DIGITUS®

24 Port 10/100/1000 + 4 SFP + UPLINK Switch, 19", L2 + Features

Web Management User Manual

DN-80233

Directory

Getting Start

This section provides an introduction to the web-based configuration utility, and covers the following topics:

- Powering on the device
- Connecting to the network
- Starting the web-based configuration utility

● Power

Connecting to Power

Power down and disconnect the power cord before servicing or wiring a switch.

Do not disconnect modules or cabling unless the power is first switched off. The device only supports the voltage outlined in the type plate. Do not use any other power components except those specifically designated for the switch.

Disconnect the power cord before installation or cable wiring.

The switch is powered by the AC 100-240 V 50/60Hz internal high-performance power supply. It is recommended to connect the switch with a single-phase three-wire power source with a neutral outlet, or a multifunctional computer professional source.
Connect the AC power connector on the back panel of the switch to the external power source with the included power cord, and check the power LED is on.

Rear View AC Power Socket

● Connecting to the Network

To connect the switch to the network:

1. Connect an Ethernet cable to the Ethernet port of a computer
2. Connect the other end of the Ethernet cable to one of the numbered Ethernet ports of the switch.

The LED of the port lights if the device connected is active.

3. Repeat Step 1 and Step 2 for each device to connect to the switch.

We strongly recommend using CAT-5E or better cable to connect network devices. When connecting network devices, do not exceed the maximum cabling distance of 100 meters (328 feet). It can take up to one minute for attached devices or the LAN to be operational after it is connected. This is normal behavior.
Switch ports will automatically adjust to the characteristics (MDI/MDI-X, speed, duplex) of the device to which the switch is connected.

● Starting the Web-based Configuration Utility

This section describes how to navigate the web-based switch configuration utility. Be sure to disable any pop-up blocker.

Browser Restrictions

- If you are using older versions of Internet Explorer, you cannot directly use an IPv6 address to access the device. You can, however, use the DNS (Domain Name System) server to create a domain name that contains the IPv6 address, and then use that domain name in the address bar in place of the IPv6 address.
- If you have multiple IPv6 interfaces on your management station, use the IPv6 global address instead of the IPv6 link local address to access the device from your browser.

Launching the Configuration Utility

To open the web-based configuration utility:

1. Open a Web browser.
2. Enter the IP address of the device you are configuring in the address bar on the browser (factory default IP address is 192.168.2.1) and then press Enter.

When the device is using the factory default IP address, its power LED flashes continuously. When the device is using a DHCP assigned IP address or an administrator-configured static IP address, the power LED is lit a solid color. Your computer's IP address must be in the same subnet as the switch. For example, if the switch is using the factory default IP address, your computer's IP address can be in the following range: 192.168.2.x (whereas x is a number from 2 to 254).

After a successful connection, the login window displays.

Login Window

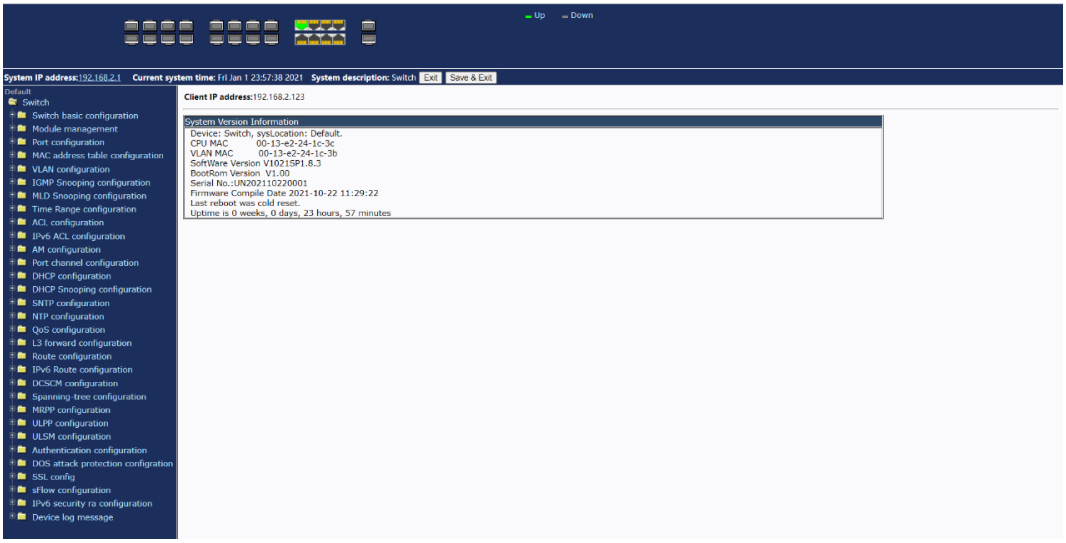
● Logging In

The default username is admin and the default password is admin. The first time that you log in with the default username and password, you are required to enter a new password.

To log in to the device configuration utility:

1. Enter the default user ID (admin) and the default password (admin).
2. If this is the first time that you logged on with the default user ID (admin) and the default password (admin) it is recommended that you change your password immediately.

When the login attempt is successful, the System Information window displays.



System Information

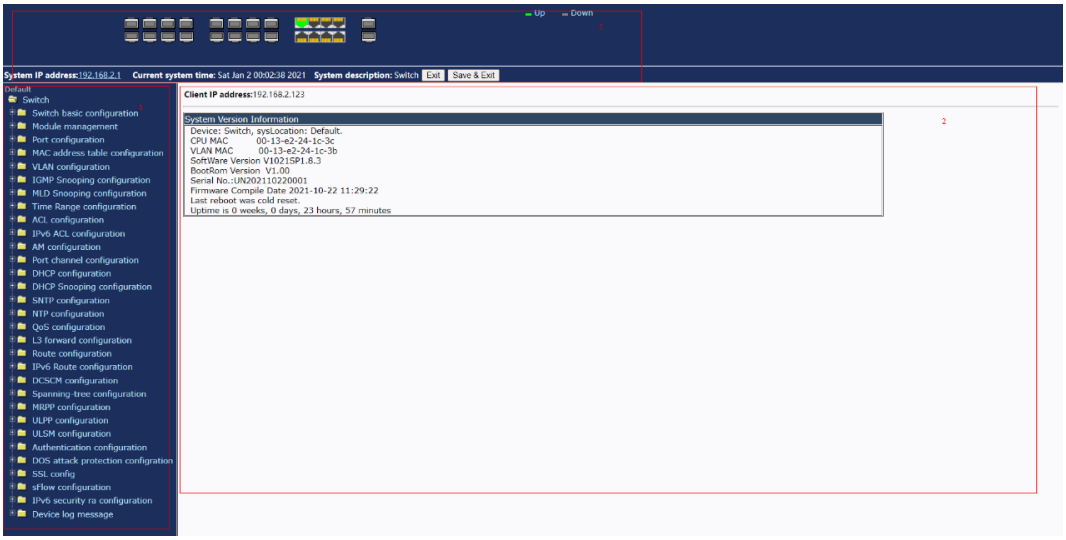
If you entered an incorrect username or password, an error message appears and the Login page remains displayed on the window. If you are having problems logging in, please see the Launching the Configuration Utility section in the Administration Guide for additional information.

- **Logging Out**

By default, the application logs out after ten minutes of inactivity.
To logout, click Logout in the top right corner of any page. The system logs out of the device.
When a timeout occurs or you intentionally log out of the system, a message appears and the Login page appears, with a message indicating the logged-out state. After you log in, the application returns to the initial page.

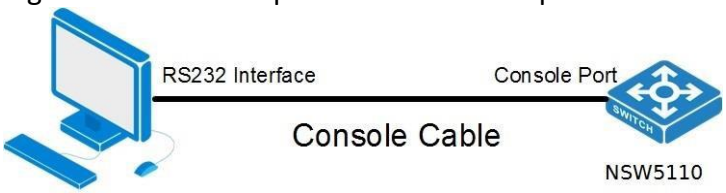
Web-based Switch Configuration

The smart switch software provides rich Layer 2 functionality for switches in your networks. This chapter describes how to use the web-based management interface (Web UI) to configure the switch's features. For the purposes of this manual, the user interface is separated into four sections, as shown in the following figure:

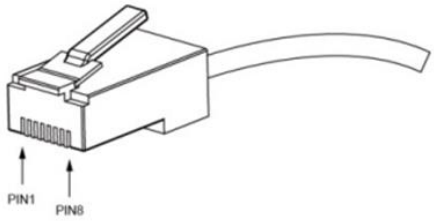


Console Port Interface

The smart switch has a monitor port (Console port). Rate 1200bps-115200bps, standard RJ45 plug. Use a dedicated monitoring cable to lead the port to the PC serial port connection, as follows:



The RJ45 connector used by the Console port is shown in the figure below, and the RJ45 plug corresponds to the RJ45 socket, from left to right numbered from 1 to 8.



This cable is used to connect the console port of the switch to the external monitoring terminal. One end of the RJ45 eight-pin plug, the other end is a 25-hole plug(DB25) and 9-hole plug(DB9), RJ45 head into the switch's console port socket, DB25 and DB9 can be used according to the requirements of the terminal serial port, the cable internal connection schematic as follows:

RJ45 <===> DB9

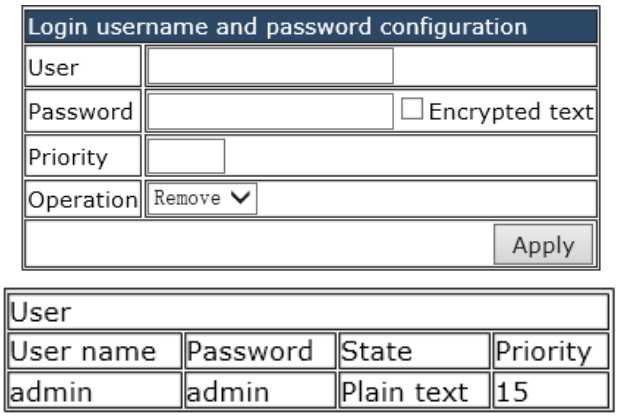
[RTS 1~~~8 CTS]
[DTR 2~~~6 DSR]
[TXD 3~~~2 RXD]
[GND 4~~~5 GND]
[GND 5~~~5 GND]
[RXD 6~~~3 TXD]
[DSR 7~~~4 DTR]
[CTS 8~~~7 RTS]

1. Switch basic configuration

1.1. Switch basic configuration

1.1.1. Login user configuration

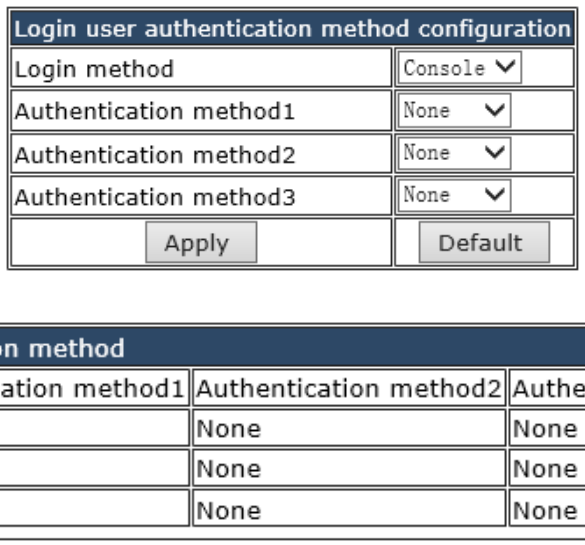
Login user management module, users in this module can add or delete user operations.



User	User name to operate ,1-32 characters	
Password	User password, choose the password encryption, otherwise no encryption of 1-32 characters	
Priority	Used to specify permission level, default level 15	
Operation	Add	Create new users
	Remove	Delete the specified user (password and priority cannot be entered)

1.1.2. Login user authentication method configuration

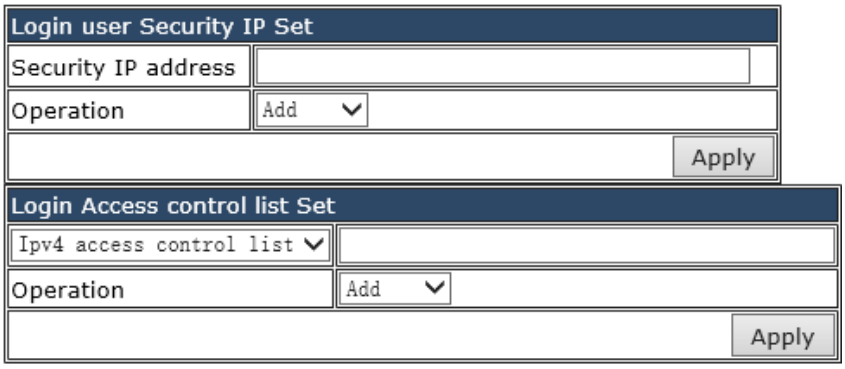
Login user authentication method configuration module, the user can configure console.vty.web authentication method used in login, authentication method can be any one or combination of Local.RADIUS and TACACS.preferences from left to right when the login method is combined configuration. If the user has passed the authentication method, the authentication method of the lower preference is ignored. As long as you pass an authentication method, the user can log in.AAA functions and RADIUS servers should be configured before using RADIUS authentication. If local authentication is configured without configuring a local user, the user will be able to log on to the switch through the console method.

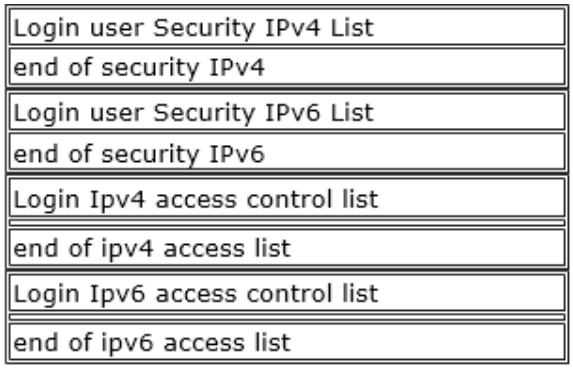


Login method	Authentication method	
console	local	Authentication using the local user account database
vty	radius	Authentication using remote Radius server
web	tacacs	Authentication using remote Tacas server
Default	Default console no authentication , vty and web local authentication	

1.1.3. Login user Security IP management

Login user security IP configuration module, where users can configure the security IP.IPv6 address for login switch, or configure access control list.

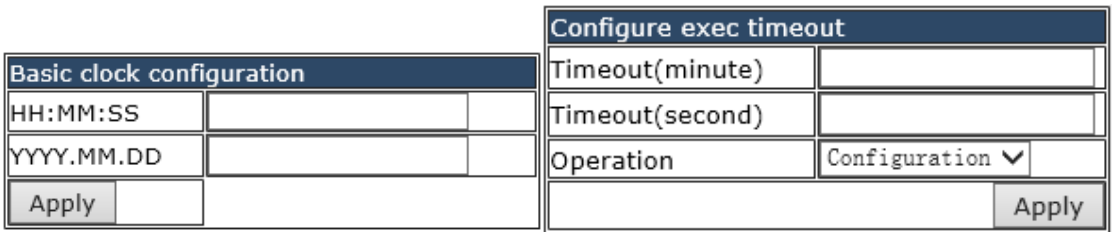


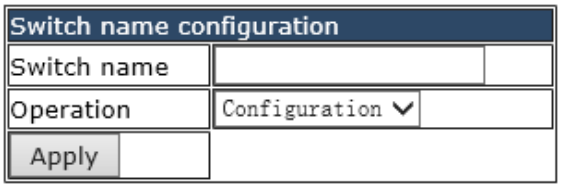


Security IP address	Fill in the specified security IP or IPv6 address (the access control list is valid until the IPv6 address is filled in)	
IPv4/IPv6access control list	Standard access control list number, scope 1-64	
Operation	Add	Add address or list number
	Remove	Delete address or list number

1.1.4. Basic configuration

Basic configuration module, in which users can configure switch current time, exit privilege mode timeout and switch name respectively.

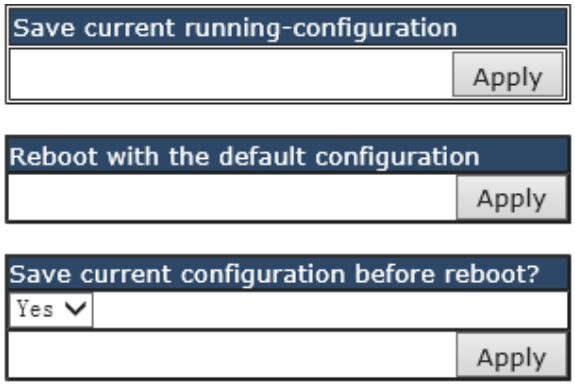




HH:MM:SS	Current time, format hours: minutes: seconds	
YYYY.MM.DD	Current date, format year. Month. Day	
Timeout （minute）	Exit privilege mode timeout score 0-35791	
Timeout （second）	seconds of exit privilege mode timeout (not set separately),0-59 seconds	
Operation	Configuration	Configuration operations
	Default	Restore default (default timeout 10 minutes)
Switch name	Fill in the new name of the switch to be changed, 1-64 characters	
Operation	Configuration	Configuration operations
	Default	Do recovery default (default name Switch)

1.1.5. Save current running-configuration

Save the current configuration module, the user can save the current set configuration, can also leave the factory initial settings restart, but also choose whether to save the current set configuration before restart.

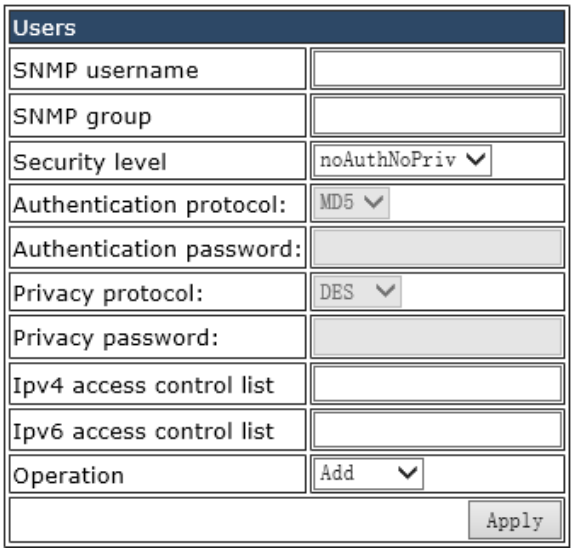


1.2. SNMP authentication

1.2.1. SNMP authentication

1.2.1.1. User

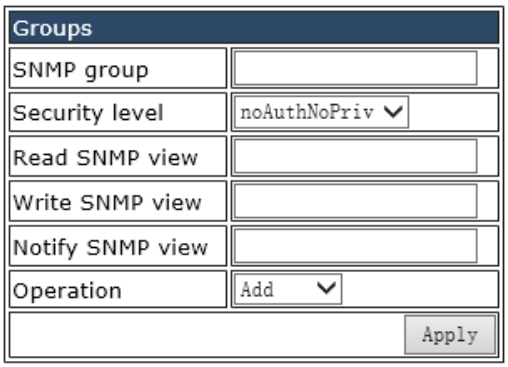
SNMP user management module, users can add or delete SNMP user operations in this module.



SNMP username	User name to operate ,1-32 characters	
SNMP group	User group to join ,1-32 characters	
Security level	noAuthNoPriv	Uncertified non-encrypted level
	authNoPriv	Authentication but not encryption level
	authpriv	Authentication and encryption level
Authentication protocol:	MD5	HMAC MD5 algorithm for authentication
	SHA	Authentication uses HMAC SHA algorithms
Authentication password:	Password for authentication	
Privacy protocol:	DES	Encryption DES algorithm
	AES	Encryption AES algorithm
	3DES	Encryption with 3 DES algorithm
Privacy password:	Password for encryption	
Ipv4 access control list	Standard IPv4 access control list number, range 1-64 characters	
Ipv6 access control list	Standard IPv6 access control list number, range 1-64 characters	
Operation	Add	Add SNMP users
	Remove	Delete SNMP users

1.2.1.2. Groups

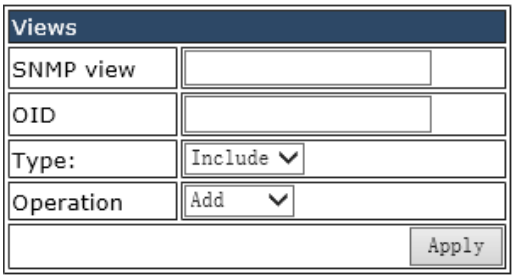
SNMP group management module in which users can add or delete SNMP group operations.

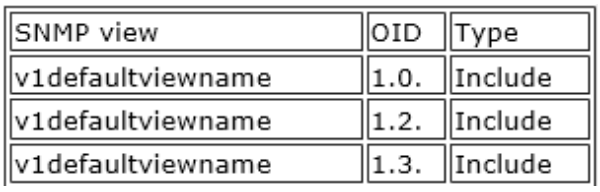


SNMP group	User group name to operate ,1-32 characters	
Security level	noAuthNoPriv	Uncertified non-encrypted level
	authNoPriv	Authentication but not encryption level
	authpriv	Authentication and encryption level
Read SNMP view	Name of readable view, including 1-32 characters	
Write SNMP view	Name of writable view, including 1-32 characters	
Notify SNMP view	Notice the name of the view, including 1-32 characters	
Operation	Add	Add SNMP groups
	Remove	Delete SNMP groups

1.2.1.3. Views

SNMP view management module in which users can add or delete SNMP view operations.



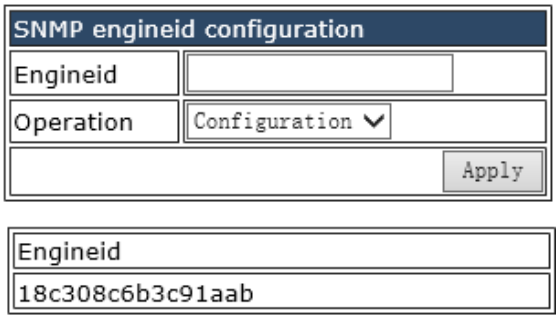


SNMP view	OID	Type
v1defaultviewname	1.0.	Include
v1defaultviewname	1.2.	Include
v1defaultviewname	1.3.	Include

SNMP view	User view name to operate, 1-32 characters	
OID	OID number to operate, decimal	
Type:	Include	Include this OID
	Exclude	Exclude this OID
Operation	Add	Add view
	Remove	Delete View

1.2.1.4. SNMP engineid configuration

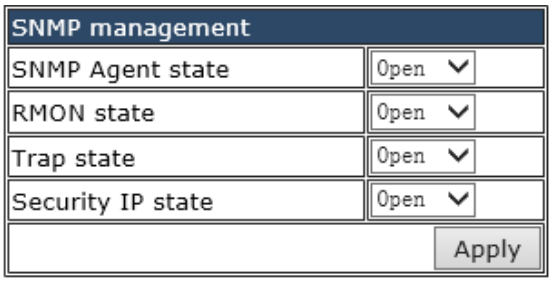
SNMP Engineid configuration module, the user can configure SNMP Engineid operation in this module.



