}] [action {permit|deny|filter {switchport <1~53>|interface <port_type_list>}}] [rate-limiter {<1-16>|disable}] [evc-policer {<1-256>|disable}] [{redirect|port-copy} {switchport {<1-53>|<1~53>}|interface {<port_type_id>|<port_type_list>}|disable}] [mirror [disable]] [logging [disable]] [shutdown [disable]] [lookup [disable]]			
access-list action { permit | deny }	Use the access-list action interface configuration command to configure access-list action. The access-list interface configuration will affect the received frames if it doesn't match any ACE.	15	INTERFACE_PORT_LIST

Command	Description	P	Mode
access-list evc-policer <1-256>	Use the access-list evc-policer interface configuration command to configure the access-list evc-policer ID. The access-list interface configuration will affect the received frames if it doesn't match any ACE.	15	INTERFACE_PORT_LIST
access-list logging	Use the access-list logging interface configuration command to enable access-list logging. Use the no form of this command to disable access-list logging. The access-list interface configuration will affect the received frames if it doesn't match any ACE.	15	INTERFACE_PORT_LIST
access-list mirror	Use the access-list mirror interface configuration command to enable access-list mirror. Use the no form of this command to disable access-list mirror. The access-list interface configuration will affect the received frames if it doesn't match any ACE.	15	INTERFACE_PORT_LIST
access-list policy <0-255>	Use the access-list policy interface configuration command to configure the access-list policy value. The access-list interface configuration will affect the received frames if it doesn't match any ACE.	15	INTERFACE_PORT_LIST
access-list port-state	Use the access-list port-state interface configuration command to enable access-list port state. Use the no form of this command to disable access-list port state.	15	INTERFACE_PORT_LIST
access-list rate-limiter [<1~16>] { pps <1,2,4,8,16,32,64,128,256,512>| 100pps <1-32767> | kpps <1,2,4,8,16,32,64,128,256,512,1024> | 100kbps <0-10000> }	Use the access-list rate-limiter global configuration command to configure the access-list rate-limiter.	15	INTERFACE_PORT_LIST
access-list rate-limiter <1-16>	Use the access-list rate-limiter interface configuration command to configure the access-list rate-limiter ID . The access-list interface configuration will affect the received frames if it doesn't match any ACE.	15	INTERFACE_PORT_LIST
access-list shutdown	Use the access-list shutdown interface configuration command to enable access-list shutdown. Use the no form of this command to disable access-list shutdown. The access-list interface configuration will affect the received frames if it doesn't match any ACE.	15	INTERFACE_PORT_LIST
access management	Use the access management global configuration command to enable the access management. Use the no form of this command to disable the access management.	15	GLOBAL_CONFIG

Command	Description	P	Mode
access management <1-16> <1-4094> <ipv4_addr> [to <ipv4_addr>] { [web] [snmp] [telnet] | all }	Use the access management <AccessId> global configuration command to set the access management entry for IPv4 address.	15	GLOBAL_CONFIG
access management <1-16> <1-4094> <ipv6_addr> [to <ipv6_addr>] { [web] [snmp] [telnet] | all }	Use the access management <AccessId> global configuration command to set the access management entry for IPv6 address.	15	GLOBAL_CONFIG
aggregation group <uint>		15	INTERFACE_PORT_LIST
aggregation mode { [smac] [dmac] [ip] [port] }		15	GLOBAL_CONFIG
arp_inspection_port_check_vlan	Use the ip arp inspection check-vlan interface configuration command to configure a port as VLAN mode for ARP inspection purposes. Use the no form of this command to configure a port as default.	13	INTERFACE_PORT_LIST
arp_inspection_port_mode	Use the ip arp inspection trust interface configuration command to configure a port as trusted for ARP inspection purposes. Use the no form of this command to configure a port as untrusted.	13	INTERFACE_PORT_LIST
arp_inspection_translate		13	GLOBAL_CONFIG
broadcast <ipv4_addr>		13	DHCP_POOL
clear access-list ace statistics	Use the clear access-list ace statistics privileged EXEC command to clear the statistics maintained by access-list, including access-list interface statistics and ACE's statistics.	15	EXEC
clear access management statistics	Use the clear access management statistics privileged EXEC command to clear the statistics maintained by access management.	15	EXEC
clear dot1x statistics [interface <port_type_list>]	Clears the statistics counters	15	EXEC
clear ip arp	Clear ARP cache	0	EXEC
clear ip dhcp detailed statistics { server | client | snooping | relay | helper | all } [interface <port_type_list>]	Use the clear ip dhcp detailed statistics privileged EXEC command to clear the statistics, or particularly the IP DHCP statistics for the interface. Notice that except for clear statistics on all interfaces, clear the statistics on specific port may not take effect on global statistics since it gathers the different layer overview.	15	EXEC
clear ip dhcp relay statistics	Use the clear ip dhcp relay statistics privileged EXEC command to clear the statistics maintained by IP DHCP realy.	15	EXEC
clear ip dhcp server binding { automatic | manual | expired }		13	EXEC
clear ip dhcp server binding <ipv4_ucast>		13	EXEC

Command	Description	P	Mode
clear ip dhcp server statistics		13	EXEC
clear ip dhcp snooping statistics [interface <port_type_list>]	Use the clear ip dhcp snooping statistics privileged EXEC command to clear the statistics maintained by IP DHCP snooping, or particularly the IP DHCP snooping statistics for the interface.	15	EXEC
clear ip igmp snooping [vlan <vlan_list>] statistics		15	EXEC
clear ip statistics [system] [interface vlan <vlan_list>] [icmp] [icmp-msg <0~255>]		0	EXEC
clear ipv6 mld snooping [vlan <vlan_list>] statistics		15	EXEC
clear lacp statistics	Clear all LACP statistics	15	EXEC
clear lldp statistics	Clears the LLDP statistics.	0	EXEC
clear logging [info] [warning] [error] [switch <switch_list>]	Use the clear logging privileged EXEC command to clear the logging message.	15	EXEC
clear mac address-table		15	EXEC
clear mvr [vlan <vlan_list> | name <word16>] statistics		15	EXEC
clear network-clock clk-source <range_list>	Clear active WTR timer.	15	EXEC
clear sflow statistics { receiver [<range_list>] | samplers [interface [<range_list>] <port_type_list>] }	Clearing statistics.	15	EXEC
clear spanning-tree { { statistics [interface <port_type_list>] } | { detected-protocols [interface <port_type_list>] } }		15	EXEC
clear statistics [interface] <port_type_list>	Clears the statistics for the interface.	0	EXEC
client-identifier { fqdn <line128> | mac-address <mac_addr> }		13	DHCP_POOL
client-name <word32>		13	DHCP_POOL
clock summer-time <word16> date [<1-12> <1-31> <2000-2097> <hhmm> <1-12> <1-31> <2000-2097> <hhmm> [<1-1440>]]		13	GLOBAL_CONFIG
clock summer-time <word16> date [<1-12> <1-31> <2000-2097> <hhmm> <1-12> <1-31> <2000-2097> <hhmm> [<1-1440>]]		13	GLOBAL_CONFIG
clock summer-time <word16> recurring [<1-5> <1-7> <1-12> <hhmm> <1-5> <1-7> <1-12> <hhmm> [<1-1440>]]		13	GLOBAL_CONFIG
clock summer-time <word16> recurring [<1-5> <1-7> <1-12> <hhmm> <1-5> <1-7> <1-12> <hhmm> [<1-1440>]]		13	GLOBAL_CONFIG
clock timezone <word16> <-23-23> [<0-59>]		13	GLOBAL_CONFIG

Command	Description	P	Mode
clock timezone <word16> <-23-23> [<0-59>]		13	GLOBAL_CONFIG
copy { startup-config | running-config | <word> } { startup-config | running-config | <word> } [syntax-check]		15	EXEC
default access-list rate-limiter [<1~16>]	Use the default access-list rate-limiter global configuration command to restore the default setting of access-list rate-limiter.	15	GLOBAL_CONFIG
default-router <ipv4_ucast> [<ipv4_ucast> [<ipv4_ucast> [<ipv4_ucast>]]]		13	DHCP_POOL
dhcp_snooping_port_mode	Use the ip dhcp snooping trust interface configuration command to configure a port as trusted for DHCP snooping purposes. Use the no form of this command to configure a port as untrusted.	15	INTERFACE_PORT_LIST
dir		15	EXEC
dns-server <ipv4_ucast> [<ipv4_ucast> [<ipv4_ucast> [<ipv4_ucast>]]]		13	DHCP_POOL
domain-name <word128>		13	DHCP_POOL
dot1x authentication timer inactivity <10-1000000>	Time in seconds between check for activity on successfully authenticated MAC addresses.	15	GLOBAL_CONFIG
dot1x authentication timer re-authenticate <1-3600>	The period between re-authentication attempts in seconds	15	GLOBAL_CONFIG
dot1x feature { [guest-vlan] [radius-qos] [radius-vlan] }*1	Globally enables/disables a dot1x feature functionality	15	GLOBAL_CONFIG
dot1x guest-vlan	Enables/disables guest VLAN	15	INTERFACE_PORT_LIST
dot1x guest-vlan <1-4095>	Guest VLAN ID used when entering the Guest VLAN.	15	GLOBAL_CONFIG
dot1x guest-vlan supplicant	The switch remembers if an EAPOL frame has been received on the port for the life-time of the port. Once the switch considers whether to enter the Guest VLAN, it will first check if this option is enabled or disabled. If disabled (unchecked; default), the switch will only enter the Guest VLAN if an EAPOL frame has not been received on the port for the life-time of the port. If enabled (checked), the switch will consider entering the Guest VLAN even if an EAPOL frame has been received on the port for the life-time of the port.	15	GLOBAL_CONFIG
dot1x initialize [interface <port_type_list>]	Force re-authentication immediately	15	EXEC
dot1x max-reauth-req <1-255>	The number of times a Request Identity EAPOL frame is sent without response before considering entering the Guest VLAN	15	GLOBAL_CONFIG

