
SWITCH Series Commands Configuration Manual

1 Mtu

In the interface configuration mode, use this command to set the MTU of the interface.

Mtu <64-10240>

	parameter	description
Parameter	64-10240	Can be set in the range

Default	The default configuration is 1522.	
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Mode	Global configuration mode	
------	---------------------------	--

Usage	Null	
-------	------	--

Example	Set the mtu value	
	SWITCH(config) # mtu 10240	

	command	description
Command	show interfaces gigabitEthernet id mtu	View the interface mtu status information.

Example	SWITCH# show interfaces GigabitEthernet 0/1 mtu	
	<pre>Interface MTU -----+----- gi0/1 10240</pre>	

2 link-Aggregate Port Command

2.1 Configure relevant commands

2.1.1 link-aggregation load-balance

Configure a traffic balancing algorithm for link-aggregation port (AGG). Use the no option for this command to set the recovery traffic balance to the default.

link-aggregation load-balance {mac|ip-mac}

no link-aggregation load-balance

	parameter	description
Parameter	MAC	The traffic is allocated according to the source MAC address of the incoming packets. In each AGG, packets from different MAC addresses are assigned to different ports. Packets from the same MAC address use the same port.
	IP+MAC	Traffic is allocated based on source IP and source MAC. Different source IP - source MAC traffic is forwarded through different ports, and the same source IP - source MAC is forwarded through the same link.

Default	Null
---------	------

Mode	Global configuration mode
------	---------------------------



Usage Use the show link-aggregation group command to view the traffic balancing algorithm

Example SWITCH(config)# **link-aggregation load-balance ip**

	command	description
Command	show link-aggregation group	Display link-aggregation settings

2.1.2 link-aggregation

Create a link-aggregation group.

link-aggregation {*group-number* mode { manual | lacp }}

no link-aggregation {*group-number*}

	parameter	description
parameter	<i>group-number</i>	The link-aggregation member port group number
	manual	Use static mode
	lacp	Use LACP protocol

Default The physical port does not belong to any link-aggregate port by default

Mode Global configuration mode

Usage You can configure manual mode and lacp mode. No command requires no interface in the aggregation group.

Example the following example creates a link aggregation group 1
SWITCH(config)#**link-aggregation 1 mode manual**

2.1.3 Interface link-aggregation

Set a physical port as a member port of the link-aggregation port. Use the no option of the command to remove the link-aggregation Port member attribute of the port.

link-aggregation *group-number* [active| passive|manual]

no link-aggregation {*group-number*}

	parameter	description
parameter	<i>group-number</i>	The link-aggregation member port group number

Default The physical port default does not belong to any link-aggregate port.

Mode Interface configuration mode

Usage All AGG member interfaces need to be in the same VLAN.

Example SWITCH(config)# **interface GigabitEthernet /1**
SWITCH(config-if-GigabitEthernet0/1)# **link-aggregation 1 active**

Command

parameter	description
show link-aggregation group	Display the information of the link aggregation group

2.2 Display relevant commands

2.2.1 show link-aggregation

Display link-aggregation settings.

show link-aggregation [group|group-number]

parameter	parameter	description
	show link-aggregate group	Show all link aggregation groups
	show link-aggregate group <i>group-number</i>	Displays a specific group of link aggregation
Default	Null	
Mode	Privilege mode	
Usage	If you do not specify the aggregate port interface number, all the information of the aggregate port will be displayed.	
Example	The following example shows information about link-aggregation 1: SWITCH# show link-aggregation group 1	
Command	command	description
	Show link-aggregation group	Display the status of all link aggregation groups

3 Port mirroring command

3.1 Configure relevant commands

3.1.1 monitor session

Create a SPAN session and specify the destination port (monitor port) and source port (monitored port). Use the no option of the command to delete the session or remove the source port or destination port separately.

```
monitor session session_number {[ source interface GigabitEthernet port-id
[both | rx | tx ] ] | [ destination interface GigabitEthernet port-id ] }
no monitor session session_number {[ source interface GigabitEthernet port-id
[both | rx | tx ] ] | [ destination interface GigabitEthernet port-id ] }
```

	parameter	description
Parameter	<i>session_number</i>	SPAN session number
	source interface GigabitEthernet <i>port-id</i>	Specify the source port. For interface-id, specify the corresponding interface number, only the physical port, not for the SVI.
	destination interface GigabitEthernet <i>port-id</i>	Specifies the destination port. For interface-id, specify the corresponding interface number, only the physical port, not for the SVI.
	both	While monitoring input and output messages.
	rx	Only monitor the input message.
	tx	Only monitor the output message

Default	Null
Mode	Global configuration mode
Usage	Switch port and AGG (separate port settings) can be configured as source and destination ports. The SPAN session does not affect the normal operation of the switch. SPAN sessions can be configured on a disabled port, however, SPAN does not work immediately until the destination and source port are enabled. A port can not be both a source port and a destination port. Use the show monitor command to display the operating status of the SPAN session.

The following example shows how to create a SPAN session: Session 1. If the session has already been set up, First clear the configuration of the current session 1, and then set the port 0 interface to the port interface 0/1.

Example

```
SWITCH(config) # no monitor session 1
SWITCH(config) # monitor session 1 source interfaces
                  GigabitEthernet 0/2 both
SWITCH(config) # monitor session 1 destination interface
                  GigabitEthernet 0/1
```

Command

command	description
monitor session	Create a SPAN session and specify the destination port (Monitoring port) and source port (monitored port)

3.2 Display relevant commands

3.2.1 show monitor

Displays the status of the current SPAN configuration
show monitor

parameter

parameter	description
-	-

Default

All SPAN sessions are displayed by default

Mode

Privilege mode

Usage

Null

Example

The following example shows how to display the current state of a SPAN session by using the show monitor privilege command

```
SWITCH# show monitor
Session 1 Configuration
Source RX Port : gi0/9
Source TX Port : gi0/9
Destination port : gi0/10
Ingress State: disabled
```

Command

Command	description
show monitor session	Displays the status of the current SPAN configuration

4 Port isolation command

4.1 Configure relevant commands

4.1.1 isolate-port

Configure the port isolation in port mode and delete the configuration with the no command.
By default, port isolation is disabled.

Switchport protected
no Switchport protected

parameter	parameter	description
	Switchport protected	Turn on port isolation configuration
Default	Turn off port isolation configuration	
Mode	Port configuration mode	
Usage	After the port isolation function is enabled, the port and port, port, and link aggregation group (AGG) can not be accessed from each other.	
Example	The following is the isolation between port 0/1 and port 0/2. SWITCH(config)# interface GigabitEthernet 0/1 SWITCH(config-if-GigabitEthernet0/1)# switchport protected SWITCH(config)# interface GigabitEthernet 0/2 SWITCH(config-if-GigabitEthernet0/2)# switchport protected	
Command	Command	description
	show interfaces GigabitEthernet 0/1 protected	View the current port isolation information

4.2 Display relevant commands

4.2.1 show isolate-port

Displays the current port isolation configuration.

show interfaces port-id protected

parameter	parameter	description
	show interfaces port-id protected	Displays the current port isolation configuration.
Default	Null	
Mode	Privilege mode	
Usage	Null	
Example	SWITCH# show isolate-port	
Command	Command	description
	show interfaces port-id protected	View the current port isolation information

5 Port speed limit

5.1 Configure relevant commands

5.1.1 rate-limit

In port mode, enable / disable the port input / output rate.

rate-limit {input | output}

no rate-limit {input | output}

parameter	parameter	description
	rate-limit {input output}	Open the port speed limit function, limiting the input and output speed.
	no rate-limit {input output}	Close the port speed limit function, limiting the input and output speed.
Default	Turn off port speed limit function	
Mode	Interface configuration mode	
Usage	After the port speed limit is enabled, the upstream and downstream rates of the ports are controlled	

Example The following is the configuration of port 0/1 configuration port uplink rate limit.
 SWITCH(config-if-GigabitEthernet0/1)# **rate-limit input 10000**

	command	description
Command	show rate-limit	View the current rate configuration information of the port.

5.2 Display relevant commands

5.2.1 show rate-limit & show traffic-shap

Displays the current port rate limit configuration.

show rate-limit

Show rate-limit interfaces {port-id}

	parameter	Description
parameter	show rate-limit	Display the upstream rate limit configuration information for all the ports
	show rate-limit interface {port-id}	Display the upstream rate limit configuration information of a current port

Default Null

Mode Privilege mode

Usage Display the upstream rate limit configuration information for all the ports

Example SWITCH# **show rate-limit interfaces GigabitEthernet 0/1**

```

Interface      |Ingress      |Egress
               |kbps         |kbps
-----+-----+-----
gi0/1         |IGR-UNLIMIT  |10000
  
```

	command	description
Command	show rate-limit interface <i>port-list</i>	View the current port rate configuration information.

6 Storm control

6.1 Configure relevant commands

6.1.1 storm-control

Enable or disable storm control in port mode: Use the storm-control command to enable storm control, Use the no command to turn off storm control.

storm-control {[broadcast |unknown-multicast|unknown-unicast] kbps}
no storm-control

	parameter	description
parameter	broadcast	Broadcast packets
	Unknown-multicast	Unknown Multicast packets
	Unknown-unicast	Unknown unicast packets
	kbps	Rate unit

Default Turn off storm control

Mode Interface configuration mode

Usage After the storm control function is enabled, you can set the rate at which the packets received on the corresponding port (the rate of the received packets (broadcast, unknown multicast, unknown unicast))

Example The following is the port 0/1 open storm control configuration.
SWITCH(config-if-GigabitEthernet0/1)#**storm-control broadcast kbps 1024**
SWITCH(config-if-GigabitEthernet0/1)#**storm-control Unknown-multicast kbps 1024**
SWITCH(config-if-GigabitEthernet0/1)#**storm-control Unknown-unicast kbps 1024**

	command	description
Command	show storm-control	Display storm control information
	show interface	The storm control information is displayed in the interface attribute

6.2 Display relevant commands

6.2.1 show storm-control

show storm-control

	command	description
parameter	show storm-control	Display storm control information
	show interface	The storm control information is displayed in the interface attribute

Default	Null
Mode	Privilege mode
Usage	View storm control configuration information

```
SWITCH# show storm-control
```

Interface	Broadcast kbps	Unkown-Multicast kbps	Unknown-Unicast kbps	Action
gi0/1	Disabled	Disabled	Disabled	Drop
gi0/2	1024	Disabled	Disabled	Drop
gi0/3	Disabled	Disabled	Disabled	Drop
gi0/4	Disabled	Disabled	Disabled	Drop
gi0/5	Disabled	Disabled	Disabled	Drop
gi0/6	Disabled	Disabled	Disabled	Drop
gi0/7	Disabled	Disabled	Disabled	Drop
gi0/8	Disabled	Disabled	Disabled	Drop
gi0/9	Disabled	Disabled	Disabled	Drop
gi0/10	Disabled	Disabled	Disabled	Drop

7 Port Security

7.1 Configure relevant commands

7.1.1 Port-security

After you enable Port-security, configure the limit mac number of the port. Close Port-security.

port-security [address-limit] { Number of limitation} action {[discard|forward|shutdown] }
no port-security

	parameter	description
parameter	number of limitation	Limit the number of macs, in the range of 1-256.
	discard forward shutdown	Action to be taken when limitation is reached.
Default	Enable the port security function on the global switch, the port is turned off by default	
Mode	Port configuration mode	
Usage	Open port security, when the port to learn the number of mac in the end limit, the message was discarded.	
Example	The following example is configured gig0 / 1 maximum mac learning number is 200, over the message is discarded SWITCH(config-if-GigabitEthernet0/1)# port-security address-limit 200 action discard	
	parameter	description
Command	no port-security	Turn off port security

7.2 Display relevant commands

7.2.1 show port-security

Displays information about port security.

Show port-security interface {port-id}

Parameter	parameter	description
	show port-security interface {port-id}	Display the port security configuration information of the specified port

Default

Null

Mode

Privilege mode

Usage

Null

Example

Display the port security configuration information for gig1:
 SWITCH# **show port-security interfaces GigabitEthernet 0/1**
 Port | Security | CurrentAddr | Action
 -----+-----+-----+-----
 gi0/1 | Enabled (200) | 13 | Discard

Command

parameter	description
Show port-security	View the port security global status

8 NTP/SNTP COMMAND

8.1 NTP Configure relevant commands

8.1.1 server

Configure the NTP/SNTP server IP address
{[ntp|sntp]} server{server-ip}

	parameter	description
parameter	Server-ip	server IP address

Default default server ip 216.229.0.179

Mode Global configuration mode

Usage Use this command to configure the NTP/SNTP server IP address

Example SWITCH(config)# **ntp server 192.168.100.150**
SWITCH(config)# **sntp server 192.168.100.159**

	command	description
Command	show ntp	Display NTP configuration information
	show sntp	Display SNTP configuration information

8.2 show ntp/sntp status

Display ntp/sntp function status, server address, port number

show {[ntp|sntp]}

	parameter	description
Parameter	show ntp	Display NTP configuration information
	show sntp	Display SNTP configuration information

Default	Null
Mode	privilege mode
Usage	Display ntp /sntp function status, server address, port number

Example

Display NTP configuration information:
 SWITCH# **show ntp**
 NTP is Enabled
 NTP Server address: 192.168.100.150
 NTP Server port: 123

Display SNTP configuration information:
 SWITCH# **show sntp**
 SNTP is Enabled
 SNTP Server address: 192.168.100.159
 SNTP Server port: 123

9EEE

Open the EEE function, the switch will automatically turn off part of the idle circuit, effectively reduce power consumption, energy saving

```

eee
eee interfaces GigabitEthernet {port-id}
  
```

Parameter	parameter	description
	eee	Turn on all port eee functions
	eee interfaces GigabitEthernet {port-id}	Open the eee function for the specified port

Default	Turn off the eee function
Mode	Global configuration mode
Usage	Effectively reduce the switch power consumption, energy saving

Example	Turn on all port eee functions: SWITCH(config)# eee Open the eee function for the specified port: SWITCH(config)# eee interfaces GigabitEthernet 0/1	
Command	parameter	description
	Show eee	View the configuration information for the EEE function-

10DDOS PROTECTION

10.1 Configuration ddos protection

10.1.1 Turn on DDOS protection

Open the ddos protection function, you can defend against ddos attacks.

Dos{[land-deny | smurf-deny | nullscan-deny | xma-deny | synfin-deny | syn-sportl1024-deny | pod-deny]}

Parameter	parameter	description
	land-deny	Source IP equals to destination IP
	smurf-deny	Smurf Attacks messages
	nullscan-deny	Null scan attack
	xma-deny	Xmascan:sequence number is zero and the FIN, URG and PSH bits are set
	synfin-deny	SYN and FIN bits set in the packet
	syn-sportl1024-deny	SYN packets with sport less than 1024
	pod-deny	Ping of death attacks

Default Turn off the DDOS protection function

Mode Global configuration mode

Usage Prevent the ddos attack.

Example Turn on land-deny attack protection:
SWITCH(config)# **dos land-deny**

10.1.2 Turn off DDOS protection

no dos {attack-name}

Command	Command	description
	no dos {attack-name}	Turn off a specific attack on the ddos protection

Default Null

Mode Global configuration mode

Usage Turn off the defense against a specified DDOS attack

Example Turn off land-deny attack protection:
SWITCH(config)# **no dos land-deny**

10.2 show DDOS protection

View the configuration information for DOS protection.

Show {dos}

Parameter	parameter	description
	Show dos	View the configuration information for DOS protection

Default Null

Mode privilege mode

Usage View the DDOS protection.

View the configuration information for DOS protection:

SWITCH# **show dos**

Example

Type	State (Length)
DMAC equal to SMAC	disabled
Land (DIP = SIP)	enabled
UDP Blat (DPORT = SPORT)	disabled
TCP Blat (DPORT = SPORT)	disabled
POD (Ping of Death)	disabled
IPv6 Min Fragment Size	disabled (1240 Bytes)
ICMP Fragment Packets	disabled
IPv4 Ping Max Packet Size	disabled (512 Bytes)
IPv6 Ping Max Packet Size	disabled (512 Bytes)
Smurf Attack	disabled (Netmask Length: 0)
TCP Min Header Length	disabled (20 Bytes)
TCP Syn (SPORT < 1024)	disabled
Null Scan Attack	disabled
X-Mas Scan Attack	disabled
TCP SYN-FIN Attack	disabled
TCP SYN-RST Attack	disabled
TCP Fragment (Offset = 1)	disabled

11CPU Guard

11.1 Configuration CPU Guard

Configuring each type of packet bandwidth can suppress high-speed attack packets in the network.

```
cpu-protect {[cpu]} {bandwidth}pps_vaule
cpu-protect {[sub-interface]} {[Message_type]}pps pps_vaule
```

Parameter

parameter	description
cpu bandwidth	Set cpu bandwidth(pps)
Sub_interface	Set the type of cpu protected packets
cpu bandwidth pps_vaule	Set the total bandwidth of the cpu, in the range of 64-4000
message_type	The message types include:manage ,protocol,route
Message_type] pps pps_vaule	Set the bandwidth of each type of packet, in the range of 1 to 4000

Default

```
Cpu Port Bandwidth 1000pps
Cpu Protect Manage Bandwidth 500pps
Cpu Protect Route Bandwidth 200pps
Cpu Protect Protocol Bandwidth 500pps
```

Mode	Global configuration mode
Usage	To Configure each type of message bandwidth can inhibit high rate of attack packets in network.
Example	Set the total bandwidth of the cpu: SWITCH(config)# cpu-protect cpu bandwidth 4000 Set the bandwidth of manage packets: SWITCH(config)# cpu-protect sub-interface manage pps 600

11.2 show CPU Guard

View the configuration information for CPU Guard.

show cpu-protect

show cpu-protect cpu

show cpu-protect sub-interface {[manage | protocol | route]}

	parameter	description
Parameter	show cpu-protect	View the configuration information for CPU Guard.
	show cpu-protect cpu	View the configuration information for CPU bandwidth
	Show cpu-protect sub-interface {message type}	View the bandwidth of each type of packet
Default	Null	
Mode	privilege mode	
Usage	View the CPU Guard information	
Example	View the configuration information for CPU Guard: SWITCH# show cpu-protect View the configuration information for CPU bandwidth: SWITCH# show cpu-protect cpu View the bandwidth of each type of packet: SWITCH# show cpu-protect sub-interface manage	

12Daul Configuration

12.1 backup the configuration file

copy {[running-config | startup-config]} **backup-config**

	parameter	description
Parameter	running-config	Backup the current configuration file to backup-config
	startup-config]	Backup the startup-config file to backup-config
Default	Null	

Mode	privilege mode
Usage	backup the configuration file
Example	backup the running-config file: SWITCH# copy running-config backup-config backup the startup-config file: SWITCH# copy startup-config backup-config

12.2 restore Configuration

copy backup-config {[running-config | startup-config]}

Parameter	parameter	description
	running-config startup-config]	restore the current configuration file from backup-config restore the startup-config file from backup-config
Default	Null	
Mode	privilege mode	
Usage	restore the configuration file	
Example	restore the running-config file: SWITCH# copy backup-config running-config restore the startup-config file: SWITCH# copy backup-config startup-config	

13RMON

13.1rmon event

rmon event<1-65535>[log][trap COMMUNITY][description DESCRIPTION][owner NAME]

	parameter	description
Parameter	<1-65535>	Specify event index to create or modify
	log	Specify to show syslog
	trap COMMUNITY	Specify SNMP community to show SNMP trap
	description DESCRIPTION	Specify description of event
	owner NAME	Specify owner of event

Default Null

Mode Global configuration mode

Usage Use the **rmon event** command to add or modify a RMON event entry.
Use the **no** form of this command to delete.
You can verify settings by the **show rmon event** command.

Example

```
The example shows how to add RMON event entry with log and trap action and
modify it action to log only.
SWITCH(config)# rmon event 1 log trap public description test owner admin
SWITCH# show rmon event 1
Rmon Event Index      : 1
Rmon Event Type       : Log and Trap
Rmon Event Community  : public
Rmon Event Description : test
Rmon Event Last Sent  :
Rmon Event Owner      : admin
SWITCH(config)# rmon event 1 log description test owner admin
SWITCH# show rmon event 1
Rmon Event Index      : 1
Rmon Event Type       : Log
Rmon Event Community  :
Rmon Event Description : test
Rmon Event Last Sent  :
Rmon Event Owner      : admin
```


13.2rmon alarm

rmon alarm<1-65535>**interface** {port-id} {[broadcast-pkts|collision|crc-align-errors|drop-events|fragments|jabbers|multicast-pkts|octets|oversize-pkts|pkts|pkts 1024to1518octets|pkts 128to255octets|pkts256to511octets|pkts512to1023octets|pkts64octets|pkts65to127octets|undersize-pkts]}<1-2147483647> {[absolute|delta]} **ring** <0-2147483647><1-65535>**falling**<0-2147483647><1-65535>**startup** {[falling|rising|rising-falling]} [owner Name]

no rmon alarm<1-65535>[owner NAME]

	parameter	description
Parameter	<1-65535>	Specify event index to create or modify.
	port-id	Specify the interface to sample.
	(variable)	Specify a mib object to sample.
	<1-2147483647>	Specify the time in seconds that the alarm monitors the MIB variable.
	(absolute delta)	Specify absolute to compare sample counter absolutely.
	<0-2147483647>	Specify a number which the alarm trigger rising event.
	<1-65535>	Specify event index when the rising threshold exceeds.
	<0-2147483647>	Specify a number which the alarm trigger falling event.
	<1-65535>	Specify event index when the falling threshold exceeds.
	falling rising rising-falling	Specify only to how rising or falling startup event. Or show either rising or falling startup event.
owner Name	Specify owner of alarm.	

Default Null

Mode Global configuration mode

Usage Use the **rmon alarm** command to add or modify a RMON alarm entry. Before add alarm entry,at least one event entry must be added. Use the **no** form of this command to delete. You can verify settings by the **show rmon alarm** command.

Example The example shows how to add RMON alarm entry that sample interface 1 packets delta Count every 300 seconds.Trigger event index 1 if over than rising threshold 10000,trigger Event index 2 if lower than falling threshlod.

```
SWITCH(config)# rmon event 1 log
SWITCH(config)# rmon event 2 log
SWITCH(config)# rmon alarm 1 interface GigabitEthernet 0/1 pkts 300 delta
rising 1000 1 falling 100 1 startup rising-falling owner admin
SWITCH# show rmon alarm 1
Rmon Alarm Index      : 1
Rmon Alarm Sample Interval : 300
Rmon Alarm Sample Interface : gi0/1
Rmon Alarm Sample Variable : Pkts
Rmon Alarm Sample Type   : delta
```

```

Rmon Alarm Type      : Rising or Falling
Rmon Alarm Rising Threshold : 1000
Rmon Alarm Rising Event  : 1
Rmon Alarm Falling Threshold : 100
Rmon Alarm Falling Event  : 1
Rmon Alarm Owner      : admin

Example SWITCH(config)# rmon event 1 log trap public description test owner admin
SWITCH# show rmon event 1
Rmon Event Index      : 1
Rmon Event Type       : Log and Trap
Rmon Event Community  : public
Rmon Event Description : test
Rmon Event Last Sent  :

```

13.3rmon history

rmon history <1-65535>**interface** {port-id} [buckets<1-50>][interval<1-3600>][owner NAME]
no rmon history<1-65535>

	parameter	description
Parameter	<1-65535>	Specify event index to create or modify
	port-id	Specify the interface to sample
	buckets<1-50>	Specify the maximum number of buckets.
	interval<1-3600>	Specify time interval for each sample
	owner NAME	Specify owner of history

Default Null

Mode Global configuration mode

Usage Use the **rmon history** command to add or modify a RMON history entry.
Use the **no** form of this command to delete.
You can verify settings by the **show rmon history** command.

The example shows how to add RMON history entry that monitor interface gig0/1 every 60 seconds and then modify it to monitor every 30 seconds.

```

SWITCH(config)# rmon history 1 interface GigabitEthernet 0/1
interval 60 owner admin
SWITCH# show rmon history 1
Rmon History Index      : 1
Rmon Collection Interface: gi0/1
Rmon History Bucket     : 50
Rmon history Interval   : 60
Rmon History Owner      : admin

SWITCH(config)# rmon history 1 interface GigabitEthernet 0/1
interval 30 owner admin
SWITCH# show rmon history 1

```

```

Rmon History Index      : 1
Rmon Collection Interface: gi0/1
Rmon History Bucket     : 50
Rmon history Interval   : 30
Rmon History Owner      : admin

```

13.4clear rmon interface statistics

clear rmon interface {port-id} statistics

	parameter	description
Parameter	port-id	Specify the interface to clear

Default Null

Mode privilege mode

Use the **clear rmon interface statistics** command to clear RMON etherStat Statistics those are recorded on interface.

Usage You can verify results by the **show rmon interface statistics** command.

