



SM10T2DPA

**8-Port 10/100/1000Base-T +
2 RJ-45/100/1000 SFP Combo Port
Managed Switch**

User Guide (CLI)

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Revision History

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1 802.1X Commands of CLI

Table 1: 802.1X Commands

| Command | Function |
|------------------|--|
| agetime | Configure the time in seconds between check for activity on successfully authenticated MAC addresses |
| auto-logout | Configure time of inactivity before automatic logout. |
| clear | Clear 802.1X statistics |
| eapol-timeout | Configure the time between EAPOL retransmissions |
| exit | Exit from current mode |
| guest-vlan | Configure the Guest VLAN mode |
| help | Show available commands |
| history | Show a list of previously run commands |
| hold-time | Configure the time in seconds before a MAC-address that failed authentication gets a new authentication chance |
| logout | Disconnect |
| mode | Configure the 802.1X mode |
| port-guest-vlan | Configure the Guest VLAN mode of switch ports |
| port-radius-qos | Configure the RADIUS-assigned QoS mode of switch |
| port-radius-vlan | Configure the RADIUS-assigned VLAN mode of switch |
| port-state | Configure the 802.1X port state |
| quit | Disconnect |
| radius-qos | Configure the RADIUS-assigned QoS mode |
| radius-vlan | Configure the RADIUS-assigned VLAN mode |
| reauth-period | Configure the period between reauthentications |
| reauthentication | Configure the 802.1X reauthentication mode |
| restart | Restart 802.1X authentication process |
| restore | Restore running configuration |
| save | Save running configuration |
| show | Show 802.1X information |

Agetime Configure the time in seconds between check for activity on successfully authenticated MAC addresses

SYNTAX

agetime <10-1000000>

Parameter

Time in seconds between checks for activity on a MAC address that succeeded authentication

EXAMPLE

```
Switch(802.1X)# agetime 10
Switch(802.1X)#
```

clear Clear 802.1X statistics

SYNTAX

Clear <port-list>

Parameter

Port list available value is from 1 to 10B format: 1,3-5

EXAMPLE

```
Switch(802.1X)# clear 1-2
Switch(802.1X)#
```

eapol-timeout Configure the time between EAPOL retransmissions

SYNTAX

eapol-timeout <1-65535>

Parameter

<1-65535> Time in seconds between EAPOL retransmissions

EXAMPLE

```
Switch(802.1X)# eapol-timeout 5
Switch(802.1X)#
```

hold-time

Configure the time in seconds before a MAC-address that lied authentication gets a new authentication chance

SYNTAX

hold-time <10-1000000>

Parameter

<10-1000000> Hold time before MAC addresses that failed authentication expire

EXAMPLE

```
Switch(802.1X)# eapol-timeout 5
Switch(802.1X)#
```

mode

Configure the 802.1X mode

SYNTAX

mode <disable> <enable>

Parameter

Disable Globally disable 802.1X operation mode

enable Globally enable 802.1X operation mode

EXAMPLE

```
Switch(802.1X)# mode enable

Switch(802.1X)# show config

Mode                               : Enabled
Reauthentication                    : Disabled
Reauthentication Period             : 3600
EAPOL Timeout                       : 30
Age Period                          : 300
Hold Time                           : 10
RADIUS QoS                          : Disabled
RADIUS VLAN                         : Disabled
Guest VLAN                          : Disabled
Guest VLAN ID                       : 1
Maximum Reauthentication Count      : 2
Allow Guest VLAN if EAPOL Frame Seen : Disabled
```

port-guest-vlan

Configure the Guest VLAN mode of switch ports

SYNTAX

```
port-guest-vlan <port-list> <disable> <enable>
```

Parameter

Port list, available value is from 1 to 10B format: 1,3-5.

Disable Disable Guest VLAN

Enable Enable Guest VLAN

EXAMPLE

```
Switch(802.1X)# port-guest-vlan 1 disable
Switch(802.1X)#
```

port-radius-qos

A constant that defines a nonzero number of seconds between periodic reauthentication of the supplicant

SYNTAX

port-radius-qos <port-list> <disable> <enable>

Parameter

Port list, available value is from 1 to 10B format: 1,3-5

Disable Disable RADIUS-assigned QoS

Enable Enable RADIUS-assigned QoS

EXAMPLE

```
Switch(802.1X)# port-guest-vlan 1 disable
Switch(802.1X)#
```

port-radius-vlan Configure the RADIUS-assigned VLAN mode of switch ports

SYNTAX

port-radius-vlan <port-list>

Parameter

Port list, available value is from 1 to 10B format: 1,3-5

EXAMPLE

```
Switch(802.1X)# port-radius-vlan 1
Switch(802.1X)#
```

port-state Configure the 802.1X port state

SYNTAX

port-state <port-list> <force-auth> <force-unauth>
<mac-based> <multi> <port-based> <single>

Parameter

Port list, available value is from 1 to 10B format: 1,3-5

force-auth Port access is allowed

force-unauth Port access is not allowed

mac-based Switch authenticates on behalf of the client

multi Multiple Host 802.1X Authentication

port-based Port-based 802.1X Authentication

single Single Host 802.1X Authentication

EXAMPLE

```
Switch(802.1X)# port-radius-vlan 1 force-auth
Switch(802.1X)#
```

radius-qos Configure the RADIUS-assigned QoS mode

SYNTAX

radius-qos <disable> <enable>

Parameter

Disable Disable RADIUS-assigned QoS

enable Enable RADIUS-assigned QoS

EXAMPLE

```
Switch(802.1X)# radius-qos enable
Switch(802.1X)# show con

Mode                               : Disabled
Reauthentication                   : Disabled
Reauthentication Period            : 3600
EAPOL Timeout                      : 30
Age Period                         : 300
Hold Time                          : 10
```

radius-vlan

Configure the RADIUS-assigned vlan mode

SYNTAX

```
radius-vlan <disable> <enable>
```

Parameter

disable Disable RADIUS-assigned vlan

enable Enable RADIUS-assigned vlan

EXAMPLE

```
Switch(802.1X)# radius-vlan enable
Switch(802.1X)# show con
Mode                               : Disabled
Reauthentication                   : Disabled
Reauthentication Period            : 3600
EAPOL Timeout                      : 30
Age Period                         : 300
Hold Time                          : 10
```

2 AAA of CLI

Table : AAA Commands

| Command | Function |
|-----------------|---|
| acc-radius | Configure RADIUS accounting Server |
| accounting | Configure Accounting mode |
| authorization | Configure Authorization mode |
| deadtime | Configure server dead time |
| fallback-author | Configure Authorization mode |
| radius | Configure RADIUS authentication server |
| show | Show AAA information |
| tacacs+ | Configure TACACS+ authentication server |
| timeout | Configure server response timeout |

acc-radius To configure the RADIUS accounting server parameter.

Syntax

acc-radius <index> <enable/disable> <ip-hostname> <0-65535> <Line>

Parameter

<**index**> The RADIUS accounting Server index. The available value is from 1 to 5

<**disable/enable**> To enable or disable the RADIUS accounting service.

<**ip-hostname**> The RADIUS accounting server IP address or hostname.

<**0-65535**> The RADIUS accounting server UDP port. If the port is set to 0 (zero), then the default port (1813) is used.

<**LINE**> Secret shared with external accounting server. The Available value is up to 29 characters long.

EXAMPLE

```

Switch(aaa)# acc-radius 1 enable 192.168.2.22 65535 radius
Switch(aaa)# show config

Server Timeout      : 15 seconds
Server Dead Time   : 300 seconds

TACACS+ Authorization and Accounting Configuration:
Authorization       : Disable
Fallback to Local Authorization: Disable
Accounting          : Disable

RADIUS Authentication Server Configuration:
Server Mode        IP Address or Host Name    Port  Secret
-----
RADIUS Authentication Server Configuration:
Server Mode        IP Address or Host Name    Port  Secret
-----
1      Disabled                1812
2      Disabled                1812
3      Disabled                1812
4      Disabled                1812
5      Disabled                1812

RADIUS Accounting Server Configuration:
Server Mode        IP Address or Host Name    Port  Secret
-----
1      Enabled 192.168.2.22          65535 radius
2      Disabled                1813
3      Disabled                1813
4      Disabled                1813
5      Disabled                1813

TACACS+ Authentication Server Configuration:
Server Mode        IP Address or Host Name    Port  Secret
-----
1      Disabled                49
2      Disabled                49
3      Disabled                49
4      Disabled                49
5      Disabled                49
Switch(aaa)#

```

accounting To enable or disable the RADIUS accounting operation mode.

Syntax

accounting *<enable/disable>*

Parameter

<disable> Globally disable Accounting operation mode.

<enable> Globally enable Accounting operation mode.

EXAMPLE

```

Switch(aaa)# accounting enable
Server disconnect!
Switch(aaa)# accounting disable
Switch(aaa)#

```



NOTE: If you didn't connect the RADIUS Server already then the switch will show "Server disconnect".

authorization To configure (enable/disable) RADIUS Authorization mode

Syntax

authorization *<enable/disable>*

Parameter

<disable> Globally disable Authorization operation mode.

<enable> Globally enable Authorization operation mode.

EXAMPLE

```
Switch(aaa)# authorization enable
Switch(aaa)#
```

deadtime To configure the RADIUS server deadtime.

Syntax

deadtime *<0-3600>*

Parameter

<0-3600> Time that a server is considered dead if it doesn't answer a request.

The available value is from 0 to 3600 second

Default Setting

None

EXAMPLE

```
Switch(aaa)# deadtime 3600
Server disconnect!
Switch(aaa)#
```



NOTE: If you didn't connect the RADIUS Server already then the switch will show "Server disconnect".

fallback-author

To configure the fallback function of RADIUS authorization with enable/disable if remote authorization fails.

Syntax

fallback-author <disable/ enable>

Parameter

<**disable**> Disable fallback function.

<**enable**> Enable fallback function if remote authorization fails.

EXAMPLE

```
Switch(aaa)# fallback-author enable
Server disconnect!
```



NOTE: If you didn't connect the RADIUS Server already then the switch will show "Server disconnect".

radius

To configure the RADIUS Server detail parameter

Syntax

radius <index> <enable/disable> <ip-hostname> <0-65535> <Line>

Parameter

<**index**> The RADIUS accounting Server index. The available value is from 1 to 5

<**disable/enable**> To enable or disable the RADIUS accounting service.

<**ip-hostname**> The RADIUS accounting server IP address or hostname.

<**0-65535**> The RADIUS accounting server UDP port. If the port is set to 0 (zero), then the default port (1813) is used.

<**LINE**> Secret shared with external accounting server. The Available value is up to 29 characters long.

EXAMPLE

```
Switch(aaa)# radius 1 enable 192.168.2.22 0 radius
Server disconnect!
```



NOTE: If you didn't connect the RADIUS Server already then the switch will show "Server disconnect".

show To display the RADIUS AAA information

Syntax

Show <config>

Show <statistics> <1-5>

Parameter

<config> To show AAA configuration

<statistics> To show RADIUS statistics

<1-5> The RADIUS Server Index

EXAMPLE

```
Switch(aaa)# show config

Server Timeout   : 15 seconds
Server Dead Time : 300 seconds

TACACS+ Authorization and Accounting Configuration:
Authorization    : Disable
Fallback to Local Authorization: Disable
Accounting       : Disable

RADIUS Authentication Server Configuration:
Server Mode      IP Address or Host Name  Port  Secret
-----
1      Disabled                1812
2      Disabled                1812
3      Disabled                1812
4      Disabled                1812
5      Disabled                1812

RADIUS Accounting Server Configuration:
Server Mode      IP Address or Host Name  Port  Secret
-----
1      Disabled                1813
2      Disabled                1813
3      Disabled                1813
4      Disabled                1813
5      Disabled                1813

TACACS+ Authentication Server Configuration:
Server Mode      IP Address or Host Name  Port  Secret
-----
1      Disabled                49
2      Disabled                49
3      Disabled                49
4      Disabled                49
5      Disabled                49
Switch(aaa)#
```



```

Switch(aaa)# show statistics 1

Server #1 (0.0.0.0:1812) RADIUS Authentication Statistics:
Rx Access Accepts          0 Tx Access Requests          0
Rx Access Rejects         0 Tx Access Retransmissions  0
Rx Access Challenges       0 Tx Pending Requests       0
Rx Malformed Acc. Responses 0 Tx Timeouts              0
Rx Bad Authenticators      0
Rx Unknown Types           0
Rx Packets Dropped         0
State:                     Disabled
Round-Trip Time:           0 ms

Server #1 (0.0.0.0:1813) RADIUS Accounting Statistics:
Rx Responses                0 Tx Requests                0
Rx Malformed Responses      0 Tx Retransmissions         0
Rx Bad Authenticators       0 Tx Pending Requests        0
Rx Unknown Types            0 Tx Timeouts                 0
Rx Packets Dropped          0
State:                     Disabled
Round-Trip Time:           0 ms

Switch(aaa)#

```

tacacs+ To configure the TACACS+ authentication server detail parameter.

Syntax

tacacs+ *<index>* *<enable/disable>* *<ip-hostname>* *<0-65535>* *<Line>*

Parameter

<index> The TACACS+ authentication Server index. The available value is from 1 to 5

<disable/enable> To enable or disable the TACACS+ authentication service.

<ip-hostname> The TACACS+ authentication server IP address or hostname.

<0-65535> The TACACS+ authentication server UDP port. If the port is set to 0 (zero), then the default port (1813) is used.

<LINE> Secret shared with external accounting server. The Available value is up to 29 characters long.

EXAMPLE

```

Switch(aaa)# tacas+ 1 enable 192.168.2.22 0 tacacs
Server disconnect!

```



NOTE: If you didn't connect the TACACS+ Server already then the switch will show "Server disconnect".

timeout To configure server response timeout

Syntax

timeout <3-3600>

Parameter

<**3-3600**> The Timeout, which can be set to a number between 3 and 3600 seconds, is the maximum time to wait for a reply from a server.

EXAMPLE

```
Switch(aaa)# timeout 360  
Switch(aaa)#
```

3 Access Commands of CLI

Table : Account Commands

| Command | Function |
|---------|---------------------------------------|
| add | Add or modify access management entry |
| clear | Clear access management statistics |
| delete | Delete access management entry |
| mode | Configure the access management mode |
| show | Show access management information |

add Add or modify access management entry

SYNTAX

```
add <1-16> <ipv4/ipv6> <ip-address> <ip-address>  
<all> <snmp> <telnet> <web>
```

Parameter

1-16 Entry index
ipv4 IPv4 format address
ipv6 IPv6 format address
<ip-address> Start IP address
<ip-address> End IP address
all All interface
snmp SNMP interface
telnet TELNET/SSH interface
web HTTP/HTTPS interface

EXAMPLE

```
Switch(access)# add 1 ipv4 192.168.1.1 192.168.1.241 all  
Switch(access)# show config  
  
Access Management Mode : Disabled  
  
W: WEB/HTTPS  
S: SNMP  
T: TELNET/SSH  
Index Start IP Address          End IP Address          W S T  
-----  
1    192.168.1.1                192.168.1.241         Y Y Y  
Switch(access)#
```

clear Clear access management statistics

SYNTAX

Clear < *statistics* >

Parameter

Clear access management statistics

EXAMPLE

```
Switch(access)# clear statistics
Switch(access)#
```

delete Delete access management entry.

SYNTAX

Delete < *1-16* >

Parameter

1-16 Entry index

EXAMPLE

```
Switch(access)# delete 1
Switch(access)# show config

Access Management Mode : Disabled

W: WEB/HTTPS
S: SNMP
T: TELNET/SSH
Index Start IP Address          End IP Address          W S T
-----
Switch(access)#
```

mode

Configure the 802.1X mode

SYNTAX

```
mode <disable> <enable>
```

Parameter

disable Disable access management mode operation

enable Enable access management mode operation

EXAMPLE

```
Switch(802.1X)# mode enable
Switch(802.1X)#
```

show

Show 802.1X information

SYNTAX

```
show <config> <statistics>
```

Parameter

config Show access management configuration

statistics Show access management statistics

EXAMPLE

```
Switch(access)# show config

Access Management Mode : Enabled

W: WEB/HTTPS
S: SNMP
T: TELNET/SSH
  Index Start IP Address          End IP Address          W S T
-----

```

```
Switch(access)# show statistics
Client  Receive    Allow    Discard
-----
HTTP    0           0        0
HTTPS   0           0        0
SNMP    0           0        0
TELNET  0           0        0
SSH     0           0        0
```

4 ACCOUNT Commands of CLI

Table : Account Commands

| Command | Function |
|---------|-------------------------------|
| add | Add or modify user account |
| delete | Delete user account |
| show | Show user account information |

add Add or modify user account

SYNTAX

add guest <1-15> <word>

Parameter

<1-15> User privilege level

<WORD> Up to 32 characters to identify the user name

EXAMPLE

```
Switch(account)# add 1 12
Switch(account)# show
User Name                Privilege Level
-----
admin                    15
12                       1
Switch(account)#
```

delete To create a new operator user. When you create a new operator user, you must type in password and confirm password.

SYNTAX

delete <WORD>

Parameter

Up to 32 characters to identify the user name

EXAMPLE

```
Switch(account)# delete 12
Switch(account)# show
User Name                Privilege Level
-----
admin                    15
Switch(account)#
```

show

Show user account information

SYNTAX

Show <name>

EXAMPLE

```
Switch(account)# show
User Name                Privilege Level
-----
admin                    15
Switch(account)#
```

5 ACL Commands of CLI

Table 19: ACL Commands

| Command | Function |
|------------------------------|--|
| ace | Add or modify Access Control Entry |
| action | Configure ACL port default action |
| clear | Clear all ACL counters |
| delete | To delete the ACE (Access Control Entry) configuration on the switch. |
| logging | Configure ACL port default logging operation. |
| mirror | Configure ACL port default mirror operation |
| move | Move ACE |
| policy | Configure ACL port policy |
| rate-limiter | To set acl rate limiter. |
| show | Show ACL information |
| shutdown | Configure ACL port default shut down operation |

ace

Add or modify Access Control Entry.

SYNTAX

ace <index>

Parameter

<1-256> If the ACE ID is specified and an entry with this ACE ID already exists, the ACE will be modified. Otherwise, a new ACE will be added.

<0-256> If the next ACE ID is non zero, the ACE will be placed before this ACE in list. If the next ACE ID is zero, the ACE will be placed last in the list.

policy Policy ACE keyword, the rule applies to all ports configured with the specified policy

port Port ACE keyword, the rule applies to the specified port only

switch Switch ACE keyword, the rule applies to all ports

the

<port-list> Port list, available value is from 1 to 10B format: 1,3-5
any Any frame can match this ACE
arp Only ARP frames can match this ACE. Notice the ARP frames won't match the ACE with ethernet type
etype Only Ethernet Type frames can match this ACE
icmp Only ICMP frames can match this ACE. Notice the ICM frames won't match the ACE with ethernet type
ipv4 Only IPv4 frames can match this ACE. Notice the IPv4 frames won't match the ACE with ethernet type
tcp Only TCP frames can match this ACE. Notice the TCP frames won't match the ACE with ethernet type
udp Only UDP frames can match this ACE. Notice the UDP frames won't match the ACE with ethernet type

EXAMPLE

```
Switch(acl)# ace 1 0 port 1 ipv4
Switch(acl/ace-port(ipv4))#
Switch(acl/ace-port(ipv4))# show
ACE ID      : 1                      Rate Limiter: Disabled
Ingress Port: 1                      Port Copy   : Disabled
                                           Mirror      : Disabled
Type        : User                    Logging     : Disabled
Frame Type  : IPv4                    Shutdown    : Disabled
Action      : Permit                  Counter     : 0

MAC Parameters                               VLAN Parameters
-----
DMAC Type   : Any                       802.1Q Tagged: Any
                                           VLAN ID     : Any
                                           Tag Priority: Any

IP Parameters
-----
Protocol    : Any
Source      : Any
Destination : Any
TTL         : Any
Fragment    : Any
Options     : Any

Switch(acl/ace-port(any))#
Switch(acl/ace-port(ipv4))# end
Success! ACE ID 1 added last
```

action Configure ACL port default action

SYNTAX

action <port-list> <deny> <permit>.

Parameter

<port-list> Port list, available value is from 1 to 10B format: 1,3-5pe
deny Deny forwarding
permit Permit forwarding

EXAMPLE

```
Switch(acl)# action 1 permit
Switch(acl)#
Switch(acl)# show port
Rate
-----
Port Policy Action Limiter Port Copy Mirror Logging Shutdown Counter
-----
1 1 Deny Disabled Disabled Disabled Disabled Disabled 0
2 1 Permit Disabled Disabled Disabled Disabled Disabled 0
3 1 Permit Disabled Disabled Disabled Disabled Disabled 0
```

delete This command delete the ACE (Access Control Entry) configuration on the switch.

SYNTAX

delete <1-256>

Parameter

<1-256> ACE ID must be exist

EXAMPLE

```
Switch(acl)# delete 1
Switch(acl)#
Switch(acl)# show acl-config
Number of ACEs: 0
```

list This command display ACL list.

SYNTAX

list <port-list> disable/enable

Parameter

<port-list> Port list, available value is from 1 to 10B format: 1,3-5

disable Frames received on the port are not logged

enable Frames received on the port are stored in the system log

EXAMPLE

```
Switch(acl)# logging 1 disable
Switch(acl)#
```

mirror

Configure ACL port default mirror operation.

SYNTAX

list <port-list> disable/enable

Parameter

<port-list> Port list, available value is from 1 to 10B format: 1,3-5

disable Frames received on the port are not logged

enable Frames received on the port are stored in the system log

EXAMPLE

```
Switch(acl)# mirror 1 disable
Switch(acl)#
```

move

This command move ACE configuration between two index.

SYNTAX

Move <1-256> <0-256>

Parameter

<1-256> ACE ID must be exist

<0-256> If the next ACE ID is non zero, the ACE will be Placed before this ACE in the list. If the next ACE ID is zero,the ACE will be placed last in the list.

EXAMPLE

```
Switch(acl)# move 1 0
Switch(acl)#
```

policy

This command set acl port policy on switch.

SYNTAX

policy <port-list> <1-8>

Parameter

<port-list> Port list, available value is from 1 to 10B format: 1,3-5
<1-8> Policy number

EXAMPLE

```
Switch(acl)# policy 1 1
Switch(acl)#
```

port-rate

This command set acl port policy on switch.

SYNTAX

port-rate <port-list> <1-8>

Parameter

<port-list> Port list, available value is from 1 to 10B format: 1,3-5
disable Disable rate limit
<1-16> Rate limiter ID

EXAMPLE

```
Switch(acl)# port-rate 1 1
Switch(acl)#
```

ratelimiter

This command access control rule with rate limiter on switch.

SYNTAX

```
ratelimiter <1-16> <kbps> <0-10000>
```

Parameter

<1-16> Rate limiter ID
kbps Kbits per second
pps Packets per second
<0-10000> Rate in 100Kbps

EXAMPLE

```
Switch(acl)# rate-limiter 1 kbps 100  
Switch(acl)#
```

show

This command show all access control entry setting on switch.

SYNTAX

```
show
```

Parameter

acl-config Show ACL configuration
acl-status Show ACL status
port Show ACL port configuration
rate-limiter Show ACL rate limiter

EXAMPLE

```
Switch(acl)# show acl-config  
Number of ACEs: 0
```

```
Switch(acl)# show acl-config  
Number of ACEs: 0
```

```

Switch(acl)# show port
Rate
Port Policy Action Limiter Port Copy Mirror Logging Shutdown Counter
-----
1 1 Permit 1 Disabled Disabled Disabled Disabled 0
2 1 Permit Disabled Disabled Disabled Disabled Disabled 0
3 1 Permit Disabled Disabled Disabled Disabled Disabled 0
4 1 Permit Disabled Disabled Disabled Disabled Disabled 0
5 1 Permit Disabled Disabled Disabled Disabled Disabled 0
6 1 Permit Disabled Disabled Disabled Disabled Disabled 0
7 1 Permit Disabled Disabled Disabled Disabled Disabled 0
8 1 Permit Disabled Disabled Disabled Disabled Disabled 0
9A 1 Permit Disabled Disabled Disabled Disabled Disabled 0
10A 1 Permit Disabled Disabled Disabled Disabled Disabled 0
9B 1 Permit Disabled Disabled Disabled Disabled Disabled 0
10B 1 Permit Disabled Disabled Disabled Disabled Disabled 0

Rate Limiter Rate
-----
1 1 PPS
2 1 PPS
3 1 PPS
4 1 PPS
5 1 PPS
--More--, q to quit

```

```
Switch(acl)# show rate-limiter
```

```
Rate Limiter  Rate
```

```
-----  
1             1 PPS  
2             1 PPS  
3             1 PPS  
4             1 PPS  
5             1 PPS  
6             1 PPS  
7             1 PPS  
8             1 PPS  
9             1 PPS  
10            1 PPS  
11            1 PPS
```

6 Aggregation Commands of CLI

Table : Alarm Commands

| Command | Function |
|---------|---|
| delete | Delete command |
| group | Configure the link aggregation group |
| mode | Configure the link aggregation traffic distribution mod |
| show | Show aggregation group information |

delete To Delete command

SYNTAX

delete

Parameter

group Delete link aggregation group

EXAMPLE

```
Switch(aggregation)# delete group 2
Switch(aggregation)# show
Aggregation Mode
-----
Source MAC      : Disabled
Destination MAC : Disabled
IP Address      : Disabled
TCP/UDP Port    : Disabled
```

Group Configure the link aggregation group.