Command	Description	P	Mode
dot1x port-control { force-authorized | force-unauthorized | auto | single | multi | mac-based }	Sets the port security state.	15	INTERFACE_PORT_LIST
dot1x radius-qos	Enables/disables per-port state of RADIUS-assigned QoS.	15	INTERFACE_PORT_LIST
dot1x radius-vlan	Enables/disables per-port state of RADIUS-assigned VLAN.	15	INTERFACE_PORT_LIST
dot1x re-authenticate	Refresh (restart) 802.1X authentication process.	15	INTERFACE_PORT_LIST
dot1x re-authentication	Set Re-authentication state	15	GLOBAL_CONFIG
dot1x system-auth-control	Set the global NAS state	15	GLOBAL_CONFIG
dot1x timeout quiet-period <10-1000000>	Time in seconds before a MAC-address that failed authentication gets a new authentication chance.	15	GLOBAL_CONFIG
dot1x timeout tx-period <1-65535>	the time between EAPOL retransmissions.	15	GLOBAL_CONFIG
duplex { half | full | auto [half | full] }	Use duplex to configure interface duplex mode.	15	INTERFACE_PORT_LIST
excessive-restart	Use excessive-restart to configure backoff algorithm in half duplex mode.	15	INTERFACE_PORT_LIST
firmware swap	Use firmware swap to swap the active and alternative firmware images.	15	EXEC
firmware upgrade <word>	Use firmware upgrade to load new firmware image to the switch.	15	EXEC
flowcontrol { on | off }	Use flowcontrol to configure flow control for the interface.	15	INTERFACE_PORT_LIST
green-ethernet eee	Sets EEE mode.	15	INTERFACE_PORT_LIST
green-ethernet eee optimize-for-power	Sets if EEE should be optimized for least traffic latency or least power comsumption	15	GLOBAL_CONFIG
green-ethernet eee urgent-queues [<range_list>]	Sets EEE urgeent queues.	15	INTERFACE_PORT_LIST
green-ethernet energy-detect	Enables energy-detect power savings.	15	INTERFACE_PORT_LIST
green-ethernet fan temp-max <-127-127>	Sets temperature where the fan must be running at full speed.	15	GLOBAL_CONFIG
green-ethernet fan temp-on <-127-127>	Sets temperature at which to turn fan on to the lowest speed.	15	GLOBAL_CONFIG
green-ethernet led interval <0~24> intensity <0-100>	Use green-ethernet led interval to configure the LED intensity at specific interval of the day.	15	GLOBAL_CONFIG
green-ethernet led on-event { [link-change <0-65535>] [error] }*1	Use green-ethernet led on-event to configure when to turn LEDs intensity to 100%%.	15	GLOBAL_CONFIG
green-ethernet short-reach	Enables short-reach power savings.	15	INTERFACE_PORT_LIST
gvrp		15	GLOBAL_CONFIG
gvrp		15	INTERFACE_PORT_LIST

Command	Description	P	Mode
gvrp join-request vlan <vlan_list>		15	INTERFACE_PORT_LIST
gvrp leave-request vlan <vlan_list>		15	INTERFACE_PORT_LIST
gvrp max-vlans <1-4095>		15	GLOBAL_CONFIG
gvrp time { [join-time <1-20>] [leave-time <60-300>] [leave-all-time <1000-5000>] }*1		15	GLOBAL_CONFIG
hardware-address <mac_ucast>		13	DHCP_POOL
host { <ipv4_ucast> | <hostname> } [<1-65535>] [traps | informs]		15	SNMPS_HOST
host <ipv4_ucast> <ipv4_netmask>		13	DHCP_POOL
host <ipv6_ucast> [<1-65535>] [traps | informs]		15	SNMPS_HOST
i ip verify source		13	INTERFACE_PORT_LIST
informs retries <0-255> timeout <0-2147>		15	SNMPS_HOST
ip address {{<ipv4_addr> <ipv4_netmask>} | {dhcp [fallback <ipv4_addr> <ipv4_netmask> [timeout <uint>]]}}	IP address configuration	15	INTERFACE_VLAN
ip arp inspection	Use the ip arp inspection global configuration command to globally enable ARP inspection. Use the no form of this command to globally disable ARP inspection.	13	GLOBAL_CONFIG
ip arp inspection entry interface <port_type_id> <vlan_id> <mac_ucast> <ipv4_ucast>		13	GLOBAL_CONFIG
ip arp inspection logging { deny | permit | all }	Use the ip arp inspection logging interface configuration command to configure a port as some logging mode for ARP inspection purposes. Use the no form of this command to configure a port as logging none.	13	INTERFACE_PORT_LIST
ip arp inspection vlan <vlan_list>	Use the ip arp inspection global configuration command to globally enable ARP inspection. Use the no form of this command to globally disable ARP inspection.	13	GLOBAL_CONFIG
ip arp inspection vlan <vlan_list> logging { deny | permit | all }		13	GLOBAL_CONFIG
ip dhcp excluded-address <low_ip> [<high_ipv4>]		13	GLOBAL_CONFIG
ip dhcp pool <pool_name>		15	GLOBAL_CONFIG
ip dhcp relay	Use the ip dhcp relay global configuration command to enable the DHCP relay server. Use the no form of thiscommand to disable the DHCP relay server.	15	GLOBAL_CONFIG
ip dhcp relay information option	Use the ip dhcp relay information option global configuration command to enable the DHCP	15	GLOBAL_CONFIG

Command	Description	P	Mode
	relay information option. Use the no form of this command to disable the DHCP relay information option. The option 82 circuit ID format as ""[vlan_id][module_id][port_no]"". The first four characters represent the VLAN ID, the fifth and sixth characters are the module ID(in standalone device it always equal 0, in stackable device it means switch ID), and the last two characters are the port number. For example, ""00030108"" means the DHCP message receive form VLAN ID 3, switch ID 1, port No 8. And the option 82 remote ID value is equal the switch MAC address.		
ip dhcp relay information policy { drop | keep | replace }	Use the ip dhcp relay information policy global configuration command to configure the DHCP relay information policy. When DHCP relay information mode operation is enabled, if the agent receives a DHCP message that already contains relay agent information it will enforce the policy. The 'Replace' policy is invalid when relay information mode is disabled.	15	GLOBAL_CONFIG
ip dhcp retry interface vlan <vlan_id>	Restart the dhcp client	15	EXEC
ip dhcp server		13	GLOBAL_CONFIG
ip dhcp server		13	INTERFACE_VLAN
ip dhcp snooping	Use the ip dhcp snooping global configuration command to globally enable DHCP snooping. Use the no form of this command to globally disable DHCP snooping.	15	GLOBAL_CONFIG
ip dns proxy	Enable DNS proxy service	15	GLOBAL_CONFIG
ip helper-address <ipv4_ucast>	Use the ip helper-address global configuration command to configure the host address of DHCP relay server.	15	GLOBAL_CONFIG
ip http secure-redirect	Use the http secure-redirect global configuration command to enable the secure HTTP web redirection. When the secure HTTP web server is enabled, the feature automatic redirect the none secure HTTP web connection to the secure HTTP web connection. Use the no form of this command to disable the secure HTTP web redirection.	15	GLOBAL_CONFIG
ip http secure-server	Use the ip http secure-server global configuration command to enable the secure HTTP web server. Use the no form of this command to disable the secure HTTP web server.	15	GLOBAL_CONFIG
ip igmp host-proxy [leave-proxy]		15	GLOBAL_CONFIG
ip igmp snooping		15	GLOBAL_CONFIG

Command	Description	P	Mode
ip igmp snooping		15	INTERFACE_VLAN
ip igmp snooping compatibility { auto | v1 | v2 | v3 }		15	INTERFACE_VLAN
ip igmp snooping filter <word16>		15	INTERFACE_PORT_LIST
ip igmp snooping immediate-leave		15	INTERFACE_VLAN
ip igmp snooping last-member-query-interval <0-31744>		15	INTERFACE_VLAN
ip igmp snooping max-groups <1-10>		15	INTERFACE_PORT_LIST
ip igmp snooping mrouter		15	INTERFACE_PORT_LIST
ip igmp snooping priority <0-7>		15	INTERFACE_VLAN
ip igmp snooping querier { election | address <ipv4_ucast> }		15	INTERFACE_VLAN
ip igmp snooping query-interval <1-31744>		15	INTERFACE_VLAN
ip igmp snooping query-max-response-time <0-31744>		15	INTERFACE_VLAN
ip igmp snooping robustness-variable <1-255>		15	INTERFACE_VLAN
ip igmp snooping unsolicited-report-interval <0-31744>		15	INTERFACE_VLAN
ip igmp snooping vlan <vlan_list>		15	GLOBAL_CONFIG
ip igmp ssm-range <ipv4_mcast> <4-32>		15	GLOBAL_CONFIG
ip igmp unknown-flooding		15	GLOBAL_CONFIG
ip name-server { <ipv4_ucast> | dhcp [interface vlan <vlan_id>] }	Set the DNS server for resolving domain names	15	GLOBAL_CONFIG
ip route <ipv4_addr> <ipv4_netmask> <ipv4_addr> [distance <1-255>]	Add new IP route	15	GLOBAL_CONFIG
ip routing	Enable routing for IPv4 and IPv6	15	GLOBAL_CONFIG
ip source binding interface <port_type_id> <vlan_id> <ipv4_ucast> <ipv4_netmask>		13	GLOBAL_CONFIG
ip source binding interface <port_type_id> <vlan_id> <ipv4_ucast> <mac_ucast>		13	GLOBAL_CONFIG
ip ssh	Use the ip ssh global configuration command to enable the SSH. Use the no form of this command to disable the SSH.	15	GLOBAL_CONFIG
ipv6 mld host-proxy [leave-proxy]		15	GLOBAL_CONFIG
ipv6 mld snooping		15	GLOBAL_CONFIG
ipv6 mld snooping		15	INTERFACE_VLAN
ipv6 mld snooping compatibility { auto | v1 | v2 }		15	INTERFACE_VLAN

Command	Description	P	Mode
ipv6 mld snooping filter <word16>		15	INTERFACE_PORT_LIST
ipv6 mld snooping immediate-leave		15	INTERFACE_PORT_LIST
ipv6 mld snooping last-member-query-interval <0-31744>		15	INTERFACE_VLAN
ipv6 mld snooping max-groups <1-10>		15	INTERFACE_PORT_LIST
ipv6 mld snooping mrouter		15	INTERFACE_PORT_LIST
ipv6 mld snooping priority <0-7>		15	INTERFACE_VLAN
ipv6 mld snooping querier election		15	INTERFACE_VLAN
ipv6 mld snooping query-interval <1-31744>		15	INTERFACE_VLAN
ipv6 mld snooping query-max-response-time <0-31744>		15	INTERFACE_VLAN
ipv6 mld snooping robustness-variable <1-255>		15	INTERFACE_VLAN
ipv6 mld snooping unsolicited-report-interval <0-31744>		15	INTERFACE_VLAN
ipv6 mld snooping vlan <vlan_list>		15	GLOBAL_CONFIG
ipv6 mld ssm-range <ipv6_mcast> <8-128>		15	GLOBAL_CONFIG
ipv6 mld unknown-flooding		15	GLOBAL_CONFIG
ip verify source		13	GLOBAL_CONFIG
ip verify source limit <0-2>		13	INTERFACE_PORT_LIST
ip verify source translate		13	GLOBAL_CONFIG
lacp	Enable LACP on an interface	15	INTERFACE_PORT_LIST
lacp key { <1-65535> | auto }	Set the LACP key	15	INTERFACE_PORT_LIST
lacp port-priority <1-65535>	Set the lacp port priority,	15	INTERFACE_PORT_LIST
lacp role { active | passive }	Set the LACP role, active or passive in transmitting BPDUs	15	INTERFACE_PORT_LIST
lacp system-priority <1-65535>	Set the LACP system priority	15	GLOBAL_CONFIG
lacp timeout { fast | slow }	Set the LACP timeout, i.e. how fast to transmit BPDUs, once a sec or once each 30 sec.	15	INTERFACE_PORT_LIST
lease { <0-365> [<0-23> [<uint>]] | infinite }		13	DHCP_POOL
lldp cdp-aware	Configures if the interface shall be CDP aware (CDP discovery information is added to the LLDP neighbor table)	15	INTERFACE_PORT_LIST
lldp holdtime <2-10>	Sets LLDP hold time (The neighbor switch will discarded the LLDP information after \""hold time\"" multiplied with \""timer\"" seconds)	15	GLOBAL_CONFIG
lldp med datum { wgs84 | nad83-navd88 | nad83-mllw }	Use the lldp med datum to configure the datum (geodetic system) to use.	15	GLOBAL_CONFIG

