ECS2020
10/28-Port Gigabit Web Smart PoE & Non-PoE Switch

Software Release v1.0.0.0

CLI Reference Guide

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CLI Reference Guide

ECS2020-10T

Web-smart Gigabit Ethernet Switch
with 8 10/100/1000BASE-T (RJ-45)
and 2 Gigabit SFP Ports

ECS2020-10P

Web-smart Gigabit Ethernet Switch
with 8 10/100/1000BASE-T (RJ-45) 802.3af/at PoE Ports
and 2 Gigabit SFP Ports

ECS2020-28T

Web-smart Gigabit Ethernet Switch
with 24 10/100/1000BASE-T (RJ-45)
and 4 Gigabit SFP Ports

ECS2020-28P

Web-smart Gigabit Ethernet Switch
with 24 10/100/1000BASE-T (RJ-45) 802.3af/at PoE Ports
and 4 Gigabit SFP Ports

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About This Guide

This guide includes detailed information on the switch software, including how to operate and use the management functions of the switch. To deploy this switch effectively and ensure trouble-free operation, you should first read the relevant sections in this guide so that you are familiar with all of its software features.

Who Should Read This Guide?

This guide is for network administrators who are responsible for operating and maintaining network equipment. The guide assumes a basic working knowledge of LANs (Local Area Networks), the Internet Protocol (IP), and Simple Network Management Protocol (SNMP).

Related Documentation

This guide focuses on switch software configuration through the CLI.

For information on how to manage the switch through the Web management interface, see the following guide:

Web Management Guide

Documentation Notice

This documentation is provided for general information purposes only. If any product feature details in this documentation conflict with the product datasheet, refer to the datasheet for the latest information.

Contents

1 MTU

In global configuration mode, use this command to set the MTU of the interface.
Mtu <1522-10240>

Parameter

Parameter	Description
1522-10240	Can be set in the range

Default

The default configuration is 1522.

Mode

Global configuration mode

Usage

Null

Example

Set the mtu value

```
ECS2020-10P(config)# mtu 10240
```

Command

Command	Description
show interfaces gigabitEthernet *id* ***mtu***	View the interface mtu status information.

Example

```
ECS2020-10P# show interfaces GigabitEthernet 0/1 mtu
      Interface          |       MTU
-------------------------+---------------------
          gi0/1          |     10240
```

2 Link-Aggregate Port Commands

2.1 Configure relevant commands

2.1.1 link-aggregation load-balance

Configures a traffic balancing algorithm for link-aggregation ports (AGG). Use the **no** option of this command to set the traffic balance back to the default.

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

no link-aggregation load-balance

Parameter

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

Default: Null

Mode: Global configuration mode

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

Example: ECS2020-10P(config)# **link-aggregation load-balance ip**

Command

Command	Description
show link-aggregation group	Display link-aggregation settings

2.1.2 link-aggreation

Creates a link-aggregation group.

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

no link-aggregation {*group-number}*

parameter

Parameter	Description
group-number	The link-aggregation member port group number
manual	Use static mode
lacp	Use LACP protocol

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

Mode	Global configuration mode
Usage	You can configure manual mode and lacp mode. The **no** command removes all interfaces from the aggregation group.
Example	The following example creates a link aggregation group 1 ECS2020-10P(config)#**link-aggregation 1 mode manual**

2.1.3 **Interface link-aggreation**

Sets a physical port as a member port of a link-aggregation group. Use the **no** option of the command to remove the link-aggregation port member from the group.

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

no link-aggregation {*group-number*}

Parameter

Parameter	Description
group-number	The link-aggregation port group number

Default	The physical port does not belong to any link-aggregation group.
Mode	Interface configuration mode
Usage	All AGG member interfaces need to be in the same VLAN.
Example	ECS2020-10P(config)# **interface GigabitEthernet /1** ECS2020-10P(config-if-GigabitEthernet0/1)# **link-aggregation 1 active**

Command

Command	Description
show link-aggregation group	Display the information of the link aggregation group

2.2 Display relevant commands

2.2.1 **show link-aggregation**

Display link-aggregation settings.

show link-aggregation [group|*group-number*]

parameter

Parameter	Description
show link-aggregation group	Show all link aggregation groups
show link-aggregation group *group-number*	Displays a specific link aggregation group

Default	Null

Mode	Privilege mode
Usage	If you do not specify the aggregate port interface number, all the information of the aggregate port will be displayed.
Example	The following example shows information about link-aggregation 1： ECS2020-10P# **show link-aggregation group 1**

Command

Command	Description
Show link-aggregation group	Display the status of all link aggregation groups

3 Port mirroring commands

3.1 Configure-relevant commands

3.1.1 monitor session

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

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

Parameter

Parameter	Description
session_number	SPAN session number
source interface GigabitEthernet *port-id*	Specifies the source port. For the interface-id, specify the corresponding interface number, only the physical port, not the SVI.
destination interface GIgabit Ethernet *port-id*	Specifies the destination port. For interface-id, specify the corresponding interface number, only the physical port, not the SVI.
both	Monitors input and output traffic.
rx	Only monitors the input traffic.
tx	Only monitors the output traffic.

Default

Null

Mode

Global configuration mode

Usage

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

Example

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

```
ECS2020-10P(config)# no monitor session 1
ECS2020-10P(config)# monitor session 1 source interfaces
                     GigabitEthernet 0/2 both
ECS2020-10P(config)# monitor session 1 destination interface
                     GigabitEthernet 0/1
```

Command

Command	Description
monitor session	Creates a SPAN session and specifies the destination port (monitoring port) and source port (monitored port)

3.2 Display-relevant commands

3.2.1 show monitor

Displays the status of the current SPAN configuration

show monitor

parameter

Parameter	Description
-	-

Default: All SPAN sessions are displayed by default

Mode: Privilege mode

Usage: Null

Example

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

```
ECS2020-10P# show monitor
Session 1 Configuration
Source RX Port  : gi0/9
Source TX Port  : gi0/9
Destination port : gi0/10
Ingress State: disabled
```

Command

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

4 Port isolation commands

4.1 Configure-relevant commands

4.1.1 isolate-port

Configures port isolation in interface mode. Use the **no** command to delete the configuration. By default, port isolation is disabled.

switchport protected

no switchport protected

parameter

Parameter	Description
Switchport protected	Turn on port isolation configuration

Default: Turn off port isolation configuration

Mode: Interface configuration mode

Usage: After the port isolation function is enabled, the ports and link aggregation groups (AGG) cannot be accessed by each other.

Example:

The following is the isolation between port 0/1 and port 0/2.

ECS2020-10P(config)# **interface GigabitEthernet 0/1**

ECS2020-10P(config-if-GigabitEthernet0/1)# **switchport protected**

ECS2020-10P(config)# **interface GigabitEthernet 0/2**

ECS2020-10P(config-if-GigabitEthernet0/2)# **switchport protected**

Command

Command	Description
show interfaces GigabitEthernet 0/1 protected	View the current port isolation information

4.2 Display-relevant commands

4.2.1 show isolate-port

Displays the current port isolation configuration.

show interfaces port-id **protected**

parameter

Parameter	Description
show interfaces port-id **protected**	Displays the current port isolation configuration.

Default	Null
Mode	Privilege mode
Usage	Null
Example	ECS2020-10P#**show isolate-port**

Command

Command	Description
show interfaces port-id **protected**	View the current port isolation information

5 Port speed limit

5.1 Configure-relevant commands

5.1.1 rate-limit

In port mode, enables/disables the port input/output rate.

rate-limit {input | output}

no rate-limit {input | output}

parameter

Parameter	Description
rate-limit {input | output}	Enable the port speed limit function, limiting the input and output speed.
no rate-limit {input | output}	Disable the port speed limit function, limiting the input and output speed.

Default: Turn off the port speed limit function

Mode: Interface configuration mode

Usage: After the port speed limit is enabled, the upstream and downstream rates of the ports are controlled

Example: The following is the configuration of the port 0/1 uplink rate limit.

ECS2020-10P(config-if-GigabitEthernet0/1)# **rate-limit input 10000**

Command

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

5.2 Display-relevant commands

5.2.1 show rate-limit

Displays the current port rate limit configuration.

show rate-limit

Show rate-limit interfaces {port-id}

Parameter

Parameter	Description
show rate-limit	Displays the upstream rate limit configuration information for all the ports
show rate-limit interface {port-id}	Displays the upstream rate limit configuration information of the current port

Default: Null

Mode

Privilege mode

Usage

Displays the upstream rate limit configuration information for all the ports

Example

```
ECS2020-10P# show rate-limit interfaces GigabitEthernet 0/1
   Interface          |Ingress             |Egress
                      |kbps                |kbps
    ------------------+--------------------+--------------------
    gi0/1              |IGR-UNLIMIT         |10000
```

Command

Command	Description
show rate-limit interface *port-list*	View the current port rate configuration information.

6 Storm control

6.1 Configure-relevant commands

6.1.1 storm-control

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

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

Parameter

Parameter	Description
broadcast	Broadcast packets
Unknown-multicast	Unknown Multicast packets
Unknown-unicast	Unknown unicast packets
kbps	Rate unit

Default

Turn off storm control

Mode

Interface configuration mode

Usage

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

Example

The following command enables storm control for port 0/1.

ECS2020-10P(config-if-GigabitEthernet0/1)#**storm-control broadcast kbps 1024**
ECS2020-10P(config-if-GigabitEthernet0/1)#**storm-control Unknown-multicas kbps 1024**
ECS2020-10P(config-if-GigabitEthernet0/1)#**storm-control Unknown-unicast kbps 1024**

Command

Command	Description
show storm-control	Displays storm control information
show interface	The storm control information is displayed in the interface attributes

6.2 Display-relevant commands

6.2.1 Show storm-control

show storm-control

Command

Command	Description
show storm-control	Display storm control information
show interface	The storm control information is displayed in the interface attributes

Default: Null

Mode: Privilege mode

Usage: View storm control configuration information

Example

```
ECS2020-10P# show storm-control
Interface        |  Broadcast   | Unkown-Multicast | Unknown-Unicast |  Action
                 |    kbps      |       kbps       |      kbps       |
-----------------+--------------+------------------+-----------------+----------
    gi0/1            Disabled        Disabled          Disabled        Drop
    gi0/2              1024          Disabled          Disabled        Drop
    gi0/3            Disabled        Disabled          Disabled        Drop
    gi0/4            Disabled        Disabled          Disabled        Drop
    gi0/5            Disabled        Disabled          Disabled        Drop
    gi0/6            Disabled        Disabled          Disabled        Drop
    gi0/7            Disabled        Disabled          Disabled        Drop
    gi0/8            Disabled        Disabled          Disabled        Drop
    gi0/9            Disabled        Disabled          Disabled        Drop
    gi0/10           Disabled        Disabled          Disabled        Drop
```

7 Port Security

7.1 Configure-relevant commands

7.1.1 Port-security

After you enable port-security, configure the MAC address limit for the port. The **no** form of the command disables port-security.

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

Parameter

Parameter	Description
number of limitation	Limit the number of MACs in the range of 1-256.
discard|forward|shutdown	Action to be taken when the limit is reached.

Default — The port security function on the switch is disabled by default.

Mode — Interface configuration mode

Usage — Enable port security. When the port has learned MACs up to the limit number, packets are then discarded.

Example — The following example configures port gig0 / 1 with the maximum MAC learning number of 200. Packets with MACs over the limit are discarded.

ECS2020-10P(config-if-GigabitEthernet0/1)# **port-security address-limit 200 action discard**

Command

Command	Description
no port-security	Turn off port security

7.2 Display-relevant commands

7.2.1 show port-security

Displays information about port security.

Show port-security interface {port-id**}**

Parameter

Parameter	Description
show port-security interface {port-id**}**	Display the port security configuration information of the specified port

Default — Null

Mode	Privilege mode
Usage	Null
Example	Display the port security configuration information for gig1: ECS2020-10P# **show port-security interfaces GigabitEthernet** 0/1 Port | Security | CurrentAddr | Action ----------+----------+----------+---------- gi0/1 | Enabled (200) | 13 | Discard

Command

Command	Description
Show port-security	View the port security global status

8 NTP/SNTP COMMANDS

8.1 NTP Configure-relevant commands

8.1.1 **server**

Configure the NTP/SNTP server IP address.

{[**ntp|sntp**]} **server**{server-ip}

parameter

Parameter	Description
Server-ip	Server IP address

Default

default server ip 216.229.0.179

Mode

Global configuration mode

Usage

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

Example

ECS2020-10P(config)# **ntp server 192.168.100.150**
ECS2020-10P(config)# **sntp server 192.168.100.159**

Command

Command	Description
show ntp	Display NTP configuration information
show sntp	Display SNTP configuration information

8.1.2 **show ntp/sntp status**

Display the NTP/SNTP function status, server address, and port number.

show {[ntp|sntp]}

Parameter

Parameter	Description
show ntp	Display NTP configuration information
show sntp	Display SNTP configuration information

Default	Null
Mode	privilege mode
Usage	Display NTP/SNTP function status, server address, and port number.
Example	Display NTP configuration information: ECS2020-10P# **show ntp** NTP is Enabled NTP Server address: 192.168.100.150 NTP Server port: 123 Display SNTP configuration information: ECS2020-10P# **show sntp** SNTP is Enabled SNTP Server address: 192.168.100.159 SNTP Server port: 123

9 EEE

Enable the EEE function and the switch will automatically turn off part of the idle circuit, effectively reducing power consumption and saving energy.

eee
eee interfaces GigabitEthernet {port-id}

Parameter

Parameter	Description
eee	Turn on all port EEE functions
eee interfaces GigabitEthernet {port-id}	Enable the EEE function for the specified port

Default: Turn off the EEE function

Mode: Global configuration mode

Usage: Effectively reduces the switch power consumption, saves energy.

Example:
Turn on all port EEE functions:
ECS2020-10P(config)# **eee**
Open the EEE function for the specified port:
ECS2020-10P(config)# **eee interfaces GigabitEthernet** 0/1

Command

parameter	description
Show eee	View the configuration information for the EEE function

10 DDOS PROTECTION

10.1 Configuration ddos protection

10.1.1 Turn on DDOS protection

Enable the DDOS protection function to defend against DDOS attacks.

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

Parameter

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

Default — Turn off the DDOS protection function

Mode — Global configuration mode

Usage — Prevent DDOS attacks.

Example — Turn on land-deny attack protection:
ECS2020-10P(config)# **dos land-deny**

10.1.2 Turn off DDOS protection

no dos {attack-name}

Command

Command	description
no dos {attack-name}	Turn off a specific DDOS protection

Default Null

Mode Global configuration mode

Usage Turn off the defense against a specified DDOS attack

Example Turn off land-deny attack protection:
ECS2020-10P(config)# **no dos land-deny**

10.2 show DDOS protection

View the configuration information for DOS protection.

Show {dos**}**

Parameter

Parameter	Description
Show dos	View the configuration information for DOS protection

Default Null

Mode privilege mode

Usage View the DDOS protection.

Example

View the configuration information for DOS protection:

```
ECS2020-10P# show dos
                    Type                    | State (Length)
--------------------------------------------+--------------------------------
        DMAC equal to SMAC                  | disabled
        Land (DIP = SIP)                    | enabled
    UDP Blat (DPORT = SPORT)                | disabled
    TCP Blat (DPORT = SPORT)                | disabled
    POD (Ping of Death)                     | disabled
IPv6 Min Fragment Size                      | disabled (1240
Bytes)  ICMP Fragment Packets               | disabled
        IPv4 Ping Max Packet Size           | disabled (512 Bytes)
        IPv6 Ping Max Packet Size           | disabled (512 Bytes)
              Smurf Attack                  | disabled (Netmask Length:
 0)  TCP Min Header Length                  | disabled (20 Bytes)
      TCP Syn (SPORT < 1024)                | disabled
            Null Scan Attack                | disabled
          X-Mas Scan Attack                 | disabled
        TCP SYN-FIN Attack                  | disabled
        TCP SYN-RST Attack                  | disabled
        TCP Fragment (Offset = 1)           | disabled
```

11 CPU Guard

11.1 Configuration CPU Guard

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

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

Parameter

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

Default

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

Mode

Global configuration mode

Usage

Configures each type of packet bandwidth to inhibit a high rate of attack packets in the network.

Example

Set the total bandwidth of the cpu:
ECS2020-10P(config)# **cpu-protect cpu bandwidth 4000**
Set the bandwidth of manage packets:
ECS2020-10P(config)# **cpu-protect sub-interface manage pps 600**

11.2 show CPU Guard

View the configuration information for CPU Guard.

show cpu-protect

show cpu-protect cpu

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

	Parameter	Description
Parameter	**show cpu-protect**	View the configuration information for CPU Guard.
	show cpu-protect cpu	View the configuration information for CPU bandwidth
	Show cpu-protect sub-interface {message_type}	View the bandwidth of each type of packet

Default: Null

Mode: privilege mode

Usage: View the CPU Guard information

Example:

View the configuration information for CPU Guard:

ECS2020-10P# **show cpu-protect**

View the configuration information for CPU bandwidth:

ECS2020-10P# **show cpu-protect cpu**

View the bandwidth of each type of packet:

ECS2020-10P# **show cpu-protect sub-interface manage**

12 Dual Configuration

12.1 Backup the configuration file

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

Parameter

Parameter	Description
running-config	Backup the current configuration file to backup-config
startup-config]	Backup the startup-config file to backup-config

Default Null

Mode Privilege mode

Usage Backup the configuration file

Example

Backup the running-config file:
ECS2020-10P# **copy running-config backup-config**
Backup the startup-config file:
ECS2020-10P# **copy startup-config backup-config**

12.2 Restore Configuration

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

Parameter

Parameter	Description
running-config	restore the current configuration file from backup-config
startup-config]	restore the startup-config file from backup-config

Default Null

Mode Privilege mode

Usage	Restore the configuration file
Example	Restore the running-config file: ECS2020-10P# **copy backup-config running-config** Restore the startup-config file: ECS2020-10P# **copy backup-config startup-config**

13 RMON

13.1 rmon event

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

Parameter

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

Default

Null

Mode

Global configuration mode

Usage

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

Example

The example shows how to add an RMON event entry with log and trap action and modify the action to log only.

```
ECS2020-10P(config)# rmon event 1 log trap public description test owner admin
ECS2020-10P# show rmon event 1
Rmon Event Index         1
Rmon Event Type        : Log and Trap
Rmon Event Community   : public
Rmon Event Description : test
Rmon Event Last Sent   :
Rmon Event Owner       : admin
ECS2020-10P(config)# rmon event 1 log description test owner admin
ECS2020-10P# show rmon event 1
Rmon Event Index         1
Rmon Event Type        : Log
Rmon Event Community   :
Rmon Event Description : test
Rmon Event Last Sent   :
Rmon Event Owner       : admin
```

13.2 rmon alarm

rmon alarm<1-65535>**interface {**port-id**}{[**broadcast-pkts|collision|crc-align-errors|drop-events|fragments|jabbers|multicast-pkts|octets|oversize-pkts|pkts|pkts1024to1518octets|pkts128to255octets|pkts256to511octets|pkts512to1023octets|ptks64octets|pkts65to127octets|undersize-pkts]**}**<1-2147483647>{[absolute|delta]}**ring** <0-2147483647><1-65535>f**alling**<0-2147483647><1-65535>**startup**{[falling|rising|rising-falling]}[owner Name]
no rmon alarm<1-65535>[owner NAME]

Parameter

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

Default

Null

Mode

Global configuration mode

Usage

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

Example

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

```
ECS2020-10P(config)# rmon event 1 log
ECS2020-10P(config)# rmon event 2 log
ECS2020-10P(config)# rmon alarm 1 interface GigabitEthernet 0/1 pkts 300 delta
rising 1000 1 falling  100 1 startup rising-falling owner admin
ECS2020-10P# show rmon alarm 1
Rmon Alarm Index              1
Rmon Alarm Sample Interval    300
Rmon Alarm Sample Interface   : gi0/1
Rmon Alarm Sample Variable    : Pkts
Rmon Alarm Sample Type        : delta
Rmon Alarm Type               : Rising or Falling
```

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

Example

ECS2020-10P(config)# **rmon event 1 log trap public description test owner admin**
ECS2020-10P# **show rmon event 1**
Rmon Event Index 1
Rmon Event Type : Log and Trap
Rmon Event Community : public
Rmon Event Description : test
Rmon Event Last Sent :

13.3 rmon history

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

Parameter

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

Default

Null

Mode

Global configuration mode

Usage

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

Example

The example shows how to add an RMON history entry that monitors interface gig0/1 every 60 seconds and then modify it to monitor every 30 seconds.
ECS2020-10P(config)# **rmon history 1 interface GigabitEthernet 0/1 interval 60 owner admin**
ECS2020-10P# **show rmon history 1**
Rmon History Index 1
Rmon Collection Interface: gi0/1
Rmon History Bucket : 50
Rmon history Interval : 60
Rmon History Owner : admin

ECS2020-10P(config)# **rmon history 1 interface GigabitEthernet 0/1 interval 30 owner admin**
ECS2020-10P# **show rmon history 1**
Rmon History Index 1

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

13.4 clear rmon interface statistics

clear rmon interface {port-id} **statistics**

Parameter	Parameter	Description
	port-id	Specify the interface to clear

Default	Null

Mode	privilege mode

Usage	Use the c**lear rmon interface statistics** command to clear RMON etherStat Statistics recorded on an interface. You can verify results by the **show rmon interface statistics** command.