SYNTAX

set return-path <1-5><port-list>

Parameter

<1-5> Aggregation group id

<port-list> Port list, available value is from 1 to 10B format: 1,3-

EXAMPLE

```
Switch(aggregation)# group 2 5-7
Switch(aggregation)#
```

mode

To set sender description.

SYNTAX

set sender < ip > <disable>

Parameter

dmac Destination MAC address

ip Source and destination IP address

port Source and destination UDP/TCP port

smac Source MAC address

disable Disable field in traffic distribution

enable Enable field in traffic distribution

sender Sender description.

EXAMPLE

```
Switch(aggregation)# mode ip disable
Switch(aggregation)#
Switch(aggregation)# show
Aggregation Mode
-----
Source MAC      : Disabled
```

show

To set return path description.

SYNTAX

show

EXAMPLE

```
Switch(aggregation)# show
Aggregation Mode
```

```
-----
Source MAC      : Enabled
Destination MAC : Disabled
IP Address      : Disabled
TCP/UDP Port    : Enabled
```

```
Group ID  Name    Type    Configured Ports  Aggregated Ports
-----
2         LLAG2  Static  5-7                None
Switch(aggregation)#
```

7 Arp-inspection Commands of CLI

Table : Arp-inspection Commands

| Command | Function |
|------------------------|------------------------------------|
| <code>add</code> | Add ARP inspection static entry |
| <code>delete</code> | Delete ARP inspection static entry |
| <code>mode</code> | Configure ARP inspection mode |
| <code>port-mode</code> | Configure ARP inspection port mode |
| <code>show</code> | Show ARP inspection information |

add Add ARP inspection static entry

SYNTAX

add <port-list> <1-4094> <ip-address> <mac-address>

Parameter

<**port-list**> Port list, available value is from 1 to 10B format:1,3

<**ip-address**> IP address allowed for doing ARP request

<**mac-address**> MAC address, format 0a-1b-2c-3d-4e-5f

EXAMPLE

```
Switch(arp-inspection)# add 1 5 192.168.1.2 0a-1b-2c-3d-4e-5f
Switch(arp-inspection)#
```

delete Delete ARP inspection static entry

SYNTAX

delete<port-list> <1-4094> <ip-address> <mac-address>

Parameter

<**port-list**> Port list, available value is from 1 to 10B format:1,3

<**ip-address**> IP address allowed for doing ARP request

<**mac-address**> MAC address, format 0a-1b-2c-3d-4e-5f

EXAMPLE

```
Switch(arp-inspection)# delet 1 5 192.168.1.2 0a-1b-2c-3d-4e-5f
Switch(arp-inspection)#
```

mode Configure ARP inspection mode

SYNTAX

Delete < disable> < enable>

Parameter

disable Globally disable ARP inspection mode
enable Globally enable ARP inspection mode.

EXAMPLE

```
Switch(arp-inspection)# mode disable  
Switch(arp-inspection)#
```

port-mode Configure ARP inspection port mode

SYNTAX

Delete <port-list> < disable> < enable>

Parameter

<**port-list**> Port list, available value is from 1 to 10B format: 1,3-

disable Globally disable ARP inspection mode
enable Globally enable ARP inspection mode.

EXAMPLE

```
Switch(arp-inspection)# port-mode 1 disable  
Switch(arp-inspection)#
```

Show Configure ARP inspection port mode

SYNTAX

Show < config> < status>

Parameter

config Show ARP inspection configuration
status Show ARP inspection static and dynamic entry

EXAMPLE

```
Switch(arp-inspection)# show config

ARP Inspection Mode : Disabled

Port  Port Mode
----  -
1     Disabled
2     Disabled
3     Disabled
4     Disabled
5     Disabled
6     Disabled
7     Disabled
8     Disabled
9A    Disabled
10A   Disabled
9B    Disabled
10B   Disabled

Switch(arp-inspection)# show status
Type      Port  VLAN  IP Address  MAC Address
-----  -
<none>
```

8 Auth Commands of CLI

Table : Auth Commands

| Command | Function |
|-----------------------|---|
| <code>fallback</code> | Configure local authentication fallback |
| <code>method</code> | Configure authentication method |
| <code>show</code> | Show Authentication configuration |

fallback Configure local authentication fallback

SYNTAX

add < console> < ssh > < telnet > < web > /< disable >< disable >

Parameter

console Settings for console
ssh Settings for ssh
telnet Settings for telnet
web Settings for web
disable Disable local authentication if remote authentication fails
enable Enable local authentication if remote authentication fails

EXAMPLE

```
Switch(auth)# fallback ssh disable  
Switch(auth)#
```

method Delete ARP inspection static entry

SYNTAX

delete < console> < ssh > < telnet > < web > /

Parameter

< local> < none> < radius> < tacacs+>
console Settings for console
ssh Settings for ssh
telnet Settings for telnet
web Settings for web
local Use local authentication
none Authentication disabled
radius Use remote RADIUS authentication
tacacs+ Use remote TACACS+ authentication
<port-list> Port list, available value is from 1 to 10B format: 1,3
<ip-address> IP address allowed for doing ARP request
<mac-address> MAC address, format 0a-1b-2c-3d-4e-5f

EXAMPLE

```
Switch(auth)# method ssh local
Switch(auth)#
```

Show

Show Authentication configuration

SYNTAX

Show

EXAMPLE

```
Switch(auth)# show
Client      Authentication Method  Local Authentication Fallback
-----
console    local                   Disabled
telnet     local                   Disabled
ssh        local                   Disabled
web        local                   Disabled10B  Disabled
```

9 CONFIG-FILE Commands of CLI

Table 1: Config-file Commands

| Command | Function |
|---------|--|
| export | Export configuration file to tftp server |
| import | Import configuration file to flash |

export

To run the export function.

SYNTAX

export < ip-address> <WORD>

Parameter

ip-address The TFTP server ip address
<WORD> Configuration file name

EXAMPLE

```
Switch(config-file)# export 192.168.1.100 testfile  
Switch(config-file)#
```

import

To run the import start function.

SYNTAX

import < ip-address> <WORD>

Parameter

ip-address The TFTP server ip address.
<WORD> Configuration file name

EXAMPLE

```
Switch(config-file)# import 192.168.1.100 testfile  
Switch(config-file)#
```


10 DHCP-Relay Commands of CLI

Table 19: dhcp_snooping Commands

| Command | Function |
|--------------|---|
| clear | Clear DHCP relay statistics |
| mode | onfigure DHCP relay mode |
| relay-option | Configure DHCP relay agent information option |
| server | Configure DHCP relay server |
| show | Show DHCP relay information |

clear

Clear DHCP relay statistics

SYNTAX

clear < statistics >

Parameter

statistics Clear DHCP relay statistics

EXAMPLE

```
Switch(dhcp-relay)# clear statistics
Switch(dhcp-relay)#
```

mode

Delete dhcp snooping entry

SYNTAX

mode < enable > / < disable >

Parameter

disable Disable DHCP relay mode

enable Enable DHCP snooping mode. When enable DHCP relay mode operation, the agent forward and to transfer DHCP messages between the clients and the server when they are not on the same subnet domain. And the DHCP broadcast message won't flood for security considered

EXAMPLE

```
Switch(dhcp-relay)# mode disable
Switch(dhcp-relay)#
```

relay-option Configure DHCP relay agent information option

SYNTAX

relay-option <enable> <disable>

Parameter

disable Disable DHCP relay mode

enable Enable DHCP snooping mode. When enable DHCP relay mode operation, the agent forward and to transfer DHCP messages between the clients and the server when they are not on the same subnet domain. And the DHCP broadcast message won't flood for security considered

EXAMPLE

```
Switch(dhcp-relay)# relay-option disable
Switch(dhcp-relay)#
```

server Configure DHCP relay server

SYNTAX

server <ip-address>

Parameter

<ip-address> DHCP server IP address

EXAMPLE

```
Switch(dhcp-relay)# server 192.168.1.100
```

show Show DHCP relay information

SYNTAX

set entry < *config*> < *statistics*>

Parameter

config Show DHCP relay configuration

statistics Show DHCP relay statistics

set entry < *vid*> *vid* range from 1 to 4094

EXAMPLE

```
Switch(dhcp-relay)# show config
DHCP Relay Mode          : Disabled
DHCP Relay Server       : 192.168.1.100
DHCP Relay Information Mode : Disabled
DHCP Relay Information Policy : Replace
```

```
Switch(dhcp-relay)# show statistics

Server Statistics:
-----
Transmit to Server      :          0 Transmit Error          :          0
Receive from Server    :          0 Receive Missing Agent Option :          0
Receive Missing Circuit ID :          0 Receive Missing Remote ID :          0
Receive Bad Circuit ID  :          0 Receive Bad Remote ID    :          0

Client Statistics:
-----
Transmit to Client    :          0 Transmit Error          :          0
Receive from Client  :          0 Receive Agent Option :          0
Replace Agent Option :          0 Keep Agent Option      :          0
Drop Agent Option    :          0
S
witch(dhcp-relay)#
```

11 DHCP SNOOPING Commands of CLI

Table 19: dhcp_snooping Commands

| Command | Function |
|-----------|-----------------------------------|
| clear | Clear DHCP snooping statistics |
| mode | Configure DHCP snooping mode |
| port-mode | Configure DHCP snooping port mode |
| show | Show DHCP snooping information |

clear Clear DHCP snooping statistics

SYNTAX

Clear <statistics> <port-list>

Parameter

statistics Clear DHCP snooping statistics
<port-list> Port list, available value is from 1 to 10B format: 1,3-

EXAMPLE

```
Switch(dhcp-snooping)# clear statistics 1
Switch(dhcp-snooping)#
```

mode Delete dhcp snooping entry

SYNTAX

Mode <disable> <enable>

Parameter

disable Disable DHCP snooping mode
enable Enable DHCP snooping mode. When enable DHCP snooping mode operation, the request DHCP messages will be forwarded to trusted ports and only allowed reply packets from trusted ports.

EXAMPLE

```
Switch(dhcp-snooping)# mode disable
Switch(dhcp-snooping)#
```

port-mode

configure DHCP snooping port mode

SYNTAX

Mode <port-list> < trusted >

Parameter

<**port-list**> Port list, available value is from 1 to 10B format: 1,3-

trusted Configures the port as trusted sources of the DHCP message

untrusted Configures the port as untrusted sources of the DHCP message

EXAMPLE

```
Switch(dhcp-snooping)# port-mode 1 trusted
Switch(dhcp-snooping)#
```

show

Show DHCP snooping information

SYNTAX

show < config> < statistics>

Parameter

config Show DHCP snooping configuration

statistics Show DHCP snooping statistics

EXAMPLE

```
Switch(dhcp-snooping)# show config
```

```
DHCP Snooping Mode : Disabled
```

```
Port  Port Mode
```

```
-----
```

```
1      trusted  
2      untrusted  
3      untrusted  
4      untrusted  
5      untrusted  
6      untrusted  
7      untrusted  
8      untrusted  
9A     untrusted  
10A    untrusted  
9B     untrusted  
10B    untrusted
```

```
Switch(dhcp-snooping)#
```

```
Switch(dhcp-snooping)# show statistics 1
```

```
Port 1 Statistics:
```

```
-----
```

```
Receive Packets
```

```
Transmit Packets
```

```
-----
```

| | | | |
|---------------------|---|---------------------|---|
| Rx Discover | 0 | Tx Discover | 0 |
| Rx Offer | 0 | Tx Offer | 0 |
| Rx Request | 0 | Tx Request | 0 |
| Rx Decline | 0 | Tx Decline | 0 |
| Rx ACK | 0 | Tx ACK | 0 |
| Rx NAK | 0 | Tx NAK | 0 |
| Rx Release | 0 | Tx Release | 0 |
| Rx Inform | 0 | Tx Inform | 0 |
| Rx Lease Query | 0 | Tx Lease Query | 0 |
| Rx Lease Unassigned | 0 | Tx Lease Unassigned | 0 |
| Rx Lease Unknown | 0 | Tx Lease Unknown | 0 |
| Rx Lease Active | 0 | Tx Lease Active | 0 |

```
Switch(dhcp-snooping)#
```

12 Diagnostic Commands of CLI

Table 19: dhcp_snooping Commands

| Command | Function |
|---------|---|
| ping | Uses the ICMP protocol's mandatory ECHO_REQUEST datagram to elicit an ICMP ECHO_RESPONSE from a host or gateway |
| ping6 | Uses the ICMP protocol's mandatory ECHO_REQUEST datagram to elicit an ICMP ECHO_RESPONSE from a host or gateway |
| veriphy | Run cable diagnostics |

ping

Uses the ICMP protocol's mandatory ECHO_REQUEST datagram to elicit an ICMP ECHO_RESPONSE from a host or gateway

SYNTAX

clear <ip-hostname> <60-1400>

Parameter

<ip-hostname> Hostname or IP address
<60-1400> Size of ICMP echo packet

EXAMPLE

```
Switch(diagnostic)# ping 192.168.1.6 60
PING server 192.168.1.6
recvfrom: Operation timed out
```

ping

Uses the ICMP protocol's mandatory ECHO_REQUEST datagram to elicit an ICMP ECHO_RESPONSE from a host or gateway

SYNTAX

Ping6<ip-hostname> <60-1400>

Parameter

<ip-hostname> Hostname or IP address
<60-1400> Size of ICMP echo packet

EXAMPLE

```
Switch(diagnostic)# ping6 192.168.1.1 60
PING6 server ::44ed:d80:e816:fc80
sendto
```

verify

Run cable diagnostics

SYNTAX

verify <port-list>

Parameter

<port-list> Port list, available value is from 1 to 10B format: 1,3-

EXAMPLE

```
Switch(diagnostic)# verify 1
Starting VeriPHY, please wait
Port  Pair A  Length  Pair B  Length  Pair C  Length  Pair D  Length
-----
1     OK      255     OK      255     OK      255     OK      255
Switch(diagnostic)#
```


13 EEE of CLI

Table : EEE Commands

| Command | Function |
|--------------|----------------------------|
| mode | Configure EEE mode |
| show | Show EEE information |
| urgent-queue | Configure EEE urgent queue |

mode To configure the port Energy Efficient Ethernet mode

Syntax

mode <port-list> <disable/ enable>

Parameter

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5.

<**disable**> Disable Energy Efficient Ethernet.

<**enable**> Enable Energy Efficient Ethernet.

Default Setting

None

EXAMPLE

```
Switch(eee)# mode 3-5 enable
Switch(eee)#
```

show To show the port EEE mode configuration status

Syntax

show

Parameter

None

EXAMPLE

```
Switch(eee)# show
Port  Mode      Urgent Queues
-----
1     Disabled  none
2     Disabled  none
3     Enabled   none
4     Enabled   none
5     Enabled   none
6     Disabled  none
7     Disabled  none
8     Disabled  none
9     Disabled  none
10    Disabled  none
Switch(eee)#
```

urgent-queue

To configure the port EEE urgent-queue

Syntax

urgent-queue <port-list> <queue-list> <disable/ enable>

Parameter

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5.

<**queue-list**> Queue list, format : 1,3-5

<**disable**> Queue will postpone the transmission until 3000 bytes are ready to be transmitted.

<**enable**> Queues set will activate transition of frames as soon as any data is available

EXAMPLE

```
Switch(eee)# urgent-queue 3-5 3-5 enable
Switch(eee)#
Switch(eee)# show
Port  Mode      Urgent Queues
----  -
1     Disabled  none
2     Disabled  none
3     Enabled   3-5
4     Enabled   3-5
5     Enabled   3-5
6     Disabled  none
7     Disabled  none
8     Disabled  none
9     Disabled  none
10    Disabled  none
Switch(eee)#
```

14 Event Commands of CLI

Table : event Commands

| Command | Function |
|---------|-------------------------------------|
| group | Configure trap event severity level |
| show | Show trap event configuration |

group

Configure trap event severity level

SYNTAX

Group <group-name> <port-list>

Parameter

<group-name> Trap event group name

<0-7> Severity level

<0> Emergency: system is unusable

<1> Alert: action must be taken immediately

<2> Critical: critical conditions

<3> Error: error conditions

<4> Warning: warning conditions

<5> Notice: normal but significant condition

<6> Informational: informational messages

<7> Debug: debug-level messages-

EXAMPLE

```
Switch(dhcp-snooping)# clear statistics 1
Switch(dhcp-snooping)#
```

Show

Show trap event configuration

SYNTAX

Show

EXAMPLE

```
Switch(event)# show
Group Name                Severity Level
-----
ACL                       Critical
ACL_Log                   Debug
Access_Mgmt               Info
Auth_Failed               Warning
Cold_Start                Warning
Config_Info               Info
Firmware_Upgrade          Info
Import_Export              Info
Link_Status                Warning
Login                     Info
```

15 Firmware Commands of CLI

Table :Firmware Commands

| Command | Function |
|----------------------|-------------------------|
| <code>upgrade</code> | Upgrade system firmware |

upgrade

Upgrade system firmware

SYNTAX

firmware< <ipv6-address>>< ip-hostname> <WORD>

Parameter

<ipv6-address> TFTP server ipv6 address IPv6 address is in 128-bit records represented as eight fields of up to four hexadecimal digits with a colon separates each field (:).For example, 'fe80::215:c5ff:fe03:4dc7'. The symbol '::' is a special syntax that can be used as a shorthand way of representing multiple 16-bit groups of contiguous zeros; but it can only appear once. It also used a following legally IPv4 address. For example, ':::192.1.2.34'

<ip-hostname> TFTP server ip address or hostname

<WORD> Firmware image file name

EXAMPLE

```
Switch(firmware)# upgrade 192.168.1.100 2300.img
Switch(dhcp-snooping)#
```

16 GARP of CLI

Table : GARP Commands

| Command | Function |
|------------|---|
| applicant | Enable/Disable applicant administrative control |
| join-time | Set the GARP join timer configuration |
| leave-all | Set the GARP leave all timer configuration |
| leave-time | Set the GARP leave timer configuration |
| show | Show the GARP configuration |

applicant To enable/disable applicant administrative control

Syntax

applicant <port-list> <non-participant/ normal-participant>

Parameter

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5.

<**non-participant**> Set applicant administrative control to non-participant

<**normal-participant**> Disable applicant administrative control to normal-participant.

EXAMPLE

```
Switch(garp)# applicant 3 non-participant
Switch(garp)#
```

join-time To set the GARP join timer configuration

Syntax

join-time <port-list> <time-value>

Parameter

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5.

<**time-value**> join time value, available value is from 200 to 400 seconds.

EXAMPLE

```
Switch(garp)# join-time 3-5 200
Error! Set jointimer failed
```



NOTE: If you didn't set the GARP environment already then the switch will show "Set jointimer failed".

leave-all To set the GARP leave all timer configuration

Syntax

leave-all *<port-list>* *<timer-value>*

Parameter

<port-list> Port list, available value is from 1 to 14 format: 1,3-5.

<timer-value> leave all time value, available value is from 10000 to 100000 seconds.

EXAMPLE

```
Switch(garp)# leave-all 3-5 10000
Error! Set leavealltimer failed
Switch(garp)#
```



NOTE: If you didn't set the GARP environment already then the switch will show "Set leavealltimer failed".

leave-time To set the GARP leave timer configuration

Syntax

leave-time *<port-list>* *<timer-value>*

Parameter

<port-list> Port list, available value is from 1 to 14 format: 1,3-5.

<timer-value> leave time value, available value is from 600 to 1000 seconds

EXAMPLE

```
Switch(garp)# leave-time 3-5 600
Error! Set leavetimer failed
Switch(garp)#
```



NOTE: If you didn't set the GARP environment already then the switch will show "Set leavetimer failed".

show To show the GARP configuration

Syntax

show <statistic> <port-list>

Parameter

<**statistic**> Show the basic GARP port statistics

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5.

EXAMPLE

```
Switch(garp)# show statistic 3-5 ?
<cr>
Switch(garp)# show statistic 3-5
Port Peer MAC          Failed Count
-----
3    -                   -
4    -                   -
5    -                   -
Switch(garp)#
Switch(garp)#
```



NOTE: If you didn't set the GARP environment already then the switch will show "empty field value".

17 GVRP of CLI

Table : GVRP Commands

| Command | Function |
|----------------------|--|
| <code>clear</code> | Clear the basic GVRP port statistics |
| <code>control</code> | Enable/ Disable GVRP globally |
| <code>mode</code> | Enable/ Disable GVRP on port |
| <code>rrole</code> | Enable/ Disable GVRP restricted role on port |
| <code>show</code> | Show the GVRP configuration |

clear To clear the basic GVRP port statistics

Syntax

clear <port-list>

Parameter

<port-list> Port list, available value is from 1 to 14 format: 1,3-5.

EXAMPLE

```
Switch(gvrp)# clear 3-5
Switch(gvrp)#
```



NOTE: If you set the GVRP on port then you could show the port GVRP statistics information or clear all record on port.

control To enable or disable GVRP globally.

Syntax

control <disable/ enable>

Parameter

<**disable**> To disable GVRP function globally.

<**enable**> To enable GVRP function globally.

EXAMPLE

```
Switch(gvrp)# control enable
Switch(gvrp)#
```

mode To enable or disable GVRP function on port.

Syntax

mode <port-list> <disable/ enable>

Parameter

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5.

<**disable**> To disable GVRP function on port.

<**enable**> To enable GVRP function on port

EXAMPLE

```
Switch(gvrp)# mode 3-5 enable
Switch(gvrp)#
```

rrole To enable or disable the GVRP restricted role on port

Syntax

rrole <port-list> <disable/ enable>

Parameter

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5.

<**disable**> To disable GVRP restricted role on port.

<**enable**> To enable GVRP restricted role on port

EXAMPLE

```
Switch(gvrp)# rrole 3-5 enable
Switch(gvrp)#
```

show To show the GVRP function information

Syntax

show <config>

show <statistics>

Parameter

<**config**> To show the GVRP configuration.

<**statistics**> To show the basic GVRP port statistics.

EXAMPLE

```
Switch(gvrp)# show config
GVRP global mode : Enabled

Port  Mode      Restricted Role
-----
1     Disabled  Disabled
2     Disabled  Disabled
3     Enabled   Enabled
4     Enabled   Enabled
5     Enabled   Enabled
6     Disabled  Disabled
7     Disabled  Disabled
8     Disabled  Disabled
9     Disabled  Disabled
10    Disabled  Disabled
Switch(gvrp)#
Switch(gvrp)# show statistics 1-10
Port  Joins Tx Count      Leaves Tx Count
-----
1     0                   0
2     0                   0
3     0                   0
4     0                   0
5     0                   0
6     0                   0
7     0                   0
8     0                   0
9     0                   0
10    0                   0
Switch(gvrp)#
```

18 Https Commands of CLI

Table 19: Commands

| Command | Function |
|----------|-----------------------------------|
| mode | Configure the HTTPS mode |
| redirect | Configure the HTTPS redirect mode |
| show | Show HTTPS configuration |

mode

Configure the HTTPS mode

SYNTAX

mode < *disable* > < *enable* >

Parameter

disable Disable HTTPS mode operation

enable Enable HTTPS mode operation

EXAMPLE

```
Switch(https)# mode disable
Switch(https)#
```

redirect

Configure the HTTPS redirect mode

SYNTAX

Redirect < *disable* > < *enable* >

Parameter

disable Disable HTTPS redirect mode operation

enable Enable HTTPS redirect mode operation

EXAMPLE

```
Switch(https)# redirect disable
Switch(https)#
```

show Show HTTPS configuration

SYNTAX

Show

EXAMPLE

```
Switch(https)# show
HTTPS Mode      : Enabled
HTTPS Redirect Mode : Enabled
Switch(https)#
```

19 IGMP Commands of CLI

Table : igmp Commands

| Command | Function |
|-------------|--|
| fast-leave | Set per-port Fast Leave |
| filtering | The IP Multicast Group that will be filtered |
| flooding | Set IGMP Flooding Mode |
| leave-proxy | Set IGMP Leave Proxy Mode |
| lmqi | Set per-VLAN Last Member Query Interval |
| proxy | Set IGMP Proxy Mode |
| qi | Set per-VLAN Query Interval |
| qri | Set per-VLAN Query Response Interval |
| querier | Set per-VLAN IGMP Querier |
| router | Set Router Port |
| rv | Set per-VLAN Robustness Variable |
| show | Show IGMP Snooping information |
| snooping | Set IGMP Snooping Mode |
| state | Enable/Disable per-VLAN IGMP Snooping Mode |
| throttling | Set per-port Throttling |
| uri | Set per-VLAN Unsolicited Report Interval |

fast-leave

Set per-port Fast Leave

SYNTAX

fast-leave <port-list>/< disable >< enable >

Parameter

<port-list> Port list, available value is from 1 to 10B format:1,3-
disable Disable Fast Leave
enable Enable Fast Leave

EXAMPLE

```
Switch(igmp)# fast-leave 1 disable
Switch(igmp)#
```

leave-proxy

Set IGMP Leave Proxy Mode

SYNTAX

Mode <disable> <enable>

Parameter

disable Disable IGMP Leave Proxy
enable Enable IGMP Leave Proxy

EXAMPLE

```
Switch(igmp)# leave-proxy disable
Switch(igmp)#
```

lmqi

Set per-VLAN Last Member Query Interval

SYNTAX

Mode <port-list> trusted

Parameter

<port-list> Port list, available value is from 1 to 10B format:1,3-
trusted Configures the port as trusted sources of the DHCP message
untrusted Configures the port as untrusted sources of the DHCP message

EXAMPLE

```
Switch(dhcp-snooping)# port-mode 1 trusted
Switch(dhcp-snooping)#
```

proxy

Set IGMP Proxy Mode

SYNTAX

Mode <disable> <enable>

Parameter

disable Disable IGMP Proxy
enable Enable IGMP Proxy

EXAMPLE

```
Switch(igmp)# proxy disable  
Switch(igmp)#
```

qi

Set per-VLAN Query Interval

SYNTAX

Qi <vlan-list> <1-255>

Parameter

<vlan-list> VLAN list, available value is from 1 to 4094 format: 1,3-5
<1-255> Range:1~255 sec, Default:125 sec

EXAMPLE

```
Switch(igmp)# qi 1 10  
Switch(igmp)#
```

qri

Set per-VLAN Query Response Interval.