Command	Description	P	Mode
lldp med fast <1-10>	Use the lldp med fast to configure the number of times the fast start LLDPDU are being sent during the activation of the fast start mechanism defined by LLDP-MED (1-10).	15	GLOBAL_CONFIG
lldp med location-tlv altitude { meters | floors } <word11>	Use the lldp med location-tlv altitude to configure the location altitude.	15	GLOBAL_CONFIG
lldp med location-tlv civic-addr { country | state | county | city | district | block | street | leading-street-direction | trailing-street-suffix | street-suffix | house-no | house-no-suffix | landmark | additional-info | name | zip-code | building | apartment | floor | room-number | place-type | postal-community-name | p-o-box | additional-code } <string250>	Use lldp med location-tlv civic-addr to configure the civic address.	15	GLOBAL_CONFIG
lldp med location-tlv elin-addr <dword25>	Use the lldp med location-tlv elin-addr to configure value for the Emergency Call Service	15	GLOBAL_CONFIG
lldp med location-tlv latitude { north | south } <word8>	Use the lldp med location-tlv latitude to configure the location latitude.	15	GLOBAL_CONFIG
lldp med location-tlv longitude { west | east } <word9>	Use the lldp med location-tlv longitude to configure the location longitude.	15	GLOBAL_CONFIG
lldp med media-vlan-policy <0-31> { voice | voice-signaling | guest-voice-signaling | guest-voice | softphone-voice | video-conferencing | streaming-video | video-signaling } { tagged <vlan_id> | untagged } [l2-priority <0-7>] [dscp <0-63>]	Use the media-vlan-policy to create a policy, which can be assigned to an interface.	15	GLOBAL_CONFIG
lldp med media-vlan policy-list <range_list>	Use the media-vlan policy-list to assign policy to the interface.	15	INTERFACE_PORT_LIST
lldp med transmit-tlv [capabilities] [location] [network-policy]	Use the lldp med transmit-tlv to configure which TLVs to transmit to link partner.	15	INTERFACE_PORT_LIST
lldp receive	Sets if switch shall update LLDP entry table with incoming LLDP information.	15	INTERFACE_PORT_LIST
lldp reinit <1-10>	Sets LLDP reinitialization delay.	15	GLOBAL_CONFIG
lldp timer <5-32768>	Sets LLDP TX interval (The time between each LLDP frame transmitted in seconds).	15	GLOBAL_CONFIG
lldp tlv-select {management-address | port-description | system-capabilities | system-description | system-name}	Enables/disables LLDP optional TLVs.	15	INTERFACE_PORT_LIST
lldp transmission-delay <1-8192>	Sets LLDP transmision-delay. LLDP transmission delay (the amount of time that the transmission of LLDP frames will delayed after LLDP configuration has changed) in seconds.)	15	GLOBAL_CONFIG
lldp transmit	Sets if switch shall transmit LLDP frames.	15	INTERFACE_PORT_LIST

Command	Description	P	Mode
logging host { <ipv4_ucast> | <hostname> }	Use the logging host global configuration command to configure the host address of logging server.	15	GLOBAL_CONFIG
logging level { info | warning | error }	Use the logging level global configuration command to configure what level of message will send to logging server.	15	GLOBAL_CONFIG
logging on	Use the logging on global configuration command to enable the logging server. Use the no form of this command to disable the logging server.	15	GLOBAL_CONFIG
loop-protect	Loop protection configuration	15	GLOBAL_CONFIG
loop-protect	Loop protection configuration	15	INTERFACE_PORT_LIST
loop-protect action { [shutdown] [log] }*1		15	INTERFACE_PORT_LIST
loop-protect shutdown-time <0-604800>	Loop protection shutdown time interval	15	GLOBAL_CONFIG
loop-protect transmit-time <1-10>	Loop protection transmit time interval	15	GLOBAL_CONFIG
loop-protect tx-mode		15	INTERFACE_PORT_LIST
mac address-table aging-time <0,10-1000000>	Set switch aging time, 0 to disable.	15	GLOBAL_CONFIG
mac address-table learning [secure]	Enable learning on port	15	INTERFACE_PORT_LIST
mac address-table static <mac_addr> vlan <vlan_id> interface <port_type_list>	Assign a static mac address to this port	15	GLOBAL_CONFIG
media-type { rj45 | sfp | dual }	Use media-type to configure the interface media type.	15	INTERFACE_PORT_LIST
monitor destination interface <port_type_id>	Sets monitor destination port.	15	GLOBAL_CONFIG
monitor source { { interface <port_type_list> } | { cpu [<range_list>] } } { both | rx | tx }	Sets monitor source port(s).	15	GLOBAL_CONFIG
more <word>		15	EXEC
mtu <'VTSS_MAX_FRAME_LENGTH_STANDARD' - 'VTSS_MAX_FRAME_LENGTH_MAX'>	Use mtu to specify maximum frame size (1518-9600 bytes).	15	INTERFACE_PORT_LIST
mvr		15	GLOBAL_CONFIG
mvr immediate-leave		15	INTERFACE_PORT_LIST
mvr name <word16> frame priority <0-7>		15	GLOBAL_CONFIG
mvr name <word16> frame tagged		15	GLOBAL_CONFIG
mvr name <word16> igmp-address <ipv4_ucast>		15	GLOBAL_CONFIG
mvr name <word16> last-member-query-interval <0-31744>		15	GLOBAL_CONFIG
mvr name <word16> mode { dynamic | compatible }		15	GLOBAL_CONFIG

Command	Description	P	Mode
mvr name <word16> type { source | receiver }		15	INTERFACE_PORT_LIST
mvr vlan <vlan_list> [name <word16>]		15	GLOBAL_CONFIG
mvr vlan <vlan_list> channel <word16>		15	GLOBAL_CONFIG
mvr vlan <vlan_list> frame priority <0-7>		15	GLOBAL_CONFIG
mvr vlan <vlan_list> frame tagged		15	GLOBAL_CONFIG
mvr vlan <vlan_list> igmp-address <ipv4_ucast>		15	GLOBAL_CONFIG
mvr vlan <vlan_list> last-member-query-interval <0-31744>		15	GLOBAL_CONFIG
mvr vlan <vlan_list> mode { dynamic | compatible }		15	GLOBAL_CONFIG
mvr vlan <vlan_list> type { source | receiver }		15	INTERFACE_PORT_LIST
name <vword32>	Use the name <vword32> command to configure VLAN name.	13	CONFIG_VLAN
netbios-name-server <ipv4_ucast> [<ipv4_ucast> [<ipv4_ucast> [<ipv4_ucast>]]]		13	DHCP_POOL
netbios-node-type { b-node | h-node | m-node | p-node }		13	DHCP_POOL
netbios-scope <line128>		13	DHCP_POOL
network <ipv4_addr> <ipv4_netmask>		13	DHCP_POOL
network-clock clk-source <range_list> aneg-mode { master | slave | forced}	Sets the preferred negotiation.	15	GLOBAL_CONFIG
network-clock clk-source <range_list> hold-timeout <3-18>	The hold off timer value in 100 ms.Valid values are range 3-18.	15	GLOBAL_CONFIG
network-clock clk-source <range_list> nominate { clk-in | {interface <port_type_id>} }	Nominate a clk input to become a selectable clock source.	15	GLOBAL_CONFIG
network-clock clk-source <range_list> priority <0-1>	Priority of nominated clock sources.	15	GLOBAL_CONFIG
network-clock clk-source <range_list> ssm-overwrite { prc | ssua | ssub | eec2 | eec1 | dnu }	Clock source SSM overwrite	15	GLOBAL_CONFIG
network-clock input-source { 1544khz | 2048khz | 10mhz }	Sets the station clock input frequency	15	GLOBAL_CONFIG
network-clock option { eec1 | eec2 }	EEC options	15	GLOBAL_CONFIG
network-clock output-source { 1544khz | 2048khz | 10mhz }	Sets the station clock output frequency	15	GLOBAL_CONFIG
network-clock selector { { manual clk-source <uint> } | selected | nonrevertive | revertive | holdover | freerun }	Selection mode of nominated clock sources	15	GLOBAL_CONFIG

Command	Description	P	Mode
network-clock ssm-freerun { prc | ssua | ssub | eec2 | eec1 | dnu | inv }	Free Running SSM overwrite	15	GLOBAL_CONFIG
network-clock ssm-holdover { prc | ssua | ssub | eec2 | eec1 | dnu | inv }	Hold Over SSM overwrite	15	GLOBAL_CONFIG
network-clock synchronization ssm	SSM enable/disable.	15	INTERFACE_PORT_LIST
network-clock wait-to-restore <0-12>	WTR time (0-12 min) '0' is disable	15	GLOBAL_CONFIG
nis-domain-name <word128>		13	DHCP_POOL
nis-server <ipv4_ucast> [<ipv4_ucast> [<ipv4_ucast> [<ipv4_ucast>]]]		13	DHCP_POOL
no_ntp_server_ip_address		13	GLOBAL_CONFIG
no aaa authentication login { telnet | ssh | http }		15	GLOBAL_CONFIG
no access-list { redirect | port-copy }	Use the no access-list redirect interface configuration command to disable the access-list redirect. The access-list interface configuration will affect the received frames if it doesn't match any ACE.	15	INTERFACE_PORT_LIST
no access-list ace <1~256>	Use the no access-list ace global configuration command to delete the access-list ace.	15	GLOBAL_CONFIG
no access-list evc-policer	Use the no access-list evc-policer interface configuration command to configure the access-list evc-policer ID. The access-list interface configuration will affect the received frames if it doesn't match any ACE.	15	INTERFACE_PORT_LIST
no access-list policy	Use the no access-list policy interface configuration command to restore the default access-list policy ID. The access-list interface configuration will affect the received frames if it doesn't match any ACE.	15	INTERFACE_PORT_LIST
no access-list rate-limiter	Use the no access-list rate-limiter interface configuration command to disable the access-list rate-limiter. The access-list interface configuration will affect the received frames if it doesn't match any ACE.	15	INTERFACE_PORT_LIST
no access management <1~16>	Use the no access management <AccessIdList> global configuration command to delete the specific access management entry.	15	GLOBAL_CONFIG
no aggregation group		15	INTERFACE_PORT_LIST
no aggregation mode		15	GLOBAL_CONFIG
no broadcast		13	DHCP_POOL
no client-identifier		13	DHCP_POOL
no client-name		13	DHCP_POOL