Example	The example shows how to clear RMON etherStat Statistics on interface gig0/1. ECS2020-10P# **clear rmon interfaces GigabitEthernet 0/1 statistics** ECS2020-10P# **show rmon interfaces GigabitEthernet 0/1 statistics** ==== Port gi0/1 ========== etherStatsDropEvents 0 etherStatsOctets 0 etherStatsPkts 0 etherStatsBroadcastPkts 0 etherStatsMulticastPkts 0 etherStatsCRCAlignErrors 0 etherStatsUnderSizePkts 0 etherStatsOverSizePkts 0 etherStatsFragments 0 etherStatsJabbers 0 etherStatsCollisions 0 etherStatsPkts64Octets 0 etherStatsPkts65to127Octets 0 etherStatsPkts128to255Octets 0 etherStatsPkts256to511Octets 0 etherStatsPkts512to1023Octets 0 etherStatsPkts1024to1518Octets 0

13.5 show rmon interface statistics

Show rmon interface {port-id} **statistics**

Parameter

Parameter	Description
port-id	Specify the port to show

Default Null

Mode Privilege mode

Usage Use the **show rmon interface statistics** command to show RMON etherStat Statistics of an interface.
You can verify results by the **show rmon interface statistics** command.

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

```
ECS2020-10P# show rmon interfaces GigabitEthernet 0/1 statistics
    ==== Port gi0/1 ============================
    etherStatsDropEvents              0
    etherStatsOctets                : 12313
    etherStatsPkts                  120
    etherStatsBroadcastPkts           32
    etherStatsMulticastPkts           85
    etherStatsCRCAlignErrors          0
    etherStatsUnderSizePkts           0
    etherStatsOverSizePkts            0
    etherStatsFragments               0
    etherStatsJabbers                 0
    etherStatsCollisions              0
    etherStatsPkts64Octets            11
    etherStatsPkts65to127Octets       86
    etherStatsPkts128to255Octets      23
    etherStatsPkts256to511Octets      0
    etherStatsPkts512to1023Octets     0
    etherStatsPkts1024to1518Octets    0
```

13.6 show rmon event

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

Parameter	Description
<1-65535>	Specify event index to show
all	Show all existing events

Default Null

Mode	Privilege mode
Usage	Use the **show rmon event** command to show existing an RMON event entry.
Example	The example shows how to show RMON event entry. ECS2020-10P(config)# **rmon event 1 log trap public description test owner admin** ECS2020-10P(config)# **exit** //Returns the privilege mode ECS2020-10P# **show rmon event 1** Rmon Event Index 1 Rmon Event Type : Log and Trap Rmon Event Community : public Rmon Event Description : test Rmon Event Last Sent : Rmon Event Owner : admin

13.7 show rmon alarm

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

Parameter	Parameter	Description
	<1-65535>	Specify the alarm index to show
	all	Show all existing alarms

Default	Null
Mode	Privilege mode
Usage	Use the **show rmon alarm** command to show existed RMON alarm entry.
Example	The example shows how to show an RMON alarm entry. ECS2020-10P(config)# **rmon alarm 1 interface GigabitEthernet 0/1 broadcast-pkts 300 delta rising 10000 1 falling 100 1 startup rising-falling owner admin** ECS2020-10P(config)# **exit** //Returns the privilege mode ECS2020-10P# **show rmon alarm 1** Rmon Alarm Index 1 Rmon Alarm Sample Interval 300 Rmon Alarm Sample Interface : gi0/1 Rmon Alarm Sample Variable : BroadcastPkts Rmon Alarm Sample Type : delta Rmon Alarm Type : Rising or Falling Rmon Alarm Rising Threshold : 10000 Rmon Alarm Rising Event 1 Rmon Alarm Falling Threshold 100 Rmon Alarm Falling Event 1 Rmon Alarm Owner : admin

13.8 show rmon history

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

Parameter

Parameter	Description
<1-65535>	Specify history index to show
all	Show all existing history

Default Null

Mode Privilege mode

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

Example

The example shows how to show an RMON history entry.

```
ECS2020-10P(config)# rmon history 1 interface GigabitEthernet 0/1 interval
30 owner admin
ECS2020-10P(config)# exit
ECS2020-10P# show rmon history
1 Rmon History Index      1
Rmon Collection Interface: gi0/1
Rmon History Bucket       50
Rmon history Interval     30
Rmon History Owner        : admin
```

14 ARP Inspection

14.1 arp inspection

arp-inspection
no arp-inspection

Parameter

Parameter	Description
-	-

Default: ARP inspection is disabled

Mode: Global Configuration

Usage: Use the **arp-inspection** command to enable Dynamic Arp Inspection function. Use the **no** form of this command to disable ARP inspection.

Example: The example shows how to enable Dynamic Arp Inspection on VLAN 1. You can verify settings by the **show arp-inspection** command.

```
ECS2020-10P(config)# arp-inspection
ECS2020-10P# show arp-inspection
Dynamic ARP Inspection      : enabled
Enable on Vlans             : 1-4094
```

14.2 arp inspection rate-limit

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

Parameter

Parameter	Description
<1-50>	Set 1 to 50 PPS of DHCP packet rate limitation

Default: Default is an unlimited rate of ARP packets

Mode: Interface configuration mode

Usage

Use the **arp-inspection rate-limit** command to set rate limitation on interface.The switch drops ARP packets after it receives more than the configured rate of packets per second. Use the **no** form of this command to return to default settings.

Example

The example shows how to set a rate limit to 30 pps on interface gig0/1. You can verify settings by the following **show arp-inspection interface** command.

```
ECS2020-10P(config)# interface GigabitEthernet 0/1
ECS2020-10P(config-if-GigabitEthernet0/1)# arp-inspection rate-limit 30
ECS2020-10P(config-if-GigabitEthernet0/1)#    end              //Returns the privilege mode
ECS2020-10P# show arp-inspection interfaces GigabitEthernet 0/1
Interfaces | Trust State | Rate (pps) | SMAC Check | DMAC Check | IP Check/Allow Zero |
-------------+----------------+---------------+--------------------|--------------------+---------------------------+
  gi0/1      | Untrusted  |      30       |     disabled     |     disabled     |     disabled/disabled
```

14.3 arp inspection trust

arp-inspection trust
no arp-inspection trust

Parameter

Parameter	Description
-	-

Default

ARP inspection trust is disabled

Mode

Interface configuration mode

Usage

Use the **arp-inspection trust** command to set a trusted interface.The switch does not check ARP packets that are received on the trusted interface, it simply forwards packets. Use the **no arp-inspection trust** form of this command to set an untrusted interface.

Example

The example shows how to set interface gig0/1 to trust. You can verify settings by the **show arp-inspection interface** command.

```
ECS2020-10P(config)# interface GigabitEthernet 0/1
ECS2020-10P(config-if-GigabitEthernet0/1)# arp-inspection trust
ECS2020-10P(config-if-GigabitEthernet0/1)# do show arp-inspection interfaces
                                                GigabitEthernet 0/1
Interfaces | Trust State | Rate (pps) | SMAC Check | DMAC Check | IP Check/Allow Zero |
-------------+----------------+---------------+--------------------|--------------------+---------------------------+
  gi0/1      |    Trusted  |     None      |     disabled     |     disabled     |     disabled/disabled
```

14.4 arp inspection validate

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

Parameter

Parameter	Description
src-mac	The ”src-mac” drops ARP requests and reply packets when the arp-sender-mac and ethernet-source-mac do not match.
dst-mac	The ”dst-mac” drops ARP reply packets when the arp-target-mac and ethernet-dest-mac do not match.
ip	The ”ip” drops ARP request and reply packets that the sender-ip is invalid such as broadcast, multicast, all zero IP addresses, and drops ARP reply packets when the target-ip is invalid.
allow-zeros	The ”allow-zeros” means all zero IP address will not be dropped.

Default: Default is all validation disabled

Mode: Interface configuration mode

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

Example: The example shows how to set interface gi1 to validate “src-mac”, “dst-mac” and “ip allow zeros”. You can verify settings by the **show ip arp inspection interface** command

```
ECS2020-10P(config)# interface GigabitEthernet 0/1
ECS2020-10P(config-if-GigabitEthernet0/1)# arp-inspection validate src-mac
ECS2020-10P(config-if-GigabitEthernet0/1)# arp-inspection validate dst-mac
ECS2020-10P(config-if-GigabitEthernet0/1)# arp-inspection validate ip allow-zeros
ECS2020-10P(config-if-GigabitEthernet0/1)# do show arp-inspection interfaces
                                           GigabitEthernet 0/1
 Interfaces | Trust State | Rate (pps) | SMAC Check | DMAC Check | IP Check/Allow Zero |
------------+-------------+-------------+-----------+------------+---------------------+
   gi0/1    | Untrusted   |    None     |  enabled  |  enabled   |  enabled/enabled    |
```

14.5 clear arp inspection statistics

clear arp-inspection interfaces {port-id**} statistics**

Parameter

Parameter	Description
port-id	Specifies ports to clear statistics

Default: Null

Mode	Privilege mode
Usage	Use the **clear arp-inspection interfaces {**port-id**} statistics** command to clear statistics that are recorded on an interface.
Example	The example shows how to clear statistics on interiface gig0/1t. You can verify settings by the **show arp-inspection interface statistics** command. ECS2020-10P# **clear arp-inspection interfaces GigabitEthernet 0/1 statistics** ECS2020-10P# **show arp-inspection interfaces GigabitEthernet 0/1 statistics** Port| Forward |Source MAC Failures|Dest MAC Failures|SIP Validation Failures| DIP Validation Failures|IP-MAC Mismatch Failures ----+-------------+--------------------------+----------------------+----------------------------+--------------------------------+----------------------- gi0/1| 0 | 0 | 0 | 0 | 0 | 0

14.6 show arp inspection

show arp-inspection interfaces

Parameter	Description
-	-

Default	Null
Mode	Privilege mode
Usage	Use the **show arp-inspection** command to show settings of ARP inspection.
Example	The example shows how to show settings of ARP inspection. ECS2020-10P# **show arp-inspection** Dynamic ARP Inspection : enabled Enable on Vlans : 1-4094

14.7 show arp inspection interface

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

Parameter

Parameter	Description
Port-id	Specifies ports to show statistics

Default Null

Mode Privilege mode

Usage Use the **show arp-inspection inferfaces** command to show settings or statistics of an interface.

Example

The example shows how to show settings of interface gig0/1.

```
ECS2020-10P# show arp-inspection interfaces GigabitEthernet 0/1
Interfaces | Trust State | Rate (pps) | SMAC Check | DMAC Check | IP Check/Allow Zero |
---------- --+-------------+------------+------------------|----------------+----------------------------+
gi0/1 | Untrusted | None | disabled | disabled | disabled/disabled
ECS2020-10P# show arp-inspection interfaces GigabitEthernet 0/1 statistics
Port| Forward |Source MAC Failures|Dest MAC Failures|SIP Validation Failures|
DIP Validation Failures|IP-MAC Mismatch Failures
----+-----------+-----------------------+---------------------+-------------------------+--------------
---------------------------+---------------------------------
gi0/1| 0 | 0 | 0 | 0 |
0 | 0
```

15 Flow Control Commands

15.1 Flow Control Configuration Commands

15.1.1 flowcontrol

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

parameter

Parameter	Description
on	Turn on flow control
off	Turn off flow control

Default: Turn off flow control.

Mode: Interface configuration mode

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

Example: ECS2020-10P(config-if-GigabitEthernet0/1)# **flowcontrol on**

Command

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

16 VLAN COMMANDS

16.1 Configure commands

16.1.1 VLAN description

Configure the name of the VLAN. Use this command's **no** option to revert the settings to a default values.

description vlan-name
no description

Parameter

Parameter	Description
vlan-name	The name of the vlan

Default

VLAN default name is : VLAN＋VLAN ID,eg: VLAN 2 default name”VLAN0002”

Mode

VLAN Configuration mode

Usage

Use **show vlan** to view the configuration of VLANs

Example

ECS2020-10P(config)# vlan 3
ECS2020-10P(config-vlan)# description nihao

Command

Command	Description
show vlan	Displays the VLAN member ports and other information

16.1.2 vlan

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

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

Parameter

Parameter	Description
vlan-id	VLAN ID number (1-4094). Notice：The default VLAN（VLAN 1）cannot be deleted.

Default

VLAN 1

Mode

Global configuration mode

Usage

If the input **vlan** *vlan-id* does not exist, the system creates the VLAN and enters the vlan. When the VLAN exists, the system enters the VLAN.

Example

ECS2020-10P(config)# vlan 5
ECS2020-10P(config)# no vlan 5

Command

Command	Description
show vlan	Displays the VLAN member ports and other information.

16.1.3 switch mode

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

switch mode [access | trunk | hybrid]

Parameter

Parameter	Description
access	Configure a switch port mode is access
trunk	Configure a switch port mode is trunk
hybrid	Configure a switch port mode is hybrid

Default	The switch port default mode is access
Mode	Interface configuration mode
Usage	If a switch port mode is access, this port can only be a member of a VLAN. Use command: **switch access vlan to** specify which VLAN is the member of the interface. If a switch port mode is trunk or hybrid, this port can be a member of multiple VLANs. The port VLAN that the interface can belong to is determined by the VLAN list of the interface. Trunk ports or hybrid ports are members of all VLANs in the list。Use the **switch {trunk | hybrid }** command to define the VLAN list of interfaces.
Example	Configure the port1 mode to trunk: ECS2020-10P(config)# interface GigabitEthernet 0/1 ECS2020-10P(config-if-GigabitEthernet0/1)# switch mode trunk

Command

Command	Description
show vlan	Displays the VLAN configuration.

16.1.4 Management VLAN

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

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

Parameter

Parameter	Description
vlan-id	VLAN ID number(1-4094).

Default	management-vlan vlan 1
Mode	Global configuration mode
Usage	If the input VLAN ID does not exist, the system creates the VLAN and enters the VLAN. If the VLAN exists, the system enters the VLAN.
Example	ECS2020-ECS2020-10P(config)# management-vlan vlan 4 ECS2020-10P(config)# no management-vlan

Command

Command	Description
show vlan	Displays the VLAN configuration.

16.2 Configure different types of VLAN

16.2.1 Access VLAN

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

switch access vlan *vlan-id*

Parameter

Parameter	Description
vlan-id	Port to join VLAN's ID.

Default

Port default mode is access, default VLAN is VLAN 1

Command

Interface configuration mode

Usage

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

Example

Configure port 1 to belong to VLAN 2:
ECS2020-10P(config)# interface GigabitEthernet 0/1
ECS2020-10P(config-if-GigabitEthernet0/1)# switch access vlan 2

Command

Command	Description
show vlan	Displays the VLAN configuration.

16.2.2 Trunk allowed VLAN

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

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

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

Default	Port default mode is access. Default VLAN is VLAN 1.
Mode	Interface configuration mode
Usage	Enter a VLAN ID. If the input is a VLAN ID that is not created, the device will indicate that the VLAN does not exist. If the input is an already existing VLAN ID, the VLAN member port is increased.
Example	Configure port 1 belong to vlan 3: ECS2020-10P(config)# interface GigabitEthernet 0/1 ECS2020-10P(config-if-GigabitEthernet0/1)# switch trunk allowed vlan 3

Command

Command	Description
show vlan	Displays the VLAN configuration.

16.2.3 Trunk native VLAN

Specify a native VLAN for a trunk port and a list of permissions to configure a trunk port VLAN. Use the **no** option of this command to restore the interface's trunk property to the default value.

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

Parameter	Parameter	Description
	native vlan	Trunk port packet received: if the packet has a VLAN tag, then put this packet in the corresponding VLAN; if the packet has no VLAN tag, then the packet is forwarded to the port of the native VLAN.

Default: Default VLAN is VLAN 1

Mode: Interface configuration mode

Usage: To configure the trunk native VLAN of a port, the port must be configured as a trunk.

Example:
Configring gig0/1 to belong to native
vlan3 ECS2020-10P(config)# interface
gig 0/1
ECS2020-10P(config-if-GigabitEthernet0/1)# switch trunk native vlan 3

Command	Command	Description
	show vlan	Displays the VLAN configuration.

16.2.4 Hybrid VLAN

Configures a port as a VLAN hybrid port. Use the **no** option of this command to restore the hybrid property of the interface to the default value.

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

Parameter	Parameter	Description
	no	Restore the hybrid default output rule

Default: untagged

Mode: Interface configuration mode

Usage NULL

Example
```
ECS2020-10P(config)# interface GigabitEthernet 0/1
ECS2020-10P(config-if-GigabitEthernet0/1)# switch hybrid vlan 3 untagged
```

Command

Command	Description
show vlan	Displays the VLAN configuration.

16.2.5 Hybrid native VLAN

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

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

Parameter

Parameter	Description
no	Restore Hybrid default VLAN

Default Default native VLAN is VLAN 1

Mode Interface configuration mode

Usage To configure the hybrid native VLAN of a port, the port must be configured as hybrid.

Example
```
ECS2020-10P(config)# interface GigabitEthernet 0/1
ECS2020-10P(config-if-GigabitEthernet0/1)# switch hybrid native vlan 3
```

Command

Command	Description
show vlan	Display configuration of vlan information

16.3 Display-relevant commands

16.3.1 show vlan

Display VLAN member ports and other information.

show vlan [**id** *vlan-id*]

Parameter

Parameter	Description
vlan-id	The number of VLAN ID

Default

Show all information by default

Mode

Privileged mode

Usage

To return to privileged mode, enter the end command, or type the Ctrl+Z combination key. To return to global configuration mode, enter the **exit** command

Example

```
ECS2020-10P# show vlan 3
VID  |     VLAN Name    |       Untagged Ports        | Tagged Ports   | Type
 -------+------------------+-----------------------------+------------
          ------------------+---------
   3 |         VLAN0003 |                      gi0/1 |
       --- | Static
```

Command

Command	Description
show vlan *vlan-id*	Displays the VLAN configuration.

17 Voice VLAN

17.1 Configure commands

17.1.1 voice VLAN

Create a VLAN first and then specify the VLAN when creating a Voice VLAN for voice traffic using the VLAN ID. Use the “no” command to close voice VLAN .Voice VLAN is disable by default.

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

Parameter

Parameter	Description
voice-vlan vlan id	The identifier of the voice-vlan/ Note that the voice vlan ID can not be same as a surveillance vlan ID

Default

Null

Mode

Global configuration mode

Usage

Use **show voice-vlan** to view the voice-vlan configuration.

Example

ECS2020-10P(config)# voice-vlan vlan 2
ECS2020-10P(config)# voice-vlan

Command

Command	Description
show voice-vlan	View the voilce VLAN global configuration VLAN。

17.1.2 voice-vlan mode

Using this command specifies a two - layer interface (switch port) mode, which can be specified as autotag, autountag or manual for a switch port . Use the voice-vlan mode autounTag option to revert the schema of the interface to default values. Note that ports can not configure a voice-vlan on an access port.

Voice-vlan mode [autoTag | autounTag | manual]

Parameter

Parameter	Description
autoTag	Auto tagging is voice VLAN default mode
autounTag	Voice VLAN untagged mode.
manual	Manual tagged voice vlan mode

Default	The voice-vlan default mode is autoTag
Mode	Interface configuration mode
Usage	If the port voice VLAN mode is set to autoTag, the port is set to add tags of the Voice VLAN. If the mode is autountag, the port will not add tags to any traffic. Note: when setting the voice VLAN mode to manual, the port must be forwarded to the voice VLAN in advance
Example	Configure port 1 to join voice VLAN as autotag ECS2020-10P(config)# interface GigabitEthernet 0/1 ECS2020-10P(config-if-GigabitEthernet0/1)# voice-vlan mode autoTag

Command

Command	Description
show voice-vlan	Display configuration of voice-vlan information

17.1.3 voice VLAN OUI

In global configuration mode, set the OUI-table and note that the MAC address cannot be either multicast or broadcast addresses and further the mask used cannot have a zero before an F.

voice-vlan oui-table A:B:C:D:E:F mask A:B:C:D:E:F

Parameter

Parameter	Description
voice-vlan oui-table	Matches the filter's source MAC address for an incoming message

Default	The voice-vlan oui-table defaults to 8 matching rules.
Mode	Global configuration mode
Usage	In global settings, the oui-table adds the port to the voice VLAN when the port's source MAC address matches the address in the oui list
Example	Configure voice VLAN OUI ECS2020-10P(config)# voice-vlan oui-table 02:00:12:32:56:89 mask FF:FF:FF:FF:FF:00

Command

Command	Description
show voice-vlan interfaces GigabitEthernet 0/1	Displays the configuration of the voice-vlan oui-table.

17.1.4 voice VLAN aging-time and cos

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

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

Parameter

Parameter	Description
Aging-time	Specifies the aging time of the port in voice VLAN
cos	Specifies the voice VLAN Class Of Service

Default

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

Mode

Global configuration mode

Usage

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

Example

Configure the voice VLAN aging-time to 30 minutes and cos value to 7.

```
ECS2020-10P(config)# voice-vlan aging-time 30
ECS2020-10P(config)# voice-vlan cos 7 remark
```

Command

Command	Description
show voice-vlan	Displays the voice-vlan aging-time and cos configuration.

17.2 Display relevant commands

17.2.1 show voice VLAN

Displays the VLAN member ports and other information.