SYNTAX

Qri <vlan-list> <0-31744>

Parameter

<vlan-list> VLAN list, available value is from 1 to 4094 format: 1,3-5
<0-31744> Range:0~31744 tenths of sec, Default:100 tenths of sec

EXAMPLE

```
Switch(igmp)# qi 1 10  
Switch(igmp)#
```

querier

Set per-VLAN IGMP Querier

SYNTAX

Qri <vlan-list> <disable><enable>

Parameter

<vlan-list> VLAN list, available value is from 1 to 4094 format: 1,3-5

disable Disable per-VLAN IGMP Querier

enable Enable per-VLAN IGMP Querier

EXAMPLE

```
Switch(igmp)# querier 1 disable
Switch(igmp)#
```

router

Set Router Port

SYNTAX

Router <port-list><disable><enable>

Parameter

<port-list> Port list, available value is from 1 to 10B format: 1,3-

disable Disable Router Port

enable Enable Router Port

EXAMPLE

```
Switch(igmp)# router 1 disable
Switch(igmp)#
```

rv Set per-VLAN Robustness Variable

SYNTAX

Rv <vlan-list> <1-255>

Parameter

<**vlan-list**> VLAN list, available value is from 1 to 4094 format: 1,3-5
<**1-255**> Range: 1~255, Default: 2

EXAMPLE

```
Switch(igmp)# rv 1 2
Switch(igmp)#
```

show Show IGMP Snooping information

SYNTAX

show < config> < statistics>

Parameter

config Show IGMP Snooping Configuration
groups Entries in the IGMP Group Table
ssm Entries in the IGMPv3 Information Table
status Show IGMP Snooping status
version Show IGMP Working Querier/Host Version currently

EXAMPLE

```

Switch(igmp)# show config
IGMP Mode : Disabled
IGMP Flooding Control : Enabled
IGMP Leave Proxy : Disabled
IGMP Proxy : Disabled

Port Router Dynamic Router Fast Leave Group Throttling Number
-----
1 Disabled No Disabled Unlimited
2 Disabled No Disabled Unlimited
3 Disabled No Disabled Unlimited
4 Disabled No Disabled Unlimited
5 Disabled No Disabled Unlimited
6 Disabled No Disabled Unlimited
7 Disabled No Disabled Unlimited
8 Disabled No Disabled Unlimited
9A Disabled No Disabled Unlimited
10A Disabled No Disabled Unlimited
9B Disabled No Disabled Unlimited
10B Disabled No Disabled Unlimited

VID State Querier RV QI QRI LLQI URI
-----
1 Disabled Disabled

Port Filtering Groups
-----
1 No Filtering Group
2 No Filtering Group
3 No Filtering Group
4 No Filtering Group
5 No Filtering Group
6 No Filtering Group
7 No Filtering Group
8 No Filtering Group
9A No Filtering Group
10A No Filtering Group

```

```

Switch(igmp)# show groups 1
Switch(igmp)#

```

```

Switch(igmp)# show ssm 1
Switch(igmp)#

```

```

Switch(igmp)# show status
Querier Rx Tx Rx Rx Rx Rx
VID Status Query Query V1 Join V2 Join V3 Join V2 Leave
-----
Switch(igmp)#

```

```
Switch(igmp)# show version 1
Switch(igmp)#
```

snooping

Set IGMP Snooping Mode

SYNTAX

Snooping <disable> <enable>

Parameter

disable Disable the Global IGMP Snooping
enable Enable the Global IGMP Snooping

EXAMPLE

```
Switch(igmp)# snooping disable
Switch(igmp)#
```

state

Enable/Disable per-VLAN IGMP Snooping Mode

SYNTAX

Snooping <vlan-list> <disable> <enable>

Parameter

<vlan-list> VLAN list, available value is from 1 to 4094 format: 1,3-5

disable Disable per-VLAN IGMP Snooping
enable Enable per-VLAN IGMP Snooping

EXAMPLE

```
Switch(igmp)# state 1 disable
Switch(igmp)#
```

throttling

Set per-port Throttling

SYNTAX

Snooping <port-list> <0-10>

Parameter

<port-list> Port list, available value is from 1 to 10B format: 1,3-
<0-10> Set Port Group Limit numberm, Range:0~10, 0:unlimited

EXAMPLE

```
Switch(igmp)# throttling 1 0  
Switch(igmp)#
```

uri

Set per-VLAN Unsolicited Report Interval

SYNTAX

Snooping <vlan-list> <0-31744>

Parameter

<vlan-list> VLAN list, available value is from 1 to 4094 format: 1,3-5
<0-31744> Range:0~31744 sec, Default: 1 sec

EXAMPLE

```
Switch(igmp)# uri 1 1  
Switch(igmp)#
```

20 IP Commands of CLI

Table : ip Commands

| Command | Function |
|--------------------------|----------------------------|
| <code>dhcp</code> | Enable/Disable DHCP client |
| <code>mgmt-vlan</code> | Set the management VLAN ID |
| <code>name-server</code> | Set DNS IP address |
| <code>setup</code> | Set the IP address |
| <code>show</code> | Show ip information |

dhcp

Enable/Disable DHCP client

SYNTAX

Dhcp < *disable* > < *enable* >

Parameter

disable Disable DHCP client
enable Enable DHCP client

EXAMPLE

```
Switch(ip)# dhcp enable
Switch(ip)#
```

mgmt-vlan

Set the management VLAN ID

SYNTAX

mgmt-vlan < 1-4094 >

Parameter

<1-4094> Management VLAN ID, available value is from 1 to 4094s.

EXAMPLE

```
Switch(ip)# mgmt-vlan 1
Switch(ip)#
```

name-server Set DNS IP address

SYNTAX

name-server <ip-address>

Parameter

<ip-address> DNS IP address

EXAMPLE

```
Switch(ip)# name-server 168.95.1.1
Switch(ip)#
```

Setup Set the IP address

SYNTAX

Setup <ip-address><ip-mask><ip-address>

Parameter

<ip-address> IP address

<ip-mask> IP subnet mask

<ip-address> Gateway IP address

EXAMPLE

```
Switch(ip)# setup 192.168.1.100 255.255.255.0 192.168.1.254
Switch(ip)#
```

show

Show ip information

SYNTAX

Show

EXAMPLE

```
Switch(ip)# show
DHCP Client      : Enabled
Active Configuration : Static
IP Address       : 192.168.1.100
Subnet Mask      : 255.255.255.0
```

21 IP-Source-Guard of CLI

Table : IP-Source-Guard Commands

| Command | Function |
|------------------------|---|
| <code>add</code> | Add or modify IP source guard static entry |
| <code>delete</code> | Delete IP source guard static entry |
| <code>limit</code> | IP source guard port limitation for dynamic entries |
| <code>mode</code> | Configure IP source guard mode |
| <code>port-mode</code> | Configure IP source guard port mode |
| <code>show</code> | Show IP source guard configuration |

add To add or modify IP source guard static entry

Syntax

add <port-list> <VLAN ID> <ip-address> <mac-address>

Parameter

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5..

<**VLAN ID**> VLAN ID, available value is from 1 to 4094

<**ip-address**> IP address allowed for doing IP source guard

<**mac-address**> MAC address, format 0a-1b-2c-3d-4e-5f

EXAMPLE

```
Switch(ip-source-guard)# add 3-5 2 192.168.2.22 0a-1b-2c-3d-4e-5f
Switch(ip-source-guard)#
Switch(ip-source-guard)# show binding-table 3-5
Type      Port  VLAN  IP Address      MAC Address
-----
Static    3     2     192.168.2.22    0a-1b-2c-3d-4e-5f
Static    4     2     192.168.2.22    0a-1b-2c-3d-4e-5f
Static    5     2     192.168.2.22    0a-1b-2c-3d-4e-5f
Switch(ip-source-guard)#
```

delete To delete IP source guard static entry

Syntax

```
delete <port-list> <VLAN ID> <ip-address> <mac-address>
```

Parameter

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5..

<**VLAN ID**> VLAN ID, available value is from 1 to 4094

<**ip-address**> IP address allowed for doing IP source guard

<**mac-address**> MAC address, format 0a-1b-2c-3d-4e-5f

EXAMPLE

```
Switch(ip-source-guard)# delete 3-5 2 192.168.2.22 0a-1b-2c-3d-4e-5f
Switch(ip-source-guard)#
Switch(ip-source-guard)# show binding-table 3-5
Type      Port  VLAN  IP Address      MAC Address
-----
<none>
Switch(ip-source-guard)#
```

limit To set the IP source guard port limitation for dynamic entries

Syntax

```
limit <port-list> <0-2/ unlimited>
```

Parameter

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5..

<**0-2**> Specify the maximum number of dynamic clients that can be learned on given port. If the port mode is enabled and the value of max dynamic client is equal to 0, it means only allow the IP packets forwarding that are matched in static entries on the specific port

<**unlimited**> Unlimited dynamic clients

EXAMPLE

```
Switch(ip-source-guard)# limit 3-5 0
Switch(ip-source-guard)#
Switch(ip-source-guard)# show binding-table 3-5
Type      Port  VLAN  IP Address      MAC Address
-----
<none>
Switch(ip-source-guard)#
```

mode To configure IP source guard mode globally.

Syntax

mode <disable/ enable>

Parameter

<**disable**> Globally disable IP source guard mode.

<**enable**> Globally enable IP source guard mode.



NOTE: All configured ACEs will be lost when the mode is enabled.

EXAMPLE

```
Switch(ip-source-guard)# mode enable
Switch(ip-source-guard)# show binding-table 3-5
Type      Port  VLAN  IP Address      MAC Address
-----
<none>
Switch(ip-source-guard)#
```

port-mode To configure IP source guard port mode.

Syntax

port-mode <port-list> <disable/ enable>

Parameter

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5.

<**disable**> Disable IP source guard port mode.

<**enable**> Enable IP source guard port mode.

EXAMPLE

```
Switch(ip-source-guard)# port-mode 3-5 enable
Switch(ip-source-guard)# show config

IP Source Guard Mode : Enabled

Port  Port Mode  Dynamic Entry Limit
-----
1     Disabled  unlimited
2     Disabled  unlimited
3     Enabled   unlimited
4     Enabled   unlimited
5     Enabled   unlimited
.....
Switch(ip-source-guard)#
```

show To show IP source guard information

Syntax

```
show <binding-table> <port-list>  
show <config>
```

Parameter

<**binding-table**> Show IP-MAC binding table.
<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5.
<**config**> Show IP source guard configuration.

EXAMPLE

```
Switch(ip-source-guard)# show binding-table 3-5  
Type      Port  VLAN  IP Address      MAC Address  
-----  
<none>  
Switch(ip-source-guard)# show config  
  
IP Source Guard Mode : Enabled  
  
Port  Port Mode  Dynamic Entry Limit  
-----  
1     Disabled  unlimited  
2     Disabled  unlimited  
3     Enabled   unlimited  
4     Enabled   unlimited  
5     Enabled   unlimited  
6     Disabled  unlimited  
7     Disabled  unlimited  
8     Disabled  unlimited  
9     Disabled  unlimited  
10    Disabled  unlimited  
Switch(ip-source-guard)#
```

22 IPV6 Commands of CLI

Table 19: dhcp_snooping Commands

| Command | Function |
|------------|--------------------------------|
| autoconfig | Configure IPv6 autoconfig mode |
| setup | Set the IPv6 address |
| show | Show IPv6 information |

autoconfig Configure IPv6 autoconfig mode

SYNTAX

Autoconfig <disable> <enable>

Parameter

disable Disable autoconfig mode
enable Enable autoconfig mode

EXAMPLE

```
Switch(ipv6)# autoconfig disable  
Switch(ipv6)#
```

Setup Set the IPv6 address

SYNTAX

Setup <ipv6-address>

Parameter

<ipv6-address> Gateway IPv6 address IPv6 address is in 128-bit records represented as eight fields of up to four hexadecimal digits with a colon separates each field (:). For example, 'fe80::215:c5ff:fe03:4dc7'. The symbol '::' is a special syntax that can be used as a shorthand way of representing multiple 16-bit groups of contiguous zeros; but it can only appear once. It also used a following legally IPv4 address. For example, ':::192.1.2.34'
<1-128> IPv6 prefix

EXAMPLE

```
Switch(ipv6)# setup ::192.168.1.41 1
Switch(ipv6)#
```

show

Show ipv6 information

SYNTAX

Show

EXAMPLE

```
Switch(ipv6)# show
IPv6 Autoconfig Mode      : Disabled
IPv6 Link-Local Address  : fe80::6082:cdb9:19ab:c0e2
IPv6 Address              : ::192.168.1.41
IPv6 Prefix               : 1
IPv6 Router              : ::
IPv6 SNTP Server         : ::
IPv6 VLAN ID             : 0
Switch(ipv6)#
```


23 LACP Commands of CLI

Table 19: dhcp_snooping Commands

| Command | Function |
|---------|-------------------------|
| clear | Clear command |
| key | Configure the LACP key |
| mode | Configure the LACP mode |
| role | Configure the LACP role |
| show | Show LACP information |

clear Clear command

SYNTAX

clear < statistics >

Parameter

statistics Clear LACP statistics

EXAMPLE

```
Switch(lacp)# clear statistics
Switch(lacp)#
```

Key Configure the LACP key

SYNTAX

Setup <port-list> <1-65535>

Parameter

<port-list> Port list, available value is from 1 to 10B format: 1,3-
<1-65535> LACP key auto The Auto setting will set the key as appropriate by the physical link speed, 10Mb = 1, 100Mb = 2, 1Gb = 3

EXAMPLE

```
Switch(lacp)# key 1 12
Switch(lacp)#
```

mode Configure the LACP mode

SYNTAX

mode <disable><enable>

Parameter

<port-list> Port list, available value is from 1 to 10B format:1,3-

disable Disable LACP protocol

enable Enable LACP protocol

EXAMPLE

```
Switch(lacp)# mode 1 disable
Switch(lacp)#
```

role Configure the LACP mode

SYNTAX

role <disable><enable>

Parameter

<port-list> Port list, available value is from 1 to 10B format:1,3-

active Initiate LACP negotiation, and transmit LACP packets each second

passive Listen for LACP packets

EXAMPLE

```
Switch(lacp)# role 1 active
Switch(lacp)#
```

Show Show LACP information

SYNTAX

Show

Parameter

config Show LACP configuration
statistics Show LACP statistics
status Show LACP status

EXAMPLE

```
Switch(lacp)# show config
Port  Mode      Key  Role
-----
1     Disabled  12   Active
2     Disabled  Auto Active
3     Disabled  Auto Active
4     Disabled  Auto Active
5     Disabled  Auto Active
6     Disabled  Auto Active
7     Disabled  Auto Active
8     Disabled  Auto Active
9A    Disabled  Auto Active
10A   Disabled  Auto Active
9B    Disabled  Auto Active
10B   Disabled  Auto Active
Switch(lacp)#
```

```
Switch(lacp)# show statistics
Port  Rx Frames  Tx Frames  Rx Unknown  Rx Illegal
-----
1     0          0          0           0
2     0          0          0           0
3     0          0          0           0
4     0          0          0           0
5     0          0          0           0
6     0          0          0           0
7     0          0          0           0
8     0          0          0           0
9A    0          0          0           0
10A   0          0          0           0
9B    0          0          0           0
10B   0          0          0           0
Switch(lacp)#
```

```
Switch(lacp)# show status
Port  Mode      Key   Aggr ID  Partner System ID  Partner Port
-----
1     Disabled -     -        -          -          -
2     Disabled -     -        -          -          -
3     Disabled -     -        -          -          -
4     Disabled -     -        -          -          -
5     Disabled -     -        -          -          -
6     Disabled -     -        -          -          -
7     Disabled -     -        -          -          -
8     Disabled -     -        -          -          -
9A    Disabled -     -        -          -          -
10A   Disabled -     -        -          -          -
9B    Disabled -     -        -          -          -
10B   Disabled -     -        -          -          -
Switch(lacp)#
```

24 Limit-control Commands of CLI

Table : Commands

| Command | Function |
|------------------------|--|
| <code>action</code> | Configure the action involved with exceeding the limit |
| <code>aging</code> | Configure the aging mode and period |
| <code>limit</code> | Configure the max. number of MAC addresses that can be learned on the port |
| <code>mode</code> | Configure the global limit control mode |
| <code>port-mode</code> | Configure the port mode |
| <code>reopen</code> | Reopen one or more ports whose limit is exceeded and shut down |
| <code>show</code> | Show limit control configuration |

action

Configure the action involved with exceeding the limit

SYNTAX

Action <port-list> both

Parameter

<port-list> Port list, available value is from 1 to 10B format: 1,3-

Both Send a SNMP trap and shutdown the port

none Do nothing

shutdown Shutdown the port

trap Send a SNMP trap

EXAMPLE

```
Switch(limit-control)# action 1 both
Switch(limit-control)#
```

aging

Configure the aging mode and period

SYNTAX

aging <disable> <enable>

Parameter

disable Disable aging

enable Enable aging

EXAMPLE

```
Switch(limit-control)# aging disable
Switch(limit-control)#
```

limit

Configure the max. number of MAC addresses that can be learned on the port

SYNTAX

limit <port-list> <1-1024>

Parameter

<**port-list**> Port list, available value is from 1 to 10B format: 1,3-

<**1-1024**> Max. number of MAC addresses on selected port

EXAMPLE

```
Switch(limit-control)# limit 1 1
Switch(limit-control)#
```

mode

Configure the global limit control mode

SYNTAX

Mode <disable> <enable>

Parameter

disable Globally disable port security

enable Globally enable port security

EXAMPLE

```
Switch(limit-control)# mode enable
Switch(limit-control)#
```

port-mode Configure the port mode

SYNTAX

port-mode <port-list> <disable> <enable>

Parameter

<**port-list**> Port list, available value is from 1 to 10B format: 1,3-

disable Disable port security on selected port

enable Enable port security on selected port

EXAMPLE

```
Switch(limit-control)# port-mode 1 disable
Switch(limit-control)#
```

reopen Reopen one or more ports whose limit is exceeded and shut down

SYNTAX

reopen<port-list>

Parameter

<**port-list**> Port list, available value is from 1 to 10B format: 1,3-

EXAMPLE

```
Switch(limit-control)# reopen 1
Switch(limit-control)#
```

show Show limit control configuration

SYNTAX

Show

EXAMPLE

```
Switch(limit-control)# show
Mode      : Enabled
Aging     : Disabled
Age Period: 3600

Port  Mode      Limit  Action
----  -
1     Disabled    1     Trap & Shutdown
2     Disabled    4     None
3     Disabled    4     None
4     Disabled    4     None
```


25 LLDP Commands of CLI

Table 19: dhcp_snooping Commands

| Command | Function |
|-------------------------|---|
| <code>cdp-aware</code> | Configure CDP (Cisco Discovery Protocol) aware mode |
| <code>clear</code> | Clear LLDP statistics |
| <code>delay</code> | Configure LLDP Tx delay |
| <code>hold</code> | Configure LLDP Tx hold value |
| <code>interval</code> | Configure LLDP transmission interval |
| <code>mode</code> | Configure the LLDP mode |
| <code>option-tlv</code> | Configure LLDP Optional TLVs |
| <code>reinit</code> | Configure LLDP reinit delay |
| <code>show</code> | Show LLDP information |

cdp-aware

Configure CDP (Cisco Discovery Protocol) aware mode

SYNTAX

cdp-aware <disable> <enable>

Parameter

<port-list> Port list, available value is from 1 to 10B format: 1,3-

disable Disable CDP awareness

enable Enable CDP awareness (CDP discovery information is added to the LLDP neighbor table)

EXAMPLE

```
Switch(lldp)# cdp-aware 1 enable
Switch(lldp)#
```

clear Clear LLDP statistics

SYNTAX

clear

EXAMPLE

```
Switch(lldp)# clear
Switch(lldp)#
```

delay Configure LLDP Tx delay

SYNTAX

limit<1-8192>

Parameter

<1-8192> LLDP transmission delay

EXAMPLE

```
Switch(lldp)# delay 1
Switch(lldp)#
```

Interval Configure LLDP transmission interval

SYNTAX

Interval <5-32768>

Parameter

<5-32768> LLDP transmission interval

EXAMPLE

```
Switch(lldp)# interval 5
Switch(lldp)#
```

mode

Configure the LLDP mode

SYNTAX

Mode<port-list> <*disable*> <*enable*>

Parameter

<**port-list**> Port list, available value is from 1 to 10B format: 1,3-

disable The switch will not send out LLDP information, and will drop LLDP information received from neighbours

enable The switch will send out LLDP information, and will analyze LLDP information received from neighbours

rx-only The switch will not send out LLDP information, but LLDP information from neighbour units is analyzed
tx-only The switch will drop LLDP information received from neighbours, but will send out LLDP information

EXAMPLE

```
Switch(lldp)# mode 1 enable
Switch(lldp)#
```

option-tlv

Configure LLDP Optional TLVs

SYNTAX

option-tlv <port-list>< mgmt-addr >< disable >

Parameter

<**port-list**> Port list, available value is from 1 to 10B format: 1,3-

mgmt-addr Management IP address

port-desc Port description

| | |
|-----------------|--------------------|
| sys-cap | System capability |
| sys-desc | System description |
| sys-name | System name |
| disable | Disable TLV |
| enable | Enable TLV |

EXAMPLE

```
Switch(lldp)# option-tlv 1 mgmt-addr enable
Switch(lldp)#
```

reinit

Configure LLDP reinit delay

SYNTAX

reinit <1-10>

Parameter

<1-10> LLDP reinit delay

EXAMPLE

```
Switch(lldp)# reinit 1
Switch(lldp)#
```

show

Show LLDP information

SYNTAX

Show

Parameter

| | |
|-------------------|---------------------------------------|
| config | Show LLDP configuration |
| info | Show LLDP neighbor device information |
| statistics | Show LLDP statistics |

EXAMPLE

```
Switch(lldp)# show config
Interval      : 5
Hold          : 3
Tx Delay      : 1
Reinit Delay: 1

          Port      System  System  System  Management CDP
Port Mode  Description Name    Description Capability Address  awareness
-----
1   Enabled Enabled   Enabled Enabled   Enabled   Enabled   Enabled
2   Disabled Enabled   Enabled Enabled   Enabled   Enabled   Disabled
3   Disabled Enabled   Enabled Enabled   Enabled   Enabled   Disabled
4   Disabled Enabled   Enabled Enabled   Enabled   Enabled   Disabled
5   Disabled Enabled   Enabled Enabled   Enabled   Enabled   Disabled
6   Disabled Enabled   Enabled Enabled   Enabled   Enabled   Disabled
7   Disabled Enabled   Enabled Enabled   Enabled   Enabled   Disabled
8   Disabled Enabled   Enabled Enabled   Enabled   Enabled   Disabled
9A  Disabled Enabled   Enabled Enabled   Enabled   Enabled   Disabled
10A Disabled Enabled   Enabled Enabled   Enabled   Enabled   Disabled
9B  Disabled Enabled   Enabled Enabled   Enabled   Enabled   Disabled
10B Disabled Enabled   Enabled Enabled   Enabled   Enabled   Disabled
Switch(lldp)#
```

```
Switch(lldp)# show info 1
No LLDP entries found
```

```

Switch(lldp)# show statistics

LLDP global counters

Neighbor entries was last changed at 2011-01-01 00:00:00 (7279 sec. ago).

Total Neighbors Entries Added    0.
Total Neighbors Entries Deleted  0.
Total Neighbors Entries Dropped  0.
Total Neighbors Entries Aged Out 0.

LLDP local counters

      Rx      Tx      Rx      Rx      Rx TLV  Rx TLV  Rx TLV
Port  Frames  Frames  Errors  Discards Errors  Unknown  Organiz.  Aged
----  -
1     0       0       0       0       0       0       0       0

```

26 LLDP-MED of CLI

Table : LLDPMED Commands

| Command | Function |
|--------------------------|---|
| civic | Configure LLDP-MED civic address location |
| additional-code | Additional code |
| additional-info | Additional location info |
| apartment | Unit (Apartment, suite) |
| block | Neighbourhood, block |
| building | Building (structure) |
| city | City, township, shi (Japan) |
| comm.-name | Postal community name |
| country-code | The two-letter ISO 3166 country code |
| county | County, parish, gun (Japan), district |
| district | City division, borough, city district, ward, chou(Japan) |
| floor | Floor |
| house-no | House number |
| house-no-suffix | House number suffix |
| landmark | Landmark or vanity address |
| leading-street-direction | Leading street direction |
| name | Name (residence and office occupant) |
| p.o.box | Post office box (P.O. BOX) |
| place-type | Place type |
| room-number | Room number |
| state | National subdivisions (state, canton, region, province, prefecture) |
| street | Street |
| street-suffix | Street suffix |
| trailing-street-suffix | Trailing street suffix |
| zip_code | Postal/zip code |
| coordinate | Configure LLDP-MED coordinate location |
| altitude | Altitude |
| datum | Map datum |

| | |
|-----------|--|
| latitude | Latitude |
| longitude | Longitude |
| delete | Delete the selected policy |
| ecs | Configure LLDP-MED Emergency Call Service |
| fast | Configure LLDP-MED fast start repeat count |
| policy | Configure LLDP-MED policy |
| show | Show LLDP-MED information |

civic To configure LLDP-MED civic address location

Syntax

civic additional-code <LINE>

Parameter

<LINE> The value for the Civic Address Location entry.