The example shows how to clear RMON etherStat Statistics on interface gig0/1.

```

SWITCH# clear rmon interfaces GigabitEthernet 0/1 statistics
SWITCH# show rmon interfaces GigabitEthernet 0/1 statistics
==== Port gi0/1 =====
etherStatsDropEvents      : 0
etherStatsOctets          : 0
etherStatsPkts            : 0
etherStatsBroadcastPkts  : 0
etherStatsMulticastPkts  : 0
etherStatsCRCAlignErrors : 0
etherStatsUnderSizePkts  : 0
etherStatsOverSizePkts   : 0
etherStatsFragments      : 0
etherStatsJabbers        : 0
etherStatsCollisions     : 0
etherStatsPkts64Octets   : 0
etherStatsPkts65to127Octets : 0
etherStatsPkts128to255Octets : 0
etherStatsPkts256to511Octets : 0
etherStatsPkts512to1023Octets : 0
etherStatsPkts1024to1518Octets : 0

```

13.5 show rmon interface statistics

Show rmon interface {port-id} statistics

Parameter	parameter	description
	port-id	Specify port to show

Default Null

Mode privilege mode

Use the **show rmon interface statistics** command to show RMON etherStat Statistics of interface

Usage You can verify results by the **show rmon interface statistics** command.

The example shows how to show RMON etherStat Statistics on interface gig0/1.

SMC# show rmon interfaces GigabitEthernet 0/1 statistics

==== Port gi0/1 =====

Example

```

etherStatsDropEvents      : 0
etherStatsOctets          : 12313
etherStatsPkts            : 120
etherStatsBroadcastPkts  : 32
etherStatsMulticastPkts  : 85
etherStatsCRCAlignErrors : 0
etherStatsUnderSizePkts  : 0
etherStatsOverSizePkts   : 0
etherStatsFragments      : 0
etherStatsJabbers        : 0
etherStatsCollisions     : 0
etherStatsPkts64Octets   : 11
etherStatsPkts65to127Octets : 86
etherStatsPkts128to255Octets : 23
etherStatsPkts256to511Octets : 0
etherStatsPkts512to1023Octets : 0
etherStatsPkts1024to1518Octets : 0

```

13.6 show rmon event

show rmon event [<1-65535>|all]

Parameter	parameter	description
	<1-65535>	Specify event index to show
	all	Show all existed event

Default Null

Mode privilege mode

Usage Use the **show rmon event** command to show existed RMON event entry.

The example shows how to show RMON event entry.
SWITCH(config)# **rmon event 1 log trap public description test owner admin**
SWITCH(config)# **exit** //Returns the privilege mode
SWITCH# **show rmon event 1**
Example Rmon Event Index : 1
Rmon Event Type : Log and Trap
Rmon Event Community : public
Rmon Event Description : test
Rmon Event Last Sent :
Rmon Event Owner : admin

13.7show rmon alarm

show rmon alarm [<1-65535> |all]

Parameter	parameter	description
	<1-65535>	Specify alarm index to show
	all	Show all existed alarm

Default Null

Mode privilege mode

Usage Use the **show rmon alarm** command to show existed RMON alarm entry.

The example shows how to show RMON alarm entry.
SWITCH(config)# **SMC(config)# rmon alarm 1 interface GigabitEthernet 0/1 broadcast-pkts 300 delta rising 10000 1 falling 100 1 startup rising-falling owner admin**
SWITCH(config)# **exit** //Returns the privilege mode
SWITCH# **show rmon alarm 1**
Example Rmon Alarm Index : 1
Rmon Alarm Sample Interval : 300
Rmon Alarm Sample Interface : gi0/1
Rmon Alarm Sample Variable : BroadcastPkts
Rmon Alarm Sample Type : delta

```

Rmon Alarm Type      : Rising or Falling
Rmon Alarm Rising Threshold : 10000
Rmon Alarm Rising Event   : 1
Rmon Alarm Falling Threshold : 100
Rmon Alarm Falling Event   : 1
Rmon Alarm Owner       : admin

```

13.8 show rmon history

show rmon history [**<1-65535>**|all]

Parameter	parameter	description
	<1-65535>	Specify history index to show
	all	Show all existed history

Default Null

Mode privilege mode

Usage Use the **show rmon history** command to show existed RMON history entry.

The example shows how to show RMON history entry.

```

SWITCH(config)# rmon history 1 interface GigabitEthernet 0/1 interval
30 owner admin
SWITCH(config)# exit
SWITCH# show rmon history 1
Rmon History Index      : 1
Rmon Collection Interface: gi0/1
Rmon History Bucket     : 50
Rmon history Interval   : 30
Rmon History Owner      : admin

```

14 ARP Inspection

14.1 arp inspection

```

arp-inspection
no arp-inspection

```

parameter	description
-----------	-------------

Parameter	-	-
Default	arp inspection is disabled	
Mode	Global Configuration	
Usage	Use the arp-inspection command to enable Dynamic Arp Inspection function. Use the no form of this command to disable..	
Example	<p>The example shows how to enable Dynamic Arp Inspection on VLAN 1. You can verify settings by the following show arp-inspection command.</p> <pre> SWITCH(config)# arp-inspection SWITCH# show arp-inspection Dynamic ARP Inspection : enabled Enable on Vlans : 1-4094 </pre>	

14.2 arp inspection rate-limit

arp-inspection rate-limit<1-50>
no arp-inspection rate-limit

Parameter	parameter	description
	<1-50>	Set 1 to 50 PPS of DHCP packet rate limitation
Default	default is un-limited of ARP packet	
Mode	Interface configuration mode	
Usage	Use the arp-inspection rate-limit command to set rate limitation on interface.The switch drop ARP packets after receives more than configured rate of packets per second.use the no form of this command to return to default settings.	
Example	<p>The example shows how to set rate limit to 30 pps on interface gig0/1.You can Verify settings by the following show arp-inspection interface command.</p> <pre> SWITCH(config)# interface GigabitEthernet 0/1 </pre>	

```

SWITCH(config-if-GigabitEthernet0/1)# arp-inspection rate-limit 30
SWITCH(config-if-GigabitEthernet0/1)# end //Returns the privilege mode
SWITCH# show arp-inspection interfaces GigabitEthernet 0/1
Interfaces | Trust State | Rate (pps) | SMAC Check | DMAC Check | IP Check/Allow Zero |
-----+-----+-----+-----+-----+-----+
gi0/1 | Untrusted | 30 | disabled | disabled | disabled/disabled

```

14.3arp inspection trust

arp-inspection trust
no arp-inspection trust

Parameter	parameter	description
	-	-
Default	ARP inspection trust is disabled	
Mode	interface configuration mode	
Usage	Use the arp-inspection trust command to set trusted interface.The switch Does not check ARP packets that are received on the trusted interface;it simply forwards It.Use the no arp-inspection trust form of this command to set untrusted interface.	
Example	<p>The example shows how to set interface gig0/1 to trust.You can Verify settings by the following show arp-inspection interface command.</p> <pre> SWITCH(config)# interface GigabitEthernet 0/1 SWITCH(config-if-GigabitEthernet0/1)# arp-inspection trust SWITCH(config-if-GigabitEthernet0/1)# do show arp-inspection interfaces GigabitEthernet 0/1 Interfaces Trust State Rate (pps) SMAC Check DMAC Check IP Check/Allow Zero -----+-----+-----+-----+-----+-----+ gi0/1 Trusted None disabled disabled disabled/disabled </pre>	

14.4 arp inspection validate

arp-inspection validate{[src-mac|dst-mac|ip[allow-zeros]]}

no arp-inspection validate{[src-mac|dst-mac|ip[allow-zeros]]}

	parameter	description
Parameter	src-mac	The "src-mac" drop ARP requests and reply packets That arp-sender-mac and ethernet-source-mac is not Match.
	dst-mac	The "dst-mac" drops ARP reply packets that arp-target-mac and ethernet-dest-mac is not match.
	ip	The "ip" drop ARP request and reply packets that Sender-ip is invalid such as broadcast、multicast、all zero IP address and drop ARP reply packets that Target-ip is invalid
	allow-zeros	The "allow-zeros" means won't drop all zero IP address.

Default default is disabled of all validation

Mode interface configuration mode

Usage Use the **arp-inspection validate** command to enable validate function on interface.
Use the **no arp-inspection validate** form of this command to disable validation.

Example

```
The example shows how to set interface gi1 to validate "src-mac" 、 "dst-mac" and "ip allow zeros". You can verify settings by the following show ip arp inspection interface command
SWITCH(config)# interface GigabitEthernet 0/1
SWITCH(config-if-GigabitEthernet0/1)# arp-inspection validate src-mac
SWITCH(config-if-GigabitEthernet0/1)# arp-inspection validate dst-mac
SWITCH(config-if-GigabitEthernet0/1)# arp-inspection validate ip allow-zeros
SWITCH(config-if-GigabitEthernet0/1)# do show arp-inspection interfaces
GigabitEthernet 0/1
```

Interfaces	Trust State	Rate (pps)	SMAC Check	DMAC Check	IP Check/Allow Zero
gi0/1	Untrusted	None	enabled	enabled	enabled/enabled

14.5 clear arp inspection statistics

clear arp-inspection interfaces {port-id} statistics

Parameter	parameter	description
	port-id	Specifies ports to clear statistics

Default Null

Mode	privilege mode
Usage	Use the clear arp-inspection interfaces {port-id} statistics command to clear statistics that Are recorded on interface.
Example	<p>The example shows how to clear statistics on interface gig0/1t.You can Verify settings by the following show arp-inspection interface statistics command.</p> <pre>SWITCH# clear arp-inspection interfaces GigabitEthernet 0/1 statistics SWITCH# show arp-inspection interfaces GigabitEthernet 0/1 statistics Port Forward Source MAC Failures Dest MAC Failures SIP Validation Failures DIP Validation Failures IP-MAC Mismatch Failures -----+-----+-----+-----+-----+-----+ gi0/1 0 0 0 0 0 0 0 </pre>

14.6 show arp inspection

show arp-inspection interfaces

Parameter	parameter	description
	-	-
Default	Null	
Mode	privilege mode	
Usage	Use the show arp-inspection command to show settings of ARP Inspection	
Example	<p>The example shows how to show settings of arp inspection</p> <pre>SWITCH# show arp-inspection Dynamic ARP Inspection : enabled Enable on Vlans : 1-4094</pre>	

14.7 show arp inspection interface

show arp-inspection interfaces {port-id} show arp-inspection interfaces {port-id}statistics

Parameter	parameter	description
	Port-id	Specifies ports to show statistics

Default	Null
Mode	privilege mode
Usage	Use the show arp-inspection interfaces command to show settings or statistics of interface.

```

Example
The example shows how to show settings of interface gig0/1
SWITCH# show arp-inspection interfaces GigabitEthernet 0/1
Interfaces | Trust State | Rate (pps) | SMAC Check | DMAC Check | IP Check/Allow Zero |
-----+-----+-----+-----+-----+-----+
gi0/1 | Untrusted | None | disabled | disabled | disabled/disabled
SWITCH# show arp-inspection interfaces GigabitEthernet 0/1 statistics
Port| Forward |Source MAC Failures|Dest MAC Failures|SIP Validation Failures|
DIP Validation Failures|IP-MAC Mismatch Failures
-----+-----+-----+-----+-----+
gi0/1| 0 | 0 | 0 | 0 | 0 |
      | 0 | 0 | 0 | 0 | 0 |

```

15 Flow Control Command

15.1 Flow Control Configuration Command

15.1.1 flowcontrol

Turn on port flow control
flowcontrol {[on|off]}

	parameter	description
parameter	on	Turn on flow control
	off	Turn off flow control

Default	Turn off flow control.
Mode	Interface configuration mode

Usage Use this command to enable or disable port flow control.

Example SWITCH(config-if-GigabitEthernet0/1)# **flowcontrol on**

	command	description
Command	show interfaces {port-id}	View interface status information

16 VLAN COMMANDS

16.1 Configure commands

16.1.1 VLAN description

Configure the name of the VLAN. Use this command's no option to revert the setting to a default value.

description vlan-name
no description

	parameter	description
Parameter	vlan-name	The name of the vlan

Default VLAN default name is : VLAN + VLAN ID, eg: VLAN 2 default name "VLAN0002"

Mode VLAN Configuration mode

Usage Use **show vlan** to view the configure of vlan

Example SWITCH(config)# vlan 3

SWITCH(config) g-vlan)# description nihao

	command	description
Command	show vlan	Display VLAN member ports and other information

16.1.2 vlan

Use command `vlan vlan-id` to enter configuration mode. Use the `no` option of the command to remove the existing VLAN.

vlan *vlan-id*
no vlan *vlan-id*

	parameter	description
Parameter	<i>vlan-id</i>	VLAN ID number(1-4094). Notice: The default VLAN (VLAN 1) cannot be delete.
Default	vlan 1	
Mode	Global configuration mode	
Usage	If the input VLAN <i>vlan-id</i> does not exist, the system requirement creates VLAN and enters the <code>vlan</code> . Existence goes into VLAN.	
Example	SWITCH(config)# vlan 5 SWITCH(config)# no vlan 5	
	command	description
Command	show vlan	Display VLAN member ports and other information.

16.1.3 switch mode

Using this command specifies a two - layer interface (switch port)mode, which can be specified as `access /trunk/hybrid` port. Use the `switch mode access` option to revert the schema of the interface

to default values

switch mode [access | trunk | hybrid]

Parameter	parameter	description
	access	Configure a switch port mode is access
	trunk	Configure a switch port mode is trunk
	hybrid	Configure a switch port mode is hybrid

Default The switch port default mode is access

Mode Interface configuration mode

Usage If a switch port mode is access, This port can only be a member of a VLAN. Use command: **switch access vlan** specifies which VLAN is the member of the interface. If a switch port mode trunk or hybrid and this port can be a member of multiple VLANs. This port Which VLAN the interface can belong to is determined by the licensing VLAN list of the interface, Trunk port or hybrid port are all VLAN members in the list of license VLAN. Use **switch {trunk | hybrid }** Command to define the licensing VLAN list of interfaces.

Example configure the port1 mode is trunk:
SWITCH(config)# interface GigabitEthernet 0/1
SWITCH(config-if-GigabitEthernet0/1)# switch mode trunk

Command	command	description
	show vlan	

16.1.4 Management VLAN

Use command `management-vlan vlan vlan-id` to enter configuration mode. Use the `no` option of the command to remove the create management-vlan.

Management-vlan vlan *vlan-id*
no management-vlan

Parameter	parameter	description
	<i>vlan-id</i>	VLAN ID number(1-4094).
Default	management-vlan vlan 1	
Mode	Global configuration mode	
Usage	If the input VLAN vlan-id does not exist, the system requirement creates VLAN and enters the vlan. Existence goes into VLAN.	
Example	SWITCH-SWITCH(config)# management-vlan vlan 4 SWITCH(config)# no management-vlan	

	command	description
Command	show vlan	Display configuration of vlan information

16.2 Configure different types of VLAN.

16.2.1 Access VLAN

In port mode, configure the access attribute of the port.

switch access vlan *vlan-id*

	parameter	description
Parameter	<i>vlan-id</i>	Port to join VLAN's ID.

Default port default mode is access, default VLAN is VLAN 1

Command Interface configuration mode

Usage Enter a VLAN ID.If the input is an VLAN ID that is not created,the device will Indicate that the VLAN does not exist. If the input is already existing VLAN ID, the VLAN member port is increased.

Example configure port 1 belong to vlan 2:
 SWITCH(config)# interface GigabitEthernet 0/1
 SWITCH(config-if-GigabitEthernet0/1)# switch access vlan 2

	command	description
Command	show vlan	Display configuration of vlan information

16.2.2 Trunk allowed VLAN

Specify a native VLAN for a trunk port and a list of permissions to configure this Trunk port VLAN. Use the no option of this command to restore the trunk property of the interface to the

default value.

switch trunk allowed vlan *vlan-id*
no switch trunk allowed vlan

	parameter	description
Parameter	allowed vlan <i>vlan-list</i>	Configure the permission VLAN list for this Trunk port. The parameter <i>vlan-list</i> can be either a VLAN or a series of VLAN, beginning with a small VLAN ID and ending with a large VLAN ID, with the (-) symbolic connection in the middle. Such as: 10-20. Segments can be separated by symbols, such as: 1-10,20-25,30,33.The meaning of all is that the permission VLAN list contains all supported VLAN; the add indicates that the specified VLAN list is added to the license VLAN list; the remove indicates that the specified VLAN list is removed from the license VLAN list;

Default Port default mode is access,default VLAN is VLAN 1.

Mode Interface configuration mode

Usage Enter a VLAN ID.If the input is an VLAN ID that is not created,the device will Indicate that the VLAN does not exist. If the input is already existing VLAN ID, the VLAN member port is increased.

Example configure port 1 belong to vlan 3:
SWITCH(config)# interface GigabitEthernet 0/1
SWITCH(config-if-GigabitEthernet0/1)# switch trunk allowed vlan 3

	command	description
Command	show vlan	Display configuration of vlan information

16.2.3 Trunk native VLAN

Specify a native VLAN for a trunk port and a list of permissions to configure this Trunk port VLAN.

Use the no option of this command to restore the trunk property of the interface to the default value.

switch trunk native vlan *vlan-id*
no switch trunk native vlan

Parameter	parameter	description
	native vlan	Trunk port message received, if the message with VLAN mark, then put this message to the corresponding VLAN tag, if the message with no VLAN mark, then the message is forwarded to the port of native VLAN.

Default default VLAN is VLAN 1

Mode Interface configuration mode

Usage To configure the Trunk native VLAN of a port, this port must be the trunk property.

Example configure gig0/1 belong to native vlan3
SWITCH(config)# interface gig 0/1
SWITCH(config-if-GigabitEthernet0/1)# switch trunk native vlan 3

Command	command	description
	show vlan	Display configuration of vlan information

16.2.4 Hybrid VLAN

The permission VLAN list of Hybrid ports configured for a port. Use the no option of this command to restore the Hybrid property of the interface to the default value.

switch hybrid vlan *vlan-id* [tagged | untagged]
no switch hybrid vlan *vlan-id* [tagged | untagged]

Parameter	parameter	description
	no	Restore the hybrid default output rule
Default	untagged	
Mode	Interface configuration mode	
Usage	NULL	
Example	SWITCH(config)# interface GigabitEthernet 0/1 SWITCH(config-if-GigabitEthernet0/1)# switch hybrid vlan 3 untagged	
Command	command	description
	show vlan	Display configuration of vlan information

16.2.5 Hybrid native VLAN

Specify a native VLAN for a hybrid port. Use the no option of this command to restore the Hybrid property of the interface to the default value.

switch hybrid native vlan *vlan-id*
no switch hybrid native vlan

Parameter	parameter	description
	no	Restore Hybrid default VLAN
Default	default native vlan is vlan 1	
Mode	Interface configuration mode	
Usage	To configure the Hybrid native VLAN of a port, this port must be the Hybrid property.	
Example	SWITCH(config)# interface GigabitEthernet 0/1 SWITCH(config-if-GigabitEthernet0/1)# switch hybrid native vlan 3	
Command	command	description
	show vlan	Display configuration of vlan information

16.3 Display relevant commands

16.3.1 show vlan

Display VLAN member ports and other information.

show vlan [*id vlan-id*]

Parameter	<table border="1"><thead><tr><th>parameter</th><th>description</th></tr></thead><tbody><tr><td><i>vlan-id</i></td><td>The number of VLAN ID</td></tr></tbody></table>	parameter	description	<i>vlan-id</i>	The number of VLAN ID
parameter	description				
<i>vlan-id</i>	The number of VLAN ID				
Default	Show all information by default				
Mode	Privileged mode				
Usage	To return to privileged mode, enter the end command, or type the Ctrl+Z combination key. To return to global configuration mode, enter the exit command				
Example	<pre>SWITCH# show vlan 3 VID VLAN Name Untagged Ports Tagged Ports Type -----+-----+-----+----- +-----+ 3 VLAN0003 gi0/1 --- Static</pre>				
Command	<table border="1"><thead><tr><th>command</th><th>description</th></tr></thead><tbody><tr><td>show vlan <i>vlan-id</i></td><td>Display configuration of vlan information</td></tr></tbody></table>	command	description	show vlan <i>vlan-id</i>	Display configuration of vlan information
command	description				
show vlan <i>vlan-id</i>	Display configuration of vlan information				

17 Voice VLAN

17.1 Configure commands

17.1.1 voice VLAN

First create a VLAN, and voice VLAN to specify a VLAN has been created to enable the voice VLAN ID. Use the “no” command to close voice VLAN .Voice VLAN is disable by default.

voice-vlan vlan id
voice-vlan
no voice-vlan

Parameter	parameter	description
	voice-vlan vlan id	The number of voice-vlan id Notice:The voice vlan ID can not be same as surveillance vlan ID

Default	NULL
---------	------

Mode	Global configuration mode
------	---------------------------

Usage	Use show voice-vlan to view the configure of voice-vlan
-------	--

Example	SWITCH(config)# voice-vlan vlan 2 SWITCH(config)# voice-vlan
---------	---

Command	command	description
	show voice-vlan	View global configuration information for voice VLAN

17.1.2 voice-vlan mode

Using this command specifies a two - layer interface (switch port)mode, which can be specified as autotag/autountag/manual for switch port . Use the voice-vlan mode autoTag option to revert the schema of the interface to default values.Notice:Ports can not configure voice-vlan on the access port!

Voiece-vlan mode [autoTag | autounTag | manual]

	description
Parameter	autoTag
	The voice VLAN mode for configuring ports is autoTag
	autounTag
	The voice VLAN mode for configuring ports is autounTag
	manual
	The voice VLAN mode for configuring ports is manual

Default The voice-vlan default mode is autoTag

Mode Interface configuration mode

Usage If the port set voice VLAN mode is autoTag, the port is automatically joined with voice VLAN, with tag. If the mode is autounTag, the port is automatically added to the voice VLAN without tag. Note: when adding the voice VLAN mode to manually join the port, you need to forward the port to the voice VLAN in advance

Example Configure port 1 to join voice VLAN as autotag
 SWITCH(config)# interface GigabitEthernet 0/1
 SWITCH(config-if-GigabitEthernet0/1)# voice-vlan mode autoTag

	command	description
Command	show voice-vlan	Display configuration of voice-vlan information

17.1.3 voice VLAN OUI

In global configuration mode, set OUI-table and note that the MAC address cannot be multicast and broadcast addresses. Mask cannot enter zero before F.

SWITCH(config)# voice-vlan oui-table A:B:C:D:E:F mask A:B:C:D:E:F

	parameter	description
Parameter	voice-vlan oui-table	Match the filter's source MAC address for the incoming message

Default The voice-vlan oui-table defaults to 8 rules.

Mode Global configuration mode

Usage	In global settings, oui-table adds the port to the voice VLAN when the port's source MAC address matches the address in the oui list	
Example	Configure voice VLAN OUI SWITCH(config)# voice-vlan oui-table 02:00:12:32:56:89 mask FF:FF:FF:FF:FF:00	
Command	command	description
	show voice-vlan interfaces GigabitEthernet 0/1	Display configuration of voice-vlan oui-table information

17.1.4 voice VLAN aging-time and cos

In global configuration mode, set voice VLAN aging-time (1-65535) and cos (0-7).

SWITCH(config)# voice-vlan aging-time X(1-65535)
SWITCH(config)# voice-vlan cos X(0-7) remark

Parameter	parameter	description
	Aging-time	Specifies the aging time of the port in voice VLAN
	cos	Specify the voice VLAN Class Of Service
Default	The default aging-time is 720 minutes The default cos value is 5	
Mode	Global configuration mode	
Usage	The aging time and the cos value refer to the survival time and the priority of the voice message after the port is added to the voice VLAN	
Example	Configure voice VLAN aging-time is 30 minutes and cos value is 7 SWITCH(config)# voice-vlan aging-time 30 SWITCH(config)# voice-vlan cos 7 remark	
Command	command	description
	show voice-vlan	Display configuration of voice-vlan aging-time and cos information

17.2 Display relevant commands

17.2.1 show voice VLAN

Display VLAN member ports and other information.

Show vlan id
Show voice-vlan device

Parameter	parameter	description
	<i>Vlan-id</i>	The number of voice VLAN ID
	<i>Voice-vlan device</i>	The ports in voice VLAN
Default	Show voice-vlan global information by default Show the ports in voice vlan by default	
Mode	Privileged mode	
Usage	To return to privileged mode, enter the end command, or type the Ctrl+Z combination key. To return to global configuration mode, enter the exit command	
Example	<pre>SWITCH# show voice-vlan device Interface MAC Address start-time -----+-----+----- gi0/1 00E0.BB00.0000 2000-01-01 00:24:03 SWITCH# show vlan 2 VID VLAN Name Untagged Ports -----+-----+-----+----- Tagged Ports Type -----+-----+----- 2 VLAN0002 gi0/1 Static</pre>	
Command	command	description
	show vlan <i>vlan-id</i>	Display configuration of voice-vlan information
	Show voice-vlan device	Display the information of ports join voice-vlan

18 Surveillance VLAN

18.1 Configure commands

18.1.1 surveillance VLAN

First create a VLAN, and surveillance VLAN to specify a VLAN has been created to enable the surveillance VLAN ID. Use the “no” command to close surveillance VLAN .surveillance VLAN is disable by default.

surveillance-vlan vlan id

surveillance-vlan
no surveillance-vlan

Parameter	parameter	description
	surveillance-vlan vlan id	The number of surveillance-vlan id .Notice:The surveillance vlan ID can not be same as voice vlan ID

Default
NULL

Mode
Global configuration mode

Usage
Use **show surveillance-vlan** to view the configure of surveillance-vlan

Example
SWITCH(config)# surveillance-vlan vlan 3
SWITCH(config)# surveillance-vlan

	command	description
Command	show surveillance-vlan	View global configuration information for surveillance VLAN

18.1.2 surveillance-vlan mode

Using this command specifies a two - layer interface (switch port)mode, which can be specified as auto/manual for switch port . Use the surveillance-vlan mode auto option to revert the schema of the interface to default values.Ports can not configure surveillance-vlan on the access port!

surveillance-vlan mode [auto| manual]

Parameter	parameter	description
	auto	The surveillance VLAN mode for configuring ports is autoTag
	manual	The surveillance VLAN mode for configuring ports is manual

Default
The surveillance-vlan default mode is auto.