Command	Description	P	Mode
no clock summer-time		13	GLOBAL_CONFIG
no clock summer-time		13	GLOBAL_CONFIG
no clock timezone		13	GLOBAL_CONFIG
no clock timezone		13	GLOBAL_CONFIG
no default-router		13	DHCP_POOL
no dns-server		13	DHCP_POOL
no domain-name		13	DHCP_POOL
no dot1x authentication timer inactivity		15	GLOBAL_CONFIG
no dot1x authentication timer re-authenticate		15	GLOBAL_CONFIG
no dot1x guest-vlan	Guest VLAN ID used when entering the Guest VLAN.	15	GLOBAL_CONFIG
no dot1x max-reauth-req	The number of times a Request Identity EAPOL frame is sent without response before considering entering the Guest VLAN	15	GLOBAL_CONFIG
no dot1x port-control	Sets the port security state.	15	INTERFACE_PORT_LIST
no dot1x timeout quiet-period		15	GLOBAL_CONFIG
no dot1x timeout tx-period		15	GLOBAL_CONFIG
no duplex	Use ""no duplex"" to set duplex to default.	15	INTERFACE_PORT_LIST
no flowcontrol	Use no flowcontrol to set flow control to default.	15	INTERFACE_PORT_LIST
no green-ethernet fan temp-max	Sets temperature at which the fan shall be running at full speed to default.	15	GLOBAL_CONFIG
no green-ethernet fan temp-on	Sets temperature at which to turn fan on to the lowest speed to default.	15	GLOBAL_CONFIG
no green-ethernet led interval <0~24>		15	GLOBAL_CONFIG
no green-ethernet led on-event [link-change] [error]		15	GLOBAL_CONFIG
no hardware-address		13	DHCP_POOL
no host		13	DHCP_POOL
no host		15	SNMPS_HOST
no informs		15	SNMPS_HOST
no ip address	IP address configuration	15	INTERFACE_VLAN
no ip arp inspection logging	Use the no ip arp inspection logging interface configuration command to configure a port as default logging mode for ARP inspection purposes.	13	INTERFACE_PORT_LIST
no ip arp inspection vlan <vlan_list> logging		13	GLOBAL_CONFIG
no ip dhcp pool <word32>		13	GLOBAL_CONFIG

Command	Description	P	Mode
no ip dhcp relay information policy	Use the ip dhcp relay information policy global configuration command to restore the default DHCP relay information policy.	15	GLOBAL_CONFIG
no ip helper-address	Use the no ip helper-address global configuration command to clear the host address of DHCP relay server.	15	GLOBAL_CONFIG
no ip igmp snooping compatibility		15	INTERFACE_VLAN
no ip igmp snooping filter		15	INTERFACE_PORT_LIST
no ip igmp snooping last-member-query-interval		15	INTERFACE_VLAN
no ip igmp snooping max-groups		15	INTERFACE_PORT_LIST
no ip igmp snooping priority		15	INTERFACE_VLAN
no ip igmp snooping querier { election | address }		15	INTERFACE_VLAN
no ip igmp snooping query-interval		15	INTERFACE_VLAN
no ip igmp snooping query-max-response-time		15	INTERFACE_VLAN
no ip igmp snooping robustness-variable		15	INTERFACE_VLAN
no ip igmp snooping unsolicited-report-interval		15	INTERFACE_VLAN
no ip igmp snooping vlan [<vlan_list>]		15	GLOBAL_CONFIG
no ip igmp ssm-range		15	GLOBAL_CONFIG
no ip name-server	Stop resolving domain names by accessing DNS server	15	GLOBAL_CONFIG
no ip route <ipv4_addr> <ipv4_netmask> <ipv4_addr>	Delete an existing IP route	15	GLOBAL_CONFIG
no ip routing	Disable routing for IPv4 and IPv6	15	GLOBAL_CONFIG
no ipv6 mld snooping compatibility		15	INTERFACE_VLAN
no ipv6 mld snooping filter		15	INTERFACE_PORT_LIST
no ipv6 mld snooping last-member-query-interval		15	INTERFACE_VLAN
no ipv6 mld snooping max-groups		15	INTERFACE_PORT_LIST
no ipv6 mld snooping priority		15	INTERFACE_VLAN
no ipv6 mld snooping query-interval		15	INTERFACE_VLAN
no ipv6 mld snooping query-max-response-time		15	INTERFACE_VLAN
no ipv6 mld snooping robustness-variable		15	INTERFACE_VLAN
no ipv6 mld snooping unsolicited-report-interval		15	INTERFACE_VLAN
no ipv6 mld snooping vlan [<vlan_list>]		15	GLOBAL_CONFIG
no ipv6 mld ssm-range		15	GLOBAL_CONFIG
no ip verify source limit		13	INTERFACE_PORT_LIST

Command	Description	P	Mode
no lease		13	DHCP_POOL
no lldp holdtime		15	GLOBAL_CONFIG
no lldp med datum		15	GLOBAL_CONFIG
no lldp med fast		15	GLOBAL_CONFIG
no lldp med location-tlv altitude	Use the lldp med location-tlv altitude to configure the location altitude.	15	GLOBAL_CONFIG
no lldp med location-tlv civic-addr { country | state | county | city | district | block | street | leading-street-direction | trailing-street-suffix | street-suffix | house-no | house-no-suffix | landmark | additional-info | name | zip-code | building | apartment | floor | room-number | place-type | postal-community-name | p-o-box | additional-code }		15	GLOBAL_CONFIG
no lldp med location-tlv elin-addr	Use the no lldp med location-tlv elin-addr to configure value for the Emergency Call Service to default value.	15	GLOBAL_CONFIG
no lldp med location-tlv latitude	Use no lldp med location-tlv latitude to configure the latitude location to north 0 degrees.	15	GLOBAL_CONFIG
no lldp med location-tlv longitude	Use no lldp med location-tlv longitude to configure the longitude location to north 0 degrees.	15	GLOBAL_CONFIG
no lldp med media-vlan-policy <0~31>		15	GLOBAL_CONFIG
no lldp med transmit-tlv [capabilities] [location] [network-policy]		15	INTERFACE_PORT_LIST
no lldp reinit	Sets LLDP reinitialization delay.	15	GLOBAL_CONFIG
no lldp timer		15	GLOBAL_CONFIG
no lldp transmission-delay		15	GLOBAL_CONFIG
no logging host	Use the no logging host global configuration command to clear the host address of logging server.	15	GLOBAL_CONFIG
no loop-protect action		15	INTERFACE_PORT_LIST
no loop-protect shutdown-time		15	GLOBAL_CONFIG
no loop-protect transmit-time		15	GLOBAL_CONFIG
no mac address-table aging-time	Default aging time.	15	GLOBAL_CONFIG
no media-type	Use to configure the interface media-type type to default.	15	INTERFACE_PORT_LIST
no monitor destination	Sets monitor destination port.	15	GLOBAL_CONFIG
no monitor source { { interface <port_type_list> } | { cpu [<range_list>] } }	Sets monitor source port(s).	15	GLOBAL_CONFIG

Command	Description	P	Mode
no mtu	Use no mtu to set maximum frame size to default.	15	INTERFACE_PORT_LIST
no mvr name <word16> channel		15	GLOBAL_CONFIG
no mvr name <word16> frame priority		15	GLOBAL_CONFIG
no mvr name <word16> igmp-address		15	GLOBAL_CONFIG
no mvr name <word16> last-member-query-interval		15	GLOBAL_CONFIG
no mvr name <word16> mode		15	GLOBAL_CONFIG
no mvr name <word16> type		15	INTERFACE_PORT_LIST
no mvr vlan <vlan_list>		15	GLOBAL_CONFIG
no mvr vlan <vlan_list> channel		15	GLOBAL_CONFIG
no mvr vlan <vlan_list> frame priority		15	GLOBAL_CONFIG
no mvr vlan <vlan_list> igmp-address		15	GLOBAL_CONFIG
no mvr vlan <vlan_list> last-member-query-interval		15	GLOBAL_CONFIG
no mvr vlan <vlan_list> mode		15	GLOBAL_CONFIG
no mvr vlan <vlan_list> type		15	INTERFACE_PORT_LIST
no name	The no form of this command will restore the VLAN name to its default.	13	CONFIG_VLAN
no netbios-name-server		13	DHCP_POOL
no netbios-node-type		13	DHCP_POOL
no netbios-scope		13	DHCP_POOL
no network		13	DHCP_POOL
no network-clock clk-source <range_list> aneg-mode		15	GLOBAL_CONFIG
no network-clock clk-source <range_list> hold-timeout		15	GLOBAL_CONFIG
no network-clock clk-source <range_list> nominate		15	GLOBAL_CONFIG
no network-clock clk-source <range_list> priority		15	GLOBAL_CONFIG
no network-clock clk-source <range_list> ssm-overwrite		15	GLOBAL_CONFIG
no network-clock input-source		15	GLOBAL_CONFIG
no network-clock option		15	GLOBAL_CONFIG
no network-clock output-source		15	GLOBAL_CONFIG
no network-clock selector		15	GLOBAL_CONFIG

Command	Description	P	Mode
no network-clock ssm-freerun		15	GLOBAL_CONFIG
no network-clock ssm-holdover		15	GLOBAL_CONFIG
no network-clock wait-to-restore		15	GLOBAL_CONFIG
no nis-domain-name		13	DHCP_POOL
no nis-server		13	DHCP_POOL
no ntp-server		13	DHCP_POOL
no platform phy instance		15	GLOBAL_CONFIG
no poe delay-mode <range_list>		15	GLOBAL_CONFIG
no poe Fri	This command is used to set hour time on Friday to disable PoE.	15	INTERFACE_PORT_LIST
no poe hour <0-23>	This command is used to set hour time per week to disable PoE.	15	INTERFACE_PORT_LIST
no poe management mode		15	GLOBAL_CONFIG
no poe mode	Use poe mode to configure of PoE mode.	15	INTERFACE_PORT_LIST
no poe Mon	This command is used to set hour time on Monday to disable PoE.	15	INTERFACE_PORT_LIST
no poe power limit	Use poe power limit to configure the maximum allowed power for the interface when power management is in allocation mode.	15	INTERFACE_PORT_LIST
no poe priority	Use poe priority to configure PoE priority.	15	INTERFACE_PORT_LIST
no poe Sat	This command is used to set hour time on Saturday to disable PoE.	15	INTERFACE_PORT_LIST
no poe schedule-all <range_list>	disable PoE power management method.	15	GLOBAL_CONFIG
no poe schedule-mode	disable PoE power management method.	15	INTERFACE_PORT_LIST
no poe Sun	This command is used to set hour time on Sunday to disble PoE.	15	INTERFACE_PORT_LIST
no poe supply [sid <1~16>]		15	GLOBAL_CONFIG
no poe Thr	This command is used to set hour time on Thursday to enable PoE.	15	INTERFACE_PORT_LIST
no poe Tue	This command is used to set hour time on Tuesday to disable PoE.	15	INTERFACE_PORT_LIST
no poe Wed	This command is used to set hour time on Wednesday to disable PoE.	15	INTERFACE_PORT_LIST
no port-security aging time		15	GLOBAL_CONFIG
no port-security maximum		15	INTERFACE_PORT_LIST
no port-security shutdown [interface <port_type_list>]	Reopen one or more ports whose limit is exceeded and shut down.	15	EXEC
no port-security violation	The action involved with exceeding the limit.	15	INTERFACE_PORT_LIST