Engineid	Engine id， Hex ,1-32 characters	
Operation	configuration	Configuration operations
	Default	Restore default (default is company ID plus local MAC address)

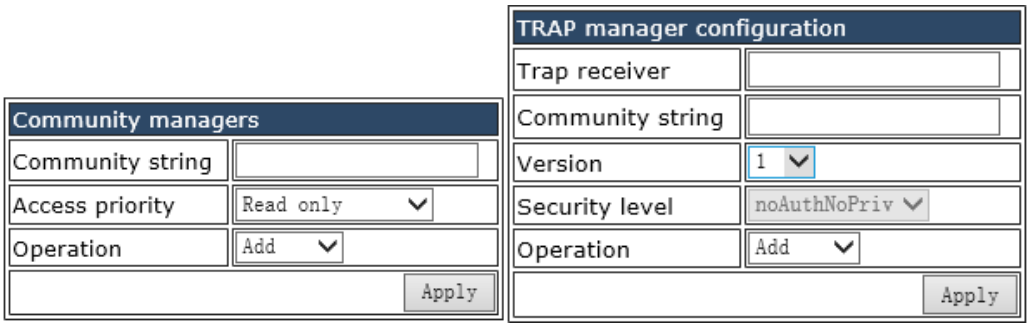
1.2.2. SNMP management

SNMP network management function switch module, users can enable or disable SNMP functions.



1.2.3. Community managers

The group string management module where users can SNMP group string management and configure TRAP management settings.

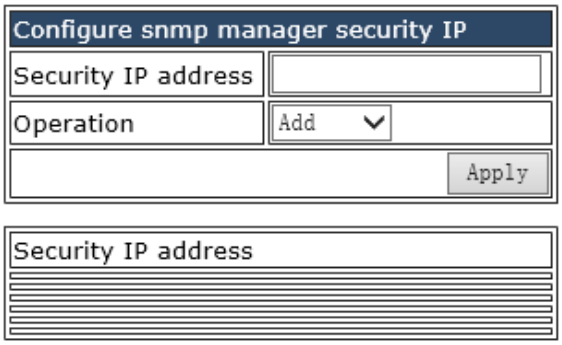


Community string	Community string name ,1-255 characters	
Access priority	Read only	Read-only permission level
	Read and write	Read and write permission level
Operation	Add	Do Community string add operations
	Remove	Do Community string delete operations
Trap receiver	Recipient IPv4/IPv6 address of Trap information	
Community string	Community string name, V1/V2 version :1-255 characters, V3 version :1-24 characters	
Version	Three versions:V1/V2C/V3	

Security level (V3 version support only)	noAuthNoPriv	Uncertified non-encrypted level
	authNoPriv	Authentication but not encryption level
	authpriv	Authentication and encryption level
Operation	Add	For Trap information receiver add operation
	Remove	For Trap information receiver remove operation

1.2.4. Configure snmp manager security IP

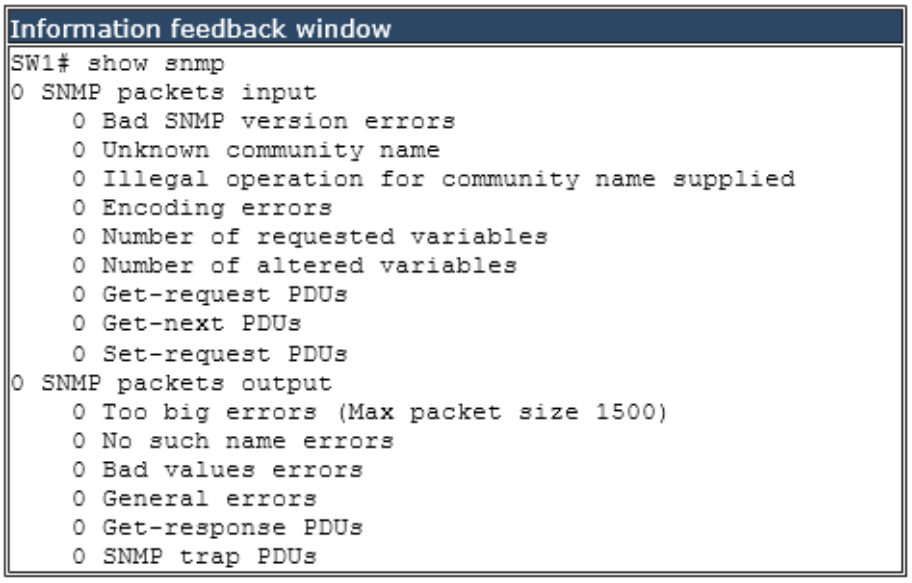
The administrator IP the address setting module, where the user can add or delete the SNMP manager's safe IP address.



Security IP address	SNMP Management Security IPv4/IPv6 Address	
Operation	Add	Add a Security IP
	Remove	Remove a Security IP

1.2.5. SNMP statistics

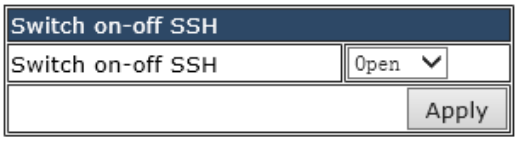
SNMP statistical information module, users in this module can view the SNMP function feedback information.



1.3. SSH management

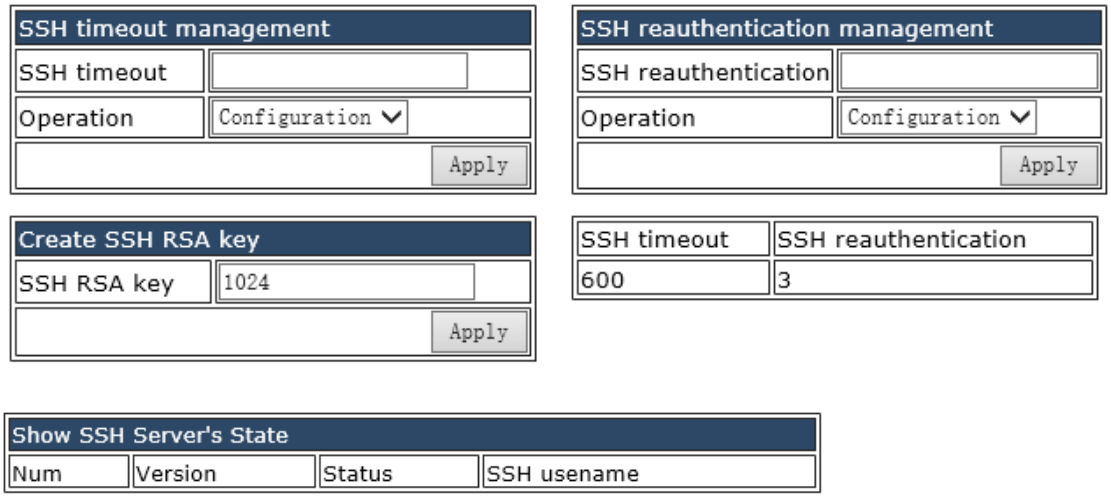
1.3.1. Switch on-off SSH

SSH function switch module in which the user can enable or disable switches by SSH.



1.3.2. SSH management

SSH management configuration module, the user can configure the SSH timeout, SSH authentication times and SSH RSA secret key modulus, and can also view the user login status of the SSH server.



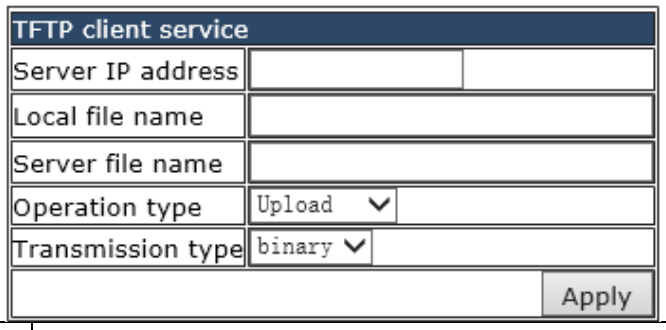
SSH timeout	timeout of exit SSH login status ,10-600 seconds	
Operation	Configuration	configuration operations
	Default	recovery default (default 180 s)
SSH reauthentication	SSH number of re-authentications when logged in,1-10	
Operation	Configuration	configuration operations
	Default	Restore default (default re-authentication 3 times)
SSH RSA key	A module for calculating Rsa keys, ranging from 768-2048,default 1024	

1.4. Firmware update

1.4.1. TFTP service

1.4.1.1. TFTP client service

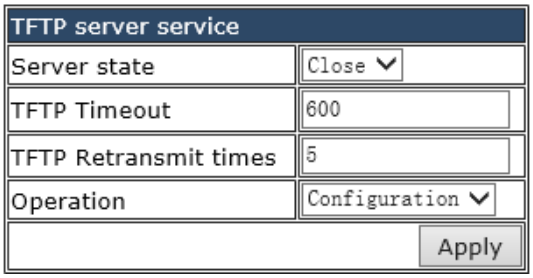
TFTP client service module, the user can upload or download files by TFTP way, and can upgrade the firmware of the switch by this method.



Server IP address	TFTP address IP peer server, point decimal	
Local file name	Name of destination file to upload or download ,1-100 characters	
Server file name	Source name to upload or download ,1-100 characters	
Operation type	Upload	To upload files
	Download	To download files
Transmission type	binary	Transfer files in binary format (default)
	ascii	Transfer files in ascii format

1.4.1.2. TFTP server service

TFTP server-side service module, users can configure the TFTP server settings in this module.

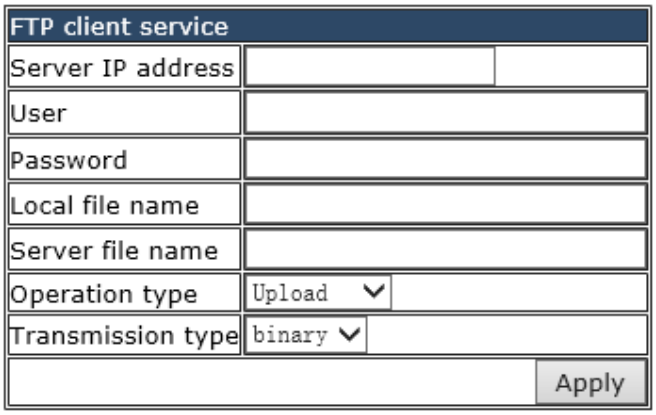


Server state	Open	Enable TFTP server functionality
	Close	Disable TFTP server functionality (default)
TFTP Timeout	TFTP service exit timeout, range 5-3600 s (default 600 s)	
TFTP Retransmit times	TFTP number of retransmissions after transmission failure, range 1-20(default 5)	
Operation	Configuration	Configuration operations
	Default	Restore default

1.4.2. FTP service

1.4.2.1. FTP client service

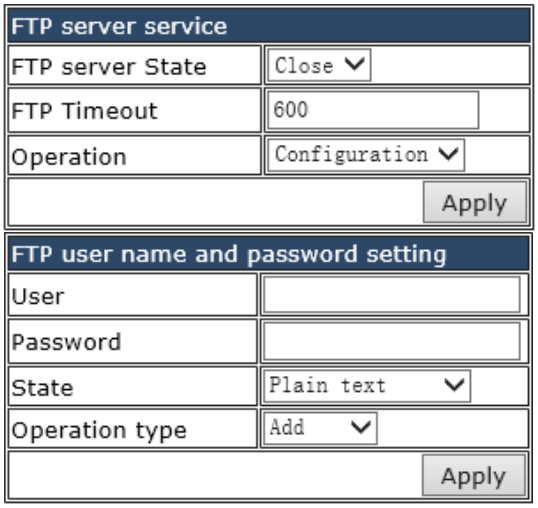
FTP client service module, the user can upload or download files by FTP way, and can upgrade the firmware of the switch by this method.



Server IP address	FTP address IP peer server, point decimal	
User	FTP server-to-server username ,1-100 characters	
Password	FTP server-side user password 1-100 characters	
Local file name	Name of destination file to upload or download ,1-100 characters	
Server file name	Source name to upload or download ,1-100 characters	
Operation type	Upload	To upload files
	Download	To download files
Transmission type	binary	Transfer files in binary format (default)
	ascii	Transfer files in ascii format

1.4.2.2. FTP server service

FTP server service module, the user can configure various settings of FTP server.



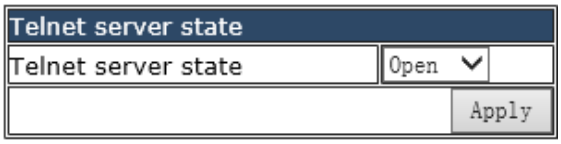
FTP server State	Open	Enable FTP server functionality
	Close	Disable FTP server functionality (default)
FTP Timeout	FTP service exit timeout, range 5-3600s (default 600 s)	
Operation	Configuration	Configuration operations
	Default	Restore default

User	FTP service username to operate ,1-32 characters	
Password	FTP service user password to operate ,1-16 characters	
State	Plain text	Do not encrypt FTP service password
	Encrypted	Encryption of FTP service passwords
Operation type	Add	Add operations
	Remove	Delete operations

1.5. Telnet server configuration

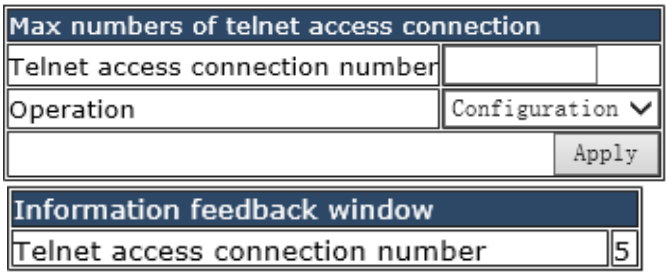
1.5.1. Telnet server state

Telnet server status module, where users can enable or disable login switches by Telnet.



1.5.2. Max numbers of telnet access connection

Telnet connect the maximum number module, the user can configure the maximum number of connections to the switch by Telnet.

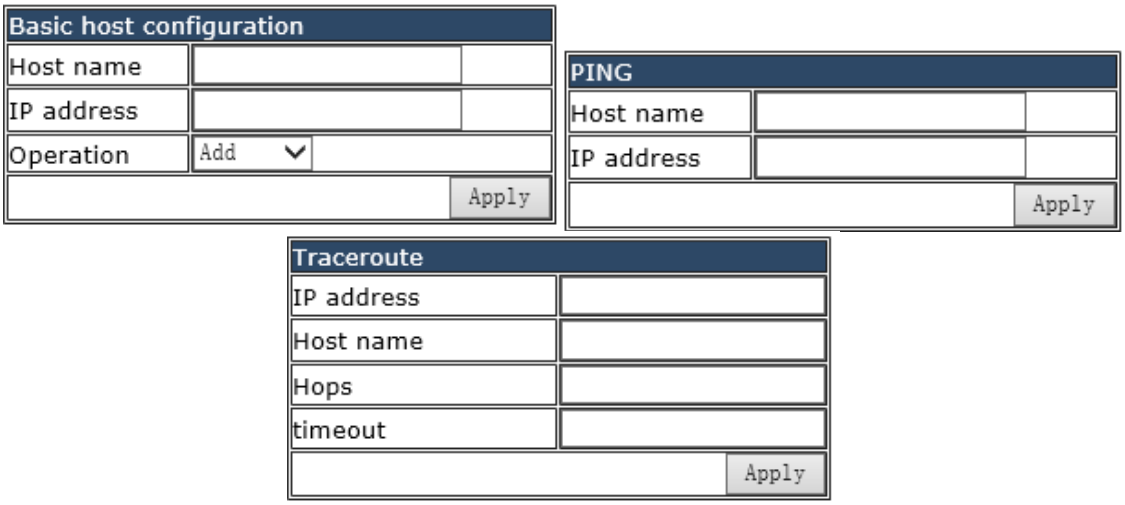


Telnet access connection number	Maximum number of connections logged in by Telnet, range 1-16(default 5)	
Operation	Configuration	Configuration operations
	Default	Restore default

1.6. Maintenance and debugging command

1.6.1. Debug command

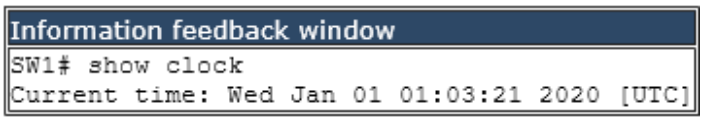
Maintenance and debugging command module. The user can configure the mapping relationship between host and IP, also can run ping command and route tracking command.



Host name	Host name for mapping ,1-64 characters	
IP address	IP address for mapping, point decimal	
Operation	Add	Add operations
	Remove	Delete operations
Host name	To ping the host name, configure the mapping relationship between the host and the IP	
IP address	IP address to ping, decimal	
IP address	IP address for routing tracing, point decimal	
Host name	Host name for routing tracing ,1-64 characters	
Hops	Number of hops, route, range 1-255	
timeout	Tracking timeout ,100-10000	

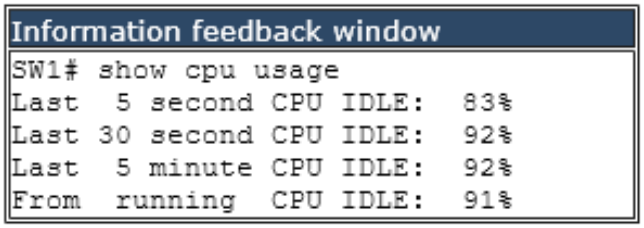
1.6.2. Show clock

This module is used to display the current system time and date.



1.6.3. Show CPU usage

This module is used to display resource usage CPU current system.



1.6.4. Show memory usage

This module is used to display the current system memory resource usage.

```
Information feedback window
SW1# show memory usage
The memory total 128 MB , free 68009984 bytes , usage is 49.33%
```

1.6.5. Show flash

This module is used to display the current system flash storage resource usage.

```
Information feedback window
SW1# show flash
total  22789K
-rw-         10817705         mantest.img
-rw-         12514223         nos.img
-rw-         1384             startup.cfg
-rw-         1361             test1.cfg
Drive : flash:
Size:30.0M  Used:23.5M  Available:6.5M  Use:78%
```

1.6.6. Show running-config

This module is used to display configuration information in the current system run.

```
Information feedback window
SW1# show run
!
no service password-encryption
!
hostname SW1
sysLocation Russia, Moscow, Ryabinovaya st, 26 bld 2
sysContact +7(495)797-3311
!
username admin privilege 15 password 0 admin
!
!
!
ssh-server enable
ssh-server timeout 600
!
web language english
!
snmp-server enable
snmp-server enable traps
!
!
```

1.6.7. Show switchport interface

This module is used to display the port information of the current switch.

Information feedback window

```
SW1# show switchport interface
Ethernet1/0/1
Type :Universal
Mode :Trunk
Port VID :1
Trunk allowed Vlan: 1-4094
Ethernet1/0/2
Type :Universal
Mode :Trunk
Port VID :1
Trunk allowed Vlan: 1-4094
```

1.6.8. Show tcp

This module is used to display tcp connection information for the current switch.

Information feedback window

```
SW1# show tcp
LocalAddress      LocalPort   ForeignAddress    ForeignPort      State       IF  VRF
192.168.2.1       80          192.168.2.200     54216            ESTABLISHED0   0
127.0.0.1         2650        127.0.0.1         32785            ESTABLISHED0   0
127.0.0.1         32785       127.0.0.1         2650             ESTABLISHED0   0
0.0.0.0           80          0.0.0.0           0                LISTEN      0   0
0.0.0.0           22          0.0.0.0           0                LISTEN      0   0
0.0.0.0           23          0.0.0.0           0                LISTEN      0   0
127.0.0.1         2650        0.0.0.0           0                LISTEN      0   0
```

1.6.9. Show udp

This module is used to display udp connection information for the current switch.

Information feedback window

```
SW1# show udp
LocalAddress      LocalPort   ForeignAddress    ForeignPort      State
0.0.0.0           161         0.0.0.0           0                CLOSE
0.0.0.0           3071        0.0.0.0           0                CLOSE
```

1.6.10. Show telnet login

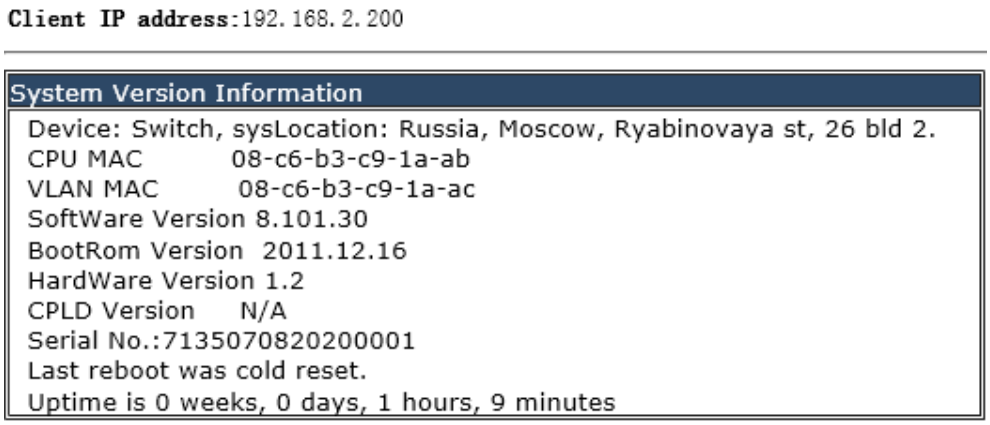
This module is used to display the user information that is currently logged in to the switch by telnet.

Information feedback window

```
SW1# show telnet login
Authenticate login by local.
Login user:
```

1.6.11. Show version

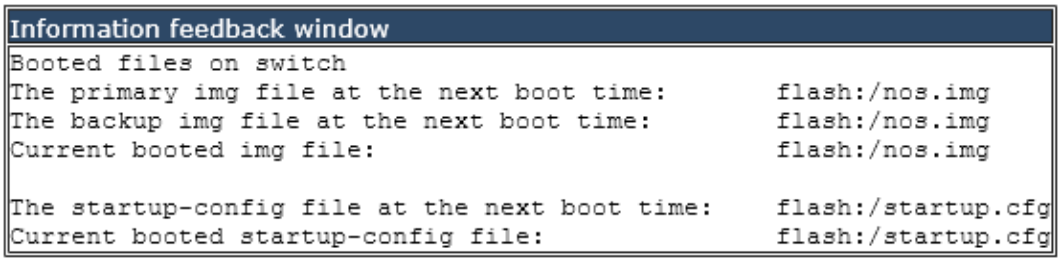
This module is used to display the user information that is currently logged in to the switch by telnet.



2. Module management

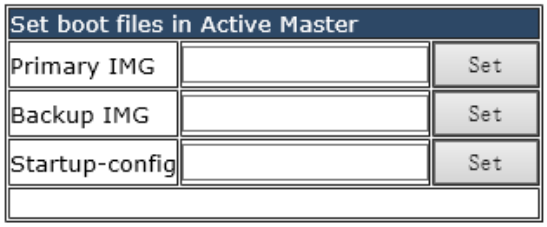
2.1. Show boot-files

This module is used to display system firmware and configuration files for the next restart of the switch.



2.2. Set Boot IMG and Startup-Config

This module is used to configure the system firmware and configuration files for the next restart of the switch.



Primary IMG	System firmware first boot item when switch restarts
Backup IMG	System firmware second boot item when switch restarts
Startup-config	Start configuration file on switch restart

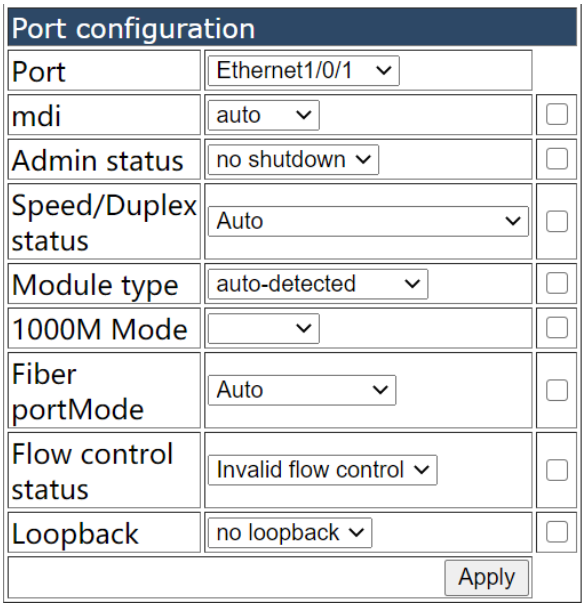
3. Port configuration

3.1. Ethernet port configuration

This chapter mainly configures the related port function of Ethernet port.