EXAMPLE

```
Switch(lldpmed)# civic additional-code 205
Switch(lldpmed)#
```

Syntax

civic additional-info <LINE>

Parameter

<LINE> The value for the Civic Address Location entry.

EXAMPLE

```
Switch(lldpmed)# civic additional-info test
Switch(lldpmed)#
```

Syntax

civic apartment <LINE>

Parameter

<LINE> The value for the Civic Address Location entry.

EXAMPLE

```
Switch(lldpmed)# civic apartment 005
Switch(lldpmed)#
```


Syntax

civic block <LINE>

Parameter

<LINE> The value for the Civic Address Location entry.

EXAMPLE

```
Switch(lldpmed)# civic block block2
Switch(lldpmed)#
```

Syntax

civic building<LINE>

Parameter

<LINE> The value for the Civic Address Location entry.

EXAMPLE

```
Switch(lldpmed)# civic building Manufacture
Switch(lldpmed)#
```

Syntax

civic city<LINE>

Parameter

<LINE> The value for the Civic Address Location entry.

EXAMPLE

```
Switch(lldpmed)# civic city Taipei
Switch(lldpmed)#
```

Syntax

civic comm.-name<LINE>

Parameter

<LINE> The value for the Civic Address Location entry.

EXAMPLE

```
Switch(lldpmed)# civic comm-name LLDP-MED01
Switch(lldpmed)#
```

Syntax

civic contry-code <LINE>

Parameter

<LINE> The value for the Civic Address Location entry and it is the two-letter

ISO 3166 country code.

EXAMPLE

```
Switch(lldpmed)# civic country-code 86
Switch(lldpmed)#
```

Syntax

civic country <LINE>

Parameter

<LINE> The value for the Civic Address Location entry.

EXAMPLE

```
Switch(lldpmed)# civic country tw
Switch(lldpmed)#
```

Syntax

civic district <LINE>

Parameter

<LINE> The value for the Civic Address Location entry.

EXAMPLE

```
Switch(lldpmed)# civic district E1
Switch(lldpmed)#
```

Syntax

civic floor <LINE>

Parameter

<LINE> The value for the Civic Address Location entry.

EXAMPLE

```
Switch(lldpmed)# civic floor 5
Switch(lldpmed)#
```

Syntax

civic house-no <LINE>

Parameter

<LINE> The value for the Civic Address Location entry.

EXAMPLE

```
Switch(lldpmed)# civic house-no 5
Switch(lldpmed)#
```

Syntax

civic house-no-suffix <LINE>

Parameter

<LINE> The value for the Civic Address Location entry.

EXAMPLE

```
Switch(1ldpmed)# civic house-no-suffix line3
Switch(1ldpmed)#
```

Syntax

civic landmark <LINE>

Parameter

<LINE> The value for the Civic Address Location entry.

EXAMPLE

```
Switch(1ldpmed)# civic landmark great
Switch(1ldpmed)#
```

Syntax

civic leading-street-direction <LINE>

Parameter

<LINE> The value for the Civic Address Location entry.

EXAMPLE

```
Switch(1ldpmed)# civic leading-street-direction north
Switch(1ldpmed)#
```

Syntax

civic name <LINE>

Parameter

<LINE> The value for the Civic Address Location entry.

EXAMPLE

```
Switch(1ldpmed)# civic name PC01
Switch(1ldpmed)#
```

Syntax

civic p.o.box <LINE>

Parameter

<LINE> The value for the Civic Address Location entry.

EXAMPLE

```
Switch(lldpmed)# civic p.o.box 22
Switch(lldpmed)#
```

Syntax

civic place-type <LINE>

Parameter

<LINE> The value for the Civic Address Location entry.

EXAMPLE

```
Switch(lldpmed)# civic place-type meetingroom
Switch(lldpmed)#
```

Syntax

civic room-number <LINE>

Parameter

<LINE> The value for the Civic Address Location entry.

EXAMPLE

```
Switch(lldpmed)# civic room-number 15
Switch(lldpmed)#
```

Syntax

civic state <LINE>

Parameter

<LINE> The value for the Civic Address Location entry.

EXAMPLE

```
Switch(lldpmed)# civic state Taipei
Switch(lldpmed)#
```

Syntax

civic street <LINE>

Parameter

<LINE> The value for the Civic Address Location entry.

EXAMPLE

```
Switch(lldpmed)# civic street Nan Kang Road
Switch(lldpmed)#
```

Syntax

civic street-suffix <LINE>

Parameter

<LINE> The value for the Civic Address Location entry.

EXAMPLE

```
Switch(lldpmed)# civic street-suffix 3
Switch(lldpmed)#
```

Syntax

civic trailing-street-suffix <LINE>

Parameter

<LINE> The value for the Civic Address Location entry.

EXAMPLE

```
Switch(lldpmed)# civic trailing-street-suffix 2
Switch(lldpmed)#
```

Syntax

civic zip-code <LINE>

Parameter

<LINE> The value for the Civic Address Location entry.

EXAMPLE

```
Switch(lldpmed)# civic zip_code 236
Switch(lldpmed)# show config
Fast Start Repeat Count : 4
Location Coordinates
-----
Latitude : 0.0000 North
Longitude : 0.0000 East
Altitude : 4.0000 floor
Map datum : WGS84
Civic Address Location
-----
Country code : tw
National subdivision : Taipei
County :
City : Taipei
City district : E1
Block (Neighborhood) : block2
Street : Nan Kang Road
Street Dir : north
Trailing Street : 2
Street Suffix : 3
.....
Placetype : meetingroom
Postal Community Name : LLDP-MED01
P.O. Box : 22
Addination Code : 205

Emergency Call Service :
Switch(lldpmed)#
```

coordinate To configure LLDP-MED coordinate location

Syntax

coordinate altitude <*coordinate-value*> <*floor/ meter*>

Parameter

<**coordinate-value**> Meters or floors with max. 4 digits.

<**floor**> Representing altitude in a form more relevant in buildings which have different floor-to-floor dimension

<**meter**> Representing meters of Altitude defined by the vertical datum specified

EXAMPLE

```
Switch(lldpmed)# coordinate altitude 25 floor
Switch(lldpmed)#
```

Syntax

coordinate datum <*nad83-mlw/ nad83-navd88/ wgs84*>

Parameter

<**nad83-mlw**> North American Datum 1983, CRS Code 4269, Prime Meridian.
Name: Greenwich; The associated vertical datum is Mean Lower Low Water (MLLW).

This datum pair is to be used when referencing location on water/sea/ocean

<**nad83-navd88**> North American Datum 1983, CRS Code 4269, Prime Meridian.

Name: Greenwich; The associated vertical datum is the North American Vertical Datum of 1988 (NAVD88).

This datum pair is to be used when referencing location on land, not near tidal water (which would use Datum = NAD83/MLLW)

<**wgs84**> (Geographical 3D) - World Geodesic System 1984, CRS Cod 4327, Prime Meridian.

Name: Greenwich

EXAMPLE

```
Switch(lldpmed)# coordinate datum nad83-navd88
Switch(lldpmed)#
```

Syntax

coordinate latitude <coordinate-value> <north/ south>

Parameter

<**coordinate-value**> 0 to 90 degrees with max. 4 digits.

<**north**> North of the equator

<**south**> South of the equator

EXAMPLE

```
Switch(lldpmed)# coordinate latitude 20 north
Switch(lldpmed)#
```

Syntax

coordinate longitude <coordinate-value> <east/ west>

Parameter

<**coordinate-value**> 0 to 180 degrees with max. 4 digits.

<**east**> East of the prime meridian.

<**west**> West of the prime meridian.

EXAMPLE

```
Switch(lldpmed)# coordinate longitude 90 west
Switch(lldpmed)# show config
Fast Start Repeat Count : 4
Location Coordinates
-----
Latitude                : 20.0000 North
Longitude                : 90.0000 West
Altitude                 : 25.0000 floor
Map datum                : NAD83/NAVD88
Civic Address Location
-----
Country code            : tw
National subdivison     : Taipei
County                  :
City                    : Taipei
City district           : E1
Block (Neighborhood)    : block2
Street                  : Nan Kang Road
Street Dir               : north
Trailling Street         : 2
Street Suffix           : 3
House No.               : 5
House No. Suffix        : line3
Landmark                 : great
Additional Location Info : test
Name                    : PC01
Zip                     : 236
Building                 : Manufacture
Unit                    : 005
Floor                   : 5
Room No.                 : 15
Placetype                : meetingroom
Postal Community Name    : LLDP-MED01
P.O. Box                 : 22
Addination Code         : 205

Emergency Call Service  :
Switch(lldpmed)#
```

delete To delete the selected policy

Syntax

delete <policy ID>

Parameter

<policy ID> Policy ID, available value is from 0 to 31.

EXAMPLE

```
Switch(lldpmed)# delete 1
Switch(lldpmed)#
```

ecs To configure LLDP-MED Emergency Call Service

Syntax

ecs <number>

Parameter

<number> The numerical digit string for the Emergency Call Service.

EXAMPLE

```
Switch(lldpmed)# ecs 886227853961
Switch(lldpmed)#
```

fast To configure LLDP-MED fast start repeat count

Syntax

fast <1-10>

Parameter

<1-10> The number of times the fast start LLDPDU are being sent during the activation of the fast start mechanism defined by LLDP-MED.

EXAMPLE

```
Switch(lldpmed)# fast 2
Switch(lldpmed)#
```


policy To configure LLDP-MED policy

Syntax

policy <tagged/ untagged> <VLAN ID> <Layer2 priority> <DSCP value>
<guest-voice/ guest-voice-signaling/ softphone-voice/ streaming-video/
video-conferencing/ video-signaling/ voice/ voice-signaling>

Parameter

<**tagged**> The device is using tagged frames.

<**untagged**> The device is using untagged frames

<**VLAN ID**> VLAN ID, available value is from 1 to 4094.

<**L2 priority**> Layer 2 priority to be used for the specified application type, available value is from 0 to 7.

<**DSCP value**> DSCP value to be used to provide Diffserv node behavior for the specified application type as defined in IETF RFC 2474, available value is from 0 to 63.

<**guest-voice**> Guest Voice to support a separate limited feature-set voice service for guest users and visitors with their own IP Telephony handsets and other similar appliances supporting interactive voice services.

<**guest-voice-signaling**> Guest Voice Signaling (conditional) for use in network topologies that require a different policy for the guest voice signaling than for the guest voice media.

<**softphone-voice**> Softphone Voice for use by softphone applications on typical data centric devices, such as PCs or laptops. This class of endpoints frequently does not support multiple VLANs, if at all, and are typically configured to use an untagged VLAN or a single tagged data specific VLAN.

<**streaming-video**> Streaming Video for use by broadcast or multicast based video content distribution and other similar applications supporting streaming video services that require specific network policy treatment. Video applications relying on TCP with buffering would not be an intended use of this application type.

<**video-conferencing**> Video Signaling (conditional) for use in network topologies that require a separate policy for the video signaling than for the video media.

<**video-signaling**> Video Signaling (conditional) for use in network topologies that require a separate policy for the video signaling than for the video media.

<**voice**> Voice for use by dedicated IP Telephony handsets and other similar appliances supporting interactive voice services. These devices are typically deployed on a separate VLAN for ease of deployment and enhanced security by

isolation from data applications.

<**voice-signaling**> Voice Signaling (conditional) for use in network topologies that require a different policy for the voice signaling than for the voice media

EXAMPLE

```
Switch(lldpmed)# policy tagged 2 6 63 guest-voice
New policy added with policy id: 0
Switch(lldpmed)#
```

port-policy To configure LLDP-MED port policy

Syntax

port-policy <port-list> <policy ID> <disable/ enable>

Parameter

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5.

<**policy ID**> Policy ID, available value is from 0 to 31.

<**disable**> Disable the policy to a given port.

<**enable**> Enable the policy to a given port.

EXAMPLE

```
Switch(lldpmed)# port-policy 3-5 2 enable
Switch(lldpmed)#
```

show To show LLDP-MED information

Syntax

show <config>

Parameter

<**config**> Show LLDP-MED configuration

EXAMPLE

```
Switch(lldpmed)# show config

Fast Start Repeat Count : 2

Location Coordinates
-----
Latitude                : 20.0000 North
Longitude                : 90.0000 West
Altitude                 : 25.0000 floor
Map datum                : NAD83/NAVD88
```

```

Civic Address Location
-----
Country code          : tw
National subdivision : Taipei
County                :
City                  : Taipei
City district         : E1
Block (Neighborhood) : block2
Street                : Nan Kang Road
Street Dir            : north
Trailing Street       : 2
Street Suffix         : 3
House No.             : 5
House No. Suffix      : line3
Landmark              : great
Additional Location Info : test
Name                  : PC01
Zip                   : 236
Building              : Manufacture
Unit                  : 005
Floor                 : 5
Room No.              : 15
Placetype             : meetingroom
Postal Community Name : LLDP-MED01
P.O. Box              : 22
Addination Code       : 205

Emergency Call Service : 886227853961

Switch(lldpmed)#

```

Syntax

```
show <info> <port-list>
```

Parameter

<info> Show LLDP-MED neighbor device information .

<port-list> Port list, available value is from 1 to 14 format: 1,3-5.

EXAMPLE

```

Switch(lldpmed)# show info 3-5
No LLDP-MED entries found

```

Syntax

```
show <policy>
```

Parameter

<policy> Show LLDP-MED policy configuration .

EXAMPLE

```

Switch(lldpmed)# show policy
Policy Id Application Type      Tag      Vlan ID L2 Priority DSCP
-----
0      Guest Voice      Tagged   2        6        63
Switch(lldpmed)#

```

Syntax

show <port-policy>

Parameter

<port-policy> Show LLDP-MED port policy configuration .

EXAMPLE

```
Switch(lldpmed)# show port-policy
Port    Policies
-----  -
1       none
2       none
3       2
4       2
5       2
6       none
7       none
8       none
9       none
10      none
Switch(lldpmed)#
```

27 MAC Commands of CLI

Table : Commands

| Command | Function |
|------------|---|
| age-time | Configure aging time of MAC address |
| delete | Delete commands |
| flush | Flush out dynamic learned MAC address |
| learning | Configure learning mode of switch ports |
| show | Show MAC address table information |
| static-mac | Configure static MAC address |

age-time

Configure aging time of MAC address

SYNTAX

age-time <10-1000000>

Parameter

<10-1000000> Available value is from 10 to 1000000

EXAMPLE

```
Switch(mac)# age-time 10
Switch(mac)#
```

delete

Delete commands

SYNTAX

delete static-mac <mac-address><1-4094>

Parameter

static-mac Delete static MAC address

<mac-address> MAC address, format 0a-1b-2c-3d-4e-5f

<1-4094> VLAN ID, available value is from 1 to 4094

EXAMPLE

```
Switch(mac)# delete static-mac 0a-1b-2c-3d-4e-5f 1
```

flush

Flush out dynamic learned MAC address

SYNTAX

flush

EXAMPLE

```
Switch(mac)# flush  
Switch(mac)#
```

learning

Configure learning mode of switch ports

SYNTAX

learning<port-list>< auto>

Parameter

<**port-list**> Port list, available value is from 1 to 10B format: 1,3-

auto Learning is done automatically as soon as a frame with unknown SMAC is received
disable Disable learning

secure Only static MAC entries are learned, all other frames

EXAMPLE

```
Switch(mac)# learning 1 auto  
Switch(mac)#
```

show

Configure LLDP-MED fast start repeat count

SYNTAX

Show

Parameter

configuration Show MAC address table configuration

mac-table Show MAC address table

static-mac Show static MAC address

EXAMPLE

```
Switch(mac)# show configuration
Automatic Aging : Enabled
Aging Time : 300 seconds
Port Learning Mode
----
1   Auto
2   Auto
3   Auto
4   Auto
5   Auto
```

```
Switch(mac)# show mac-table
No   Type   MAC Address      VID  Ports
----
1   Static 00-01-c1-00-00-00 1    None,CPU
```

```
Switch(mac)# show static-mac
Total static MAC address : 0
```

28 Mirror Commands of CLI

Table: Commands

| Command | Function |
|----------------------------|---------------------------------|
| <code>analyzer-port</code> | Configure analyzer port |
| <code>analyzer-port</code> | Configure port mod |
| <code>show</code> | Show port mirroring information |

analyzer-port Configure LLDP-MED civic address location

SYNTAX

analyzer-port < disable >

Parameter

disable Disable port mirroring

<port> Analyzer port, available value is from 1 to 10

EXAMPLE

```
Switch(mirror)# analyzer-port disable
Switch(mirror)#
```

port-mode Configure LLDP-MED coordinate location

SYNTAX

port-mode <port-list> <disable>

Parameter

<port-list> Port list, available value is from 1 to 10B format: 1,3-

disable Disable mirroring

enable Enable Rx and Tx mirroring

rx-only Enable Rx mirroring

tx-only Enable Tx mirroring

EXAMPLE


```
Switch(mirror)# port-mode 1 disable
Switch(mirror)#
```

show

Show port mirroring information

SYNTAX

Show

EXAMPLE

```
Switch(mirror)# show

Analyzer Port: Disabled

Port  Mode
----  -
1     Disabled
2     Disabled
3     Disabled
4     Disabled
5     Disabled
6     Disabled
7     Disabled
8     Disabled
9A    Disabled
10A   Disabled
9B    Disabled
10B   Disabled
Switch(mirror)#
```

29 MLD Commands of CLI

Table : Commands

| Command | Function |
|-------------|--|
| fast-leave | Set per-port Fast Leave |
| filtering | The IP Multicast Group that will be filtered |
| flooding | Set MLD Flooding Mode |
| leave-proxy | Set MLD Leave Proxy Mode |
| lmqi | Set the per-VLAN Last Member Query Interval |
| proxy | Set MLD Proxy Mode |
| qi | Set the per-VLAN Query Interval |
| qri | Set the per-VLAN Query Response Interval |
| querier | Enable/Disable the per-VLAN MLD Querier |
| router | Set Router Port |
| rv | Set the per-VLAN Robustness Variable |
| show | Show MLD Information |
| snooping | Set MLD Snooping Mode |
| state | Enable/Disable the per-VLAN MLD Snooping |
| throttling | Set per-port Throttling |
| uri | Set the per-VLAN Unsolicited Report Interval |

fast-leave

Set per-port Fast Leave

SYNTAX

fast-leave

Parameter

<port-list> Port list, available value is from 1 to 10B format: 1,3-

disable Disable Fast Leave

enable Enable Fast Leave

EXAMPLE

```
Switch(mld)# fast-leave 1 disable
Switch(mld)#
```

filtering

The IP Multicast Group that will be filtered

SYNTAX

filtering

Parameter

<port-list> Port list, available value is from 1 to 10B format: 1,3-

<ip-address> IPv6 address is in 128-bit records represented as eight fields of up to four hexadecimal digits with a colon separates each field (:).

For example, 'fe80::215:c5ff:fe03:4dc7'. The symbol '::' is a special syntax that can be used as a shorthand way of representing multiple 16-bit groups of contiguous zeros; but it can only appear once. It also used a following legally IPv4 address. For example, ':::192.1.2.34'

EXAMPLE

```
Switch(mld)# filtering 1 :::192.1.2.34
Switch(mld)#
```

flooding

Set MLD Flooding Mode

SYNTAX

Flooding

Parameter

disable Disable unregistered IPMCv6 traffic flooding

enable Enable unregistered IPMCv6 traffic floodingq

EXAMPLE

```
Switch(mld)# flooding disable
Switch(mld)#
```

leave-proxy Set MLD Leave Proxy Mode

SYNTAX

leave-proxy <disable>

Parameter

disable Disable MLD Leave Proxy

enable Enable MLD Leave Proxy

EXAMPLE

```
Switch(mld)# leave-proxy disable
Switch(mld)#
```

lmqi Set the per-VLAN Last Member Query Interval

SYNTAX

Lmqi <vlan-list> <0-31744>

Parameter

<**vlan-list**> VLAN list, available value is from 1 to 4094 format: 1,3-5

<**0-31744**> Range:0~31744 tenths of sec, Default: 100 tenths of sec

EXAMPLE

```
Switch(mld)# lmqi 1 0
Switch(mld)#
```

proxy Set MLD Proxy Mode

SYNTAX

policy <disable> <enable>

Parameter

disable Disable MLD Proxy

enable Enable MLD Proxy

EXAMPLE

```
Switch(mld)# proxy disable
Switch(mld)#
```

qi

Set the per-VLAN Query Interval

SYNTAX

qi <vlan-list> <1-255> <1-255>

Parameter

<**vlan-list**> VLAN list, available value is from 1 to 4094 format: 1,3-5

<**1-255**> Range: 1~255 sec, Default: 125 sec

<**1-255**> Range: 1~255 sec, Default: 125 sec

EXAMPLE

```
Switch(mld)# qi 1 1
Switch(mld)#
```

qri

Set the per-VLAN Query Response Interval

SYNTAX

qri <vlan-list> <0-31744>

Parameter

<vlan-list> VLAN list, available value is from 1 to 4094 format: 1,3-5
<0-31744> Range:0~31744 tenths of sec, Default:100 tenths of sec

EXAMPLE

```
Switch(mld)# qri 1 0  
Switch(mld)#
```

querier

Enable/Disable the per-VLAN MLD Querier

SYNTAX

querier <vlan-list> < disable >

Parameter

<vlan-list> VLAN list, available value is from 1 to 4094 format: 1,3-5
disable Disable the per-VLAN MLD Querier
enable Enable the per-VLAN MLD Querier

EXAMPLE

```
Switch(mld)# querier 1 disable  
Switch(mld)#
```

router

Set Router Port

SYNTAX

router <port-list> < disable >

Parameter

Port list available value is from 1 to 10B format: 1,3-5
disable Disable Router Port
enable Enable Router Port

EXAMPLE

```
Switch(mld)# router 1 enable
Switch(mld)#
```

rv

set the per-VLAN Robustness Variable

SYNTAX

rv<vlan-list><2-255>

Parameter

<**vlan-list**> VLAN list, available value is from 1 to 4094 format: 1,3-5

<**2-255**> Range: 2~255, Default: 2

EXAMPLE

```
Switch(mld)# rv 1 2
Switch(mld)#
```

show

Show MLD Information

SYNTAX

Show

Parameter

config Show MLD Configuration
groups Entries in the MLD Group Table
ssm Entries in the MLDv2 Information Table
status Show MLD Status
version Show MLD Working Querier/Host Version currently

EXAMPLE

```
Switch(mld)# show config
IGMP Mode : Disabled
IGMP Flooding Control : Enabled
IGMP Leave Proxy : Disabled
IGMP Proxy : Disabled

Port Router Dynamic Router Fast Leave Group Throttling Number
-----
1 Enabled No Disabled Unlimited
2 Disabled No Disabled Unlimited
3 Disabled No Disabled Unlimited
4 Disabled No Disabled Unlimited
5 Disabled No Disabled Unlimited
6 Disabled No Disabled Unlimited
7 Disabled No Disabled Unlimited
8 Disabled No Disabled Unlimited
9A Disabled No Disabled Unlimited
10A Disabled No Disabled Unlimited
9B Disabled No Disabled Unlimited
10B Disabled No Disabled Unlimited
```

```
Switch(mld)# show groups 1
Switch(mld)#
```

```
Switch(mld)# show ssm 1
Switch(mld)#
```

```
Switch(mld)# show status 1
Querier Rx Tx Rx Rx
VID Status Query Query V1 Report V2 Report V1 Done
```



```
Switch(mld)# show version 1
Switch(mld)#
```

snooping

Set MLD Snooping Mode

SYNTAX

snooping < disable >

Parameter

disable Disable the Global MLD Snooping

enable Enable the Global MLD Snooping

EXAMPLE

```
Switch(mld)# snooping disable
Switch(mld)#
```

state

Enable/Disable the per-VLAN MLD Snooping

SYNTAX

state <vlan-list> <0-31744>

Parameter

<vlan-list> VLAN list, available value is from 1 to 4094 format: 1,3-5

disable Disable the per-VLAN MLD Snooping

enable Enable the per-VLAN MLD Snooping

EXAMPLE

```
Switch(mld)# state 1 disable
Switch(mld)#
```

throttling Set per-port Throttling

SYNTAX

Throttling *<port-list>* *<0-10>*

Parameter

<port-list> Port list, available value is from 1 to 10B format: 1,3-

<0-10> Set Port Group Limit number, Range:0~10, 0:unlimited

EXAMPLE

```
Switch(mld)# throttling 1 0
Switch(mld)#
```

uri t the per-VLAN Unsolicited Report Interval

SYNTAX

uri *<vlan-list>* *<0-31744>*

Parameter

<vlan-list> VLAN list, available value is from 1 to 4094 format: 1,3-5

<0-31744> Range:0~31744 sec, Default:1 sec

EXAMPLE

```
Switch(mld)# uri 1 1
Switch(mld)#
```

30 MRP of CLI

Table : MRP Commands

| Command | Function |
|------------|---|
| applicant | Enable/Disable applicant administrative control |
| join-time | Set the MRP join timer configuration |
| leave-all | Set the MRP leave all timer configuration |
| leave-time | Set the MRP leave timer configuration |
| periodic | Enable/Diable periodic tx timer |
| show | Show the MRP information |

applicant To enable/disable applicant administrative control

Syntax

applicant <port-list> <disable/ enable>

Parameter

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5.

<**disable**> Disable applicant administrative control.

<**enable**> Enable applicant administrative control.