Show vlan id
Show voice-vlan device

Parameter

Parameter	Description
Vlan-id	The number of voice VLAN IDs
Voice-vlan device	The ports in a voice VLAN

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

Example

```
ECS2020-10P# show voice-vlan device
Interface   |    MAC Address    |        start-time
------------+-------------------+-------------------------
       gi0/1     |    00E0.BB00.0000 |    2000-01-01 00:24:03
ECS2020-10P# show vlan 2
VID  |     VLAN Name    |        Untagged Ports        |
          Tagged Ports          |  Type
 -------+-----------------+------------------------------+------
 ------------------------+---------
   2 |         VLAN0002 |                              --- |
                                  gi0/1 | Static
```

Command

Command	Description
show vlan *vlan-id*	Display the voice vlan configuration.
Show voice-vlan device	Display the voice-vlan member ports.

18 Surveillance VLAN

18.1 Configure commands

18.1.1 surveillance VLAN

First create a VLAN, and when creating a surveillance VLAN specify the VLAN created to enable a surveillance VLAN ID. Use the “no” command to remove a surveillance VLAN. Surveillance VLANs are disabled by default.

surveillance-vlan vlan id surveillance-vlan
no surveillance-vlan

Parameter

Parameter	Description
surveillance-vlan vlan id	The number of surveillance-vlan id, note that the surveillance vlan ID can not be same as voice vlan ID

Default Null

Mode Global configuration mode

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

Example ECS2020-10P(config)# surveillance-vlan vlan
3 ECS2020-10P(config)# surveillance-vlan

Command

Command	Description
show surveillance-vlan	View global configuration of a surveillance VLAN

18.1.2 surveillance-vlan mode

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

surveillance-vlan mode [auto| manual]

Parameter

Parameter	Description
auto	Sets the surveillance VLAN mode for a port to autoTag
manual	Sets the surveillance VLAN mode for a port to manual

Default: The surveillance-vlan default mode is auto.

Mode: Interface configuration mode

Usage: If the port set surveillance VLAN mode is auto, the port is automatically a member of the surveillance VLAN, Note when adding the surveillance VLAN mode to manually join a port, you need to forward the port to the surveillance VLAN in advance.

Example: Configure port 1 to join surveillance VLAN as auto

```
ECS2020-10P(config)# interface GigabitEthernet 0/1
ECS2020-10P(config-if-GigabitEthernet0/1)# surveillance-vlan mode auto
```

Command:

Command	Description
show surveillance-vlan interfaces GigabitEthernet 0/1	View the configuration of a voice VLAN

18.1.3 surveillance VLAN OUI

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

surveillance-vlan oui-table A:B:C:D:E:F mask A:B:C:D:E:F

Parameter:

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

Default: Null

Mode: Global configuration mode

Usage: In global settings, a oui-table adds the port to a surveillance VLAN when the port's source MAC address matches the address in the oui list.

Example: Configure voice VLAN OUI

```
ECS2020-10P(config)# surveillance-vlan oui-table 04:10:12:32:56:89 mask
FF:FF:FF:FF:FF:00 componentType video_encoder
```

Command

Command	Description
Show surveillance-vlan	Displays the configuration of the surveillance-vlan oui-table.

18.1.4 surveillance VLAN aging-time and cos

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

surveillance-vlan aging-time X(1-65535) ECS2020-surveillance--vlan cos X(0-7) remark

Parameter

Parameter	Description
Aging-time	Specifies the aging time of the port in a surveillance VLAN
cos	Specifies the surveillance VLAN Class Of Service

Default

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

Mode

Global configuration mode

Usage

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

Example

Configure the surveillance VLAN aging-time to 20 minutes and cos value as 7.
ECS2020-10P(config)# surveillance-vlan aging-time 20
ECS2020-10P(config)# surveillance-vlan cos 7 remark

Command

Command	Description
show surveillance-vlan	Displays the configuration of the surveillance- vlan aging-time and cos.

18.2 18.2 Display relevant commands

18.2.1 18.2.1 show surveillance VLAN

Displays VLAN member ports and other information.

Show vlan id
Show surveillance-vlan device

Parameter

Parameter	Description
Vlan-id	The number of surveillance VLAN ID
surveillance-vlan device	The ports in surveillance VLAN

Default

N/A

Mode

Privileged mode

Usage

To return to privileged mode, enter the end command, or type the Ctrl+Z combination keys. To return to global configuration mode, enter the exit command.

Example

```
ECS2020-10P# show surveillance-vlan device
       Interface  |       Component Type       |          Description
                  |    MAC Address    |        start-time
       -----------+---------------------------|----------------------
            ------|-------------------+-------------------------
        gi0/1     | Other IP Surveillance Device |
                  |    0410.1232.5689 |    2000-01-01 17:31:03
       ECS2020-10P# show vlan 3
       VID  |     VLAN Name    |        Untagged Ports        |
                 Tagged Ports          |  Type
        -------+-----------------+-----------------------------+------
          -----------------------+---------
          3 |         VLAN0003 |                              --- |
                                      gi0/1 | Static
```

Command

Command	Description
show vlan *vlan-id*	Displays the surveillance- vlan configuration.
Show surveillance-vlan device	Displays the port members of a surveillance-vlan.

19 DHCP-snooping

19.1 Configure commands

19.1.1 DHCP-Snooping

When enabling DHCP-Snooping, if a port is a non trusted port, then the port discards the service message DHCP_OFFER, DHCP_ACK, DHCP_NCK). If a port is a trusted port, then the port can forward the DHCP service messages.

dhcp-snooping
no dhcp-snooping

Parameter

Parameter	Description
dhcp-snooping	Enable dhcp-snooping
no dhcp-snooping	Disable dhcp-snooping

Default: disable

Mode: Global configuration mode

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

Example: ECS2020-10P(config)#dhcp-snooping

Command

Command	Description
show dhcp-snooping	Displays the current configuration

19.1.2 DHCP-Snooping trust

Open the DHCP-Snooping trust function, if a port is an untrusted port, then the port DHCP service messages received will be discarded if a port is trusted then it can normal forward DHCP service messages.

dhcp-snooping trust
no dhcp-snooping trust

Parameter

Parameter	Description
dhcp-snooping trust	Configure the port as dhcp-cnooping trust
no dhcp-snooping trust	Configure the port as dhcp-cnooping untrusted.

Default: untrusted or no dhcp-snooping trust

Mode: Interface configuration mode

Usage: In port mode, when the port is opened, the port can forward a service message. If this port is an untrusted port, then the port cannot forward the service message.

Example: ECS2020-10P(config-if-GigabitEthernet0/2)# dhcp-snooping trust

Command

Command	Description
show dhcp-snooping	Displays the DHCP snooping configuration.

19.1.3 dhcp snooping for vlan

Enables DHCP snooping for a VLAN.

Parameter

Parameter	Description
dhcp snooping vlan	Enable dhcp snooping on a VLAN

Default: Enable

Mode: global configuration mode

Usage Enables DHCP snooping on a VLAN.

Example ECS2020-10P(config)# dhcp-snooping vlan 1-4094

Command

Command	Description
show dhcp-snooping	Displays the DHCP snooping configuration.

19.1.4 enable dhcp snooping option 82

Enable DHCP snooping information 82

Parameter

Parameter	Description
dhcp-snooping option	Enable the dhcp snooping option 82.

Default Disabled

Mode interface configuration mode

Usage Enables DHCP snooping option 82.

Example ECS2020-10P(config-if-GigabitEthernet0/1)# dhcp-snooping option

Command

Command	Description
show dhcp-snooping	Displays the DHCP snooping configuration.

19.1.5 option 82 of remote-ID

Configure DHCP snooping option 82 of a remote-ID.

Parameter

Parameter	Description
STRING	ID string (1~63

Default DUT's mac address

Mode global configuration mode

Usage A"remote ID" contains the switch's information of a trusted identifier for a remote high-speed modem.

Example ECS2020-10P(config)# dhcp-snooping option remote-id 192.168.100.145

Command

Command	Description
show dhcp-snooping	Displays the DHCP snooping configuration.

19.1.6 option 82 of CID

Configures the DHCP snooping option 82 circuit-ID

Parameter

Parameter	Description
STRING	ID string (1~63

Default Null

Mode interface configuration mode

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

Example	ECS2020-10P(config-if-GigabitEthernet0/1)# dhcp-snooping option circuit-id 192.168.100.145

Command

Command	Description
show dhcp-snooping interfaces GigabitEthernet 0/x	Displays the DHCP snooping interface configuration.

19.1.7 DHCP snooping policy

Configures the global DHCP snooping policy.

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

Parameter

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

Default	drop
Mode	global configuration mode
Usage	DHCP snooping option 82 policy
Example	ECS2020-10P(config-if-GigabitEthernet0/1)# dhcp-snooping option action drop

Command	Description
show dhcp-snooping interfaces GigabitEthernet 0/x	Displays the DHCP snooping interface configuration

19.2 19.2 Display relevant commands

19.2.1 19.2.1 show DHCP-Snooping

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

show DHCP-Snooping
show DHCP-Snooping interface gigabitEthernet 0/x

Parameter

Parameter	Description
show dhcp-snooping	Displays the DHCP-Snooping configuration.
show dhcp-snooping interfacegigabitEthernet 0/x	Displays DHCP-Snooping interface (including aggregate ports 1-8) configuration.

Default: NULL

Mode: Privileged mode

Usage: Used to view the DHCP-snooping configuration.

Example

```
ECS2020-10P# show dhcp-snooping

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

ECS2020-10P# show dhcp-snooping interfaces GigabitEthernet 0/1
 Interfaces | Trust State | Rate (pps) | hwaddr Check | Insert Option82 |
------------+-------------+------------+--------------+-----------------+
 gi0/1      | Untrusted   | None       | disabled     | disabled        |
```

Command

Command	Description
show dhcp-snooping	Displays the DHCP-Snooping configuration.
show dhcp-snooping interfacegigabitEthernet 0/x	Displays DHCP-Snooping interface (including aggregate ports 1-8) configuration.

20 Loopback-detection

20.1 Configure commands

20.1.1 Loopback-detection

Configures loop detection, activates the function, and when a loop appears on the network, the loop port is disabled (link-down) or a warning is issued.

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

Parameter

Parameter	Description
enable	Enables the loop detection function, default is disabled.
ctp-interval	ctp sending interval(1-32767)
resume-interval	Port automatic recovery time interval(0,60-1000000) default '60',set to '0' means no auto-resume.
snmp-trap	Decides whether to send an alarm message,You need to first start the SNMP function and SNMP trap.

Default

NULL

Mode

Global configuration mode

Usage

In the global mode, configuration loopback-detection

Example

Configures loopback-detection as enabled, the ctp-interval, the resume-interval , or an snmp-trap

ECS2020-10P(config)# loopback-detection enable
ECS2020-10P(config)# loopback-detection ctp-interval 1
ECS2020-10P(config)# loopback-detection resume-interval 60
ECS2020-10P(config)# loopback-detection snmp-trap

Command

Command	Description
show loopback-detection	View the current loop detection status and configuration.

20.2 Display relevant commands

20.2.1 show loop-detection

Use the following command to view the loop detection configuration.

show loopback-detection

Parameter

Parameter	Description
show loopback-detection	View the current port loop detection status and configuration.

Default

NULL

Mode

Privileged mode

Usage

In privileged mode, view configuration and status.

Example

Check the loop-detection port configuration and status.

```
ECS2020-10P# show loopback-detection

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

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

Command

Command	Description
show loopback-detection	View the current port loop detection status and configuration.

21 Spanning-tree

When configuring Spanning Tree, use the web manager for general settings and the CLI commands for both general and detailed settings.

21.1 Configure Commands

21.1.1 spanning-tree enable

Enable spanning-tree function, to avoid network loops, enabling spanning tree function on the switch will block a port on a looped path according to the port role.

spanning-tree enable

no spanning-tree enable

Parameter

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

Default: disabled

Mode: Global configuration mode

Usage: In the global mode, configuration spanning-tree

Example: Configure the spanning tree to turn on or off.

```
ECS2020-10P(config)# spanning-tree enable
ECS2020-10P(config)# no spanning-tree enable
```

Command

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

21.1.2 spanning-tree mode

Configure spanning-tree mode to one of three versions:stp、rstp、mstp

spanning-tree mode [rstp|stp|mstp]

Parameter

Parameter	Description
stp	Running the stp protocol
rstp	Running the rstp protocol
mstp	Running the mstp protocol

Default rstp

Mode Global configuration mode

Usage Set the spanning tree protocol version of the switch running in global mode.

Example Set the protocol version of the switch running to RSTP.
ECS2020-10P(config)# spanning-tree mode rstp

Command

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

21.1.3 spanning-tree forward-time

Configures the spanning-tree forward-time, default 15s.

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

Parameter

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

Default 15s

Mode Global configuration mode

Usage	Configuring forwarding delay in global mode.
Example	Configure the spanning-tree forwarding delay: ECS2020-10P(config)# spanning-tree forward-time 17

Command

Command	Description
show spanning-tree	View the current spanning tree status and configuration.

21.1.4 spanning-tree hello-time

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

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

Parameter

Parameter	Description
hello-time	This command is used to set the time interval for the switch to send BPDU to neighboring devices.

Default	2
Mode	Global configuration mode
Usage	Set the transmit frequency of the BPDU in the switch in global mode.
Example	Configure the spanning tree BPDU transmission interval: ECS2020-10P(config)# spanning-tree hello-time 5

Command

Command	Description
show spanning-tree	View the current spanning tree status and configuration.

21.1.5 spanning-tree max-age

Configure the port BPDU aging time. The timer aging reset is updated upon receipt of a BPDU, when participating in a spanning tree. When a port (root port and port blocking) timer reaches max-age due to no BPDU message being received, the switch will recalculate the topology.

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

	Parameter	Description
Parameter	max-age	This command is used to set the switch BPDU timeout time, default 20s

Default	20s
Mode	Global configuration mode
Usage	Sets the BPDU timeout time of the switch in global mode.
Example	Set the BPDU timeout of the switch to 30 seconds: ECS2020-10P(config)# spanning-tree max-age 30

	Command	Description
Command	**show spanning-tree**	View the current spanning tree status and configuration.

21.1.6 spanning-tree max-hops

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

spanning-tree max-hops [1-40]

	Parameter	Description
Parameter	max-hops	This command is used to set the maximum hop count of the switch BPDU, thus controlling the size of the spanning tree. The default is 20 hops.

Default 20

Mode Global configuration mode

Usage Sets the maximum hops count of the switch BPDU in global mode.

Example Set the BPDU maximum hops count to 30 times:
ECS2020-10P(config)# spanning-tree max-hops 30

Command

Command	Description
show spanning-tree	View the current spanning tree status and configuration.

21.1.7 spanning-tree pathcost method

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

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

Parameter

Parameter	Description
dot1D-1998	Uses the dot1D-1998 port path consumption calculation criteria.
dot1T-2001	Uses the dot1T-2001 port path consumption calculation criteria.

Default dot1T-2001

Mode Global configuration mode

Usage In global mode, sets the calculation method of switch port path consumption value.

Example Configure the port consumption value is calculated as dot1D-1998:
ECS2020-10P(config)# spanning-tree pathcost method dot1D-1998

Command

Command	Description
show spanning-tree	View the current spanning tree status and configuration.

21.1.8 spanning-tree priority

The bridge priority setting for spanning-tree, selects one of the highest priority switches as the root bridge.

spanning-tree priority [0-61440]

Parameter	Parameter	Description
	priority [0-61440]	Configure the bridge priority of the switch, range 0-61440, must be a multiple of 4096, default 32768
Default	32768	
Mode	Global configuration mode	
Usage	Sets switch bridge priority in global mode.	
Example	Set the switch bridge priority to 4096: ECS2020-10P(config)# spanning-tree priority 4096	

Command	Command	Description
	show spanning-tree	View the current spanning tree status and configuration.

21.1.9 spanning-tree mst configure

Configure the mstp parameters.

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

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

Parameter

Default NULL

Mode Global configuration mode

Usage Sets the MSTP information,if created in the same way as other devices in the region,you should be ensure that the MSTP version, name, and instance mapping relationship of the 2 devices are the same.

Example Set the switch MSTP instance as 5, the name as nihao, the revision as 33 and configure the instance 5 priority as 4096:

```
ECS2020-10P(config)# spanning-tree mst configuration
ECS2020-10P(config-mst)# instance 5 vlan 5
ECS2020-10P(config-mst)# name nihao
ECS2020-10P(config-mst)# revision 33
ECS2020-10P(config)# spanning-tree mst instance 5 priority 4096
```

Command

Command	Description
show spanning-tree mst configuration	View the current spanning-tree MSTP status and configuration.

21.1.10 spanning-tree enable

[no] Enable spanning-tree on switch-port

spanning-tree [enable]
no spanning-tree enable

Parameter	Parameter	Description
	enable	Enables the port spanning tree function, the default is all ports opened to using the spanning tree function.

Default NULL

Mode Port configuration mode

Usage Enter the port configuration mode and enable and disable the spanning tree function of the port

Example Enable and disabled the spanning tree function of GigabitEthernet0/1:
ECS2020-10P(config-if-GigabitEthernet0/1)# spanning-tree enable
ECS2020-10P(config-if-GigabitEthernet0/1)# no spanning-tree enable

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

21.1.11 spanning-tree bpdu

Configures the ports to handle BPDU.

spanning-tree bpdu [filter|guard]

Description	Parameter	Description
	filter	Configures the port to neither receive nor send BPDU messages.
	guard	Do not receive BPDU messages.

Default NULL

Mode Port configuration mode

Usage Enters the port configuration mode and set the port's BPDU processing mode.

Example Set the BPDU setting of GigabitEthernet0/1 to guard.
ECS2020-10P(config-if-GigabitEthernet0/1)# spanning-tree bpdu guard

Command

Command	Description
show spanning-tree interface gigabitEthernet 0/1	Display the spanning tree status and configuration of GigabitEthernet 0/1.

21.1.12 spanning-tree cost

Configure the port external path cost, and the switch sends BPDUs to a downstream switch, which adds to the cast value of the transmission port's cast field of a BPDU.

spanning-tree cost [1-200000000]

Parameter

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

Default 19

Mode Port configuration mode

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

Example Set the cost value of GigabitEthernet0/1 to 2000
ECS2020-10P(config-if-GigabitEthernet0/1)# spanning-tree cost 2000

Command

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

21.1.13 spanning-tree guard

Sets the port protection function

spanning-tree guard [loop|none|root]

Parameter

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

Default	None
Mode	Port configuration mode
Usage	Enters the port configuration mode and sets the port protection function.
Example	Set the loop guard on GigabitEthernet0/1: ECS2020-10P(config-if-GigabitEthernet0/1)# spanning-tree guard loop

Command

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

21.1.14 spanning-tree link-type

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

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

Parameter

Parameter	Description
point-to-point	Sets the link type as point-to-point.
shared	Sets the link type as shared.

Default	The switch automatically selects the link type, the full duplex port is point-to-point, and the half duplex port is shared.
Mode	Port configuration mode
Usage	Enter the port configuration mode and sets the spanning-tree link-type.
Example	Set the link type of GigabitEthernet0/1 as shared: ECS2020-10P(config-if-GigabitEthernet0/1)# spanning-tree link-type shared

Command

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

21.1.15 spanning-tree portfast edgeport

When a port is directly connected with a PC, and the port is not possible to be part of a loop, the ports do not need to participate in the spanning tree operations. Configured as an edge port the port will linkup directly to the forwarding state and will not experience learn, listen STP states.

spanning-tree portfast [edgeport|network]

Parameter

Parameter	Description
edgeport	Sets the specified port as an edge port.
network	Sets the specified port as a network port.

Default: network port

Mode: Port configuration mode

Usage: Enter the port configuration mode and sets the port mode as edgeport.

Example: Set GigabitEthernet0/1 as an edge port:
ECS2020-10P(config-if-GigabitEthernet0/1)# spanning-tree portfast edgeport

Command

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

21.1.16 spanning-tree priority

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

spanning-tree port-priority [0-240]

Parameter

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

Default: 128

Mode	Port configuration mode
Usage	In the port configuration mode it sets the bridge priority of the port.
Example	Set the priority of GigabitEthernet0/1 to 112: ECS2020-10P(config-if-GigabitEthernet0/1)# spanning-tree port-priority 112

Command

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

21.1.17 spanning-tree bpdu [filtering|flooding]

BPDU packets are filtered or flooded when STP is disabled on ports.

spanning-tree bpdu [filtering |flooding]

Parameter

Parameter	Description
filtering	BPDU packets are filtered when STP is disabled on all ports.
flooding	BPDU packets are flooded to all ports with STP disabled and in flooding mode.

Default	BPDU flooding
Mode	Global configuration mode
Usage	In global mode, it configures the way BPDU messages are handled.
Example	When spanning tree is disabled, set the BPDU packet to filtering: ECS2020-10P(config)# spanning-tree bpdu filtering

Command

Command	Description
show spanning-tree	Display the spanning tree status and configuration information

21.1.18 spanning-tree trap

Sets the Spanning tree trap information.

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

Parameter	Parameter	Description
	new-root	new root trap
	toplogy-change	toplogy change trap

Default NULL

Mode Global configuration mode

Usage In global mode, it configures the spanning-tree trap information.

Example Enable the spanning-tree trap of a new-root:
ECS2020-10P(config)# spanning-tree trap new-root

Command	Command	Description
	show spanning-tree trap new-root	Display the spanning tree trap new-root status and configuration.

21.2 Display relevant commands

21.2.1 show spanning-tree

Displays the current spanning tree status and configuration.

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

Parameter	Parameter	Description
	Interface gigabitEthernet 0/x	Display the current port spanning tree status and configuration. Note that "cr" means no arguments are entered.

Default NULL

Mode Privileged mode

Usage In privileged mode, views the spanning tree status. Shows the global status without parameters.

Example The following commands, from top to bottom, are to display the global state information of the spanning tree and display the spanning tree status information of the Gi 0/1:
ECS2020-10P# show spanning-tree
ECS2020-10P# show spanning-tree interfaces GigabitEthernet 0/1

Command

Command	Description
show spanning-tree	View the current spanning tree global state and configuration.
Ruijie#show spanning-tree interface gigabitEthernet 0/x	View the spanning tree status and configuration of Gi0/1.

22 DHCP v4 server

22.1 Configure commands

22.1.1 DHCP v4 server

Configures the DHCP server parameters, enable the DHCP sever to allow downstream devices to receives IP address allocations from the switch.

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

Parameter

Parameter	Description
ip dhcpserver pool	Configures the v4 server pool.
ip dhcpserver mask	Configures the v4 server mask.
ip dhcpserver gate-way	Configures the v4 server gate-way.
ip address	The IP address of the device must be in the same network segment as the address pool of the sever.
ip dhcp server	Enables the DHCP server function. Use the “no” command to disable the function.
dhcp-snooping	Enables dhcp-snooping.

Default: disabled

Mode: Global configuration mode

Usage: In the global configuration mode, used to enable and IPv4 DHCP server, to allow client devices access to switch through the IP address pool allocations configured.

Example	ECS2020-10P(config)# ip dhcpserver pool 192.168.6.100-192.168.6.200 pt1:192.168.6.100, pt2:192.168.6.200 ECS2020-10P(config)# ip dhcpserver mask 255.255.255.0 ECS2020-10P(config)# ip dhcpserver gate-way 192.168.6.1 ECS2020-10P(config)# ip address 192.168.6.1 ECS2020-10P(config)# ip dhcp server ECS2020-10P(config)#dhcp-snooping

Command

Command	Description
show ip dhcp server	Displays the ip dhcp server configuration.

22.2 Display relevant commands

22.2.1 show ip dhcp server

Used to view the DHCP server configuration.

Show ip dhcp server

Parameter

Parameter	Description
show ip dhcp server	Display the configure of the DHCP server.

Default	NULL
Mode	Privileged mode
Usage	view the ip dhcp server information
Example	Show ip dhcp server

Command

Command	Description
show ip dhcp server	Displays the ip dhcp server configuration.

23 ipv4 client

23.1 Configure commands

23.1.1 23.1.1 ipv4 client

Configure the switch as an IPv4 DHCP client.

ip dhcp
no ip dhcp

Parameter

Parameter	Description
ip dhcp	Enables the switch as an ip dhcp client.
no ip dhcp	Disables the switch as an ip dhcp clients.

Default disable

Mode Global configuration mode

Usage In the global configure mode, enable ip dhcp so the switch can be allocated an IP address from a connected DHCP server.

Example ECS2020-10P(config)# ip dhcp ECS2020-10P# show ip dhcp DHCP Status : enabled

Command

Command	Description
show ip dhcp	Displays the ip dhcp configuration.

23.2 Display relevant commands

23.2.1 show ip DHCP

Used to view the IP DHCP status.

Show ip dhcp
Show ip

Parameter

Parameter	Description
show ip dhcp	Display the status of IP DHCP.
Show ip	Display the switch's IP address from a DHCP server.

Default NULL

Mode Privileged mode

Usage View the ip dhcp informat

Example