Command	Description	P	Mode
no qos cos		15	INTERFACE_PORT_LIST
no qos dei		15	INTERFACE_PORT_LIST
no qos dpl		15	INTERFACE_PORT_LIST
no qos dscp-classify		15	INTERFACE_PORT_LIST
no qos dscp-remark		15	INTERFACE_PORT_LIST
no qos map cos-dscp <0~7> dpl <0~1>		15	GLOBAL_CONFIG
no qos map cos-tag cos <0~7> dpl <0~1>		15	INTERFACE_PORT_LIST
no qos map dscp-cos { <0~63> | <dscp> }		15	GLOBAL_CONFIG
no qos map dscp-egress-translation { <0~63> | <dscp> } <0~1>		15	GLOBAL_CONFIG
no qos map dscp-ingress-translation { <0~63> | <dscp> }		15	GLOBAL_CONFIG
no qos map tag-cos pcp <0~7> dei <0~1>		15	INTERFACE_PORT_LIST
no qos pcp		15	INTERFACE_PORT_LIST
no qos policer		15	INTERFACE_PORT_LIST
no qos qce { [addr] [key] }*1		15	INTERFACE_PORT_LIST
no qos qce <'QCE_ID_START'~'QCE_ID_END'>		15	GLOBAL_CONFIG
no qos queue-policer queue <0~7>		15	INTERFACE_PORT_LIST
no qos queue-shaper queue <0~7>		15	INTERFACE_PORT_LIST
no qos shaper		15	INTERFACE_PORT_LIST
no qos storm { unicast | broadcast | unknown }		15	INTERFACE_PORT_LIST
no qos storm { unicast | multicast | broadcast }		15	GLOBAL_CONFIG
no qos tag-remark		15	INTERFACE_PORT_LIST
no qos wred queue <0~5>		15	GLOBAL_CONFIG
no qos wrr		15	INTERFACE_PORT_LIST
no radius-server attribute 32		15	GLOBAL_CONFIG
no radius-server attribute 4		15	GLOBAL_CONFIG
no radius-server attribute 95		15	GLOBAL_CONFIG
no radius-server deadtime	Use the no radius-server deadtime command to reset the global RADIUS deadtime value to default.	15	GLOBAL_CONFIG
no radius-server host <word1-255> [auth-port <0-65535>] [acct-port <0-65535>]	Use the no radius-server host command to delete an existing RADIUS host.	15	GLOBAL_CONFIG
no radius-server key	Use the no radius-server key command to remove the global RADIUS key.	15	GLOBAL_CONFIG

Command	Description	P	Mode
no radius-server retransmit	Use the no radius-server retransmit command to reset the global RADIUS retransmit value to default.	15	GLOBAL_CONFIG
no radius-server timeout	Use the no radius-server timeout command to reset the global RADIUS timeout value to default.	15	GLOBAL_CONFIG
no rmon alarm <1-65535>		15	GLOBAL_CONFIG
no rmon collection history <1-65535>		15	INTERFACE_PORT_LIST
no rmon collection stats <1-65535>		15	INTERFACE_PORT_LIST
no rmon event <1-65535>		15	GLOBAL_CONFIG
no sflow agent-ip	Sets the agent IP address used as agent-address in UDP datagrams to 127.0.0.1.	15	GLOBAL_CONFIG
no sflow collector-address [receiver <range_list>]		15	GLOBAL_CONFIG
no sflow collector-port [receiver <range_list>]	Collector UDP port. Valid range is 0-65536.	15	GLOBAL_CONFIG
no sflow counter-poll-interval [<range_list>]	The interval - in seconds - between counter poller samples.	15	INTERFACE_PORT_LIST
no sflow max-datagram-size [receiver <range_list>]	Maximum datagram size.	15	GLOBAL_CONFIG
no sflow max-sampling-size [sampler <range_list>]	Specifies the maximum number of bytes to transmit per flow sample.	15	INTERFACE_PORT_LIST
no sflow timeout [receiver <range_list>]	Receiver timeout measured in seconds. The switch decrements the timeout once per second, and as long as it is non-zero, the receiver receives samples. Once the timeout reaches 0, the receiver and all its configuration is reset to defaults.	15	GLOBAL_CONFIG
no snmp-server access <word32> model { v1 | v2c | v3 | any } level { auth | noauth | priv }		15	GLOBAL_CONFIG
no snmp-server community v2c		15	GLOBAL_CONFIG
no snmp-server community v3 <word127>		15	GLOBAL_CONFIG
no snmp-server contact	To clear the system contact string.	15	GLOBAL_CONFIG
no snmp-server engined-id local	To set SNMP server's engine ID to default value.	15	GLOBAL_CONFIG
no snmp-server host <word32>		15	GLOBAL_CONFIG
no snmp-server host <word32> traps		15	INTERFACE_PORT_LIST
no snmp-server location	To specify the system location string.	15	GLOBAL_CONFIG
no snmp-server security-to-group model { v1 | v2c | v3 } name <word32>		15	GLOBAL_CONFIG
no snmp-server user <word32> engine-id <word10-32>		15	GLOBAL_CONFIG

Command	Description	P	Mode
no snmp-server version	Set SNMP server's version to default setting.	15	GLOBAL_CONFIG
no snmp-server view <word32> <word255>		15	GLOBAL_CONFIG
no spanning-tree link-type		15	INTERFACE_PORT_LIST
no spanning-tree link-type		15	STP_AGGR
no spanning-tree mode		15	GLOBAL_CONFIG
no spanning-tree mst <0-7> cost		15	INTERFACE_PORT_LIST
no spanning-tree mst <0-7> cost		15	STP_AGGR
no spanning-tree mst <0-7> port-priority		15	INTERFACE_PORT_LIST
no spanning-tree mst <0-7> port-priority		15	STP_AGGR
no spanning-tree mst <0-7> priority		15	GLOBAL_CONFIG
no spanning-tree mst <0-7> vlan		15	GLOBAL_CONFIG
no spanning-tree mst forward-time		15	GLOBAL_CONFIG
no spanning-tree mst max-age		15	GLOBAL_CONFIG
no spanning-tree mst max-hops		15	GLOBAL_CONFIG
no spanning-tree mst name		15	GLOBAL_CONFIG
no spanning-tree recovery interval		15	GLOBAL_CONFIG
no spanning-tree transmit hold-count		15	GLOBAL_CONFIG
no speed	Use ""no speed"" to configure interface to default speed.	15	INTERFACE_PORT_LIST
no switchport access vlan		13	INTERFACE_PORT_LIST
no switchport forbidden vlan	Allows for adding VLANs to an interface	15	INTERFACE_PORT_LIST
no switchport hybrid acceptable-frame-type	Set hybrid characteristics of the interface	13	INTERFACE_PORT_LIST
no switchport hybrid allowed vlan	Set hybrid characteristics of the interface	13	INTERFACE_PORT_LIST
no switchport hybrid egress-tag	Set hybrid characteristics of the interface	13	INTERFACE_PORT_LIST
no switchport hybrid native vlan	Set hybrid mode characteristics of the interface	13	INTERFACE_PORT_LIST
no switchport hybrid port-type	Set hybrid characteristics of the interface	13	INTERFACE_PORT_LIST
no switchport mode		13	INTERFACE_PORT_LIST
no switchport trunk allowed vlan	Set trunk characteristics of the interface,	13	INTERFACE_PORT_LIST
no switchport trunk native vlan	Set trunk mode characteristics of the interface	13	INTERFACE_PORT_LIST
no switchport vlan ip-subnet id <1~128>		13	INTERFACE_PORT_LIST
no switchport voice vlan discovery-protocol	Use the no switchport voice vlan discovery-protocol interface configuration command to restore the default switchport voice vlan discovery-protocol.	15	INTERFACE_PORT_LIST

Command	Description	P	Mode
no switchport voice vlan mode	Use the no switchport voice vlan mode interface configuration command to restore the default switchport voice vlan mode.	15	INTERFACE_PORT_LIST
no switch stack <1-16>		13	GLOBAL_CONFIG
no system contact	To clear the system contact string.	15	GLOBAL_CONFIG
no system location	To specify the system location string.	15	GLOBAL_CONFIG
no system name	To specify the system model name string.	15	GLOBAL_CONFIG
no tacacs-server deadtime	Use the no tacacs-server deadtime command to reset the global TACACS+ deadtime value to default.	15	GLOBAL_CONFIG
no tacacs-server host <word1-255> [port <0-65535>]	Use the no tacacs-server host command to delete an existing TACACS+ host.	15	GLOBAL_CONFIG
no tacacs-server key	Use the no tacacs-server key command to remove the global TACACS+ key.	15	GLOBAL_CONFIG
no tacacs-server timeout	Use the no tacacs-server timeout command to reset the global TACACS+ timeout value to default.	15	GLOBAL_CONFIG
no thermal-protect port-prio	Sets temperature at which to turn ports with the corresponding priority off.	15	INTERFACE_PORT_LIST
no thermal-protect prio <0~3>	Sets temperature at which to turn ports with the corresponding priority off.	15	GLOBAL_CONFIG
no traps		15	SNMPS_HOST
no upnp advertising-duration		15	GLOBAL_CONFIG
no upnp ttl		15	GLOBAL_CONFIG
no username <word31>	Use the no username <username> global configuration command to delete a local user.	15	GLOBAL_CONFIG
no vendor class-identifier <string64>		13	DHCP_POOL
no version		15	SNMPS_HOST
no vlan {{ethertype s-custom-port} | <vlan_list>}		15	GLOBAL_CONFIG
no voice vlan aging-time	Use the no voice vlan aging-time global configuration command to restore the default voice vlan aging-time.	15	GLOBAL_CONFIG
no voice vlan class	Use the no voice vlan class global configuration command to restore the default voice vlan class.	15	GLOBAL_CONFIG
no voice vlan oui <oui>	Use the no voice vlan oui global configuration command to delete the oui entry.	15	GLOBAL_CONFIG
no voice vlan vid	Use the no voice vlan vid global configuration command to restore the default voice vlan vid.	15	GLOBAL_CONFIG
no web privilege group [<cword>] level		15	GLOBAL_CONFIG
ntp	Enable NTP	13	GLOBAL_CONFIG

Command	Description	P	Mode
ntp server <1-5> ip-address {<ipv4_ucast>|<hostname>}		13	GLOBAL_CONFIG
ntp server <1-5> ip-address {<ipv4_ucast>|<ipv6_ucast>|<hostname>}		13	GLOBAL_CONFIG
ntp-server <ipv4_ucast> [<ipv4_ucast> [<ipv4_ucast> [<ipv4_ucast>]]]		13	DHCP_POOL
password encrypted <word4-44>	Use the password encrypted <password> global configuration command to configure administrator password with encrypted password for the local switch access.	15	GLOBAL_CONFIG
password none	Use the password none global configuration command to remove the administrator password.	15	GLOBAL_CONFIG
password unencrypted <line31>	Use the password encrypted <password> global configuration command to configure administrator password with unencrypted password for the local switch access.	15	GLOBAL_CONFIG
ping ip <word1-255> [repeat <1-60>] [size <2-1452>] [interval <0-30>]		0	EXEC
platform phy failover		15	INTERFACE_PORT_LIST
platform phy instance default-activate		15	EXEC
platform phy instance restart { cool | warm }		15	EXEC
poe delay-mode <range_list>	Configure PoE Power Delay mode.	15	GLOBAL_CONFIG
poe delay-time <range_list> <0-300>	Configure PoE Power Delay time.	15	GLOBAL_CONFIG
poe Fri	This command is used to set hour time on Friday to enable PoE.	15	INTERFACE_PORT_LIST
poe hour <0-23>	This command is used to set hour time per week to enable PoE.	15	INTERFACE_PORT_LIST
poe management mode { class-consumption | class-reserved-power | allocation-consumption | allocation-reserved-power | lldp-consumption | lldp-reserved-power }	Use management mode to configure PoE power management method.	15	GLOBAL_CONFIG
poe mode { standard | plus }	Use poe mode to configure of PoE mode.	15	INTERFACE_PORT_LIST
poe Mon	This command is used to set hour time on Monday to enable PoE.	15	INTERFACE_PORT_LIST
poe power limit { <fword2.1> }	Use poe power limit to configure the maximum allowed power for the interface when power management is in allocation mode.	15	INTERFACE_PORT_LIST
poe priority { low | high | critical }	Use poe priority to configure PoE priority.	15	INTERFACE_PORT_LIST
poe Sat	This command is used to set hour time on Saturday to enable PoE.	15	INTERFACE_PORT_LIST
poe schedule-mode	Configure PoE Schedule mode.	15	INTERFACE_PORT_LIST