3.1.1. Port layer 1 attribution configuration

This page is mainly used to configure the basic properties of physical ports.
To display the “Port layer 1 attribution configuration” page，click Port configuration ->Ethernet port configuration->Port layer 1 attribution configuration，click "Apply" to configure.



entry	describe
Mdi	Invalid settings
Admin status	Port status: Shutdown: enable no shutdown: disable
Speed/Duplex status	Port rate and Working mode
Module type	Port types such as Ethernet port, Gigabit optical port, etc.
1000M Mode	Mode configuration in Gigabit port configuration
Fiber portMode	Invalid settings
Flow control status	Port Flow Control
Loopback	Port loop detection: Loopback：enable No Loopback：disable
Port rate	Port rate:10：10M 100：100M, 1000：1000M Auto：Automatic negotiation rate
Working mode	Working mode： Auto：Automatic negotiation mode Half：Half duplex mode Full：Full duplex mode

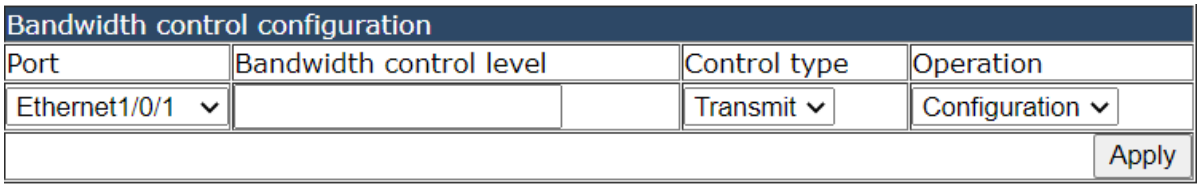
Port list								
Port	mdi	managementStatus	Speed	Mode	1000M Mode	Fiber portMode	Flow control	loopback
Ethernet1/0/1	auto	No Shutdown	10M	full	NULL	Auto	Non flow control status	no loopback
Ethernet1/0/2	auto	No Shutdown	auto	auto	NULL	Auto	Non flow control status	no loopback
Ethernet1/0/3	auto	No Shutdown	auto	auto	NULL	Auto	Non flow control status	no loopback
Ethernet1/0/4	auto	No Shutdown	auto	auto	NULL	Auto	Non flow control status	no loopback
Ethernet1/0/5	auto	No Shutdown	auto	auto	NULL	Auto	Non flow control status	no loopback
Ethernet1/0/6	auto	No Shutdown	auto	auto	NULL	Auto	Non flow control status	no loopback
Ethernet1/0/7	auto	No Shutdown	auto	auto	NULL	Auto	Non flow control status	no loopback
Ethernet1/0/8	auto	No Shutdown	auto	auto	NULL	Auto	Non flow control status	no loopback

entry	describe
Mdi	Invalid settings
managementStatus	Port enable status: Shutdown: enable no shutdown :disable
Speed	Port rate： 10：10M 100：100M 1000：1000M Auto：Automatic negotiation rate
Mode	Working mode： Auto：Automatic negotiation mode Half：Half duplex mode Full：Full duplex mode
1000M Mode	Mode configuration in Gigabit port configuration
Fiber portMode	Invalid settings
Flow control	Port Flow Control
Loopback	Port loop detection: Loopback：enable No Loopback：disable

3.1.2. Bandwidth control configuration

The page is configured for bandwidth control.

To display the “Bandwidth control configuration” page，click Port configuration ->Ethernet port configuration->Bandwidth control configuration，click "Apply" to configure.



entry	describe
Bandwidth control level	Bandwidth control rate in the range of Kbps 1-1000000
Control type	Control type： Transmit： send receive ： receive Both： send and receive
Operation	Configuration： User-defined configuration Default： Restore default configuration

Port list

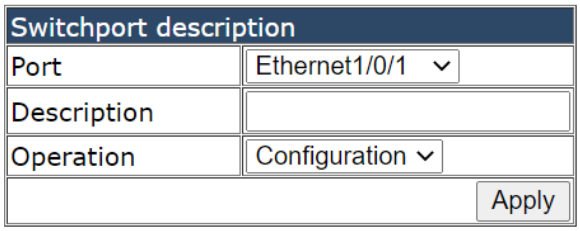
Port	Ingress bandwidth threshold(Kb)	Engress bandwidth threshold(Kb)
Ethernet1/0/1	1000000	1000000
Ethernet1/0/2	1000000	1000000
Ethernet1/0/3	1000000	1000000
Ethernet1/0/4	1000000	1000000
Ethernet1/0/5	1000000	1000000
Ethernet1/0/6	1000000	1000000
Ethernet1/0/7	1000000	1000000
Ethernet1/0/8	1000000	1000000

Port	Ethernet port name
Ingress bandwidth threshold(Kb)	Displays the current received data bandwidth limit in the range of Kbps 1-1000000
Engress bandwidth threshold(Kb)	Displays the bandwidth limit of the current sending data, ranging from 1-1000000kbps

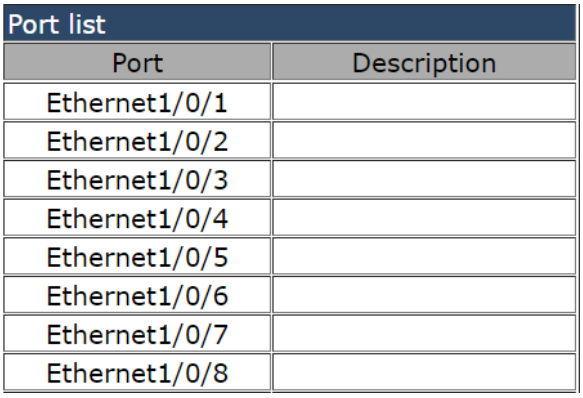
3.1.3. Switchport description

This page can be used to set the port name.

To display the “Switchport description” page， click Port configuration ->Ethernet port configuration->Switchport description， click "Apply" to configure.



Port	Ethernet port name
Description	Port description name, length 1-200 characters
Operation	Configuration： User-defined configuration Default： Restore default configuration

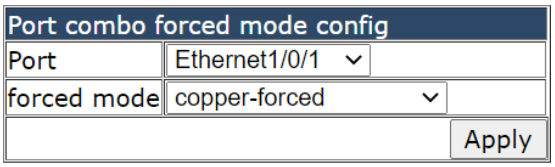


Port	Ethernet port name
Description	Port description name, length 1-200 characters

3.1.4. Port combo forced mode config

This page can be used to configure the combo port interface type to switch.

To display the “Port combo forced mode config” page， click Port configuration ->Ethernet port configuration->Port combo forced mode config， click "Apply" to configure.



Port	Ethernet port name
forced mode	Configure combo port current interface type： Copper-forced： copper Sfp-forced： fiber sfp-preferred-auto： Automatic switching

Information feedback window	
Port	forced mode
Ethernet1/0/1	no support
Ethernet1/0/2	no support
Ethernet1/0/3	no support
Ethernet1/0/4	no support
Ethernet1/0/5	no support
Ethernet1/0/6	no support
Ethernet1/0/7	no support
Ethernet1/0/8	no support

Port	Ethernet port name
forced mode	Configure combo port current interface type： Copper-forced： copper Sfp-forced： fiber sfp-preferred-auto： Automatic switching

3.1.5. Port scan mode

This function switch is not supported for the time being.

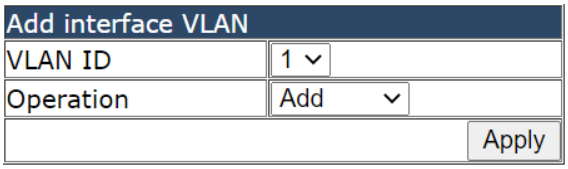
3.2. VLAN interface configuration

This chapter mainly realizes the creation of VLAN interface and the configuration of interface address.

3.2.1. Add interface VLAN

This page is mainly used to create VLAN interfaces.

To display the “add interface VLAN” page， click Port configuration ->VLAN interface configuration->add interface VLAN， click "Apply" to configure.



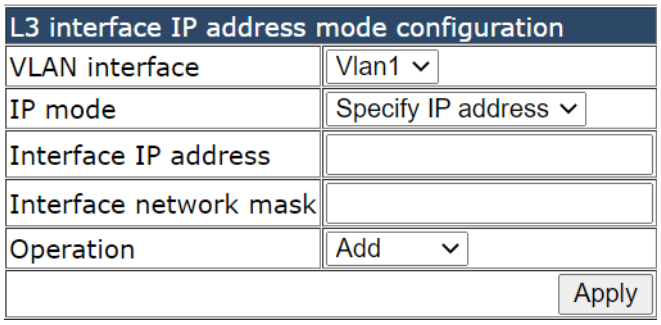
entry	describe
VLAN ID	VLAN ID created
Operation	Action: Add/Remove

Vlan ID	State
Vlan1	Layer 3 interface
Vlan5	Non layer 3 interface

entry	describe
VLAN ID	VLAN ID added
State	Is VLAN a layer 3 interface

3.2.2. Interface IP address mode configuration

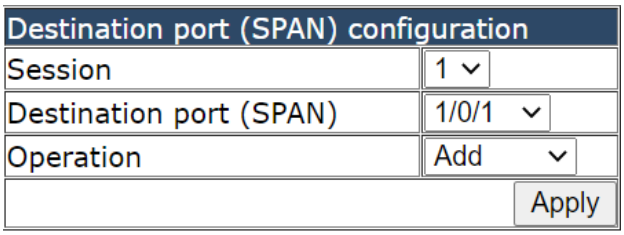
The page can be used to configure IP address and subnet mask for the VLAN interface.
To display the “L3 interface IP address mode configuration” page，click Port configuration ->VLAN interface configuration->L3 interface IP address mode configuration，click "Apply" to configure.



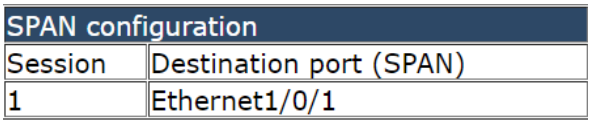
entry	describe
VLAN interface	VLAN ID of layer 3 interface created
IP mode	Access to interface IP address： bootp-client：bootp-clientAutomatic acquisition dhcp-client：dhcp-client Automatic acquisition Specify IP address：User self configuration
Interface IP address	IP address, e.g. A.B.C D
Interface network mask	Network mask: for example :255.255.255.0
Operation	Action: Add/Remove

3.3. SPAN configuration

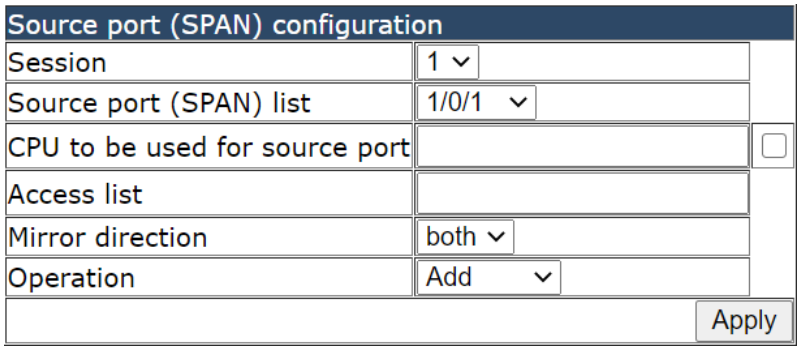
This section can be used for port mirroring function configuration.
To display the “SPAN configuration” page，click Port configuration ->VLAN interface configuration->SPAN configuration，click "Apply" to configure.



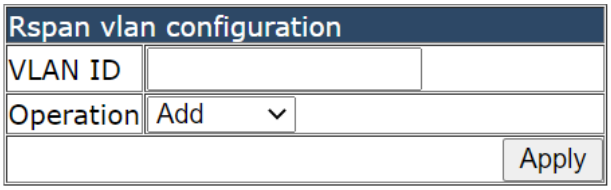
entry	describe
Session	Mirror Session
Destination port (SPAN)	Mirror destination port
Operation	Action: Add/Remove



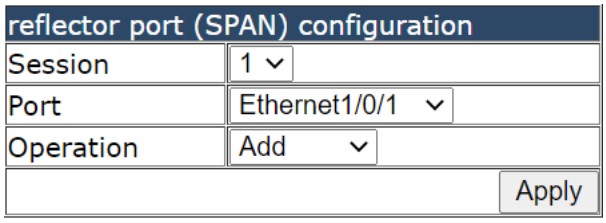
entry	describe
Session	Mirror Session
Destination port (SPAN)	Mirror destination port



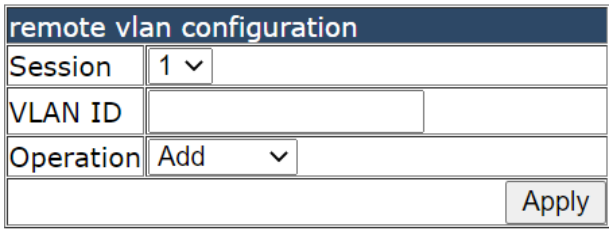
entry	describe
Session	Mirror Session
Source port (SPAN) list	Mirror Source Port
CPU to be used for source port	CPU used as the source of data
Access list	The access control list set for the mirror source port
Mirror direction	What kind of data is needed to filter to the destination port： Both： Sending and receiving Rx： receive Tx： send
Operation	Add：Add configuration for the corresponding operation Remove： Delete the corresponding configuration



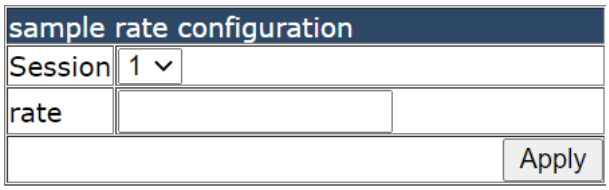
entry	describe
VLAN ID	VLAN ID
Operation	Add：Add configuration for the corresponding operation Remove： Delete the corresponding configuration



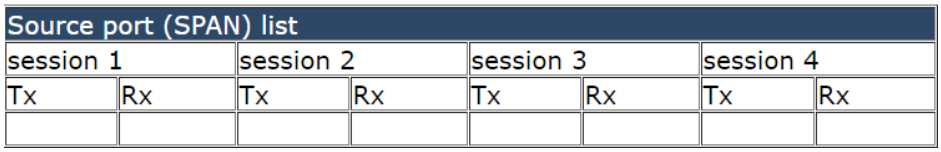
entry	describe
Session	Mirroring Session
Port	Ethernet port number
Operation	Add：Add configuration for the corresponding operation Remove： Delete the corresponding configuration



entry	describe
Session	Mirroring Session
VLAN ID	VLAN ID
Operation	Add：Add configuration for the corresponding operation Remove：Delete the corresponding configuration



entry	describe
Session	Mirroring Session
rate	It indicates how many packets are mirrored to the destination port



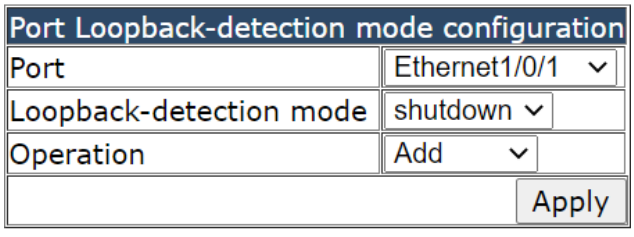
entry	describe
Session	Mirroring Session
Tx/Rx	Direction of source port mirror data
Ethernet1/0/10	Mirror Source Port for Session

3.4. Loopback-detection configuration

This chapter is mainly for port loop detection function configuration.

3.4.1. Port Loopback-detection mode configuration

The configuration of the page is used to set the loop detection control method.
To display the “Port Loopback-detection mode configuration” page，click Port configuration ->Port Loopback-detection configuration->Port Loopback-detection mode configuration，click "Apply" to configure.



entry	describe
Port	Ethernet port name
Loopback-detection mode	Operation in case of loop： Shutdown： Disable port block ： Block port
Operation	Operation of loop detection function： Add： Open loop detection and configure control mode Remove： Disable loop detection

Information feedback window

Port	Loopback-detection mode
Ethernet1/0/1	no control mode
Ethernet1/0/2	no control mode
Ethernet1/0/3	no control mode
Ethernet1/0/4	no control mode
Ethernet1/0/5	no control mode
Ethernet1/0/6	no control mode
Ethernet1/0/7	no control mode
Ethernet1/0/8	no control mode

entry	describe
Port	Ethernet port name
Loopback-detection mode	Shutdown： Disable port block ： Block port no control mode :Disable port loop detection

3.4.2. VLAN Loopback-detection configuration

This page can be used to configure VLAN loop detection function enabled or disabled.
To display the “VLAN Loopback-detection configuration” page， click Port configuration ->Port Loopback-detection configuration->VLAN Loopback-detection configuration， click "Apply" to configure.

VLAN Loopback-detection configuration

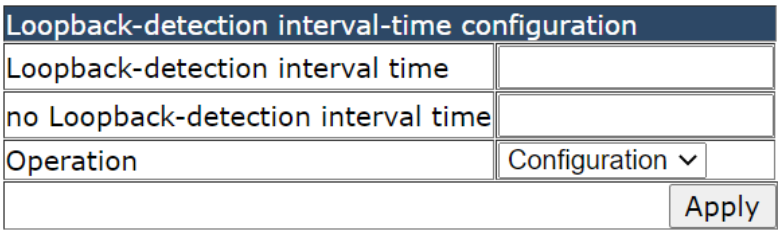
Port	Ethernet1/0/1
VLAN ID	
Operation	Add
	Apply

entry	describe
Port	Ethernet port name
VLAN ID	VLAN ID, range 1-4094
Operation	Add： Enable VLAN loop detection Remove： Disable VLAN loop detection

3.4.3. Loopback-detection interval-time configuration

This page can be used to configure the loop detection interval.

To display the “Loopback-detection interval-time configuration” page， click Port configuration ->Port Loopback-detection configuration->Loopback-detection interval-time configuration， click "Apply" to configure.

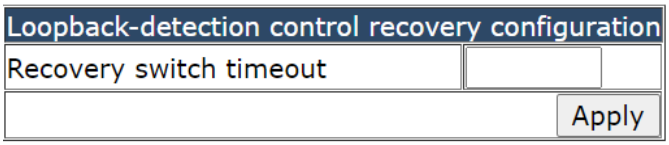


entry	describe
Loopback-detection interval time	Interval time between loops, size 5-300 seconds
no Loopback-detection interval time	No loop interval, size 1-30 seconds
Operation	Configuration：Set the test time by yourself. Default：Restore the default configuration, there is a loop detection interval of 5 seconds, there is no loop detection interval of 3 seconds.

3.4.4. Loopback-detection control recovery configuration

This page is used to configure loop detection to automatically return to an uncontrolled state.

To display the “Loopback-detection control recovery configuration” page， click Portconfiguration -> PortLoopback-detection configuration -> Loopback-detection control recovery configuration， click "Apply" to configure.



entry	describe
Recovery switch timeout	When a port is disabled or blocked due to a loop, it automatically recovers to an uncontrolled time， the size range is 0-3600 seconds. When it is configured as 0, the auto recovery function is disabled.

3.5. Isolate-port configuration

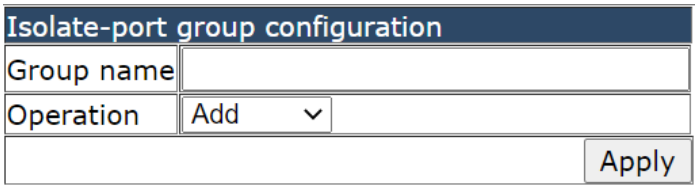
This section can set up port isolation related functions.

3.5.1. Isolate-port group configuration

This page can be used to add or delete isolated groups.

To display the “Isolate-port group configuration ” page， click

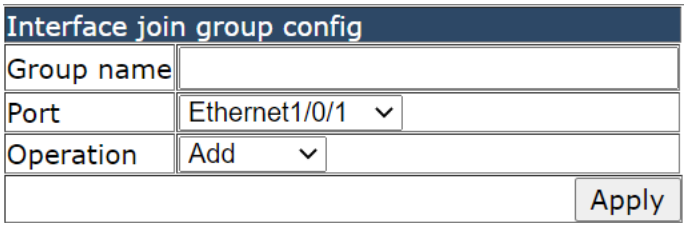
Port configuration -> Isolate-port configuration -> Isolate-port group configuration ， click "Apply" to configure.



entry	describe
Group name	Isolation group name, example: aaaa
Operation	Add：Create an isolation group Remove：Delete an isolation group

3.5.2. Interface join group config

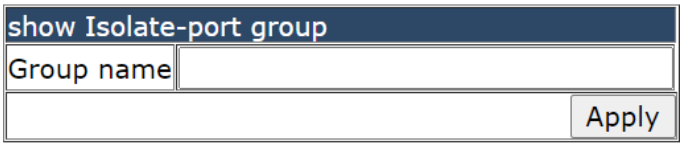
This page can be used to add ports for isolation groups.
To display the “Interface join group config” page，click Port configuration ->Isolate-port configuration->Interface join group config，click "Apply" to configure.



entry	describe
Group name	Created isolation group name, example: aaaa
Port	Ethernet port name
Operation	Add：Add ports to the isolation group Remove：Delete ports in isolation groups

3.5.3. Show Isolate-port group

This page is used to display isolation group information.
To display the “show Isolate-port group” page，click Port configuration ->Isolate-port configuration->show Isolate-port group，click "Apply" to view.



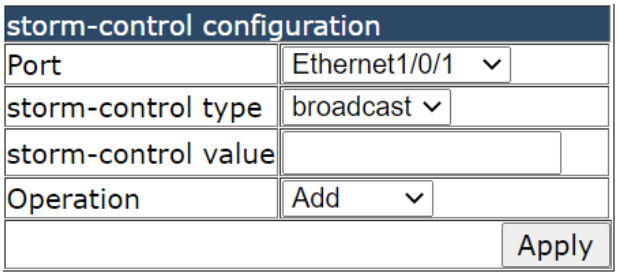
entry	describe
Group name	Created isolation group name, example: aaaa

3.6. Port storm-control config

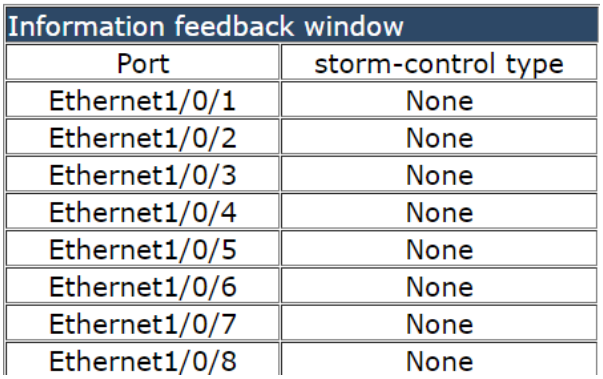
This chapter can set up storm control related functions.

3.6.1. Port storm-control config

This page can be configured for the storm control function of the port.
To display the “Port storm-control config” page，click Port configuration ->Port storm-control config->Port storm-control config，click "Apply" to configure.