Mode	Interface configuration mode
Usage	If the port set surveillance VLAN mode is auto, the port is automatically joined with surveillance VLAN. Note: when adding the surveillance VLAN mode to manually join the port, you need to forward the port to the surveillance VLAN in advance.
Example	Configure port 1 to join surveillance VLAN as auto <pre>SWITCH(config)# interface GigabitEthernet 0/1 SWITCH(config-if-GigabitEthernet0/1)# surveillance-vlan mode auto</pre>

Command	command	description
	show surveillance-vlan interfaces GigabitEthernet 0/1	View configuration information for voice VLAN

18.1.3 surveillance VLAN OUI

In global configuration mode, set OUI-table and note that the MAC address cannot be multicast and broadcast addresses. Mask cannot enter zero before F.

**SWITCH(config)# surveillance-vlan oui-table A:B:C:D:E:F
mask A:B:C:D:E:F**

Parameter	parameter	description
	surveillance-vlan oui-table	Match the filter's source MAC address for the incoming message

Default	NULL
Mode	Global configuration mode
Usage	In global settings, oui-table adds the port to the surveillance VLAN when the port's source MAC address matches the address in the oui list
Example	Configure voice VLAN OUI <pre>SWITCH(config)# surveillance-vlan oui-table 04:10:12:32:56:89 mask</pre>

FF:FF:FF:FF:FF:00 componentType video_encoder

	command	description
Command	Show surveillance-vlan	Display configuration of surveillance-vlan oui-table information

18.1.4 surveillance VLAN aging-time and cos

In global configuration mode, set surveillance VLAN aging-time (1-65535) and cos (0-7).

SWITCH(config)# surveillance-vlan aging-time X(1-65535)
SWITCH(config)# surveillance-vlan cos X(0-7) remark

	parameter	description
Parameter	Aging-time	Specifies the aging time of the port in surveillance VLAN
	cos	Specify the surveillance VLAN Class Of Service

Default
The default aging-time is 720 minutes
The default cos value is 5

Mode
Global configuration mode

Usage
The aging time and the cos value refer to the survival time and the priority of the surveillance message after the port is added to the voice VLAN

Example
Configure surveillance VLAN aging-time is 20 minutes and cos value is 7
SWITCH(config)# surveillance-vlan aging-time 20
SWITCH(config)# surveillance-vlan cos 7 remark

	command	description
Command	show surveillance-vlan	Display configuration of surveillance-vlan aging-time and cos information

18.2 Display relevant commands

18.2.1 show surveillance VLAN

Display VLAN member ports and other information.

Show vlan id
Show surveillance-vlan device

Parameter	parameter	description
	<i>Vlan-id</i>	The number of surveillance VLAN ID
	<i>surveillance-vlan device</i>	The ports in surveillance VLAN

Default	Show surveillance-vlan global information by default Show the ports in surveillance vlan by default
Mode	Privileged mode
Usage	To return to privileged mode, enter the end command, or type the Ctrl+Z combination key. To return to global configuration mode, enter the exit command

```

Example
SWITCH# show surveillance-vlan device
Interface |          Component Type           |          Description
          |          MAC Address           |          start-time
-----+-----+-----+-----+-----+-----+-----
          |-----+-----+-----+-----+-----+-----+-----
gi0/1    | Other IP Surveillance Device |
          | 0410.1232.5689 | 2000-01-01 17:31:03
SWITCH# show vlan 3
VID |      VLAN Name      |      Untagged Ports      |
    |      Tagged Ports   |      Type                 |
-----+-----+-----+-----+-----+-----+-----
    |      VLAN0003      |      gi0/1 | Static      |
  
```

Command	command	description
	show vlan <i>vlan-id</i>	Display configuration of surveillance-vlan information
	Show surveillance-vlan device	Display the information of ports join surveillance-vlan

19 DHCP-snooping

19.1 Configure commands

19.1.1 DHCP-Snooping

Enable DHCP-Snooping, If a port is a non trusted port, then the port discards the service message (DHCP_OFFER、DHCP_ACK、DHCP_NCK) , If a port is a trusted port, then the port can forward the service message normally.

dhcp-snooping
no dhcp-snooping

	parameter	description
Parameter	dhcp-snooping	Enable dhcp-snooping
	no dhcp-snooping	Disable dhcp-snooping

Default disable

Mode Global configuration mode

Usage In the global configuration mode, after opening the DHCP-snooping function, you can effectively prevent illegal servers from being established.

Example SWITCH(config)# dhcp-snooping

	command	description
Command	show dhcp-snooping	Displays the current configuration

19.1.2 DHCP-Snooping trust

Open the DHCP-Snooping trust function, if a port is a non trusted port, then the port service message received will be discarded if a port to port the port trust can normal forwarding service

Message.

dhcp-snooping trust **no dhcp-snooping trust**

Parameter	parameter	description
	dhcp-snooping trust	Configure the port is dhcp-snooping trust
	no dhcp-snooping trust	Configure the port is dhcp-snooping untrust
Default	untrust	
Mode	Interface configuration mode	
Usage	In port mode, when the port is opened, the port can forward the service message. If this port is a non trusted port, then the port cannot forward the service message.	
Example	SWITCH(config-if-GigabitEthernet0/2)# dhcp-snooping trust	
Command	command	description
	show dhcp-snooping	Displays the current configuration

19.1.3 dhcp snooping for vlan

Enable DHCP snooping information 82 for VLAN

Parameter	Parameter	description
	dhcp snooping vlan	Enable the dhcp snooping vlan
Default		
Mode	global configuration mode	
Usage	there be DHCP snooping information 82 for VLANs enabled	

Example

```
SWITCH-10T(config)# dhcp-snooping vlan 1-4094
```

Command

command	description
show dhcp-snooping	Display dhcp snooping information
command	description

19.1.3 enable dhcp snooping option 82

Enable DHCP snooping information 82

Parameter

Parameter	description
dhcp-snooping option	Enable the dhcp snooping option

Default

disable

Mode

interface configuration mode

Usage

there be DHCP snooping information 82 enabled

Example

```
SWITCH-10T(config-if-GigabitEthernet0/1)# dhcp-snooping option
```

Command	<code>show dhcp-snooping</code>	Display dhcp snooping information
---------	---------------------------------	-----------------------------------

19.1.4 option 82 of remote-ID

configure DHCP snooping information 82 of remote-ID

Parameter	Parameter	description
	STRING	ID string (1~63)

Default	DUT's mac address
---------	-------------------

Mode	global configuration mode
------	---------------------------

Usage	a“remote ID” containing the switch's information as a trusted identifier for the remote high-speed modem.
-------	---

Example	<code>SWITCH-10T(config)# dhcp-snooping option remote-id 192.168.100.145</code>
---------	---

Command	command	description
	<code>show dhcp-snooping</code>	Display dhcp snooping information

19.1.5 option 82 of CID

configure DHCP snooping information 82 of circuit-ID

Parameter	Parameter	description
	STRING	ID string (1~63)

Default

Mode interface configuration mode

Usage It indicates that the received DHCP request message is from the link identifier

Example

```
SWITCH-10T(config-if-GigabitEthernet0/1)# dhcp-snooping  
option circuit-id 192.168.100.145
```

Command

command	description
show dhcp-snooping interfaces GigabitEthernet 0/1	Display dhcp snooping of cid information

19.1.6 DHCP snooping policy

configure global DHCP snooping policy

dhcp-snooping option action (drop|keep|replace)

	Parameter	description
Parameter	drop	Drop packets with option82
	keep	Keep original option82
	replace	Replace option82 content by switch setting

Default The global DHCP relay policy shall be drop

Mode global configuration mode

Usage DHCP snooping information 82 policy

Example
SWITCH-10T(config-if-GigabitEthernet0/1)# dhcp-snooping option
action drop

	command	description
Command	show dhcp-snooping interfaces GigabitEthernet 0/5	Display dhcp snooping information

19.2 Display relevant commands

19.2.1 show DHCP-Snooping

Displays the current DHCP-Snooping open, shutdown, and configuration information.

show DHCP-Snooping

Show DHCP-Snooping interface gigabitEthernet 0/x

Parameter	command	description
	show dhcp-snooping	Displays the current DHCP-Snooping configuration information
	show dhcp-snooping interface gigabitEthernet 0/x	Displays the current DHCP-Snooping configuration on port or Aggregateport(1-8)

Default NULL

Mode Privileged mode

Usage view the current DHCP-snooping information

Example

```
SWITCH# show dhcp-snooping

DHCP Snooping      : enabled
Enable on following Vlans : 1-4094
circuit-id default format : vlan-port
remote-id          : 00:e0:4c:00:00:00 (Switch Mac in Byte Order)

SWITCH# show dhcp-snooping interfaces GigabitEthernet 0/1
Interfaces | Trust State | Rate (pps) | hwaddr Check | Insert Option82 |
-----+-----+-----+-----+
gi0/1    | Untrusted | None      | disabled  | disabled        |
```

Command	parameter	description
	show dhcp-snooping	Displays the current DHCP-Snooping configuration information
	show dhcp-snooping interface gigabitEthernet 0/x	Displays the current DHCP-Snooping configuration on port or Aggregateport(1-8)

20 Loopback-detection

20.1 Configure commands

20.1.1 Loopback-detection

Configure loop detection, activate this function, and when loop appears on the network, the loop port is directly link-down or issued a warning.

Loopback-detection [enable|ctp-interval|resume-interval|snmp-trap]

Parameter	parameter	description
	enable	enable loop detection function defaults is disable
	ctp-interval	ctp sending interval(1-32767)
	resume-interval	Port automatic recovery time interval(0,60-1000000) default '60'.set '0' means no auto-resume
snmp-trap	Decide whether to send an alarm message,You need to start the SNMP function and SNMP trap first	
Default	NULL	
Mode	Global configuration mode	
Usage	In the global mode, configuration loopback-detection	
Example	Configure the loopback-detection enable,ctp-interval,resume-interval ,resume-interval ,snmp-trap SWITCH(config)# loopback-detection enable SWITCH(config)# loopback-detection ctp-interval 1 SWITCH(config)# loopback-detection resume-interval 60 SWITCH(config)# loopback-detection snmp-trap	
Command	command	description
	show loopback-detection	View the current loop detection status and configuration information.

20.2 Display relevant commands

20.2.1 show loopback-detection

Use the following command to see loop detection information

show loopback-detection

Parameter	parameter	description
	show loopback-detection	View the current port loop detection status and configuration information.

Default	NULL
Mode	Privileged mode
Usage	In privileged mode, view configuration status information. Do not select parameters, display all.

Check loop-detection port configuration and status
SWITCH# show loopback-detection

Example

```
Loopback detection configuration
Loopback detection    : enabled
CTP tx interval      : 10
Port resume interval : 60
Loopback detection trap: enabled

  Interfaces | State | Result |
  +-----+-----+-----+
gi0/1 | enabled | NORMAL |
gi0/2 | enabled | NORMAL |
gi0/3 | enabled | NORMAL |
gi0/4 | enabled | NORMAL |
gi0/5 | enabled | NORMAL |
gi0/6 | enabled | LOOP-SHUTDOWN |
gi0/7 | enabled | NORMAL |
gi0/8 | enabled | NORMAL |
gi0/9 | enabled | NORMAL |
gi0/10 | enabled | NORMAL |
agg1 | enabled | LOOP-SHUTDOWN
```

Command	command	description
	show loopback-detection	View the current port loop detection status and configuration information.

21 Spanning-tree

21.1 Configure Commands

21.1.1 spanning-tree enable

Enable spanning-tree function, that is to avoid the loop, enable spanning tree function switch will block loop port according to the port role.

spanning-tree enable

No spanning-tree enable

	parameter	description
Parameter	enable	Enable spanning-tree,the default is disable
	no	Disable spanning-tree

Default disable

Mode Global configuration mode

Usage In the global mode, configuration spanning-tree

Example Configuring the spanning tree to turn on and off.
SWITCH(config)# spanning-tree enable
SWITCH(config)# no spanning-tree enable

	command	description
Command	show spanning-tree	View the current spanning tree status and configuration information.

21.1.2 spanning-tree mode

Configure spanning-tree mode, there are three versions:stp、rstp、mstp

spanning-tree mode [rstp|stp|mstp]

	parameter	description
Parameter	stp	Running the stp protocol
	rstp	Running the rstp protocol
	mstp	Running the mstp protocol

Default	rstp
Mode	Global configuration mode
Usage	Set the spanning tree protocol version of the switch running in global mode
Example	Set the protocol version of the switch running to RSTP SWITCH(config)# spanning-tree mode rstp

	command	description
Command	show spanning-tree	View the current spanning tree status and configuration information.

21.1.3 spanning-tree forward-time

Configure spanning-tree forward-time, default 15s.

spanning-tree forward-time [4-30s]

	parameter	description
Parameter	forward-time	Forwarding delay, the time interval in which a port switches from one state to another

Default	15
Mode	Global configuration mode

Usage	Configuring forwarding delay in global mode	
Example	Configuring spanning-tree forwarding delay SWITCH(config)# spanning-tree forward-time 17	
Command	command	description
	show spanning-tree	View the current spanning tree status and configuration information.

21.1.4 spanning-tree hello-time

Configure the spanning tree to send BPDU messages to neighboring devices at intervals, that is, the transmission frequency of BPDU.

spanning-tree hello-time [1-10s]

Parameter	parameter	description
	hello-time	This command is used to set the time interval for the switch to send BPDU to neighboring devices
Default	2	
Mode	Global configuration mode	
Usage	Set the transmit frequency of the BPDU in the switch in global mode.	
Example	Configuring the spanning tree BPDU transmission interval SWITCH(config)# spanning-tree hello-time 5	
Command	command	description
	show spanning-tree	View the current spanning tree status and configuration information.

21.1.5 spanning-tree max-age

Configure port BPDU aging time. Exchange the opportunity to maintain a timer aging, every time after receipt of BPDU from the new timing, when participating in compute a spanning tree port (root port and port blocking) in a max-age BPDU message is not received after a timeout, the switch will recalculate the topology.

spanning-tree max-age [6-40s]

	parameter	description
Parameter	max-age	This command is used to set the switch BPDU timeout time, default 20s
Default	20	
Mode	Global configuration mode	
Usage	Set the BPDU timeout time of the switch in global mode	
Example	Set the BPDU timeout of the switch to 30 seconds SWITCH(config)# spanning-tree max-age 30	
	command	description
Command	show spanning-tree	View the current spanning tree status and configuration information

21.1.6 spanning-tree max-hops

The maximum BPDU hops of the switch-port, BPDU, is reduced by 1 per passing device. If the switch receives a hops value of 0, the BPDU message will be discarded, and the switch will control the spanning tree size by that value.

spanning-tree max-hops [1-40]

	parameter	description
Parameter	max-hops	This command is used to set the maximum hop count of the switch BPDU, thus controlling the size of the spanning tree by default 20 times

Default	20				
Mode	Global configuration mode				
Usage	Sets the maximum hops count of the switch BPDU in global mode.				
Example	Set the BPDU maximum hops count to 30 times SWITCH(config)# spanning-tree max-hops 30				
Command	<table border="1"> <thead> <tr> <th>command</th> <th>description</th> </tr> </thead> <tbody> <tr> <td>show spanning-tree</td> <td>View the current spanning tree status and configuration information</td> </tr> </tbody> </table>	command	description	show spanning-tree	View the current spanning tree status and configuration information
command	description				
show spanning-tree	View the current spanning tree status and configuration information				

21.1.7 spanning-tree pathcost method

By default, the port automatically calculates path consumption based on port rate and specifies the criteria used when calculating path consumption. There are two calculation criteria: **dot1D-1998** and **dot1T-2001**.

spanning-tree pathcost method [dot1D-1998|dot1T-2001]

	parameter	description
Parameter	dot1D-1998	Using the dot1D-1998 port path consumption calculation criteria
	dot1T-2001	Using the dot1T-2001 port path consumption calculation criteria

Default	dot1T-2001				
Mode	Global configuration mode				
Usage	In global mode, set the calculation method of switch port path consumption value				
Example	Configure the port consumption value is calculated as dot1D-1998 SWITCH(config)# spanning-tree pathcost method dot1D-1998				
Command	<table border="1"> <thead> <tr> <th>command</th> <th>description</th> </tr> </thead> <tbody> <tr> <td>show spanning-tree</td> <td>View the current spanning tree status and configuration information</td> </tr> </tbody> </table>	command	description	show spanning-tree	View the current spanning tree status and configuration information
command	description				
show spanning-tree	View the current spanning tree status and configuration information				

21.1.8 spanning-tree priority

The bridge priority setting spanning-tree , select one of the highest priority switches as the root bridge

spanning-tree priority [0-61440]

	parameter	description
Parameter	priority [0-61440]	Configure the bridge priority of the switch, range 0-61440, and must be a multiple of 4096. default 32768
Default	32768	
Mode	Global configuration mode	
Usage	Set switch bridge priority in global mode	
Example	Set the switch bridge priority to 4096 SWITCH(config)# spanning-tree priority 4096	
Command	command	description
	show spanning-tree	View the current spanning tree status and configuration information

21.1.9 spanning-tree mst configure

Configure the mstp parameters

spanning-tree mst configuration[cr|instance|name|revision|no]}
spanning-tree mst instance (0-15) priority (0-61440)

command	description
---------	-------------

Parameter	spanning-tree mst configure	Enter the MSTP configuration mode Note that "cr" means no arguments
	Instance (1-15) vian (1-4094)	Configure the mapping relationship between the MSTP instance and the VLAN
	name	Configuration Bridge name (Max.32 character)
	revision	Mstp revision level (0-65535)
	No instance x	Delete the exit instance
	No name	Delete the instance name
	No revision	Delete the revision
	Spanning-tree mst instance (1-15) priority(0-61440)	Configure the mstp instance priority,it must multiples of 4096

Default

NULL

Mode

Global configuration mode

Usage

Set mstp information,if create a same as other devices region,you should be ensure that the MSTP version, name, instance mapping relationship of the 2 devices are the same.

Example

Set the switch mst instance is 5,name is nihao,revision is 33 and configure the instance 5 priority is 4096
 SWITCH(config)# spanning-tree mst configuration
 SWITCH(config-mst)# instance 5 vian 5
 SWITCH(config-mst)# name nihao
 SWITCH(config-mst)# revision 33
 SWITCH(config)# spanning-tree mst instance 5 priority 4096

Command

command	description
show spanning-tree mst configuration	View the current spanning-tree mstp status and configuration information

21.1.10 spanning-tree enable

[no] Enable spanning-tree on switch-port

spanning-tree [enable]
no spanning-tree enable

Parameter

parameter	description
enable	Enabled port spanning tree function, the default all ports open the spanning tree function

Default	NULL				
Mode	Port configuration mode				
Usage	Enter the port configuration mode and open / close the spanning tree function of the port				
Example	Open and close the spanning tree function of GigabitEthernet0/1 SWITCH(config-if-GigabitEthernet0/1)# spanning-tree enable SWITCH(config-if-GigabitEthernet0/1)# no spanning-tree enable				
Command	<table border="1"> <thead> <tr> <th>command</th> <th>description</th> </tr> </thead> <tbody> <tr> <td>show spanning-tree interface gigabitEthernet 0/1</td> <td>Display the spanning tree status and configuration information of GigabitEthernet0/1.</td> </tr> </tbody> </table>	command	description	show spanning-tree interface gigabitEthernet 0/1	Display the spanning tree status and configuration information of GigabitEthernet0/1.
command	description				
show spanning-tree interface gigabitEthernet 0/1	Display the spanning tree status and configuration information of GigabitEthernet0/1.				

21.1.11 spanning-tree bpdud

Configuring ports to handle BPDU

spanning-tree bpdud [filter|guard]

Description	parameter	description
	filter	configuration port neither receives nor sends BPDU messages
	guard	Do not receive BPDU messages

Default	NULL
Mode	Port configuration mode
Usage	Enter the port configuration mode and set the port's BPDU processing mode
Example	The BPDU setting GigabitEthernet0/1 is handled as guard SWITCH(config-if-GigabitEthernet0/1)# spanning-tree bpdud guard

Command	<table border="1"> <thead> <tr> <th>command</th> <th>描述</th> </tr> </thead> <tbody> <tr> <td>show spanning-tree interface gigabitEthernet 0/1</td> <td>Display the spanning tree status and configuration information of GiabitEthernet 0/1.</td> </tr> </tbody> </table>	command	描述	show spanning-tree interface gigabitEthernet 0/1	Display the spanning tree status and configuration information of GiabitEthernet 0/1.
command	描述				
show spanning-tree interface gigabitEthernet 0/1	Display the spanning tree status and configuration information of GiabitEthernet 0/1.				

21.1.12 spanning-tree cost

Configure the port external path cost, and the switch sends BPDU to the downstream switch, which adds the cost value of the transmit port to the cost field of the BPDU.

spanning-tree cost [1-200000000]

	parameter	description
Parameter	cost [1-200000000]	The value of external path cost

Default

19

Mode

Port configuration mode

Usage

Enter the port configuration mode and set the cost value of the port

Example

Set the cost value of GigabitEthernet0/1 to 2000
SWITCH(config-if-GigabitEthernet0/1)# spanning-tree cost 2000

	command	description
Command	show spanning-tree interface gigabitEthernet 0/1	Display the spanning tree status and configuration information of GigabitEthernet0/1.

21.1.13 spanning-tree guard

Set port protection function

spanning-tree guard [loop|none|root]

	parameter	description
Parameter	loop	Set the loop to avoid the port configured with this command. The BPDU continues to remain blocked and the loop is avoided
	root	Ports that enable this function do not re-select the root bridge after receiving a higher priority BPDU
	none	Turn off the guard function

Default	None				
Mode	Port configuration mode				
Usage	Enter the port configuration mode and set the port protection function				
Example	Set the loop guard on GigabitEthernet0/1 SWITCH(config-if-GigabitEthernet0/1)# spanning-tree guard loop				
Command	<table border="1"> <thead> <tr> <th>command</th> <th>description</th> </tr> </thead> <tbody> <tr> <td>show spanning-tree interface gigabitEthernet 0/1</td> <td>Display the spanning tree status and configuration information of GigabitEthernet0/1.</td> </tr> </tbody> </table>	command	description	show spanning-tree interface gigabitEthernet 0/1	Display the spanning tree status and configuration information of GigabitEthernet0/1.
	command	description			
show spanning-tree interface gigabitEthernet 0/1	Display the spanning tree status and configuration information of GigabitEthernet0/1.				

21.1.14 spanning-tree link-type

Sets the link type of the port. By default, the switch automatically selects the link type based on the duplex mode of the port, the full duplex port is point-to-point, and the half duplex port is shared

spanning-tree link-type [point-to-point|shared]

Parameter	parameter	description
	point-to-point	Set the link type is point-to-point
	shared	Set the link type is shared

Default	The switch automatically selects the link type, the full duplex port is point-to-point, and the half duplex port is shared				
Mode	Port configuration mode				
Usage	Enter the port configuration mode and set the spanning-tree link-type.				
Example	Set the link type of GigabitEthernet0/1 to shared SWITCH(config-if-GigabitEthernet0/1)# spanning-tree link-type shared				
Command	<table border="1"> <thead> <tr> <th>command</th> <th>description</th> </tr> </thead> <tbody> <tr> <td>show spanning-tree interface gigabitEthernet 0/1</td> <td>Display the spanning tree status and configuration information of GigabitEthernet0/1.</td> </tr> </tbody> </table>	command	description	show spanning-tree interface gigabitEthernet 0/1	Display the spanning tree status and configuration information of GigabitEthernet0/1.
	command	description			
show spanning-tree interface gigabitEthernet 0/1	Display the spanning tree status and configuration information of GigabitEthernet0/1.				

21.1.15 spanning-tree portfast edgeport

Some port is directly connected with PC, and the port is not possible loop, so these ports do not need to participate in the spanning tree operations, configured as edge port port linkup directly to the forwarding state, will not experience learn, listen

spanning-tree portfast [edgeport|network]

	parameter	description
Parameter	edgeport	Sets the edge-port for specified port
	network	Sets the network port for specified por

Default network port

Mode Port configuration mode

Usage Enter the port configuration mode and set the port mode is edgeport

Example Set GigabitEthernet0/1 for the edgeport
SWITCH(config-if-GigabitEthernet0/1)# spanning-tree portfast edgeport

	command	description
Command	show spanning-tree interface gigabitEthernet 0/1	Display the spanning tree status and configuration information of GigabitEthernet0/1.