Command	Description	P	Mode
poe select-all <range_list>	Configure PoE Schedule mode.	15	GLOBAL_CONFIG
poe Sun	This command is used to set hour time on Sunday to enable PoE.	15	INTERFACE_PORT_LIST
poe supply sid <1~16> <1-2000>	Use poe supply to specify the maximum power the power supply can deliver.	15	GLOBAL_CONFIG
poe Thr	This command is used to set hour time on Thursday to enable PoE.	15	INTERFACE_PORT_LIST
poe Tue	This command is used to set hour time on Tuesday to enable PoE.	15	INTERFACE_PORT_LIST
poe Wed	This command is used to set hour time on Wednesday to enable PoE.	15	INTERFACE_PORT_LIST
port-security	Enable/disable port security globally.	15	GLOBAL_CONFIG
port-security	Enable/disable port security per interface.	15	INTERFACE_PORT_LIST
port-security aging	Enable/disable port security aging.	15	GLOBAL_CONFIG
port-security aging time <10-10000000>	Time in seconds between check for activity on learned MAC addresses.	15	GLOBAL_CONFIG
port-security maximum [<1-1024>]	Maximum number of MAC addresses that can be learned on this set of interfaces.	15	INTERFACE_PORT_LIST
port-security violation { protect | trap | trap-shutdown | shutdown }	The action involved with exceeding the limit.	15	INTERFACE_PORT_LIST
pvlan <range_list>	Use the pvlan add or remove command to add or remove a port from a PVLAN.	13	INTERFACE_PORT_LIST
pvlan isolation	Use the pvlan isolation command to add the port into an isolation group.	13	INTERFACE_PORT_LIST
qos cos <0-7>		15	GLOBAL_CONFIG
qos dei <0-1>		15	INTERFACE_PORT_LIST
qos dpl <dpl>		15	INTERFACE_PORT_LIST
qos dscp-classify { zero | selected | any }		15	INTERFACE_PORT_LIST
qos dscp-remark { rewrite | remap | remap-dp }		15	INTERFACE_PORT_LIST
qos dscp-translate		15	INTERFACE_PORT_LIST
qos map cos-dscp <0~7> dpl <0~1> dscp { <0-63> | <dscp> }		15	GLOBAL_CONFIG
qos map cos-tag cos <0~7> dpl <0~1> pcp <0-7> dei <0-1>		15	INTERFACE_PORT_LIST
qos map dscp-classify { <0~63> | <dscp> }		15	GLOBAL_CONFIG
qos map dscp-cos { <0~63> | <dscp> } cos <0-7> dpl <dpl>		15	GLOBAL_CONFIG
qos map dscp-egress-translation { <0~63> | <dscp> } <0~1> to { <0-63> | <dscp> }		15	GLOBAL_CONFIG

Command	Description	P	Mode
qos map dscp-ingress-translation { <0~63> | <dscp> } to { <0-63> | <dscp> }		15	GLOBAL_CONFIG
qos map tag-cos pcp <0~7> dei <0~1> cos <0-7> dpl <dpl>		15	INTERFACE_PORT_LIST
qos pcp <0-7>		15	INTERFACE_PORT_LIST
qos policer <uint> [fps] [flowcontrol]		15	INTERFACE_PORT_LIST
qos qce { [addr { source | destination }] [key { double-tag | normal | ip-addr | mac-ip-addr }] }*1		15	INTERFACE_PORT_LIST
qos qce { [update] } <uint> [{ next <uint> } | last] [interface <port_type_list>] [smac { <mac_addr> | <oui> | any }] [dmac { <mac_addr> | unicast | multicast | broadcast | any }] [tag { [type { untagged | tagged | c-tagged | s-tagged | any }] [vid { <vcap_vr> | any }] [pcp { <pcp> | any }] [dei { <0-1> | any }] }*1] [inner-tag { [type { untagged | tagged | c-tagged | s-tagged | any }] [vid { <vcap_vr> | any }] [pcp { <pcp> | any }] [dei { <0-1> | any }] }*1] [frame-type { any | { etype [{ <0x600-0x7ff,0x801-0x86dc,0x86de-0xffff> | any }] } | { llc [dsap { <0-0xff> | any }] [ssap { <0-0xff> | any }] [control { <0-0xff> | any }] } | { snap [{ <0-0xffff> | any }] } | { ipv4 [proto { <0-255> | tcp | udp | any }] [sip { <ipv4_subnet> | any }] [dip { <ipv4_subnet> | any }] [dscp { <vcap_vr> | <dscp> | any }] [fragment { yes | no | any }] [sport { <vcap_vr> | any }] [dport { <vcap_vr> | any }] } | { ipv6 [proto { <0-255> | tcp | udp | any }] [sip { <ipv4_subnet> | any }] [dip { <ipv4_subnet> | any }] [dscp { <vcap_vr> | <dscp> | any }] [sport { <vcap_vr> | any }] [dport { <vcap_vr> | any }] } }] [action { [cos { <0-7> | default }] [dpl { <0-1> | default }] [pcp-dei { <0-7> <0-1> | default }] [dscp { <0-63> | <dscp> | default }] [policy { <uint> | default }] }*1]		15	GLOBAL_CONFIG
qos qce refresh		15	GLOBAL_CONFIG
qos queue-policer queue <0~7> <uint>		15	INTERFACE_PORT_LIST
qos queue-policer queue <0~7> <uint>		15	INTERFACE_PORT_LIST
qos queue-shaper queue <0~7> <uint> [excess]		15	INTERFACE_PORT_LIST
qos shaper <uint>		15	INTERFACE_PORT_LIST
qos storm { unicast | broadcast | unknown } <100-13200000> [fps]		15	INTERFACE_PORT_LIST

Command	Description	P	Mode
qos storm { unicast | multicast | broadcast } { { <1,2,4,8,16,32,64,128,256,512> [kfps] } | { 1024 kfps } }		15	GLOBAL_CONFIG
qos tag-remark { pcp <0-7> dei <0-1> | mapped }		15	INTERFACE_PORT_LIST
qos trust dscp		15	INTERFACE_PORT_LIST
qos trust tag		15	INTERFACE_PORT_LIST
qos wred queue <0~5> min-fl <0-100> max <1-100> [fill-level]		15	GLOBAL_CONFIG
qos wred queue <0~5> min-th <0-100> mdp-1 <0-100> mdp-2 <0-100> mdp-3 <0-100>		15	GLOBAL_CONFIG
qos wrr <1-100> <1-100> <1-100> <1-100> <1-100> <1-100>		15	INTERFACE_PORT_LIST
radius-server attribute 32 <line1-253>		15	GLOBAL_CONFIG
radius-server attribute 4 <ipv4_ucast>		15	GLOBAL_CONFIG
radius-server attribute 95 <ipv6_ucast>		15	GLOBAL_CONFIG
radius-server deadtime <1-1440>	Use the radius-server deadtime command to configure the global RADIUS deadtime value.	15	GLOBAL_CONFIG
radius-server host <word1-255> [auth-port <0-65535>] [acct-port <0-65535>] [timeout <1-1000>] [retransmit <1-1000>] [key <line1-63>]	Use the radius-server host command to add a new RADIUS host.	15	GLOBAL_CONFIG
radius-server key <line1-63>	Use the radius-server key command to configure the global RADIUS key.	15	GLOBAL_CONFIG
radius-server retransmit <1-1000>	Use the radius-server retransmit command to configure the global RADIUS retransmit value.	15	GLOBAL_CONFIG
radius-server timeout <1-1000>	Use the radius-server timeout command to configure the global RADIUS timeout value.	15	GLOBAL_CONFIG
reload { { { cold | warm } [sid <1-16>] } | { defaults [keep-ip] [force]} }	Reload system, either cold (reboot) or restore defaults without reboot.	15	EXEC
rmon alarm <1-65535> <word255> <1-2147483647> {absolute | delta} rising-threshold <-2147483648-2147483647> [<0-65535>] falling-threshold <-2147483648-2147483647> [<0-65535>] {[rising | falling | both]}		15	GLOBAL_CONFIG
rmon collection history <1-65535> [buckets <1-65535>] [interval <1-3600>]		15	INTERFACE_PORT_LIST
rmon collection stats <1-65535>		15	INTERFACE_PORT_LIST
rmon event <1-65535> [log] [trap <word127>] {[description <line127>]}		15	GLOBAL_CONFIG
sflow [<range_list>]	Enables/disables flow sampling on this port.	15	INTERFACE_PORT_LIST

Command	Description	P	Mode
sflow agent-ip {ipv4 <ipv4_addr> | ipv6 <ipv6_addr>}	The agent IP address used as agent-address in UDP datagrams. Defaults to IPv4 loopback address.	15	GLOBAL_CONFIG
sflow collector-address [receiver <range_list>] [<word>]	Collector address	15	GLOBAL_CONFIG
sflow collector-port [receiver <range_list>] <1-65535>	Collector UDP port. Valid range is 0-65536.	15	GLOBAL_CONFIG
sflow counter-poll-interval [sampler <range_list>] [<1-3600>]	The interval - in seconds - between counter poller samples.	15	INTERFACE_PORT_LIST
sflow max-datagram-size [receiver <range_list>] <200-1468>	Maximum datagram size.	15	GLOBAL_CONFIG
sflow max-sampling-size [sampler <range_list>] [<14-200>]	Specifies the maximum number of bytes to transmit per flow sample.	15	INTERFACE_PORT_LIST
sflow sampling-rate [sampler <range_list>] [<1-4294967295>]	Specifies the statistical sampling rate. The sample rate is specified as N to sample 1/Nth of the packets n the monitored flows. There are no restrictions on the value, but the switch will adjust it to the closest possible sampling rate.	15	INTERFACE_PORT_LIST
sflow timeout [receiver <range_list>] <0-2147483647>	Receiver timeout measured in seconds. The switch decrements the timeout once per second, and as long as it is non-zero, the receiver receives samples. Once the timeout reaches 0, the receiver and all its configuration is reset to defaults.	15	GLOBAL_CONFIG
show aaa	Use the show aaa command to view the currently active authentication login methods.	15	GLOBAL_CONFIG
show access-list [interface [<port_type_list>]] [rate-limiter [<1~16>]] [ace statistics [<1~256>]]	Use the show access-list privilege EXEC command without keywords to display the access-list configuration, or particularly the show access-list interface for the access-list interface configuration, or use the rate-limiter keyword to display access-list rate-limiter configuration, or use the ace keyword to display access-list ace configuration.	15	EXEC
show access-list ace-status [static] [link-oam] [loop-protect] [dhcp] [upnp] [arp-inspection] [ipmc] [ip-source-guard] [ip-mgmt] [conflicts] [switch <switch_list>]	Use the show access-list ace-status privilege EXEC command without keywords to display the access-list ace status for all access-list users, or particularly the access-list user for the access-list ace status. Use conflicts keyword to display the access-list ace that doesn't apply on on the hardware. In other word, it means the specific ACE is not applied to the hardware due to hardware limitations.	15	EXEC
show access management	Use the show access management user EXEC command without keywords to display the access management configuration, or use the statistics keyword to display statistics, or use	15	EXEC