EXAMPLE

```
Switch(mrp)# applicant 3-5 enable
Switch(mrp)#
```

join-time To set the MRP join timer configuration

Syntax

join-time <port-list> <time-value>

Parameter

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5.

<**time-value**> join time value, available value is from 200 to 400 seconds.

EXAMPLE

```
Switch(mrp)# join-time 3-5 200
Error! Set join timer failed
Switch(mrp)#
```



NOTE: If you didn't set the MRP environment already then the switch will show "Set join timer failed".

leave-all To set the MRP leave all timer configuration

Syntax

leave-all <port-list> <timer-value>

Parameter

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5.

<**timer-value**> leave all time value, available value is from 10000 to 100000 seconds.

EXAMPLE

```
Switch(mrp)# leave-all 3-5 10000
Error! Set leave all timer failed
Switch(mrp)#
```



NOTE: If you didn't set the MRP environment already then the switch will show "Set leave all timer failed".

leave-time To set the MRP leave timer configuration

Syntax

leave-time <port-list> <timer-value>

Parameter

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5.

<**timer-value**> leave time value, available value is from 600 to 1000 seconds

EXAMPLE

```
Switch(mrp)# leave-time 3-5 600
Error! Set leave timer failed
Switch(mrp)#
```



NOTE: If you didn't set the MRP environment already then the switch will show "Set leavetimer failed".

periodic To enable or disable periodic tx timer

Syntax

periodic <port-list> <disable/ enable>

Parameter

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5.

<**disable**> Disable periodic tx timer.

<**enable**> Enable periodic tx timer

EXAMPLE

```
Switch(mrp)# periodic 3-5 enable
Switch(mrp)#
```

show To show the MRP configuration

Syntax

show <config>

Parameter

<**config**> Show MRP configuration.

EXAMPLE

```
Switch(mrp)# show config
Port  Join Time  Leave Time  Leave All Time  Applicant  Periodic
-----
1     200         600         10000           Disable    Disabled
2     200         600         10000           Disable    Disabled
3     200         600         10000           Enable     Enabled
4     200         600         10000           Enable     Enabled
5     200         600         10000           Enable     Enabled
6     200         600         10000           Disable    Disabled
7     200         600         10000           Disable    Disabled
```

```
8    200    600    10000    Disable  Disabled
9    200    600    10000    Disable  Disabled
10   200    600    10000    Disable  Disabled
Switch(mrp)#
```

Syntax

show *<statistic>* *<port-list>*

Parameter

<statistic> Show the basic MRP port statistics

<port-list> Port list, available value is from 1 to 14 format: 1,3-5.

EXAMPLE

```
Switch(mrp)# show statistic 3-5
Port Peer MAC          Failed Count
-----
3    -                  -
4    -                  -
5    -                  -
Switch(mrp)#
```

31 MSTP of CLI

Table : MSTP Commands

| Command | Function |
|---------------|---|
| CName | Set MSTP Configuration name |
| FwdDelay | Set FwdDelay |
| MaxAge | Set Maxage |
| MaxHops | Set MaxHops |
| Statistics | Clear STP port statistics |
| Txhold | Set TxHold |
| Version | Set force-version |
| bpduFilter | Set edge port BPDU Filtering |
| bpduGuard | Set edge port BPDU Guard |
| migrate-check | Set the STP mCheck (Migration Check) variable for ports |
| msti-vlan | Map Vlan ID(s) to an MSTI |
| p-AutoEdge | Set the STP autoEdge port parameter |
| p-bpduGuard | Set the bpduGuard port parameter |
| p-cost | Set the STP port instance path cost |
| p-edge | Set the STP adminEdge port parameter |
| p-mode | Set the STP enabling for a port |
| p-p2p | Set the STP point to point port parameter |
| p-priority | Set the STP port instance priority |
| priority | Set the bridge instance priority |
| r-role | Set the MSTP restrictedRole port parameter |
| r-tcn | Set the MSTP restrictedTcn port parameter |
| recovery | Set edge port error recovery timeout |
| show | Show Region config, MSTI vlan mapping, instance parameter and port parameters |

CName To set MSTP configuration name

Syntax

CName <word>

Parameter

<word> A text string up to 32 characters long.

EXAMPLE

```
Switch(mstp)# cName MSTP01
Switch(mstp)#
```

FwdDelay To set the FwdDelay parameter

Syntax

FwDelay <4-30>

Parameter

<4-30> MSTP forward delay (4-30, and max_age <= (forward_delay- 1)*2)).

EXAMPLE

```
Switch(mstp)# fwdDelay 30
Switch(mstp)#
```

MaxAge To set the STP Maximum age time.

Syntax

MaxAge <6-40>

Parameter

<6-40> STP maximum age time (6-40, and max_age <= (forward_dely-1)*2)).

EXAMPLE

```
Switch(mstp)# maxage 40
Switch(mstp)#
```


MaxHops To set STP BPDU MaxHops parameter.

Syntax

MaxHops <6-40>

Parameter

<6-40> STP BPDU MaxHops (6-40).

EXAMPLE

```
Switch(mstp)# maxhops 40
Switch(mstp)#
```

statistics To clear the selected port statistics

Syntax

statistics <clear>

Parameter

<clear> Clear the selected port statistics.

EXAMPLE

```
Switch(mstp)# statistics clear
Port      Rx MSTP  Tx MSTP  Rx RSTP  Tx RSTP  Rx STP  Tx STP  Rx TCN  Tx
TCN      Rx Ill.  Rx Unk.
-----
Switch(mstp)#
```

Txhold To set the STP Transmit Hold Count.

Syntax

Txhold <1-10>

Parameter

<1-10> STP Transmit Hold Count (1-10).

EXAMPLE

```
Switch(mstp)# Txhold 10
Switch(mstp)#
```

version To set the force-version with STP/RSTP/MSTP

Syntax

```
version <mstp/ rstp/ stp>
```

Parameter

<**mstp**> Multiple Spanning Tree Protocol.

<**rstp**> Rapid Spanning Tree Protocol.

<**stp**> Spanning Tree Protocol

EXAMPLE

```
Switch(mstp)# version mstp
Switch(mstp)#
```

bpduFilter To set edge port BPDU filtering

Syntax

```
bpduFilter <disable/ enable>
```

Parameter

<**disable**> disable BPDU Filtering for Edge ports.

<**enable**> enable BPDU Filtering for Edge ports.

EXAMPLE

```
Switch(mstp)# bpdufilter enable
Switch(mstp)#
```

bpduGuard To set edge port BPDU Guard.

Syntax

```
bpduGuard <disable/ enable>
```

Parameter

<**disable**> disable BPDU Guard for Edge ports.

<**enable**> enable BPDU Guard for Edge ports.

EXAMPLE

```
Switch(mstp)# bpduguard enable
Switch(mstp)#
```

migrate-check To set the STP mCheck (Migration Check) variable for ports

Syntax

migrate-check *<port-list>*

Parameter

<port-list> Port list, available value is from 1 to 14 format: 1,3-5.

EXAMPLE

```
Switch(mstp)# migrate-check 3-5
Switch(mstp)#
```

msti-vlan To map Vlan ID(s) to an MSTI

Syntax

msti-vlan *<add/ delete>* *<instance no.>* *<VLAN ID>*

Parameter

<add> To add a VLAN to a MSTI.

<delete> To clear MSTP MSTI VLAN mapping configuration

<instance no.> STP bridge instance no (0-7, CIST=0, MSTI1=1, ...), available value is from 0 to 7.

<VLAN ID> The VLAN ID, available value is from 1 to 4096.

EXAMPLE

```
Switch(mstp)# msti-vlan add 0 2
Switch(mstp)#
```

p-AutoEdge To set the STP autoEdge port parameter

Syntax

p-AutoEdge *<port-list>* *<disable/ enable>*

Parameter

<port-list> Port list, available value is from 1 to 14 format: 1,3-5.

<disable> Disable MSTP autoEdges.

<enable> Enable MSTP autoEdge.

EXAMPLE

```
Switch(mstp)# p-AutoEdge 3-5 enable
Switch(mstp)#
```

p-bpduGuard To set the bpduGuard port parameter

Syntax

p-bpduGuard *<port-list>* *<disable/ enable>*

Parameter

<port-list> Port list, available value is from 1 to 14 format: 1,3-5.

<disable> Disable port BPDU Guard.

<enable> Enable port BPDU Guard.

EXAMPLE

```
Switch(mstp)# p-bpduGuard 3-5 enable
Switch(mstp)#
```

p-cost To set the STP port instance path cost

Syntax

p-cost *<0-7>* *<port-list>* *<0-200000000>*

Parameter

<0-7> STP bridge instance no (0-7, CIST=0, MSTI1=1, ...)

<port-list> Port list, available value is from 1 to 14 format: 1,3-5.

<0-200000000> STP port path cost (1-200000000) or the value zero means auto status.

EXAMPLE

```
Switch(mstp)# p-cost 0 3-5 0
Switch(mstp)#
```

p-edge To set the STP adminEdge port parameter

Syntax

p-edge *<port-list>* *<disable/ enable>*

Parameter

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5.

<**disable**> Configure MSTP adminEdge to Non-edge.

<**enable**> Configure MSTP adminEdge to Edge.

EXAMPLE

```
Switch(mstp)# p-edge 3-5 enable
Switch(mstp)#
```

p-mode To set the STP enabling for a port

Syntax

p-mode <port-list> <disable/ enable>

Parameter

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5.

<**disable**> Disable MSTP protocol.

<**enable**> Enable MSTP protocol..

EXAMPLE

```
Switch(mstp)# p-mode 3-5 enable
Switch(mstp)#
```

p-p2p To set the STP point to point port parameter

Syntax

p-p2p <port-list> <auto/ disable/ enable>

Parameter

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5.

<**auto**> Automatic MSTP point to point detection

<**disable**> Disable MSTP point to point.

<**enable**> Enable MSTP point to point..

EXAMPLE

```
Switch(mstp)# p-p2p 3-5 auto
Switch(mstp)#
```

p-priority To set the STP port instance priority

Syntax

p-priority <0-7> <port-list> <0-240>

Parameter

<**0-7**> STP bridge instance no (0-7, CIST=0, MSTI1=1, ...).

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5.

<**0-240**> STP bridge priority (0/16/32/48/.../224/240)

EXAMPLE

```
Switch(mstp)# p-priority 0 3-5 240
Switch(mstp)#
```

priority To set the bridge instance priority

Syntax

priority <0-7> <0-240>

Parameter

<**0-7**> STP bridge instance no (0-7, CIST=0, MSTI1=1, ...).

<**0-240**> STP bridge priority (0/16/32/48/.../224/240)

EXAMPLE

```
Switch(mstp)# priority 0 240
Switch(mstp)#
```

r-role To set the MSTP restricted Role port parameter

Syntax

r-role <port-list> <disable/ enable>

Parameter

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5..

<**disable**> Disable MSTP restricted role.

<**enable**> Enable MSTP restricted role..

EXAMPLE

```
Switch(mstp)# r-role 3-5 enable
Switch(mstp)#
```

r-tcn To set the MSTP restrictedTcn port parameter

Syntax

```
r-tcn <port-list> <disable/ enable>
```

Parameter

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5..

<**disable**> Disable MSTP restricted TCN.

<**enable**> Enable MSTP restricted TCN..

EXAMPLE

```
Switch(mstp)# r-tcn 3-5 enable
Switch(mstp)#
```

recovery To set edge port error recovery timeout

Syntax

```
recovery <time range>
```

Parameter

<**time range**> Time before error-disabled ports are re-enable, available value is from 30 to 86400 seconds, 0 is disabled.

EXAMPLE

```
Switch(mstp)# recovery 4000
Switch(mstp)#
```

show To show Region configuration, MSTI VLAN mapping, instance parameter and port parameters.

Syntax

```
show <CName>
```

Parameter

<**CName**> To show the MSTP configuration name.

EXAMPLE

```
Switch(mstp)# show CName
Configuration name: 00-01-c1-00-00-00
Configuration rev.: 0
```

Syntax

show <Statistics>

Parameter

<Statistics> To show the STP port statistics.

EXAMPLE

```
Switch(mstp)# show statistics
Port      Rx MSTP  Tx MSTP  Rx RSTP  Tx RSTP  Rx STP  Tx STP  Rx TCN  Tx
TCN      Rx Ill.  Rx Unk.
-----
Switch(mstp)#
```

Syntax

show <Status> <0-7>

Parameter

<Status> To show the STP Bridge status.

<0-7> STP bridge instance no (0-7, CIST=0, MSTI1=1 ...).

EXAMPLE

```
Switch(mstp)# show status 0
CIST Bridge STP Status
Bridge ID   : F0:00-00:01:C1:00:00:00
Root ID    : F0:00-00:01:C1:00:00:00
Root Port   : -
Root PathCost: 0
Regional Root: F0:00-00:01:C1:00:00:00
Int. PathCost: 0
Max Hops    : 20
TC Flag     : Steady
TC Count    : 0
TC Last     : -
Port        Port Role      State      Pri PathCost Edge P2P Uptime
-----
Switch(mstp)#
```

Syntax

show <Instance>

Parameter

<Instance> To show the instance status.

EXAMPLE

```
Switch(mstp)# show instance
STP Configuration
Protocol Version: MSTP
Max Age         : 20
Forward Delay   : 15
Tx Hold Count   : 6
Max Hop Count   : 20
```



```
BPDU Filtering : Disabled
BPDU Guard    : Disabled
Error Recovery : 4000 seconds
Error Recovery : Disabled

Switch(mstp)#
```

Syntax

show < *msti-vlan* >

Parameter

< **msti-vlan** > To show the MSTP MSTI VLAN mapping configuration.

EXAMPLE

```
Switch(mstp)# show msti-vlan
MSTI VLANs mapped to MSTI
-----
MSTI1 No VLANs mapped
MSTI2 No VLANs mapped
MSTI3 No VLANs mapped
MSTI4 No VLANs mapped
MSTI5 No VLANs mapped
MSTI6 No VLANs mapped
MSTI7 No VLANs mapped
Switch(mstp)#Switch(mstp)#
```

Syntax

show < *p-config* > < *0-7* >

Parameter

< **p-config** > To show the STP port instance configuration.

< **0-7** > STP bridge instance no (0-7, CIST=0, MSTI1=1 ...).

EXAMPLE

```
Switch(mstp)# show p-config 0

MSTI Port Path Cost Priority
-----
CIST Aggr Auto 128

MSTI Port Path Cost Priority
-----
CIST 1 Auto 128
CIST 2 Auto 128
CIST 3 Auto 128
CIST 4 Auto 128
CIST 5 Auto 128
CIST 6 Auto 128
CIST 7 Auto 128
CIST 8 Auto 128
CIST 9 Auto 128
CIST 10 Auto 128
Switch(mstp)#
```

Syntax

show <pcnf>

Parameter

<pcnf> To show the STP Port configuration.

EXAMPLE

```
Switch(mstp)# show pconf

Port  Mode      AdminEdge  AutoEdge  restrRole  restrTcn  bpduGuard  Point2point
-----
Aggr  Disabled  Enabled    Enabled    Disabled    Disabled  Disabled    Enabled

Port  Mode      AdminEdge  AutoEdge  restrRole  restrTcn  bpduGuard  Point2point
-----
1     Disabled  Enabled    Enabled    Disabled    Disabled  Disabled    Auto
2     Disabled  Enabled    Enabled    Disabled    Disabled  Disabled    Auto
3     Disabled  Enabled    Enabled    Enabled     Enabled    Disabled    Auto
4     Disabled  Enabled    Enabled    Enabled     Enabled    Disabled    Auto
5     Disabled  Enabled    Enabled    Enabled     Enabled    Disabled    Auto
6     Disabled  Enabled    Enabled    Disabled    Disabled  Disabled    Auto
7     Disabled  Enabled    Enabled    Disabled    Disabled  Disabled    Auto
8     Disabled  Enabled    Enabled    Disabled    Disabled  Disabled    Auto
9     Disabled  Enabled    Enabled    Disabled    Disabled  Disabled    Auto
10    Disabled  Enabled    Enabled    Disabled    Disabled  Disabled    Auto
Switch(mstp)#
```

Syntax

show <priority>

Parameter

<priority> To show the bridge instance priority.

EXAMPLE

```
Switch(mstp)# show priority
MSTI#  Bridge Priority
-----
CIST   240
MSTI1  128
MSTI2  128
MSTI3  128
MSTI4  128
MSTI5  128
MSTI6  128
MSTI7  128

Switch(mstp)#
```

32 MVR of CLI

Table : MVR Commands

| Command | Function |
|------------------------------|--|
| <code>immediate-leave</code> | Configure MVR port state about immediate leave |
| <code>mode</code> | Configure MVR mode |
| <code>port-mode</code> | Configure MVR port mode |
| <code>port-type</code> | Configure MVR port type |
| <code>show</code> | Show command |

immediate-leave To configure MVR port state about immediate leave.

Syntax

immediate-leave *<port-list>* *<disable/enable>*

Parameter

<port-list> Port list, available value is from 1 to 14 format: 1,3-5.

<disable> Disable immediate leave on the specific port.

<enable> Enable immediate leave on the specific port..

EXAMPLE

```
Switch(mvr)# immediate-leave 3-5 enable
Switch(mvr)#
```

mode To configure the MVR mode globally.

Syntax

mode *<disable/enable>* *<VLAN ID>*

Parameter

<disable> Disable the MVR function globally.

<enable> Enable multicast traffic forwarding on the Multicast VLAN function globally.

<VLAN ID> Multicast VLAN ID, available is from 1 to 4094

EXAMPLE

```
Switch(mvr)# mode enable 2
Switch(mvr)#
```

port-mode To configure the MVR port mode

Syntax

port-mode <port-list> <disable/enable>

Parameter

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5.

<**disable**> Disable the MVR on the specific port.

<**enable**> Enable the MVR on the specific port.

EXAMPLE

```
Switch(mvr)# port-mode 3-5 enable
Switch(mvr)#
```

port-type To configure the MVR port type

Syntax

port-type <port-list> <receiver/source>

Parameter

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5.

<**receiver**> Define the port as receiver port.

<**source**> Define the port as source port.

EXAMPLE

```
Switch(mvr)# port-type 3-5 receiver
Switch(mvr)#
```

show To show the Multicast VLAN Registration status or configuration.

Syntax

show <config>

Parameter

<**config**> To display the MVR configuration.

EXAMPLE

```
Switch(mvr)# show config
MVR Mode      : Enabled
Multicast VLAN ID : 2

Port  Port Mode  Port Type  Immediate Leave
-----
1     Disabled  Receive   Disabled
2     Disabled  Receive   Disabled
3     Enabled   Receive   Enabled
4     Enabled   Receive   Enabled
5     Enabled   Receive   Enabled
6     Disabled  Receive   Disabled
7     Disabled  Receive   Disabled
8     Disabled  Receive   Disabled
9     Disabled  Receive   Disabled
10    Disabled  Receive   Disabled
Switch(mvr)#
```

Syntax

show <*group*>

Parameter

<**group**> To display the MVR group information.

EXAMPLE

```
Switch(mvr)# show group
Switch(mvr)#
```



NOTE: If you didn't set the MVR environment already then the switch won't show any information.

Syntax

show <*statistics*>

Parameter

<**statistics**> To display the MVR statistics information.

EXAMPLE

```
Switch(mvr)# show statistics
VID  Rx V1 Reports  Rx V2 Reports  Rx V3 Reports  Rx V2 Leave
-----
2    0             0              0              0
Switch(mvr)#
```

33 MVRP of CLI

Table : MVRP Commands

| Command | Function |
|----------------------|---|
| <code>clear</code> | Clear the basic MVRP port statistics |
| <code>control</code> | Enable/Disable MVRP globally |
| <code>mode</code> | Enable/Disable MVRP on port |
| <code>rrole</code> | Enable/Disable MVRP restricted role on port |
| <code>show</code> | Show mvrp information |

clear To clear the basic MVRP port statistics

Syntax

`clear <port-list>`

Parameter

<port-list> Port list, available value is from 1 to 14 format: 1,3-5.

EXAMPLE

```
Switch(mvrp)# clear 3-5
Switch(mvrp)#
```

control To enable or disable the MVRP function globally.

Syntax

`control <disable/ enable>`

Parameter

<disable> Disable the MVRP globally.

<enable> Enable the MVRP globally.

EXAMPLE

```
Switch(mvrp)# control enable
Switch(mvrp)#
```

mode To enable or disable MVRP function on port

Syntax

```
mode <port-list> <disable/ enable>
```

Parameter

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5.

<**disable**> Disable the MVRP on port.

<**enable**> Enable the MVRP on port.

EXAMPLE

```
Switch(mvrp)# mode 3-5 enable
Switch(mvrp)#
```

rrole To enable or disable the MVRP restricted role on port.

Syntax

```
mode <port-list> <disable/ enable>
```

Parameter

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5.

<**disable**> Disable the MVRP restricted role on port.

<**enable**> Enable the MVRP restricted role on port.

EXAMPLE

```
Switch(mvrp)# rrole 3-5 enable
Switch(mvrp)#
```

show To show the MVRP information and configuration.

Syntax

```
mode <config>
```

Parameter

<**config**> To display the MVRP configuration.

EXAMPLE

```
Switch(mvrp)# show config
MVRP global mode : Enabled
```

```

Port  Mode      Restricted Role
-----
1     Disabled  Disabled
2     Disabled  Disabled
3     Enabled   Enabled
4     Enabled   Enabled
5     Enabled   Enabled
6     Disabled  Disabled
7     Disabled  Disabled
8     Disabled  Disabled
9     Disabled  Disabled
10    Disabled  Disabled
Switch(mvrp)#

```

Syntax

```
show <statistics> <port-list>
```

Parameter

<**statistics**> To display Show the basic MVRP port statistics..

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5.

EXAMPLE

```

Switch(mvrp)# show statistics 3-5
Port  Joins Tx Count      Leaves Tx Count
-----
3     0                    0
4     0                    0
5     0                    0
Switch(mvrp)#

```


34 PORT Commands of CLI

Table : Commands

| Command | Function |
|---------------------|---|
| clear | Clear port counter |
| description | Interface specific description |
| excessive-collision | Configure excessive collision operation |
| flow-control | Configure flow operation |
| max-frame | Configure maximum receive frame size |
| port-state | Configure port state operation |
| power-saving | Configure power saving operation |
| show | Show port information |
| speed-duplex | Configure speed duplex operation |

clear

Clear port counter

SYNTAX

Clear

Parameter

<port-list> Port list, available value is from 1 to 10B format: 1,3-

EXAMPLE

```
Switch(port)# clear 1
Switch(port)#
```

description

Interface specific description

SYNTAX

Description <port-list><LINE>

Parameter

<port-list> Port list, available value is from 1 to 10B format: 1,3-

<LINE> Up to 47 characters describing this interface

EXAMPLE

```
Switch(port)# description 1 POE port
Switch(port)#
```

excessive-collision Configure excessive collision operation

SYNTAX

excessive-collision <port-list> Discard

Parameter

<**port-list**> Port list, available value is from 1 to 10B format: 1,3-

Discard Discard the packet when excessive collision

restart Retransmit the packet, regardless of the number of collisions

EXAMPLE

```
Switch(port)# excessive-collision 1 discard
Switch(port)#
```

flow-control Configure flow operation

SYNTAX

flow-control < number >

Parameter

<**port-list**> Port list, available value is from 1 to 10B format: 1,3-

disable Disable flow control operation

enable Enable flow control operation

EXAMPLE

```
Switch(port)# flow-control 1 disable
Switch(port)#
```

max-frame Configure maximum receive frame size

SYNTAX

max-frame <port-list> <1518-9600>

Parameter

<**port-list**> Port list, available value is from 1 to 10B format: 1,3-
<**1518-9600**> Maximum receive frame size in bytes

EXAMPLE

```
Switch(port)# max-frame 1 1518
Switch(port)#
```

port-state Configure port state operation

SYNTAX

port-state <port-list> <disable><enable>

Parameter

<**port-list**> Port list, available value is from 1 to 10B format: 1,3-
disable Disable port state operation
enable Enable port state operation