21.1.16 spanning-tree priority

Configure the bridge priority of the port. If the user wants to specify a port as the root port, the bridge priority of the port can be increased.

spanning-tree port-priority [0-240]

	parameter	description
Parameter	port-priority [0-240]	Sets the bridge priority of the port, with a range of 0-240 and must be a multiple of 16, default 128

Default	128				
Mode	Port configuration mode				
Usage	Enter the port configuration mode and set the bridge priority of the port				
Example	Set the priority of GigabitEthernet0/1 to 112 SWITCH(config-if-GigabitEthernet0/1)# spanning-tree port-priority 112				
Command	<table border="1"> <thead> <tr> <th>command</th> <th>description</th> </tr> </thead> <tbody> <tr> <td>show spanning-tree interface gigabitEthernet 0/1</td> <td>Display the spanning tree status and configuration information of GigabitEthernet0/1.</td> </tr> </tbody> </table>	command	description	show spanning-tree interface gigabitEthernet 0/1	Display the spanning tree status and configuration information of GigabitEthernet0/1.
command	description				
show spanning-tree interface gigabitEthernet 0/1	Display the spanning tree status and configuration information of GigabitEthernet0/1.				

21.1.17 spanning-tree bpdu [filtering|flooding]

BPDU packets are filtered or flood when stp is disabled on ports

spanning-tree bpdu [filtering |flooding]

Parameter	<table border="1"> <thead> <tr> <th>parameter</th> <th>description</th> </tr> </thead> <tbody> <tr> <td>filtering</td> <td>bpdu packets are filtered when stp is disabled on ports</td> </tr> <tr> <td>flooding</td> <td>bpdu packets are flooded to all ports with stp disabled and flooding mode</td> </tr> </tbody> </table>	parameter	description	filtering	bpdu packets are filtered when stp is disabled on ports	flooding	bpdu packets are flooded to all ports with stp disabled and flooding mode
parameter	description						
filtering	bpdu packets are filtered when stp is disabled on ports						
flooding	bpdu packets are flooded to all ports with stp disabled and flooding mode						
Default	BPDU flooding						
Mode	Global configuration mode						
Usage	In global mode, configure the way BPDU messages are handled						
Example	When the spanning tree is closed, set the BPDU packet to filtering SWITCH(config)# spanning-tree bpdu filtering						
Command	<table border="1"> <thead> <tr> <th>command</th> <th>description</th> </tr> </thead> <tbody> <tr> <td>show spanning-tree</td> <td>Display the spanning tree status and configuration information</td> </tr> </tbody> </table>	command	description	show spanning-tree	Display the spanning tree status and configuration information		
command	description						
show spanning-tree	Display the spanning tree status and configuration information						

21.1.18 spanning-tree trap

Spanning tree trap information

spanning-tree trap [new-root| topology-change]

Parameter	parameter	description
	new-root	new root trap
	topology-change	topology change trap
Default	NULL	
Mode	Global configuration mode	
Usage	In global mode, configure the spanning-tree trap information	
Example	Enable the spanning-tree trap of new-root SWITCH(config)# spanning-tree trap new-root	
Command	command	description
	show spanning-tree trap new-root	Display the spanning tree trap new-root status and configuration information

21.2 Display relevant commands

21.2.1 show spanning-tree

Displays the current spanning tree status and configuration information

Spanning-tree[cr | interface gigabitEthernet 0/x | link-aggregation]

Parameter	parameter	description
	Interface gigabitEthernet 0/x	Display the current port spanning tree status and configuration information Note that "cr" means no arguments are entered
Default	NULL	
Mode	Privileged mode	
Usage	In privileged mode, view the spanning tree status. Show global status without parameters	
Example	The following commands, from top to bottom, are to display the global state information of the spanning tree, display the spanning tree status information of the Gi 0/1. SWITCH# show spanning-tree	

SWITCH# show spanning-tree interfaces GigabitEthernet 0/1

	command	description
Command	show spanning-tree	View the current spanning tree global state and configuration
	Ruijie#show spanning-tree interface gigabitEthernet 0/x	View the spanning tree status and configuration information for Gi0/1

22 DHCP v4server

22.1 Configure commands

22.1.1 DHCP v4server

Configure the DHCP server parameter, then open DHCP sever, and the downstream device gets IP from the switch.

ip dhcpserver pool
ip dhcpserver mask
ip dhcpserver gate-way
ip address
ip dhcp server
dhcp-snooping

	parameter	description
Parameter	ip dhcpserver pool	Configure the v4 server pool
	ip dhcpserver mask	Configure the v4 server mask
	ip dhcpserver gate-way	Configure the v4 server gate-way
	ip address	The IP address of the device must be in the same network segment as the address pool of the sever
	ip dhcp server	Enable the ip dhcp server function.use "no" command,you can disable the function
	dhcp-snooping	Enable the dhcp-snooping

Default disable

Mode	Global configuration mode				
Usage	In the global configuration mode, The first parameter configuration server, to enable IPv4 server, Lower establishment access to switch in the IP address pool.				
Example	<pre>SWITCH(config)# ip dhcpserver pool 192.168.6.100-192.168.6.200 pt1:192.168.6.100, pt2:192.168.6.200 SWITCH(config)# ip dhcpserver mask 255.255.255.0 SWITCH(config)# ip dhcpserver gate-way 192.168.6.1 SWITCH(config)# ip address 192.168.6.1 SWITCH(config)# ip dhcp server SWITCH(config)# dhcp-snooping</pre>				
Command	<table border="1"> <thead> <tr> <th>command</th> <th>description</th> </tr> </thead> <tbody> <tr> <td>show ip dhcp server</td> <td>Displays the ip dhcp server configuration</td> </tr> </tbody> </table>	command	description	show ip dhcp server	Displays the ip dhcp server configuration
command	description				
show ip dhcp server	Displays the ip dhcp server configuration				

22.2 Display relevant commands

22.2.1 show ip dhcp server

Configure the DHCP server parameter, then open DHCP sever, and the downstream device gets IP from the switch.

Show ip dhcp server

Parameter	<table border="1"> <thead> <tr> <th>parameter</th> <th>description</th> </tr> </thead> <tbody> <tr> <td>show ip dhcp server</td> <td>Display the configure of ip dhcp serverl</td> </tr> </tbody> </table>	parameter	description	show ip dhcp server	Display the configure of ip dhcp serverl
parameter	description				
show ip dhcp server	Display the configure of ip dhcp serverl				
Default	NULL				
Mode	Privileged mode				
Usage	view the ip dhcp server information				

Example Show ip dhcp server

Command	command	description
	show ip dhcp server	Displays the ip dhcp server configuration

23 ipv4 Client

23.1 Configure commands

23.1.1 ipv4 client

Configure the ipv4 client parameter, the switch can get IP from DHCP server

ip dhcp
no ip dhcp

Parameter	parameter	description
	ip dhcp	Enable ip dhcp client
	no ip dhcp	Disable ip dhcp client

Default disable

Mode Global configuration mode

Usage In the global configure mode,enable the ip dhcp,the switch can get ip from DHCP server

Example SWITCH(config)# ip dhcp
SWITCH# show ip dhcp
DHCP Status : enabled

Command	command	description
	show ip dhcp	Displays the ip dhcp client configuration

23.2 Display relevant commands

23.2.1 show ip DHCP

Enable the ip DHCP , the switch can get IP from DHCP server.

Show ip dhcp
Show ip

	parameter	description
Parameter	show ip dhcp	Display the configure of ip dhcp
	Show ip	Display the switch get ip from the dhcp server
Default	NULL	
Mode	Privileged mode	
Usage	View the ip dhcp information	
Example	SWITCH# show ip IP Address: 192.168.0.143 Subnet Netmask: 255.255.255.0 Default Gateway: 192.168.0.177 SWITCH# show ip dhcp DHCP Status : enabled	
Command	command	description
	show ip dhcp	Displays the ip dhcp information
	Show ip	Displays the switch get ip from the dhcp server

24 ipv6 Client

24.1 Configure commands

24.1.1 ipv6 client

Configure the ipv4 client parameter, the switch can get IP from DHCP server

ipv6 dhcp
no ipv6 dhcp
ipv6 autoconfiguration
no ipv6 autoconfiguration

Parameter	parameter	description
	ipv6 dhcp	Enable ipv6 dhcp client
	no ipv6 dhcp	Disable ipv6 dhcp client
	autoconfiguration	Enable Ipv6 auto-configuration
	No ipv6 autoconfiguration	Disable Ipv6 auto-configuration

Default	disable
Mode	Global configuration mode

Usage	In the global configure mode,enable the ipv6 dhcp,the switch can get ipv6 from ipv6 DHCP server
-------	---

Example	SWITCH(config)# ipv6 dhcp SWITCH(config)# ipv6 autoconfiguration
---------	---

Command	command	description
	show ipv6 dhcp	Displays the ipv6 dhcp client configuration

24.2 Display relevant commands

24.2.1 show ipv6 DHCP

Enable the ipv6 DHCP , the switch can get IP from DHCP server.

Show ip dhcp

Show ipv6

	parameter	description
Parameter	show ipv6 dhcp	Display the configure of ipv6 dhcp
	Show ipv6	Display the switch get ipv6 from the ipv6 dhcp server

Default NULL

Mode Privileged mode

Usage View the ip dhcp information

Example

```
SWITCH# show ipv6 dhcp
DHCPv6 Status : enabled
SWITCH# show ipv6
IPv6 DHCP Configuration : Enabled
IPv6 DHCP DUID : 00:01:00:01:00:00:00:5a:00:e0:4c:00:00:00
IPv6 Auto Configuration : Enabled
IPv6 Link Local Address : fe80::2e0:4cff:fe00:0/64
IPv6 static Address :
IPv6 static Gateway Address :
IPv6 in use Address : fd00::2e0:4cff:fe00:0/64
IPv6 in use Address : fe80::2e0:4cff:fe00:0/64
```

	command	description
Command	show ipv6 dhcp	Displays the ip dhcp information
	Show ipv6	Disaplays the switch get ipv6 from the ipv6 server

25 IGMP Snooping

25.1 command related to configuration

25.1.1 ip igmp snooping

Enable igmp snooping in global configuration mode ,and Add "no" to the command will disable

igmp snooping.

ip igmp snooping **no ip igmp snooping**

Parameter	parameter	description
	None	None

Default Default is enabled.

Mode Global configuration.

Usage Use command **ip igmp snooping** to enable igmp snooping function.
Use the **no** form of this command to disable.
You can verify settings by the **show ip igmp snooping** command.

Example SWITCH(config)# **ip igmp snooping**
SWITCH(config)# **no ip igmp snooping**

Command	command	description
	show ip igmp snooping	verify settings of igmp snooping

25.1.2 ip igmp snooping version

Set igmp snooping version in global configuration mode.

ip igmp snooping version (2|3)

Parameter	parameter	description
	(2 3)	IGMP version 2 or version 3 mode

Default Default is version 3.

Mode Global configuration.

Usage Use the **ip igmp snooping version** command to change IGMP support version.
You can verify settings by the **show ip igmp snooping** command.

Example The following example specifies that set ip igmp snooping version 2.
Switch(config)#**ip igmp snooping version 2**

Command	command	description
	Show ip igmp snooping	verify settings of igmp snooping

25.1.3 ip igmp snooping vlan

Enable igmp snooping of specific vlan, please input ip igmp snooping vlan vlan-list in Global configuration mode. and Add "no" to the command will disable the igmp snooping function of the vlan.

ip igmp snooping vlan VLAN-LIST

Parameter	parameter	description
	VLAN-LIST	Specifies VLAN ID list to set

Default Default is disable for all VLANs.

Mode Global configuration.

Usage Disable will clear all ip igmp snooping dynamic group and dynamic router port and make all static ip igmp invalid of this vlan. Will not learn dynamic group and router port by igmp message any more.
 Use the **ip igmp snooping vlan** command to enable IGMP on VLAN.
 Use the **no** form of this command to disable
 You can verify settings by the **show ip igmp snooping vlan** command.

Example The following example specifies the set ip igmp snooping vlan test:
 SWITCH(config)# **ip igmp snooping vlan 2**

Command	command	description
	Show ip igmp snooping vlan	verify settings of igmp snooping

25.1.4 ip igmp snooping fast-leave

Enable igmp snooping fast-leave function,If there is only one member of the group,and device receive leave report from the member,the group will leave immediately.

ip igmp snooping fast-leave

Parameter	parameter	description
	None	None
Default	Default is disable.	
Mode	Global configuration.	
Usage	Use the ip igmp snooping fast-leave enable command to enable fast-leave function. Use the no form of this command to disable You can verify settings by the show ip igmp snooping vlan command.	
Example	The following example specifies the set ip igmp snooping fast-leave test: SWITCH(config)# ip igmp snooping fast-leave	
Command	command	description
	Show ip igmp snooping vlan	verify settings of igmp snooping

25.1.5 ip igmp snooping suppression

Enable igmp snooping of suppression function,router port will just forward one report packet when received many the same group join packet.and the function is invalid in igmp snooping v3.

ip igmp snooping suppression

Parameter	parameter	description
	None	None

Default	Default is disable.				
Mode	Global configuration.				
Usage	Use the ip igmp snooping suppression command to enable suppression function. Use the no form of this command to disable You can verify settings by the show ip igmp snooping vlan command.				
Example	The following example specifies that set ip igmp snooping suppression test: SWITCH(config)# ip igmp snooping suppression				
Command	<table border="1"> <thead> <tr> <th>command</th> <th>description</th> </tr> </thead> <tbody> <tr> <td>Show ip igmp snooping vlan</td> <td>verify settings of igmp snooping</td> </tr> </tbody> </table>	command	description	Show ip igmp snooping vlan	verify settings of igmp snooping
command	description				
Show ip igmp snooping vlan	verify settings of igmp snooping				

25.1.6 ip igmp snooping unknown-multicast action

Set the action when received unknown-multicast.

ip igmp snooping unknown-multicast action (*drop|flood|router-port*)

Parameter	<table border="1"> <thead> <tr> <th>parameter</th> <th>description</th> </tr> </thead> <tbody> <tr> <td>(drop flood router-port)</td> <td>Drop/flood in vlan or forward to router port of unknown multicast packet</td> </tr> </tbody> </table>	parameter	description	(drop flood router-port)	Drop/flood in vlan or forward to router port of unknown multicast packet
parameter	description				
(drop flood router-port)	Drop/flood in vlan or forward to router port of unknown multicast packet				
Default	Default is drop.				
Mode	Global configuration.				
Usage	When igmp and mld snooping disable,it can't set action router port. When disable igmp snooping & mld snooping,it set unknown multicast action flood.when action is router-port to flood or drop ,it will delete the unknown multicast group entry. Use the ip igmp snooping unknown-multicast action command to change action.				

You can verify settings by the **show ip igmp snooping vlan** command.

Example The following example specifies the set ip igmp unknown-multicast test:
SWITCH(config)# **ip igmp snooping unknown-multicast action drop**

Command	command	description
	Show ip igmp snooping vlan	verify settings of igmp snooping

25.1.7 ip igmp snooping vlan mrouter

Add static router port for vlan.

ip igmp snooping vlan VLAN-LIST mrouter interfaces GigabitEthernet|Aggregateport IF_PORTS

No ip igmp snooping vlan VLAN-LIST mrouter interfaces GigabitEthernet|Aggregateport IF_PORTS

Parameter	parameter	description
	VLAN-LIST	Specifies VLAN ID list to set
	IF-PORTS	Specifies a port list to set or remove

Default None static router ports by default.

Mode Global configuration.

Usage Use the **ip igmp snooping vlan mrouter** command to add static router port. All query packets will forward to this port .
Use the **no** form of this command to delete static router port.
You can verify settings by the **show ip igmp snooping vlan** command.

Example The following example specifies that set ip igmp snooping static router port test:
SWITCH(config)# **ip igmp snooping vlan 2 mrouter interfaces GigabitEthernet 0/5**

Command	command	description
	Show ip igmp snooping vlan	verify the ip igmp snooping Information

25.1.8 ip igmp snooping vlan mrouter learn

Enable learning router port by routing protocol packets such as PIM/PIMv2,DVMRP,MOSPF,Use the no form of this command to disable..

ip igmp snooping vlan VLAN-LIST mrouter learn pim-dvmrp

No ip igmp snooping vlan VLAN-LIST mrouter learn pim-dvmrp

Parameter	parameter	description
	VLAN-LIST	Specifies VLAN ID list to set
	IF-PORTS	Specifies a port list to set or remove

Default	Default is enable.
---------	--------------------

Mode	Global configuration.
------	-----------------------

Usage	Use the ip igmp snooping vlan mrouter learn pim-dvmrp command to Enable learning router port by routing protocol packets such as PIM/PIMv2,DVMRP,MOSPF. Use the no form of this command to disable . You can verify settings by the show ip igmp snooping vlan command.
-------	--

Example	The following example specifies that Enable learning router port test: SWITCH(config)# ip igmp snooping vlan 2 mrouter learn pim-dvmrp
---------	--

Command	command	description
	Show ip igmp snooping vlan	verify the ip igmp snooping Information

25.1.9 ip igmp snooping vlan static

Add a static group.

```
ip igmp snooping vlan VLAN-LIST static group-address interfaces  
GigabitEthernet|Aggregateport IF_PORTS  
no ip igmp snooping vlan VLAN-LIST static group-address interfaces  
GigabitEthernet|Aggregateport IF_PORTS
```

	parameter	description
Parameter	Ip-addr	Specifies multicast group ipv4 address
	IF-PORTS	Specifies a port list to set or remove

Default No static group by default.

Mode Global configuration.

Usage Use the **ip igmp snooping vlan static** command to add a static group. The static group will not learn other dynamic ports.If the dynamic group exist ,then the static group will overlap the dynamic group.The static group set to valid unless igmp snooping vlan enable.

Use the **no** form of this command to delete static group.If remove the last member of static group,the static group will be delete.

You can verify settings by the **show ip igmp snooping group** command.

Example The following example specifies that set ip igmp snooping static group test:
SWITCH(config)# **ip igmp snooping vlan 2 static 239.1.1.1 interfaces
GigabitEthernet 0/6**

	command	description
Command	Show ip igmp snooping group	verify the static group

25.1.10 ip igmp snooping vlan querier

Enable querier for vlan.and Add "no" to the command will disable querier function.

ip igmp snooping vlan VLAN-LIST querier

no ip igmp snooping vlan *VLAN-LIST* querier

	parameter	description
Parameter	VLAN-LIST	Specifies VLAN ID list to set
Default	No ip igmp snooping querier by Default.	
Mode	Global configuration.	
Usage	<p>When enable ip igmp vlan querier, there will process router select,the select successful will send general and specific query.</p> <p>Use the ip igmp snooping vlan querier command to add querier.</p> <p>Use the no form of this command to delete querier.</p> <p>You can verify settings by the show ip igmp snooping querier command.</p>	
Example	The following example specifies that enable vlan querier test: SWITCH(config)# ip igmp snooping vlan 2 querier	
Command	command	description
	Show ip igmp snooping querier	verify the querier information

25.1.11 ip igmp snooping vlan querier version

Set igmp snooping querier version in global configuration mode.

ip igmp snooping vlan *VLAN-LIST* querier version (2|3)

	parameter	description
Parameter	VLAN-LINST	Specifies VLAN ID list to set
	(2 3)	Query version 2 or 3
Default	Eable ip igmp snooping querier,the default querier verion is 2.	
Mode	Global configuration.	

Usage Use the **ip igmp snooping vlan querier version** command to set querier version. You can verify settings by the **show ip igmp snooping querier** command.

Example The following example specifies that set ip igmp snooping querier version test:
SWITCH(config)# **ip igmp snooping vlan 2 querier version 3**

Command

command	description
Show ip igmp snooping querier	verify the querier

25.1.12 ip igmp snooping vlan querier last-member-query-count

Set igmp snooping querier last-member-query-count.

ip igmp snooping vlan VLAN-LIST querier last-member-query-count <1-7>
no ip igmp snooping vlan VLAN-LIST querier last-member-query-count

Parameter

parameter	description
VLAN-LINST	Specifies VLAN ID list to set
last-member-query-count<1-7>	Specifies last member query count to set

Default

Default is 2.

Mode

Global configuration.

Usage

Use the **ip igmp snooping vlan querier last-member-query-count** command to change how many query packets will send.
Use the **no** form of this command to restore to default.
You can verify settings by the **show ip igmp snooping vlan** command.

Example

The following example specifies that set ip igmp snooping querier last-member-query-count test:
SWITCH(config)# **ip igmp snooping vlan 2 querier last-member-query-count 5**

Command	command	description
	Show ip igmp snooping vlan	verify the querier information

25.1.13 ip igmp snooping vlan querier last-member-query-interval

Set igmp snooping querier last-member-query-interval.

ip igmp snooping vlan *VLAN-LIST* querier last-member-query-interval <1-25>
no ip igmp snooping vlan *VLAN-LIST* querier last-member-query-interval

Parameter	parameter	description
	VLAN-LIST	Specifies VLAN ID list to set
	last-member-query-interval <1-25>	Specifies last member query interval to set

Default Default is 1.

Mode Global configuration.

Usage Use the **ip igmp snooping vlan querier last-member-query-interval** command to set interval between each query packet.
 Use the **no** form of this command to restore to default.
 You can verify settings by the **show ip igmp snooping vlan** command.

Example The following example specifies that set ip igmp snooping querier last-member-query-interval test:
 SWITCH(config)# **ip igmp snooping vlan 2 querier last-member-query-interval 10**

Command	command	description
	Show ip igmp snooping vlan	verify the querier information

25.1.14 ip igmp snooping vlan querier max-response-time

Set igmp snooping querier max-response-time.

ip igmp snooping vlan *VLAN-LIST* querier max-response-time <5-20>
no ip igmp snooping vlan *VLAN-LIST* querier max-response-time

	parameter	description
Parameter	VLAN-LIST	Specifies VLAN ID list to set
	last-member-query-interval <5-20>	Specifies a response time to set
Default	Default is 10.	
Mode	Global configuration.	
Usage	Use the ip igmp snooping vlan querier max-response-time command to set response-time. Use the no form of this command to restore to default. You can verify settings by the show ip igmp snooping vlan command.	
Example	The following example specifies that set ip igmp snooping querier max-response-time test: SWITCH(config)# ip igmp snooping vlan 2 querier max-response-time 20	
Command	command	description
	Show ip igmp snooping vlan	verify the querier information

25.1.15 ip igmp snooping vlan querier query-interval

Set igmp snooping querier Interval between each query.

ip igmp snooping vlan *VLAN-LIST* querier query-interval <30-18000>
no ip igmp snooping vlan *VLAN-LIST* querier query-interval

	parameter	description
Parameter	VLAN-LIST	Specifies VLAN ID list to set
	query-interval <5-20>	Specifies a response time to set

Default	Default is 125.
Mode	Global configuration.
Usage	Use the ip igmp snooping vlan querier query-interval command to set Interval between each query. Use the no form of this command to restore to default. You can verify settings by the show ip igmp snooping vlan command.
Example	The following example specifies that set ip igmp snooping querier version test: SWITCH(config)# ip igmp snooping vlan 2 querier query-interval 200

Command	command	description
	Show ip igmp snooping vlan	verify the querier information

25.1.16 ip igmp snooping vlan robustness-variable

Set igmp snooping querier robustness-variable.

ip igmp snooping vlan VLAN-LIST robustness-variable <1-7>
no ip igmp snooping vlan VLAN-LIST robustness-variable

Parameter	parameter	description
	VLAN-LIST	Specifies VLAN ID list to set
	robustness-variable <1-7>	Specifies a robustness value to set

Default	Default is 2.
Mode	Global configuration.
Usage	Use the ip igmp snooping vlan robustness-variable command to times to retry . Use the no form of this command to restore to default. You can verify settings by the show ip igmp snooping vlan command.

Example The following example specifies that set ip igmp snooping querier robustness-variable test:
 SWITCH(config)# **ip igmp snooping vlan 1 robustness-variable 5**

Command	command	description
	Show ip igmp snooping vlan	verify the querier information

25.1.17 ip igmp profile

Add igmp profile if you want to permit or deny some groups.

ip igmp profile <1-128>
no ip igmp profile <1-128>

Parameter	parameter	description
	<1-128>	Specifies profile ID

Default No profile exist by default.

Mode Global configuration.

Usage Use the **ip igmp profile** command to enter profile configuration.
 Use the **no** form of this command to delete profile.
 You can verify settings by the **show ip igmp profile** command.

Example The following example specifies that set ip igmp snooping profile test:
 SWITCH(config)# **ip igmp profile 1**

Command	command	description
	Show ip igmp profile	verify the ip igmp profile information

25.1.18 profile range

Configure igmp profile if you want to permit or deny some groups.

Profile rang ip <ip-addr> [ip-addr] action (permit|deny)

Parameter	parameter	description
	<ip-addr>	Start ipv4 multicast address
	[ip-addr]	End ipv4 multicast address
	(permit deny)	Permit:allow Multicast address rang ip address learning Deny:do not allow Multicast address rang ip address learning

Default None.

Mode igmp profile configuration mode.

Usage Use the **profile** command to generate IGMP profile .
You can verify settings by the **show ip igmp profile** command.