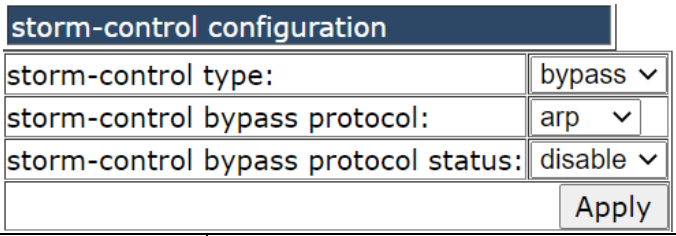
entry	describe
Port	Ethernet port name
storm-control type	Broadcast/Multicast/Unicast
storm-control value	storm control rate, ranging from 1-1000000 kbps or pps 1-1488095
Operation	Add： Turn on the storm control function and configure the speed limit Remove： Disable Storm Control



entry	describe
Port	Ethernet port name
storm-control type	Broadcast/Multicast/Unicast

3.6.2. storm-control bypass configuration

This page can configure storm control unit, filter protocol, filter protocol status and other functions.
To display the “storm-control bypass configuration” page， click Port configuration ->Port storm-control config->storm-control bypass configuration， click "Apply" to configure.



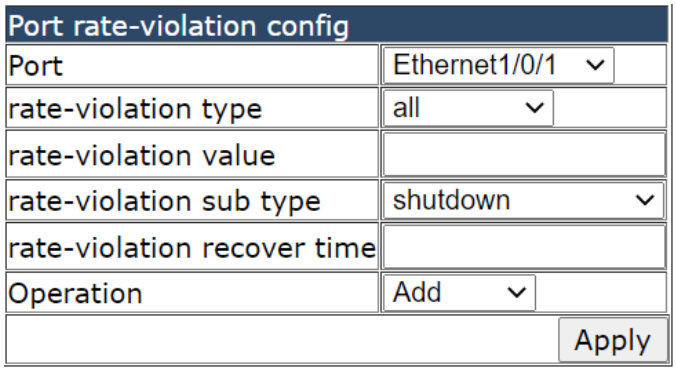
entry	describe
storm-control type	Bypass： Bypass Protocol Kbps： Storm control rate units pps： Storm control rate units
storm-control bypass protocol	Broadcast Storm Filter Agreement
storm-control bypass protocol status	Disable： Disable protocol filtering Enable： Enable protocol filtering

3.7. Port rate-violation config

This chapter is mainly used for the configuration of rate limiting functions.

3.7.1. rate-violation configuration

This page is mainly used to configure the rate limit function.
To display the “rate-violation configuration” page， click Port configuration -> Port rate-violation config ->rate-violation configuration， click "Apply" to configure.



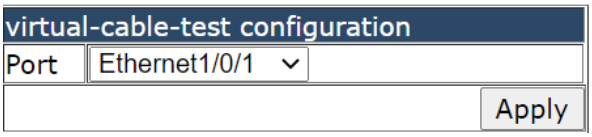
entry	describe
Port	Ethernet port name
rate-violation type	Type of breach: All/Broadcast/Multicast/Unicast/ Control：Operation violation
rate-violation value	Limit rate, range 200-2000000
rate-violation sub type	Overspeed operation： Shutdown：Disable port Block：Block port
rate-violation recover time	The time when the port overspeed is automatically resumed after it is disabled， if the size is 0-86400 seconds, configuring 0 seconds means no automatic recovery
Operation	Add：Function Enable Remove：Function disabled

3.8. Port virtual-cable-test config

This chapter can be used to detect port link lines.

3.8.1. virtual-cable-test configuration

This chapter can be used to detect port link lines.
To display the “virtual-cable-test configuration” page， click Port configuration ->Port virtual-cable-test config ->virtual-cable-test configuration， click "Apply" to configure.



Information feedback window

```
Switch# virtual-cable-test interface Ethernet1/0/14
Interface Ethernet1/0/14:
-------------------------------------------
Cable pairs      Cable status    Length (meters)
-----------      ------------    ---------------
(1, 2)           well            13
(3, 6)           well            13
(4, 5)           well            13
(7, 8)           well            13
```

entry	describe
Port	Ethernet port name

3.9. Port debug and maintenance

This section is mainly used to view port, overall traffic statistics, port rate violation configuration and other information view.

3.9.1. Show port information

This page can be used to view port details.

To display the “Show port information” page， click Port configuration ->Port debug and maintenance->Show port information， click "Apply" to view.

Please select port: Ethernet1/0/1

Information feedback window

```
Interface brief:
  Ethernet1/0/1 is down, line protocol is down
  Ethernet1/0/1 is layer 2 port, alias name is (null), index is 1
  Hardware is Gigabit-TX,  address is 00-1f-ce-10-b0-1b
  PVID is 1
  MTU 1500 bytes, BW 10000 Kbit
  Time since last status change: 0w-0d-0h-36m-32s    (2192 seconds)
  Encapsulation ARPA, Loopback  not set
  Auto-duplex ,  Auto-speed
  FlowControl is off,  MDI type is auto
```

3.9.2. Show entire traffic information

This page can be used to view statistics of overall traffic.

To display the “Show entire traffic information” page， click Port configuration ->Port debug and maintenance->Show entire traffic information， click "Apply" to view.

Show entire traffic information

Port	Receiving statistics					Transmitting statistics				
	Total packets	Error packets	Dropped packets	5 minute rate(packets/sec)	Last 5 second rate(packets/sec)	Total packets	Error packets	Dropped packets	5 minute rate(packets/sec)	Last 5 second rate(packets/sec)
Ethernet1/0/1	0	0	0	0	0	0	0	0	0	0
Ethernet1/0/2	0	0	0	0	0	0	0	0	0	0
Ethernet1/0/3	0	0	0	0	0	0	0	0	0	0
Ethernet1/0/4	0	0	0	0	0	0	0	0	0	0
Ethernet1/0/5	0	0	0	0	0	0	0	0	0	0
Ethernet1/0/6	0	0	0	0	0	0	0	0	0	0
Ethernet1/0/7	0	0	0	0	0	0	0	0	0	0
Ethernet1/0/8	0	0	0	0	0	0	0	0	0	0

3.9.3. Show rate violation port

This page can be used to view port rate violation function configuration information.

To display the “Show rate violation port” page， click Port configuration ->Port debug and maintenance->Show rate violation port， click "Apply" to view.

Rate-violation port state information		
Port	Port rate-violation control mode	Rate-violation port state
Ethernet1/0/1	shutdown	down

entry	describe
Port	Ethernet port name
Port rate-violation control mode	Shutdown： Disable port Block： Block port
Rate-violation port state	Status of current port： Down： Not connected Up： Connected Forwarding： forward Block： block

3.10. uldp configuration

This chapter is mainly used for the configuration of single link detection function.

3.10.1. uldp enable config

This page can be used to enable or disable single link detection protocols.
To display the “uldp enable config” page， click Port configuration -> uldp configuration->uldp enable config， click "Apply" to configure.

uldp global enable configuration	
uldp global enable type	uldp enable
Operation	Enable
	Apply

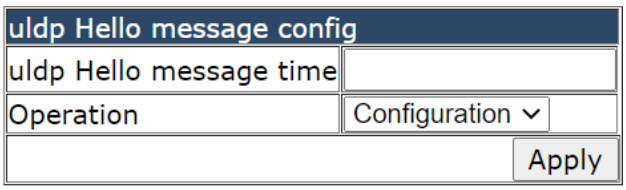
entry	describe
uldp global enable type	uldp enable： Turn on the ULDP function of all ports that support ULDP functions. uldp aggressive-mode： Configure all ports ULDP working mode for positive mode. uldp manual shutdown： global close auto disable port, switch to manual close port.
Operation	Enable： Function Enable Disable： Function Disable

uldp port enable configuration	
Port	Ethernet1/0/1
uldp port enable type	uldp port enable
Operation	Enable
	Apply

entry	describe
Port	Ethernet port name
uldp port enable type	Uldp port enable： Turn on the ULDP function of the specified port. uldp port aggressive-mode： Configure the specified port ULDP working mode to positive mode.
Operation	Enable： Function Enable Disable： Function Disable

3.10.2. uldp Hello message config

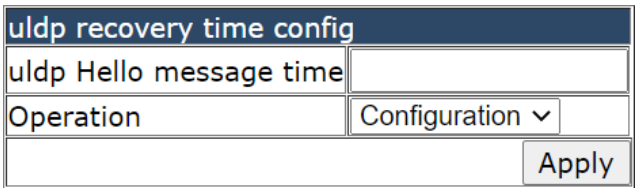
This page is used to Hello the message sending interval.
To display the “uldp Hello message config” page， click Port configuration -> uldp configuration->uldp Hello message config， click "Apply" to configure.



entry	describe
uldp Hello message time	Message sending interval, range 5-100 seconds
Operation	Configuration： User self-configuration Default： Restore the default configuration, the default configuration is 10 seconds.

3.10.3. uldp recovery time config

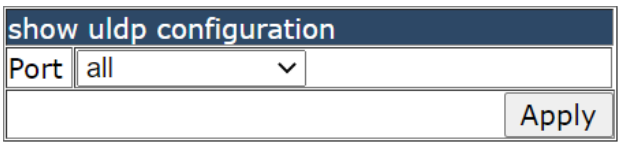
This page can be used to configure ULDP auto recovery time.
To display the “uldp recovery time config” page， click Port configuration -> uldp configuration->uldp recovery time config， click "Apply" to configure.



entry	describe
uldp Hello message time	Automatic recovery time after the port is disabled, ranging from 30-86400 seconds to 0 seconds without automatic recovery
Operation	Configuration： User self-configuration Default： Restore default configuration, default configuration is 0 seconds.

3.10.4. Show uldp configuration

This page can be used to view port ULDP configuration information.
To display the “uldp recovery time config” page， click Port configuration -> uldp configuration->uldp recovery time config， click "Apply" to view.



Information feedback window

```
Switch# show uldp
uldp enable
uldp hello interval is              10
uldp shut down mode is              AUTO
uldp global work mode is            NORMAL
the total number of the port is     4
-------------------------------------------------------------------------
   PortName      PhyLink    LineProto    WorkMode       PortState  NeighborNum
-------------------------------------------------------------------------
 Ethernet1/0/25    UP          DOWN       NORMAL         INACTIVE       0
 Ethernet1/0/26    UP          DOWN       NORMAL         INACTIVE       0
 Ethernet1/0/27    UP          DOWN       NORMAL         INACTIVE       0
 Ethernet1/0/28    UP          DOWN       NORMAL         INACTIVE       0
-------------------------------------------------------------------------
```

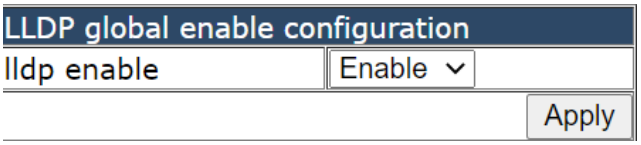
3.11. LLDP configuration

This chapter can be used to configure LLDP related functions.

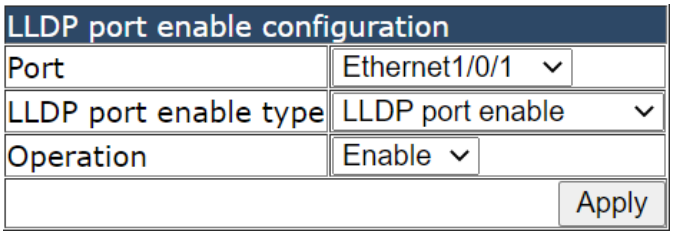
3.11.1. LLDP configuration

This page can be configured to enable or disable LLDP functionality.

To display the “LLDP configuration” page， click Port configuration ->LLDP configuration->LLDP configuration， click "Apply" to configure.



entry	describe
lldp enable	Enable： Global On LLDP Function Disable： Global Off LLDP Function

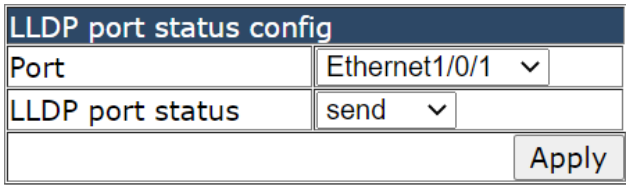


entry	describe
Port	Ethernet port name
LLDP port enable type	Enable or disable LLDP functions
Operation	Turn on or off LLDP function

3.11.2. LLDP port status config

This page can configure port status.

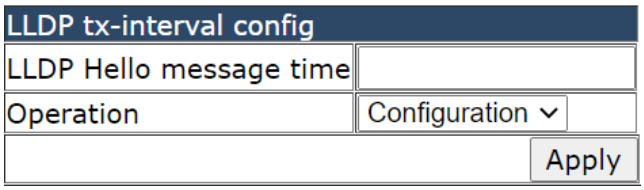
To display the “LLDP port status config” page， click Port configuration ->LLDP configuration->LLDP port status config， click "Apply" to configure.



entry	describe
Port	Ethernet port name
LLDP port status	Send： Send only data Receive： Receive only data Both： Sending and receiving data simultaneously Disable： Both sending and receiving are prohibited

3.11.3. LLDP tx-interval config

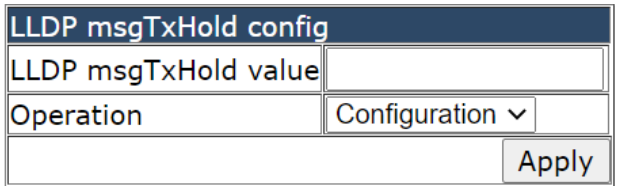
This page can configure the interval between sending updates.
To display the “LLDP tx-interval config” page， click Port configuration ->LLDP configuration->LLDP tx-interval config， click "Apply" to configure.



entry	describe
LLDP Hello message time	Update message sending interval between 5-32768 seconds
Operation	Configuration： User self-configuration Default： Restore the default configuration, the default configuration is 30 seconds.

3.11.4. LLDP msgTxHold config

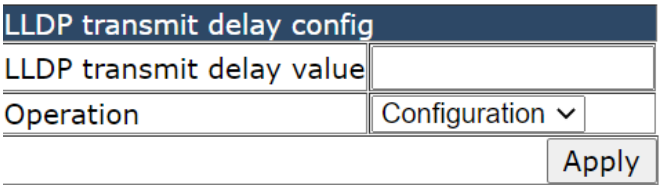
This page can configure the value of the message aging time multiplier.
To display the “LLDP msgTxHold config” page， click Port configuration ->LLDP configuration->LLDP msgTxHold config， click "Apply" to configure.



entry	describe
LLDP msgTxHold value	Numerical magnitude between 2-10
Operation	Configuration： User self-configuration Default： Restore default configuration, default configuration is 4

3.11.5. LLDP transmit delay config

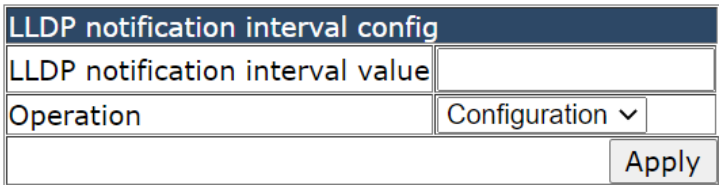
This page can configure the sending delay time of the update message.
To display the “LLDP transmit delay config” page， click Port configuration ->LLDP configuration->LLDP transmit delay config， click "Apply" to configure.



entry	describe
LLDP transmit delay value	Value between 1-8192 seconds
Operation	Configuration： User self-configuration Default： Restore default configuration for 2 seconds

3.11.6. LLDP notification interval config

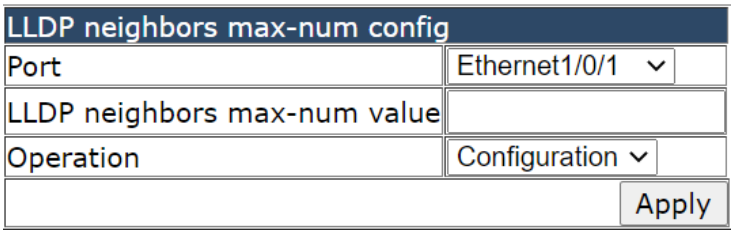
This page can configure the interval between sending Trap messages.
To display the “LLDP notification interval config” page， click Port configuration ->LLDP configuration->LLDP notification interval config， click "Apply" to configure.



entry	describe
LLDP notification interval value	Value between 5 and 3600 seconds
Operation	Configuration： User self-configuration Default： Restore default configuration for 5 seconds

3.11.7. LLDP neighbors max-num config

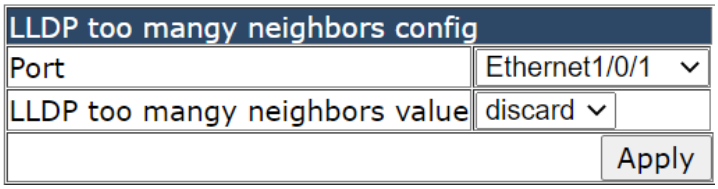
This page can be used to Remote Table the settings for save entries.
To display the “LLDP notification interval config” page， click Port configuration ->LLDP configuration->LLDP notification interval config， click "Apply" to configure.



entry	describe
Port	Ethernet port name
LLDP neighbors max-num value	Remote table maximum save entry size 5-500
Operation	Configuration： User self-configuration Default： Restore default configuration, default configuration is 100

3.11.8. LLDP too mangy neighbors config

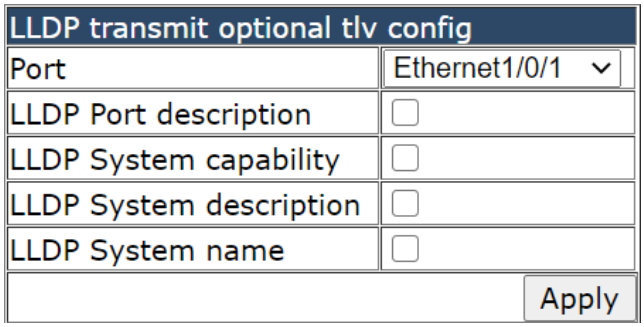
This page can be used to set up operations after Remote Table is full.
To display the “LLDP too mangy neighbors config” page， click Port configuration ->LLDP configuration->LLDP too mangy neighbors config， click "Apply" to configure.



entry	describe
Port	Ethernet port name
LLDP too mangy neighbors value	Discard： Discard new neighbor information Delete： Delete the neighbor information with the least aging time in the remore table, and then add new neighbor information

3.11.9. LLDP transmit optional tlv config

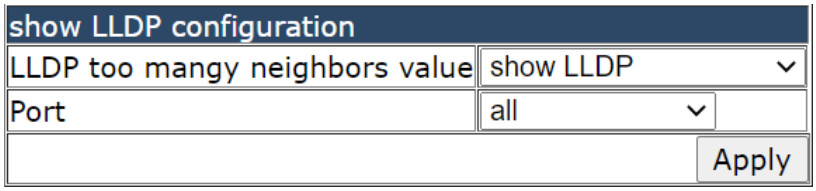
This page can configure port TLV properties.
To display the “LLDP transmit optional tlv config” page， click Port configuration ->LLDP configuration->LLDP transmit optional tlv config， click "Apply" to configure.



entry	describe
Port	Ethernet port name
LLDP Port description	Port description name information needs to be configured
LLDP System capability	Information describing system capabilities
LLDP System description	Message describing the system
LLDP System name	System name information

3.11.10. Show LLDP configuration

This page can be used to view LLDP configuration messages.
To display the “show LLDP configuration” page， click Port configuration ->LLDP configuration->show LLDP configuration， click "Apply" to view.



Information feedback window

```
Switch# show lldp
-----LLDP GLOBAL INFORMATIONS-----
LLDP has been disabled globally.
LLDP enabled port : NULL
LLDP interval :30
LLDP txTTL :120
LLDP NotificationInterval :5
LLDP txDelay :2
LLDP-MED FastStart Repeat Count :4
-------------END------------------
```

show LLDP configuration

LLDP too mangy neighbors value	show LLDP port
Port	Ethernet1/0/14
	Apply

Information feedback window

```
Switch# show lldp
-----LLDP GLOBAL INFORMATIONS-----
LLDP has been disabled globally.
LLDP enabled port : NULL
LLDP interval :30
LLDP txTTL :120
LLDP NotificationInterval :5
LLDP txDelay :2
LLDP-MED FastStart Repeat Count :4
-------------END------------------
```

show LLDP configuration

LLDP too mangy neighbors value	show LLDP
Port	all
	Apply

Information feedback window

```
Switch# show lldp traffic
    PortName          Ageouts    FramesDiscarded    FramesInErrors    FramesIn    FramesOut    TLVsDiscarded    TLVsUnrecognized
------------------    -------    ---------------    --------------    --------    ---------    -------------    ----------------
  Ethernet1/0/14          0                  0                 0           0            0                0                   0
```

show LLDP configuration

LLDP too mangy neighbors value	show LLDP
Port	all
	Apply

Information feedback window

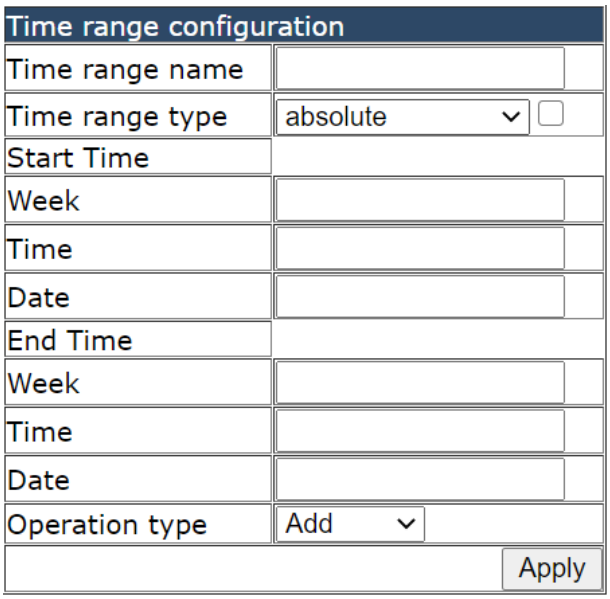
```
Switch# show lldp neighbors interface Ethernet1/0/14
Port name : Ethernet1/0/14
Port Remote Counter : 1
TimeMark :3596
ChassisIdSubtype :4
ChassisId :00-0e-c6-bf-ad-7a
PortIdSubtype :MAC address
PortId :00-0e-c6-bf-ad-7a
**************************************************
```

3.12. LED shutoff configuration

This chapter can be used to set the timing of led lights out.

3.12.1. Time Range configuration

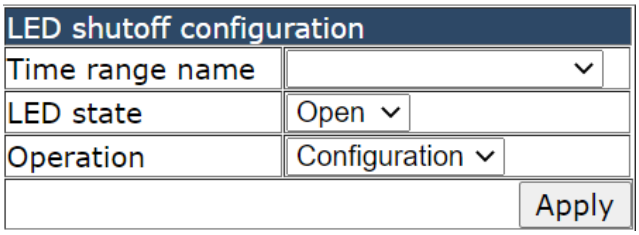
This page can be used to set the time range for led lights to go out.
To display the “Time Range configuration” page， click Port configuration ->LED shutoff configuration->Time Range configuration， click "Apply" to configure.



entry	describe
Time range name	Time range name, length 1-64 characters
Time range type	Absolute： Absolute time range, date required Absolute-periodic： Absolute cycle time range Periodic： Period Time Range
Week	Range :1-7
Time	Time format :14:00
Date	Date Scope： 2001.1.1-2038.12.31

3.12.2. LED shutoff config

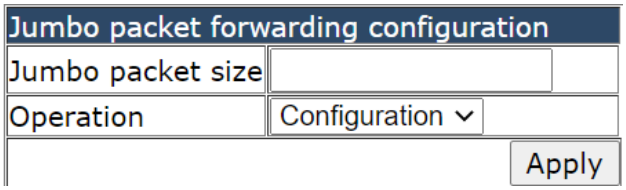
This page can be used for LED timing extinguishing configuration.
To display the “LED shutoff config” page， click Port configuration ->LED shutoff configuration->LED shutoff config， click "Apply" to configure.



entry	describe
Time range name	With the configured time range name
LED state	LED lamp status
Operation	Configuration： User self-configuration Default： Function disabled

3.13. Jumbo packet forwarding configuration

This section can be used for the configuration of super packet forwarding.
To display the “LED shutoff config” page， click Port configuration ->LED shutoff configuration->LED shutoff config， click "Apply" to configure.