EXAMPLE

```
Switch(port)# port-state 1 disable
Switch(port)#
```

power-saving Configure power saving operation

SYNTAX

power-saving <port-list> <actiphy>

Parameter

<**port-list**> Port list, available value is from 1 to 10B format: 1,3-
actiphy Enable ActiPHY power control
disable Disable power saving
dynamic Enable dynamic power control

enable Enable power saving

EXAMPLE

```
Switch(port)# power-saving 1 actiphy  
Switch(port)#
```

show Show port information

SYNTAX

Show

Parameter

configuration Show port configuration

detail-counter Show detailed traffic statistics for specific switch port

sfp Show sfp information

simple-counter Show general traffic statistics for all switch ports

status Show port status

EXAMPLE

```
Switch(port)# show configuration
```

```
Port/Media State Speed Duplex Flow Control Max. Frame Excessive Power  
Description
```

```
-----  
1/UTP Disabled Auto Disabled 1518 Discard ActiPHY  
POE SWITCH
```

```
-----  
2/UTP Enabled Auto Disabled 9600 Discard Disabled
```

```
-----  
3/UTP Enabled Auto Disabled 9600 Discard Disabled
```

```
-----  
4/UTP Enabled Auto Disabled 9600 Discard Disabled
```

```
-----  
5/UTP Enabled Auto Disabled 9600 Discard Disabled
```

```
-----  
6/UTP Enabled Auto Disabled 9600 Discard Disabled  
-----
```

```
Switch(port)# show detail-counter 1
```

```
Port 1 statistics :
```

| Receive Total | | Transmit Total | |
|---------------|---|----------------|---|
| Rx Packets | 0 | Tx Packets | 0 |
| Rx Octets | 0 | Tx Octets | 0 |
| Rx Unicast | 0 | Tx Unicast | 0 |
| Rx Multicast | 0 | Tx Multicast | 0 |
| Rx Broadcast | 0 | Tx Broadcast | 0 |
| Rx Pause | 0 | Tx Pause | 0 |

| Receive Size Counters | | Transmit Size Counters | |
|-----------------------|---|------------------------|---|
| Rx 64 | 0 | Tx 64 | 0 |
| Rx 65-127 | 0 | Tx 65-127 | 0 |
| Rx 128-255 | 0 | Tx 128-255 | 0 |
| Rx 256-511 | 0 | Tx 256-511 | 0 |
| Rx 512-1023 | 0 | Tx 512-1023 | 0 |
| Rx 1024-1526 | 0 | Tx 1024-1526 | 0 |
| Rx 1527- | 0 | Tx 1527- | 0 |

| Receive Queue Counters | | Transmit Queue Counters | |
|------------------------|---|-------------------------|---|
| Rx Q0 | 0 | Tx Q0 | 0 |
| Rx Q1 | 0 | Tx Q1 | 0 |
| Rx Q2 | 0 | Tx Q2 | 0 |
| Rx Q3 | 0 | Tx Q3 | 0 |
| Rx Q4 | 0 | Tx Q4 | 0 |
| Rx Q5 | 0 | Tx Q5 | 0 |
| Rx Q6 | 0 | Tx Q6 | 0 |
| Rx Q7 | 0 | Tx Q7 | 0 |

```
Switch(port)# show sfp 9b
```

```
Port 9B SFP information
```

```
-----  
Connector Type      : SFP - LC  
Fiber Type          : Multi-mode (MM)  
Tx Central Wavelength : 850  
Baud Rate           : 1000 Mbps  
Vendor OUI          : 00-40-c7  
Vendor Name         : Manufacture  
Vendor PN           : SFP.LC
```

```
Switch(port)# show simple-counter
```

| Port | Packets | Bytes | Errors | Drops |
|------|---------|-------|--------|-------|
| 1/Rx | 0 | 0 | 0 | 0 |
| 1/Tx | 0 | 0 | 0 | 0 |
| 2/Rx | 0 | 0 | 0 | 0 |
| 2/Tx | 0 | 0 | 0 | 0 |
| 3/Rx | 0 | 0 | 0 | 0 |
| 3/Tx | 0 | 0 | 0 | 0 |
| 4/Rx | 0 | 0 | 0 | 0 |
| 4/Tx | 0 | 0 | 0 | 0 |
| 5/Rx | 0 | 0 | 0 | 0 |
| 5/Tx | 0 | 0 | 0 | 0 |
| 6/Rx | 0 | 0 | 0 | 0 |
| 6/Tx | 0 | 0 | 0 | 0 |
| 7/Rx | 0 | 0 | 0 | 0 |
| 7/Tx | 0 | 0 | 0 | 0 |
| 8/Rx | 0 | 0 | 0 | 0 |
| 8/Tx | 0 | 0 | 0 | 0 |


```

Switch(port)# show status
Port/Media  State      Link Auto Nego  Speed Duplex  Rx Pause  Tx Pause
-----
1/UTP      Disabled  Down  Enabled   Down         Disabled  Disabled
2/UTP      Enabled   Down  Enabled   Down         Disabled  Disabled
3/UTP      Enabled   Down  Enabled   Down         Disabled  Disabled
4/UTP      Enabled   Down  Enabled   Down         Disabled  Disabled
5/UTP      Enabled   Down  Enabled   Down         Disabled  Disabled
6/UTP      Enabled   Down  Enabled   Down         Disabled  Disabled
7/UTP      Enabled   Down  Enabled   Down         Disabled  Disabled
8/UTP      Enabled   Down  Enabled   Down         Disabled  Disabled
9A/UTP     Enabled   Down  Enabled   Down         Disabled  Disabled
10A/UTP    Enabled   Down  Enabled   Down         Disabled  Disabled
9B/SFP     Enabled   Down  Enabled   Down         Disabled  Disabled
10B/SFP    Enabled   Down  Enabled   Down         Disabled  Disabled

Switch(port)#

```

speed-duplex

Configure speed duplex operation

SYNTAX

speed-duplex <port-list> <10-full>

Parameter

<**port-list**> Port list, available value is from 1 to 10B format: 1,3-

10-full Force speed duplex to 10-full operation

10-half Force speed duplex to 10-half operation

100-full Force speed duplex to 100-full operation

100-half Force speed duplex to 100-half operation

1000-full Force speed duplex to 1000-full operation

auto Enable auto speed duplex configuration

EXAMPLE

```

Switch(port)# speed-duplex 1 10-full
Switch(port)#

```

35 Port-Security Commands of CLI

Table 19: Commands

| Command | Function |
|---------|---------------------------|
| show | Show port security status |

show

Show port security status

SYNTAX

civic

Parameter

port Show MAC addresses learned by port security
switch Show port security switch status

EXAMPLE

```
Switch(port-security)# show port 1
MAC Address      VID  State      Time of Addition      Age/Hold Time
-----
```

```
Switch(port-security)# show switch
Users:
L = Limit Control
8 = 802.1X
D = DHCP Snooping
V = Voice VLAN

Port  Users  State      MAC Count
-----
```

36 Privilege Commands of CLI

Table : Commands

| Command | Function |
|---------|-----------------------------------|
| group | Configure a privilege level group |
| show | Show privilege configuration |

group Configure a privilege level group

SYNTAX

Group<group-name>

Parameter

<group-name> privilege group name

EXAMPLE

```
Switch(privilege)# group V2
Switch(privilege)#
```

Show Show privilege configuration

SYNTAX

show

EXAMPLE

```
Switch(privilege)# show
Privilege Current Level: 15
```

| Group Name | Privilege Level |
|---------------|-----------------|
| Account | 10 |
| Aggregation | 10 |
| Diagnostics | 10 |
| EEE | 10 |
| Easyport | 10 |
| GARP | 10 |
| GVRP | 10 |
| IP | 10 |
| IPMC_Snooping | 10 |
| LACP | 10 |
| LLDP | 10 |
| LLDP_MED | 10 |
| MAC_Table | 10 |
| MRP | 10 |
| MVR | 10 |
| ---- | 10 |

37 PVLAN Commands of CLI

Table : Commands

| Command | Function |
|--------------|-------------------------------|
| delete | Delete private VLAN group |
| port-isolate | Configure port isolation |
| private-vlan | Configure private VLAN group |
| show | Show private VLAN information |

delete Delete private VLAN group

SYNTAX

Delete<private-vlan> <1-10>

Parameter

private-vlan private VLAN KEYWORD
<1-10> Private VLAN ID, available value is from 1 to 10

EXAMPLE

```
Switch(pvlan)# delete private-vlan 1
Switch(pvlan)#
```

port-isolate Configure port isolation

SYNTAX

port-isolate<port-list>< disable >

Parameter

<port-list> Port list, available value is from 1 to 10B format: 1,3-
disable Disable port isolation
enable Enable port isolation

EXAMPLE

```
Switch(pvlan)# port-isolate 1 disable
Switch(pvlan)#
```

private-vlan Configure private VLAN group

SYNTAX

private-vlan <1-10><port-list>

Parameter

<**1-10**> Private VLAN ID, available value is from 1 to 10

<**port-list**> Port list, available value is from 1 to 10B format: 1,3-

EXAMPLE

```
Switch(pvlan)# private-vlan 1 1
Switch(pvlan)#
```

show Show private VLAN information

SYNTAX

Show

Parameter

port-isolate Show port isolation information

private-vlan Show private VLAN membership information

EXAMPLE

```
Switch(pvlan)# show port-isolate
```

```
Port Isolation
```

```
-----
```

```
1 Disabled
```

```
2 Disabled
```

```
3 Disabled
```

```
4 Disabled
```

```
5 Disabled
```

```
6 Disabled
```

```
Switch(pvlan)# show private-vlan
```

```
PVLAN ID Ports
```

```
-----
```

```
1 1
```

38 QoS Commands of CLI

Table : Commands

| Command | Function |
|-------------------------------------|---|
| dscp-classification | Configure DSCP ingress classification |
| dscp-map | Configure DSCP mapping table. This table is used to map QoS class and DP level based on DSCP value. DSCP value used to map QoS class and DPL is either translated DSCP value or incoming frame DSCP value |
| dscp-rmap | Configure DSCP egress remap table. This table is used if the port egress remarking mode is 'remap' and the purpose is to map the DSCP and DP level to a new DSCP value |
| dscp-translation | configure global ingress DSCP translation table. If port DSCP translation is enabled, translation table is used to translate incoming frame's DSCP value and translated value is used to map QoS class and DP level |
| dscp-trust | Configure trusted DSCP value which is used for QoS classification. The DSCP value to be checked for trust is either translated value if DSCP translation is enabled for the ingress port or incoming frame DSCP value if translation is disabled for the port. Trusted DSCP value is only used for QoS classification |
| port-classify | QoS ingress port classification |
| port-dscp | QoS port DSCP configuration |
| port-scheduler | QoS egress port schedulers |
| port-shaper | Port shaper |
| qce | Add or modify QoS control entry |
| queue-shaper | Queue shaper |
| show | Show QoS information |
| storm | Configure storm rate control |
| tag-remarking | QoS egress port tag remarking |

DSCP-Classification Configure DSCP ingress classification

SYNTAX

DSCP-Classification <class-list> <dpl-list> <0-63>

Parameter

<**class-list**> QoS class list, available value is from 0 to 7

<**dpl-list**> Drop precedence level list, available value is from 0 to 1

<**0-63**> Mapped DSCP

EXAMPLE

```
Switch(qos)# DSCP-Classification map 1 1 0
Switch(qos)#
```

dscp-map

Configure DSCP mapping table. This table is used to map QoS class and DP level based on DSCP value. DSCP value used to map QoS class and DPL is either translated DSCP value or incoming frame DSCP value

SYNTAX

dscp-map <dscp-list> <0-7> <0-1>

Parameter

<**dscp-list**> DSCP list, format : 1,3,5-7

<**0-7**> QoS class

<**0-1**> Drop Precedence Level

EXAMPLE

```
Switch(qos)# dscp-map 1 1 0
Switch(qos)#
```

dscp-remap

Configure DSCP egress remap table. This table is used if the port egress remarking mode is 'remap' and the purpose is to map the DSCP and DP level to a new DSCP value

SYNTAX

dscp-remap <dscp-list><dpl-list><0-63>

Parameter

<dscp-list> DSCP list, format : 1,3,5-7

<dpl-list> Drop precedence level list, available value is from 0 to 1

<0-63> Egress remapped DSCP

EXAMPLE

```
Switch(qos)# dscp-remap 1 1 0
Switch(qos)#
```

dscp-translation Configure global ingress DSCP translation table. If port DSCP translation is enabled, translation table is used to translate incoming frame's DSCP value and translated value is used to map QoS class and DP level

SYNTAX

dscp-translation <dscp-list><0-63>

Parameter

<dscp-list> DSCP list, format : 1,3,5-7

<0-63> Translated DSCP

EXAMPLE

```
Switch(qos)# dscp-translation 1 0
Switch(qos)#
```

dscp-trust

Configure trusted DSCP value which is used for QoS classification. The DSCP value to be checked for trust is either translated value if DSCP translation is enabled for the ingress port or incoming frame DSCP value if translation is disabled for the port. Trusted DSCP value is only used for QoS classification

SYNTAX

dscp-trust <dscp-list>< disable >

Parameter

<**dscp-list**> DSCP list, format : 1,3,5-7

disable Set DSCP as untrusted DSCP

enable Set DSCP as trusted DSCP

EXAMPLE

```
Switch(qos)# dscp-trust 1 disable
Switch(qos)#
```

port-classify QoS ingress port classification

SYNTAX

port-classify <port-list> <0-7>

Parameter

<**port-list**> Port list, available value is from 1 to 10B format: 1,3-

<**0-7**> QoS class for frames not classified in any other way.

There is a one to one mapping between QoS class, queue and priority. A

QoS class of 0 (zero) has the lowest priority

EXAMPLE

```
Switch(qos)# port-classify class 1 0
Switch(qos)#
```

port-dscp QoS port DSCP configuration

SYNTAX

port-dscp < classification><port-list> <all>

Parameter

classification Configure DSCP classification based on QoS class and DP level. This enables per port to map new DSCP value based on QoS class and DP level

egress-remark Configure the port DSCP remarking mode

translation Configure DSCP ingress translation mode. If translation is enabled for a port, incoming frame DSCP value is translated and translated value is used for QoS classification

<port-list> Port list, available value is from 1 to 10B format: 1,3-

all Classify all DSCP

disable Disable DSCP ingress classification

selected Classify only selected DSCP for which classification is enabled as specified in DSCP Translation window for the specific DSCP

zero Classify DSCP if DSCP = 0

EXAMPLE

```
Switch(qos)# port-dscp classification 1 all
Switch(qos)#
```

port-scheduler QoS egress port schedulers

SYNTAX

port-scheduler < mode ><port-list>< strict>

Parameter

mode Configure the port scheduler mode

weight Configure the port scheduler weight

<port-list> Port list, available value is from 1 to 10B format: 1,3-

strict Strict priority scheduler mode

weighted Weighted scheduler mode

EXAMPLE

```
Switch(qos)# port-scheduler mode 1 strict
Switch(qos)#
```

port-shaper

port-shaper

SYNTAX

port-shaper <mode><port-list> <disable >

Parameter

mode Configure the port shaper mode

rate Configure the port shaper rate

<port-list> Port list, available value is from 1 to 10B format:1,3-

disable Disable port shaper

enable Enable port shaper

EXAMPLE

```
Switch(qos)# port-shaper mode 1 disable
Switch(qos)#
```

qce

Add or modify QoS control entry

SYNTAX

Qce <1-256><0-256> <port-list> any

Parameter

<1-256> If the QCE ID parameter <qce_id> is specified and an entry with this QCE ID already exists, the QCE will be modified. Otherwise, a new QCE will be added

<0-256> If the next QCE ID is non zero, the QCE will be placed before this QCE in the list. If the next QCE ID is zero

<port-list> Port member for QCE

any Only Ethernet Type frames can match this QCE

etype Only Ethernet Type frames can match this QCE

ipv4 Only IPv4 frames can match this QCE

ipv6 Only IPv6 frames can match this QCE

llc Only LLC frames can match this QCE

snap Only SNAP frames can match this QCE

auto-logout Configure time of inactivity before automatic logout

class Action of QoS class for this QCE

classified-dscp Action of DSCP for this QCE

dei Specify whether frames can hit the action according to DEI

dmac Configure destination MAC address for this QCE

dp Action of drop precedence level for this QCE

dport Configure destination UDP/TCP port range for this ACE

dscp Configure DSCP for this QCE

end Finish QCE setting and return to QoS mode

exit Exit from current mode

fragment Specify the fragment offset settings for this QCE

help Show available commands

history Show a list of previously run commands

ip-protocol Configure IP protocol for this QCE

logout Disconnect

pcp Specify whether frames can hit the action according to PCP

quit Disconnect

restore Restore running configuration

save Save running configuration

show Show QCE

sip Configure source IP address for this QCE

smac Configure source MAC address for this QCE

sport Configure Source UDP/TCP port range for this QCE

tag Specify whether frames can hit the action according to the 802.1Q tagged

vid Specify the VLAN ID filter for this QCE

EXAMPLE

```
Switch(qos)# qce 1 1 1 any
Switch(qos/qce-any)# auto-logout 10
```

queue-shaper Queue shaper

SYNTAX

queue-shaper < excess > <port-list><queue-list> disable

Parameter

- excess** Configure the port queue excess bandwidth mode
- mode** Configure the port queue shaper mode
- rate** Configure the port queue shaper rate
- <port-list>** Port list, available value is from 1 to 10B format: 1,3-
- <queue-list>** Queue list, available value is from 0 to 7
- disable** Disable use of excess bandwidth
- enable** Enable use of excess bandwidth

EXAMPLE

```
Switch(qos)# queue-shaper excess 1 0 disable
Switch(qos)#
```

show

Show QoS information

SYNTAX

Show

Parameter

- class-map** Show QoS class and DP level to DSCP mapping
- dscp-map** Show DSCP to QoS class and DP level mapping
- dscp-translation** Show DSCP ingress and egress translation
- port-classify** Show QoS ingress port classification
- port-dscp** Show port DSCP configuration
- port-map** Show port classification (PCP, DEI) to (QoS class, DP level) mapping table
- port-shaper** Show port shaper configuration
- qce** Show QCL control list
- qcl-status** Show QCL status
- queue-shaper** Show port queue shaper configuration
- remarking-map** Show port tag remarking mapping table
- scheduler-mode** Show port scheduler mode configuration
- scheduler-weight** Show port scheduler weight configuration
- storm** Show storm control configuration
- tag-remarking** Show port tag remarking configuration

EXAMPLE

```
Switch(qos)# show class-map
QoS Class  DP Level  DSCP
-----  -
0          0        0
0          1        0
1          0        0
1          1        0
2          0        0
2          1        0
3          0        0
```



```

Switch(qos)# show dscp-map
DSCP   Trust    QoS Class  DP Level
-----
0      Enabled  0          0
1      Disabled 1          0
2      Enabled  0          0
3      Enabled  0          0
4      Enabled  0          0
5      Enabled  0          0
6      Enabled  0          0
7      Enabled  0          0
8      Enabled  0          0
9      Enabled  0          0
10     Enabled  0          0
11     Enabled  0          0
12     Enabled  0          0
13     Enabled  0          0
14     Enabled  0          0
15     Enabled  0          0
16     Enabled  0          0
17     Enabled  0          0
18     Enabled  0          0
19     Enabled  0          0
20     Enabled  0          0
21     Enabled  0          0
22     Enabled  0          0
23     Enabled  0          0
24     Enabled  0          0
25     Enabled  0          0
26     Enabled  0          0
27     Enabled  0          0
28     Enabled  0          0
29     Enabled  0          0
30     Enabled  0          0
31     Enabled  0          0
32     Enabled  0          0

```

```
Switch(qos)# show dscp-translation
```

| DSCP | Ingress Translation | Ingress Classify | Egress Remap-DP0 | Egress Remap-DP1 |
|------|---------------------|------------------|------------------|------------------|
| 0 | 0 | Disabled | 0 | 0 |
| 1 | 0 | Disabled | 1 | 0 |
| 2 | 2 | Disabled | 2 | 2 |
| 3 | 3 | Disabled | 3 | 3 |
| 4 | 4 | Disabled | 4 | 4 |
| 5 | 5 | Disabled | 5 | 5 |
| 6 | 6 | Disabled | 6 | 6 |
| 7 | 7 | Disabled | 7 | 7 |
| 8 | 8 | Disabled | 8 | 8 |

```
Switch(qos)# show port-classify
```

| Port | QoS class | DP level | PCP | DEI | Tag class. | DSCP Based |
|------|-----------|----------|-----|-----|------------|------------|
| 1 | 0 | 0 | 0 | 0 | Disabled | Disabled |
| 2 | 0 | 0 | 0 | 0 | Disabled | Disabled |
| 3 | 0 | 0 | 0 | 0 | Disabled | Disabled |
| 4 | 0 | 0 | 0 | 0 | Disabled | Disabled |
| 5 | 0 | 0 | 0 | 0 | Disabled | Disabled |
| 6 | 0 | 0 | 0 | 0 | Disabled | Disabled |
| 7 | 0 | 0 | 0 | 0 | Disabled | Disabled |

```
Switch(qos)# show port-dscp
Port  DSCP translation  Ingress classification  Egress remark
-----
1     Disabled         All                     Disabled
2     Disabled         Disabled                Disabled
3     Disabled         Disabled                Disabled
4     Disabled         Disabled                Disabled
5     Disabled         Disabled                Disabled
6     Disabled         Disabled                Disabled
7     Disabled         Disabled                Disabled
8     Disabled         Disabled                Disabled
9A    Disabled         Disabled                Disabled
```

```
Switch(qos)# show port-map 1
Port  PCP  DEI  QoS class  DP level
-----
1     0    0    0          0
      0    1    0          1
      1    0    1          0
      1    1    1          1
      2    0    2          0
      2    1    2          1
      3    0    3          0
```

```
Switch(qos)# show port-shaper
Port  Mode      Rate
-----
1     Disabled  500 kbps
2     Disabled  500 kbps
3     Disabled  500 kbps
4     Disabled  500 kbps
5     Disabled  500 kbps
6     Disabled  500 kbps
7     Disabled  500 kbps
```

```
Switch(qos)# show qce
Number of QCEs: 0
```

```
Switch(qos)# show qcl-status combined
Number of QCEs: 0
```

```
Switch(qos)# show queue-shaper 1
Port Queue Mode Rate Excess
---- -
```

| Port | Queue | Mode | Rate | Excess |
|------|-------|----------|----------|----------|
| 1 | 0 | Disabled | 500 kbps | Disabled |
| | 1 | Disabled | 500 kbps | Disabled |
| | 2 | Disabled | 500 kbps | Disabled |
| | 3 | Disabled | 500 kbps | Disabled |
| | 4 | Disabled | 500 kbps | Disabled |
| | 5 | Disabled | 500 kbps | Disabled |

```
Switch(qos)# show scheduler-mode
Port Mode
---- -
```

| Port | Mode |
|------|--------|
| 1 | Strict |
| 2 | Strict |
| 3 | Strict |
| 4 | Strict |
| 5 | Strict |
| 6 | Strict |
| 7 | Strict |

```
Switch(qos)# show scheduler-weight 1
Port Queue Weight
-----
1 0 17 (17%)
 1 17 (17%)
 2 17 (17%)
 3 17 (17%)
 4 17 (17%)
```

storm

Configure storm rate control

SYNTAX

storm <broadcast> <*disable*> <*enable*>

Parameter

broadcast broadcast storm control

multicast multicast storm control

unicast unicast storm control

disable Disable broadcast storm control

enable Enable broadcast storm control

EXAMPLE

```
Switch(qos)# storm broadcast disable
Switch(qos)#
```

tag-remarking

QoS egress port tag remarking

SYNTAX

tag-remarking <disable> <enable>

dei Configure the default DEI. This value is used when port tag remarking mode is set to 'default'

map Configure the port tag remarking map. This map is used when port tag remarking mode is set to 'mapped', and the purpose is to translate the classified QoS class (0-7) and DP level (0-1) to PCP and DEI

mode Configure the port tag remarking mode

pcp Configure the default PCP. This value is used when port tag remarking mode is set to 'default'

<0-1> Drop Eligible Indicator

<0-1> Drop Eligible Indicator

EXAMPLE

```
Switch(qos)# tag-remarking dei 1 1  
Switch(qos)#
```

39 SMTP of CLI

Table : SMTP Commands

| Command | Function |
|--------------|---|
| delete | Delete command |
| level | Configure Severity level |
| mail-address | Configure email-address description |
| return-path | Configure email return-path description |
| sender | Configure email sender description |
| server | Configure email server description |
| show | Show email configuration |
| username | Configure email user name |

level To configure Severity level and parameter.

Syntax

level <Severity level>

Parameter

<**Severity level**> To configure the Severity level, the available value is from 0 to 7.

- <**0**> Emergency: system is unusable.
- <**1**> Alert: action must be taken immediately.
- <**2**> Critical: critical conditions.
- <**3**> Error: error conditions.
- <**4**> Warning: warning conditions.
- <**5**> Notice: normal but significant condition.
- <**6**> Informational: informational messages.
- <**7**> Debug: debug-level messages.

EXAMPLE

```
Switch(smtp)# level 1
Switch(smtp)#
```

mail-address To configure the email address alias for identified the email property.

Syntax

mail-address *<Email address index>* *<mail-address description>*

Parameter

<Email address index> Email address index, the available value is from 1 to 6.

<mail-address description> Up to 47 characters describing mail address.

EXAMPLE

```
Switch(smtp)# mail-address 1 alarmowner
Switch(smtp)# show
Mail Server      :
User Name       :
Password        :
Severity level  : Alert
Sender          :
Return Path     :
Email Address 1 : alarmowner
Email Address 2 :
Email Address 3 :
Email Address 4 :
Email Address 5 :
Email Address 6 :
Switch(smtp)#
```

return-path To configure the email return-path description.

Syntax

return-path *<return-path>*

Parameter

<return-path> Up to 47 characters describing return path.

EXAMPLE

```
Switch(smtp)# return-path administor01
Switch(smtp)# show
Mail Server      :
User Name       :
Password        :
Severity level  : Alert
Sender          :
Return Path     : administor01
Email Address 1 : alarmowner
Email Address 2 :
Email Address 3 :
Email Address 4 :
Email Address 5 :
Email Address 6 :
Switch(smtp)#
```


sender To configure the email sender identified the alarm mail sender.

Syntax

sender <*sender description*>

Parameter

< **sender description** > Up to 47 characters describing sender.

EXAMPLE

```
Switch(smtp)# sender alarmsender
Switch(smtp)# show
Mail Server      :
User Name       :
Password        :
Severity level  : Alert
Sender          : alarmsender
Return Path     : administor01
Email Adress 1  : alarmowner
Email Adress 2  :
Email Adress 3  :
Email Adress 4  :
Email Adress 5  :
Email Adress 6  :
Switch(smtp)#
```

server To configure the email server description.

Syntax

server <*server description*>

Parameter

< **server description** > Up to 47 characters describing email server.

EXAMPLE

```
Switch(smtp)# server alarmserver
Switch(smtp)# show
Mail Server      : alarmserver
User Name       :
Password        :
Severity level  : Alert
Sender          : alarmsender
Return Path     : administor01
Email Adress 1  : alarmowner
Email Adress 2  :
Email Adress 3  :
Email Adress 4  :
Email Adress 5  :
Email Adress 6  :
Switch(smtp)#
```

show To show the email server configuration and information.