Example The following example specifies that set ip igmp snooping profile test:
SWITCH(config)# **ip igmp profile 1**
SWITCH(config)# **profile range ip 225.1.1.1 225.1.2.1 action permit**

Command	command	description
	Show ip igmp profile	verify the ip igmp profile information

25.1.19 ip igmp filter

Use ip igmp filter command to bind a profile for port.

ip igmp filter <1-128>
no ip igmp filter

Parameter	parameter	description
	<1-128>	Specifies profile ID

Default	None.
Mode	Port configuration.
Usage	Use the ip igmp filter command to bind a profile for port. When the port binds a profile, then the port learning group will update, if the group does not match the profile rule, it will remove the port from the group. Static group is excluded. Use the no form of this command to delete profile. You can verify settings by the show running-config command.
Example	The following example specifies that set ip igmp filter test. SWITCH(config)# interface GigabitEthernet 0/1 SWITCH(config-if-GigabitEthernet0/1)# ip igmp filter 1

Command	command	description
	Show running-config	verify the ip igmp profile information

25.2 command related to display and monitoring

25.2.1 clear ip igmp snooping statistics

clear igmp snooping statistics.

clear ip igmp snooping statistics

Parameter	parameter	description
	None	Clear all igmp packets statistics

Default None.

Mode Privileged EXEC.

Usage This command will clear all of the igmp packets statistics.
You can verify settings by the **show ip igmp snooping statistics** command.

Example The following example specifies that show ip igmp snooping statistics test.
SWITCH#**clear ip igmp snooping statistics**
SWITCH#**show ip igmp snooping statistics**

```

Packet Statistics
Total RX          : 0
Valid RX          : 0
Invalid RX        : 0
Other RX          : 0
Leave RX          : 0
Report RX         : 0
General Query RX  : 0
Special Group Query RX : 0
Special Group & Source Query RX : 0
Leave TX          : 0
Report TX         : 0
General Query TX  : 0
Special Group Query TX : 0
Special Group & Source Query TX : 0

```

Command

command	description
Show ip igmp snooping statistics	Verify igmp snooping statistics info

25.2.2 clear ip igmp snooping groups

clear igmp snooping groups.

clear ip igmp snooping groups [(dynamic|static)]

Parameter

parameter	description
None	Clear ip igmp groups include dynamic and static
(dynamic static)	Ip igmp group is dynamic and static

Default

None.

Mode

Privileged EXEC.

Usage

This command will clear the igmp groups for dynamic or static or all of type.
You can verify settings by the **show ip igmp snooping groups** command.

Example The following example specifies that show ip igmp snooping groups test.
SWITCH#clear ip igmp snooping groups
SWITCH#show ip igmp snooping groups

```
VLAN | Group IP Address | Type | Life(Sec) | Port
-----+-----+-----+-----+-----
```

Total Number of Entry = 0

Command	command	description
	Show ip igmp snooping groups	Verify igmp snooping groups info

25.2.3 show ip igmp snooping

View igmp snooping global info.

show ip igmp snooping

Parameter	parameter	description
	None	None

Default

None.

Mode

Privileged EXEC.

Usage

This command will display ip igmp snooping global info.

Example

The following example specifies that show ip igmp snooping test.

```
SWITCH#show ip igmp snooping
IGMP Snooping state : Enable
IGMP Snooping Version : v3
IGMP Fast-Leave : Disable
IGMP Report Suppression : Disable
IGMP Forward Method : mac
IGMP Unknown IP Multicast Action : Drop
IGMP Multicast router learning mode : pim-dvmrp
```

vlan 1

```
-----
IGMP Snooping state : enabled
IGMP Fast-Leave : disabled
IGMP Multicast router learning mode : pim-dvmrp
```

IGMP VLAN querier : disabled

Command	command	description
	Show ip igmp snooping	verify settings of igmp snooping

25.2.4 show ip igmp snooping vlan

View igmp snooping vlan info.

show ip igmp snooping vlan [VLAN-LIST]

Parameter	parameter	description
	None	Show all ip igmp snooping vlan info
	[VLAN-LIST]	Show specifies vlan ip igmp snooping info

Default	None.
---------	-------

Mode	Privileged EXEC.
------	------------------

Usage	This command will display ip igmp snooping vlan info.
-------	---

Example	<p>The following example specifies that show ip igmp snooping vlan test.</p> <pre>SWITCH#show ip igmp snooping vlan IGMP Snooping global state : enabled IGMP Global IGMPv2 fast-leave : disabled IGMP Global multicast router learning mode : pim-dvmrp</pre> <p>vlan 1 ----- IGMP Snooping state : enabled IGMP Fast-Leave : disabled IGMP Multicast router learning mode : pim-dvmrp IGMP VLAN querier : disabled</p>
---------	---

Command	command	description
	Show ip igmp snooping vlan	verify settings of igmp snooping vlan

25.2.5 show ip igmp snooping forward-all

Display igmp snooping forward-all info.

show ip igmp snooping forward-all [vlanVLAN-LIST]

Parameter	parameter	description
	None	Show all ip igmp snooping vlan forward-all info
	[VLAN-LIST]	Show specifies vlan ip igmp snooping forward-all info
Default	None.	
Mode	Privileged EXEC.	
Usage	This command will display ip igmp snooping forward-all info.	
Example	The following example specifies that show ip igmp snooping forward-all test. SWITCH# show ip igmp snooping forward-all IGMP Snooping VLAN : 1 IGMP Snooping static port : None IGMP Snooping forbidden port : None	
Command	command	description
	Show ip igmp snooping forward-all	verify settings of igmp snooping forward-all

25.2.6 show ip igmp snooping groups

Display igmp snooping groups info.

show ip igmp snooping groups [counters|dynamic|static]

Parameter	parameter	description
	None	Show all ip igmp groups include dynamic and static info
	Counters	Show dynamic and static groups counters
	(dynamic static)	Show dynamic or static igmp groups

Default	None.				
Mode	Privileged EXEC.				
Usage	This command will display ip igmp snooping groups for dynamic or static or all of type.				
Example	<p>The following example specifies that show ip igmp snooping groups test.</p> <p>SWITCH#show ip igmp snooping groups</p> <pre>VLAN Group IP Address Type Life(Sec) Port -----+-----+-----+-----+----- 1 239.1.1.1 Static -- gi0/3 1 239.255.255.250 Dynamic 253 gi0/1</pre> <p>Total Number of Entry = 2</p>				
Command	<table border="1"> <thead> <tr> <th>command</th> <th>description</th> </tr> </thead> <tbody> <tr> <td>Show ip igmp snooping groups</td> <td>verify igmp snooping groups info</td> </tr> </tbody> </table>	command	description	Show ip igmp snooping groups	verify igmp snooping groups info
command	description				
Show ip igmp snooping groups	verify igmp snooping groups info				

25.2.7 show ip igmp snooping mrouter

Display igmp snooping mrouter info.

show ip igmp snooping mrouter [*counters|dynamic|static*]

Parameter	parameter	description
	None	Show all ip igmp mrouter include dynamic and static info
	(dynamic static)	Show dynamic or static igmp mrouter

Default	None.
Mode	Privileged EXEC.
Usage	This command will display ip igmp snooping mrouter for dynamic or static or all of type.

Example The following example specifies that show ip igmp snooping mrouter test.
SWITCH#show ip igmp snooping mrouter

```

VID | Port | type | Expiry Time(Sec)
-----+-----+-----+-----
1 | gi0/8 | Static | ---

```

Total Entry 1

Command

command	description
Show ip igmp snooping mrouter	verify igmp snooping mrouter info

25.2.8 show ip igmp snooping querier

Display igmp snooping querier info.

show ip igmp snooping querier

Parameter

parameter	description
None	Show all vlan ip igmp querie info

Default

None.

Mode

Privileged EXEC.

Usage

This command will display all of the static vlan ip igmp mrouter info.

Example

The following example specifies that show ip igmp snooping querier test.
SWITCH#show ip igmp snooping querier

```

VID | State | Status | Version | Querier IP
-----+-----+-----+-----+-----
1 | Disabled | Non-Querier | No | -----

```

Total Entry 1

Command

command	description
Show ip igmp snooping querier	Verify igmp snooping querier info

26 MLD Snooping

26.1 command related to configuration

26.1.1 ipv6 mld snooping

Enable mld snooping in global configuration mode ,and Add "no" to the command will disable mld snooping.

ipv6 mld snooping
no ipv6 mld snooping

Parameter	parameter	description
	None	None
Default	Default is enabled.	
Mode	Global configuration.	
Usage	Use command ipv6 mld snooping to enable igmp snooping function. Use the no form of this command to disable.Disable will clear all ipv6 mld snooping dynamic groups and dynamic router port,and make the static ipv6 mld group invalid.No more dynamic group and router port by mld message will be learned You can verify settings by the show ipv6 mld snooping command.	
Example	SWITCH(config)# ipv6 mld snooping SWITCH(config)# no ipv6 mld snooping	
Command	command	description
	show ipv6 mld snooping	verify settings of ipv6 mld snooping

26.1.2 ipv6 mld snooping version

Set mld snooping version in global configuration mode.

ipv6 mld snooping version (1|2)

Parameter	parameter	description
	(1 2)	MLD version 1 or version 2 mode

Default	Default is version 1.				
Mode	Global configuration.				
Usage	Use the ipv6 mld snooping version command to change MLD support version. Version 2 packet won't be processed if choose version 1. You can verify settings by the show ipv6 mld snooping command.				
Example	The following example specifies that set ipv6 mld snooping version 2. Switch(config)# ipv6 mld snooping version 2				
Command	<table border="1"> <thead> <tr> <th>command</th> <th>description</th> </tr> </thead> <tbody> <tr> <td>Show ipv6 mld snooping</td> <td>verify settings of mld snooping</td> </tr> </tbody> </table>	command	description	Show ipv6 mld snooping	verify settings of mld snooping
command	description				
Show ipv6 mld snooping	verify settings of mld snooping				

26.1.3 ipv6 mld snooping vlan

Enable mld snooping of specific vlan, please input ipv6 mld snooping vlan vlan-list in Global configuration mode. and Add "no" to the command will disable the mld snooping function of the vlan.

ipv6 mld snooping vlan *VLAN-LIST*

Parameter	<table border="1"> <thead> <tr> <th>parameter</th> <th>description</th> </tr> </thead> <tbody> <tr> <td>VLAN-LIST</td> <td>Specifies VLAN ID list to set</td> </tr> </tbody> </table>	parameter	description	VLAN-LIST	Specifies VLAN ID list to set
parameter	description				
VLAN-LIST	Specifies VLAN ID list to set				
Default	Default is disable for all VLANs.				
Mode	Global configuration.				
Usage	Disable will clear all ipv6 mld snooping dynamic group and dynamic router port and make all static ipv6 mld invalid of this vlan. Will not learn dynamic group and router port by mld message any more. Use the ipv6 mld snooping vlan command to enable mld on VLAN. Use the no form of this command to disable. You can verify settings by the show ipv6 mld snooping vlan command.				

Example

The following example specifies the set ipv6 mld snooping vlan test:
SWITCH(config)# **ipv6 mld snooping vlan 2**

Command

command	description
Show ipv6 mld snooping vlan	verify settings of mld snooping

26.1.4 ipv6 mld snooping vlan immediate-leave

Enable mld snooping vlan immediate-leave function, If there is only one member of the group, and device receive leave packet from the member, the group will leave immediately.

ipv6 mld snooping vlan immediate-leave

Parameter

parameter	description
VLAN-LIST	Specifies VLAN ID list to set

Default

Default is disable.

Mode

Global configuration.

Usage

Use the **ipv6 mld snooping vlan immediate-leave** command to enable vlan immediate-leave function. Group will remove port immediately when receive leave packet.
Use the **no** form of this command to disable.
You can verify settings by the **show ipv6 mld snooping vlan** command.

Example

The following example specifies the set ipv6 mld snooping vlan immediate-leave test:
SWITCH(config)# **ipv6 mld snooping vlan 1 immediate-leave**

Command

command	description
Show ipv6 mld snooping vlan	verify settings of mld snooping

26.1.5 ipv6 mld snooping report-suppression

Enable mld snooping of report-suppression function,router port will just forward one report packet when received many the same group join packet.and the function is invalid in mld snooping v2.

ipv6 mld snooping report-suppression

no ipv6 mld snooping report-suppression

Parameter	parameter	description
	None	None
Default	Default is enable.	
Mode	Global configuration.	
Usage	Use the ipv6 mld snooping report-suppression command to enable report-suppression function. Use the no form of this command to disable.Disable report -supression will forward all received reports to the vlan router ports. You can verify settings by the show ipv6 mld snooping command.	
Example	The following example specifies that disable ipv6 mld snooping report-suppression test: SWITCH(config)# no ipv6 mld snooping report-suppression	
Command	command	description
	Show ipv6 mld snooping	verify settings of mld snooping

26.1.6 ipv6 mld snooping unknown-multicast action

Set the action when received unknown-multicast.

ipv6 mld snooping unknown-multicast action (*drop|flood|router-port*)

Parameter	parameter	description
	(drop flood router-port)	Drop/flood in vlan or forward to router port of unknown multicast packet

Default

Default is flood.

Mode

Global configuration.

Usage

When mld and mld snooping disable,it can't set action router port .
When disable mld snooping & mld snooping,it set unknown multicast action flood.when action is router-port to flood or drop ,it will delete the unknown multicast group entry.

Use the ipv6 mld **snooping unknown-multicast action** command to change action.
You can verify settings by the **show ipv6 mld snooping** command.

Example

The following example specifies the set ipv6 mld unknown-multicast vlan test:
SWITCH(config)# **ipv6 mld snooping unknown-multicast action drop**

Command

command	description
Show ipv6 mld snooping vlan	verify settings of mld snooping

26.1.7 ipv6 mld snooping vlan static-router-port

Add static router port for vlan.

**ipv6 mld snooping vlan VLAN-LIST static-router-port GigabitEthernet|Aggregateport
IF_PORTS**

**No ipv6 mld snooping vlan VLAN-LIST static-router-port GigabitEthernet|Aggregateport
IF_PORTS**

Parameter

parameter	description
VLAN-LIST	Specifies VLAN ID list to set
IF-PORTS	Specifies a port list to set or remove

Default

None static router ports by default.

Mode Global configuration.

Usage Use the **ipv6 mld snooping vlan static-router-port** command to add static router port. All query ackets will forward to this port .
Use the **no** form of this command to delete static router port.
You can verify settings by the **show ipv6 mld snooping router** command.

Example The following example specifies that set ipv6 mld snooping static router port test:
SWITCH(config)# **ipv6 mld snooping vlan 2 static-router-port GigabitEthernet 0/5**

command	description
Show ipv6 mld snooping router	verify the ipv6 mld snooping router Information

26.1.8 ipv6 mld snooping vlan router learn

Enable learning router port by routing protocol packets such as PIM/PIMv2,DVMRP,MOSPF,Use the no form of this command to disable..

ipv6 mld snooping vlan VLAN-LIST mrouter learn pim-dvmrp

No ipv6 mld snooping vlan VLAN-LIST mrouter learn pim-dvmrp

parameter	description
VLAN-LIST	Specifies VLAN ID list to set
IF-PORTS	Specifies a port list to set or remove

Default Default is enable.

Mode Global configuration.

Usage Use the **ipv6 mld snooping vlan mrouter learn pim-dvmrp** command to Enable learning router port by routing protocol packets such as PIM/PIMv2,DVMRP,MOSPF. Use the **no** form of this command to disable .
You can verify settings by the **show ipv6 mld snooping vlan** command.

Example

The following example specifies that Enable learning router port test:
SWITCH(config)# **ipv6 mld snooping vlan 2 mrouter learn pim-dvmrp**

Command

command	description
Show ipv6 mld snooping vlan	verify the ipv6 mld snooping Information

26.1.9 ipv6 mld snooping vlan static-group

Add a static group.

```
ipv6 mld snooping vlan VLAN-LIST static-group group-address interfaces  
GigabitEthernet|Aggregateport IF_PORTS  
no ipv6 mld snooping vlan VLAN-LIST static-group group-address interfaces  
GigabitEthernet|Aggregateport IF_PORTS
```

Parameter

parameter	description
Ip-addr	Specifies multicast group ipv6 address
IF-PORTS	Specifies a port list to set or remove

Default

No static group by default.

Mode

Global configuration.

Usage

Use the **ipv6 mld snooping vlan static-group** command to add a static group. The static group will not learn other dynamic ports.If the dynamic group exist ,then the static group will overlap the dynamic group.The static group set to valid unless mld snooping vlan enable.

Use the **no** form of this command to delete static group.If remove the last member of static group,the static group will be delete.

You can verify settings by the **show ipv6 mld snooping groups** command.

Example The following example specifies that set ipv6 mld snooping static group test:
 SWITCH(config)# **ipv6 mld snooping vlan 1 static-group ff08::9 interfaces
 Aggregateport 0/6**

Command	command	description
	Show ipv6 mld snooping groups	verify the static group

26.2 command related to display and monitoring

26.2.1 clear ipv6 mld snooping statistics

clear ipv6 mld statistics.

clear ipv6 mld snooping statistics

Parameter	parameter	description
	None	Clear all igmp packets statistics

Default None.

Mode Privileged EXEC.

Usage This command will clear all of the ipv6 mld packets statistics.
 You can verify settings by the **show ipv6 mld snooping statistics** command.

Example The following example specifies that show ipv6 mld snooping statistics test.
 SWITCH#**clear ipv6 mld snooping statistics**
 SWITCH#**show ipv6 mld snooping**

```
Snooping           : Enabled
Report Suppression : Enabled
Operation Version  : v1
Forward Method     : mac
Unknown IPv6 Multicast Action : Flood
```

```
Packet Statistics
Total RX           : 0
Valid RX           : 0
Invalid RX         : 0
```

```

Other RX          : 0
Leave RX          : 0
Report RX        : 0
General Query RX : 0
Specail Group Query RX : 0
Specail Group & Source Query RX : 0
Leave TX         : 0
Report TX       : 0
General Query TX : 0
Specail Group Query TX : 0
Specail Group & Source Query TX : 0

```

Command	command	description
	Show ipv6 mld snooping	Verify ipv6 mld statistics info

26.2.2 clear ipv6 mld snooping groups

clear mld snooping groups.

clear ipv6 mld snooping groups [(dynamic|static)]

Parameter	parameter	description
	None	Clear ipv6 mld groups include dynamic and static
	(dynamic static)	Ipv6 mld group is dynamic and static

Default

None.

Mode

Privileged EXEC.

Usage

This command will clear the mld groups for dynamic or static or all of type. You can verify settings by the **show ipv6 mld snooping groups** command.

Example

The following example specifies that show ipv6 mld snooping groups test.
SWITCH#**clear ipv6 mld snooping groups**
SWITCH#**show ipv6 mld snooping groups**

```

VLAN | Group IP Address | Type | Life(Sec) | Port
-----+-----+-----+-----+-----

```

Total Number of Entry = 0

Command	command	description
	Show ipv6 mld snooping groups	Verify mld snooping groups info

26.2.3 show ipv6 mld snooping

View mld snooping global info.

show ipv6 mld snooping

Parameter	parameter	description
	None	None

Default

None.

Mode

Privileged EXEC.

Usage

This command will display ipv6 mld snooping global info.

Example

The following example specifies that show ipv6 mld snooping test.
SWITCH#**show ipv6 mld snooping**

MLD Snooping Status

```
Snooping           : Enabled
Report Suppression : Enabled
Operation Version  : v1
Forward Method     : mac
Unknown IPv6 Multicast Action : Flood
```

Packet Statistics

```
Total RX           : 121
Valid RX           : 121
Invalid RX         : 0
Other RX           : 0
Leave RX            : 0
Report RX          : 121
General Query RX   : 0
Specail Group Query RX : 0
Specail Group & Source Query RX : 0
Leave TX            : 0
Report TX          : 0
```

General Query TX : 0
 Specail Group Query TX : 0
 Specail Group & Source Query TX : 0

Command	command	description
	Show ipv6 mld snooping	verify settings of mld snooping

26.2.4 show ipv6 mld snooping vlan

View mld snooping vlan info.

show ipv6 mld snooping vlan [VLAN-LIST]

Parameter	parameter	description
	None	Show all mld snooping vlan info
	[VLAN-LIST]	Show specifies vlan mld snooping info

Default

None.

Mode

Privileged EXEC.

Usage

This command will display ipv6 mld snooping vlan info.

Example

The following example specifies that show ipv6 mld snooping vlan test.
SWITCH#show ipv6 mld snooping vlan 1

```
MLD Snooping is globaly enabled
MLD Snooping VLAN 1 admin : enabled
MLD Snooping oper mode : enabled
MLD Snooping robustness: admin 2 oper 2
MLD Snooping query interval: admin 125 sec oper 125 sec
MLD Snooping query max response : admin 10 sec oper 10 sec
MLD Snooping last member query counter: admin 2 oper 2
MLD Snooping last member query interval: admin 1 sec oper 1 sec
MLD Snooping immediate leave: enabled
MLD Snooping automatic learning of multicast router ports: enabled
```

command	description
---------	-------------

Command	Show ipv6 mld snooping vlan	verify settings of mld snooping vlan

26.2.5 show ipv6 mld snooping forward-all

Display mld snooping forward-all info.

show ipv6 mld snooping forward-all [vlanVLAN-LIST]

Parameter	parameter	description
	None	Show all ipv6 mld snooping vlan forward-all info
	[VLAN-LIST]	Show specifies vlan ipv6 mld snooping forward-all info

Default Show all vlan ipv6 mld forward all info..

Mode Privileged EXEC.

Usage This command will display ipv6 mld snooping forward-all info.

Example The following example specifies that show ipv6 mld snooping forward-all test.
SWITCH#**show ipv6 mld snooping forward-all**

```
MLD Snooping VLAN      : 1
MLD Snooping static port : None
MLD Snooping forbidden port : None
```

```
MLD Snooping VLAN      : 2
MLD Snooping static port : None
MLD Snooping forbidden port : None
```

```
MLD Snooping VLAN      : 3
MLD Snooping static port : None
MLD Snooping forbidden port : None
```

Command	command	description
	Show ipv6 mld snooping forward-all	verify settings of mld snooping forward-all

26.2.6 show ipv6 mld snooping groups

Display mld snooping groups info.

show ipv6 mld snooping groups [counters|dynamic|static]

Parameter	parameter	description
	None	Show all ipv6 mld groups include dynamic and static info
	Counters	Show dynamic and static groups counters
	(dynamic static)	Show dynamic or static igmp groups

Default

None.

Mode

Privileged EXEC.

Usage

This command will display ipv6 mld snooping groups for dynamic or static or all of type.

Example

The following example specifies that show ipv6 mld snooping groups test.
SWITCH#show ipv6 mld snooping groups

VLAN	Group IP Address	Type	Life(Sec)	Port
1	ff02::c	Dynamic	259	gi0/1
1	ff02::fb	Dynamic	259	gi0/1
1	ff02::1:3	Dynamic	260	gi0/1
1	ff02::1:ff0d:3c99	Dynamic	259	gi0/1
1	ff02::1:ffc5:6583	Dynamic	259	gi0/1

Total Number of Entry = 5

Command	command	description
	Show ipv6 mld snooping groups	verify mld snooping groups info

26.2.7 show ipv6 mld snooping router

Display mld snooping router info.

show ipv6 mld snooping router [counters|dynamic|static]

	parameter	description
Parameter	None	Show all ipv6 mld router include dynamic and static info
	(dynamic static)	Show dynamic or static mld router

Default

None.

Mode

Privileged EXEC.

Usage

This command will display ipv6 mld snooping router for dynamic or static or all of type.

Example

The following example specifies that show ipv6 mld snooping router test.
SWITCH#show ipv6 mld snooping router

```
Dynamic Router Table
VID | Port | Expiry Time(Sec)
-----+-----+-----
```

Total Entry 0

```
Static Router Table
VID | Port Mask
-----+-----
1 | gi0/5
```

Total Entry 1

```
Forbidden Router Table
VID | Port Mask
-----+-----
```

Total Entry 0

Command

command	description
Show ipv6 mld snooping router	verify mld snooping router info

27 Path detection

27.1 ping

Detect host is reachable or not. include ipv4 address, ipv6 address and domain name.

ping [*HOSTNAME*]

Parameter	parameter	description
	[HOSTNAME]	Host name info
Default	None.	
Mode	Privileged EXEC.	
Usage	This command will detect host is reachable or not.	
Example	The following example specifies that ping test. SWITCH# ping fe80::1104:72ba:d80d:3c99 PING fe80::1104:72ba:d80d:3c99 (fe80::1104:72ba:d80d:3c99): 56 data bytes 64 bytes from fe80::1104:72ba:d80d:3c99: icmp6_seq=0 ttl=64 time=10.0 ms 64 bytes from fe80::1104:72ba:d80d:3c99: icmp6_seq=1 ttl=64 time=0.0 ms 64 bytes from fe80::1104:72ba:d80d:3c99: icmp6_seq=2 ttl=64 time=0.0 ms 64 bytes from fe80::1104:72ba:d80d:3c99: icmp6_seq=3 ttl=64 time=0.0 ms	
Command	command	description
	Ping	Add the host name after the command will check the host is reachable or not

27.2 traceroute

Trace route to network hosts and record the routing information to the host, include ipv4 address, ipv6 address and domain name.

traceroute [HOSTNAME]

Parameter	parameter	description
	[HOSTNAME]	Host name info

Default None.