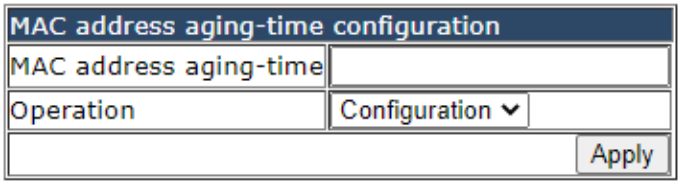
entry	describe
Jumbo packet size	Range :1500-12270
Operation	Configuration: User self-configuration Default： Function disabled

4. MAC address table configuration

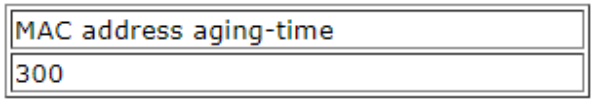
4.1. MAC address table configuration

4.1.1. MAC address aging-time configuration

Each time the switch learns a MAC address, it will store the address and set the aging time. When the time is over, the address will be removed from the switch.



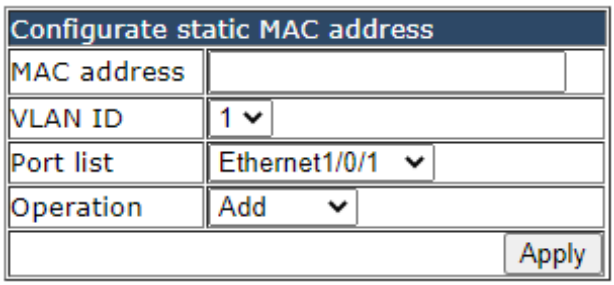
MAC address aging-time	The aging time range is 10-1000000, 0 means no aging	
Operation	Configuration	Set the aging time into the switch
	Default	Restore the aging time of the switch to the default state



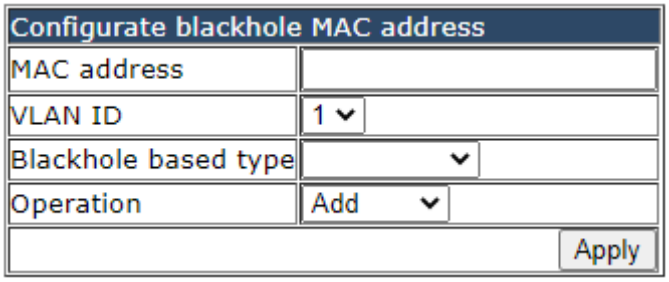
Display the current MAC address aging time

4.1.2. Configurate MAC address

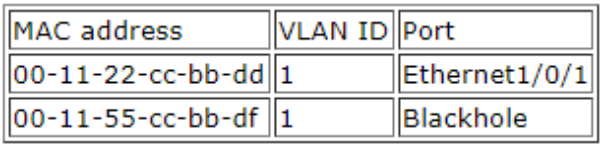
Configure static or Blackhole MAC addresses, and establish the mapping relationship between MAC addresses and ports and VLANs.



MAC address	Hexadecimal MAC address, the format is xx-xx-xx-xx-xx-xx	
VLAN ID	Created VLAN ID	
Port list	Mapped port	
Operation	Add	The mapping relationship between MAC address and port and VLAN will be added
	Remove	Delete the mapping relationship of the specified MAC address, VLAN, and port



MAC address	Hexadecimal MAC address, the format is xx-xx-xx-xx-xx-xx, packets with this address will be discarded and will not be forwarded to the network by the switch	
VLAN ID	Created VLAN ID	
Blackhole based type	source	Source based on source address filter
	destination	Target based on target address filter
	both	Both are based on source address and destination address filters, the default value is both
Operation	Add	The mapping relationship between MAC address and port and VLAN will be added
	Remove	Delete the mapping relationship of the specified MAC address, VLAN, and port

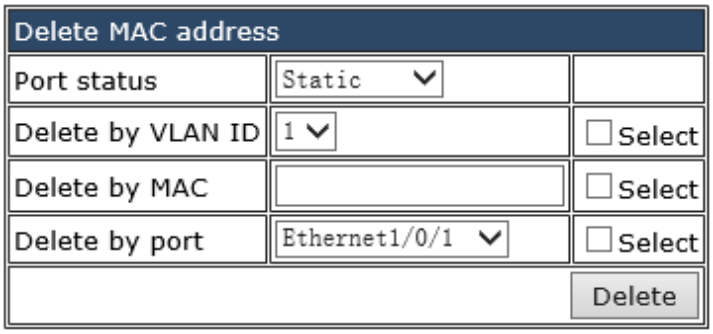


MAC address	VLAN ID	Port
00-11-22-cc-bb-dd	1	Ethernet1/0/1
00-11-55-cc-bb-df	1	Blackhole

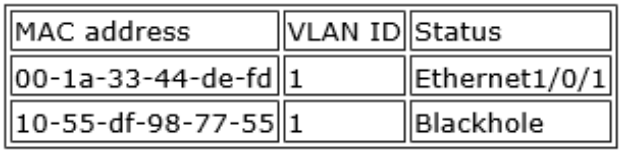
Display current existing MAC address, port, and VALN mapping relationship

4.1.3. Delete MAC address

Quickly delete the MAC address in the switch.



Port status	Static	User-created and assigned MAC address
	Dynamic	The MAC address automatically learned by the switch through the message
	Blackhole	The user creates the assigned MAC address, but the packet of this address will not be forwarded by the switch
Delete by VLAN ID	The created VLAN ID, delete the selected address type in the VLAN	
Delete by MAC	Hexadecimal MAC address, the format is xx-xx-xx-xx-xx-xx	
Delete by port	Delete all MAC addresses under the port	

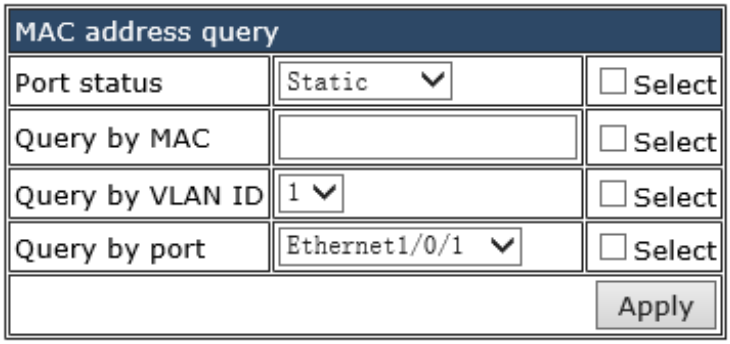


MAC address	VLAN ID	Status
00-1a-33-44-de-fd	1	Ethernet1/0/1
10-55-df-98-77-55	1	Blackhole

Display the current mapping relationship between MAC address, VLAN ID, and port

4.1.4. MAC address query

Quickly query the MAC address in the switch.



Port status	Static	User-created and assigned MAC address
	Dynamic	The MAC address automatically learned by the switch through the message
	Blackhole	The user creates the assigned MAC address, but the packet of this address will not be forwarded by the switch
Query by MAC	Hexadecimal MAC address, the format is xx-xx-xx-xx-xx-xx	
Query by VLAN ID	The created VLAN ID, showing the address in the VLAN	
Query by port	Find the MAC address by port	

Note: Check the small box at the back to make the condition take effect. By default, there is no condition. When there is no condition, all MAC address information will be displayed.

```
Read mac address table....
Vlan Mac Address                 Type     Creator    Ports
---- --------------------------- -------  ---------- ------------------------------------
1      00-0e-c6-c7-93-15             STATIC  App        Ethernet1/0/8
1      10-f0-13-f1-72-3a             STATIC  System     CPU
2      00-11-33-55-88-66             STATIC  User       Ethernet1/0/4
```

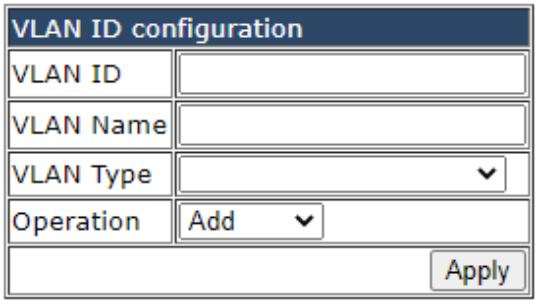
Display the results of the query

5. VLAN configuration

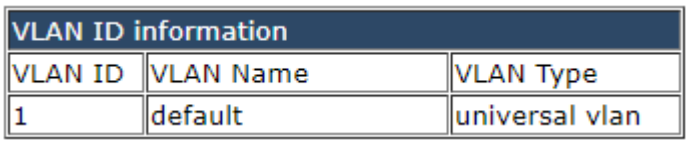
5.1. VLAN configuration

5.1.1. Create/Remove VLAN

VLAN configuration function module, users add or delete VLANs in this module。

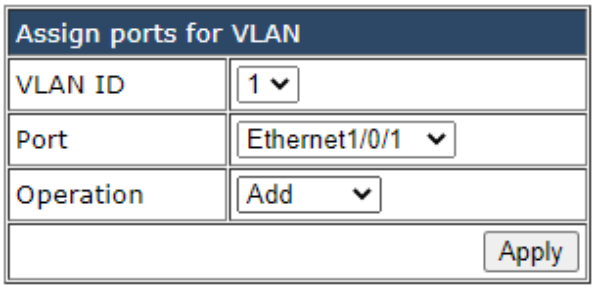


VLAN ID	The serial number of the VLAN, range: 2-4094	
VLAN name	By default, the default is VLAN plus four-digit serial number, range: 1-64 characters.	
VLAN type	Private vlan(isolated).Private vlan (community).Private vlan (primary).universal vlan；There are three dedicated VLANs in the Primary port: Primary VLAN, Isolated VLAN and Community VLAN can communicate with the ports of the Isolated VLAN and Community VLAN related to this Primary VLAN; the ports in the Isolated VLAN are isolated from each other and are only related to it. The ports in the Primary VLAN communicate with each other; the ports in the Community VLAN can communicate with each other or with the related Primary VLAN ports; there is no communication between the ports in the Community VLAN and the ports in the Isolated VLAN. There is no communication between the ports in the Community VLAN and the ports in the Isolated VLAN.	
Operation	Add	Add VLAN
	Remove	Remove VLAN



5.1.2. Assign ports for VLAN

Assign ports to the VLAN, and users add and remove ports in the VLAN in this module.

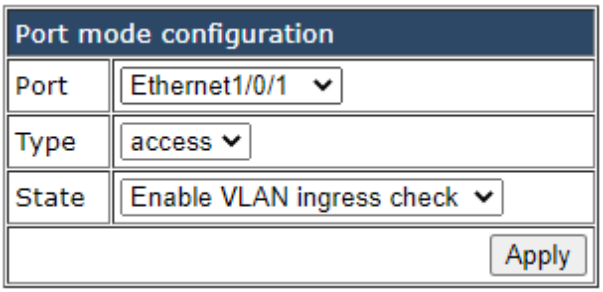


VLAN ID	Created VLAN	
Port	Port name	
Operation	Add	Add port to VLAN
	Remove	Remove the port from the VLAN port list

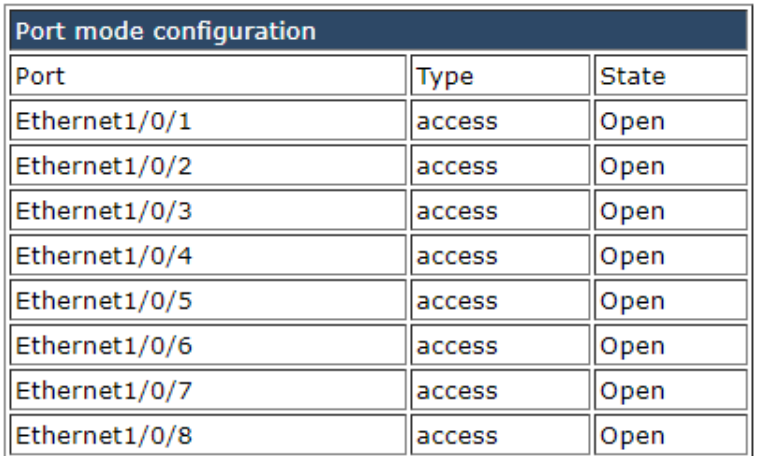
```
Universal vlan:
VLAN Name          Type        Media      Ports
---- ------------ ---------- --------- ----------------------------------------
1    default        Static       ENET
                                        Ethernet1/0/3        Ethernet1/0/4
                                        Ethernet1/0/5        Ethernet1/0/6(T)
                                        Ethernet1/0/7        Ethernet1/0/8
                                        Ethernet1/0/9        Ethernet1/0/10
                                        Ethernet1/0/11
                                        Ethernet1/0/13       Ethernet1/0/14
                                        Ethernet1/0/15       Ethernet1/0/16
                                        Ethernet1/0/17       Ethernet1/0/18
                                        Ethernet1/0/19       Ethernet1/0/20
                                        Ethernet1/0/21       Ethernet1/0/22
                                        Ethernet1/0/23       Ethernet1/0/24
                                        Ethernet1/0/25       Ethernet1/0/26
                                        Ethernet1/0/27       Ethernet1/0/28

Private vlan:
VLAN Name          Type        Asso VLAN Ports
---- ------------ ---------- --------- ----------------------------------------
2    test           Primary     4
                                        Ethernet1/0/18(T)    Ethernet1/0/20(T)
                                        Ethernet1/0/22(T)
4    R&D            Isolate     2           Ethernet1/0/2(T)     Ethernet1/0/5
                                        Ethernet1/0/6(T)     Ethernet1/0/18(T)
                                        Ethernet1/0/20(T)    Ethernet1/0/22(T)
```

5.1.3. Port type configuration

Switch port type setting, the user can change the switch port type in this module.

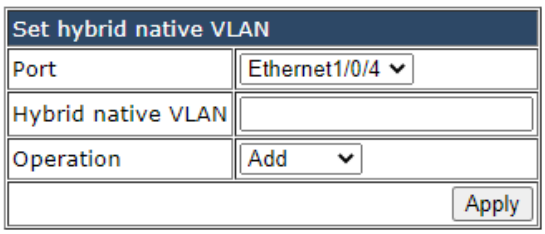


Port	Port name	
Type	access	
	trunk	
	hybrid	
State	Enable VLAN ingress check	When a data packet enters the switch, the VLAN ingress filter checks whether the ingress port of the data packet belongs to the given (forwarded) VLAN
	Disable VLAN ingress check	When a data packet enters the switch, the VLAN ingress filter does not check whether the ingress port of the data packet belongs to the given (forwarded) VLAN

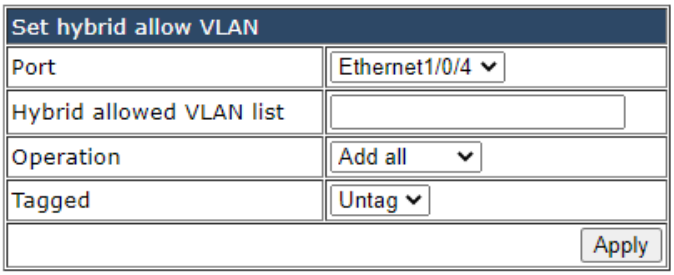


5.1.4. Hybrid port configuration

Switch Hybrid port VLAN configuration, the user changes the attributes of the switch’s Hybrid port type in this module



Port	Port name	
Hybrid native VLAN	PVID of the port, VLAN TAG tag when the port is sending and receiving data frames	
Operation	Add	Add port to VLAN
	Remove	Remove the port from the VLAN port list



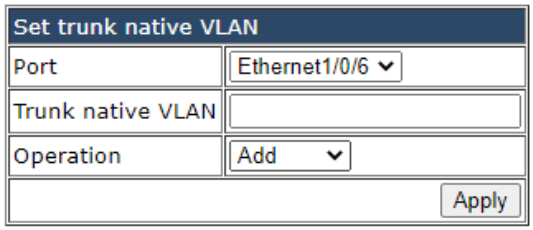
Port	Port name	
Hybrid allowed VLAN list	List of allowed VLANs, connected with "-" and ";"	
Operation	Add all	Add port to all VLANs, 1-4094
	Add	Add a VLAN to the list of existing passed VLANs
	Except add	Add the port to all VLANs outside the specified VLAN
	Cover add	Clear the original passed VLAN list, and then add the specified VLAN list to the VLAN list
	Remove	Remove the specified VLAN list from the existing passed VLAN list
Tagged	Untag method to join	
	Tag way to join	

Port	Hybrid native VLAN	Hybrid Tagged allowed VLAN list	Hybrid UnTagged allowed VLAN list
Ethernet1/0/4	1		

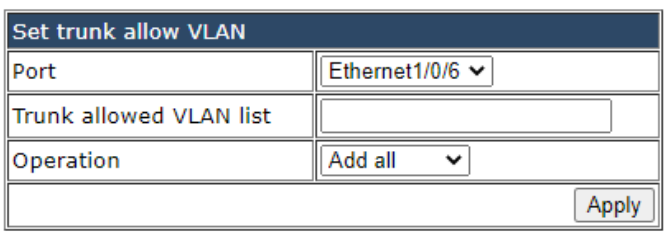
Display detailed information of Hybrid port

5.1.5. Trunk port configuration

Switch trunk port VLAN configuration, the user can change the attributes of the trunk port type of the switch in this module.



Port	Port name	
Trunk native VLAN	PVID of the port, VLAN TAG tag when the port is sending and receiving data frames	
Operation	Add	Add port to VLAN
	Remove	Remove the port from the VLAN port list



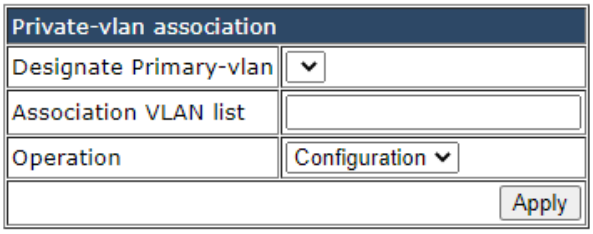
Port	Port name	
Trunk allowed VLAN list	List of allowed VLANs, connected with "-" and ";"	
Operation	Add all	Add port to all VLANs, 1-4094
	Add	Add a VLAN to the list of existing passed VLANs
	Except add	Add the port to all VLANs outside the specified VLAN
	Cover add	Clear the original passed VLAN list, and then add the specified VLAN list to the VLAN list
	Remove	Remove the specified VLAN list from the existing passed VLAN list

Port	Trunk native VLAN	Trunk allowed VLAN list
Ethernet1/0/6	1	1-4094

Display the detailed information of the trunk port

5.1.6. Private-vlan configuration

Switch Private-vlan binding operation, the user binds the private-vlan relationship in this module.



Designate Primary-vlan	Created Primary-vlan	
Association VLAN list	The secondary VLAN associated with the Primary-vlan, the secondary VLAN includes private vlan (isolated), private vlan (community)	
Operation	Configuration	Associate the secondary VLAN with the primary VLAN
	Default	Clear the primary-vlan association

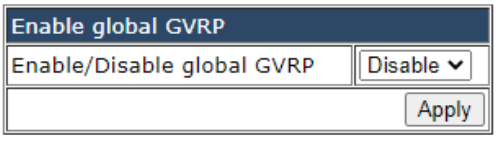
Primary-vlan	Association VLAN list
2	4

Display the related information of Primary-vlan

5.2. GVRP configuration

5.2.1. Enable global GVRP

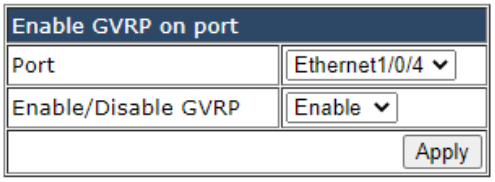
The switch starts the global GVRP setting, and the user turns on or off the global GVRP.



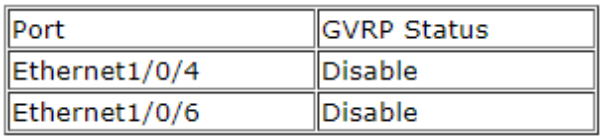
Enable/Disable global GVRP	Enable	Start the global GVRP module function
	Disable	Disable the global GVRP module function

5.2.2. Enable GVRP on port

The switch port starts GVRP settings, and the user opens or closes the port GVRP.



Port	Port name	
Enable/Disable GVRP	Enable	Start the port GVRP module function
	Disable	Disable the port GVRP module function

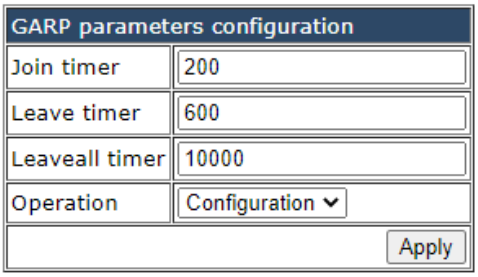


Port	GVRP Status
Ethernet1/0/4	Disable
Ethernet1/0/6	Disable

Display the GVRP status of each port

5.2.3. GARP configuration

The switch configures GARP parameters, and the user sets the value of various timers to manage GARP.

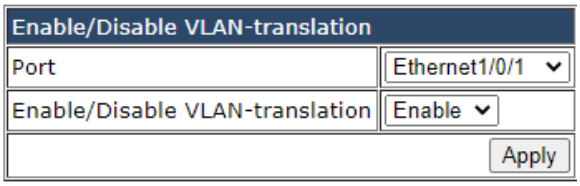


Join timer	200-500ms	
Leave timer	500-1200ms	
Leaveall timer	500-60000ms	
Operation	configuration	Modify the value of the timer
	default	Restore the timer value to the default configuration

5.3. VLAN-translation configuration

5.3.1. Enable/Disable VLAN-translation

The switch port starts the VLAN-translation setting, and the user opens or closes the port VLAN-translation.



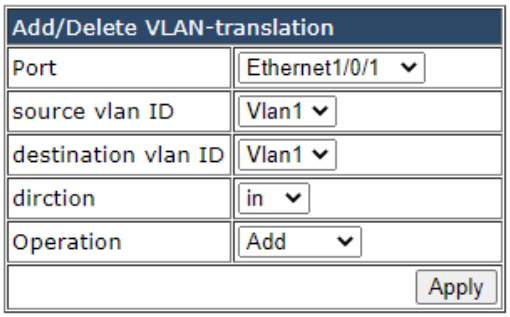
Port	Port name	
Enable/Disable VLAN-translation	Enable	Enable the VLAN-translation function of the port
	Disable	Disable the VLAN-translation function of the port

Port	VLAN-translation Status
Ethernet1/0/1	Disable
Ethernet1/0/2	Disable
Ethernet1/0/3	Disable
Ethernet1/0/4	Disable
Ethernet1/0/5	Disable
Ethernet1/0/6	Disable
Ethernet1/0/7	Disable
Ethernet1/0/8	Disable

Display the VLAN-translation status of each port

5.3.2. Add/Delete VLAN-translation

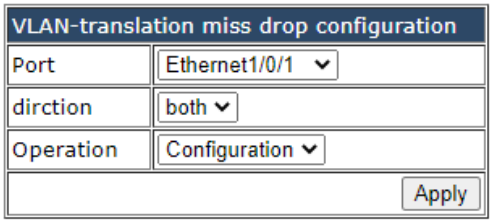
Switch VLAN-translation conversion settings, the user sets the VLAN-translation conversion relationship.