Command	Description	P	Mode
	the <AccessId> keyword to display the specific access management entry.		
show aggregation [mode]		15	EXEC
show clock	Show running rmation	0	EXEC
show clock detail		0	EXEC
show clock detail		0	EXEC
show dot1x statistics { eapol | radius | all} [interface <port_type_list>]	Shows statistics for either eapol or radius.	0	EXEC
show dot1x statistics { eapol | radius | all} [interface <port_type_list>]	Shows statistics for either eapol or radius.	0	EXEC
show dot1x status [interface <port_type_list>] [brief]	Shows dot1x status, such as admin state, port state and last source.	0	EXEC
show green-ethernet [interface <port_type_list>]	Shows Green Ethernet status.	15	EXEC
show green-ethernet eee [interface <port_type_list>]	Shows Green Ethernet EEE status.	15	EXEC
show green-ethernet energy-detect [interface <port_type_list>]	Shows Green Ethernet energy-detect status.	15	EXEC
show green-ethernet fan	Shows Fan status (chip Temperature and fan speed).	15	GLOBAL_CONFIG
show green-ethernet short-reach [interface <port_type_list>]	Shows Green Ethernet short-reach status.	15	EXEC
show interface <port_type_list> capabilities		0	EXEC
show interface <port_type_list> statistics [{ packets | bytes | errors | discards | filtered | { priority [<0~7>] } }] [{ up | down }]	Shows the statistics for the interface.	0	EXEC
show interface <port_type_list> status	Display status for the interface.	0	EXEC
show interface <port_type_list> switchport [access | trunk | hybrid]	Use the how interfaces command to display the administrative and operational status of all interfaces or a specified interface.	0	EXEC
show interface <port_type_list> veriphy	Run and display cable diagnostics.	0	EXEC
show interface vlan [<vlan_list>]	Vlan interface status	15	EXEC
show ip arp	Print ARP table	0	EXEC
show ip arp inspection [interface <port_type_list> | vlan <vlan_list>]		0	EXEC
show ip arp inspection entry [dhcp-snooping | static] [interface <port_type_list>]		13	EXEC
show ip dhcp detailed statistics { server | client | snooping | relay | normal-forward | combined } [interface <port_type_list>]	Use the show ip dhcp detailed statistics user EXEC command to display statistics. Notice that the normal forward per-port TX statistics isn't increased if the incoming DHCP packet is done	0	EXEC

Command	Description	P	Mode
	by L3 forwarding mechanism. Notice that the normal forward per-port TX statistics isn't increased if the incoming DHCP packet is done by L3 forwarding mechanism.		
show ip dhcp excluded-address		0	EXEC
show ip dhcp pool [<word32>]		0	EXEC
show ip dhcp relay [statistics]	Use the show ip dhcp relay user EXEC command without keywords to display the DHCP relay configuration, or use the statistics keyword to display statistics.	0	EXEC
show ip dhcp server		0	EXEC
show ip dhcp server binding [state {allocated | committed | expired}] [type {automatic | manual | expired}]		0	EXEC
show ip dhcp server binding <ipv4_ucast>		0	EXEC
show ip dhcp server declined-ip		0	EXEC
show ip dhcp server declined-ip <ipv4_addr>		0	EXEC
show ip dhcp server statistics		0	EXEC
show ip dhcp snooping [interface <port_type_list>]	Use the show ip dhcp snooping user EXEC command to display the DHCP snooping configuration.	0	EXEC
show ip dhcp snooping [statistics] [interface <port_type_list>]	Use the show ip dhcp snooping user EXEC command without keywords to display the DHCP snooping configuration, or particularly the ip dhcp snooping statistics for the interface, or use the statistics keyword to display statistics.	0	EXEC
show ip dhcp snooping table	Use the show ip dhcp snooping table user EXEC command to display the IP assigned information that is obtained from DHCP server except for local VLAN interface IP addresses.	15	EXEC
show ip http server secure status	Use the show ip http server secure status privileged EXEC command to display the secure HTTP web server status.	15	EXEC
show ip igmp snooping [vlan <vlan_list>] [group-database [interface <port_type_list>] [sfm-information]] [detail]		0	EXEC
show ip igmp snooping mrouter [detail]		0	EXEC
show ip interface brief	Brief IP interface status	0	EXEC
show ip name-server	Display the active domain name server information	0	EXEC
show ip route	Routing table status	0	EXEC
show ip source binding [dhcp-snooping | static] [interface <port_type_list>]		13	EXEC

Command	Description	P	Mode
show ip ssh	Use the show ip ssh privileged EXEC command to display the SSH status.	15	EXEC
show ip statistics [system] [interface vlan <vlan_list>] [icmp] [icmp-msg <0~255>]		0	EXEC
show ipv6 mld snooping [vlan <vlan_list>] [group-database [interface <port_type_list>] [sfm-information]] [detail]		0	EXEC
show ipv6 mld snooping mrouter [detail]		0	EXEC
show ip verify source [interface <port_type_list>]		0	EXEC
show lacp { internal | statistics | system-id | neighbour }	Show LACP configuration and status	15	EXEC
show lldp med media-vlan-policy [<0~31>]	Show media vlan policy(ies)	0	EXEC
show lldp med remote-device [interface <port_type_list>]	Show LLDP-MED neighbor device information.	0	EXEC
show lldp neighbors [interface <port_type_list>]	Shows the LLDP neighbors information.	0	EXEC
show lldp statistics [interface <port_type_list>]	Shows the LLDP statistics information.	0	EXEC
show logging [info] [warning] [error] [switch <switch_list>]	Use the show logging privileged EXEC command without keywords to display the logging configuration, or particularly the logging message summary for the logging level.	15	EXEC
show logging <1-4294967295> [switch <switch_list>]	Use the show logging privileged EXEC command with logging ID to display the detail logging message. OC_CMD_DEFAULT =	15	EXEC
show loop-protect [interface <port_type_list>]		13	EXEC
show mac address-table [conf | static | aging-time | { { learning | count } [interface <port_type_list>] } | { address <mac_addr> [vlan <vlan_id>] } | vlan <vlan_id> | interface <port_type_list>]		0	EXEC
show mvr [vlan <vlan_list> | name <word16>] [group-database [interface <port_type_list>] [sfm-information]] [detail]		0	EXEC
show network-clock	Show selector state.	0	EXEC
show ntp status		13	EXEC
show platform phy [interface <port_type_list>]	Show PHY module's information for all or a given interface	15	EXEC
show platform phy failover		15	EXEC

Command	Description	P	Mode
show platform phy id [interface <port_type_list>]	Platform PHY's IDs	15	EXEC
show platform phy instance		15	EXEC
show platform phy status [interface <port_type_list>]		15	EXEC
show poe [interface <port_type_list>]	Use the show poe to show PoE status.	0	EXEC
show port-security port [interface <port_type_list>]	Show MAC Addresses learned by Port Security	0	EXEC
show port-security switch [interface <port_type_list>]	Show Port Security status.	0	EXEC
show pvlan [<range_list>]	Use the show pvlan command to view the PVLAN configuration.	13	EXEC
show pvlan isolation [interface <port_type_list>]	Use the show pvlan isolation command to view the PVLAN isolation configuration.	13	EXEC
show qos [{ interface [<port_type_list>] } | wred | { maps [dscp-cos] [dscp-ingress-translation] [dscp-classify] [cos-dscp] [dscp-egress-translation] } | storm | { qce [<1-256>] }]		15	EXEC
show radius-server [statistics]	Use the show radius-server command to view the current RADIUS configuration and statistics.	15	EXEC
show rmon alarm [<1~65535>]		15	EXEC
show rmon event [<1~65535>]		15	EXEC
show rmon history [<1~65535>]		15	EXEC
show rmon statistics [<1~65535>]		15	EXEC
show running-config [all-defaults]		15	EXEC
show running-config feature <cword> [all-defaults]		15	EXEC
show running-config interface <port_type_list> [all-defaults]		15	EXEC
show running-config interface vlan <vlan_list> [all-defaults]		15	EXEC
show running-config line vty <range_list> [all-defaults]		15	EXEC
show running-config vlan <vlan_list> [all-defaults]		15	EXEC
show sflow	Use show sflow to display the current sFlow configuration.	0	EXEC
show sflow statistics { receiver [<range_list>] | samplers [interface [<range_list>] <port_type_list>]}	Use sflow statistics to show statistics for either receiver or sample interface.	0	EXEC

Command	Description	P	Mode
show smtp	Email information	0	EXEC
show snmp		15	EXEC
show snmp access [<word32> { v1 | v2c | v3 | any } { auth | noauth | priv }]			
show snmp community v3 [<word127>]		15	EXEC
show snmp host [<word32>] [system] [switch] [interface] [aaa]		15	EXEC
show snmp mib context	Use the show snmp mib context user EXEC command to display the supported MIBs in the switch.	15	EXEC
show snmp mib ifmib ifIndex	Use the show snmp mib ifmib ifIndex user EXEC command to display the SNMP ifIndex(defined in IF-MIB) mapping information in the switch.	15	EXEC
show snmp mib redefine	Use the show snmp mib redefine user EXEC command to display the redefined MIBs in the switch, that are different definitions from the standard MIBs.	15	EXEC
show snmp security-to-group [{ v1 | v2c | v3 } <word32>]			
show snmp user [<word32> <word10-32>]			
show snmp view [<word32> <word255>]			
show spanning-tree [summary | active | { interface <port_type_list> } | { detailed [interface <port_type_list>] } | { mst [configuration | { <0-7> [interface <port_type_list>] }] }]		15	EXEC
show switchport forbidden [{vlan <vlan_id>} | {name <word>}]	Lookup VLAN Forbidden port entry.	0	EXEC
show switch stack [details]	Show switch Detail information	0	EXEC
show system	Show system information	0	EXEC
show tacacs-server	Use the show tacacs-server command to view the current TACACS+ configuration.	15	EXEC
show thermal-protect [interface <port_type_list>]	Shows thermal protection status (chip temperature and port status).	15	EXEC
show upnp		15	EXEC
show version	Use show version to display firmware information.	0	EXEC
show version	System hardware and software status	0	EXEC
show vlan [id <vlan_list> | name <vword32> | brief]	Use the show vlan command to view the VLAN configuration.	13	EXEC
show vlan ip-subnet [id <1-128>]		13	EXEC