Mode Privileged EXEC.

Usage This command will record the routing information to the host.

Example The following example specifies that traceroute test.
SWITCH#**traceroute www.baidu.com**

Command	command	description
	traceroute	Add the host name after the command will display the routing information to the host

28 Access Control List

28.1 Configure commands

28.1.1 standard ip access-list

Configure the standard ip access-list .By a series of match rules, we can filter network data.

```
ip access-list standard { ACL-name}  
no ip access-list standard { ACL-name}
```

Parameter	parameter	description
	ACL-name	The name of the ACL (0-9)
Default	Null	
Mode	Configuration mode	
Usage	Configuration access control list	
Example	ip access-list standard 0	
Command	command	descriptio
	show access-list	Display access control list information.

28.1.2 extended ip access-list

Configure the extended ip access-list .By a series of match rules, we can filter network data.

```
ip access-list extended{ ACL-name}  
no ip access-list extended { ACL-name}
```

Parameter	parameter	description
	ACL-name	The name of the ACL (10-19)
Default	Null	
Mode	Configuration mode	

Usage	Configuration access control list	
Example	ip access-list extended 10	
Command	command	description
	show access-list	Display access control list information.

28.1.3 ACE configuration

Under the ip access-list,config the specific rules.

ip access-list {standard|extended} {0-9|10-19}
[0-9|deny|end|exit|hlep|no|permit]

Parameter	parameter	description
	0-9	Config ace number, optional,Default vlaue is 0.
	deny	Deny assignable data type , parameter has [any host sip]
	end	Quit
	exit	Back to Previous Level
	no	Delete the rules
	permit	Permit assignable data type , parameter has [any host sip]
Default	Null	
Mode	ACL configuration mode	
Usage	Configuration ACE	
Example	<pre>ip access-list standard 0 permit any</pre>	
	<pre>ip access-list extended 10 permit ip any any</pre>	
Command	command	description
	show access-list	Display access control list information.

28.1.4 standard ip access-list deny|permit

Under the standard ip access-list,config the deny or permit rules.

```
ip access-list standard {0-9}
 [ace_id] {deny|permit} {any|host|sip}
ip access-list standard {0-9}
 no {ace_id}
```

	parameter	description
Parameter	any	any source IP address
	host	host IP address
	sip	assignable source IP address and mask
	ace_id	ACE number(0-9)

Default	Null
Mode	ACL configuration mode

Usage	Configuration ACE
-------	-------------------

Example	<pre>ip access-list standard 0 permit any</pre>
---------	--

	command	description
Command	show access-list	Display access control list information.

28.1.5 extended ip access-list deny|permit

Under the extended ip access-list, config the deny or permit rules.

ip access-list extended {10-19}

[ace_id] {deny|permit} {ip|tcp|udp} {any|host|sip} [eq] {any|host|dip} [eq]

ip access-list extended {10-19}

no {ace_id}

	parameter	description
Parameter	ip tcp udp	protocol type
	any	any source IP address
	host	host IP address
	sip	assignable source IP address and mask
	dip	assignable dest IP address and mask
	eq	TCP/UDP port filtering
	ace_id	ACE number(0-9)

Default	Null				
Mode	ACL configuration mode				
Usage	Configuration ACE				
Example	<pre>ip access-list extended 10 permit ip any any</pre>				
Command	<table border="1"><thead><tr><th>command</th><th>description</th></tr></thead><tbody><tr><td>show access-list</td><td>Display access control list information.</td></tr></tbody></table>	command	description	show access-list	Display access control list information.
command	description				
show access-list	Display access control list information.				

28.1.6 ip access-list commit

Use this command, Will be ACL Apply to the interface. We can filter rx data.

```
interface GigabitEthernet {port_id}
  ip access-list {ACL-name} commit
interface GigabitEthernet {port_id}
  no ip access-list {ACL-name} commit
```

	parameter	description
Parameter	port_id	Interface ID
	ACL-name	The name of the ACL
Default	Null	
Mode	interface configuration mode	
Usage	Apply the ACL	
Example	<pre>interface GigabitEthernet 0/1 ip access-list 0 commit</pre>	
Command	Null	

28.1.7 standard ipv6 access-list

Configure the standard ipv6 access-list .By a series of match rules, we can filter network ipv6 data.

```
ipv6 access-list standard { ACL-name}
no ipv6 access-list standard { ACL-name}
```

	parameter	description
Parameter	ACL-name	The name of the ACL (26-35)
Default	Null	
Mode	Configuration mode	
Usage	Configuration access control list	

Example	<code>ipv6 access-list standard 26</code>	
Command	command	descriptio
	<code>show access-list</code>	Display access control list information.

28.1.8 extended ipv6 access-list

Configure the extended ipv6 access-list .By a series of match rules, we can filter network ipv6 data.

ipv6 access-list extended{ ACL-name}
no ipv6 access-list extended { ACL-name}

Parameter	parameter	description
	ACL-name	The name of the ACL (36-45)
Default	Null	
Mode	Configuration mode	
Usage	Configuration access control list	
Example	<code>ip access-list extended 36</code>	
Command	command	description
	<code>show access-list</code>	Display access control list information.

28.1.9 ipv6 ACE configuration

Under the ipv6 access-list,config the specific rules.

ipv6 access-list {standard|extended} {26-35|36-45}
[0-9|deny|end|exit|hlep|no|permit]

Parameter	parameter	descriptio
	0-9	Config ace number, optional,Default vlaue is 0.
	deny	Deny assignable data type , parameter has [any host sip]
	end	Quit
	exit	Back to Previous Level
	no	Delete the rules
	permit	Permint assignable data type , parameter has [any host sip]

Default	Null				
Mode	ipv6 ACL configuration mode				
Usage	Configuration ACE				
Example	<pre> ipv6 access-list standard 26 permit any ipv6 access-list extended 36 permit ip any any </pre>				
Command	<table border="1"> <thead> <tr> <th>command</th> <th>description</th> </tr> </thead> <tbody> <tr> <td>show access-list</td> <td>Display access control list information.</td> </tr> </tbody> </table>	command	description	show access-list	Display access control list information.
	command	description			
show access-list	Display access control list information.				

28.1.10 standard ipv6 access-list deny|permit

Under the standard ip access-list,config the deny or permit rules.

```

ipv6 access-list standard {26-35}
  [ace_id] {deny|permit} [any|host|sip]
ipv6 access-list standard {26-35}
  no {ace_id}

```

Parameter	parameter	description
	any	any source IP address
	host	host IP address
	sip	assignable source IP address and mask
	ace_id	ACE number(0-9)

Default	Null				
Mode	ACL configuration mode				
Usage	Configuration ACE				
Example	<pre> ipv6 access-list standard 26 permit any </pre>				
Command	<table border="1"> <thead> <tr> <th>command</th> <th>description</th> </tr> </thead> <tbody> <tr> <td>show access-list</td> <td>Display access control list information.</td> </tr> </tbody> </table>	command	description	show access-list	Display access control list information.
	command	description			
show access-list	Display access control list information.				

28.1.11 extended ipv6 access-list deny|permit

Under the extended ip access-list,config the deny or permit rules.

```
ip access-list extended {36-45}
  [ace_id] {deny|permit} {ip|tcp|udp} {any|host|sip} [eq] {any|host|dip} [eq]
ip access-list extended {36-45}
  no {ace_id}
```

	parameter	description
Parameter	ip tcp udp	protocol type
	any	any source IP address
	host	host IP address
	sip	assignable source IP address and mask
	dip	assignable dest IP address and mask
	eq	TCP/UDP port filtering
	ace_id	ACE number(0-9)
	Default	Null
Mode	ACL configuration mode	
Usage	Configuration ACE	
Example	<pre>ipv6 access-list extended 36 permit ip any any</pre>	
Command	command	description
	show access-list	Display access control list information.

28.1.12 ipv6 access-list commit

Use this command,Will be ipv6 ACL Apply to the interface.We can filter rx data.

```
interface GigabitEthernet {port_id}
  ipv6 access-list {ACL-name} commit
interface GigabitEthernet {port_id}
  no ipv6 access-list {ACL-name} commit
```

	parameter	description
Parameter	port_id	Interface ID
	ACL-name	The name of the ACL

Default	Null
Mode	interface configuration mode
Usage	Apply the ACL
Example	<pre>interface GigabitEthernet 0/1 ipv6 access-list 26 commit</pre>
Command	Null

28.1.13 mac access-list extended

Configure the MAC access-list .By a series of match rules, we can filter network data.

mac access-list extended { ACL-name}

no mac access-list extended { ACL-name}

Parameter	parameter	description
	ACL-name	The name of the ACL (20-25)
Default	Null	
Mode	Configuration mode	
Usage	Configuration access control list	
Example	<pre>mac access-list extended 20</pre>	
Command	command	descriptio
	show access-list	Display access control list information.

28.1.14 mac ACE configuration

Under the mac access-list,config the specific rules.

mac access-list extended {20-25}
 [0-9|deny|end|exit|hlep|no|permit]

Parameter	parameter	description
	0-9	Config ace number, optional,Default vlaue is 0.
	deny	Deny assignable data type , parameter has [any host sip]
	end	Quit
	exit	Back to Previous Level
	no	Delete the rules
	permit	Permint assignable data type , parameter has [any host sip]
Default	Null	
Mode	ACL configuration mode	
Usage	Configuration ACE	
Example	<pre>mac access-list extended 20 permit any any</pre>	
Command	command	description
	show access-list	Display access control list information.

28.1.16 mac access-list deny|permit

Under the extended mac access-list,config the deny or permit rules.

mac access-list extended {20-25}
 [ace_id] {deny|permit} {any|host} {any|host} [ethtype]
mac access-list extended {20-25}
 no {ace_id}

Parameter	parameter	description
	any	any source/dest mac address
	host	host mac address
	ethtype	ethernet frame type
	ace_id	
Default	Null	

Mode	ACL configuration mode	
Usage	Configuration ACE	
Example	<pre>ip access-list extended 10 permit ip any any</pre>	
Command	command	description
	show access-list	Display access control list information.

28.1.17 mac access-list commit

Use this command, Will be mac ACL Apply to the interface. We can filter rx data.

```
interface GigabitEthernet {port_id}
  mac access-list {ACL-name} commit
interface GigabitEthernet {port_id}
  no mac access-list {ACL-name} commit
```

Parameter	parameter	description
	port_id	Interface ID
	ACL-name	The name of the ACL
Default	Null	
Mode	interface configuration mode	
Usage	Apply the ACL	
Example	<pre>interface GigabitEthernet 0/1 mac access-list 20 commit</pre>	
Command	Null	

28.2 display commands

28.2.1 show access-list

show access-list information.

show access-lists

	parameter	description
Parameter	show access-lists	Display access control list information.
Default	Null	
Mode	Privileged mode	
Usage	display access control list information.	
Example	show access-list mac access-list extended 20 0 permit any any ip access-list standard 0 0 permit any ip access-list extended 10 0 permit ip any any ipv6 access-list standard 26 0 permit any ipv6 access-list extended 36	
Command	Null	

29 802.1X

If you want this function to take effect, please configure the 802.1X server of RADIUS first.

29.1 Configure commands

29.1.1 authentication dot1x

global switches, If you want to use this function,you must config this command.

authentication dot1x
no authentication dot1x

Parameter	parameter	description
	Null	Null
Default	Null	
Mode	Configuration mode	
Usage	Configuration 802.1X	
Example	authentication dot1x	
Command	command	description
	show authentication	display 802.1x information.

29.1.2 authentication dot1x

Under the interface,we use this command open port's 802.1X fuction.

interface GigabitEthernet {port_id}
authentication dot1x
interface GigabitEthernet {port_id}
no authentication dot1x

Parameter	parameter	description
	port_id	Interface ID
Default	Null	
Mode	interface configuration mode	

Usage	Configuration 802.1X	
Example	interface GigabitEthernet 0/3 authentication dot1x	
Command	command	description
	show authentication interface GigabitEthernet port_id	display 802.1x port information.

29.1.3 authentication port-control

Under the interface, we use this command to configure 802.1X port-control mode.

```
interface GigabitEthernet {port_id}
  authentication port-control {auto|force-auth|force-unauth}
interface GigabitEthernet {port_id}
  no authentication port-control
```

Parameter	parameter	description
	port_id	Interface ID
	auto	auto mode
	force-auth	force-auth mode
	force-unauth	force-unauth mode
Default	Null	
Mode	interface configuration mode	
Usage	Configuration 802.1X port-control mode.	
Example	interface GigabitEthernet 0/3 authentication port-control auto	
Command	command	description
	show authentication interface GigabitEthernet port_id	display 802.1x port information.

29.1.4 authentication host-mode

Under the interface, we use this command to configure 802.1X host-mode.

```

interface GigabitEthernet {port_id}
  authentication host-mode {single-host|multi-host|multi-auth}
interface GigabitEthernet {port_id}
  no authentication host-mode

```

Parameter	parameter	description
	port_id	Interface ID
	single-host	Single Host Mode
	multi-host	Multiple Host Mode
	multi-auth	Multiple Authentication Mode
Default	multi-auth	
Mode	interface configuration mode	
Usage	Configuration 802.1X port-control mode.	
Example	<pre> interface GigabitEthernet 0/3 authentication host-mode multi-host </pre>	
Command	command	description
	show authentication interface GigabitEthernet port_id	display 802.1x port information.

29.2 Display commands

29.2.1 show authentication

show 802.1X information.

```

show authentication {interfaces GigabitEthernet port_id}

```

Parameter	parameter	description
	port_id	Interface ID
Default	Null	
Mode	Privileged mode	

Usage display 802.1X information.

Example show authentication
Authentication dot1x state : enabled
Authentication mac state : disabled
Authentication web state : disabled
Guest VLAN : disabled

Show authentication interface GigabitEthernet0/3
Interface Configurations

Interface GigabitEthernet0/3
Admin Control : force-unauth
Host Mode : multi-host
Type dot1x State : enabled
Type mac State : disabled
Type web State : disabled
Type Order : dot1x
MAC/WEB Method Order : radius
Guest VLAN : disabled
Reauthentication : disabled
Max Hosts : 256
VLAN Assign Mode : static
Common Timers
Reauthenticate Period: 3600
Inactive Timeout : 60
Quiet Period : 60
802.1x Parameters
EAP Max Request : 2
EAP TX Period : 30
Supplicant Timeout : 30
Server Timeout : 30
Web-auth Parameters
Login Attempt : 3

Command Null

30 AAA

30.1 Configure commands

30.1.1 radius host

Configure all the parameters that switch connect to the radius sever .

radius host {host_name} [**auth-port**] {port_id} [**key**] {key} [**priority**] {pri_value} [**retransmit**]
{retransmit_times} [**timeout**] {timeout_vlaue} [**type**] {auth_type}
no radius host {ip_addr}

	parameter	description
Parameter	host_name	radius sever ip address or domain name
	port_id	TCP/UDP port number,default is 1812.(0-65535)
	key	Radius server key
	pri_value	priority vlaue,(1-65534)
	retransmit_times	The number of retransmit,default is 3.(1-10)
	timeout_vlaue	Timeout value in seconds to wait for server to reply.(1-30)
	auth_type	Usage type.[802.1x login all]

Default	port_id:1812 retransmit_times:3	
Mode	Configuration mode	
Usage	Configuration radius	
Example	radius host 192.168.100.1 auth-port 1812 key public priority 1 retransmit 1 timeout 1 type all	
Command	command	descriptio
	show radius	display radius information.

30.1.2 tacacs host

Configure all the parameters that switch connect to the tacacs sever .

```
tacacs host {host_name} [port] {port_id} [key] {key} [priority] {pri_value}  
[timeout] {timeout_vlaue}  
no tacacs host {ip_addr}
```

	parameter	description
Parameter	host_name	Tacacs sever ip address or domain name
	port_id	TCP/UDP port number,default is 49.(0-65535)
	key	Tacacs server key
	pri_value	priority vlaue,(1-65534)
	timeout_vlaue	Timeout value in seconds to wait for server to reply.(1-30)

Default port_id:49

Mode Configuration mode

Usage Configuration tacacs

Example tacacs host 192.168.100.1 port 49 key public priority 1 timeout 30

	command	descriptio
Command	show tacacs	display tacacs information.

30.1.3 aaa authentication enable

Configure eable authentication method.

```
aaa authentication {enable} {list_name} {auth_method_list}  
no aaa authentication {enable} {list_name}
```

	parameter	description
Parameter	list_name	Auth Method List Name
	auth_method_list	Enable Authentication Method List. [radius tacacs+ enable]

Default	Null	
Mode	Configuration mode	
Usage	Configure eable authentication method.	
Example	aaa authentication enable Xn enable tacacs+ radius	
Command	command	descriptio
	show aaa authentication enable lists	display enable authentication information.

30.1.4 aaa authentication login

Configure login authentication method.login include console,telnet and SSH.

aaa authentication {login} {list_name} {auth_method_list}
no aaa authentication {login} {list_name}

Parameter	parameter	description
	list_name	Auth Method List Name
	auth_method_list	Login Authentication Method List. [radius tacacs+ locaol]

Default	Null	
Mode	Configuration mode	
Usage	Configure login authentication method.	
Example	aaa authentication login Xn local radius tacacs+	
Command	command	descriptio
	show aaa authentication login lists	display login authentication information.

30.1.5 line console

If you want to login by console and need AAA authentication,you must config this command.

line console
login authentication {Login_auth_list_name}
enable authentication {enable_auth_list_name}

line console
no login authentication
no enable authentication

	parameter	description
Parameter	Login_auth_list_name	Login auth Method List Name
	enable_auth_list_name	Enable auth Method List Name

Default

Null

Mode

Configuration mode

Usage

Configure login authentication method.

Example

```
line console
 login authentication Xn
 enable authentication Xn
```

Command

command	descriptio
show line lists	display login authentication information.

30.1.6 line telnet

If you want to login by telnet and need AAA authentication, you must config this command.

line telnet
login authentication {Login_auth_list_name}
enable authentication {enable_auth_list_name}
line telnet
no login authentication
no enable authentication

	parameter	description
Parameter	Login_auth_list_name	Login auth Method List Name
	enable_auth_list_name	Enable auth Method List Name

Default

Null

Mode

Configuration mode

Usage

Configure telnet authentication method.

Example

```
line telnet
login authentication Xn
enable authentication Xn
```

Command

command	descriptio
show line lists	display telnet authentication information.

30.1.7 line ssh

If you want to login by ssh and need AAA authentication, you must config this command.

line ssh

login authentication {Login_auth_list_name}

enable authentication {enable_auth_list_name}

line ssh

no login authentication

no enable authentication

	parameter	description
Parameter	Login_auth_list_name	Login auth Method List Name
	enable_auth_list_name	Enable auth Method List Name

Default Null

Mode Configuration mode

Usage Configure ssh authentication method.

Example
line ssh
login authentication Xn
enable authentication Xn

	command	descriptio
Command	show line lists	display ssh authentication information.

30.2 Display commands

30.2.1 show radius

show radius information.

show radius

	parameter	description
Parameter	Null	Null
Default	Null	
Mode	Privileged mode	
Usage	display radius information.	
Example	show radius Prio IP Address Auth-Port Retries Timeout Type Key -----+-----+-----+-----+-----+-----+----- 1 192.168.100.1 1812 1 1 All public	
Command	Null	

30.2.2 show tacacs

show tacacs information.

show radius

	parameter	description
Parameter	Null	Null
Default	Null	
Mode	Privileged mode	
Usage	display tacacs information.	
Example	show tacacs Prio Timeout IP Address Port Key -----+-----+-----+-----+----- 1 30 192.168.100.1 49 public	

Command	Null
---------	------

30.2.4 show aaa authentication enable list

show aaa authentication information.

show aaa authentication enable list

Parameter	<table border="1"><thead><tr><th>parameter</th><th>description</th></tr></thead><tbody><tr><td>Null</td><td>Null</td></tr></tbody></table>	parameter	description	Null	Null
parameter	description				
Null	Null				
Default	Null				
Mode	Privileged mode				
Usage	display aaa authentication information.				
Example	<pre>show aaa authentication enable list Enable List Name Authentication Method List ----- ----- default enable Xn enable tacacs+ radius</pre>				
Command	Null				

30.2.2 show aaa authentication login list

show aaa authentication information.

show aaa authentication login list

Parameter	<table border="1"><thead><tr><th>parameter</th><th>description</th></tr></thead><tbody><tr><td>Null</td><td>Null</td></tr></tbody></table>	parameter	description	Null	Null
parameter	description				
Null	Null				
Default	Null				
Mode	Privileged mode				

Usage	display aaa authentication information..
Example	<pre>show aaa authentication login lists Login List Name Authentication Method List ----- ----- default local Xn local radius tacacs+</pre>
Command	Null

31 SSH

31.1 Configure commands

31.1.1 ip ssh

enable ssh function

ip ssh [all|v1|v2]
no ip ssh [all|v1|v2]

	parameter	description
Parameter	[all v1 v2]	ssh version number

Default	Null
---------	------

Mode	Configuration mode
------	--------------------

Usage	Configuration radius
-------	----------------------

Example	ip ssh
---------	--------

Command	Null
---------	------

32 SSL

32.1 Configure commands

32.1.1 ssl

generate ssl digital certificate

ssl

	parameter	description
Parameter	Null	Null

Default	Null
---------	------

Mode	Privileged mode
------	-----------------

Usage	generate new certificate
-------	--------------------------

Example	ssl
---------	-----

Command	Null
---------	------

32.1.2 ssl replace

Make the new ssl digital certificate work.

ssl replace

Parameter

Default	Null
---------	------

Mode	Privileged mode
------	-----------------

Usage	Make the new ssl digital certificate work
-------	---

Example	ssl replace
Command	Null

33 Qos

33.1 Configure commands

33.1.1 qos trust

Config qos classify mode.

qos trust {classify_mode}
no qos trust

	parameter	description
Parameter	classify_mode	Qos Classify mode. [cos dscp]

Default	Null
---------	------

Mode	config mode
------	-------------

Usage	config qos classify mode
-------	--------------------------

Example	qos queue trust dscp
---------	----------------------

	command	description
Command	show qos	display qos information.

33.1.2 qos queue schedule

Config qos schedule algorithm.

qos queue schedule {schedule_mode}

	parameter	description
Parameter	schedule_mode	Qos schedule mode. [sp wrr hybird]

Default	Null	
Mode	config mode	
Usage	config qos schedule algorithm	
Example	qos queue schedule wrr	
Command	command	descriptio
	show qos queueing	display qos queue information.

33.1.3 qos map cos-queue

Config qos queue mapping relationship.

qos map cos-queue {cos_value} to {queue_num}

Parameter	parameter	description
	cos_value	Cos value.
	queue_num	Queue number(1-8)
Default	Null	
Mode	config mode	
Usage	config qos queue mapping relationship	
Example	qos map cos-queue 1 to 1	
Command	command	descriptio
	show qos map cos-queue	display qos map information.

33.1.4 qos map dscp-queue

Config qos queue mapping relationship.

qos map dscp-queue {dscp_value} to {queue_num}

	parameter	description
Parameter	dscp_value	DSCP value.
	queue_num	Queue number(1-8)

Default Null

Mode config mode

Usage config qos queue mapping relationship

Example qos map dscp-queue 1 to 8

	command	descriptio
Command	show qos map dscp-queue	display qos map information.

33.1.5 qos map weight

When you use WRR mode,you need config every queues weight value.you must use this command.

qos map weight {weight_values}

	parameter	description
Parameter	weight_values	weight_values.(1-127)

Default Null

Mode config mode

Usage config qos queue weight.

Example qos queue weight 1 1 1 50 50 50 100 100

	command	descriptio
Command	show qos map queueing	display qos queue information.

33.1.6 qos queue strict-priority-num

When you use hybrid mode, you need config SP schedule queue's number. you must use this command.

qos queue strict-priority-num {SP_num}

	parameter	description
Parameter	weight_values	weight_values.(1-127)
Default	Null	
Mode	config mode	
Usage	config qos queue weight.	
Example	qos queue weight 1 1 1 50 50 50 100 100	
Command	Null	

33.2 Display commands

33.2.1 show qos

show qos information.

show qos

	parameter	description
Parameter	Null	Null
Default	Null	
Mode	Privileged mode	
Usage	display qos information.	