Port	Port name	
Source vlan ID	Configured VLAN	
Destination vlan ID	Configured VLAN	
direction	in	Configure the conversion direction of VLAN-translation as the ingress conversion function
	out	Configure the conversion direction of VLAN-translation as the egress conversion function
Operation	Add	Add VLAN-translation conversion relationship
	Remove	Remove VLAN-translation conversion relationship

5.3.3. VLAN-translation miss drop configuration

When the switch VLAN-translation fails to find the translation relationship, the packet loss settings are set. The user sets the direction of the packet loss configuration when the VLAN-translation finds the translation relationship.

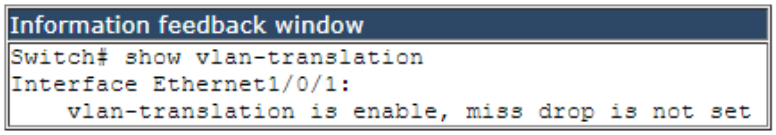


Port	Port name	
direction	both	The port performs VLAN-translation search and translation relationship configuration for packet loss at both the egress and the ingress
	in	Packet loss configuration when the port performs VLAN-translation lookup translation relationship at the ingress
	out	Packet loss configuration when the port performs VLAN-translation lookup translation relationship at the egress
Operation	Configuration	Add VLAN-translation to find the packet loss configuration when searching for translation relations
	Cancel	Delete the configuration of packet loss when searching for translation relationship in VLAN-translation

5.3.4. Show VLAN-translation

The display of switch VLAN-translation related configuration, the user can check the switch VLAN-translation configuration.

Apply	Confirm that you want to view VLAN-translation related configuration information

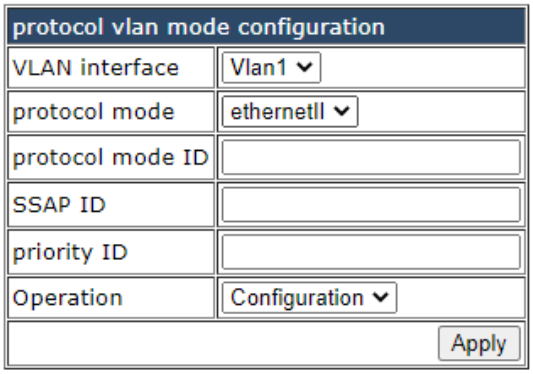


Display VLAN-translation related configuration information

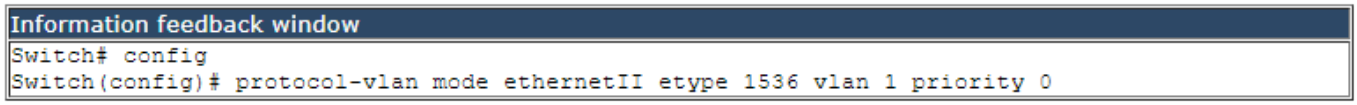
5.4. Dynamic VLAN configuration

5.4.1. VLAN protocol configuration

Switch VLAN protocol table entry configuration, user configuration protocol VLAN parameters to generate VLAN.



VLAN interface	Created VLAN	
Protocol mode	ethernetII	VLAN is divided according to data packets in ethernetII format
	snap	VLAN is divided according to data packets in snap format
	llc	VLAN is divided according to data packets in the LLC format
	all	Used when cancel operation, restore all protocol VLAN to static VLAN
Protocol mode ID	The ID range of ethernetII and snap is 1536-65535, and the ID range of llc is 0-255	
SSAP ID	It is only set in the llc protocol, range: 0-255	
Priority ID	Queue priority, range: 0-7	
Operation	configuration	Modify VLAN parameters and configure to dynamic protocol VLAN
	cancel	Restore VLAN from dynamic VLAN to static

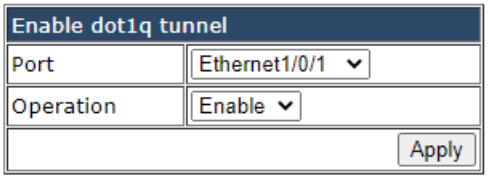


Display configuration info

5.5. Dot1q tunnel configuration

5.5.1. Enable dot1q tunnel

Switch dot1q tunnel configuration, the user configures the port to enable the dot1q tunnel function.



Port	Port name	
Operation	Enable	Enable dot1q tunnel
	Disable	Disable dot1q tunnel

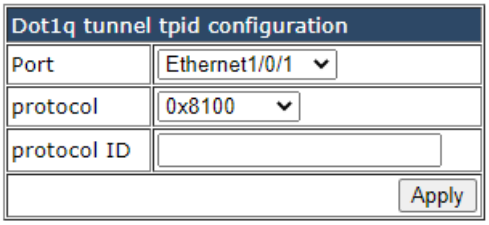
Information feedback window

```
Switch# config
Switch(config)# interface Ethernet1/0/1
Switch(config-if-ethernet1/0/1)# dot1q-tunnel enable
```

Display the execution process and results

5.5.2. dot1q tunnel tpid configuration

Switch port dot1q tunnel tpid configuration, users configure port dot1q tunnel tpid parameters.



Port	Port name	
Protocol	0x8100	Set the outer TPID to 0x8100
	0x9100	Set the outer TPID to 0x9100
	0x9200	Set the outer TPID to 0x9200
	protocol ID	Set a custom TPID
Protocol ID	The value of the custom TPID	

Information feedback window

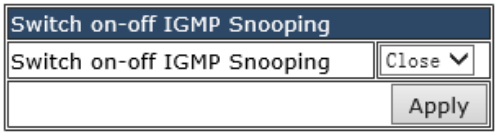
```
Switch# config
Switch(config)# interface Ethernet1/0/1
Switch(config-if-ethernet1/0/1)# dot1q-tunnel tpid 0x8100
QinQ enabled in Ethernet1/0/1, please disable it first!
ERROR: set dot1q-tunnel tpid on Ethernet1/0/1 error
```

Display the execution process and results

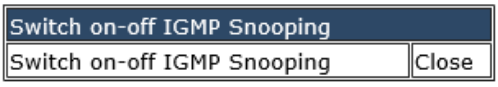
6. IGMP Snooping configuration

6.1. Switch on-off IGMP Snooping

Switch IGMP Snooping global switch, snooping IGMP messages



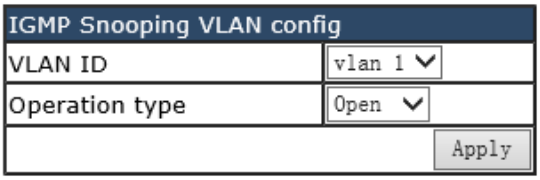
Switch on-off IGMP Snooping	Open	Turn on the global switch of IGMP Snooping on the switch
	Close	Turn off the global switch of IGMP Snooping on the switch



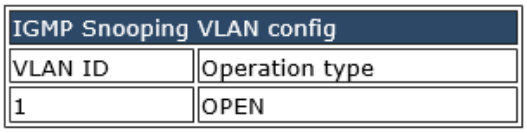
Display the current global status of IGMP Snooping

6.2. IGMP Snooping port enable

Configure IGMP Snooping port switch.



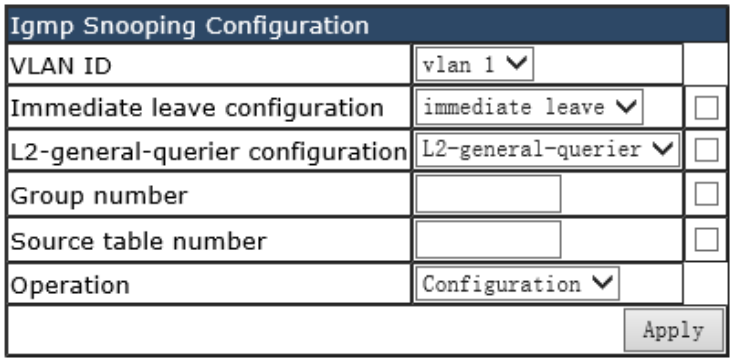
VLAN ID	Created VLAN ID	
Operation type	Open	Open VLAN interface IGMP Snooping
	Close	Close VLAN interface IGMP Snooping



Display the current existing VLAN interface and the running status of IGMP Snooping under the VLAN interface

6.3. IGMP Snooping configuration

Configure IGMP Snooping based on VLAN interface.



VLAN ID	Created VLAN ID	
Immediate leave configuration	IGMP fast leave function in VLAN	
L2-general-querier configuration	Used to send regular queries regularly to help switches in this network segment learn the mrouter port	
Group number	The upper limit of the total number of groups. When the number of joined groups reaches the limit, the newly joined groups will be rejected to prevent hostile attacks. The default is 50, and the range: 1-65535.	
Source table number	The maximum number of source entries in each group, including include sources and exclude sources. The default is 40, and the range: 1-65535.	
Operation	Configuration	Configure the checked parameters into the selected VLAN
	Default	Restore the checked parameters to the default state

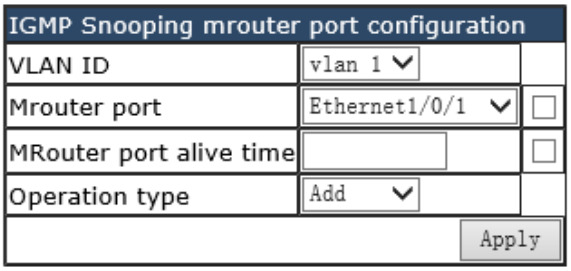
Note: Whether it is to configure parameters or restore the default state, it is required to check the box at the back to take effect. The group number and the number of source table entries are unified functions, so the two function parameters will take effect together (when one parameter is set, the other will be set to the default value).

VLAN ID	Immediate leave configuration	L2-general-querier configuration	Group number	Source table number
1	Disable	Disable	50	40

Display the configuration parameters of the existing VLAN

6.4. IGMP Snooping mrouter port configuration

IGMP Snooping mrouter port parameter configuration.



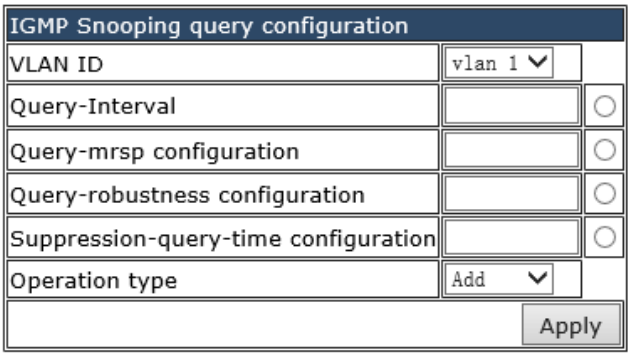
VLAN ID	Created VLAN ID	
Mrouter port	Port name	
Mrouter port alive time	Time to live of the port, range: 1-65535	
Operation type	Add	Add the mrouter port parameter configuration checked under the selected VLAN
	Remove	Delete the mrouter port parameter configuration checked under the selected VLAN

VLAN ID	Mrouter port	MRouter port alive time
1		255

Display current configuration information

6.5. IGMP Snooping query configuration

IGMP Snooping query parameter configuration.



VLAN ID	Created VLAN ID	
Query-Interval	IGMP Snooping query interval, range: 1-65535	
Query-mrsp configuration	Maximum response time for group query	
Query-robustness configuration	IGMP Snooping robustness, range: 2-10	
Suppression-query-time configuration	Prohibited query time, range: 1-65535	
Operation type	Add	Add the mrouter port parameter configuration checked under the selected VLAN
	Remove	Delete the mrouter port parameter configuration checked under the selected VLAN

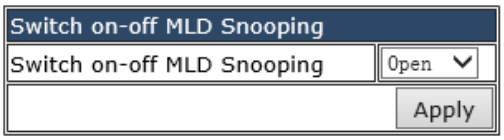
VLAN ID	Query-Interval	Query-mrsp configuration	Query-robustness configuration	Suppression-query-time configuration
1	125	10	2	255

Display current configuration information

7. MLD Snooping configuration

7.1. Switch on-off MLD Snooping

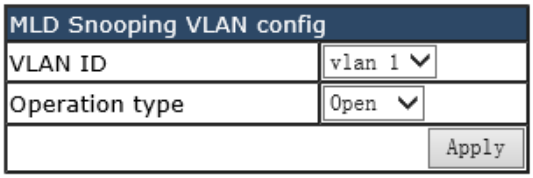
Configure MLD Snooping global status switch



Switch on-off MLD Snooping	Open	Turn on the global switch of the switch MLD Snooping
	Close	Turn off the global switch of the switch MLD Snooping

7.2. MLD Snooping port enable

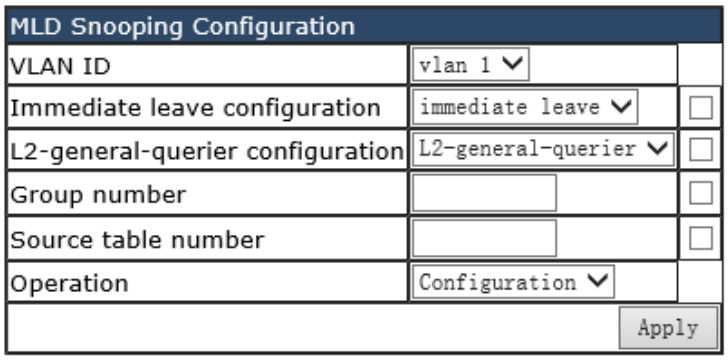
Configure MLD Snooping port switch.



VLAN ID	Created VLAN ID	
Operation type	Open	Open VLAN interface MLD Snooping
	Close	Close VLAN interface MLD Snooping

7.3. MLD Snooping configuration

MLD Snooping configuration based on VLAN interface.

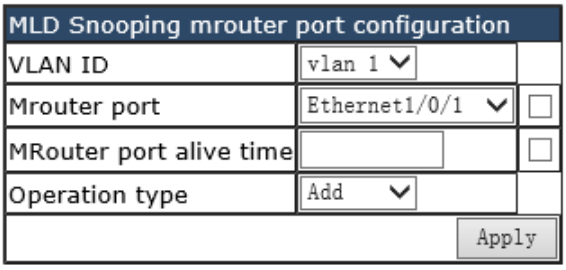


VLAN ID	Create VLAN ID	
Immediate leave configuration	MLD fast leave function in VLAN	
L2-general-querier configuration	Used to send regular queries regularly to help switches in this network segment learn the mrouter port	
Group number	The upper limit of the total number of groups. When the number of joined groups reaches the limit, the newly joined groups will be rejected to prevent hostile attacks. The default is 50, and the range: 1-65535.	
Source table number	The maximum number of source entries in each group, including include sources and exclude sources. The default is 40, and the range: 1-65535.	
Operation	Configuration	Configure the checked parameters into the selected VLAN
	Default	Restore the checked parameters to the default state

Note: Whether it is to configure parameters or restore the default state, it is required to check the box at the back to take effect. The group number and the number of source table entries are unified functions, so the two function parameters will take effect together (when one parameter is set, the other will be set to the default value).

7.4. MLD Snooping mrouter port configuration

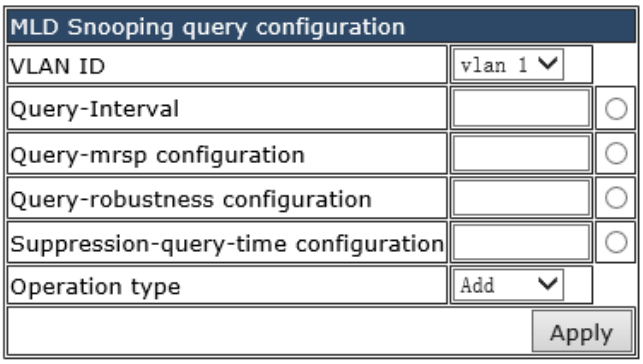
MLD Snooping MRouter port parameter configuration.



VLAN ID	Created VLAN ID	
Mrouter port	Port name	
MRouter port alive time	Time to live of the port, range: 1-65535	
Operation type	Add	Add the mrouter port parameter configuration checked under the selected VLAN
	Remove	Delete the mrouter port parameter configuration checked under the selected VLAN

7.5. MLD Snooping query configuration

MLD Snooping query parameter configuration.

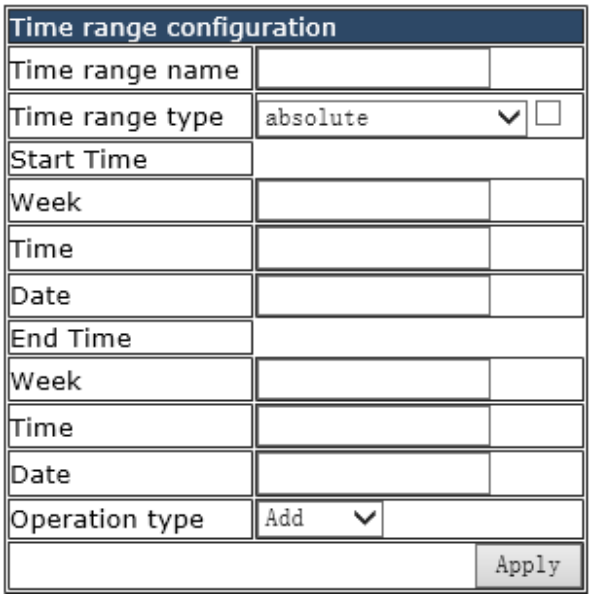


VLAN ID	Created VLAN ID	
Query-Interval	MLD Snooping query interval, range: 1-65535	
Query-mrsp configuration	Maximum response time for group query	
Query-robustness configuration	MLD Snooping robustness, range: 2-10	
Suppression-query-time configuration	Prohibited query time, range: 1-65535	
Operation type	Add	Add the mrouter port parameter configuration checked under the selected VLAN
	Remove	Delete the mrouter port parameter configuration checked under the selected VLAN

8. Time Range configuration

8.1. Time Range configuration

Time Range configuration module, the user can add or delete the operation of in this module, which can be applied to various ACL.
In the absolute mode you must input the start-time, end-time is not necessary.
You must input the weeks, start-time and end-time, but need not input the date including start and end time in the absolute-periodic.
You must input the weeks, start-time and end-time, but need not input the date including start and end time, and may input multi-week values, separate them with ",", such as:1-7: Monday-Sunday; 31: daily; 96: weekdays; 127: weekend.
Input date format: YYYY.MM.DD. Input week format: number (1: Monday etc.), if input multi-week values, separate them with ",", such as:1,2 identify Monday Tuesday. Input time format: HH:MM: SS.



Time range name	Time period names must begin with alphabetic or numeric characters ,1-64 characters	
Time range type	absolute	Absolutely
	absolute-periodic	Absolute-periodic
	periodic	periodic
Week	Start or end weeks, "1-7":"monday-sunday"; "31":"daily"; "96":"weekdays"; "127":"weekend"	
Time	Start or end time, HH:MM:SS	
Date	Start or end date,YYYY.MM.DD， range2001.1.1-2038.12.31	
Operation type	Add	Add operations
	Remove	Delete operations

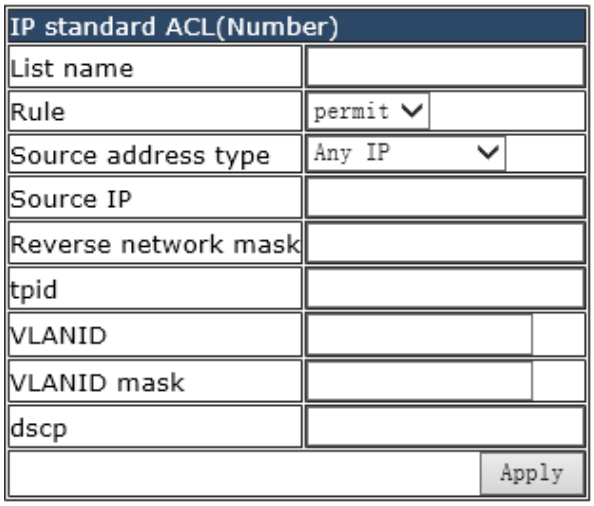
9. ACL configuration

9.1. Numeric ACL

9.1.1. Standard numeric ACL

9.1.1.1. IP standard ACL

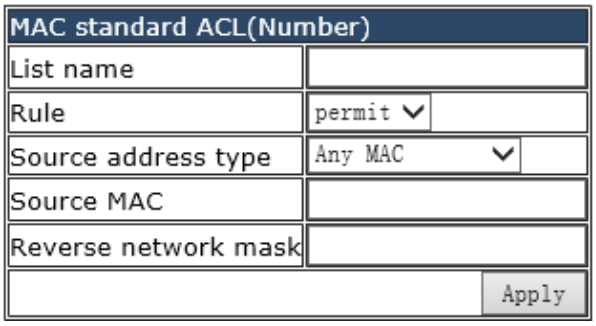
The digital standard IP access list configuration module, where users can create or modify parameters for the digital standard IP access list.



List name	Digital Standard IP Access List Number 1-99	
Rule	permit	Rule permit
	deny	Rule deny
Source address type	Any IP	Match any IP address
	Specified IP	Match IP specified address
	Host IP	Match the specified host IP
Source IP	Source IP address, decimal point	
Reverse network mask	Source IP address mask, decimal point	
tpid	Label Protocol Identification ,0-65535	
VLANID	VLAN ID，1-4094	
VLANID mask	VLAN mask，0-4095	
dcsp	IP message priority ,0-63	

9.1.1.2. MAC standard ACL

The digital standard MAC access list configuration module, where users can create or modify parameters for the digital standard MAC access list.