```
ECS2020-10P# show ip
IP Address: 192.168.0.143
Subnet Netmask: 255.255.255.0
Default Gateway: 192.168.0.177
ECS2020-10P# show ip dhcp
DHCP Status : enabled
```

Command

Command	Description
show ip dhcp	Displays the ip dhcp information.
Show ip	Displays the address the switch received from a DHCP server.

24 24 ipv6 Client

24.1 Configure commands

24.1.1 ipv6 client

Configure the switch as an IPv6 DHCP client.

Ipv6 dhcp
no ipv6 dhcp
ipv6 autoconfiguration
no ipv6 autoconfiguration

Parameter

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

Default: disable

Mode: Global configuration mode

Usage: In the global configure mode, enable ip dhcp so the switch can be allocated an IPv6 address from a connected DHCP server.

Example:
ECS2020-10P(config)# ipv6 dhcp
ECS2020-10P(config)# ipv6 autoconfiguration

Command

Command	Description
show ipv6 dhcp	Displays the IPv6 DHCP client configuration.

24.1 Display relevant commands

24.1.1 show ipv6 DHCP

Displays the IPv6 DHCP status.

Show ip dhcp
Show ipv6

Parameter

Parameter	Description
show ipv6 dhcp	Display the status of IPv6 DHCP.
Show ipv6	Display the switch's IPv6 address from a DHCP server.

Default

NULL

Mode

Privileged mode

Usage

View the ip dhcp information

Example

```
ECS2020-10P# show ipv6 dhcp
DHCPv6 Status : enabled
ECS2020-10P# show ipv6
 IPv6 DHCP Configuration     : Enabled
 IPv6 DHCP DUID              :   00:01:00:01:00:00:00:5a:00:e0:4c:00:00:00
 IPv6 Auto Configuration     : Enabled
 IPv6 Link Local Address     : fe80::2e0:4cff:fe00:0/64
 IPv6 static Address         :
 IPv6 static Gateway Address :
 IPv6 in use Address         : fd00::2e0:4cff:fe00:0/64
 IPv6 in use Address         : fe80::2e0:4cff:fe00:0/64
```

Command

Command	Description
show ipv6 dhcp	Displays the ipv6 dhcp information.
Show ipv6	Displays the IPv6 address the switch received from a DHCP

25 IGMP Snooping

When configuring IGMP Snooping, use the web manager for general settings and the CLI commands for both general and detailed settings.

25.1 command related to configuration

25.1.1 ip igmp snooping

Enables IGMP snooping in global configuration mode. Use the "no" to the command to disable IGMP snooping.

ip igmp snooping
no ip igmp snooping

Parameter	Description
None	None

Default Enabled

Mode Global configuration.

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

Example
ECS2020-10P(config)# **ip igmp snooping**
ECS2020-10P(config)# **no ip igmp snooping**

Command

Command	Description
show ip igmp snooping	Show the settings of IGMP snooping.

25.1.2 ip igmp snooping version

Sets the IGMP snooping version in global configuration mode.

ip igmp snooping version *(2|3)*

Parameter	Description
(2|3)	IGMP version 2 or version 3 mode

Default version 3

Mode Global configuration.

Usage

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

Example

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

Command

Command	Description
Show ip igmp snooping	Displays the IGMP snooping status.

25.1.3 Ip igmp snooping vlan

To enable IGMP snooping of a specific vlan, input ip igmp snooping vlan vlan-list in Global configuration mode. Use the "no" form of the command to disable the IGMP snooping function on a vlan.

ip igmp snooping vlan *VLAN-LIST*

Parameter

Parameter	Description
VLAN-LIST	Specifies VLAN ID list to set.

Default

Default is disabled for all VLANs.

Mode

Global configuration.

Usage

Disable will clear all ip igmp snooping dynamic group and dynamic router port and make all static ip igmp invalid of the VLAN. It will not learn dynamic group and router port through igmp message after the command is issued.
Use the **ip igmp snooping vlan** command to enable IGMP on a VLAN. Use the **no** form of this command to disable it.
You can verify settings by using the **show ip igmp snooping vlan** command.

Example

The following example specifies tha set ip igmp snooping vlan test：
ECS2020-10P(config)# **ip igmp snooping vlan 2**

Command

Command	Description
Show ip igmp snooping vlan	Display the IGMP snooping settings.

25.1.4 Ip igmp snooping fast-leave

Used to enable the igmp snooping fast-leave function. If there is only one member of the group and a device receives a leave report from a member, the group will leave immediately.

ip igmp snooping fast-leave

Parameter

Parameter	Description
None	None

Default

Default is disable.

Mode

Global configuration.

Usage

Use the **ip igmp snooping fast-leave enable** command to enable fast-leave function.
Use the **no** form of this command to disable it/
You can verify settings by the **show ip igmp snooping vlan** command.

Example

The following example specifies tha set ip igmp snooping fast-leave test：
ECS2020-10P(config)# **ip igmp snooping fast-leave**

Command

Command	Description
Show ip igmp snooping vlan	Displays the IGMP snooping settings.

25.1.5 ip igmp snooping suppression

Used to enable the igmp snooping suppression function. A router port will just forward one report packet when it receives many of the same group join packets. This function is invalid in IGMP snooping v3.

ip igmp snooping suppression

Parameter

Parameter	Description
None	None

Default

Disabled

Mode

Global configuration.

Usage

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

Example

The following example specifies that set ip igmp snooping suppression test：
ECS2020-10P(config)# **ip igmp snooping suppression**

Command

Command	Description
Show ip igmp snooping vlan	Display the IGMP snooping settings.

25.1.6 ip igmp snooping unknown-multicast action

Sets the unknown-multi-cast action to perform when an unknown-multicast packet is received.

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

Parameter

Parameter	Description
(drop|flood|router-port)	Either drop/flood in a VLAN or forward to a router port on receiving an unknown multicast packet.

Default

drop

Mode

Global configuration.

Usage

When igmp and mld snooping is disabled, this action cannot be set to a port.
When igmp snooping & mld snooping is disabled, set the unknown multicast action to flood.
Whenever the action is router-port to flood or drop, the unknown multicast group entry will be deleted.

Use the i**p igmp snooping unknown-multicast action** command to change the action type. You can verify settings by the **show ip igmp snooping vlan** command.

Example

The following example specifies the set ip igmp unknown-multicast test：
ECS2020-10P(config)# **ip igmp snooping unknown-multicast action drop**

Command

Command	Description
Show ip igmp snooping vlan	Display the IGMP snooping settings.

25.1.7 ip igmp snooping vlan mrouter

Adds a static router port for a VLAN.

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

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

Parameter

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

Default

None static router ports by default.

Mode

Global configuration.

Usage

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

Example

The following example specifies that set ip igmp snooping static router port test：
ECS2020-10P(config)# **ip igmp snooping vlan 2 mrouter interfaces GigabitEthernet 0/5**

Command

Command	Description
Show ip igmp snooping vlan	Display the IGMP snooping settings.

25.1.8 ip igmp snooping vlan mrouter learn

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

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

no ip igmp snooping vlan *VLAN-LIST* **mrouter learn pim-dvmrp**

Parameter

Parameter	Description
VLAN-LIST	Specifies a VLAN ID list to set
IF-PORTS	Specifies a port list to set or remove.

Default

Enabled

Mode

Global configuration.

Usage

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

Example

The following example specifies to enable the learning router port test：
ECS2020-10P(config)# **ip igmp snooping vlan 2 mrouter learn pim-dvmrp**

Command

Command	Description
Show ip igmp snooping vlan	Display the IGMP snooping settings.

25.1.9 ip igmp snooping vlan static

Use this command to add a static VLAN group.

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

Parameter

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

Default

No static groups by default.

Mode

Global configuration.

Usage

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

Use the **no** form of this command to delete a static group. If the last member of static group is removed,the static group will be deleted.

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

Example

The following example specifies to set the ip igmp snooping static group test：
ECS2020-10P(config)# **ip igmp snooping vlan 2 static 239.1.1.1 interfaces GigabitEthernet 0/6**

Command

Command	Description
Show ip igmp snooping group	Display the IGMP snooping settings.

25.1.10 ip igmp snooping vlan querier

Use this command to enable a querier for a VLAN. Use "no" with the command to disable querier the function.

ip igmp snooping vlan *VLAN-LIST* **querier**
no ip igmp snooping vlan *VLAN-LIST* **querier**

Parameter	Parameter	Description
	VLAN-LIST	Specifies VLAN ID list to set

Default: No ip igmp snooping querier by default.

Mode: Global configuration

Usage: When enabling an ip igmp vlan querier, there will be a router selected, the selection success will end general and specific queries.
Use the **ip igmp snooping vlan querier** command to add a querier.
Use the **no** form of this command to delete a querier.
You can verify settings by the **show ip igmp snooping querier** command.

Example: The following example specifies to enable a vlan querier test：
ECS2020-10P(config)# **ip igmp snooping vlan 2 querier**

Command	Command	Description
	Show ip igmp snooping querier	Display the IGMP snooping settings.

25.1.11 ip igmp snooping vlan querier version

Use this command to set the igmp snooping querier version in global configuration mode.

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

Parameter	Parameter	Description
	VLAN-LINST	Specifies VLAN ID list to set
	(2|3)	Query version 2 or 3

Default: The default querier verion is 2.

Mode: Global configuration

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

Example

The following example specifies to set ip the igmp snooping querier version：
ECS2020-10P(config)# **ip igmp snooping vlan 2 querier version 3**

Command

Command	Description
Show ip igmp snooping querier	Display the IGMP snooping settings.

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

Use this command to set the igmp snooping querier last-member-query-count.

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

Parameter

Parameter	Description
VLAN-LIST	Specifies VLAN ID list to set
last-member-query-count<1-7>	Specifies last member query count to set

Default

2

Mode

Global configuration.

Usage

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

Example

The following example specifies to set the ip igmp snooping querier last-member-query-count test：
ECS2020-10P(config)# **ip igmp snooping vlan 2 querier last-member-query-count 5**

Command

Command	Description
Show ip igmp snooping querier	Display the IGMP snooping settings.

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

Use this command to set the igmp snooping querier last-member-query-interval.

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

Parameter

Parameter	Description
VLAN-LIST	Specifies VLAN ID list to set.
last-member-query-interval *<1-25>*	Specifies last member query interval to set.

Default

1

Mode

Global configuration.

Usage

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

Example

The following example specifies to set the ip igmp snooping querier last-member-query-interval test：
ECS2020-10P(config)# **ip igmp snooping vlan 2 querier last-member-query-interval 10**

Command

Command	Description
Show ip igmp snooping querier	Display the IGMP snooping settings.

25.1.14 ip igmp snooping vlan querier max-response-time

Use this command to set the IGMP snooping querier maximum response time.

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

Parameter

Parameter	Description
VLAN-LIST	Specifies VLAN ID list to set.
last-member-query-interval <*5-20*>	Specifies a response time to set.

Default

10

Mode

Global configuration

Usage

Use the **ip igmp snooping vlan querier max-response-time** command to set maximum response-time.
Use the **no** form of this command to restore it to default.
You can verify settings by the **show ip igmp snooping vlan** command.

Example

The following example specifies to set the ip igmp snooping querier max-response-time：
ECS2020-10P(config)# **ip igmp snooping vlan 2 querier max-response-time 20**

Command

Command	Description
Show ip igmp snooping	Display the IGMP snooping settings.

25.1.15 ip igmp snooping vlan querier query-interval

Use this command to set the igmp snooping querier interval between each query.

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

Parameter

Parameter	Description
VLAN-LIST	Specifies VLAN ID list to set.
query-interval <*5-20*>	Specifies a response time to set.

Default 125

Mode Global configuration

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

Example The following example specifies to set the ip igmp snooping querier version test：
ECS2020-10P(config)# **ip igmp snooping vlan 2 querier query-interval 200**

Command

Command	Description
Show ip igmp snooping	Display the IGMP snooping settings.

25.1.16 ip igmp snooping vlan robustness-variable

Use this command to set the igmp snooping querier robustness-variable.

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

Parameter

Parameter	Description
VLAN-LIST	Specifies VLAN ID list to set.
robustness-variable <*1-7*>	Specifies a robustness value to set.

Default 2

Mode Global configuration.

Usage Use the **ip igmp snooping vlan robustness-variable** command to set the retry times. Use the **no** form of this command to restore it to default.
You can verify settings by the **show ip igmp snooping vlan** command.

Example

The following example specifies to set the ip igmp snooping querier robustness-variable：
ECS2020-10P(config)# **ip igmp snooping vlan 1 robustness-variable 5**

Command

Command	Description
Show ip igmp snooping	Display the IGMP snooping settings.

25.1.17 ip igmp profile

Adds an igmp profile to permit or deny some groups.

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

Parameter

Parameter	Description
<1-128>	Specifies profile ID

Default

No profile exists by default.

Mode

Global configuration.

Usage

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

Example

The following example specifies to set the ip igmp snooping profile test：
ECS2020-10P(config)# **ip igmp profile 1**

Command

Command	Description
show ip igmp profile	Display the IGMP profile settings.

25.1.18 profile range

Configure an igmp profile to permit or deny some groups.

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

Parameter

Parameter	Description
<ip-addr>	Start ipv4 multicast address
[ip-addr]	End ipv4 multicast address
(permit|deny)	Permit: allow Multicast address range ip address learning. Deny:do not allow Multicast address range ip address learning.

Default

None

Mode

igmp profile configuration mode.

Usage

Use the **profile** command to generate an IGMP profile range to deny or allow groups. You can verify settings by the **show ip igmp profile** command.

Example

The following example specifies to set the ip igmp snooping profile range：
ECS2020-10P(config)# **ip igmp profile 1**
ECS2020-10P(config)# **profile range ip 225.1.1.1 225.1.2.1 action permit**

Command

Command	Description
show ip igmp profile	Display the IGMP profile settings.

25.1.19 ip igmp filter

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

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

Parameter

Parameter	Description
<1-128>	Specifies a profile ID

Default	None.
Mode	Port configuration
Usage	Use the **ip igmp filter** command to bind a profile to a port. When a port is binded to a profile the port learning group will update, if the group does not match the profile rule it will remove the port from the group. Static groups are excluded. Use the **no** form of this command to delete a profile. You can verify settings by using the **show running-config** command.
Example	The following example specifies that set ip igmp filter test. ECS2020-10P(config)# interface GigabitEthernet 0/1 ECS2020-10P(config-if-GigabitEthernet0/1)# ip igmp filter 1

Command

Command	Description
Show running-config	Check the ip igmp filter profile information

25.2 Commands related to display and monitoring

25.2.1 clear ip igmp snooping statistics

Use this command to clear the igmp snooping statistics.

clear ip igmp snooping statistics

Parameter

Parameter	Description
None	Clears all igmp packets statistics.

Default	Null
Mode	Privileged EXEC
Usage	This command will clear all of the igmp packet statistics. You can verify the statistics were cleared by using the **show ip igmp snooping statistics** command.

Example

The following example specifies that show ip igmp snooping statistics test.

```
ECS2020-10P#clear ip igmp snooping statistics
ECS2020-10P#show ip igmp snooping statistics
ECS2020-10P#show ip igmp snooping statistics

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

Command

Command	Description
Show ip igmp snooping statistics	Verify the igmp snooping statistics info

25.2.2 clear ip igmp snooping groups

Use this command to clear igmp snooping groups.

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

Parameter

Parameter	Description
None	Clears all the ip igmp groups including dynamic and static.
(dynamic|static)	ip igmp groups are either dynamic or static.

Default

Null.

Mode

Privileged EXEC

Usage

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

Example

The following example specifies to clear and show ip igmp snooping groups.

```
ECS2020-10P#clear ip igmp snooping groups
ECS2020-10P#show ip igmp snooping groups

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


Total Number of Entry = 0
```

Command

Command	Description
show ip igmp snooping groups	Verifies the igmp snooping groups are cleared.

25.2.3 show ip igmp snooping

Use this command to view the igmp snooping global configuration.

show ip igmp snooping

Parameter

Parameter	Description
None	None

Default

None.

Mode

Privileged EXEC

Usage

This command will display the ip igmp snooping global configuration.

Example

The following example specifies to show ip igmp snooping global configuration.

```
ECS2020-10P#show ip igmp snooping
IGMP Snooping state : Enable
IGMP Snooping Version : v3
IGMP Fast-Leave : Disable
IGMP Report Suppression : Disable
IGMP Forward Method : mac
IGMP Unknown IP Multicast Action : Drop
IGMP Multicast router learning mode : pim-dvmrp

vlan 1
----------
IGMP Snooping state : enabled
IGMP Fast-Leave : disabled
IGMP Multicast router learning mode : pim-dvmrp
IGMP VLAN querier : disabled
```

Command

Command	Description
Show ip igmp snooping	Display the igmp snooping global configuration.

25.2.4 show ip igmp snooping vlan

Use this command to view the igmp snooping vlan information.

show ip igmp snooping vlan *[VLAN-LIST]*

Parameter

Parameter	Description
None	Shows all ip igmp snooping vlan information.
[VLAN-LIST]	Shows specific vlan ip igmp snooping information.

Default None

Mode Privileged EXEC.

Usage This command will display ip igmp snooping vlan information.

Example The following example specifies to display the ip igmp snooping vlan configuration.

```
ECS2020-10P#show  ip igmp snooping vlan
IGMP Snooping global state  : enabled
IGMP Global IGMPv2 fast-leave : disabled
IGMP Global multicast router learning mode : pim-dvmrp

vlan 1
----------
IGMP Snooping state : enabled
IGMP Fast-Leave : disabled
IGMP Multicast router learning mode : pim-dvmrp
IGMP VLAN querier : disabled
```

Command

Command	Description
Show ip igmp snooping vlan	Display the settings of igmp snooping vlan.