Example	show qos QoS Mode: enable Basic trust: cos
Command	Null

33.2.2 show qos queueing

show qos queue information.

show qos queueing

	parameter	description
Parameter	Null	Null
Default	Null	
Mode	Privileged mode	
Usage	display qos queueing information.	
Example	show qos queueing queue Schedule Alg: hybrid qid-weights Ef - Priority 1 - 1 dis- N/A 2 - 2 dis- N/A 3 - 3 dis- N/A 4 - 4 dis- N/A 5 - 5 dis- N/A 6 - 6 dis- N/A 7 - 10 dis- N/A 8 - N/A ena- 8	
Command	Null	

33.2.3 show qos map cos-queue

show qos queue information.

show qos map cos-queue

	parameter	description
Parameter	Null	Null
Default	Null	
Mode	Privileged mode	
Usage	display qos map information.	
Example	show qos map cos-queue	
	CoS to Queue mappings	
	COS 0 1 2 3 4 5 6 7	

	Queue 2 1 1 2 3 3 4 4	
Command	Null	

33.2.4 show qos map dscp-queue

show qos queue information.

show qos map dscp-queue

	parameter	description
Parameter	Null	Null
Default	Null	
Mode	Privileged mode	
Usage	display qos map information.	
Example	show qos map dscp-queue	
	DSCP to Queue mappings	
	d1:d2 0 1 2 3 4 5 6 7 8 9	

	0: 8 8 8 8 8 8 2 2 2 2	
	1: 2 2 2 2 2 2 2 2 2 2	
	2: 2 2 2 2 2 2 2 2 2 2	

3: 2 2 2 2 2 2 2 2 2 2
4: 2 2 2 2 2 2 2 2 2 2
5: 2 2 2 2 2 2 2 2 2 2
6: 2 2 2 2

Command

Null

34 POE commands

34.1 configure command

34.1.1 Poe enable

Enable the power supply capability of the POE port

poe enable

no poe enable

	Parameter	description
Parameter	poe enable	Enable POE power supply function, the default is on
	no poe enable	Turn off POE power supply

Default Enable POE power supply

Mode Interface configuration mode

Usage Use this command to enable / disable the remote power supply capability of the port.

Example **SWITCH(config-if-GigabitEthernet0/1)# poe enable**
SWITCH(config-if-GigabitEthernet0/1)# no poe enable

	command	description
Command	show poe interfaces configuration	View the configuration information of current interface POE

34.1.2 poe mode

Configure the power management mode of the POE system

poe mode auto

poe mode energy-saving

poe mode static

	Parameter	description
Parameter	auto	Set the power management mode to automatic mode, which is the default mode for POE devices
	energy-saving	Set the power management mode to energy saving mode, which is an optional mode for POE devices
	static	Set the power management mode to static mode, which is an optional mode for POE devices

Default energy-saving.

Mode Global configuration mode

Usage Execute the following command to set the system power management mode

Example

```
SWITCH(config)# poe mode auto
SWITCH(config)# poe mode energy-saving
SWITCH(config)# poe mode static
```

	command	description
Command	show poe powersupply	View the poe system configuration information.

34.1.3 poe max-power

Set the system maximum power.

poe max-power

no poe max-powe

	Parameter	description
Parameter	int	Maximum power in the range <6,11,20,32,35W>

Default 35W

Mode Interface configuration mode

Usage Use this command to configure the maximum power of the port.

Example
SWITCH(config)# interface GigabitEthernet 0/1
SWITCH(config-if-GigabitEthernet0/1)# poe max-power 20

	command	description
Command	show poe interfaces configuration	View the poe interface configuration information.

34.1.4 poe alloc-power

Set the system allocation power.

poe alloc-power

no poe alloc-power

	Parameter	description
Parameter	int	Allocation power in the range <6,11,20,32,35W>

Default 35W

Mode Interface configuration mode

Usage Use this command to configure the allocation power of the port in static mode.

Example
SWITCH(config)# interface GigabitEthernet 0/1
SWITCH(config-if-GigabitEthernet0/1)# poe alloc-power 20

	command	description
Command	show poe interfaces configuration	View the poe interface configuration information.

34.1.5 poe timer enable

enable the POE timer
poe timer enable
no poe timer enable

	Parameter	description
Parameter	poe timer enable	Enable POE timer
	no poe timer enable	Disable POE timer

Default disable POE timer

Mode Global configuration mode

Usage Use this command to enable / disable the remote power supply capability of the port.

Example SWITCH(config)# poe timer enable
 SWITCH(config)# no poe timer enable

	command	description
Command	show poe timer	View the configuration information of current interface POE timer

34.1.6 poe timer configuration

Set the poe timer mode

	Parameter	description
Parameter	absolute	Set poe power to the absolute time
	periodic	Set the poe power cycle time

Default null

Mode Interface configuration mode

Usage Use the command to set the poe power supply time

Example

```
SWITCH(config)# poe timer enable
SWITCH(config)# interface GigabitEthernet 0/5
SWITCH(config-if-GigabitEthernet0/5)# poe timer periodic everyday 8:30 to 19:30
mon to wed
SWITCH(config-if-GigabitEthernet0/5)# poe timer absolute start 08:30 jul 25 2017 stop
18:30 sep 30 2017
```

	command	description
Command	show poe timer	View the configuration information of current interface POE timer information

34.2 Display relevant commands

34.2.1 show poe interface

View the POE configuration and status information for the specified port.

show poe interface gigabitEthernet port-id

	Parameter	description
Parameter	port-id	Allocation power in the range <6,11,20,32,35W>

Default -

Mode Privilege configuration mode.

Usage Execute this command to view the POE status of the specified port.

Example SWITCH# show poe interfaces GigabitEthernet 0/1

```
Interface           : gi0/1
Pd Description       :
Power control        : Normal
Power status         : Detecting
Max power            : 35 W
Allocate power       : 35 W
Current power        : 0 W
Average power        : 0 W
Peak power           : 0 W
Voltage              : 52.908 V
Current              : 0 mA
PD class             : NoPd
Trouble cause        : None
Trouble Recover Mode : auto
Power management     : Energy-saving
SWITCH#
```

34.2.2 show poe interfaces

View the PoE status or configuration of all ports

show poe interfaces status

show poe interfaces configuration

Parameter	Parameter	description
	-	

Default -

Mode Privilege configuration mode.

Usage Execute this command to view the POE status or configuration of all ports.

```
SWITCH# show poe interfaces status
```

Interface	Power Control	Power Status	Curr Power	Avg Power	Peak Power	Curr Current	Trouble Cause	PD Class	Port Voltage
-----------	---------------	--------------	------------	-----------	------------	--------------	---------------	----------	--------------

Example

gi0/1	Normal	Detecting	0W	0W	0W	0mA	0	N/A	0V
gi0/2	Normal	Detecting	0W	0W	0W	0mA	0	N/A	0V
gi0/3	Normal	Detecting	0W	0W	0W	0mA	0	N/A	0V
gi0/4	Normal	Detecting	0W	0W	0W	0mA	0	N/A	0V
gi0/5	Normal	Detecting	0W	0W	0W	0mA	0	N/A	0V
gi0/6	Normal	Detecting	0W	0W	0W	0mA	0	N/A	0V
gi0/7	Normal	Detecting	0W	0W	0W	0mA	0	N/A	0V
gi0/8	Normal	Detecting	0W	0W	0W	0mA	0	N/A	0V

```
SWITCH#
```

34.2.3 show poe powersupply

View the current power state of the POE system.

show poe powersupply

	Parameter	description
Parameter	-	-

Default -

Mode Privilege configuration mode.

Usage Execute this command to view the power supply status of the current POE system.

Example SWITCH# show poe powersupply
Powering Port List :
Power Management Method : Energy-saving
Poe uninterruptible power : Disable
System Total Power : 70 W
Power Consumption : 0 W
Available power : 70 W [100%]

34.2.4 show poe timer

View the poe timer.
show poe timer

	Parameter	description
Parameter	-	-

Default -

Mode Privilege configuration mode.

Usage Execute this command to view the current poe timer information

Example

```
SWITCH# show poe timer
PORT | Timer mode | Start timer | Stop timer
-----+-----+-----+-----
1 | Periodic | Wednesday 8:0 | Friday 23:0
```

35 SNMP command

35.1 SNMP configuration commands

35.1.1 snmp enable

Enable the SNMP agent
Snmp enable

	Parameter	description
Parameter	snmp enable	Enable the SNMP agent, the default is off

Default close the SNMP agent.

Mode Global configuration mode

Usage Use this command to configure and enable the SNMP agent, Ipv6 snmp is enabled at the same time

Example SWITCH(config)# snmp enable

	command	description
Command	show snmp	View the current SNMP status.

35.1.2 no snmp enable

Close the SNMP agent

no snmp enable

	Parameter	description
Parameter	snmp enable	Enable the SNMP agent, the default is off

Default close the SNMP agent.

Mode Global configuration mode

Usage Use this command to configure and shut down the SNMP agent.

Example SWITCH(config)# no snmp enable

	command	description
Command	show snmp	View the current SNMP status.

35.1.3 snmp enable traps

To enable SNMP to actively send trap messages to the NMS to report some urgent and important events, Run the global configuration command `snmp-server enable traps`. The no form of this command disables SNMP from the NMS Send the Trap message proactively.

snmp-server enable traps

no snmp-server enable traps

	parameter	Description
Parameter	<code>snmp-server enable traps</code>	Open the trap function
	<code>no snmp-server enable traps</code>	Close the trap function

Default `disable`

Mode Global configuration mode

Usage The command must be used in conjunction with the global configuration command `snmp-server host` to send trap messages.

Example

```
SWITCH(config)# snmp-server enable traps
SWITCH(config)# no snmp-server enable traps
```

	command	description
Command	<code>show snmp</code>	View the current SNMP switch status.

35.1.4 snmp-server community

To specify the access characters for the SNMP community, perform the global configuration command `snmp-server community`.

snmp-server community *Community name* [**ro** | **rw**| **view**]

	parameter	description
parameter	<i>community name</i>	Community name
Default	-	
Mode	Global configuration mode	
Usage	This command is used with the global configuration command <code>snmp-server enable traps</code> to send trap messages to the NMS.	
Example	<pre>SWITCH(config)# snmp-server community test rw</pre>	
	command	description
Command	<code>show snmp community</code>	View Community Information.

35.1.5 snmp-server host

To specify the SNMP host (NMS) that sends trap messages, execute the global configuration command `snmp-server host`. The `no` form of the command deletes the specified SNMP host.

snmp-server host { *host-addr* [**traps**] [**version** { 1 | 2c|2} *community name* }
no snmp-server host *community name*

	parameter	description
parameter	<i>host-addr</i>	Receive the Trap host IP address
	<i>community name</i>	Community name
	<i>version</i>	SNMP supported version, this device supports v1, V2c, v3

Default There is no default SNMP host.

Mode Global configuration mode

Usage This command is used with the global configuration command `snmp-server enable traps` to send trap messages to the NMS.

Example

```
SWITCH(config)# snmp-server host 192.168.100.149 traps
version 1 test
SWITCH(config)# no snmp-server host 192.168.100.149 traps
version 1 test
```

	command	description
Command	<code>show snmp host</code>	View the host information of the receiving trap configured by the user.

35.1.6 snmp trap auth

In the device can be based on the interface configuration whether to send the interface LinkTrap, when the function is turned on, if the authentication fails, SNMP will issue authTrap, otherwise not made. Use the no option for this command SNMP will not issue authTrap.

snmp trap auth
no snmp trap auth

	parameter	description
parameter		

Default The function opens, and if the interface auth fails, SNMP will issue authTrap.

Mode global configuration mode.

Usage When the function is turned on, if auth fails to change, SNMP will be issued AuthTrap

Example
SWITCH(config)# snmp trap auth
SWITCH(config)# no snmp trap auth

	command	description
Command	show snmp trap	View the snmp trap configuration

35.1.7 snmp trap link-status

In the device can be based on the interface configuration whether to send the interface LinkTrap, when the function is turned on, if the interface Link status changes, SNMP will send LinkTrap, otherwise not made. Use the no option for this command SNMP will not send LinkTrap.

snmp trap linkUp
snmp trap linkDown

	parameter	description
parameter		

Default This function is enabled. If the link status changes, SNMP will send LinkTrap.

Mode global configuration mode.

Usage For the interface (Ethernet interface, Ap interface, SVI interface), the command configures whether to send the interface LinkTrap, when the function is turned on, if the interface changes Link state, SNMP will be issued LinkTrap,

Example

```
SWITCH(config)# snmp trap linkUp  
SWITCH(config)# snmp trap linkDown
```

	command	description
Command	show snmp trap	View the snmp trap configuration

35.1.8 snmp trap restart

For warm-start and cold-start, open the trap function, after the success of the restart will send the relevant trap message

snmp trap cold-start
snmp trap warm-start

	parameter	description
parameter		

Default	This function is enabled.If the switch reboots or restarts, the trap message is sent after a successful reboot
---------	--

Mode	global configuration mode.
------	----------------------------

Usage	For warm-start and cold-start, open the trap function, after the success of the restart will send the relevant trap message
-------	---

Example	SWITCH(config)# snmp trap cold-start SWITCH(config)# snmp trap warm-start
---------	--

	command	description
Command	show snmp trap	View the snmp trap configuration

35.1.9snmp trap stp

When this function is enabled, when the topology changes or a new root bridge is created, the trap information of stp is sent and no trap information is sent.

snmp trap stp

no snmp trap stp

	parameter	description
parameter		

Default

This function default is disabled. If the topology changes or a new root bridge is created, the trap information of stp is sent and no trap information is sent.

Mode

global configuration mode.

Usage

when the topology changes or a new root bridge is created, the trap information of stp is sent and no trap information is sent.

Example

```
SWITCH(config)# snmp trap stp
```

```
SWITCH(config)# no snmp trap stp
```

Command

command	description
show snmp trap	View the snmp trap configuration

35.2 SNMP display relevant commands

35.2.1 show snmp-status

Displays the current SNMP on state.

show snmp

	parameter	description
parameter		

Default

Mode

Privilege configuration mode.

Usage

Example

```
SWITCH# show snmp
SNMP is enabled.
```

35.2.2 show snmp trap

Displays the current SNMP trap status.

show snmp trap

	parameter	description
parameter		

Default

-

Mode

Privilege configuration mode.

Usage

-

Example

```
SWITCH# show snmp trap
SNMP global trap : Enable
SNMP auth failed trap : Enable
SNMP linkUp trap : Enable
SNMP linkDown trap : Enable
SNMP cold-start trap : Enable
SNMP warm-start trap : Enable
SNMP stp trap : Enable
```

35.2.3 show community

Displays the current SNMP community status.

show snmp community

parameter	parameter	description

Default -

Mode Privilege configuration mode.

Usage -

Example

```
SWITCH# show snmp community
Community Name  Group Name      View      Access
-----
private        -              all       rw
public         -              all       ro
```

35.2.4 show snmp host

Displays the host that receives the trap information.

show snmp host

parameter	parameter	description

Default -

Mode Privilege configuration mode.

Usage -

Example

```
SWITCH# show snmp host
Server      Community/User Name  Notification Version  Notification Type  UDP Port
Retries    Timeout
-----
192.168.100.139  test                v1                    trap               162      --      --

Total Entries: 1
```

36 lldp settings

36.1 lldp settings

36.1.1 LLDP enable

LLDP is a Layer 2 protocol that allows network devices to advertise their own device identities and performance on the local subnet.

lldp

no lldp

	Parameter	description
Parameter	-	-

Default	default is disable
---------	--------------------

Mode	Global configuration mode
------	---------------------------

Usage	Use “ lldp ” command to enable LLDP RX/TX ability. The LLDP enable status is displayed by “ show lldp ” command. Use the no form of this command to disable the LLDP.
-------	--

Example	SWITCH(config)# lldp SWITCH(config)# no lldp
---------	---

	command	description
Command	show lldp	Display lldp information

36.1.2 LLDP rx

When the port works in Rx mode, the device only receives non-sending neighbor devices to send LLDP packets.

lldp rx
no lldp rx

	Parameter	description
Parameter	-	-
Default	default is disable	
Mode	Interface configuration mode	
Usage	Use “ lldp rx ” command to enable LLDP PDU RX ability. The configuration is displayed by “ show lldp ” command.	
Example	SWITCH(config-if-GigabitEthernet0/1)# lldp rx SWITCH(config-if-GigabitEthernet0/1)# no lldp rx	
Command	command	description
	show lldp	Display lldp information

36.1.3LLDP tx-interval

Declare local capacity to send the message

lldp tx-interval <5-32767>

no lldp tx-interval

	Parameter	description
Parameter	<5-32767>	Specify the lldp pdu tx interval in unit of second

Default default tx-interval is 30s

Mode Global configuration mode

Usage Use “**lldp tx-interval**” command to enable LLDP TX interval.it should be noticed that both”**lldp tx-interval** ” and ”**lldp tx-delay**” affects the lldp pdu tx time,the large value of the two configuration decides the TX interval ,the configuration is displayed by “**show lldp**” command.

Example SWITCH(config)# lldp tx-interval 10
SWITCH(config)# no lldp tx-interval

	command	description
Command	show lldp	Display lldp information

36.1.4LLDP reinit-delay

LLDP module re-initialization delay.

lldp reinit-delay <1-10>

no lldp reinit-delay

Parameter	Parameter	description
	<1-10>	Specify the LLDP re-initial delay time in unit of second

Default	default reinit-delay is 2s
---------	----------------------------

Mode	Global configuration mode
------	---------------------------

Usage	Use “ lldp reinit-delay ” command to configure LLDP reinit-delay. The delay avoids LLDP generate too many pdu if the port up and down frequently.the delay starts to count when the port links down.the port would not generate lldp pdu until the delay counts to zero .he configuration is displayed by “ show lldp ” command. Use the no form of this command to disable the LLDP.
-------	--

Example	SWITCH(config)# lldp reinit-delay 5 SWITCH(config)# no lldp reinit-delay
---------	---

Command	command	description
	show lldp	Display lldp information

36.1.5 LLDP holdtime-multiplier

The message time is multiples

lldp holdtime-multiplier <2-10>

no holdtime-multiplier

Parameter	Parameter	description
	<2-10>	Specify the LLDP hold time multiplier.

Default lldp holdtime-multiplier 4

Mode Global configuration mode

Usage Use “**lldp holdtime-multiplier**” command to configure the LLDP PDU hold multiplier that decides time-to-live (TTL) value sent in LLDP advertisements: $TTL = (tx-interval * holdtime-multiplier)$. The configuration could be shown by “**show lldp**” command.

Example SWITCH(config)# lldp holdtime-multiplier 3
SWITCH(config)# no lldp holdtime-multiplier

Command	command	description
	show lldp	Display lldp information

36.1.6 Ildp Ildpdu

LLDPPDUs are LLDP payloads that carry messages to be sent.

Ildp Ildpdu (bridging |filtering|flooding)

Parameter	Parameter	description
	bridging	When Ildp is globally disabled,Ildp packets are bridging(bridging Ildp pdu to vlan number ports)
	filtering	When Ildp is globally disabled,Ildp packets are filtered(deleted)
	flooding	When Ildp is globally disabled,Ildp packets are flooded (forwarded to all interfaces)

Default default Ildp pdu handling behaviour when Ildp dsabled is flooding

Mode Global configuration mode

Usage Use "Ildp Ildpdu" command to configure the LLDP pdu handling behaviour
 When Ildp is globally disabled it should be noticed that if Ildp is globally enabled and per port Ildp rx status is configured to disabled,the received Ildp pdu would be dropped instead of taking the global disable behavior. the configuration is displayed b y "show Ildp" command.

Example SWITCH(config)# Ildp Ildpdu bridging

command	description
show Ildp	Display Ildp information

Command

36.1.7LLDP med

LLDP module re-initialization delay.

lldp med
no lldp med

Parameter	Parameter	description
	-	-

Default	lldp med
---------	----------

Mode	Interface configuration mode
------	------------------------------

Usage	Use “ lldp med ” to configure the LLDP MED enable status. If LLDP MED is enabled, LLDP MED capability TLV and other selected MED TLV would be attached. The configuration could be shown by “show lldp med” command. Use the no form of this command to restore the behavior to default.
-------	--

MED.

Example	SWITCH(config-if-GigabitEthernet0/1)# lldp med SWITCH(config-if-GigabitEthernet0/1)# no lldp med
---------	---

Command	command	description
	show lldp	Display lldp information

36.1.8lldp med fast-start-repeat-count

Configure LLDP MED fast start repeat count

lldp med fast-start-repeat-count <1-10>
no lldp med fast-start-repeat-count

Parameter	Parameter	description
	<1-10>	LLDP PDU fast start TX repeat counts.

Default	Default fast start TX repeat count is 3
---------	---

Mode	Global Configuration
------	----------------------

Usage	Use “ lldp lldp med fast-start-repeat-count ” command to configure the LLDP pdu fast start tx repeat .when port links down,it will send lldp pdu immediately to notify link partner,the number of lldp pdu sends when it links up depends on f fast-start-repeat-count configuration,the lldp pdu fast-start transmits in interval of one second .the fast start behavior works no matter lldp med is enabled or not attached. The configuration could be shown by “show lldp med” command.Use the no form of this command to restore the behavior to default.
-------	---

Example	SWITCH(config)# lldp med fast-start-repeat-count 3
---------	--

Command	command	description
	show lldp med	Display lldp med information

36.1.9 lldp med tlv-select

Configure the tlv and no commands to add lldp packets to send tlv for lldp packets.

lldp med tlv-select *MEDTLV* [*MEDTLV*] [*MEDTLV*] [*MEDTLV*]

no lldp med tlv-select

	Parameter	description
Parameter	MEDTLV	MED optional TLV. Available optional TLVs are network-policy, location, poe-pse, inventory.
Default	network-policy TLV	
Mode	Interface configuration mode	
Usage	Use “ lldp med tlv-select ” command to configure the LLDP MED TLV selection. It should be noticed that even no MED TLV is selected, MED capability TLV would be attached if LLDP MED is enable. The configuration could be shown by “show lldp med” command. Use the no form of this command to remove all selected med tlv over the dedicated ports.	
Example	<pre>SWITCH(config-if-GigabitEthernet0/1)# lldp med tlv-select network-policy SWITCH(config-if-GigabitEthernet0/1)# no lldp med tlv-s elect</pre>	
Command	command	description
	show lldp interfaces GigabitEthernet 0/1	Display lldp information

36.1.10 lldp tlv-select

Configure the tlv and no commands to add lldp packets to send tlv for lldp packets.

lldp tlv-select *TLV* [*TLV*] [*TLV*] [*TLV*] [*TLV*] [*TLV*] [*TLV*] [*TLV*]
no lldp tlv-select

Parameter	Parameter	description
	TLV	LLDP optional TLV, pick from: port-desc, sys-name, sys-desc, sys-cap, mac-phy, lag, max-frame-size, management-addr
Default	Default is no selected optional TLV.	
Mode	Interface configuration mode	
Usage	Use “lldp tlv-select” command to attach selected TLV in PDU. The configuration could be shown by “show lldp” command. Use the no form of this command to remove all selected TLV. This example selects system name, system description, system capability,	
Example	SWITCH(config-if-GigabitEthernet0/1)# lldp tlv-select sys-desc SWITCH(config-if-GigabitEthernet0/1)# no lldp tlv-select	
Command	command	description
	show lldp interfaces GigabitEthernet 0/1	Display lldp information

36.1.11-select pvid

Configure the tlv and no commands to add lldp packets to send tlv for lldp packets.

lldp tlv-select pvid (disable|enable)
no lldp tlv-select pvid

	Parameter	description
Parameter	disable	Disable lldp 802.1pvid tlv attach state
	enable	enable lldp 802.1pvid tlv attach state

Default	Default is enabled
---------	--------------------

Mode	Interface configuration mode
------	------------------------------

Usage	Use “ lldp tlv-select pvid ” command to configure the 802.1 PVID TLV attach enable status. The configuration could be shown by “ show lldp ” command.
-------	---

Example	<pre>SWITCH(config-if-GigabitEthernet0/1)# lldp tlv-select pvid enable SWITCH(config-if-GigabitEthernet0/1)# lldp tlv-select pvid disable</pre>
---------	---

	command	description
Command	show lldp interfaces GigabitEthernet 0/1	Display lldp information

36.1.12lldp tlv-select vlan-name

Configure the tlv and no commands to add lldp packets to send tlv for lldp packets.

lldp tlv-select vlan-name add (add|remove) vlan-list
no lldp tlv-select

Parameter	Parameter	description
	VLAN-LIST	VLAN List (e.g. 3,6-8): The range of VLAN ID is 2 to 4094
Default	Default is no VLAN added.	
Mode	Interface configuration mode	
Usage	Use “lldp tlv-select vlan-name” command to add or remove VLANlist for 802.1 VLAN-NAME TLV. The configuration could be shown by “show lldp” Command	
Example	SWITCH(config-if-GigabitEthernet0/1)# lldp tlv-select vlan-name add 1 SWITCH(config-if-GigabitEthernet0/1)# no lldp tlv-select	
Command	command	description
	show lldp interfaces GigabitEthernet 0/1	Display lldp information

36.1.13LLDP tx

When the port works in tx mode, the device only sends LLDP packets that do not accept neighbor devices to send LLDP packets.

lldp tx

no lldp tx

	Parameter	description
Parameter	-	

Default default is disable

Mode Interface configuration mode

Usage Use “**lldp tx**” command to enable LLDP PDU TX ability. The configuration is displayed by “**show lldp**” command.