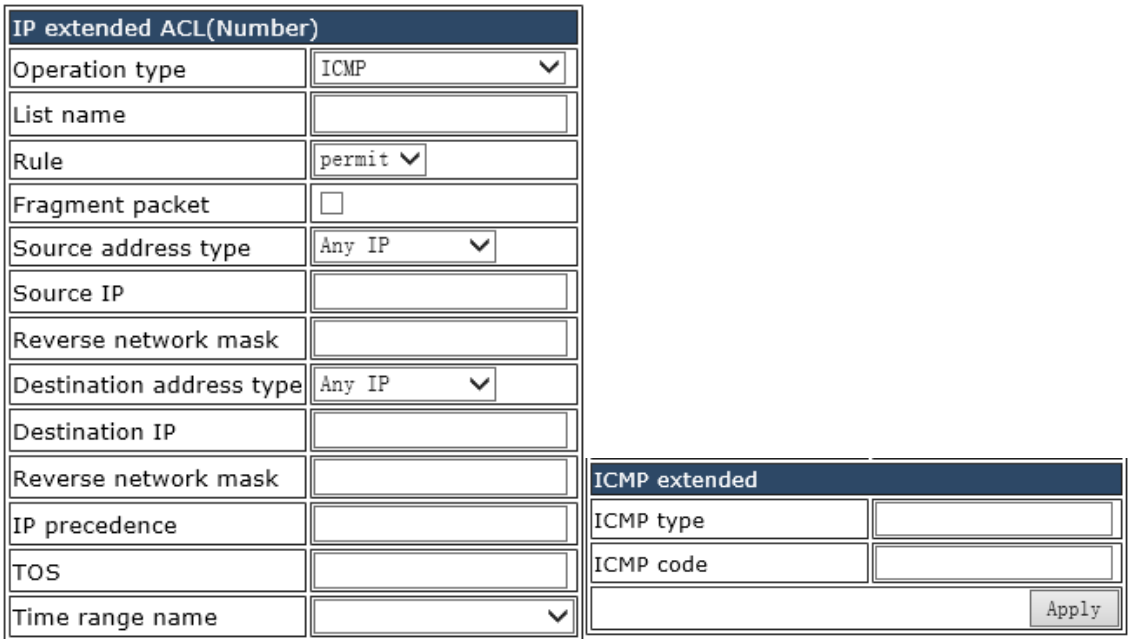


List name	Digital Standard MAC Access List Number 700-799	
Rule	permit	Rule permit
	deny	Rule deny
Source address type	Any MAC	Match any MAC address
	Specified MAC	Match MAC specified address
	Host MAC	Match the specified host MAC
Source MAC	Source MAC address	
Reverse network mask	source MAC address inverse mask	

9.1.2. Extended numeric ACL

9.1.2.1. IP extended ACL

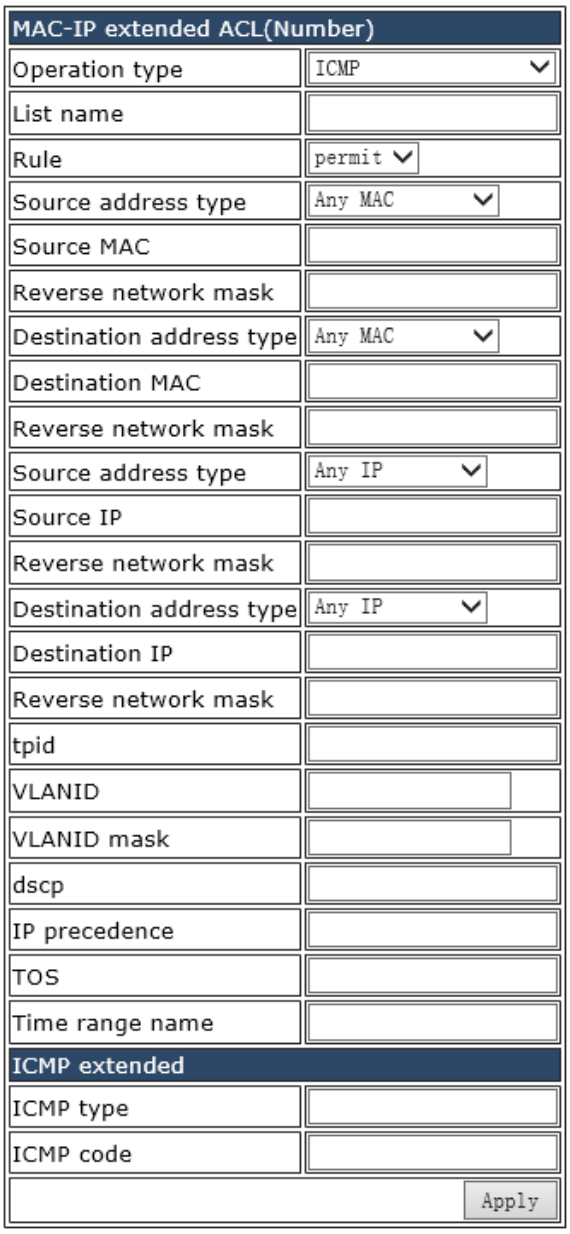
Digital extension IP access list configuration module, where users can create or modify parameters for digital extension IP access list.



Operation type	Extended operation type: ICMP.IGMP.TCP.UDP.EIGRP.GRE.IGRP.IPINIP.OSPF.IP.or Specified_protocol	
List name	Digital extensions IP access list numbers ,100-199	
Rule	permit	Rule permit
	deny	Rule deny
Fragment packet	Optional whether long messages are transmitted in pieces	
Source address type	Any IP	Match any IP address
	Specified IP	Match IP specified address
	Host IP	Match the specified host IP
Source IP	Source IP address, decimal point	
Reverse network mask	Source IP address mask, decimal point	
Destination address type	Any IP	Match any IP address
	Specified IP	Match IP specified address
	Host IP	Match the specified host IP
Destination IP	Destination IP， decimal points	
Reverse network mask	Destination IP address mask， decimal point	
IP precedence	IP priority ,0-7	
TOS	Service type ,0-15	
Time range name	Time period names to be applied must begin with alphabetic or numeric characters ,1-64 characters	
ICMP type	ICMP message type ,0-255	
ICMP code	ICMP message code ,0-255	

9.1.2.2. MAC-IP extended ACL

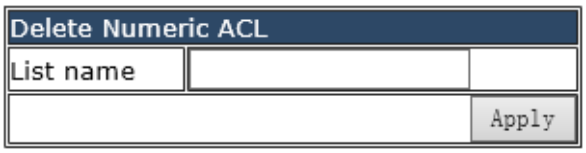
Digital extension MAC-IP access list configuration module, where users can create or modify parameters for digital extension MAC-IP access list.



Operation type	Extension operation type： ICMP.IGMP.TCP.UDP.EIGRP.GRE.IGRP.IPINIP.OSPF.IP.or Specified_protocol	
List name	Digital Extension MAC-IP Access List Number ,3100-3199	
Rule	permit	Rule permit
	deny	Rule deny
Source address type	Any MAC	Match any MAC address
	Specified MAC	Match MAC specified address
	Host MAC	Match the specified host MAC
Source MAC	Source MAC address	
Reverse network mask	source MAC address inverse mask	
Destination address type	Any MAC	Match any MAC address
	Specified MAC	Match MAC specified address
	Host MAC	Match the specified host MAC
Destination MAC	Destination MAC address	
Reverse network mask	Destination MAC address inverse mask	
Source address type	Any IP	Match any IP address
	Specified IP	Match IP specified address
	Host IP	Match the specified host IP
Source IP	Source IP address, decimal point	
Reverse network mask	Source IP address mask, decimal point	
Destination address type	Any IP	Match any IP address
	Specified IP	Match IP specified address
	Host IP	Match the specified host IP
Destination IP	Destination IP，decimal points	
Reverse network mask	Destination IP address mask，decimal point	
tpid	Label Protocol Identification ,0-65535	
VLANID	VLAN ID，1-4094	
VLANID mask	VLAN mask，0-4095	
dcsp	IP message priority 0-63	
IP precedence	IP priority ,0-7	
TOS	Service type ,0-15	
Time range name	Time period names to be applied must begin with alphabetic or numeric characters ,1-64 characters	
ICMP type	ICMP message type ,0-255	
ICMP code	ICMP message code ,0-255	

9.1.3. Delete Numeric ACL

Delete the digital access list module, where the user can delete the specified digital access list.



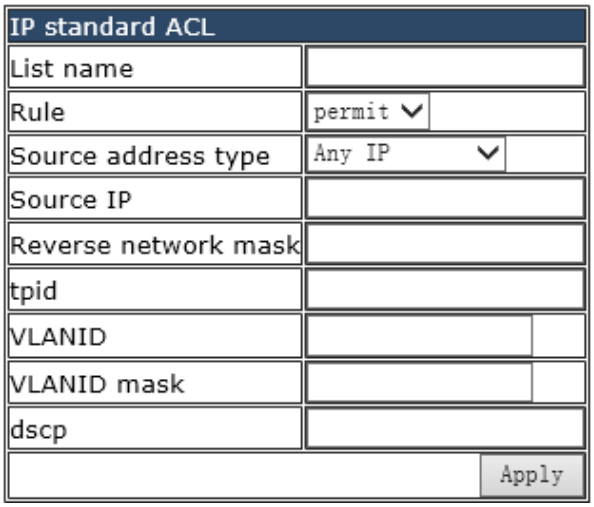
List name	Specify numeric access list numbers ,1-3199

9.2. Name ACL

9.2.1. Standard name ACL

9.2.1.1. IP standard ACL

Naming standard IP access list configuration module, where users can create or modify parameters for naming standard IP access list.

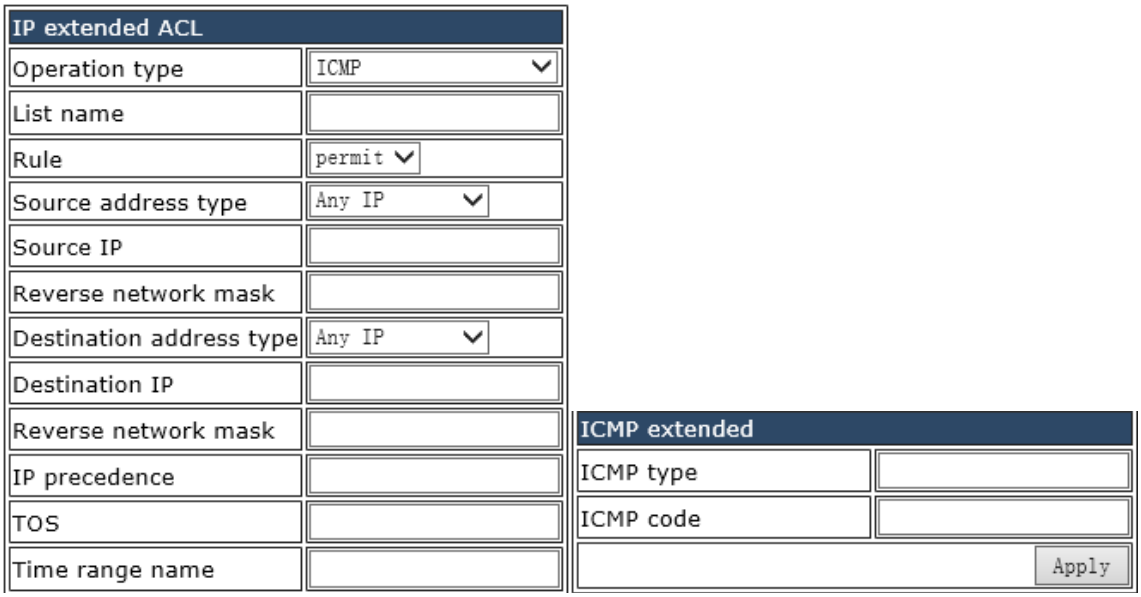


List name	Nomenclature criteria IP access list names, strings must start with letters ,1-64 characters	
Rule	permit	Rule permit
	deny	Rule deny
Source address type	Any IP	Match any IP address
	Specified IP	Match IP specified address
	Host IP	Match the specified host IP
Source IP	Source IP address, decimal point	
Reverse network mask	Source IP address mask, decimal point	
tpid	Label Protocol Identification ,0-65535	
VLANID	VLAN ID，1-4094	
VLANID mask	VLAN mask，0-4095	
dcsp	IP message priority 0-63	

9.2.2. Extended name ACL

9.2.2.1. IP extended ACL

Name extension IP access list configuration module, where users can create or modify parameters for named extension IP access list.



Operation type	Extension operation type：ICMP.IGMP.TCP.UDP.EIGRP.GRE.IGRP.IPINIP.OSPF.IP.or Specified_protocol	
List name	Name extensions IP access list names, strings must start with letters ,1-64 characters	
Rule	permit	Rule permit
	deny	Rule deny
Fragment packet	Optional whether long messages are transmitted in pieces	
Source address type	Any IP	Match any IP address
	Specified IP	Match IP specified address
	Host IP	Match the specified host IP
Source IP	Source IP address, decimal point	
Reverse network mask	Source IP address mask, decimal point	
Destination address type	Any IP	Match any IP address
	Specified IP	Match IP specified address
	Host IP	Match the specified host IP
Destination IP	Destination IP， decimal points	
Reverse network mask	Destination IP address mask， decimal point	
IP precedence	IP priority ,0-7	
TOS	Service type ,0-15	
Time range name	Time period names to be applied must begin with alphabetic or numeric characters ,1-64 characters	
ICMP type	ICMP message type ,0-255	

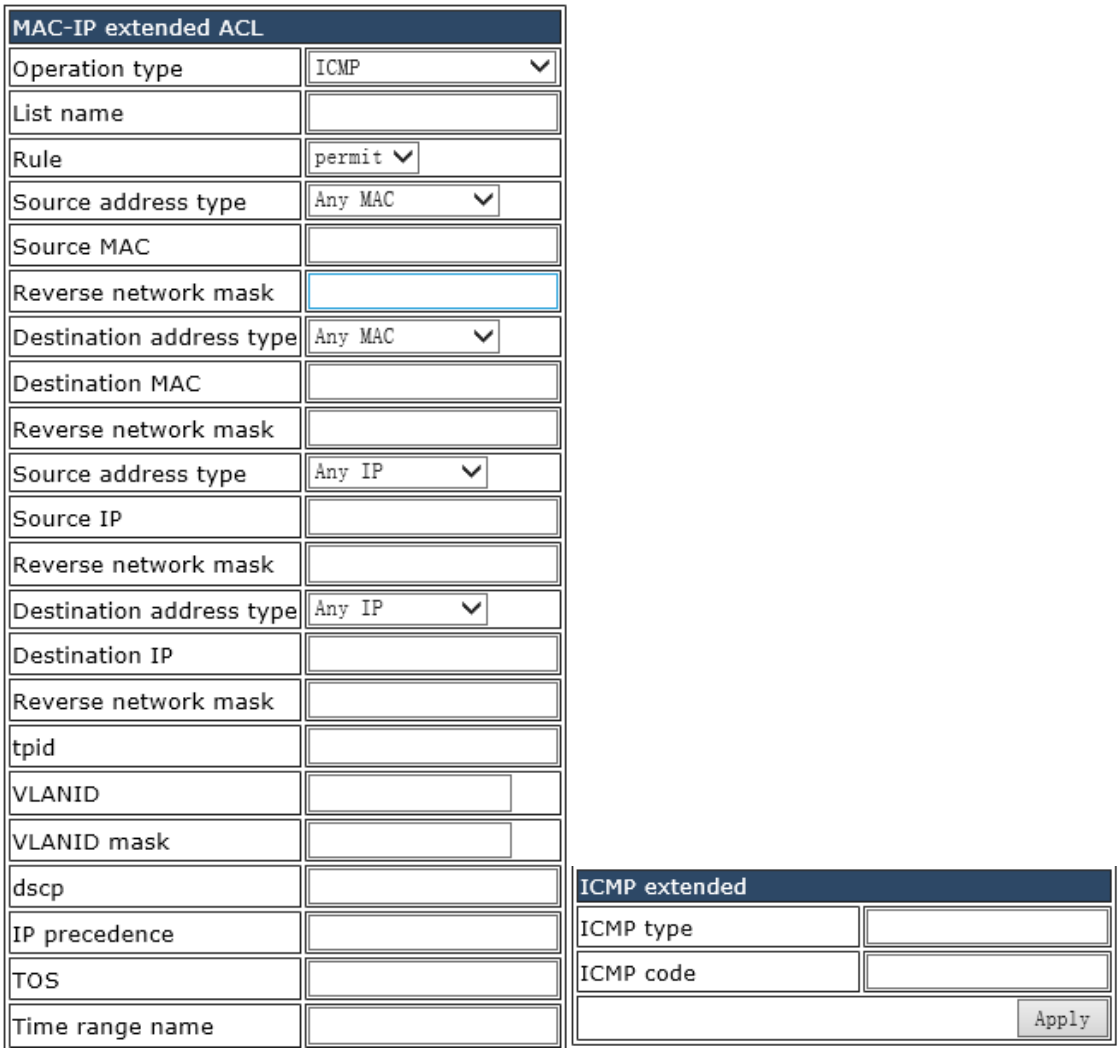
9.2.2.2. MAC extended ACL

Name extension MAC access list configuration module, where users can create or modify parameters for named extension MAC access list.

List name	Digital Extension MAC-IP Access List Number ,3100-3199	
Rule	permit	Rule permit
	deny	Rule deny
Source address type	Any MAC	Match any MAC address
	Specified MAC	Match MAC specified address
	Host MAC	Match the specified host MAC
Source MAC	Source MAC address	
Reverse network mask	source MAC address inverse mask	
Destination address type	Any MAC	Match any MAC address
	Specified MAC	Match MAC specified address
	Host MAC	Match the specified host MAC
Destination MAC	Destination MAC address	
Reverse network mask	Destination MAC address inverse mask	
Packet type	none	none
	tagged-802-3	Format of marked Ethernet 802-3 packets
	tagged-eth2	Format of marked Ethernet II packets
	untagged-802-3	Format of unmarked Ethernet 802-3 packets
	untagged-eth2	Format of unmarked Ethernet II packets
cos	cos，0-7	
cos mask	cos mask，0-7	
VLANID	VLAN ID，1-4094	
VLANID mask	VLAN mask，0-4095	
etherType	Ethernet type field value，1536-65535	
etherType mask	Ethernet type field value mask，0-65535	

9.2.2.3. MAC-IP extended ACL

Name extension MAC-IP access list configuration module, where users can create or modify parameters for named extension MAC-IP access list.

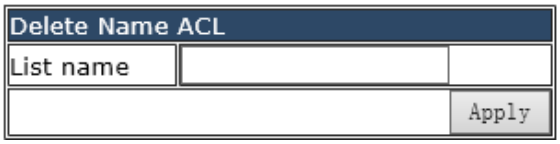


Operation type	Extension operation type： ICMP.IGMP.TCP.UDP.EIGRP.GRE.IGRP.IPINIP.OSPF.IP.or Specified_protocol	
List name	Digital Extension MAC-IP Access List Number ,3100-3199	
Rule	permit	Rule permit
	deny	Rule deny
Source address type	Any MAC	Match any MAC address
	Specified MAC	Match MAC specified address
	Host MAC	Match the specified host MAC
Source MAC	Source MAC address	
Reverse network mask	source MAC address inverse mask	
Destination address type	Any MAC	Match any MAC address
	Specified MAC	Match MAC specified address
	Host MAC	Match the specified host MAC
Destination MAC	Destination MAC address	
Reverse network mask	Destination MAC address inverse mask	
Source address type	Any IP	Match any IP address
	Specified IP	Match IP specified address
	Host IP	Match the specified host IP

Source IP	Source IP address, decimal point	
Reverse network mask	Source IP address mask, decimal point	
Destination address type	Any IP	Match any IP address
	Specified IP	Match IP specified address
	Host IP	Match the specified host IP
Destination IP	Destination IP， decimal points	
Reverse network mask	Destination IP address mask， decimal point	
tpid	Label Protocol Identification ,0-65535	
VLANID	VLAN ID，1-4094	
VLANID mask	VLAN mask，0-4095	
dcsp	IP message priority 0-63	
IP precedence	IP priority ,0-7	
TOS	Service type ,0-15	
Time range name	Time period names to be applied must begin with alphabetic or numeric characters ,1-64 characters	
ICMP type	ICMP message type ,0-255	
ICMP code	ICMP message code ,0-255	

9.2.3. Delete Name ACL

Delete the named access list module, where users can delete the specified named access list.

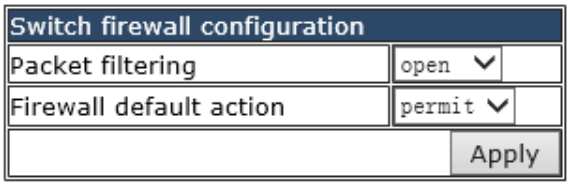


List name	String must start with a letter ,1-64 characters

9.3. Filter configuration

9.3.1. Firewall configuration

Firewall ACL configuration module in which users can operate switch firewall configuration.

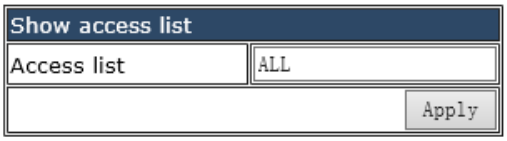


Packet filtering	open	open
	close	close
Firewall default action	permit	Rule permit
	deny	Rule deny

9.4. Show ACL configuration

9.4.1. Show access list

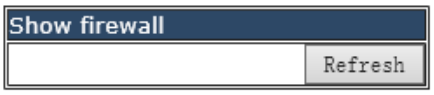
The access control list module is displayed in which the user can display ACL specified information or all ACL information.



Access list	Specify the ACL name or number to display ALL display all ACL

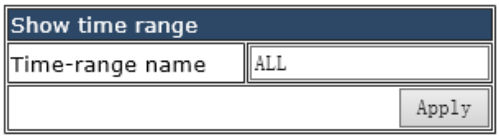
9.4.2. Show firewall

Display packet filtering function configuration information module, user in this module can display firewall status information.



9.4.3. Show time range

Display time range function configuration information module, where users can display configured custom time information.

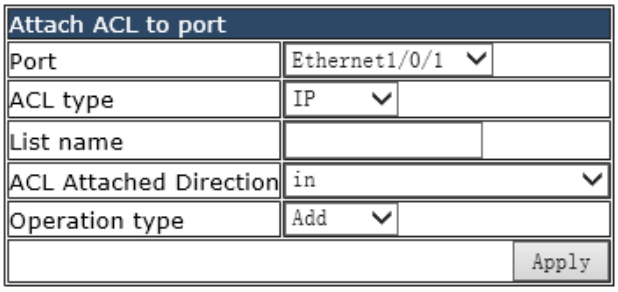


Time-range name	Specifies the time period name to display, ALL displays all time period information

9.5. ACL binding configuration

9.5.1. Attach ACL to port

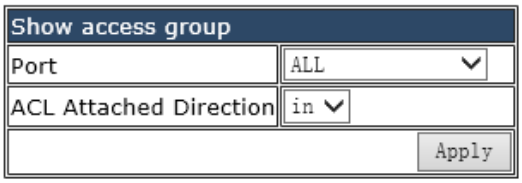
ACL port binding module, the user can bind and delete the access list of the specified port.



Port	Designated port number	
ACL type	IP	IP type
	MAC	MAC type
	MAC-IP	MAC-IP type
List name	Specify access list name ,1-64 characters	
ACL Attached Direction	in	Application ACL only
	in and traffic-statistics	Application ACL and flow monitoring
Operation type	Add	Add operations
	Remove	Delete operations

9.5.2. Show access group

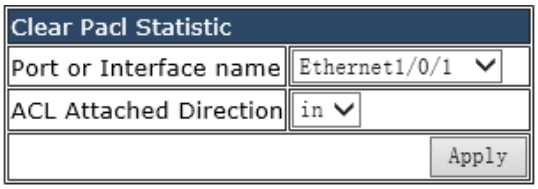
The configuration information module on ACL display port, where the user can display the ACL binding information of the specified port or all ports.



Port	Specifies the port number to display the information ALL displays all port information	
ACL Attached Direction	in	Application ACL only
	in and traffic-statistics	Application ACL and flow monitoring

9.5.3. Clear Pacl Statistic

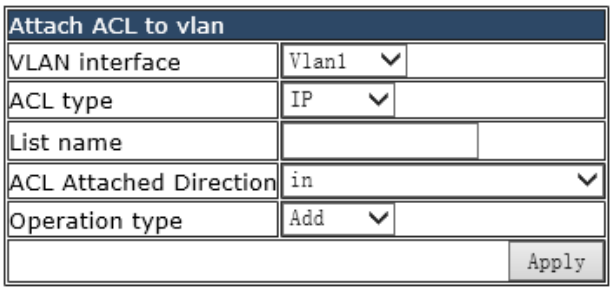
The statistical information module ACL the port, where the user can clear the ACL statistics of the specified port.