25.2.5 show ip igmp snooping forward-all

This command displays the igmp snooping forward-all info.

show ip igmp snooping forward-all *[***vlan***VLAN-LIST]*

Parameter	Description
None	Shows all ip igmp snooping vlan forward-all information.
[VLAN-LIST]	Shows specific vlan ip igmp snooping forward-all information.

Default: Null

Mode: Privileged EXEC

Usage: This command will display ip igmp snooping forward-all information.

Example: The following example specifies to display the ip igmp snooping forward-all test.
ECS2020-10P#**show ip igmp snooping forward-all**
IGMP Snooping VLAN 1
IGMP Snooping static port : None
IGMP Snooping forbidden port : None

Command:

Command	Description
Show ip igmp snooping forward-all	Show the settings of igmp snooping forward-all.

25.2.6 show ip igmp snooping groups

Use this command to display the igmp snooping groups information.

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

Parameter:

Parameter	Description
None	Shows all ip igmp groups include dynamic and static information.
Counters	Shows the dynamic and static groups counters.
(dynamic|static)	Shows dynamic or static igmp groups.

Default: None.

Mode: Privileged EXEC

Usage: This command will display ip igmp snooping groups for dynamic, static or all types.

Example

The following example specifies to show the ip igmp snooping groups test. ECS2020-10P#**show ip igmp snooping groups**

```
VLAN | Group IP Address |  Type  | Life(Sec) | Port
------+-----------------+--------+-----------+-----------------
   1 |       239.1.1.1 |  Static|   --      | gi0/3
   1 |  239.255.255.250 | Dynamic|  253      | gi0/1

Total Number of Entry = 2
```

Command

Command	Description
Show ip igmp snooping groups	Display the igmp snooping groups configuration.

25.2.7 show ip igmp snooping mrouter

Use this command to display the igmp snooping mrouter configuration by port.

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

Parameter

Parameter	Description
None	Shows all ip igmp snooping mrouter configuration including both dynamic and static ports.
(dynamic|static)	Display either dynamic or static igmp mrouter configured ports.

Default

Null

Mode

Privileged EXEC

Usage

This command will display ip igmp snooping mrouter ports configured as dynamic, static or both types.

Example

The following example specifies to show the ip igmp snooping mrouter configuration for both dynamic and staticly configured ports.

ECS2020-10P#**show ip igmp snooping mrouter**

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

Command

Command	Description
Show ip igmp snooping mrouter	Displays the mrouter port configuration.

25.2.8 show ip igmp snooping querier

Use this command to display the igmp snooping querier configuration

show ip igmp snooping querier

Default	Null
Mode	Privileged EXEC
Usage	This command will display ip igmp snooping querier state per VLAN
Example	The following example specifies to show the ip igmp snooping querier states: ECS2020-10P#**show ip igmp snooping querier** VID | State | Status | Version | Querier IP -------+-------------+-------------+------------+-------------------- 1 | Disabled | Non-Querier | No | ------Total Entry 1

Command

Command	Description
Show ip igmp snooping querier	Displays the querier configuration per VLAN.

26 MLD Snooping

26.1 MLD Snooping configuration commands

26.1.1 ipv6 mld snooping

Use this command to enable mld snooping in global configuration mode, and use the "no" form of the command to disable mld snooping.

ipv6 mld snooping
no ipv6 mld snooping

Parameter

command	Description
None	None

Default

Enabled

Mode

Global configuration

Usage

Use command **ipv6 mld snooping** to enable the igmp snooping function for IPv6.
Use the **no** form of this command to disable it. Disabling MLD snooping will clear all ipv6 mld snooping dynamic groups and dynamic router port,and set all the static ipv6 mld group as invalid. Also dynamic group and router ports by mld message will not be learned
You can verify settings by using the **show ipv6 mld snooping** command.

Example

ECS2020-10P(config)# **ipv6 mld snooping**
ECS2020-10P(config)# **no ipv6 mld snooping**

Command

command	Description
show ipv6 mld snooping	Display the settings of ipv6 mld snooping.

26.1.2 ipv6 mld snooping version

Command ipv6 mld snooping version sets the MLD snooping version in global configuration mode.

ipv6 mld snooping version *(1|2)*

Parameter

command	Description
(1|2)	MLD version 1 or version 2 mode

Default

Version 1

Mode

Global configuration.

Usage

Use the **ipv6 mld snooping version** command to change the MLD supported version.For example, version 2 packets will not be processed if version 1 is.
You can verify the settings by using the **show ipv6 mld snooping** command.

Example

The following example specifies to set ipv6 mld snooping version to version 2.
Switch(config)#**ipv6 mld snooping version 2**

Command

command	Description
show ipv6 mld snooping	Display the settings of ipv6 mld snooping.

26.1.3 ipv6 mld snooping vlan

Use this command to enable mld snooping on a specific VLAN. Input the ipv6 mld snooping vlan vlan-list in Global configuration mode and use the "no" form of the command to disable the mld snooping function per VLAN.

ipv6 mld snooping vlan *VLAN-LIST*

Parameter

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

Default

Disabled

Mode

Global configuration

Usage

Disabling the function will clear all ipv6 mld snooping dynamic group and dynamic router ports and make all static ipv6 mld snooping invalid on a specified VLAN.The VLAN will no longer learn dynamic group and router ports by mld messages afterwared.

Use the **ipv6 mld snooping vlan** command to enable mld snooping on a VLAN. Use the **no** form of this command to disable it.
You can verify settings by the **show ipv6 mld snooping vlan** command.

Example

The following example specifies to set ipv6 mld snooping on VLAN 2：
ECS2020-10P(config)# **ipv6 mld snooping vlan 2**

Command

command	Description
show ipv6 mld snooping	Display the settings of ipv6 mld

26.1.4 ipv6 mld snooping vlan immediate-leave

Use this command to enable the mld snooping vlan immediate-leave function. If there is only one member of the group, and the device receives a leave packet from a member, then the group will leave immediately.

ipv6 mld snooping vlan immediate-leave

Parameter

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

Default: Disabled

Mode: Global configuration

Usage: Use the **ipv6 mld snooping vlan immediate-leave** command to enable the vlan immediate leave function. Groups will remove ports immediately when receiving a leave packet.
Use the **no** form of this command to disable it.
You can verify settings by using the **show ipv6 mld snooping vlan** command.

Example: The following example specifies to set ipv6 mld snooping vlan immediate-leave on VLAN 1： ECS2020-10P(config)# **ipv6 mld snooping vlan 1 immediate-leave**

Command

command	Description
show ipv6 mld snooping	Display the settings of ipv6 mld

26.1.5 ipv6 mld snooping report-suppression

Use this command to enable the mld snooping report-suppression function, a router port will just forward one report packet when receiving many from the same group join packet. This function is invalid if mld snooping is set to Version 2.

ipv6 mld snooping report-suppression
no ipv6 mld snooping report-suppression

Parameter

parameter	description
None	None

Default: Enabled

Mode: Global configuration

Usage

Use the **ipv6 mld snooping report-suppression** command to enable the report-suppression function.
Use the **no** form of this command to disable it. Disable report -supression will forward all received reports to vlan router ports.
You can verify settings by the **show ipv6 mld snooping** command.

Example

The following example specifies to disable ipv6 mld snooping report-suppression function：
ECS2020-10P(config)# **no ipv6 mld snooping report-suppression**

Command

command	Description
show ipv6 mld snooping	Display the settings of ipv6 mld

26.1.6 ipv6 mld snooping unknown-multicast action

Use this command to set the action to perform when receiving unknown-multicast packets.

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

Parameter

parameter	description
(drop|flood|router-port)	Drop/flood within a VLAN or forward to a router port.

Default

flood

Mode

Global configuration

Usage

When mld and mld snooping is disabled,the action router port cannot be set.
When disabling mld snooping the unknown multicast action is will be set to flood. When the action is drop, it will delete the unknown multicast group entry.

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

Example

The following example specifies to set ipv6 mldunknown-multicast action to drop within VLANs：
ECS2020-10P(config)# **ipv6 mld snooping unknown-multicast action drop**

Command

command	Description
show ipv6 mld snooping	Display the settings of ipv6 mld

26.1.7 ipv6 mld snooping vlan static-router-port

Use this command to add a static router port for a VLAN.

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

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

Parameter

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

Default

No static router ports

Mode

Global configuration

Usage

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

Example

The following example specifies to set the ipv6 mld snooping static router port to Ethernet port 0/5 for VLAN 2：

ECS2020-10P(config)# **ipv6 mld snooping vlan 2 static-router-port GigabitEthernet 0/5**

Command

command	description
Show ipv6 mld snooping router	Verify the ipv6 mld snooping router Information.

26.1.8 ipv6 mld snooping vlan router learn

Use this command to enable learning router ports by using routing protocol packets such as PIM/PIMv2,DVMRP, or MOSPF. Use the no form of this command to disable it.

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

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

Parameter

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

Default	Enabled
Mode	Global configuration
Usage	Use the **ipv6 mld snooping vlan mrouter learn pim-dvmrp** command to enable learning router port by routing protocol packets such as PIM/PIMv2,DVMRP or MOSPF. Use the **no** form of this command to disable it. You can verify the settings by using the **show ipv6 mld snooping vlan** command.
Example	The following example specifies to enable learning router port function pim-dvmrp on VLAN2： ECS2020-10P(config)# **ipv6 mld snooping vlan 2 mrouter learn pim-dvmrp**

Command

command	description
Show ipv6 mld snooping vlan	Verify the ipv6 mld snooping information.

26.1.9 ipv6 mld snooping vlan static-group

Use this command to add a static group to a VLAN with mld snooping enabled.

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

Parameter

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

Default	No static groups set.
Mode	Global configuration
Usage	Use the **ipv6 mld snooping vlan static-group** command to add a static group. The static group will not learn other dynamic ports. If a dynamic group exists, then the static group will overlap the dynamic group.The static group is set to valid unless mld snooping vlan is enabled. Use the **no** form of this command to delete a static group. When removing the last member of a static group, the static group will be deleted. You can verify settings by using the **show ipv6 mld snooping groups** command.

Example

The following example specifies to set ipv6 mld snooping static group for VLAN1.
ECS2020-10P(config)# **ipv6 mld snooping vlan 1 static-group ff08::9 interfaces** Aggregateport 0/6

Command

command	description
Show ipv6 mld snooping groups.	Verify the static group information.

26.2 Commands related to display and monitoring

26.2.1 clear ipv6 mld snooping statistics

Use this command to the clear ipv6 mld statistics.

clear ipv6 mld snooping statistics

Parameter

parameter	description
None	Clears all igmp packets statistics.

Default

None.

Mode

Privileged EXEC

Usage

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

Example

The following example specifies to show the ipv6 mld snooping statistics.
ECS2020-10P#**clear ipv6 mld snooping statistics**
ECS2020-10P#**show ipv6 mld snooping**

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

Packet Statistics
Total RX                  : 0
Valid RX                  : 0
Invalid RX                : 0
Other RX                  : 0
Leave RX                  : 0
Report RX                 : 0
```

Example

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

Command

Command	Description
Show ipv6 mld snooping	Verifys ipv6 mld statistics information.

26.2.2 clear ipv6 mld snooping groups

Use this command to clear the mld snooping groups.

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

Parameter

parameter	description
None	Clears the ipv6 mld groups include dynamic and static.
(dynamic|static)	Ipv6 mld group is specified as either dynamic or static.

Default

None.

Mode

Privileged EXEC

Usage

This command will clear the mld groups for either dynamic, static or both types. You can verify the settings by using the **show ipv6 mld snooping groups** command.

Example

The following example specifies to clear the ipv6 mld snooping groups.

```
ECS2020-10P#clear ipv6 mld snooping groups
ECS2020-10P#show ipv6 mld snooping groups

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


Total Number of Entry = 0
```

Command

command	description
Show ipv6 mld snooping groups	Verify mld snooping groups information.

26.2.3 show ipv6 mld snooping

View mld snooping global info.

show ipv6 mld snooping

Parameter

Parameter	Description
None	None

Default

None.

Mode

Privileged EXEC

Usage

This command will display ipv6 mld snooping global info.

Example

The following example specifies to show ipv6 mld snooping.

```
ECS2020-10P#show ipv6 mld snooping
MLD Snooping Status
                    ----------

    Snooping                    : Enabled
    Report Suppression          : Enabled

   Forward Method               : mac
    Unknown IPv6 Multicast Action   : Flood

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

Command

Command	Description
Show ipv6 mld snooping	Verifies settings of mld snooping.

26.2.4 show ipv6 mld snooping vlan

Use this command to view the mld snooping vlan information.

show ipv6 mld snooping vlan *[VLAN-LIST]*

Parameter

parameter	description
None	Show all mld snooping vlan information.
[VLAN-LIST]	Show specific VLAN mld snooping information.

Default

Null

Mode

Privileged EXEC

Usage

This command will display ipv6 mld snooping vlan information.

Example

The following example specifies to show ipv6 mld snooping vlan.
ECS2020-10P#**show ipv6 mld snooping vlan 1**

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

Command

Command	Description
Show ipv6 mld snooping vlan	Verify the settings of mld snooping vlan.

26.2.5 show ipv6 mld snooping forward-all

Use this command to display the mld snooping forward-all information.

show ipv6 mld snooping forward-all *[***vlan***VLAN-LIST]*

Parameter

Parameter	Description
None	Show all ipv6 mld snooping vlan forward-all information.
[VLAN-LIST]	Show specific per-VLAN ipv6 mld snooping forward-all information.

Default Null

Mode Privileged EXEC

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

Example

The following example specifies to show ipv6 mld snooping forward-all information:
ECS2020-10P#**show ipv6 mld snooping forward-all**

```
26.2.5.1.1.1.1 MLD Snooping VLAN          1
26.2.5.1.1.1.2 MLD Snooping static port    : None
               MLD Snooping forbidden port : None
26.2.5.1.1.1.3 MLD Snooping VLAN          2
26.2.5.1.1.1.4 MLD Snooping static port    : None
               MLD Snooping forbidden port : None

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

Command

Command	Description
Show ipv6 mld snooping forward-all	Displays the settings of mld snooping forward-all.

26.2.6 show ipv6 mld snooping groups

Use this command to display the mld snooping groups information.

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

Parameter

parameter	description
None	Shows all ipv6 mld groups including the dynamic and static information.
Counters	Show the dynamic and static groups counters
(dynamic|static)	Show specifically the dynamic or static igmp groups

Default None

Mode Privileged EXEC

Usage

This command will display ipv6 mld snooping groups for dynamic, static or both.

Example

The following example specifies to show ipv6 mld snooping groups.
ECS2020-10P#**show ipv6 mld snooping groups**

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

Total Number of Entry = 5
```

Command

Command	Description
Show ipv6 mld snooping groups	Displays the mld snooping groups information.

26.2.7 show ipv6 mld snooping router

Use this command to display the mld snooping router info

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

Parameter

Parameter	Description
None	Shows all ipv6 mld router information for both dynamic and static.
(dynamic|static)	Show either dynamic or static mld snooping router information.

Default

None.

Mode

Privileged EXEC

Usage

This command will display ipv6 mld snooping router information for dynamic, static or both types.

Example

The following example specifies to show ipv6 mld snooping router for all types.
ECS2020-10P#**show ipv6 mld snooping router**

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


Total Entry 0


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


Total Entry 1


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


Total Entry 0
```

Command

Command	Description
Show ipv6 mld snooping router	Verify mld snooping router info

27 Path detection

27.1 ping

Use to detect if a specified host is reachable or not. Include either the ipv4 address, ipv6 address or a domain name.

ping *[HOSTNAME]*

Parameter

parameter	description
[HOSTNAME]	Host name information

Default

None.

Mode

Privileged EXEC

Usage

This command will detect if a host is reachable or not.

Example

The following example shows a ping test to an IPv6 address.
ECS2020-10P#**ping fe80::1104:72ba:d80d:3c99**

PING fe80::1104:72ba:d80d:3c99 (fe80::1104:72ba:d80d:3c99): 56 data bytes
64 bytes from fe80::1104:72ba:d80d:3c99: icmp6_seq=0 ttl=64 time=10.0 ms
64 bytes from fe80::1104:72ba:d80d:3c99: icmp6_seq=1 ttl=64 time=0.0 ms
64 bytes from fe80::1104:72ba:d80d:3c99: icmp6_seq=2 ttl=64 time=0.0 ms
64 bytes from fe80::1104:72ba:d80d:3c99: icmp6_seq=3 ttl=64 time=0.0 ms

Command

command	description
Ping	Adding the host name after the command will confirm if the host is reachable or not.

27.2 traceroute

Use this command to trace the route to a network host and record the routing information to the host. Either the ipv4 address, ipv6 address or the domain name must be included with the command.

traceroute *[HOSTNAME]*

Parameter

Parameter	Description
[HOSTNAME]	Host name information.

Default

Null

Mode

Privileged EXEC

Usage

This command will record the routing information to a specified host.

Example

The following example shows a traceroute test:
ECS2020-10P#**traceroute www.baidu.com**

Command

Command	Description
traceroute	Add the host name after the command to display the routing information to the host.

28 Access Control List

28.1 Configure commands

28.1.1 standard ip access-list

Configures a standard ip access-list. Using a series of match rules, network data can be filtered.

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

Parameter

Parameter	Description
ACL-name	The name of the ACL（0-9）

Default: Null

Mode: Global Configuration mode

Usage: Configuration access control list

Example: ip access-list standard 0

Command

Command	Description
show access-list	Displays the access control list information.

28.1.2 extended ip access-list

This command configures an extended ip access-list. By a series of match rules, the network data can be filtered.

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

Parameter

Parameter	Description
ACL-name	The name of the ACL(10-19)

Default: Null

Mode: Configuration mode

Usage	Configuration access control list
Example	ip access-list extended 10

Command

Command	Description
show access-list	Displays the access control list information.

28.1.3 ACE configuration

Use this command in relation to an ip access-list to configure its specific rules.

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

Parameter

Parameter	Description
0-9	Configure the ace number optional and the default is 0.
deny	Deny the assignable data type， parameter has [any|host|sip]
end	Quit
exit	Back to Previous Level
no	Deletes the rules
permit	Permit the assignable data type, parameter has [any|host|sip]

Default	Null
Mode	ACL configuration mode
Usage	Configuration ACE

Example

```
ip access-list standard 0
   permit any

ip access-list extended 10
   permit ip any any
```

Command

command	description
show access-list	Displays access control list information.

28.1.4 standard ip access-list deny|permit

Under a standard ip access-list, this command configures the deny or permit rules.

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

Parameter

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

Default

Null

Mode

ACL configuration mode

Usage

Configuration ACE

Example

```
ip access-list standard 0
permit any
```

Command

Command	Description
show access-list	Displays the access control list information.

28.1.5 extended ip access-list deny|permit

Under an extended ip access-list, this command configures the deny or permit rules.

ip access-list extended {10-19}
[ace_id**] {deny|permit}** {ip|tcp|udp} {any|host|sip} [eq] {any|host|dip} [eq]
ip access-list extended {10-19} no {ace_id**}**

Parameter

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

Default Null

Mode ACL configuration mode

Usage Configuration ACE

Example

```
ip access-list extended 10
permit ip any any
```

Command

Command	Description
Show access-list	Displays the access control list information.

28.1.6 ip access-list commit

Using this command with an ACL applied to an interface the received network data can be filtered.

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

Parameter

Parameter	Description
port_id	Interface ID
ACL-name	The name of the ACL

Default Null

Mode interface configuration mode

Usage Apply the ACL

Example

```
interface GigabitEthernet 0/1
ip access-list 0 commit
```

Command Null

28.1.7 standard ipv6 access-list

Configures a standard ipv6 access-list to use a series of match rules in order to filter network ipv6 data.

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

Parameter

Parameter	Description
sACL-name	The name of the ACL （26-35）

Default Null

Mode Configuration mode

Usage Configuration access control list

Example **ipv6 access-list standard** 26

Command

Command	Description
show access-list	Displays access control list information.

28.1.8 extended ipv6 access-list

Configures an extended ipv6 access-list to use a series of match rules, in order to filter network ipv6 data.

ipv6 access-list extended{ ACL-name**}**

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

Parameter

Parameter	Description
ACL-name	The name of the ACL （36-45）

Default Null

Mode Configuration mode

Usage Configuration access control list

Example **ip access-list extended 36**

Command

Command	Description
show access-list	Display access control list information.

28.1.9 ipv6 ACE configuration

Under an ipv6 access-list, this command configures specific rules.

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

Parameter

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

Default	Null
Mode	ipv6 ACL configuration mode
Usage	Configuration ACE
Example	**ipv6 access-list standard 26** **permit any** **ipv6 access-list extended 36** **permit ip any any**

Command

Command	Description
show access-list	Displays the access control list information.

28.1.10 standard ipv6 access-list deny|permit

Under an tandard ip access-list, this command configures its deny or permit rules.

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

Parameter

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

Default	Null
Mode	ACL configuration mode
Usage	Configuration ACE
Example	**ipv6 access-list standard 26** **permit any**

Command

Command	Description
show access-list	Displays the access control list information.

28.1.11 extended ipv6 access-list deny|permit

Under an extended ip access-list, this command configures deny or permit rules.

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

Parameter

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

Default: Null

Mode: ACL configuration mode

Usage: Configuration ACE

Example:

```
ipv6 access-list extended 36
permit ip any any
```

Command

Command	Description
show access-list	Displays the access control list information.

28.1.12 ipv6 access-list commit

Use this command for an ipv6 ACL applied to an interface to filter the received data.

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

Parameter

Parameter	Description
port_id	Interface ID
ACL-name	The name of the ACL

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

28.1.13 mac access-list extended

Use this command to Configures a MAC access-list to use a series of match rules that can network data.

mac access-list extended { ACL-name**}**

no mac access-list extended { ACL-name**}**

Parameter

Parameter	Description
ACL-name	The name of the ACL （20-25）

Default	Null
Mode	Configuration mode
Usage	Configuration access control list
Example	`mac access-list extended 20`

Command

Command	Description
show access-list	Displays the access control list information.

28.1.14 mac ACE configuration

Under a MAC access-list, this command configures specific rules.

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

Parameter

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

Default Null

Mode ACL configuration mode

Usage Configuration ACE

Example

```
mac access-list extended 20
   permit any any
```

Command

Command	Description
show access-list	Displays the access control list information.

28.1.15 mac access-list deny|permit

Under an extended mac access-list, this command configures deny or permit rules.

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

Parameter

Parameter	Description
any	any source/dest mac address
host	host mac address
ethtype	ethernet frame type
ace_id	

Default	Null
Mode	ACL configuration mode
Usage	Configuration ACE
Example	**ip access-list extended 1**0 **permit ip any any**

Command	Description
show access-list	Display access control list information.

28.1.16 mac access-list commit

When this command is used a MAC ACL will be applied to an interface to filter network data.

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

Parameter	Description
port_id	Interface ID
ACL-name	The name of the ACL

Default	Null
Mode	interface configuration mode
Usage	Apply the ACL
Example	**interface GigabitEthernet 0/1** **mac access-list 20 commit**
Command	Null

28.2 Display commands

28.2.1 28.2.1 show access-list

This command shows the access-list information.

show access-lists

Parameter

Parameter	Description
show access-lists	Displays access control list information.

Default

Null

Mode

Privileged mode

Usage

Displays the access control list information.

Example

```
show access-list

mac access-list extended 20
     0 permit any any

ip access-list standard 0
     0 permit any

ip access-list extended 10
     0 permit ip any any

ipv6 access-list standard 26
     0 permit any

ipv6 access-list extended 36
```

Command

Null

29 802.1X

Note: 802.1X requires an 802.1x RADIUS server to be configured.

29.1 Configure commands

29.1.1 authentication dot1x

Use this command to enable 802.1x authentication. Use the no form of the command to disable it.

authentication dot1x
no authentication dot1x

Parameter

Parameter	Description
Null	Null

Default: Null

Mode: Global Configuration

Usage: Configuration 802.1X

Example: authentication dot1x

Command

Command	Description
Show authentication	Displays the 802.1x information.

29.1.2 authentication dot1x

Use this command to turn on 802.1x authentication on a port at the interface level.

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

Parameter

Parameter	Description
port_id	Interface ID

Default	Null
Mode	interface configuration mode
Usage	Configuration 802.1X
Example	interface GigabitEthernet 0/3 authentication dot1x

Command

Command	Description
show authentication interface GigabitEthernet port_id	Displays 802.1x port information.

29.1.3 authentication port-control

Use this command to configure 802.1X port-control mode at the interface level.

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

Parameter

Parameter	Description
port_id	Interface ID
auto	auto mode
force-auth	force-auth mode
force-unauth	force-unauth mode

Default	Null
Mode	interface configuration mode
Usage	Configuration 802.1X port-control mode.
Example	interface GigabitEthernet 0/3 authentication port-control auto

Command

Command	Description
show authentication interface GigabitEthernet port_id	Displays the 802.1x port information.

29.1.4 authentication host-mode

Use this command to configure the 802.1X host-mode at the interface level.

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

Parameter

Parameter	Description
port_id	Interface ID
single-host	Single Host Mode
multi-host	Multiple Host Mode
multi-auth	Multiple Authentication Mode

Default: multi-auth

Mode: interface configuration mode

Usage: Configuration 802.1X port-control mode.

Example:
```
interface GigabitEthernet 0/3
    authentication host-mode multi-host
```

Command

Command	Description
show authentication interface GigabitEthernet port_id	Displays the 802.1x port information.

29.2 Display commands

29.2.1 show authentication

Use this command to display the 802.1x configuration.

show 802.1X information.
show authentication {interfaces GigabitEthernet port_id**}**

Parameter

Parameter	Description
port_id	Interface ID

Default	Null
Mode	Privileged mode
Usage	display 802.1X information.
Example	show authentication Autentication dot1x state : enabled Autentication mac state : disabled Autentication web state : disabled Guest VLAN : disabled Show authentication interface GigabitEthernet0/3 Interface Configurations Interface GigabitEthernet0/3 Admin Control : force-unauth Host Mode : multi-host Type dot1x State : enabled Type mac State : disabled Type web State : disabled Type Order : dot1x MAC/WEB Method Order : radius Guest VLAN : disabled Reauthentication : disabled Max Hosts 256 VLAN Assign Mode : static Common Timers Reauthenticate Period: 3600 Inactive Timeout 60 Quiet Period 60 802.1x Parameters EAP Max Request 2 EAP TX Period 30 Supplicant Timeout 30 Server Timeout 30 Web-auth Parameters Login Attempt 3
Command	Null

30 AAA

30.1 Configure commands

30.1.1 radius host

Use this command to configure a RADIUS server in conjunction with the switch.

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

Parameters

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

Default

30.1.1.1.1.1.1 p
ort_id:1812
retransmit_times:3

Mode

Global Configuration mode

Usage

Configurating a RADIUS server.

Example

radius host 192.168.100.1 auth-port 1812 key public priority 1 retransmit 1 timeout 1 type all

Command

Command	Description
show radius	Displays the RADIUS information.

TACACS host

Use this command to configure a TACACS server in conjunction with the switch.

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

Parameter

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

Default port_id:49

Mode Global Configuration mode

Usage Configuration TACACS

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

Command

Command	Description
show tacacs	Displays the TACACS information.

30.1.2 aaa authentication enable

This command configures the enable authentication method.

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

Parameter

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

Default	Null
Mode	Global Configuration mode
Usage	Configure eable authentication method.
Example	aaa authentication enable Xn enable tacacs+ radius

Command

Command	Description
show aaa authentication enable lists	Displays the enable authentication information.

30.1.3 aaa authentication login

This command configures the login authentication method.login including console, telnet and SSH.

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

Parameter

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

Default	Null
Mode	Global Configuration mode
Usage	Configures the login authentication method.
Example	aaa authentication login Xn local radius tacacs+

Command

Command	Description
show aaa authentication login lists	Displays the login authentication information.

30.1.4 line console

Use this command to turn on login from a console using AAA authentication.

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

line console
no login authentication
no enable authentication

	Parameter	Description
Parameter	Login_auth_list_name	Login auth Method List Name
	enable_auth_list_name	Enable auth Method List Name

Default	Null
Mode	Global Configuration mode
Usage	Configures a login authentication method.
Example	line console login authentication Xn enable authentication Xn

	Command	Description
Command	**show line lists**	Displays the login authentication information.

30.1.5 line telnet

Use this command to turn on login from telnet using AAA authentication.

line telnet
login authentication {Login_auth_list_name**}**
enable authentication {enable_auth_list_name**}**

line telnet
no login authentication
no enable authentication

	Parameter	Description
Parameter	Login_auth_list_name	Login auth Method List Name
	enable_auth_list_name	Enable auth Method List Name

Default	Null
Mode	Global Configuration mode
Usage	Configure telnet authentication method.

Example

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

Command

Command	Description
show line lists	Displays the Telnet authentication information.

30.1.6 line ssh

Use this command to turn on login from ssh using AAA authentication.

line ssh

login authentication {Login_auth_list_name**}**

enable authentication {enable_auth_list_name**}**

line ssh

no login authentication

no enable authentication

Parameter

Parameter	Description
Login_auth_list_name	Login auth Method List Name
enable_auth_list_name	Enable auth Method List Name

Default

Null

Mode

Global Configuration mode

Usage

Configures the ssh authentication method.

Example

```
line ssh
    login authentication Xn
    enable authentication Xn
```

Command

Command	Description
show line lists	Displays the ssh authentication information.

30.2 Display commands

30.2.1 show radius

Use this command to display the RADIUS information.

show radius

Parameter	Parameter	Description
	Null	Null

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

30.2.2 show tacacs

Use this command to display the TACACS information.

show tacacs

Parameter	Parameter	Description
	Null	Null

Default	Null
Mode	Privileged mode
Usage	Displays the TACACS information.

Example

```
show tacacs
 Prio | Timeout |     IP Address    | Port |   Key
------+---------+-------------------+------+----------
    1 |     30  |     192.168.100.1 |   49 | public
```

Command

Null

30.2.3 show aaa authentication enable list

Use this command to display the aaa authentication information.

show aaa authentication enable list

Parameter

Parameter	Description
Null	Null

Default

Null

Mode

Privileged mode

Usage

display aaa authentication information.

Example

```
show aaa authentication enable list
  Enable List Name   Authentication Method List
      ----------------|------------------------------
              default  | enable
                  Xn  | enable  tacacs+  radius
```

Command

Null

30.2.4 show aaa authentication login list

Use this command to display the aaa authentication information.

show aaa authentication login list

Parameter

Parameter	Description
Null	Null

Default	Null
Mode	Privileged mode
Usage	display aaa authentication information..
Example	show aaa authentication login lists Login List Name Authentication Method List ----------|---------- default | local Xn | local radius tacacs+
Command	Null

31 SSH

31.1 Configure commands

31.1.1 ip ssh

Use this command to enable the ssh function.

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

Parameter	Parameter	Description
	[all|v1|v2]	ssh version number

Default	Null
Mode	Global Configuration mode
Usage	Configuration radius
Example	ip ssh
Command	Null

32 SSL

32.1 Configure commands

32.1.1 ssl

Use this command to generate an SSL digital certificate.

ssl

Parameter	Parameter	Description
	Null	Null

Default	Null
Mode	Privileged mode
Usage	Generates a new SSL certificate
Example	ssl
Command	Null

32.1.2 ssl replace

Enabled a new SSL digital certificate to function.

ssl replace

Parameter	
Default	Null
Mode	Privileged mode
Usage	Enables a new SSL certificate.

Example	ssl replace
Command	Null

33 QoS

33.1 Configure commands

33.1.1 qos trust

This command configures the QoS classify mode.

qos trust {classify_mode**} no qos trust**

Parameter	Parameter	Description
	classify_mode	QoS Classify mode. [cos|dscp]
Default	Null	
Mode	Global Configuration mode	
Usage	config qos classify mode	
Example	qos queue trust dscp	

Command	Command	Description
	show qos	Displays the QoS information.

33.1.2 qos queue schedule

Config qos schedule algorithm.

qos queue schedule {schedule_mode**}**

Parameter	Parameter	Description
	schedule_mode	QoS schedule mode. [sp|wrr|hybird]

Default	Null
Mode	Global Configuration mode
Usage	Configures the QoS schedule algorithm.
Example	qos queue schedule wrr

Command	Command	Description
	show qos queueing	Displays the QoS queue information.

33.1.3 qos map cos-queue

Use this command to configure the QoS queue mapping relationship.

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

Parameter	Parameter	Description
	cos_value	Cos value.
	queue_num	Queue number(1-8)

Default	Null
Mode	Global Configuration mode
Usage	config qos queue mapping relationship
Example	qos map cos-queue 1 to 1

Command	Command	Description
	show qos map cos-queue	Displays the qos map information.

33.1.4 qos map dscp-queue

Use this command to configure the QoS queue mapping relationship.

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

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

Default	Null
Mode	Global Configuration mode
Usage	Configures the QoS queue mapping relationship.
Example	qos map dscp-queue 1 to 8

Command	Description
show qos map dscp-queue	Displays the qos map information.

33.1.5 qos map weight

When you use the WRR mode, this command is used to configure each queues weight value..

qos map weight {weight_values**}**

	Parameter	Description
Parameter	weight_values	weight_values.(1-127)

Default	Null
Mode	Global Configuration mode
Usage	config qos queue weight.
Example	qos queue weight 1 1 1 50 50 50 100 100

Command	Command	Description
	show qos map queueing	Displays the qos queue information.

33.1.6 qos queue strict-priority-num

Use this command to configure the SP schedule queue's number when hybrid mode is enabled.

qos queue strict-priority-num {SP_num**}**

Parameter	Parameter	Description
	weight_values	weight_values.(1-127)

Default	Null
Mode	Global Configuration mode
Usage	Configures the qos queue weight.
Example	qos queue weight 1 1 1 50 50 50 100 100
Command	Null

33.2 Display commands

33.2.1 show qos

Use this command to display the QoS information.

show qos

Parameter	Parameter	Description
	Null	Null

Default	Null

Mode	Privileged mode
Usage	Use this command to display the QoS information.
Example	show qos QoS Mode: enable Basic trust: cos
Command	Null

33.2.2 show qos queueing

show qos queue information.

show qos queueing

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

33.2.3 show qos map cos-queue

Use this command to display the QoS mapped COS queue information.

show qos map cos-queue

Parameter	Parameter	Description
	Null	Null
Default	Null	
Mode	Privileged mode	
Usage	Displays the QoS COS map information.	
Example	show qos map cos-queue CoS to Queue mappings COS 0 1 2 3 4 5 6 7 --------------------------------- Queue 2 1 1 2 3 3 4 4	
Command	Null	

33.2.4 show qos map dscp-queue

Use this command to show the qos mapped DSCP queue information.

show qos map dscp-queue

Parameter	Parameter	Description
	Null	Null
Default	Null	
Mode	Privileged mode	
Usage	Displays the QoS mapped DSCP information.	

Example	show qos map dscp-queue DSCP to Queue mappings d1: d2 0 1 2 3 4 5 6 7 8 9 --- 0: 8 8 8 8 8 8 2 2 2 2 1: 2 2 2 2 2 2 2 2 2 2 2: 2 2 2 2 2 2 2 2 2 2 3: 2 2 2 2 2 2 2 2 2 2 4: 2 2 2 2 2 2 2 2 2 2 5: 2 2 2 2 2 2 2 2 2 2 6: 2 2 2 2
Command	Null

34 POE commands

34.1 configure command

34.1.1 PoE enable

Use this command to enable the power supply capability of a PoE port.

poe enable
no poe enable

Parameter

Parameter	Description
poe enable	Enables the PoE power supply function, the default is on.
no poe enable	Turns off the PoE power supply.

Default

Enabled

Mode

Interface configuration mode

Usage

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

Example

```
ECS2020-10P(config-if-GigabitEthernet0/1)# poe enable
ECS2020-10P(config-if-GigabitEthernet0/1)# no poe enable
```

Command

Command	Description
show poe interfaces configuration	Display the configuration information of current interface PoE

34.1.2 poe mode

Use this command to configure the power management mode of the PoE system.

poe mode auto
poe mode energy-saving
poe mode static

Parameter

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

Default: energy-saving

Mode: Global configuration mode

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

Example:

```
ECS2020-10P(config)# poe mode auto
ECS2020-10P(config)# poe mode energy-saving
ECS2020-10P(config)# poe mode static
```

Command

Command	Description
show poe powersupply	View the PoE system configuration information.

34.1.3 poe max-power

Use this command to set the system maximum power.

poe max-power no poe max-powe

Parameter

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

Default 35W

Mode Interface configuration mode

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

Example

```
ECS2020-10P(config)# interface GigabitEthernet 0/1
ECS2020-10P(config-if-GigabitEthernet0/1)# poe max-power 20
```

Command

Command	Description
show poe interfaces configuration	View the PoE interface configuration information.

34.1.4 poe alloc-power

Use this command to set the system allocation power.

poe alloc-power
no poe alloc-power

Parameter

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

Default 35W

Mode Interface configuration mode

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

Example
```
ECS2020-10P(config)# interface GigabitEthernet 0/1
ECS2020-10P(config-if-GigabitEthernet0/1)# poe alloc-power 20
```

Command

Command	Description
show poe interfaces configuration	View the PoE interface configuration information.

34.1.5 poe timer enable

Use this command to enable the PoE timer.

enable the POE timer poe timer enable
no poe timer enable

Parameter

Parameter	Description
poe timer enable	Enable PoE timer
no poe timer enable	Disable PoE timer

Default

Disabled POE timer

Mode

Global configuration mode

Usage

Use this command to enable or disable the remote power supply capability timer of a port.

Example

```
ECS2020-10P(config)# poe timer enable
ECS2020-10P(config)# no poe timer enable
```

Command

Command	Description
show poe timer	View the configuration information of interface PoE timer.

34.1.6 poe timer configuration

Use this command to set the PoE timer mode.

Parameter

Parameter	Description
absolute	Sets the PoE power to the absolute time.
periodic	Sets the PoE power cycle time.

Default NULL

Mode Interface configuration mode

Usage Use the command to set the PoE power supply time.

Example

```
ECS2020-10P(config)# poe timer enable
ECS2020-10P(config)# interface GigabitEthernet 0/5
ECS2020-10P(config-if-GigabitEthernet0/5)# poe timer periodic everyday 8:30 to 19:30
mon  to wed
ECS2020-10P(config-if-GigabitEthernet0/5)# poe timer absolute start 08:30 jul 25 2017 stop
    18:30 sep 30 2017
```

Command

Command	Description
show poe timer	View the configuration information of the interface PoE timer information.

34.2 Display relevant commands

34.2.1 show poe interface

Use this command to view the PoE configuration and status information of a specified port.

show poe interface gigabitEthernet port-id

Parameter

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

Default NULL

Mode Privilege configuration mode.

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

Example

```
ECS2020-10P# show poe interfaces GigabitEthernet 0/1

Interface               : gi0/1
Pd Description          :
Power control           : Normal
Power status            : Detecting
Max power               : 35 W
Allocate power          : 35 W
Current power           : 0 W
Average power           : 0 W
Peak power              : 0 W
Voltage                 : 52.908 V
Current                 : 0 mA
PD class                : NoPd
Trouble cause           : None
Trouble Recover Mode    : auto
Power management        : Energy-saving
ECS2020-10P#
```

34.2.2 show poe interfaces

Use this command to view the PoE status or configuration of all ports.

show poe interfaces status
show poe interfaces configuration

Parameter

Parameter	Description
Null	Null

Default: null

Mode: Privilege configuration mode.

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

Example

```
ECS2020-10P# show poe interfaces status

Interface   Power   Power      Curr    Avg     Peak    Curr     Trouble        PD
            Port    Control    Status  Power   Power   Power    Current Cause
            Class   Voltage
-------------------------------------------------------------------------------
gi0/1       Normal  Detecting  0W      0W      0W      0mA      0       N/A    0V
gi0/2       Normal  Detecting  0W      0W      0W      0mA      0       N/A    0V
gi0/3       Normal  Detecting  0W      0W      0W      0mA      0       N/A    0V
gi0/4       Normal  Detecting  0W      0W      0W      0mA      0       N/A    0V
gi0/5       Normal  Detecting  0W      0W      0W      0mA      0       N/A    0V
gi0/6       Normal  Detecting  0W      0W      0W      0mA      0       N/A    0V
gi0/7       Normal  Detecting  0W      0W      0W      0mA      0       N/A    0V
gi0/8       Normal  Detecting  0W      0W      0W      0mA      0       N/A    0V
ECS2020-10P#
```

34.2.3 show poe powersupply

Use this command to view the power state of the PoE system.

show poe powersupply

Parameter	Description
Null	Null

Default –

Mode Privilege configuration mode.

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

Example

```
ECS2020-10P# show poe powersupply
Powerring Port List           :
Power Management Method       : Energy-saving
Poe uninterruptible power     : Disable
System Total Power            : 70 W
Power Consumption             : 0 W
Available power               : 70 W [100%]
```

34.2.4 show poe timer

Issue this command to view the PoE timer value.

show poe timer

Parameter	Description
Null	Null

Default –

Mode Privilege configuration mode.

Usage Execute this command to view the configured PoE timer value.

Example

```
ECS2020-10P# show poe timer
PORT   | Timer mode|    Start timer |    Stop timer
----------+-----------+---------------+--------------
    1      |    Periodic|   Wednesday 8:0| Friday 23:0
```

35 SNMP command

35.1 SNMP configuration commands

35.1.1 snmp enable

Use this command to enable the SNMP agent on the switch.

Snmp enable

Parameter

Parameter	Description
snmp enable	Enables the SNMP agent, the default is off

Default Disabled

Mode Global configuration mode

Usage Use this command to configure and enable the SNMP agent, an IPv6 SNMP agent is enabled at the same time.

Example

```
ECS2020-10P(config)# snmp enable
```

Command

Command	Description
show snmp	Views the current SNMP status.

35.1.2 no snmp enable

Use this command to disable the SNMP agent.

no snmp enable

Parameter

Parameter	Description
snmp enable	Enable the SNMP agent, the default is off.

Default

Disabled.

Mode

Global configuration mode

Usage

Use this command to shut down the SNMP agent.

Example

```
ECS2020-10P(config)# no snmp enable
```

Command

Command	Description
show snmp	View the SNMP status.

35.1.3 snmp enable traps

Use this command to enable SNMP to actively send trap messages to an NMS. The no form of this command disables SNMP from sending an NMS traps.

snmp-server enable traps
no snmp-server enable traps

Parameter

Parameter	Description
snmp-server enable traps	Enables the trap function
no snmp-server enable traps	Disables the trap function

Default: Disabled

Mode: Global configuration mode

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

Example:

```
ECS2020-10P(config)# snmp-server enable traps
ECS2020-10P(config)# no snmp-server enable traps
```

Command

Command	Description
show snmp	View the current SNMP switch status.

35.1.4 snmp-server community

Use this command to specify the access characters for the SNMP community.

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

parameter

Parameter	Description
community name	Community name

Default –

Mode Global configuration mode

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

Example
```
ECS2020-10P(config)# snmp-server community test rw
```

Command

Command	Description
show snmp community	View the configured Community Information.

35.1.5 snmp-server host

Use this command to configure an SNMP host (NMS) to receive switch trap messages. The no form of the command deletes the specified SNMP host.

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

Parameter

Parameter	Description
host-addr	Receive the Trap host IP address
community name	Community name
version	SNMP supported version, this device supports v1, V2c, v3

Default There is no default SNMP host.

Mode Global configuration mode

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

Example

```
ECS2020-10P(config)# snmp-server host 192.168.100.149 traps
version 1 test
ECS2020-10P(config)# no snmp-server host 192.168.100.149 traps
version 1 test
```

Command

Command	Description
show snmp host	View the SNMP host settings configured on the switch.

35.1.6 snmp trap auth

Use this command to enable sending a trap (authTrap) message when an authemtication fails on the switch. Use the no option for this command and the SNMP function will not issue an authTrap.

snmp trap auth
no snmp trap auth

parameter

Parameter	Description
Null	Null

Default

Enabled – authTraps will be sent on authentication failure.

Mode

Global configuration mode.

Usage

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

Example

ECS2020-10P(config)# snmp trap auth
ECS2020-10P(config)# no snmp trap auth

Command

Command	Description
show snmp trap	Views the snmp trap configuration.

35.1.7 snmp trap link-status

Use this command to enable sending a link-status trap (LinkTrap) should a port link status change. Use the no option of this command and SNMP will not send LinkTrap.

snmp trap linkup
snmp trap linkDown

parameter

Parameter	Description
Null	Null

Default

When this function is enabled and the link status of a port changes, SNMP will send a LinkTrap.

Mode

Global configuration mode.

Usage

For an interface (Ethernet interface, Ap interface or SVI interface), this command configures whether to send an interface LinkTrap or not. If an interface changes Link state, SNMP will issue a LinkTrap.

Example

```
ECS2020-10P(config)# snmp trap linkUp
ECS2020-10P(config)# snmp trap linkDown
```

Command

Command	Description
show snmp trap	Views the snmp trap configuration.

35.1.8 snmp trap restart

Use this command to enable sending a warm-start or cold-start trap after a successful restart. Use the no option of this command and SNMP will not send a warm or cold start trap.

snmp trap cold-start
snmp trap warm-start

parameter

Parameter	Description
Null	Null

Default	If this function is enabled and the switch reboots or restarts, a trap message is sent after a successful reboot.
Mode	Global configuration mode
Usage	For either warm-start and cold-starts a trap function can be enabled. After a successful restart the relevant trap message will be sent if enabled.
Example	ECS2020-10P(config)# snmp trap cold-start ECS2020-10P(config)# snmp trap warm-start

Command

Command	Description
show snmp trap	Views the snmp trap configuration.

35.1.9 snmp trap stp

Use this command to enable sending an STP trap after a topology change or a new root bridge is created. Use the no option of this command and SNMP will not send an STP trap.

snmp trap stp
no snmp trap stp

parameter

Parameter	Description
Null	Null

Default	Disabled
Mode	Global configuration mode.
Usage	When a network topology change is detected or a new root bridge is created, an STP Trap is sent if enabled otherwise none is sent.
Example	ECS2020-10P(config)# snmp trap stp ECS2020-10P(config)# no snmp trap stp

Command

Command	Description
show snmp trap	Views the snmp trap configuration.

35.2 SNMP display relevant commands

35.2.1 show snmp-status

Use this command to displays the current SNMP **on** state.

show snmp

parameter

Parameter	Description
Null	Null

Default

Mode Privilege configuration mode

Usage

Example

```
ECS2020-10P# show snmp
 SNMP is enabled.
```

35.2.2 show snmp trap

Use this command to display the current SNMP trap status.

show snmp trap

parameter

Parameter	Description
Null	Null

Default –

Mode Privilege configuration mode

Usage

Example	35.2.2.1.1.1.1 ECS2020-10P# show snmp trap SNMP global trap : Enable SNMP auth failed trap : Enable SNMP linkUp trap : Enable SNMP linkDown trap : Enable SNMP cold-start trap : Enable SNMP warm-start trap : Enable SNMP stp trap : Enable

35.2.3 show community

Use this command to display the current SNMP community name and status.

show snmp community

Parameter

Parameter	Description
Null	Null

Default –

Mode Privilege configuration mode

Usage

Exampel

```
ECS2020-10P# show snmp community
Community Name      Group Name                  View                        Access
------------------- --------------------------- --------------------------- ------------
private             -                           all                         rw
public              -                           all                         ro
```

35.2.4 show snmp host

Use this command to display the host that receives the trap information.

show snmp host

parameter	Parameter	Description
	Null	Null

Default	-

Mode	Privilege configuration mode

Usage	-

Example

```
ECS2020-10P# show snmp host
Server          Community/User Name  Notification Version  Notification Type  UDP Port  Retries  Timeout
-------------------------------------------------------------------------------------------------------------
192.168.100.139 test                 v1                    trap               162       --       --
Total Entries: 1
```

36 lldp settings

36.1 lldp settings

36.1.1 LLDP enable

This command enables LLDP. LLDP is a Layer 2 protocol that allows network devices to advertise their own device identities and performance on the local subnet.

lldp

no lldp

Parameter

Parameter	Description
Null	Null

Default: Disabled

Mode: Global configuration mode

Usage: Use the “lldp” command to enable LLDP RX/TX ability. The LLDP enabled status is displayed by using the “show lldp” command. Use the no form of this command to disable LLDP.

Example:

```
ECS2020-10P(config)# lldp
ECS2020-10P(config)# no lldp
```

Command

Command	Description
show lldp	Displays the LLDP information.

36.1.2 lldp rx

When the port works in Rx. mode, the device only receives non-sending neighbor devices to send LLDP packets.

lldp rx

no lldp rx

Parameter

Parameter	Description
-	-

Default	default is disable
Mode	Interface configuration mode
Usage	Use the “lldp rx” command to enable the LLDP PDU RX ability. The configuration is displayed by using the “show lldp” command.
Example	ECS2020-10P(config-if-GigabitEthernet0/1)# lldp rx ECS2020-10P(config-if-GigabitEthernet0/1)# no lldp rx

Command

Command	Description
show lldp	Display LLDP information

36.1.3 LLDP tx-interval

Use this command to set the LLDP message transmission interval.

lldp tx-interval <5-32767> no

lldp tx-interval

Parameter

Parameter	Description
<5-32767>	Specify the LLDP PDU tx interval in unit of second

Default	30s
Mode	Global configuration mode
Usage	Use “lldp tx-interval” command to set the LLDP TX interval. It should be noted that both ”lldp tx-interval ” and ”lldp tx-delay” affects the lldp pdu tx time, the larger value of the two configuration decides the TX interval, the configuration is viewed by using the “show lldp” command.
Example	ECS2020-10P(config)# lldp tx-interval 10 ECS2020-10P(config)# no lldp tx-interval

Command

Command	Description
show lldp	Displays the LLDP information.

36.1.4 LLDP reinit-delay

Use this command to set the LLDP module re-initialization delay. Use the no form of the command to remove any delay.

lldp reinit-delay <1-10>

no lldp reinit-delay

Parameter

Parameter	Description
<1-10>	Specifies the LLDP re-initial delay time in seconds.

Default 2s

Mode Global configuration mode

Usage Use the “lldp reinit-delay” command to configure the LLDP reinit-delay. The delay avoids LLDP generating too many PDUs if the port status toggles up and dow frequently. Thedelay starts to count when the port links status changes to down delaying sending any new LLDP pdu until the delay counts to zero . The configuration is displayed by using the “show lldp” command. Use the no form of this command to disable the LLDP reinit delay.

Example

```
ECS2020-10P(config)# lldp reinit-delay 5
 ECS2020-10P(config)# no lldp reinit-delay
```

Command

Command	Description
show lldp	Displays the LLDP information.

36.1.5 LLDP holdtime-multiplier

Use this command to set the LDDP holdtime-multiplier. Use the no form of the command to remove it.

lldp holdtime-multiplier <2-10>

no holdtime-multiplier

Parameter

Parameter	Description
<2-10>	Specifies the LLDP hold time multiplier.

Default 4

Mode Global configuration mode

Usage

Use the “lldp holdtime-multiplier” command to configure the LLDP PDU hold multiplier that decides the time-to-live (TTL) value sent in LLDP advertisements.

TTL = (tx-interval * holdtime-multiplier). The configuration can be displayed using the “show lldp” command.

Example

```
ECS2020-10P(config)# lldp holdtime-multiplier 3
ECS2020-10P(config)# no lldp holdtime-multiplier
```

Command

Command	Description
show lldp	Displays the LLDP information.

36.1.6 lldp lldpdu

Use this command to configure the action to use for LLDP PDUs when LLDP is disabled.

lldp lldpdu (bridging | filtering | flooding)

Parameter

Parameter	Description
bridging	When LLDP is globally disabled, LLDP packets are bridging (bridging lldp pdu to vlan number ports).
filtering	When LLDP is globally disabled, LLDP packets are filtered(deleted)
flooding	When LLDP is globally disabled, LLDP packets are flooded (forwarded to all interfaces)

Default flooding

Mode	Global configuration mode
Usage	Use the “lldp lldpdu” command to configure the LLDP PDU handling behavior when LLDP is globally disabled. Note that if LLDP is globally enabled and per port LLDP receive status is configured to disabled, the received LLDP PDU would be dropped instead of using the global disable behavior. The configuration can be displayed by using the “show lldp” command.
Example	`ECS2020-10P(config)# lldp lldpdu bridging`

Command

Command	Description
show lldp	Displays the LLDP information.

36.1.7 LLDP med

LLDP module re-initialization delay.

This command is only available through the CLI command interface.

lldp med
no lldp med

Parameter

Parameter	Description
Null	Null

Default	lldp med
Mode	Interface configuration mode
Usage	Use “**lldp med**” to configure the LLDP MED enable status. If LLDP MED is enabled, the LLDP MED capability TLV and other selected MED TLV will be attached. The configuration can be shown by using the “show lldp med” command. Use the no form of this command to restore the behavior to default.
Example	`ECS2020-10P(config-if-GigabitEthernet0/1)# lldp med` `ECS2020-10P(config-if-GigabitEthernet0/1)# no lldp med`

Command

Command	Description
show lldp	Display lldp information

36.1.8 lldp med fast-start-repeat-count

Use this command to configure LLDP MED fast start repeat count.

lldp med f ast-start-repeat-count <*1-10* >
no lldp med fast-start-repeat-count

Parameter

Parameter	Description
<1-10>	LLDP PDU fast start TX repeat counts.

Default 3

Mode Global Configuration

Usage

Use the “lldp lldp med fast-start-repeat-count” command to configure LLDP bpdu fast start tx repeat. When a port link goes down, it will send an LLDP PDU immediately to notify a link partner, the number of LLDP PDU sent depends on the fast-start-repeat-count configuration. The LLDP PDU fast-start transmits in an interval of one second. The fast start behavior works whether LLDP MED is enabled or not. The configuration could be shown by using the command “show lldp med”. Use the no form of this command to restore the behavior to default.

Example

```
ECS2020-10P(config)# lldp med fast-start-repeat-count 3
```

Command

Command	Description
show lldp med	Displays the LLDP MED information.

36.1.9 lldp med tlv-select

Use this command to configure the selected MED TLVs for LLDP packets.

lldp med tlv-select *MEDTLV* [*MEDTLV*] [*MEDTLV*] [*MEDTLV*]
no lldp med tlv-select

Parameter

Parameter	Description
MEDTLV	MED optional TLV. Available optional TLVs are network-policy, location, poe-pse, and inventory.

Default

network-policy TLV

Mode

Interface configuration mode

Usage

Use the “lldp med tlv-select” command to configure the LLDP MED TLV selection. Note that even if no MED TLV is selected, the MED capable TLV will be attached if LLDP MED is enabled. The configuration can be viewed by using the “show lldp med” command. Use the no form of this command to remove all selected MED TLV over the dedicated ports.

Example

```
ECS2020-10P(config-if-GigabitEthernet0/1)# lldp med tlv-select
                                             network-policy
ECS2020-10P(config-if-GigabitEthernet0/1)# no lldp med tlv-s
                                           elect
```

Command

Command	Description
show lldp interfaces GigabitEthernet 0/1	Display LLDP information

36.1.10 lldp tlv-select

Use this command to select TLVs from the optional list shown below. Use the no form of the command to set the TLV selected to default.

lldp tlv-select *TLV* [*TLV*] [*TLV*] [*TLV*] [*TLV*] [*TLV*] [*TLV*]
no lldp tlv-select

Parameter	Parameter	Description
	TLV	Select from the following optional LLDP optional TLV: **port-desc**, **sys-name**, **sys-desc**, **sys-cap**, **mac-phy**, **lag**, **max-frame-size**, or **management-addr**.

Default	No TLV selected
Mode	Interface configuration mode
Usage	Use the “lldp tlv-select” command to attach selected TLV to LLDP PDU. The configuration can be viewed using the “show lldp” command. Use the no form of this command to remove all selected TLV. This example selects the system description TLV and then set the TLV selected to default.
Example	`ECS2020-10P(config-if-GigabitEthernet0/1)# lldp tlv-select sys-desc` `ECS2020-10P(config-if-GigabitEthernet0/1)# no lldp tlv-select`

Command	Command	Description
	show lldp interfaces GigabitEthernet 0/1	Displays the LLDP information.

36.1.11 lldp tlv-select pvid

Use this command to configure whether to attach or not the LLDP 802.1 PVID TLV. Use the no form of the command to set the attach state to default.

lldp tlv-select pvid (disable|enable)
no lldp tlv-select pvid

Parameter	Parameter	Description
	disable	Disable the LLDP 802.1pvid tlv attach state
	enable	Enable the LLDP 802.1pvid tlv attach state

Default	Enabled
Mode	Interface configuration mode
Usage	Use the “lldp tlv-select pvid” command to configure the 802.1 PVID TLV attached enable status. The configuration can be viewed using the “show lldp” command.
Example	`ECS2020-10P(config-if-GigabitEthernet0/1)# lldp tlv-select pvid enable` `ECS2020-10P(config-if-GigabitEthernet0/1)# lldp tlv-select pvid disable`

Command

Command	Description
show lldp interfaces GigabitEthernet 0/1	Displays the LLDP information.

36.1.12 lldp tlv-select vlan-name

Use this command to configure whether to attach or not the LLDP VLAN name TLV. Use the no form of the command to set the attach state to default.

lldp tlv-select vlan-name add (add|remove) vlan-list
no lldp tlv-select

Parameter

Parameter	Description
VLAN-LIST	VLAN List (e.g. 3,6-8): The range of VLAN ID is 2 to 4094

Default	no VLAN attached.

Mode	Interface configuration mode
Usage	Use the command “lldp tlv-select vlan-name” to add or remove VLAN names to the VLAN list of the 802.1 VLAN-NAME TLV. The configuration can be viewd by using the comamnd “show lldp”.
Example	`ECS2020-10P(config-if-GigabitEthernet0/1)# lldp tlv-select vlan-name add 1` `ECS2020-10P(config-if-GigabitEthernet0/1)# no lldp tlv-select`

Command

Command	Description
show lldp interfaces GigabitEthernet 0/1	Displays the LLDP information.

36.1.13 lldp tx

Use this command to enable a port to work in transmission mode so that the device only sends LLDP packets that do not accept neighbor devices to send LLDP packets. Use the no form of the command to set the LLDP TX mode to default.

lldp tx

no lldp tx

Parameter

Parameter	Description
Null	Null

Default	Disabled
Mode	Interface configuration mode

Usage	Use the “lldp tx” command to enable the LLDP PDU TX ability. The configuration can be viewed using the “show lldp” command.

Example

```
ECS2020-10P(config-if-GigabitEthernet0/1)# lldp tx
ECS2020-10P(config-if-GigabitEthernet0/1)# no lldp tx
```

Command

Command	Description
show lldp	Displays the LLDP information

36.1.14 LLDP tx-delay

Use this command to specify a delay in seconds between successive LLDP transmissions. Use the no form of the command to set the delay to the default value.

lldp tx

no lldp tx

Parameter

Parameter	Description
<1-8192>	Specifies the LLDP transmission delay in unit of seconds.

Default	2s
Mode	Global Configuration
Usage	Use the “lldp tx-delay” command to configure the delay in seconds between successive LLDP frame transmissions. The delay starts to count when any LLDP PDU is sent such as an LLDP PDU advertise routine, LLDP PDU content change, port link up, etc... The configuration can be viewing by using the “show lldp” command. Use the no form of this command to restore the delay to default value.

Example

```
ECS2020-10P(config)# lldp tx-delay 5
ECS2020-10P(config)# no lldp tx-delay
```

Command	Command	Description
	show lldp	Displays the LLDP information.

36.1.15 show lldp

Use this command to view the LLDP configuration.

show lldp

show lldp interfaces GigabitEthernet <1-10>

parameter	Parameter	Description
	<1-10>	GigabitEthernet device number

Default	Null

Mode	Privilege configuration mode.

Usage	Displays the LLDP configuration and port-related LLDP information.

Example

```
ECS2020-10P# show lldp  interfaces GigabitEthernet 0/1
State: Enabled
Timer: 30 Seconds
Hold multiplier: 4
Reinit delay: 2 Seconds
Tx delay: 2 Seconds
LLDP packet handling: Bridging
Port     |  State | Optional TLVs   | Address
-------- + ------ + --------------- + --------
gi0/1 |Disable |                |192.168.100.151

 Port ID: gi0/1
 802.3 optional TLVs:
 802.1 optional TLVs
 PVID: Disabled
 VLANs: 1
```

36.1.16 show lldp local-device

Use this command to view the LLDP local device configuration.

show lldp

show lldp interfaces GigabitEthernet <1-10> local-device

Parameter

Parameter	Description
<1-10>	GigabitEthernet device number

Default –

Mode Privilege configuration mode.

Usage Use "**show lldp local-device** " command to show the local configuration of LLDP PDU.

Example

```
ECS2020-10P# show lldp  local-device
LLDP Local Device Information:
Chassis Type : Mac Address
 Chassis ID   : 00E0.4C01.7899
 System Name  : ECS2020-10P
 System Description  :
System Capabilities Support : Bridge
 System Capabilities Enable  : Bridge
 Management Address : 192.168.100.151(IPv4)
 Management Address : fe80::2e0:4cff:fe01:7899(IPv6)
```

36.1.17 show lldp med

Use this command to view the LLDP MED configuration.

show lldp

show lldp interfaces GigabitEthernet <1-10> med

parameter

Parameter	Description
<1-10>	GigabitEthernet device number

Default	–
Mode	Privilege configuration mode.
Usage	Use “**show lldp med** ” command to display the LLDP MED configuration.

Example

```
ECS2020-10P# show lldp med
Fast Start Repeat Count: 3
lldp med network-policy voice: manual
 Port    | Capabilities | Network Policy | Location | Inventory |
PoE PSE
------ + ------------ + -------------- + -------- + --------- + ---
----
 gi0/1 |           No |             No |       No |        No |N/A
 gi0/2 |           No |            Yes |       No |        No |N/A
 gi0/3 |           No |            Yes |       No |        No |N/A
 gi0/4 |           No |            Yes |       No |        No |N/A
 gi0/5 |           No |            Yes |       No |        No |N/A
 gi0/6 |           No |            Yes |       No |        No |N/A
 gi0/7 |           No |            Yes |       No |        No |N/A
 gi0/8 |           No |            Yes |       No |        No |N/A
 gi0/9 |           No |            Yes |       No |        No |N/A
gi0/10 |           No |            Yes |       No |        No |N/A
```

36.1.18 show lldp neighbor

Use this command to view the LLDP neighbor information.

show lldp neighbor

Parameter

Parameter	Description
Null	Null

Default	–

Mode	Privilege configuration mode.
Usage	Use the “show lldp neighbor” command to display the received neighbor LLDP PDU information. When LLDP PDUs are received on LLDP RX enable ports, the system stores the PDU information in a database until the time to live timer parameter of the PDU packets counts down to zero.
Example	ECS2020-10P# show lldp neighbor Port	Device ID	Port ID	SysName	Capabilities	TTL ---- + ---------- + ---------- + ---------- + ---------- + ----- gi0/4	00E0.4C01.7899	gi0/1			100

36.1.19 show lldp statistics

Use this command to view the LLDP RX and TX statistics.

show lldp statistics

Parameter	Parameter	Description
	Null	Null

Default	-
Mode	Privilege configuration mode.
Usage	Use the “**show lldp statistics**” command to display the LLDP RX/TX statistics.

Example