Syntax

show

Parameter

none.

EXAMPLE

```
Switch(smtp)# show
Mail Server      : alarmserver
User Name       :
Password        :
Severity level  : Alert
Sender          : alarmsender
Return Path     : administor01
Email Adress 1  : 192.168.20.22
Email Adress 2  : alarmserver
Email Adress 3  :
Email Adress 4  :
Email Adress 5  :
Email Adress 6  :
Switch(smtp)#
```

username To configure email user name.

Syntax

username <username account> <password>

Parameter

< **username account** > Up to 47 characters describing user name.

< **password** > Up to 47 characters describing password

EXAMPLE

```
Switch(smtp)# username admin admin
Switch(smtp)# show
Mail Server      : alarmserver
User Name       : admin
Password        : *****
Severity level  : Alert
Sender          : alarmsender
Return Path     : administor01
Email Adress 1  : 192.168.20.22
Email Adress 2  : alarmserver
Email Adress 3  :
Email Adress 4  :
Email Adress 5  :
Email Adress 6  :
Switch(smtp)#
```

40 SNMP of CLI

Table : SNMP Commands

| Command | Function |
|------------------------|--------------------------|
| <code>access</code> | Configure SNMP access |
| <code>community</code> | Configure SNMP community |
| <code>delete</code> | Delete command |
| <code>engine-id</code> | Set SNMP Engine ID |
| <code>group</code> | Configure SNMP groups |
| <code>mode</code> | Enable/Disable SNMP mode |
| <code>show</code> | Show SNMP command |
| <code>trap</code> | Configure SNMP trap |
| <code>user</code> | Configure SNMP users |
| <code>view</code> | Configure SNMP views |

access To configure the SNMP access, the command adds an SNMPv3 access entry.

Syntax

```
access <group name> <security model> <security level> <read_view name>  
<write_view name>
```

Parameter

< **group name** > The name of the SNMP group. (Range: 1-32 characters, ASCII characters 33-126 only).

< **security model** > The user security model (Range 0 to 3). Security Model: 1(v1), 2(v2c), 3(usm), 0(any).

< **security level** > The security level assigned to the group (Range 1 to 3), 1(NoAuthNoPriv), 2(AuthNoPriv), 3(AuthPriv). If security model is not usm, the security_level value must be 1(NoAuthNoPriv).

< **1-NoAuthNoPriv** > => There is no authentication or encryption used in SNMP communications.

< **2- AuthNoPriv** > => SNMP communications use authentication, but the data is not encrypted.

< **3- AuthPriv** > => SNMP communications use both authentication and encryption.

< **read_view name** > The scope for a specified instance can read, None is

reserved for Empty. (Range: 1-32 characters, ASCII characters 33-126 only).
< **write_view name** > he scope for a specified instance can write, None is reserved for Empty. (Range: 1-32 characters, ASCII characters 33-126 only)

EXAMPLE

```
Switch(snmp)# access rw 0 1 view view  
Switch(snmp)#
```

community

To configure SNMP community, the command adds the SNMP community mapping to security name entry.

Syntax

community <community> <user name> <ip-address> <ip-mask>

Parameter

< **community** > Specifies the community strings which allow access to the SNMP agent. (Range: 1-32 characters, ASCII characters 33-126 only).

< **user name** > Specifies the username strings, the community will be mapping to user_name, which allow access to the SNMP agent. (Range: 1-32 characters, ASCII characters 33-126 only).

< **ip-address** > Specifies the source address of an SNMP client.

< **ip-mask** > Specifies the address mask for the SNMP client.

EXAMPLE

```
Switch(snmp)# community comm admin 192.168.20.22 255.255.255.0  
Switch(snmp)#
```

delete

To delete the SNMP command.

Syntax

delete <access / community/ group/ trap/ user/ view> <table index>

Parameter

< **access** > Delete snmpv3 access entry.

< **community** > Delete community entry.

< **group** > Delete snmpv3 groups entry.

< **trap** > Delete trap entry.

< **user** > Delete snmpv3 users entry

< **view** > Delete snmpv3 views entry

< **table index** > The SNMP entry table index, the available value is from 1 to 4.

EXAMPLE

```
Switch(snmp)# delete community 1
Delete SNMPv3 community entry success

Switch(snmp)#
```

engine-id To configure the SNMP Engine ID, the command sets the SNMPv3 local engine ID.

Syntax

engine-id <HEX>

Parameter

< **HEX** > The SNMPv3 engine ID, the format may not be all zeros or all 'ff' H, and is restricted to 5 - 32 octet string.

EXAMPLE

```
Switch(snmp)# engine-id 80001455030001c1000000
Change Engine ID will clear all original local users
Switch(snmp)#
```



NOTE:

- An SNMPv3 engine is an independent SNMP agent that resides on the switch. This engine protects against message replay, delay, and redirection. The engine ID is also used in combination with user passwords to generate the security keys for authenticating and encrypting SNMPv3 packets.
 - A local engine ID is automatically generated that is unique to the switch. This is referred to as the default engine ID. If the local engine ID is deleted or changed, all local SNMP users will be cleared. You will need to reconfigure all existing users.
-

group To configure SNMP group, the command adds an SNMPv3 group entry.

Syntax

group <user name> <security model> <group name>

Parameter

< **user name** > The name of user connecting to the SNMP agent. (Range: 1-32 characters, ASCII characters 33-126 only).

< **security model** > The user security model. (1|2|3), 1 is (v1), 2 is (v2c), 3 is (usm).

<**group name** > The name of the SNMP group. (Range: 1-32 characters, ASCII characters 33-126 only).

EXAMPLE

```
Switch(snmp)# set group user 3 regroup
Switch(snmp)#
```



NOTE:

- An SNMPv3 group sets the access policy for its assigned users, restricting them to specific read and write views as defined by the access entry. You can use the pre-defined default groups, or create a new group and the views authorized for that group.
- Note that the views assigned to a group must be specified with the view entry.
 - v1 : Up to 2 group names can be configured.
 - V2 : Up to 2 group names can be configured.
 - usm : Up to 10 group names can be configured.

mode To enable or disable the SNMP mode.

Syntax

mode <disable/enable>

Parameter

< **disable** > Disable SNMP mode.

< **enable** > Enable SNMP mode.

EXAMPLE

```
Switch(snm) # mode enable
Switch(snm) #
```

show To show the SNMP configuration or detail information.

Syntax

show *<access /community /group/ mode/ trap/ user/ view>*

Parameter

- <access>** Show snmpv3 access entry.
- <community>** Show snmpv3 community entry.
- <group>** Show snmpv3 groups entry.
- <mode>** Show snmp configuration.
- <trap>** Show snmp trap entry.
- <user>** Show snmpv3 users entry.
- <view>** Show snmpv3 views entry.

EXAMPLE

```
Switch(snm) # show mode
SNMPv3 State Show
SNMP State      : Enabled
SNMPv3 Engine ID : 80001455030001c1000000
Switch(snm) #
```

trap To configure the SNMP trap parameter, the command adds an SNMP trap entry.

Syntax

trap *<trap index> <version> <trap host IP address> <trap port> <severity level> <security name> <security_level> <Authentication protocol> <Authentication password>*

Parameter

- <trap index>** Index to SNMP trap table. (Range: 1-6).
- <version>** SNMP trap protocol version. (v2/ v3), v2 is v2c and v3 is v3.
- <trap host IP address>** To set IP –Address of the management station to receive notification messages.
- <trap port>** To set the trap port, the available value is from 1 to 65535.

<**severity level**> To configure the Severity level, the available value is from 0 to 7.

- <**0**> Emergency: system is unusable.
- <**1**> Alert: action must be taken immediately.
- <**2**> Critical: critical conditions.
- <**3**> Error: error conditions.
- <**4**> Warning: warning conditions.
- <**5**> Notice: normal but significant condition.
- <**6**> Informational: informational messages.
- <**7**> Debug: debug-level messages.

<**security name**> Specifies the community access string to use when sending SNMP trap packets. (Range: Range: 1-32 characters, ASCII characters 33-126 only).

<**security level**> The security level assigned to the user(1|2|3)

- 1=> NoauthNoPriv.
- 2=> AuthNoPriv.
- 3=> AuthPriv.

< **Authentication protocol** > The method used for user authentication(1|2)

- 1=> MD5.
- 2=> SHA.

< **Authentication password** > Authentication Password is restricted to 8 - 40.

EXAMPLE

```
Switch(snmp)# trap 1 v3 192.168.20.11 3333 0 alarm authnoPriv sha jdsseeefe
Switch(snmp)#
Switch(snmp)# show trap
SNMPv3 Trap Host Configuration:

      Community          Severity Auth.   Priv.
No Ver Server IP      Port Security Name      Level   Protocol Protocol
-----
1  v3  192.168.20.11  3333 alarm          Emergency SHA      None
2
3
4
5
6

Switch(snmp)#
```

user To configure SNMP users, the command adds an SNMPv3 user entry.

Syntax

user <user name> <security level> <Authentication Protocol> <Authentication Password>

Parameter

<**username**> The name of user connecting to the SNMP agent, (Range: 1-32 characters, ASCII characters 33-126 only).

<**security level**> The security level assigned to the user, (NoauthNoPriv | AuthNoPriv | AuthPriv)

< **Authentication protocol** > The method used for user authentication. (MD5 |SHA)

< **Authentication password** > Authentication Password is restricted to 8 - 40

EXAMPLE

```
Switch(snmp)# user user authnoPriv md5 uitisiieegg
Switch(snmp)# show user

SNMPv3 Users Table:
Index  User Name          Security Level  Auth  Priv
-----
1      user                AuthNoPriv     MD5   None

Number of entries: 1

Switch(snmp)#
```

view To configure SNMP views, the command adds an SNMPv3 view entry.

Syntax

view <view name> <view type> <oid subtree>

Parameter

<**view name**> The name of the SNMP view. (Range: 1-32 characters, ASCII characters 33-126 only).

<**view type**> Indicates if the object identifier of a branch within the MIB tree is included or excluded from the SNMP view name (1|2).

1=> included.

2=> excluded

< **oid subtree** > Object identifiers of branches within the MIB tree

EXAMPLE

```
Switch(snmp)# view view 1 1
Switch(snmp)#
```



-
- **NOTE:** The view oid-subtree first character must be a period (.). Wild cards can be used to mask a specific portion of the OID string using an asterisk. (Length: 1-128)
-

41 SSH of CLI

Table : SSH Commands

| Command | Function |
|-------------------|------------------------|
| <code>mode</code> | Configure the SSH mode |
| <code>show</code> | Show SSH configuration |

mode To configure the SSH mode.

Syntax

`mode <disable/ enable>`

Parameter

<**disable**> Disable SSH mode operation.

<**enable**> Enable SSH mode operation.

EXAMPLE

```
Switch(ssh)# mode enable
Switch(ssh)# show
SSH Mode : Enabled
Switch(ssh)#
```

show To show the SSH configuration.

Syntax

show

Parameter

none.

EXAMPLE

```
Switch(ssh)# show
SSH Mode : Enabled
Switch(ssh)#
```

42 SYSLOG of CLI

Table : SYSLOG Commands

| Command | Function |
|---------------------|------------------------------------|
| <code>clear</code> | Clear syslog entry |
| <code>level</code> | Configure syslog level |
| <code>mode</code> | Configure syslog mode |
| <code>server</code> | Configure syslog server IP address |
| <code>show</code> | Show SSH configuration |

clear To clear the syslog entry.

Syntax

clear

Parameter

none.

EXAMPLE

```
Switch(syslog)# clear
Switch(syslog)#
```

level To configure the syslog level.

Syntax

level <syslog severity level>

Parameter

<**syslog severity level**> To configure the Syslog severity level, the available value is from 0 to 7.

<**0**> Emergency: system is unusable.

<**1**> Alert: action must be taken immediately.

<**2**> Critical: critical conditions.

<**3**> Error: error conditions.

<**4**> Warning: warning conditions.

<5> Notice: normal but significant condition.

<6> Informational: informational messages.

<7> Debug: debug-level messages.

EXAMPLE

```
Switch(syslog)# level 7
Switch(syslog)# show config
Mode      : Enabled
Address   : 192.168.20.33
Level     : Debug

Switch(syslog)#
```

mode To configure syslog mode with enable or disable.

Syntax

mode <disable/ enable>

Parameter

<**disable**> Disable syslog mode.

<**enable**> Enable syslog mode.

EXAMPLE

```
Switch(syslog)# mode enable
Switch(syslog)# show config
Mode      : Enabled
Address   : 192.168.20.33
Level     : Debug

Switch(syslog)#
```

server To configure the syslog server IP address.

Syntax

server <ip-hostname>

Parameter

<**ip-hostname**> Syslog server IP address or host name.

EXAMPLE

```
Switch(syslog)# server syslog01
Switch(syslog)# show config
Mode      : Enabled
Address   : syslog01
Level     : Debug

Switch(syslog)#
```

show To show syslog information.

Syntax

show <config/ detail-log/ log>

Parameter

<**config**> Show syslog configuration.

<**detail-log**> Show detailed syslog information.

<**log**> Show syslog entry

EXAMPLE

```
Switch(syslog)# show config
Mode      : Enabled
Address   : syslog01
Level     : Debug
Switch(syslog)# show detail-log ?
<log-id>          Log ID
Switch(syslog)# show detail-log 3
Switch(syslog)#
```

43 SYSTEM of CLI

Table : SYSTEM Commands

| Command | Function |
|--------------------------|------------------------------|
| <code>contact</code> | Configure system contact |
| <code>description</code> | Configure system description |
| <code>location</code> | Configure system location |
| <code>name</code> | Configure device name |
| <code>show</code> | Show system information |

contact To configure the system contact information.

Syntax

contact <system contact information>

Parameter

<system contact information> Up to 255 characters describing system contact information.

EXAMPLE

```
Switch(system)# contact administrator
Switch(system)# show
Model Name           : PSGS-2314J
System Description   : 10-Port 10/100/1000Base-T + 4 (100/1G) SFP PoE+ L
2 Plus Managed Switch
Location             :
Contact              : administrator
Device Name         : PSGS-2314J
System Uptime       : 07:30:19
Current Time        : 2011-08-03 16:39:20
BIOS Version        : v1.00
Firmware Version    : v0.87
Hardware-Mechanical Version : v1.00-v1.00
Series Number       : TIM0123456789
Host IP Address     : 192.168.1.1
Subnet Mask         : 255.255.255.0
Gateway IP Address  : 0.0.0.0
Host MAC Address    : 00-01-c1-00-00-00
Console Baudrate    : 115200
RAM Size            : 64
Flash Size          : 16
CPU Load (100ms, 1s, 10s) : 0%, 6%, 3%
Bridge FDB Size     : 8192 MAC addresses
Transmit Queue      : 8 queues per port
Maximum Frame Size  : 9600

Switch(system)#
```


description To configure system description that describes the device property.

Syntax

description <system description>

Parameter

<system description > Up to 255 characters describing system information.

EXAMPLE

```
Switch(system)# description 12 advance managed switch
Switch(system)# show
Model Name           : PSGS-2314J
System Description   : 12 advance managed switch
Location             :
Contact              : administrator
Device Name          : PSGS-2314J
System Uptime        : 07:37:30
Current Time         : 2011-08-03 16:46:31
BIOS Version         : v1.00
Firmware Version     : v0.87
Hardware-Mechanical Version : v1.00-v1.00
Series Number        : TIM0123456789
Host IP Address      : 192.168.1.1
Subnet Mask          : 255.255.255.0
Gateway IP Address   : 0.0.0.0
Host MAC Address     : 00-01-c1-00-00-00
Console Baudrate     : 115200
RAM Size             : 64
Flash Size           : 16
CPU Load (100ms, 1s, 10s) : 0%, 2%, 3%
Bridge FDB Size      : 8192 MAC addresses
Transmit Queue       : 8 queues per port
Maximum Frame Size   : 9600

Switch(system)#
```

location To configure the system location.

Syntax

location <system location>

Parameter

<system location> Up to 256 characters describing system location.

EXAMPLE

```
Switch(system)# location Taiwan Taipei
Switch(system)# show
Model Name           : PSGS-2314J
System Description   : 12 advance managed switch
Location             : Taiwan Taipei
Contact              : administrator
Device Name          : PSGS-2314J
System Uptime        : 07:41:20
Current Time         : 2011-08-03 16:50:21
BIOS Version         : v1.00
```

```

Firmware Version      : v0.87
Hardware-Mechanical Version : v1.00-v1.00
Series Number        : TIM0123456789
Host IP Address       : 192.168.1.1
Subnet Mask          : 255.255.255.0
Gateway IP Address    : 0.0.0.0
Host MAC Address      : 00-01-c1-00-00-00
Console Baudrate     : 115200
RAM Size              : 64
Flash Size           : 16
CPU Load (100ms, 1s, 10s) : 0%, 1%, 2%
Bridge FDB Size      : 8192 MAC addresses
Transmit Queue       : 8 queues per port
Maximum Frame Size   : 9600

Switch(system)#

```

name To configure device name or alias.

Syntax

```
name <system name>
```

Parameter

<system name> Up to 255 characters describing device name.

EXAMPLE

```

Switch(system)# name sales-departmen
Switch(system)# show
Model Name           : PSGS-2314J
System Description   : 12 advance managed switch
Location             : Taiwan Taipei
Contact              : administrator
Device Name          : sales-departmen
System Uptime        : 07:46:19
Current Time         : 2011-08-03 16:55:20
BIOS Version         : v1.00
Firmware Version     : v0.87
Hardware-Mechanical Version : v1.00-v1.00
Series Number        : TIM0123456789
Host IP Address       : 192.168.1.1
Subnet Mask          : 255.255.255.0
Gateway IP Address    : 0.0.0.0
Host MAC Address      : 00-01-c1-00-00-00
Console Baudrate     : 115200
RAM Size              : 64
Flash Size           : 16
CPU Load (100ms, 1s, 10s) : 0%, 2%, 3%
Bridge FDB Size      : 8192 MAC addresses
Transmit Queue       : 8 queues per port
Maximum Frame Size   : 9600

Switch(system)#

```

show To show the system detail information.

Syntax

show

Parameter

none.

EXAMPLE

```
Switch(system)# show
Model Name           : PSGS-2314J
System Description   : 12 advance managed switch
Location            : Taiwan Taipei
Contact             : administrator
Device Name         : sales-departmen
System Uptime       : 07:46:19
Current Time        : 2011-08-03 16:55:20
BIOS Version        : v1.00
Firmware Version    : v0.87
Hardware-Mechanical Version : v1.00-v1.00
Series Number       : TIM0123456789
Host IP Address     : 192.168.1.1
Subnet Mask         : 255.255.255.0
Gateway IP Address  : 0.0.0.0
Host MAC Address    : 00-01-c1-00-00-00
Console Baudrate    : 115200
RAM Size            : 64
Flash Size          : 16
CPU Load (100ms, 1s, 10s) : 0%, 2%, 3%
Bridge FDB Size     : 8192 MAC addresses
Transmit Queue      : 8 queues per port
Maximum Frame Size  : 9600

Switch(system)#
```

44 THERMAL of CLI

Table : THERMAL Commands

| Command | Function |
|----------------------------|---|
| <code>port-priority</code> | Configure the port priority |
| <code>priority-temp</code> | Configure the temperature at which the ports shall be shut down |
| <code>show</code> | Show thermal protection information |

port-priority To configure the port priority.

Syntax

port-priority *<port-list>* *<port priority>*

Parameter

<port-list> Port list, available value is from 1 to 14 format: 1,3-5.

<port priority> To set the port priority, available value is from 0 to 3..

EXAMPLE

```
Switch(thermal)# port-priority 3-5 3
Switch(thermal)#
```

priority-temp To configure the temperature at which the ports shall be shut down.

Syntax

priority-temp *<port priority>* *<temperature>*

Parameter

<port priority> To set the port priority, available value is from 0 to 3.

<temperature> The temperature at which the ports with the corresponding priority will be turned off, the available value is from 0 to 255.

EXAMPLE

```
Switch(thermal)# priority-temp 3 55
Switch(thermal)#
```

show

To show the thermal protection information.

Syntax

show

Parameter

none.

EXAMPLE

```
Switch(thermal)# show
Priority  Temperature
-----
0         255 C
1         255 C
2         255 C
3         55 C

Port  Priority  Chip Temperature
-----
1     0        55 C
2     0        55 C
3     3        55 C
4     3        55 C
5     3        55 C
6     0        55 C
7     0        55 C
8     0        55 C
9     0        55 C
10    0        55 C
Switch(thermal)#
```

45 TIME of CLI

Table : TIME Commands

| Command | Function |
|-----------|--|
| daylight | Indicates the Daylight Savings operation |
| delete | Delete NTP server entry |
| manual | Configure system time manually |
| ntp | Configure system time by NTP |
| show | Show time information |
| time-zone | Configure system time zone |

daylight To indicates the Daylight Savings operation.

Syntax

daylight *<disable/enable>* *<Time Set Offset>* *<By-dates/Recurring>* *<Day that DST starts>* *<time that DST starts>* *<Day that DST ends>* *<time that DST ends>*

Parameter

<disable> Disable Daylight Savings operation.

<enable> Enable Daylight Savings operation.

<By-dates> Manually enter day and time that DST starts and ends.

<Recurring> DST occurs on the same date every year.

<Day that DST starts> DST starts date, format is YYYY:MM:DD.

<Time that DST starts> DST starts time, format is HH:MM.

<Day that DST ends> DST ends date, format is YYYY:MM:DD.

<Time that DST ends> DST ends time, format is HH:MM.

EXAMPLE

```
Switch(time)# daylight enable 50 by-dates 2011:08:10 13:30 2011:10:31 13:30
Switch(time)# show daylight
Clock Source      : Local Settings
Local Time        : 2011-01-01 06:56:08 (YYYY-MM-DD HH:MM:SS)
Time Zone Offset  : 0 (min)
Daylight Savings  : Enabled
Time Set Offset   : 50 (min)
Daylight Savings Type : By dates
From              : 2011-08-10 13:30 (YYYY-MM-DD HH:MM)
To                : 2011-10-31 13:30 (YYYY-MM-DD HH:MM)
Switch(time)#
```

delete To delete NTP server entry.

Syntax

delete <NTP server index>

Parameter

<NTP server index> NTP server index, available value is from 1 to 5.

EXAMPLE

```
Switch(time)# ntp server 1 192.168.30.22
Switch(time)# ntp server 2 192.168.30.35
Switch(time)# show ntp
Current Time      : 2011-01-01 07:00:33
Time Zone        : GMT+0:00
NTP Mode         : Enabled
Index  Server IP host address or a host name string
-----
1      192.168.30.22
2      192.168.30.35
3
4
5
Switch(time)# Switch(time)# delete 1
Switch(time)# show ntp
Current Time      : 2011-01-01 07:01:20
Time Zone        : GMT+0:00
NTP Mode         : Enabled
Index  Server IP host address or a host name string
-----
1
2      192.168.30.35
3
4
5
Switch(time)#
```

manual To configure system time manually.

Syntax

manual <date of system> <time of system>

Parameter

<date of system> Date of system, format is YYYY:MM:DD, example:

2011:06:25.

<time of system> Time of system, format is HH:MM:SS, example: 23:10:55.

EXAMPLE

```
Switch(time)# manual 2011:08:03 16:12:55
Switch(time)#
```

ntp To configure system time by NTP.

Syntax

ntp <mode> <disable/ enable>

Parameter

<**mode**> Indicates the NTP mode operation.

<**disable**> Disable NTP mode operation.

<**enable**> Enable NTP mode operation.

EXAMPLE

```
Switch(time)# ntp mode enable
Switch(time)#
```

Syntax

ntp <server> <server index> <ipv6-address/ ip-hostname>

Parameter

<**server**> Indicates the NTP mode operation.

<**server index**> NTP server index, the available value is from 1 to 5.

<**ipv6-address**> NTP server ipv6 address, IPv6 address is in 128-bit records represented as eight fields of up to four hexadecimal digits with a colon separates each field (:)For example, 'fe80::215:c5ff:fe03:4dc7'. The symbol '::' is a special syntax that can be used as a shorthand way of representing multiple 16-bit groups of contiguous zeros; but it can only appear once. It also used a following legally IPv4 address. For example, '::192.1.2.34'.

<**ip-hostname**> NTP server ip address or hostname.

EXAMPLE

```
Switch(time)# ntp server 1 timeserver01
Switch(time)# show ntp
Current Time      : 2011-08-03 16:24:46
Time Zone        : GMT+0:00
NTP Mode         : Enabled
Index  Server IP host address or a host name string
-----
1      timeserver01
2      192.168.30.35
3
4
5
Switch(time)#
```


show To show time information.

Syntax

show <daylight/ ntp>

Parameter

<**daylight**> Show the daylight time information.

<**ntp**> Show the NTP information.

EXAMPLE

```
Switch(time)# show daylight
Clock Source      : Local Settings
Local Time       : 2011-08-03 16:27:56 (YYYY-MM-DD HH:MM:SS)
Time Zone Offset : 0 (min)
Daylight Savings : Enabled
Time Set Offset  : 50 (min)
Daylight Savings Type : By dates
From            : 2011-08-10 13:30 (YYYY-MM-DD HH:MM)
To             : 2011-10-31 13:30 (YYYY-MM-DD HH:MM)
Switch(time)# show ntp
Current Time     : 2011-08-03 16:28:11
Time Zone       : GMT+0:00
NTP Mode        : Enabled
Index  Server IP host address or a host name string
-----
1      timeserver01
2      192.168.30.35
3
4
5
Switch(time)#
```

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Table : VCL Commands

| Command | Function |
|----------------------------|-------------------------------------|
| <code>delete</code> | Delete command |
| <code>mac-vlan</code> | Configure MAC-based VLAN membership |
| <code>protocol-vlan</code> | Configure protocol-based VLAN |
| <code>show</code> | Show VCL status command |

delete To delete the configured command or VCL rule entry.