Command	Description	P	Mode
show vlan mac [address <mac_ucast>]		13	EXEC
show vlan protocol [eth2 {<0x600-0xffff>|arp|ip|ipx|at}] [snap {<0x0-0xffffff>|rfc-1042|snap-8021h} <0x0-0xffff>] [llc <0x0-0xff> <0x0-0xff>]	Use the switchport vlan protocol group command to add group to vlan mapping.	13	EXEC
show vlan status [interface <port_type_list>] [combined | admin | nas | mvr | voice-vlan | mstp | erps | vcl | evc | gvrp | all | conflicts]	Use the show VLAN status command to view the VLANs configured for each interface.	13	EXEC
show voice vlan [oui <oui> | interface <port_type_list>]	Use the show voice vlan privilege EXEC command without keywords to display the voice vlan configuration, or particularly switchport configuration for the interface, or use the oui keyword to display oui table.	15	EXEC
show web privilege group [<cword>] level		0	EXEC
shutdown	Use shutdown to shutdown the interface.	15	INTERFACE_PORT_LIST
shutdown		15	SNMPS_HOST
smtp delete { server | username | sender | returnpath | mailaddress <1-6> }	Delete email server	15	GLOBAL_CONFIG
smtp level <0-7>		15	GLOBAL_CONFIG
smtp mailaddress <1-6> <word47>	Set email server	15	GLOBAL_CONFIG
smtp returnpath <word47>		15	GLOBAL_CONFIG
smtp returnpath <word47>		15	GLOBAL_CONFIG
smtp sender <word47>		15	GLOBAL_CONFIG
smtp server <word47>		15	GLOBAL_CONFIG
smtp username <word31> <word31>		15	GLOBAL_CONFIG
snmp-server	Enable SNMP server.	13	GLOBAL_CONFIG
snmp-server access <word32> model { v1 | v2c | v3 | any } level { auth | noauth | priv } [read <word255>] [write <word255>]		15	GLOBAL_CONFIG
snmp-server community v2c <word127> [ro | rw]		15	GLOBAL_CONFIG
snmp-server community v3 <word127> [<ipv4_addr> <ipv4_netmask>]		15	GLOBAL_CONFIG
snmp-server contact <line255>	To specify the system contact string.	15	GLOBAL_CONFIG
snmp-server engine-id local <word10-32>	To specify SNMP server's engine ID.	13	GLOBAL_CONFIG
snmp-server host <word32> traps [linkup] [linkdown] [lldp]		15	INTERFACE_PORT_LIST
snmp-server location <line255>	To specify the system location string.	15	GLOBAL_CONFIG
snmp-server security-to-group model { v1 | v2c | v3 } name <word32> group <word32>		15	GLOBAL_CONFIG

Command	Description	P	Mode
snmp-server trap		15	GLOBAL_CONFIG
snmp-server user <word32> engine-id <word10-32> [{md5 <word8-32> | sha <word8-40> } [priv { des | aes } <word8-32>]]		15	GLOBAL_CONFIG
snmp-server version { v1 | v2c | v3 }	Set the SNMP server version to SNMPv1, SNMPv2c or SNMPv3.	15	GLOBAL_CONFIG
snmp-server view <word32> <word255> { include | exclude }		15	GLOBAL_CONFIG
spanning-tree		15	INTERFACE_PORT_LIST
spanning-tree		15	STP_AGGR
spanning-tree auto-edge		15	INTERFACE_PORT_LIST
spanning-tree auto-edge		15	STP_AGGR
spanning-tree bpdu-guard		15	INTERFACE_PORT_LIST
spanning-tree bpdu-guard		15	STP_AGGR
spanning-tree edge		15	INTERFACE_PORT_LIST
spanning-tree edge		15	STP_AGGR
spanning-tree edge bpdu-filter		15	GLOBAL_CONFIG
spanning-tree edge bpdu-guard		15	GLOBAL_CONFIG
spanning-tree link-type { point-to-point | shared | auto }		15	INTERFACE_PORT_LIST
spanning-tree link-type { point-to-point | shared | auto }		15	STP_AGGR
spanning-tree mode { stp | rstp | mstp }		15	GLOBAL_CONFIG
spanning-tree mst <0-7> cost { <1-200000000> | auto }		15	INTERFACE_PORT_LIST
spanning-tree mst <0-7> cost { <1-200000000> | auto }		15	STP_AGGR
spanning-tree mst <0-7> port-priority <0-240>		15	INTERFACE_PORT_LIST
spanning-tree mst <0-7> port-priority <0-240>		15	STP_AGGR
spanning-tree mst <0-7> priority <0-61440>		15	GLOBAL_CONFIG
spanning-tree mst <0-7> vlan <vlan_list>		15	GLOBAL_CONFIG
spanning-tree mst forward-time <4-30>		15	GLOBAL_CONFIG
spanning-tree mst max-age <6-40> [forward-time <4-30>]		15	GLOBAL_CONFIG
spanning-tree mst max-hops <6-40>		15	GLOBAL_CONFIG
spanning-tree mst name <word32> revision <0-65535>		15	GLOBAL_CONFIG

Command	Description	P	Mode
spanning-tree recovery interval <30-86400>		15	GLOBAL_CONFIG
spanning-tree restricted-role		15	INTERFACE_PORT_LIST
spanning-tree restricted-role		15	STP_AGGR
spanning-tree restricted-tcn		15	INTERFACE_PORT_LIST
spanning-tree restricted-tcn		15	STP_AGGR
spanning-tree transmit hold-count <1-10>		15	GLOBAL_CONFIG
speed {2500 | 1000 | 100 | 10 | auto {[10] [100] [1000]} }	Configures interface speed. If you use 10, 100, or 1000 keywords with the auto keyword the port will only advertise the specified speeds.	15	INTERFACE_PORT_LIST
switchport access vlan <vlan_id>	Use the switchport access vlan command to configure a port to a VLAN. Valid VLAN IDs are 1 to 4095.	13	INTERFACE_PORT_LIST
switchport forbidden vlan {add|remove} <vlan_list>	Adds or removes forbidden VLANs from the current list of forbidden VLANs	15	INTERFACE_PORT_LIST
switchport hybrid acceptable-frame-type { all | tagged | untagged }	Set hybrid characteristics of the interface	13	INTERFACE_PORT_LIST
switchport hybrid allowed vlan {all | none | [add | remove | except] <vlan_list>}	Set hybrid characteristics of the interface	13	INTERFACE_PORT_LIST
switchport hybrid egress-tag {none | all [except-native]}	Set hybrid characteristics of the interface	13	INTERFACE_PORT_LIST
switchport hybrid ingress-filtering	Set hybrid characteristics of the interface	13	INTERFACE_PORT_LIST
switchport hybrid native vlan <vlan_id>	Use the switchport native vlan command to configure a port VLAN ID for a hybrid port.	13	INTERFACE_PORT_LIST
switchport hybrid port-type { unaware | c-port | s-port | s-custom-port }	Set hybrid characteristics of the interface	13	INTERFACE_PORT_LIST
switchport mode {access | trunk | hybrid}	Use the switchport mode command to define the type of the port.	13	INTERFACE_PORT_LIST
switchport trunk allowed vlan {all | none | [add | remove | except] <vlan_list>}	Set trunk mode characteristics of the interface	13	INTERFACE_PORT_LIST
switchport trunk native vlan <vlan_id>	Use the switchport native vlan command to configure a port VLAN ID for a trunk port.	13	INTERFACE_PORT_LIST
switchport trunk vlan tag native	Set trunk characteristics of the interface	13	INTERFACE_PORT_LIST
switchport vlan ip-subnet id <1-128> <ipv4_subnet> vlan <vlan_id>		13	INTERFACE_PORT_LIST
switchport vlan mac <mac_ucast> vlan <vlan_id>	Use the switchport vlan mac command to associate a MAC address to VLAN ID.	13	INTERFACE_PORT_LIST
switchport vlan protocol group <word16> vlan <vlan_id>	Use the no form of this command to remove the group to vlan mapping.	13	INTERFACE_PORT_LIST
switchport voice vlan discovery-protocol {oui | lldp | both}	Use the switchport voice vlan discovery-protocol interface configuration command to configure to switchport voice vlan discovery-protocol.	15	INTERFACE_PORT_LIST

Command	Description	P	Mode
switchport voice vlan mode { auto | force | disable }	Use the switchport voice vlan mode interface configuration command to configure to switchport voice vlan mode.	15	INTERFACE_PORT_LIST
switchport voice vlan security	Use the switchport voice vlan security interface configuration command to configure switchport voice vlan security mode. Use the no form of this command to globally disable switchport voice vlan security mode.	15	INTERFACE_PORT_LIST
system contact <line255>	To specify the system contact string.	15	GLOBAL_CONFIG
system location <line255>	To specify the system location string.	15	GLOBAL_CONFIG
system name <line255>	To specify the system mode name string.	15	GLOBAL_CONFIG
tacacs-server deadtime <1-1440>	Use the tacacs-server deadtime command to configure the global TACACS+ deadtime value.	15	GLOBAL_CONFIG
tacacs-server host <word1-255> [port <0-65535>] [timeout <1-1000>] [key <line1-63>]	Use the tacacs-server host command to add a new TACACS+ host.	15	GLOBAL_CONFIG
tacacs-server key <line1-63>	Use the tacacs-server key command to configure the global TACACS+ key.	15	GLOBAL_CONFIG
tacacs-server timeout <1-1000>	Use the tacacs-server timeout command to configure the global TACACS+ timeout value.	15	GLOBAL_CONFIG
thermal-protect port-prio <0-3>	Sets temperature at which to turn ports with the corresponding priority off.	15	INTERFACE_PORT_LIST
thermal-protect prio <0~3> temperature <0-255>	Thermal protection configuirations.	15	GLOBAL_CONFIG
traps [aaa authentication] [system [coldstart] [warmstart]] [switch [stp] [rmon]]		15	SNMPS_HOST
upnp		15	GLOBAL_CONFIG
upnp advertising-duration <100-86400>		15	GLOBAL_CONFIG
upnp ttl <1-255>		15	GLOBAL_CONFIG
username <word31> privilege <0-15> password encrypted <word4-44>	Use the username <username> privilege <level> password encrypted <password> global configuration command to add a user with encrypted password for the local switch access.	15	GLOBAL_CONFIG
username <word31> privilege <0-15> password none	Use the username <username> privilege <level> password none global configuration command to remove the password for specific username.	15	GLOBAL_CONFIG
username <word31> privilege <0-15> password unencrypted <line31>	Use the username <username> privilege <level> password encrypted <password> global configuration command to add a user with unencrypted password for the local switch access.	15	GLOBAL_CONFIG
vendor class-identifier <string64> specific-info <hexval32>		13	DHCP_POOL

Command	Description	P	Mode
version { v1 [<word127>] | v2 [<word127>] | v3 [probe | engineID <word10-32>] [<word32>] }		15	SNMPS_HOST
vlan ethertype s-custom-port <0x0600-0xffff>		13	GLOBAL_CONFIG
vlan protocol {{eth2 {<0x600-0xffff>|arp|ip|ipx|at}} | {snap {<0x0-0xffffff>|rfc-1042|snap-8021h} <0x0-0xffff>} | {llc <0x0-0xff> <0x0-0xff>} } group <word16>		13	GLOBAL_CONFIG
voice vlan	Use the voice vlan global configuration command to enable voice vlan. Use the no form of this command to globally disable voice vlan.	15	GLOBAL_CONFIG
voice vlan aging-time <10-10000000>	Use the voice vlan aging-time global configuration command to configure default voice vlan aging-time.	15	GLOBAL_CONFIG
voice vlan class { <0-7> | low | normal | medium | high }	Use the voice vlan class global configuration command to configure voice vlan class.	15	GLOBAL_CONFIG
voice vlan oui <oui> [description <line32>]	Use the voice vlan oui global configuration command to set the oui entry for voice vlan.	15	GLOBAL_CONFIG
voice vlan vid <vlan_id>	Use the voice vlan vid global configuration command to configure voice vlan vid.	15	GLOBAL_CONFIG
web privilege group <cword> level { [cro <0-15>] [crw <0-15>] [sro <0-15>] [srw <0-15>] }*1		15	GLOBAL_CONFIG