```
ECS2020-10P# show lldp statistics
  LLDP Global Statistics:
  Insertions : 1
  Deletions  : 0
  Drops      : 0
  Age Outs   : 0
    | TX Frames |        RX Frames         |        RX TLVs        | RX Ageouts
 Port  |   Total   | Total | Discarded | Errors | Discarded | Unrecognized |    Total
    --------+-----------+-------+-----------+--------+-----------+--------------+----------
 gi0/1 |       12 |    0 |       0 |     0 |       0 |         0 |       0
 gi0/2 |        0 |    0 |       0 |     0 |       0 |         0 |       0
 gi0/3 |        0 |    0 |       0 |     0 |       0 |         0 |       0
 gi0/4 |        3 |    3 |       0 |     0 |       0 |         0 |       0
 gi0/5 |        0 |    0 |       0 |     0 |       0 |         0 |       0
 gi0/6 |        0 |    0 |       0 |     0 |       0 |         0 |       0
 gi0/7 |        0 |    0 |       0 |     0 |       0 |         0 |       0
 gi0/8 |        0 |    0 |       0 |     0 |       0 |         0 |       0
 gi0/9 |        0 |    0 |       0 |     0 |       0 |         0 |       0
gi0/10 |        0 |    0 |       0 |     0 |       0 |         0 |       0
```

37 System settings command

37.1 Basic System Settings

37.1.1 Management VLAN

Use the command below to configure the system management VLAN ID.

management-vlan vlan vlanid

Parameter

Parameter	Description
vlanid	The VLAN ID is In the range of <1-4094>

Default 1 (VLAN ID 1)

Mode Global configuration mode

Usage Use this command to configure the system management VLAN ID.

Example
```
ECS2020-10P(config)# management-vlan vlan 1
```

Command

Command	Description
show management-vlan	Displays the management vlan configuration.

37.1.2 ip dhcp

Use this command to configure the switch management IP address as dynamic.

ip dhcp

Parameter

Parameter	Description
Null	Null

Default Null

Mode: Global configuration mode

Usage: Use this command to Configure the management IP address of the switch as dynamic.

Example:

```
ECS2020-10P(config)# ip dhcp
```

Command:

Command	Description
show ip	Displays the switch management IP address information.

37.1.3 Management ip

Use the command below to configure the switch management IP address with a static address.

Ip address x.x.x.x

Parameter:

Parameter	Description
Ip address	Four fields in the range of <0-255> separated by decimal points.
mask	Four fields in the range of <0-255> separated by decimal points.
default-gateway	Four fields in the range of <0-255> separated by decimal points.

Default: 192.168.2.10

Mode: Global configuration mode

Usage: Use this command to configure the switch management IP address.

Example:

```
ECS2020-10P(config)# ip address 192.168.2.10 mask 255.255.255.0
ECS2020-10P(config)# ip default-gateway 192.168.2.1
```

Command:

Command	Description
show ip	Displays the management IP address information.

37.1.4 location command

Use this command to configure the system location text string in the switch.

location

Parameter

Parameter	Description
address	Sets the host location address
relation	Sets the host location relation
telephone	Sets the host location telephone

Default: Null

Mode: Global configuration mode

Usage: Use this command to configure the system location

Example:

```
ECS2020-10P(config)# location address 1 Eiffel Flats Road,Kadoma,Zimbabwe
ECS2020-10P(config)# location relation Neville Nkhoma
ECS2020-10P(config)# location telephone +263 4 757 098
```

Command

Command	Description
show location	Displays the system location information.

37.1.5 ipv6

Use this command to statically configure an IPv6 switch management address.

Ipv6 address X:X::X:X
IPv6 gateway X:X::X:X

Parameter

Parameter	Description
Ipv6 address	Up to 8 fields of 4 hexadecimal characters.
prefix	<0-128>
Ipv6 gateway	X:X::X:X IPv6 gateway

Default

Null

Mode

Global configuration mode

Usage

Use this command to configure a static IPv6 address for the switch management IP address.

Example

```
ECS2020-10P(config)# ipv6 address 2001::5 prefix
64 ECS2020-10P(config)# ipv6 default-gateway
2001::1
```

Command

Command	Description
show ipv6	Displays the IPv6 management address information.

37.1.6 ipv6 DHCP command

Use the command below to configure the switch's IPv6 management address as dynamic.

ipv6 dhcp

Parameter

Parameter	Description
Null	Null

Default

Null

Mode

Global configuration mode

Usage

Use this command to Configure the IPv6 address of the switch

Example

```
ECS2020-10P(config)# ipv6 dhcp
```

Command

Command	Description
show ipv6	Displays the management IPv6 information

37.1.7 Telnet

Use the command below to enable the Telnet server on the switch.

ip telnet

Parameter

Parameter	Description
Null	Null

Default Null

Mode Global configuration mode

Usage Use this command configure the system Telnet server to allow Telnet client connections to connect.

Example

```
ECS2020-10P(config)# ip telnet
ECS2020-10P(config)# no ip
telnet
```

37.1.8 Upload the switch log file

Use the command below to upload the system log file to a TFTP server.

copy flash://ram.log tftp://

Parameter

Parameter	Description
flash://	Specifies the ram.log file to be copied from flash.
tftp://	Specifies the TFTP server IP address for example: tftp://192.168.100.149

Default Null

Mode Privilege configuration mode.

Usage Use this command to upload the switch log file to a TFTP server.

Example
```
ECS2020-10P# copy flash://ram.log tftp://192.168.100.149/8
```

37.1.9 system restart

Use the command below to restart the switch.

reload

Parameter

Parameter	Description
Null	Null

Default Null

Mode Privilege configuration mode.

Usage Use this command to restart the system.

Example

```
ECS2020-10P# reload
```

37.1.10 change password

Use the command below to change the administrator (admin) user login password for browser access only.

username web xx password xx

Parameter

Parameter	Description
web	Browser manager user name i.e. admin
password	The specified user password.

Default

admin

Mode

Global configuration mode

Usage

Use this command to change the administrator user login password for the browser only.

Example

```
ECS2020-10P(config)# username web admin password admin
```

Command

Command	Description
show username	Display username information

37.1.11 System Log

Use the command below to view the switch system log.

show logging buffered

Parameter

Parameter	Description
Null	Null

Default

Null

Mode	Privilege configuration mode.
Usage	Use this command to display the system log.
Example	ECS2020-10P# show logging buffered Log messages in buffer 5;Jan 01 2000 00:02:22;%SYSTEM-5-INFO: Logging is enabled 5;Jan 01 2000 00:02:22;%SYSTEM-5-RESTART: System restarted - Warm Start 5;Jan 01 2000 00:02:24;%LINEPROTO-5-UPDOWN: Line protocol on GigabitEthernet0/1, changed state to up 5;Jan 01 2000 00:46:06;%AAA-5-LOGIN: New console connection for user admin, source async ACCEPTED 5;Jan 01 2000 00:47:34;%AAA-5-LOGIN: New telnet connection for user admin, source 192.168.100.131 ACCEPTED 5;Jan 01 2000 00:47:43;%AAA-5-LOGIN: New telnet connection for user admin, source 192.168.100.149 ACCEPTED 5;Jan 01 2000 00:50:45;%SYSTEM-5-INFO: Logging host is set to enabled with host 192.168.100.149 (192.168.100.149), port 514, severity emerg, alert, crit, error, warning, notice 5;Jan 01 2000 00:52:54;%SYSTEM-5-INFO: Logging host is set to enabled with host 192.168.100.149 (192.168.100.149), port 514, severity emerg, alert, crit, error, warning, notice ECS2020-10P#

37.1.12 ARP table

Use the command below to display the ARP table.

show arp

Parameter

Parameter	Description
Null	Null

Default

Null

Mode

Privilege configuration mode.

Usage

Use this command to display the system ARP table.

Example

```
ECS2020-10P# show arp
Address      HWtype  HWaddress       Flags Mask      Iface
192.168.100.149 ether   40:16:7E:B1:EB:6D    C              eth0
```

37.1.13 Configure static MAC bindings

Use the command below to configure the MAC addresses binded to specified ports and VLANs.

mac-address static *mac-address* **vlan** *vlan-id* **interface gigabitEthernet** *port-id*
no mac-address static *mac-address* **vlan** *vlan-id* **interface gigabitEthernet** *port-id*

Parameter

Parameter	Description
mac-address	Specifies the MAC address to be binded.
vlan-id	Specifies the VLAN ID to bind the MAC address to.
port-id	Specifies the port number to bind the MAC address to.

Default — Null

Mode — Global configuration mode

Usage — When a MAC address is binded to a designated port as a static address, it will not have an aging time associated to it and thus not expire as a dynamic MAC address would.

Example

```
ECS2020-10P(config)# mac-address static 0001.7A55.E7D2 vlan 1
                      interfaces GigabitEthernet 0/1
ECS2020-10P(config)# no mac-address static 0001.7A55.E7D2 vlan 1
```

Command

Command	Description
show mac-address static	Displays the static mac-addresses comfigured in the switch.

37.1.14 MAC address drop

Use the command below to set a MAC address to be filtered out of a specified VLAN, then PDUs with the MAC address can not be forwarded through the VLAN on the switch. Use the no form of the command to delete the configuration.

mac-address static *mac-address* **vlan** *vlan-id* **drop**
no mac-address static *mac-address* **vlan** *vlan-id* **drop**

Parameter

Parameter	Description
drop	The MAC address to filter.

Default — Null

Mode Global configuration mode

Usage The command is used to specify a MAC address of a specified VLAN to be filtered out. Any traffic with that MAC address on the specified VLAN will not be forwarded through the switch.

Example
```
ECS2020-10P(config)#  mac-address static 0001.7A55.E7D5 vlan 1 drop
```

Command

Command	Description
show mac-address drop	Displays the MAC addresses configured to drop.

37.1.15 configure mac-address aging-time

This command below configures the aging time of dynamic MAC addresses.

mac-address aging-time

Parameter

Parameter	Description
aging-time	<10-630> the aging time in seconds.

Default 630s

Mode Global configuration mode

Usage The time set here will set the aging time for dynamic MAC addresses. If no PDUs with a MAC address appear during the aging time set then the MAC address will be flushed from the switch.

Example
```
ECS2020-10P(config)#  mac-address aging-time 500
```

Command

Command	Description
show mac-address aging-time	Displays the MAC-address aging-time value.

37.1.16 show mac-address count

Use this command to display the number of MAC addresses in the FDB table.

show mac-address count

Paremeter

Parameter	Description
count	Displays the current number of MAC

Default

Null

Mode

Privilege configuration mode.

Usage

–

Example

```
ECS2020-10P# show mac-address count
Static Mac Address Count      : 0
Drop Mac Address Count        : 0
Dynamic Mac Address Count     : 15
Total number of entries       : 15
```

Command

Command	Description
show mac-address static	Displays the static MAC address.
show mac-address drop	Displays the filtered MAC address.
show mac-address dynamic	Displays the dynamic MAC address.
show mac-address interface	Displays the MAC address of the specified port
show mac-address vlan	Displays the MAC address of the specified VLAN

37.1.17 display bound mac-addresses

Use the command below to view information about all bound MAC address tables.

show mac-address [all | drop | dynamic | static | vlan *vlan-id* **{ dynamic | static } | interface** *port-number* **{ drop | dynamic | static }]**

Parameter

Parameter	Description
Show mac-address all	Displays all the MAC addresses binded to the switch.
show mac-address static	Displays the static MAC address.
show mac-address drop	Displays the filtered MAC address.
show mac-address dynamic	Displays the dynamic MAC address.
show mac-address interface	Displays the MAC address of the specified port
show mac-address vlan	Displays the MAC address of the specified VLAN

Default Null

Mode Privilege configuration mode.

Usage Use the command in the example to view all MAC addresses binded to the switch.

Example
```
ECS2020-10P# show mac-address all
```

37.1.18 view the current configuration

Use the command below to view the current configuration (running configuration).

show running-config

Parameter

Parameter	Description
Null	Null

Default	Null
Mode	Privilege configuration mode.
Usage	Use this command to view the current configuration.
Example	`ECS2020-10P# show running-config`

37.1.19 save configuration

Save the current (running) configuration of the switch to the startup configuration file.

write

Parameter

Parameter	Description
Null	Null

Default	Null
Mode	Privilege configuration mode.
Usage	Use this command to Save the current running configuration of the switch to the startup configuration file.
Example	`ECS2020-10P# write`

37.1.20 restore-defaults

Use this command to restore the switch configuration to the factory default settings.

restore-defaults

Parameter

Parameter	Description
Null	Null

Default

Null

Mode

Privilege configuration mode.

Usage

Used to restore the switch configuration to the default settings.

Example

```
ECS2020-10P# restore-defaults
```

37.1.21 Firmware Upgrade

Use this command to upgrade the firmware

copy tftp://xxx.xxx.xxx.xxx/firmware_name.bix flash://image.bin

Parameter

Parameter	Description
flash://image.bin	Firmware filename in the switch file system – target for the copy command from TFTP server.
tftp://	Copy source firmware file from the tftp: file system.(tftp://serverip/filename)

Default

Null

Mode

Privilege configuration mode

Usage

Use this command to upgrade the system firmware.

Example

```
ECS2020-10P# copy tftp://192.168.100.149/vmlinux.bix
flash://image.bin
```

37.1.22 Firmware backup

Use this command to backup the switch firmware to an offline TFTP server.

copy flash://image.bin tftp://xxx.xxx.xxx.xxx

Parameter

Parameter	Description
flash://image.bin	Copy from the source flash file system. flash://image.bin flash://
tftp://	Copy to target TFTP server file system: file system.(tftp://serverip/filenameme

Default

Null

Mode

Privilege configuration mode

Usage

Use this command to backup system

Example

```
ECS2020-10P#copy flash://image.bin tftp://192.168.100.101
```

37.1.23 Uploading the startup configuration

Use the command below to upload the startup configuration file.

copy flash://startup-config tftp://xxx.xxx.xxx.xxx/filename

Parameter

Parameter	Description
flash://	Copy from flash: file system. flash://startup-config
tftp://	Copy to tftp: file system.(tftp://serverip/filename)

Default

Null

Mode

Privilege configuration mode

Usage

Use this command to export the current startup configuration of the system to a TFTP file server.

Example

```
ECS2020-10P# copy flash://startup-config
tftp://192.168.100.149/xxx
```

37.1.24 Downloading a configuration file

Use this command to download a switch configuration file from a TFTP file server.

copy tftp://xxx.xxx.xxx.xxx/config-file running-config

Parameter

Parameter	Description
flash://	Copy to flash: file system. flash://startup-config
tftp://	Copy from tftp: file system.(tftp://serverip/filename)

Default –

Mode Privilege configuration mode

Usage Use this command import a new configuration file to the system running configuration.

Example

```
copy tftp://192.168.100.149/config-file running-config
```

37.1.25 Memory information

Use the command below to display the switch memory information.

show memory

Parameter

Parameter	Description
Null	Null

Default

Null

Mode

Privilege configuration mode

Usage

Use this command to display memory information.

Example

```
ECS2020-10P# show memory
 total(KB)      used(KB)      free(KB)    shared(KB)    buffer(KB)
 cache(KB)
 --------------------+------------+------------+------------+---
  ---------+------------
Mem:           127372         76764         50608             0
2740         24888
-/+ buffers/cache:           49136         78236
Swap:              0             0             0
ECS2020-10P#
```

37.1.26 CPU information

Use the command below to display the switch CPU information.

show cpu

Parameter

Parameter	Description
Null	Null

Default

Null

Mode

Privilege configuration mode

Usage

Use this command to Display CPU information.

Example

```
ECS2020-10P# show cpu

 CPU:      5% used,     95% free
```

37.1.27 Flash information

Use the command below to display the switch flash information.

show flash

Parameter

Parameter	Description
Null	Null

Default

Null

Mode

Privilege configuration mode

Usage

Use this command to display the flash information.

Example

```
           ECS2020-10P# show flash
          File Name             File Size         Modified
        ------------------------ ---------------- ------------------------
        startup-config            1691              2000-01-01 00:49:44
        rsa1                      976               2000-01-01 00:01:02
        rsa2                      1679              2000-01-01 00:01:37
        dsa2                      668               2000-01-01 00:02:04
        ssl_cert                  891               2000-01-01 00:02:08
        image                     7740274           2017-05-31 18:29:07
```

37.1.28 Cable detection

Use the command below to display the switch cable information.

show cable-diag

Parameter

Parameter	Description
Null	Null

Default

Null

Mode

Privilege configuration mode

Usage

Use this command to display the cable information.

Example

```
ECS2020-10P# show cable-diag interfaces GigabitEthernet 0/1
 Port    |  Speed | Local pair | Pair length | Pair status
--------+--------+------------+-------------+--------------
 gi0/1   |  auto  |    Pair A  |     6.00    | Normal
                     Pair B  |     6.00    | Normal
                     Pair C  |     6.00    | Normal
                     Pair D  |     6.00    | Normal
```

37.1.29 web-language

Use the command below to configure the switch web-language.

web-language en

Parameter

Parameter	Description
en	Management Browser will be in English
zh_CN	Management Browser will be in Simplified Chinese
zh_TW	Management Browser will be in Traditional Chinese

Default

Null

Mode

Global configuration mode

Usage

Use this command to configure the switch web-language to one of the available languages by inputting one of the three available language parameter options.

Example

```
ECS2020-10P(config)# web-language en
```

Command

Command	Description
show web-language	Displays the switch web-language.

37.1.30 Management static IPv4 address

This command sets the static IPv4 management address of the switch.

ip address x.x.x.x

Parameter

Parameter	Description
ip address	The int is In the rang of <0-255>
mask	The int is In the rang of <0-255>
default-gateway	The int is In the rang of <0-255>

Default

192.168.2.10

Mode

Global configuration mode

Usage

Use this command to configure the system management ip.

Example

```
ECS2020-10P(config)# ip address 192.168.2.10 mask 255.255.255.0
ECS2020-10P(config)# ip default-gateway 192.168.2.1
```

Command

Command	Description
show ip	Displays the management ip address information.

37.1.31 show version

Use this command to display the current firmware version utilized by the switch.

show version

Parameter

Parameter	Description
Null	Null

Default

Null

Mode

Privilege configuration mode

Usage

Views the current firmware version.

Example

```
 ECS2020-10P Operating System Software
ECS2020-10P system image file (system-firmware.bin), version
17257, Compiled   on Jun 15 2017 - 18:52:19
Copyright@2016 ECS2020-10P Systems, Inc.
 ECS2020-10P Version Information
 Hardware Version   : B1
 SN number          : 11000001
 MAC Address        : 00E0.4C00.0000
 Loader Version     : 1.00.002
 Loader Date        : Mar 09 2017 - 11:49:09
 Firmware Version   : v0.0.0.1
 Firmware Date      : Jun 15 2017 - 18:52:19
 System Uptime is 8 hours 54 minutes 48 seconds
```

37.1.32 DHCP server enable

Use this command to enable the switch's DHCP server.

Ip dhcp server

parameter

Parameter	Description
Null	Null

Default

Disabled

Mode

Global configuration mode

Usage

Enables the DHCP server.

Example

```
ECS2020-10P(config)# ip dhcp server
ECS2020-10P(config)# no ip dhcp server
```

Command

Command	Description
show ip dhcp server	Displays the DHCP server information.

37.1.33 DHCP server configuration

Use the command below to configure the switch DHCP server.

ip dhcpserver

parameter

Parameter	Description
pool	IP Pool is A.B.C.D-E.F.G.H,start to end IP address range separated by a dash.

Default

Null

Mode

Global configuration mode

Usage

Sets the DHCP server with an IP address range to assign clients.

Example

```
ECS2020-10P(config)# ip dhcpserver pool 192.168.2.100-
 192.168.2.200
```

Command

Command	Description
show ip dhcp server	Displays the DHCP server information.

37.1.34 Show fiber-transceiver

Use this command to view the fiber port transceiver signal information such as temperature, voltage, power etc…

This command is only available through the CLI command interface.

show fiber-transceiver interfaces GigabitEthernet port-id

parameter

Parameter	Description
port-id	The fiber port selection.

Default None

Mode Privilege configuration mode

Usage Use this command to view the fiber port transceiver signal information.

Example

```
ECS2020-10T# show fiber-transceiver interfaces gig 0/9
Port    | Temperature  | Voltage     | Current      | Output power | Input power    |
          OE-Present | LOS
                 | [C]          | [Volt]      | [mA]         | [mWatt]      | [mWatt]
                  |            |
================================================================
                 ==================
gi0/9   | 41.15  (OK)  | 3.33  (OK)  | 20.50  (OK)  | 0.32  (OK)   | 0.00  (E)
 | Insert     | Loss

Temp         - Internally measured transceiver temperature
Voltage      - Internally measured supply voltage
Current      - Measured TX bias current
Output Power - Measured TX output power in milliWatts
Input Power  - Measured RX received power in milliWatts
OE-Present   - SFP Presetn or Not Present
LOS          - Loss of signal
N/A - Not Available, N/S - Not Supported, W - Warning, E - Error
```

37.1.35 Show fiber-info

Use this command to view the fiber port and fiber information such as fiber mode, baud rate, fiber type etc…

show fiber-info interfaces GigabitEthernet port-id

parameter

Parameter	Description
port-id	Chose the fiber port to view info

Default None

Mode Privilege configuration mode

Usage Used to view the fiber port and fiber type information.

Example

```
ECS2020-10T# show fiber-info interfaces gig 0/9
             fiber information
             Connector Type       : LC
             Fiber Type           : Single Mode
             Eth Compliance Codes : 1000BASE-LX
             Baud Rate            : 1300Mbd
             Wave Length          : 1310nm
             Vendor OUI           : 00-00-45
             Vendor Name          : EDGE-CORE
             Vendor PN            : ET4202-LX
             Vendor Rev           :
             Vendor SN            : F171020154
             Date Code            : 17-03-07
```