Syntax

delete < *mac-vlan* > < *mac-address* >

Parameter

< **mac-vlan** > Delete MAC-based VLAN entry.

< **mac-address** > MAC address, format 0a-1b-2c-3d-4e-5f

EXAMPLE

```
Switch(vcl)# mac-vlan 0a-1b-2c-3d-4e-5f 3 9-10
Switch(vcl)# show mac-vlan
MAC Address      VID  Ports
-----
0a-1b-2c-3d-4e-5f 3    9,10
Switch(vcl)# delete mac-vlan 0a-1b-2c-3d-4e-5f
Switch(vcl)# show mac-vlan
Switch(vcl)#
```



NOTE: The delete command was used for what you want to delete the command or entry you had set on the switch.

Syntax

delete < *protocol-vlan* > < *ethernet* > < *ether type* >

Parameter

< **protocol-vlan** > Delete protocol-based VLAN ethertype protocol to group mapping.

< **ethernet** > Delete protocol-based VLAN Ethernet-II protocol to group

mapping.

<**ether type**> Ether type, available value is from 0x0600 to 0xffff.

EXAMPLE

```
Switch(vcl)# protocol-vlan protocol ethernet 0x0600 protocol01
Switch(vcl)# show protocol-vlan
Protocol Type Protocol (Value) Group Name
-----
Ethernet      ETYPE:0x600      protocol01
Switch(vcl)# delete protocol-vlan protocol ethernet 0x0600
Switch(vcl)# show protocol-vlan
Switch(vcl)#
```

Syntax

delete < protocol-vlan> <llc> <DSAP value> <SSAP value>

Parameter

<**protocol-vlan**> Delete protocol-based VLAN.

<**llc**> Delete protocol-based VLAN LLC protocol to group mapping.

<**DSAP value**> DSAP value, available value is from 0x00 to 0xff.

<**SSAP value**> SSAP value, available value is from 0x00 to 0xff.

EXAMPLE

```
Switch(vcl)# protocol-vlan protocol llc 0x00 0xff protocolvlan1
Switch(vcl)# show protocol-vlan
Protocol Type Protocol (Value) Group Name
-----
LLC          DSAP:0x00; SSAP:0xff      protocolvlan1
Switch(vcl)# delete protocol-vlan protocol llc 0x00 0xff
Switch(vcl)# show protocol-vlan
Switch(vcl)#
```

Syntax

delete < protocol-vlan> <snap> <oui-address> <protocol ID>

Parameter

<**protocol-vlan**> Delete protocol-based VLAN.

<**snap**> Delete protocol-based VLAN SNAP protocol to group mapping.

<**oui-address**> OUI address, format : 00-40-c7.

<**protocol ID**> Protocol ID is the Ethernet type field value for the protocol running on top of SNAP.

EXAMPLE

```
Switch(vcl)# protocol-vlan protocol snap 00-40-c7 0x0000 snapvlan01
Switch(vcl)# show protocol-vlan
Protocol Type Protocol (Value) Group Name
-----
SNAP          OUI-00:40:c7; PID:0x0    snapvlan01

Switch(vcl)# delete protocol-vlan protocol snap 00-40-c7 0x0000
Switch(vcl)# show protocol-vlan

Switch(vcl)#
```

mac-vlan To configure MAC-based VLAN membership.

Syntax

mac-vlan < mac-address > < vlan ID > < port-list >

Parameter

< **mac-address** > MAC address, format 0a-1b-2c-3d-4e-5f.

< **vlan ID** > VLAN ID, available value is from 1 to 4094.

< **port-list** > Port list, available value is from 1 to 14 format: 1,3-5.

EXAMPLE

```
Switch(vcl)# mac-vlan 0a-1b-2c-3d-4e-5f 5 9-10
Switch(vcl)# show mac-vlan
MAC Address      VID  Ports
-----
0a-1b-2c-3d-4e-5f 5    9,10
Switch(vcl)#
```

protocol-vlan To configure protocol-based VLAN.

Syntax

protocol-vlan < protocol > < ethernet > < ether type > < protocol-based vlan name >

Parameter

< **protocol** > Protocol-based VLAN ethertype protocol to group mapping.

< **ethernet** > Protocol-based VLAN Ethernet-II protocol to group mapping.

< **ether type** > Ether type, available value is from 0x0600 to 0xffff.

< **protocol-based vlan name** > Up to 16 characters to describe protocol-based VLAN group name.

EXAMPLE

```
Switch(vcl)# protocol-vlan protocol ethernet 0x0600 ethevl3
Switch(vcl)# show protocol-vlan
Protocol Type Protocol (Value) Group Name
-----
Ethernet ETYPE:0x600 ethevl3

Group Name VID Ports
-----
provla0 3 7-10
Switch(vcl)#
```

Syntax

protocol-vlan <protocol > <llc> <DSAP value> <SSAP value>
<protocol-based vlan name>

Parameter

<**protocol**> Protocol-based VLAN ethertype protocol to group mapping.

<**llc**> Protocol-based VLAN LLC protocol to group mapping.

<**DSAP value**> DSAP value, available value is from 0x00 to 0xff.

<**SSAP value**> SSAP value, available value is from 0x00 to 0xff.

<**protocol-based vlan name**> Up to 16 characters to describe protocol-based VLAN group name.

EXAMPLE

```
Switch(vcl)# protocol-vlan protocol llc 0x00 0xff llcvl3
Switch(vcl)# show protocol-vlan
Protocol Type Protocol (Value) Group Name
-----
LLC DSAP:0x00; SSAP:0xff llcvl3
Ethernet ETYPE:0x600 ethevl3

Group Name VID Ports
-----
provla0 3 7-10
Switch(vcl)#
```

Syntax

protocol-vlan <protocol > <snap> <oui-address> <protocol ID>
<protocol-based vlan name>

Parameter

<**protocol**> Protocol-based VLAN ethertype protocol to group mapping.

<**snap**> Protocol-based VLAN SNAP protocol to group mapping.

<**oui-address**> OUI address, format : 00-40-c7.

<**protocol ID**> Protocol ID is the Ethernet type field value for the protocol running on top of SNAP.

<**protocol-based vlan name**> Up to 16 characters to describe protocol-based VLAN group name.

EXAMPLE

```
Switch(vcl)# protocol-vlan protocol snap 00-40-c7 0x0000 snapv101
Switch(vcl)# show protocol-vlan
Protocol Type Protocol (Value) Group Name
-----
SNAP OUI-00:40:c7; PID:0x0 snapv101
LLC DSAP:0x00; SSAP:0xff llcv13
Ethernet ETYP:0x600 ethevln3

Group Name VID Ports
-----
provla0 3 7-10
Switch(vcl)#
```

Syntax

protocol-vlan <vlan> <protocol-based vlan name><vlan ID> <port-list>

Parameter

<vlan> Protocol-based VLAN group to VLAN mapping.

<protocol-based vlan name> Up to 16 characters to describe protocol-based VLAN group name.

<vlan ID> VLAN ID, available value is from 1 to 4094.

<port-list> Port list, available value is from 1 to 14 format: 1,3-5.

EXAMPLE

```
Switch(vcl)# protocol-vlan vlan protv1a1 5 7-10
Switch(vcl)# show protocol-vlan
Protocol Type Protocol (Value) Group Name
-----
SNAP OUI-00:40:c7; PID:0x0 snapv101
LLC DSAP:0x00; SSAP:0xff llcv13
Ethernet ETYP:0x600 ethevln3

Group Name VID Ports
-----
protv1a1 5 7-10
provla0 3 7-10
Switch(vcl)#
```

show To show the VCL status command.

Syntax

show <mac-vlan>

Parameter

<mac-vlan> Show MAC-based VLAN entry.

EXAMPLE

```
Switch(vcl)# show mac-vlan
MAC Address      VID  Ports
-----
0a-1b-2c-3d-4e-5f  5    9,10
Switch(vcl)#
```

Syntax

show <protocol- vlan>

Parameter

<protocol- vlan > Show protocol-based VLAN configuration.

EXAMPLE

```
switch(vcl)# show protocol-vlan
Protocol Type  Protocol (Value)  Group Name
-----
SNAP          OUI-00:40:c7; PID:0x0  snapvl01
LLC           DSAP:0x00; SSAP:0xff  llcvl3
Ethernet      ETYPE:0x600         ethevl3

Group Name      VID  Ports
-----
protv1a1        5    7-10
prov1a0         3    7-10
Switch(vcl)#
```

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Table : VLAN Commands

| Command | Function |
|--------------------------------|---|
| <code>delete</code> | Delete VLAN group |
| <code>egress-rule</code> | Configure egress-rule of switch ports |
| <code>frame-type</code> | Configure frame type of switch ports |
| <code>ingress-filtering</code> | Configure ingress filtering of switch ports |
| <code>port-type</code> | Configure port type of switch ports |
| <code>pvid</code> | Configure port VLAN ID |
| <code>show</code> | Show VLAN information |
| <code>tag-group</code> | Configure tag-based VLAN group |
| <code>tpid</code> | Configure the TPID used for Custom S-ports. This is a global setting for all the Custom S-ports |

delete To delete VLAN group and remove the VLAN member

Syntax

```
delete <tag-group> <VLAN ID>
```

Parameter

<**tag-group**> Delete tag-based VLAN group.

<**VLAN-ID**> VLAN ID, available value is from 1 to 4094

EXAMPLE

```
Switch(vlan)# tag-group 3 testvlan 3-5
Switch(vlan)# show vlan combined
VID  VLAN Name                User        Ports
-----
1    default                    Combined    1-14
2                                  Combined    3-5
3    testvlan                    Combined    3-5
Switch(vlan)# delete tag-group 3
Switch(vlan)# show vlan combined
VID  VLAN Name                User        Ports
-----
1    default                    Combined    1-14
2                                  Combined    3-5
Switch(vlan)#
```


egress-rule To configure egress-rule of switch ports

Syntax

egress-rule <port-list> <access/ hybric/ trunk>

Parameter

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5.

<**access**> Untag all frames.

<**hybric**> Tag all frames except VLAN ID same as PVID.

<**trunk**> Tag all frames.

EXAMPLE

```
Switch(vlan)# egress-rule 3-5 access
Switch(vlan)# show port-config
TPID for Custom S-port : 0x88a8
```

| Port | PVID | Frame Type | Ingress Filter | Egress Rule | Port Type |
|------|------|------------|----------------|-------------|-----------|
| 1 | 1 | All | Disabled | Hybric | UnAware |
| 2 | 1 | All | Disabled | Hybric | UnAware |
| 3 | 3 | All | Disabled | Access | UnAware |
| 4 | 3 | All | Disabled | Access | UnAware |
| 5 | 3 | All | Disabled | Access | UnAware |
| 6 | 1 | All | Disabled | Hybric | UnAware |
| 7 | 1 | All | Disabled | Hybric | UnAware |
| 8 | 1 | All | Disabled | Hybric | UnAware |
| 9 | 1 | All | Disabled | Hybric | UnAware |
| 10 | 1 | All | Disabled | Hybric | UnAware |

frame-type To configure frame type of switch ports

Syntax

frame-type <port-list> <all/ tagged/ untagged>

Parameter

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5.

<**all**> Accept all frames.

<**tagged**> Accept tagged frames only.

<**untagged**> Accept untagged frames only.

EXAMPLE

```
Switch(vlan)# frame-type 3-5 untagged
Switch(vlan)# show port-config
TPID for Custom S-port : 0x88a8
```

| Port | PVID | Frame Type | Ingress Filter | Egress Rule | Port Type |
|------|------|------------|----------------|-------------|-----------|
| 1 | 1 | All | Disabled | Hybric | UnAware |
| 2 | 1 | All | Disabled | Hybric | UnAware |
| 3 | 3 | Untagged | Disabled | Access | UnAware |
| 4 | 3 | Untagged | Disabled | Access | UnAware |
| 5 | 3 | Untagged | Disabled | Access | UnAware |

```

6      1      All      Disabled      Hybric      UnAware
7      1      All      Disabled      Hybric      UnAware
8      1      All      Disabled      Hybric      UnAware
9      1      All      Disabled      Hybric      UnAware
10     1      All      Disabled      Hybric      UnAware
Switch(vlan)#

```

ingress-filtering To configure ingress filtering of switch ports

Syntax

ingress-filtering <port-list> <disable/ enable>

Parameter

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5.

<**disable**> Disable ingress filtering.

<**enable**> Enable ingress filtering. If ingress port is not a member of the classified VLAN of the frame, the frame is discarded.

EXAMPLE

```

Switch(vlan)# ingress-filtering 3-5 enable
Switch(vlan)# show port-config
TPID for Custom S-port : 0x88a8

```

| Port | PVID | Frame Type | Ingress Filter | Egress Rule | Port Type |
|------|------|------------|----------------|-------------|-----------|
| 1 | 1 | All | Disabled | Hybric | UnAware |
| 2 | 1 | All | Disabled | Hybric | UnAware |
| 3 | 3 | Untagged | Enabled | Access | UnAware |
| 4 | 3 | Untagged | Enabled | Access | UnAware |
| 5 | 3 | Untagged | Enabled | Access | UnAware |
| 6 | 1 | All | Disabled | Hybric | UnAware |
| 7 | 1 | All | Disabled | Hybric | UnAware |
| 8 | 1 | All | Disabled | Hybric | UnAware |
| 9 | 1 | All | Disabled | Hybric | UnAware |
| 10 | 1 | All | Disabled | Hybric | UnAware |

```

Switch(vlan)#

```

port-type To configure port type of switch ports

Syntax

port-type <port-list> <c-port/ s-custom-port/ s-port/ unaware>

Parameter

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5.

<**c-port**> To set the port as the customer port type.

<**s-custom-port**> To set the port as the customer service port type.

<**s-port**> To set the port as the service port type.

<**unaware**> To set the port as the VLAN unaware port type.

EXAMPLE

```
Switch(vlan)# port-type 3-5 s-custom-port
Switch(vlan)# show port-config
TPID for Custom S-port : 0x88a8
```

| Port | PVID | Frame Type | Ingress Filter | Egress Rule | Port Type |
|------|------|------------|----------------|-------------|---------------|
| 1 | 1 | All | Disabled | Hybrid | UnAware |
| 2 | 1 | All | Disabled | Hybrid | UnAware |
| 3 | 3 | Untagged | Enabled | Access | S-Custom-Port |
| 4 | 3 | Untagged | Enabled | Access | S-Custom-Port |
| 5 | 3 | Untagged | Enabled | Access | S-Custom-Port |
| 6 | 1 | All | Disabled | Hybrid | UnAware |
| 7 | 1 | All | Disabled | Hybrid | UnAware |
| 8 | 1 | All | Disabled | Hybrid | UnAware |
| 9 | 1 | All | Disabled | Hybrid | UnAware |
| 10 | 1 | All | Disabled | Hybrid | UnAware |

```
Switch(vlan)#
```

pvid To configure the Port VLAN ID

Syntax

```
pvid <port-list> <VLAN ID>
```

Parameter

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5.

<**VLAN ID**> VLAN ID, available value is from 1 to 4094.

EXAMPLE

```
Switch(vlan)# pvid 3-5 3
Switch(vlan)# show port-config
TPID for Custom S-port : 0x88a8
```

| Port | PVID | Frame Type | Ingress Filter | Egress Rule | Port Type |
|------|------|------------|----------------|-------------|-----------|
| 1 | 1 | All | Disabled | Hybrid | UnAware |
| 2 | 1 | All | Disabled | Hybrid | UnAware |
| 3 | 3 | Untagged | Enabled | Access | UnAware |
| 4 | 3 | Untagged | Enabled | Access | UnAware |
| 5 | 3 | Untagged | Enabled | Access | UnAware |
| 6 | 1 | All | Disabled | Hybrid | UnAware |
| 7 | 1 | All | Disabled | Hybrid | UnAware |
| 8 | 1 | All | Disabled | Hybrid | UnAware |
| 9 | 1 | All | Disabled | Hybrid | UnAware |
| 10 | 1 | All | Disabled | Hybrid | UnAware |

```
Switch(vlan)#
```

show To show the VLAN configuration and information.

Syntax

```
show <port-config>
```

Parameter

<port-config> Show VLAN port configuration.

EXAMPLE

```
Switch(vlan)# show port-config
TPID for Custom S-port : 0x88a8

Port  PVID  Frame Type  Ingress Filter  Egress Rule  Port Type
-----
1     1       All         Disabled        Hybric       UnAware
2     1       All         Disabled        Hybric       UnAware
3     3       Untagged   Enabled         Access       UnAware
4     3       Untagged   Enabled         Access       UnAware
5     3       Untagged   Enabled         Access       UnAware
6     1       All         Disabled        Hybric       UnAware
7     1       All         Disabled        Hybric       UnAware
8     1       All         Disabled        Hybric       UnAware
9     1       All         Disabled        Hybric       UnAware
10    1       All         Disabled        Hybric       UnAware
Switch(vlan)#
```

Syntax

show <port-status> *<combined/ gvrp/ mstp/ mvr/ mvrp/ nas/ static/ voice>*

Parameter

<port-status> Show VLAN port status

<combined> VLAN port status for combined VLAN Users.

<gvrp> VLAN port status for GVRP.

<mstp> VLAN port status for MSTP.

<mvr> VLAN port status for MVR.

<mvrp> VLAN port status for MVRP.

<nas> VLAN port status for NAS.

<static> Static VLAN port status.

<voice> VLAN port status for Voice VLAN.

EXAMPLE

```
Switch(vlan)# show port-status combined

Port  PVID  Frame Type  Ingress Filter  Tx Tag      UVID  Port Type  Conflict
-----
1     1     All         Disabled        Untag This  1     UnAware   No
2     1     All         Disabled        Untag This  1     UnAware   No
3     3     Untagged   Enabled         Untag All   -     UnAware   No
4     3     Untagged   Enabled         Untag All   -     UnAware   No
5     3     Untagged   Enabled         Untag All   -     UnAware   No
6     1     All         Disabled        Untag This  1     UnAware   No
7     1     All         Disabled        Untag This  1     UnAware   No
8     1     All         Disabled        Untag This  1     UnAware   No
9     1     All         Disabled        Untag This  1     UnAware   No
10    1     All         Disabled        Untag This  1     UnAware   No
Switch(vlan)#
```

tag-group To configure tag-based VLAN group.

Syntax

tag-group <VLAN ID> <VLAN Name> <port-list>

Parameter

<VLAN ID> VLAN ID, available value is from 1 to 4094.

<VLAN Name> Up to 32 characters describing VLAN name.

<port-list> Port list, available value is from 1 to 14 format: 1,3-5.

EXAMPLE

```
Switch(vlan)# tag-group 4 tagvlan4 6-7
Switch(vlan)# show vlan combined
VID  VLAN Name          User      Ports
-----
1    default              Combined  1-14
2    tagvlan4              Combined  3-5
4    tagvlan4              Combined  6,7
Switch(vlan)# show vlan
VID  VLAN Name          User      Ports
-----
1    default              Static    1-14
4    tagvlan4              Static    6,7
Switch(vlan)#
```

tpid To configure the TPID used for Custom S-ports. This is a global setting for all the Custom S-ports.

Syntax

tpid <TPID value>

Parameter

<TPID value> TPID value, available value is from 0x600 to 0xffff.

EXAMPLE

```
Switch(vlan)# tpid 0x600
Switch(vlan)# show port-status combined
Port PVID  Frame Type  Ingress Filter Tx Tag      UVID  Port Type  Conflict
-----
1    1    All    Disabled  Untag This  1    UnAware  No
2    1    All    Disabled  Untag This  1    UnAware  No
3    1    All    Disabled  Untag All   -    UnAware  No
4    1    All    Disabled  Untag All   -    UnAware  No
5    1    All    Disabled  Untag All   -    UnAware  No
6    1    All    Disabled  Untag This  1    UnAware  No
7    1    All    Disabled  Untag This  1    UnAware  No
8    1    All    Disabled  Untag This  1    UnAware  No
9    1    All    Disabled  Untag This  1    UnAware  No
10   1    All    Disabled  Untag This  1    UnAware  No
switch(vlan)#
```

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Table : VOICE-VLAN Commands

| Command | Function |
|------------------------|--|
| <code>config</code> | Configure Voice VLAN |
| <code>delete</code> | Delete command |
| <code>discovery</code> | Configure Voice VLAN discovery protocol |
| <code>oui</code> | Create Voice VLAN OUI entry. Modify OUI table will restart auto detect OUI process |
| <code>port-mode</code> | Configure Voice VLAN port mode |
| <code>security</code> | Configure Voice VLAN port security mode |
| <code>show</code> | Show Voice VLAN information |

config To configure the Voice VLAN parameter.

Syntax

config *<disable/enable> <VLAN ID> <Secure aging time> <Voice VLAN traffic class>*

Parameter

<**disable**> Disable Voice VLAN mode operation.

<**enable**> Enable Voice VLAN mode operation.

<**VLAN ID**> VLAN ID, available value is from 1 to 4094

<**Secure aging time**> Voice VLAN secure aging time, available value is from 10 to 1000000.

<**Voice VLAN traffic class**> Voice VLAN traffic class, all traffic on the Voice VLAN will apply this class, available value is from 0(Low) to 7(High).

EXAMPLE

```
Switch(voice-vlan)# config enable 22 2000 7
Switch(voice-vlan)#
```

delete To delete the Voice VLAN OUI entry. Modify OUI table will restart auto detect OUI process.

Syntax

```
delete <oui> <oui-address>
```

Parameter

<**oui**> Delete Voice VLAN OUI entry. Modify OUI table will restart auto detect OUI process.

<**oui-address**> OUI address, format : 0a-1b-2c.

EXAMPLE

```
Switch(voice-vlan)# delete oui 0a-1b-2c  
ERROR! Voice VLAN table entry not exist  
Switch(voice-vlan)#
```



NOTE: If you didn't set Voice VLAN OUI already then the switch will show "ERROR! Voice VLAN table entry not exist". Due to the reason then you need to create the Voice VLAN OUI entry first.

discovery To configure the Voice VLAN discovery protocol.

Syntax

```
discovery <port-list> <both/ lldp/ oui>
```

Parameter

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5.

<**both**> Both OUI and LLDP.

<**lldp**> Detect telephony device by LLDP

<**oui**> Detect telephony device by OUI address.

EXAMPLE

```
Switch(voice-vlan)# discovery 3-5 both  
Switch(voice-vlan)#
```



NOTE: If your IP Phone without support LLDP protocol then please set the discovery protocol with both.

oui To create Voice VLAN OUI entry. Modify OUI table will restart auto detect OUI process.

Syntax

oui <oui-address> <LINE>

Parameter

<**oui-address**> OUI address, format : 0a-1b-2c.

<**LINE**> Up to 32 characters describing OUI address.

EXAMPLE

```
Switch(voice-vlan)# oui 0a-1b-2c telephone1
Switch(voice-vlan)#
```

port-mode To configure Voice VLAN port mode.

Syntax

port-mode <port-list> <auto/ disable/ force>

Parameter

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5.

<**auto**> Enable auto detect mode. It detects whether there is VoIP phone attached on the specific port and configure the Voice VLAN members automatically.

<**disable**> Disjoin from Voice VLAN.

<**force**> Forced join to Voice VLAN

EXAMPLE

```
Switch(voice-vlan)# port-mode 3-5 force
Switch(voice-vlan)#
```



NOTE: If you didn't enable the LLDP or LLDP-MED protocol on your switch then please set the port-mode with force mode.

security To configure Voice VLAN port security mode.

Syntax

security <port-list> <disable/ enable>

Parameter

<**port-list**> Port list, available value is from 1 to 14 format: 1,3-5.

<**disable**> Disjoin from Voice VLAN.

<**enable**> Enable Voice VLAN security mode. When the function is enabled, all non-telephone MAC address in Voice VLAN will be blocked 10 seconds.

EXAMPLE

```
Switch(voice-vlan)# security 3-5 enable
Switch(voice-vlan)#
```

show To show the Voice VLAN configuration and information.

Syntax

show <config>

Parameter

<**config**> Show Voice VLAN configuratio

EXAMPLE

```
Switch(voice-vlan)# show config
Voice VLAN Mode           : Enabled
Voice VLAN VLAN ID       : 22
Voice VLAN Age Time(seconds) : 2000
Voice VLAN Traffic Class  : 7

Port  Mode      Security  Discovery Protocol
-----
1    Disabled  Disabled  OUI
2    Disabled  Disabled  OUI
3    Forced    Enabled   Both
4    Forced    Enabled   Both
5    Forced    Enabled   Both
6    Disabled  Disabled  OUI
7    Disabled  Disabled  OUI
8    Disabled  Disabled  OUI
9    Disabled  Disabled  OUI
Switch(voice-vlan)#
```

Syntax

show <oui>

Parameter

<**oui**> Show OUI address.

EXAMPLE

```
Switch(voice-vlan)# show oui
No  Telephony OUI  Description
--  -
1   00-01-E3       Siemens AG phones
2   00-03-6B       Cisco phones
```

```
3 00-0F-E2      H3C phones
4 00-60-B9      Philips and NEC AG phones
5 00-D0-1E      Pingtel phones
6 00-E0-75      Polycom phones
7 00-E0-BB      3Com phones
8 0A-1B-2C      telephone1
Switch(voice-vlan)#
```



10900 Red Circle Drive

Minnetonka, MN 55344

Tel.: +1.952.941.7600

techsupport@transition.com