Example SWITCH(config-if-GigabitEthernet0/1)# lldp tx
SWITCH(config-if-GigabitEthernet0/1)# no lldp tx

	command	description
Command	show lldp	Display lldp information

36.1.14LLDP tx-delay

When the port works in tx mode, the device only sends LLDP packets that do not accept neighbor devices to send LLDP packets.

lldp tx
no lldp tx

	Parameter	description
Parameter	<1-8192>	Specify the lldp tx delay in unit of seconds

Default default tx delay is 2s

Mode Global Configuration

Usage Use “**lldp tx-delay**” command to configure the delay in seconds between successive LLDP frame transmissions. The delay starts to count in any case LLDP PDU is sent such as by LLDP PDU advertise routine, LLDP PDU content change, port link up, etc. The configuration could be shown by “**show lldp**” command. Use the **no** form of this command to restore the delay to default value.

Example SWITCH(config)# lldp tx-delay 5
SWITCH(config)# no lldp tx-delay

	command	description
Command	show lldp	Display lldp information

36.1.15 show lldp

Displays the current SNMP community status.

show lldp

show lldp interfaces GigabitEthernet <1-10>

parameter	parameter	description
	<1-10>	GigabitEthernet device number

Default	-
---------	---

Mode	Privilege configuration mode.
------	-------------------------------

Usage	Display lldp information and port-related lldp information
-------	--

Example	<pre>SWITCH# show lldp interfaces GigabitEthernet 0/1 State: Enabled Timer: 30 Seconds Hold multiplier: 4 Reinit delay: 2 Seconds Tx delay: 2 Seconds LLDP packet handling: Bridging Port State Optional TLVs Address -----+-----+-----+----- gi0/1 Disable 192.168.100.151 Port ID: gi0/1 802.3 optional TLVs: 802.1 optional TLVs PVID: Disabled VLANs: 1</pre>
---------	---

36.1.16 show lldp local-device

Displays the current SNMP community status.

show lldp

show lldp interfaces GigabitEthernet <1-10> local-device

parameter	parameter	description
	<1-10>	GigabitEthernet device number

Default -

Mode Privilege configuration mode.

Usage Use “**show lldp local-device**” command to show the local configuration of lldp pdu.

Example

```
SWITCH# show lldp local-device
```

```
LLDP Local Device Information:
```

```
Chassis Type : Mac Address
```

```
Chassis ID  : 00E0.4C01.7899
```

```
System Name : SWITCH
```

```
System Description :
```

```
System Capabilities Support : Bridge
```

```
System Capabilities Enable : Bridge
```

```
Management Address : 192.168.100.151(IPv4)
```

```
Management Address : fe80::2e0:4cff:fe01:7899(IPv6)
```

36.1.17 show lldp med

Displays the current SNMP community status.

show lldp

show lldp interfaces GigabitEthernet <1-10> med

parameter	parameter	description
	<1-10>	GigabitEthernet device number

Default	-
---------	---

Mode	Privilege configuration mode.
------	-------------------------------

Usage	Use “ show lldp med ” command to display lldp med configuration information
-------	--

Example	<pre>SWITCH# show lldp med Fast Start Repeat Count: 3 lldp med network-policy voice: manual Port Capabilities Network Policy Location Inventory PoE PSE -----+-----+-----+-----+-----+----- gi0/1 No No No No N/A gi0/2 No Yes No No N/A gi0/3 No Yes No No N/A gi0/4 No Yes No No N/A gi0/5 No Yes No No N/A gi0/6 No Yes No No N/A gi0/7 No Yes No No N/A gi0/8 No Yes No No N/A gi0/9 No Yes No No N/A gi0/10 No Yes No No N/A</pre>
---------	---

36.1.18 show lldp neighbor

Displays the current SNMP community status.

show lldp neighbor

parameter	parameter	description
-	-	-

Default -

Mode Privilege configuration mode.

Usage Use “**show lldp neighbor**” command to display the received neighbor lldp PDU information. When LLDP PDU is received on LLDP RX enable ports, system would store the PDU information in database until time to live of the Pdu counts down to zero

Example

```
SWITCH# show lldp neighbor
```

Port	Device ID	Port ID	SysName	Capabilities	TTL
gi0/4	00E0.4C01.7899	gi0/1			100

]

36.1.19 show lldp statistics

Displays the current SNMP community status.

show lldp statistics

parameter	parameter	description
	-	-

Default -

Mode Privilege configuration mode.

Usage Use “**show lldp statistics**” command to display the LLDP RX/TX statistics.

Example

```
SWITCH# show lldp statistics
```

LLDP Global Statistics:

Insertions : 1

Deletions : 0

Drops : 0

Age Outs : 0

Port	TX Frames		RX Frames			RX TLVs		RX Ageouts
	Total	Total	Discarded	Errors	Discarded	Unrecognized	Total	
gi0/1	12	0	0	0	0	0	0	
gi0/2	0	0	0	0	0	0	0	
gi0/3	0	0	0	0	0	0	0	
gi0/4	3	3	0	0	0	0	0	
gi0/5	0	0	0	0	0	0	0	
gi0/6	0	0	0	0	0	0	0	
gi0/7	0	0	0	0	0	0	0	
gi0/8	0	0	0	0	0	0	0	
gi0/9	0	0	0	0	0	0	0	
gi0/10	0	0	0	0	0	0	0	

37 system settings command

37.1 Basic System Settings

37.1.1 Management VLAN

Configure system management vlan

management-vlan vlan vlanid

	Parameter	description
Parameter	vlanid	The vlanid is In the rang of <1-4094>

Default	vlan1
---------	-------

Mode	Global configuration mode
------	---------------------------

Usage	Use this command to configure the system management vlan.
-------	---

Example	SWITCH(config)# management-vlan vlan 1
---------	--

Command	
---------	--

command	description
show management-vlan	Display management vlan

37.1.2 ip DHCP command

Configure the ip DHCP

ipv6 dhcp

Parameter	Parameter	description
	ip dhcp	

Default

-

Mode

Global configuration mode

Usage

Use this command to Configure the ip address of the switch

Example

```
SWITCH(config)# ip dhcp
```

Command

command	description
show ip	Display management ip information

37.1.3 Management ip

Configure system management ip

Ip address x.x.x.x

	Parameter	description
Parameter	ip address	The int is In the rang of <0-255>
	mask	The int is In the rang of <0-255>
	default-gateway	The int is In the rang of <0-255>

Default	192.168.2.10
---------	--------------

Mode	Global configuration mode
------	---------------------------

Usage	Use this command to configure the system management ip.
-------	---

Example	<pre>SWITCH(config)# ip address 192.168.2.10 mask 255.255.255.0 SWITCH(config)# ip default-gateway 192.168.2.1</pre>
---------	--

	command	description
Command	show ip	Display management ip information

37.1.4 location command

Configure the system location

location

	Parameter	description
Parameter	address	Set host location address
	relation	Set host location relation
	telephone	Set host location telephone

Default	null
---------	------

Mode	Global configuration mode
------	---------------------------

Usage	Use this command to configure the system location
-------	---

Example	<pre>SWITCH(config)# location address 11111111 SWITCH(config)# location relation switch SWITCH(config)# location telephone 12345678901</pre>
---------	--

	command	description
Command	show location	Display system location information

37.1.5ipv6

Configure the ipv6 address of the switch

```
ipv6 address X:X::X:X
IPv6 gateway X:X::X:X
```

	Parameter	description
Parameter	ipv6 address	The int is In the rang of <0-255>
	prefix	<0-128>
	ipv6 gateway	X:X::X:X IPv6 gateway

Default	192.168.2.10
---------	--------------

Mode	Global configuration mode
------	---------------------------

Usage	Use this command to Configure the ipv6 address of the switch
-------	--

Example	SWITCH(config)# ipv6 address 2001::5 prefix 64 SWITCH(config)# ipv6 default-gateway 2001::1
---------	--

	command	description
Command	show ip	Display management ip information

Parameter	description
ipv6 dhcp	

37.1.6 ipv6 DHCP command

Configure the ipv6 DHCP

```
ipv6 dhcp
```

Parameter	Parameter	description
	ipv6 dhcp	

Default

-

Mode

Global configuration mode

Usage

Use this command to Configure the ipv6 address of the switch

Example

```
SWITCH(config)# ipv6 dhcp
```

Command	command	description
	show ipv6	Display management ipv6 information

37.1.8Telnet

Configure the system to telnet

ip telnet

	Parameter	description
Parameter	ip telnet	
Default	-	
Mode	Global configuration mode	
Usage	Use this command Configure the system to telnet	
Example	SWITCH(config)# ip telnet SWITCH(config)# no ip telnet	

37.1.9 Log Export

Export the current configuration of the system

copy flash://ram.log tftp://

	Parameter	description
Parameter	flash://	Copy from flash: file system. flash://startup-config flash://
	tftp://	Copy from tftp: file system.(tftp://serverip/filename)

Default

-

Mode

Privilege configuration mode.

Usage

Use this command to Export the current configuration of the system

Example

```
SWITCH# copy flash://ram.log tftp://192.168.100.149/8
```

37.1.10system restart

System restart

reload

Parameter	Parameter	description
	reload	-

Default

-

Mode

Privilege configuration mode.

Usage

Use this command to restart the system

Example

```
SWITCH# reload
```

37.1.11change Password

change Password

username web xx password xx

	Parameter	description
Parameter	WORD	User name
	password	user password

Default admin

Mode Global configuration mode

Usage Use this command to change password

Example SWITCH(config)# username web admin password admin

	command	description
Command	show username	Display username information

37.1.12 System Log

Display system log

show logging buffered

Parameter	Parameter	description
	-	

Default

-

Mode

Privilege configuration mode.

Usage

Use this command to Display system log

```
Example SWITCH# show logging buffered
Log messages in buffer
5;Jan 01 2000 00:02:22;%SYSTEM-5-INFO: Logging is enabled
5;Jan 01 2000 00:02:22;%SYSTEM-5-RESTART: System restarted - Warm
Start
5;Jan 01 2000 00:02:24;%LINEPROTO-5-UPDOWN: Line protocol on
GigabitEthernet0/1, changed state to up
5;Jan 01 2000 00:46:06;%AAA-5-LOGIN: New console connection for
user admin, source async ACCEPTED
5;Jan 01 2000 00:47:34;%AAA-5-LOGIN: New telnet connection for
user admin, source 192.168.100.131 ACCEPTED
5;Jan 01 2000 00:47:43;%AAA-5-LOGIN: New telnet connection for
user admin, source 192.168.100.149 ACCEPTED
5;Jan 01 2000 00:50:45;%SYSTEM-5-INFO: Logging host is set to
enabled with host 192.168.100.149 (192.168.100.149), port 514,
severity emerg, alert, crit, error, warning, notice
5;Jan 01 2000 00:52:54;%SYSTEM-5-INFO: Logging host is set to
enabled with host 192.168.100.149 (192.168.100.149), port 514,
severity emerg, alert, crit, error, warning, notice
SWITCH#
```

37.1.13 ARP table

Display arp table

show arp

Parameter	Parameter	description
	Show arp	-

Default -

Mode Privilege configuration mode.

Usage Use this command to configure the system management ip.

Example

```
SWITCH# show arp
Address          HWtype  HWaddress          Flags Mask          Iface
192.168.100.149  ether   40:16:7E:B1:EB:6D  C                   eth0
```

command	description
show arp	Display arp table

Command

37.1.14 configure static MAC binding

Configure the MAC addresses of the server and other important equipment to the static MAC address table

mac-address static *mac-address* vlan *vlan-id* interface **gigabitEthernet *port-id***
no mac-address static *mac-address* vlan *vlan-id* interface **gigabitEthernet *port-id***

Parameter	Parameter	description
	mac-address	Add the mac address
	vlan-id	Add the specified vlan
	port-id	The interface number bound to it

Default

-

Mode

Global configuration mode

Usage

If you bind a MAC address to a designated port as a static address, it will not age with aging time.

Example

```
SWITCH(config)# mac-address static 0001.7A55.E7D2 vlan 1
interfaces GigabitEthernet 0/1
SWITCH(config)# no mac-address static 0001.7A55.E7D2 vlan 1
```

Command

command	description
show mac-address static	Display static mac-address all in switch

37.1.15 MAC address drop

When a MAC address is filtered out in a specified vlan, the MAC data can not be forwarded through this switch. Use the no command to delete the configuration.

mac-address static mac-address vlan vlan-id drop
no mac-address static mac-address vlan vlan-id drop

Parameter	<table border="1"><thead><tr><th>Parameter</th><th>description</th></tr></thead><tbody><tr><td>drop</td><td>The mac address to filter.</td></tr></tbody></table>	Parameter	description	drop	The mac address to filter.
Parameter	description				
drop	The mac address to filter.				
Default	-				
Mode	Global configuration mode				
Usage	If you will be a MAC address in a designated vlan filter out, then the MAC data can not be forwarded through this switch				
Example	<pre>SWITCH(config)# mac-address static 0001.7A55.E7D5 vlan 1 drop</pre>				
Command	<table border="1"><thead><tr><th>command</th><th>description</th></tr></thead><tbody><tr><td>show mac-address drop</td><td>Display drop mac-address all in switch</td></tr></tbody></table>	command	description	show mac-address drop	Display drop mac-address all in switch
command	description				
show mac-address drop	Display drop mac-address all in switch				

37.1.16configure mac-address aging-time

Configure the aging time of the MAC address

```
mac-address aging-time
```

Parameter	Parameter	description
	aging-time	<10-630> Aging time value

Default	630s
---------	------

Mode	Global configuration mode
------	---------------------------

Usage	Use this command to drop some MAC address
-------	---

Example	SWITCH(config)# mac-address aging-time 500
---------	--

Command	command	description
	show mac-address aging-time	Display mac-address aging-time

37.1.17 show mac-address count

Display the number of MAC addresses in the FDB table.

show mac-address count

parameter	parameter	description
	count	Displays the current number of mac addresses

default -

mode Privilege configuration mode.

usage -

example

```
SWITCH# show mac-address count
Static Mac Address Count      : 0
Drop Mac Address Count       : 0
Dynamic Mac Address Count     : 15
Total number of entries      : 15
```

command	command	description
	show mac-address static	Displays the static MAC address.
	show mac-address drop	Displays the filtered MAC address.
	show mac-address dynamic	Displays the dynamic MAC address.
	show mac-address interface	Displays the MAC address of the specified port
	show mac-address vlan	Displays the MAC address of the specified V I A N

37.1.18 display mac-address

View information about all bound address tables.

show mac-address [drop | dynamic | static | vlan *vlan-id* { dynamic | static } | interface *port-number* { drop | dynamic | static }]

	parameter	description
Parameter	show mac-address static	Displays the static MAC address.
	show mac-address drop	Displays the filtered MAC address.
	show mac-address dynamic	Displays the dynamic MAC address.
	show mac-address interface	Displays the MAC address of the specified port
	show mac-address vlan	Displays the MAC address of the specified VLAN
Default	-	
Mode	Privilege configuration mode.	
Usage	Use this command to view all MAC address	
Example	SWITCH# show mac-address all	

37.1.19 view the current configuration

view the current configuration

```
show running-config
```

	Parameter	description
Parameter	-	-

Default -

Mode Privilege configuration mode.

Usage Use this command to view the current configuration

Example SWITCH# show running-config

37.1.20save configuration

Save the current configuration of the switch

write

	Parameter	description
Parameter	write	-

Default

-

Mode

Privilege configuration mode.

Usage

Use this command to Save the current configuration of the switch

Example

```
SWITCH# write
```

37.1.21 restore-defaults

Restore the switch configuration to the factory

`restore-defaults`

	Parameter	description
Parameter	<code>restore-defaults</code>	-
Default	-	-
Mode	Privilege configuration mode.	
Usage	Restore the switch configuration to the default	
Example	SWITCH# <code>restore-defaults</code>	

37.1.22 Firmware Upgrade

Firmware upgrade

	Parameter	description
Parameter	flash://	Copy from flash: file system. flash://startup-config flash://
	tftp://	Copy from tftp: file system.(tftp://serverip/filename)
Default	-	
Mode		Privilege configuration mode.
Usage		Use this command to upgrade system
Example		SWITCH# copy tftp://192.168.100.149/vmlinux.bix flash://image.bin

37.1.23 Firmware backup

Firmware backup

	Parameter	description
Parameter	flash://	Copy from flash: file system. flash://startup-config flash://
	tftp://	Copy from tftp: file system.(tftp://serverip/filename)

Default

-

Mode

Privilege configuration mode.

Usage

Use this command to backup system

Example

```
SWITCH#copy flash://image.bin tftp://192.168.100.101
```

37.1.24uploading configuration

uploading configuration

	Parameter	description
Parameter	flash://	Copy from flash: file system. flash://startup-config flash://
	tftp://	Copy from tftp: file system.(tftp://serverip/filename)

Default

-

Mode

Privilege configuration mode.

Usage

Use this command to Export the current configuration of the system

Example

```
SWITCH# copy flash://running-config tftp://192.168.100.149/xxx
```

37.1.25 downloading configuration

downloading configuration

	Parameter	description
Parameter	flash://	Copy from flash: file system. flash://startup-config flash://
	tftp://	Copy from tftp: file system.(tftp://serverip/filename)

Default

-

Mode

Privilege configuration mode.

Usage

Use this command inport the current configuration of the system

Example

```
copy tftp://192.168.100.149/xxx running-config
```

37.1.26 Memory information

Display Memory information

show memory

Parameter	Parameter	description
	-	

Default

-

Mode

Privilege configuration mode.

Usage

Use this command to Display Memory information

Example

```
SWITCH# show memory
total(KB)      used(KB)      free(KB)      shared(KB)    buffer(KB)    cache(KB)
-----+-----+-----+-----+-----+-----
Mem:          127372      76764      50608          0          2740
24888
-/+ buffers/cache:      49136      78236
Swap:           0          0          0
SWITCH#
```

37.1.27 CPU information

Display CPU information

show cpu

Parameter	Parameter	description
	-	

Default

-

Mode

Privilege configuration mode.

Usage

Use this command to Display CPU information

Example

```
SWITCH# show cpu  
  
CPU:      5% used,      95% free
```

37.1.28 flash information

Display flash information

show flash

Parameter	Parameter	description
	-	

Default -

Mode Privilege configuration mode.

Usage Use this command to Display flash information

```
Example
      SWITCH# show flash
      File Name           File Size           Modified
-----
      startup-config      1691                2000-01-01 00:49:44
      rsa1                 976                 2000-01-01 00:01:02
      rsa2                 1679                2000-01-01 00:01:37
      dsa2                 668                 2000-01-01 00:02:04
      ssl_cert             891                 2000-01-01 00:02:08
      image                7740274             2017-05-31 18:29:07
```

37.1.29cable detection

Display cable information

show cable-diag

Parameter	Parameter	description
	-	

Default

-

Mode

Privilege configuration mode.

Usage

Use this command to Display cable information

Example

```
SWITCH# show cable-diag interfaces GigabitEthernet 0/1
Port | Speed | Local pair | Pair length | Pair status
-----+-----+-----+-----+-----
gi0/1 | auto | Pair A | 6.00 | Normal
      |      | Pair B | 6.00 | Normal
      |      | Pair C | 6.00 | Normal
      |      | Pair D | 6.00 | Normal
```

37.1.30web-language

Configure switch web-language

web-language en

Parameter	Parameter	description
	-	

Default

-

Mode

Global configuration mode

Usage

Use this command to configure the switch web-language

Example

```
SWITCH(config)# web-language en
```

Command	command	description
	show web-language	Display the switch web-language

37.1.31Telnet

Configure system management ip

Ip address x.x.x.x

	Parameter	description
Parameter	ip address	The int is In the rang of <0-255>
	mask	The int is In the rang of <0-255>
	default-gateway	The int is In the rang of <0-255>
Default	192.168.2.10	
Mode	Global configuration mode	
Usage	Use this command to configure the system management ip.	
Example	SWITCH(config)# ip address 192.168.2.10 mask 255.255.255.0 SWITCH(config)# ip default-gateway 192.168.2.1	
Command	command	description
	show ip	Display management ip information

37.1.32show version

Displays the current vesion of switch
show version

parameter	parameter	description
	-	-

Default

-

Mode

Privilege configuration mode.

Usage

View the current version

Example

```
SWITCH Operating System Software
SWITCH system image file (system-firmware.bin), version 17257,
Compiled on Jun 15 2017 - 18:52:19
Copyright©2016 SWITCH Systems, Inc.
```

```
SWITCH Version Information
```

```
Hardware Version : B1
SN number       : 11000001
MAC Address     : 00E0.4C00.0000
Loader Version  : 1.00.002
Loader Date     : Mar 09 2017 - 11:49:09
Firmware Version : v0.0.0.1
Firmware Date   : Jun 15 2017 - 18:52:19
System Uptime is 8 hours 54 minutes 48 seconds
```

37.1.33 DHCP server enable

Enable dhcp server

Ip dhcp server

parameter	parameter	description
	-	-

Default disabled

Mode global configuration mode.

Usage Enable dhcp server

Example
SWITCH(config)# ip dhcp server
SWITCH(config)# no ip dhcp server

Command	command	description
	show ip dhcp server	Display ip dhcp server information

37.1.34 DHCP server configuration

configure dhcp server

ip dhcpserver

	parameter	description
parameter	<i>pool</i>	IP Pool is A.B.C.D-E.F.G.H,Between addresses is '-'

Default

Mode global configuration mode.

Usage set the dhcp server to assign ip to client

Example

```
SWITCH-10T(config)# ip dhcpserver pool 192.168.2.100-192.168.2.200
```

	command	description
Command	show ip dhcp server	Display ip dhcp server information

38 DHCP Relay

38.1 dhcp relay

38.1.1 dhcp relay enable

Enable ip dhcp relay

Parameter	Parameter	description
	ip dhcp relay	Enable the ip dhcp relay , the default is disable

Default

Mode `global configuration mode`

Usage `Use this command to configure and enable the ip dhcp relay globally`

Example `SWITCH(config)# ip dhcp relay`
`SWITCH(config)# no ip dhcp relay`

Command	command	description
	<code>show ip dhcp relay</code>	Display ip dhcp relay information

38.1.2 dhcp relay for vlan

Enable DHCP relay information 82 for VLAN

Parameter	Parameter	description
	dhcp-relay vlan	Enable the dhcp-relay vlan

Default

Mode

global configuration mode

Usage

there be DHCP relay information 82 for VLANs enabled

Example

```
SWITCH(config)# dhcp-relay vlan 1-4094  
SWITCH(config)# no dhcp-relay vlan 1-4094
```

Command

command	description
show ip dhcp relay	Display ip dhcp relay information

38.1.3 dhcp relay for ports

Enable DHCP relay information 82 for ports

Parameter	Parameter	description
	ip dhcp relay	Enable the ip dhcp relay , the default is disable

Default

Mode interface configuration mode

Usage there be DHCP relay information 82 for VLANs enabled

Example
SWITCH(config-if-GigabitEthernet0/1)# ip dhcp relay
SWITCH(config-if-GigabitEthernet0/1)# no ip dhcp relay

Command	command	description
	show dhcp-relay interfaces GigabitEthernet 0/1	Display ip dhcp relay information For ports

38.1.4 option 82 of remote-ID

configure DHCP relay information 82 of remote-ID

Parameter	Parameter	description
	STRING	ID string (1~63

Default DUT's mac address

Mode global configuration mode

Usage a"remote ID" containing the switch's information as a trusted identifier for the remote high-speed modem.

Example
SWITCH(config)# dhcp-relay option remote-id 192.168.2.10

Command	command	description
	show dhcp-relay	Display dhcp relay information

38.1.5 option 82 of CID

configure DHCP relay information 82 of circuit-ID

Parameter	Parameter	description
	STRING	ID string (1~63

Default CID in DHCP relay information 82 of L2 relay contains VLAN-unit-port information from which the packet is received

Mode interface configuration mode

Usage It indicates that the received DHCP request message is from the link identifier

Example
SWITCH(config-if-GigabitEthernet0/5)# dhcp-relay vlan 1 option circuit-id v5

Command	command	description
	show dhcp-relay interfaces GigabitEthernet 0/5	Display dhcp relay of cid information

38.1.6 DHCP relay policy

configure global DHCP relay policy

dhcp-relay option action (drop|keep|replace)

	Parameter	description
Parameter	drop	Drop packets with option82
	keep	Keep original option82
	replace	Replace option82 content by switch setting

Default	The global DHCP relay policy shall be drop
---------	--

Mode	global configuration mode
------	---------------------------

Usage	DHCP relay information 82 of L2 relay policy
-------	--

Example	SWITCH(config)# dhcp-relay option action drop
---------	---

	command	description
Command	show dhcp-relay	Display dhcp relay information

38.1.7 DHCP relay information TTL remark

set DHCP relay information of L2 relay remarked TTL value

ip dhcp relay ttl remark <0-120>

	Parameter	description
Parameter	<0-120>	TTL remark value

Default global DHCP relay information TTL remark disabled

Mode global configuration mode

Usage set DHCP relay information of L2 relay remarked TTL value

Example SWITCH(config)# ip dhcp relay ttl remark 50

Command	command	description
	show ip dhcp relay	Display ip dhcp relay information

38.1.8 DHCP relay server address

configure the server ip address

```
ip helper-address x.x.x.x
```

	Parameter	description
Parameter	X.x.x.x	Server ip address

Default The global DHCP relay server address *shall* be zero in system

Mode global configuration mode

Usage configure the server ip address

Example
SWITCH(config)# ip helper-address 192.168.2.15

	command	description
Command	show ip dhcp relay	Display ip dhcp relay information