Port or Interface name	Specifies the port number to clear statistics	
ACL Attached Direction	in	Application ACL only
	in and traffic-statistics	Application ACL and flow monitoring

9.5.4. Attach ACL to vlan

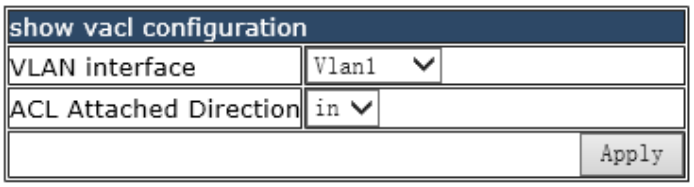
ACL vlan binding module, where users can bind and delete access lists to specified VLAN.



VLAN interface	Specifies the VLAN number to operate on	
ACL type	Specifies the type of ACL to bind: IP.MAC.MAC-IP	
List name	Specify access list name ,1-64 characters	
ACL Attached Direction	in	Application ACL only
	in and traffic-statistics	Application ACL and flow monitoring
Operation type	Add	Add operations
	Remove	Delete operations

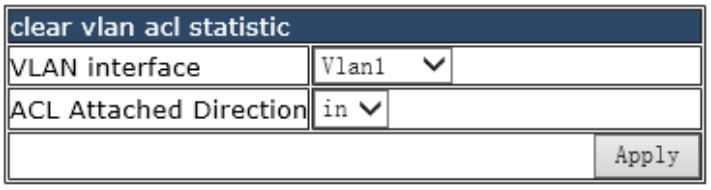
9.5.5. Show vacl configuration

The vlan acl configuration information module is displayed in which the user can display ACL binding information for the specified VLAN or all VLAN.



9.5.6. Clear vlan acl statistic

Clear the VLAN acl statistical information module, where the user can clear the ACL statistics of the specified VLAN.

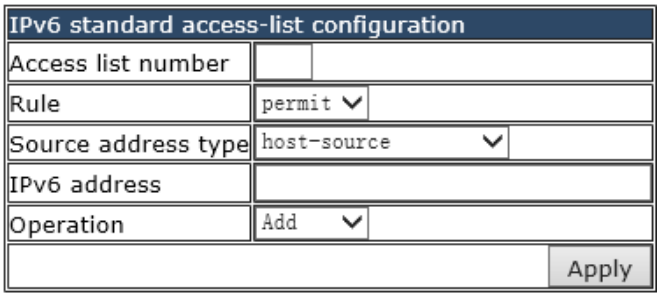


VLAN interface	Specifies the VLAN number to clear statistics	
ACL Attached Direction	in	Application ACL only
	in and traffic-statistics	Application ACL and flow monitoring

10.IPv6 ACL configuration

10.1. IPv6 standard access-list configuration

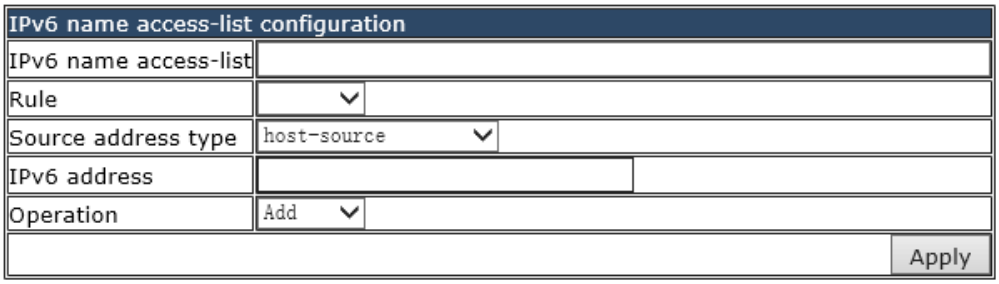
IPv6 standard access list configuration module, users can create, delete or modify parameters for digital standard IPv6 access lists.



Access list number	Digital Standard IPv6 Access List Number ,500-599	
Rule	permit	Rule permit
	deny	Rule deny
Source address type	Specifies IPv6 source host	Matches IPv6 specified source host
	All IPv6 source hosts	Match any IPv6 source host
	IPv6 source address	Match IPv6 specified source address
IPv6 address	IPv6 address to operate	
Operation	Add	Add operations
	Remove	Delete operations

10.2. IPv6 name access-list configuration

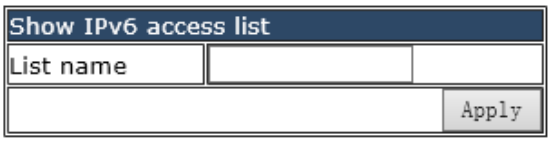
IPv6 named access table configuration module, the user can create, delete, or modify parameters on the named standard IPv6 access list.



IPv6 name access-list	Name of access list	
Rule	permit	Rule permit
	deny	Rule deny
Source address type	Specifies IPv6 source host	Matches IPv6 specified source host
	All IPv6 source hosts	Match any IPv6 source host
	IPv6 source address	Match IPv6 specified source address
IPv6 address	IPv6 address to operate	
Operation	Add	Add operations
	Remove	Delete operations

10.3. Show IPv6 access list

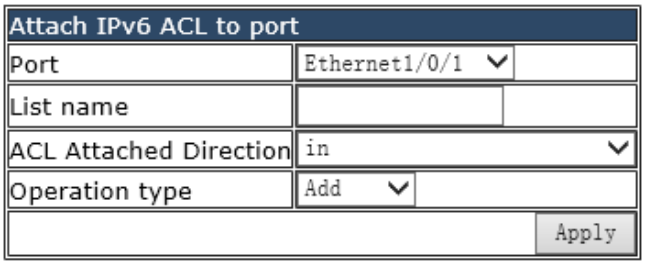
Show IPv6 access control list module where users can display IPv6 access list to create, delete, or modify parameters.



List name	Specifies the ACL name or number to display ,0-64 characters

10.4. Attach IPv6 ACL to port

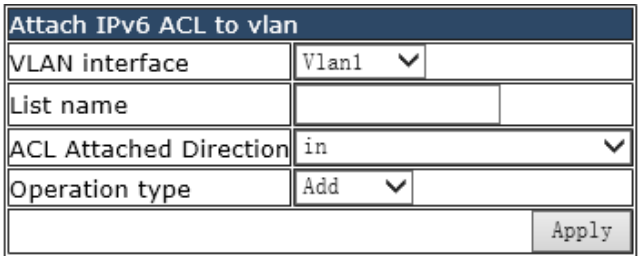
IPv6ACL port binding module, the user can bind and delete the IPv6 access list on the specified port.



Port	Designated port number	
List name	Specify access list name ,1-64 characters	
ACL Attached Direction	in	Application ACL only
	in and traffic-statistics	Application ACL and flow monitoring
Operation type	Add	Add operations
	Remove	Delete operations

10.5. Attach IPv6 ACL to vlan

IPv6ACL VLAN binding module, the user can bind and delete the IPv6 access list to the specified VLAN.



VLAN interface	VLAN number specified	
List name	Specify access list name ,1-64 characters	
ACL Attached Direction	in	Application ACL only
	in and traffic-statistics	Application ACL and flow monitoring
Operation type	Add	Add operations
	Remove	Delete operations

11.AM configuration

11.1. AM global configuration

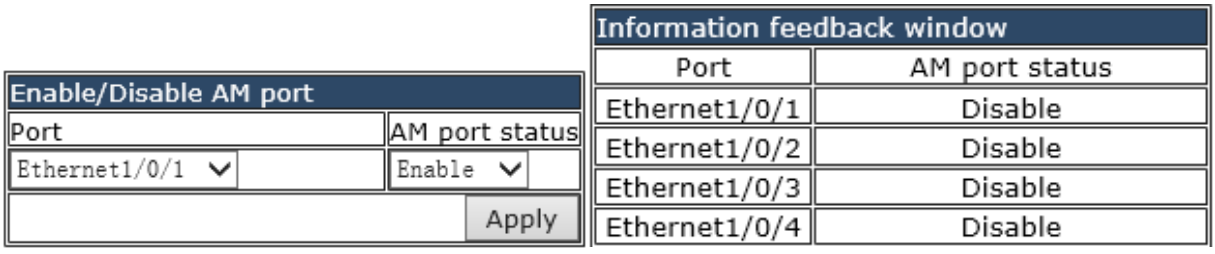
11.1.1. Enable/Disable AM

AM switch configuration module, the user can start or close the global AM function in this module.

11.2. AM port configuration

11.2.1. Enable/Disable AM port

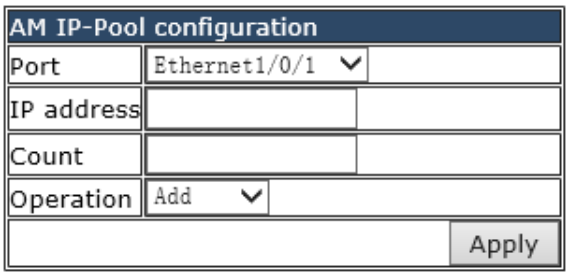
AM port switch configuration module, where the user can start or close the AM function of the specified port.



Port	Specifies the port number
AM port status	enable or disable

11.2.2. AM IP-Pool configuration

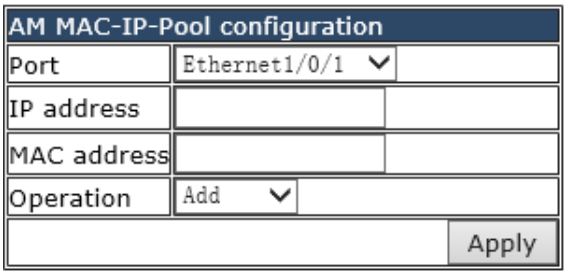
AM IP-Pool configuration module, the user can set up a AM IP segment on the specified port, allowing / rejecting messages from within the segment to be forwarded through the port.



Port	Designated port number	
IP address	Beginning IP address, decimal point	
Count	Number of consecutive addresses after starting IP address ,1-32	
Operation	Add	Add operations
	Remove	Delete operations

11.2.3. AM MAC-IP-Pool configuration

AM MAC-IP-Pool configuration module, the user can set up a AM MAC-IP segment on the specified port, allowing / rejecting messages from within the segment to be forwarded through the port.

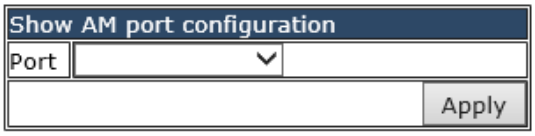


Port	Designated port number	
IP address	Beginning IP address, decimal point	
MAC address	Source MAC address	
Operation	Add	Add operations
	Remove	Delete operations

11.3. Show AM port configuration

11.3.1. Show AM port configuration

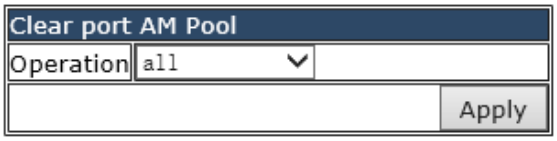
The AM port configuration module is displayed in which the user can display the AM function configuration information of the specified port.



Port	Designated port number

11.3.2. Clear port AM Pool

AM Pool address pool cleanup module, where users can configure the specified AM Pool to clear.



Operation	all	Clear all AM Pool
	ip-pool	Clear ip-pool only
	mac-ip-pool	Clear mac-ip-pool only

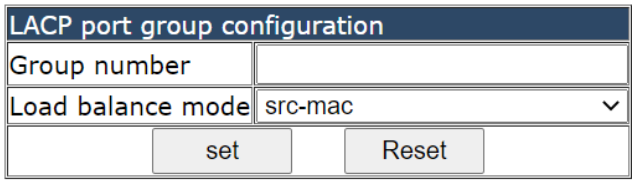
12. Port channel configuration

Configure port related features settings using the Port Channel configuration page.

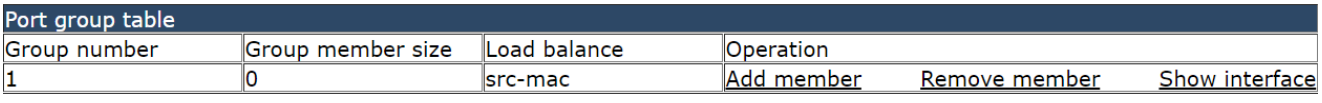
12.1. LACP port group configuration

This section can be used to create convergent groups.

To display the “LACP port group configuration” page， click Port channel configuration->LACP port group configuration， click "Apply" to configure.



entry	describe
Group number	Range :1-128
Load balance mode	src-mac：Execute load balancing according to source MAC dst-mac：Execute load balancing according to target MAC dst-src-mac：Execute load balancing based on source and target MAC src-ip：Execute load balancing according to source IP dst-ip：Execute load balancing according to target IP dst-src-ip：Execute load balancing according to target IP source dst-src-mac-ip：Perform load balancing based on target and source Mac and source IP



entry	describe
Group number	Convergence group created, size range :1-128
Group member size	Number of members in convergent groups
Load balance mode	src-mac：Execute load balancing according to source MAC dst-mac：Execute load balancing according to target MAC dst-src-mac：Execute load balancing based on source and target MAC src-ip：Execute load balancing according to source IP dst-ip：Execute load balancing according to target IP dst-src-ip：Execute load balancing according to target IP source

	dst-src-mac-ip：Perform load balancing based on target and source Mac and source IP
Operation	Click on the entry in the corresponding action bar and jump to the corresponding settings page

12.2. Delete port group

This page can be used to delete created convergent groups.
To display the “Delete port group” page，click Port channel configuration->Delete port group ，click "Apply" to configure.

Port group table			
Group number	Group member size	Load balance	Operation
1	0	src-mac	Delete

entry	describe
Group number	Range :1-128
Group member size	Number of members in convergent groups
Load balance	src-mac：Execute load balancing according to source MAC dst-mac：Execute load balancing according to target MAC dst-src-mac：Execute load balancing based on source and target MAC src-ip：Execute load balancing according to source IP dst-ip：Execute load balancing according to target IP dst-src-ip：Execute load balancing according to target IP source dst-src-mac-ip：Perform load balancing based on target and source Mac and source IP

12.3. Show port group info

This page can view the information of the convergent group configuration.
To display the “Show port group info” page，click Port channel configuration->Show port group info，click "Apply" to view.

Information feedback window

```
Switch# config
Switch(config)# show port-group brief
ID: port group number;  Mode: port group mode such as on active or passive;
Ports: different types of port number of a port group,
       the first is selected ports number, the second is standby ports number, and
       the third is unselected ports number.
ID   Mode     Partner ID                  Ports       Load-balance
-----------------------------------------------------------------
1                                                     src-mac
Switch(config)# show port-group detail
Flags:  A -- LACP_Activity, B -- LACP_timeout, C -- Aggregation,
        D -- Synchronization, E -- Collecting, F -- Distributing,
        G -- Defaulted, H -- Expired
Port-group number: 1,  Mode: ,   Load-balance: src-mac
 Port-group detail information:
 System ID: 0x8000,00-1f-ce-10-b0-1b
 Local:
  Port             Status      Priority  Oper-Key Flag
  ---------------------------------------------------------
 Remote:
  Actor           Partner  Priority  Oper-Key SystemID                    Flag
  ---------------------------------------------------------------------------
```

12.4. Show interface port-channel

This page can view the information of the convergent group port.

To display the “Show interface port-channel” page， click Port channel configuration->Show interface port-channel， click "Apply" to view.

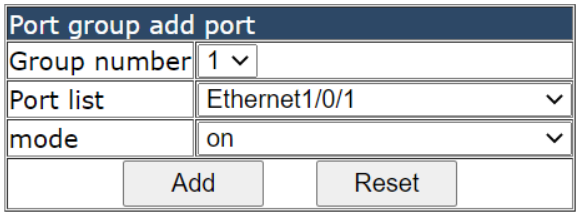
Information feedback window

```
Switch# show interface port-channel 1
Interface brief:
  Port-Channel1 is down, line protocol is down
  Port-Channel1 is layer 2 port, alias name is (null), index is 53
  Port-Channel1 is LAG port, member is :
      Hardware is EtherChannel, address is 00-1f-ce-10-b0-1b
  PVID is 1
  MTU 1500 bytes, BW 10000 Kbit
  Time since last status change:0w-0d-3h-21m-9s  (12069 seconds)
  Encapsulation ARPA, Loopback not set
  Force half-duplex, Auto-speed
  FlowControl is off, MDI type is auto
Statistics:
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
  The last 5 second input rate 0 bits/sec, 0 packets/sec
  The last 5 second output rate 0 bits/sec, 0 packets/sec
  Input packets statistics:
    0 input packets, 0 bytes, 0 no buffer
    0 unicast packets, 0 multicast packets, 0 broadcast packets
    0 input errors, 0 CRC, 0 frame alignment, 0 overrun, 0 ignored,
    0 abort, 0 length error, 0 undersize 0 jabber, 0 fragments, 0 pause frame
  Output packets statistics:
    0 output packets, 0 bytes, 0 underruns
    0 unicast packets, 0 multicast packets, 0 broadcast packets
    0 output errors, 0 collisions, 0 late collisions, 0 pause frame
```

12.5. Add member port

This page can be used to add port members to a convergence group.

To display the “Add member port” page， click Port channel configuration->Add member port， click "Apply" to configure.



entry	describe
Group number	To create a convergent group number
Port list	Ethernet port name
mode	On： force port to join port channel without LACP. enabled Active： Enable the LACP on the port and set it to Active mode; Passive： Enable LACP on the port and set it to passive mode

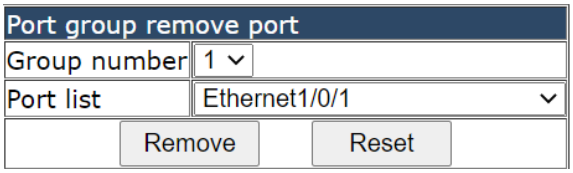
Port group port list

Index	Port Name
1	Ethernet1/0/1

entry	describe
Index	To create a convergent group numb
Port Name	Ethernet port name added to convergence group

12.6. Del member port

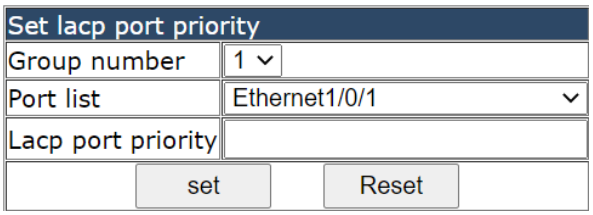
This page can be used to delete port members within the convergence group.
To display the “Del member port” page， click Port channel configuration->Del member port， click "Apply" to configure.



entry	describe
Group number	To create a convergent group number
Port list	Ethernet port name

12.7. Set lacp port priority

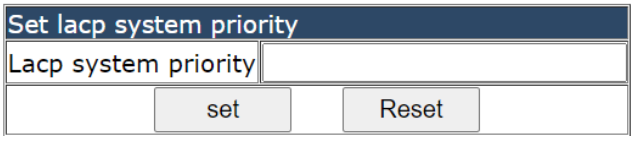
This page is available with setting port priority.
To display the “Set lacp port priority” page， click Port channel configuration->Set lacp port priority，Click set "to set, click Reset" to restore default settings.



entry	describe
Group number	To create a convergent group number
Port list	Ethernet port name added to convergence group
Lacp port priority	Range :0-65535

12.8. Set lacp system priority

This page is available with setting system priorities.
To display the “Set lacp system priority” page， click Port channel configuration->Set lacp system priority， Click set "to set, click Reset" to restore default settings.



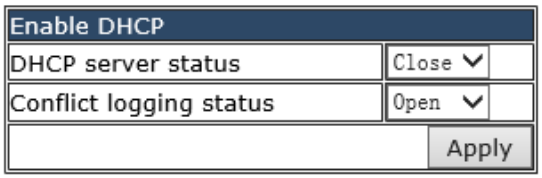
entry	describe
Lacp system priority	Range :0-65535

13. DHCP configuration

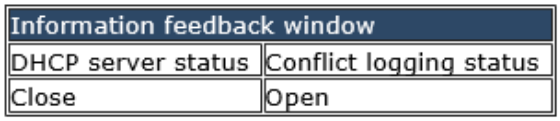
13.1. DHCP management

13.1.1. Enable DHCP

DHCP status configuration and query, the user configures the DHCP server status and address conflict log status in this module, and checks the DHCP server status and address conflict log status.



DHCP server status	Close	Close DHCP server
	Open	Open DHCP server
Conflict logging status	Close	Close address conflict logging
	Open	Open address conflict logging
Apply	Apply the currently selected configuration to the switch to make the configuration effective	



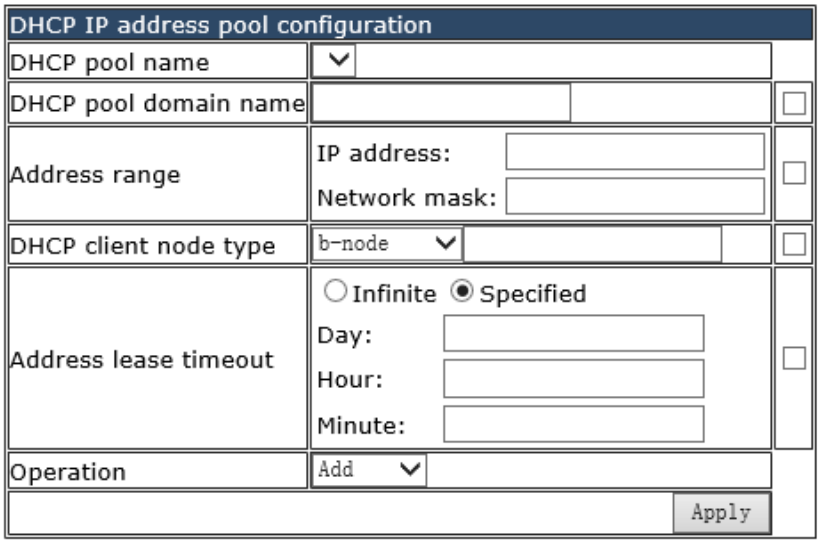
DHCP server status	Close	The current DHCP server is off
	Open	The current DHCP server is on
Conflict logging status	Close	The current address conflict log is off
	Open	The current address conflict log is open

13.2. DHCP server configuration

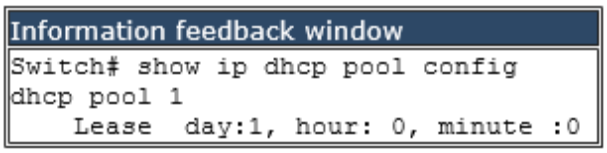
13.2.1. Dynamic pool configuration

13.2.1.1. Dynamic address pool configuration

Switch DHCP address pool configuration, the user configures the DHCP address pool parameters.



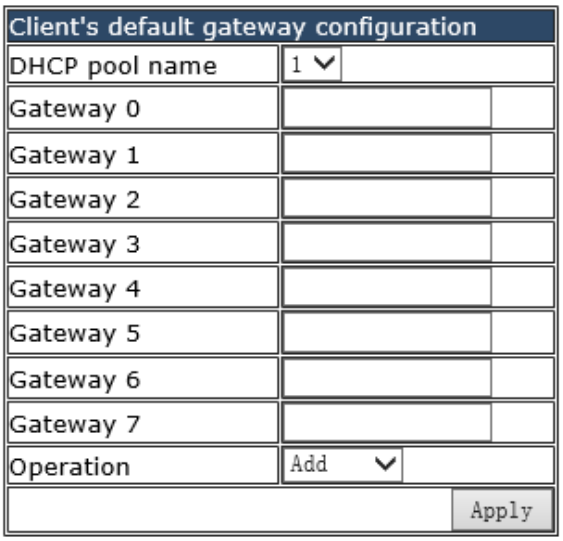
DHCP pool name	The name of the created address pool	
DHCP pool domain name	The domain name of the currently selected address pool. After configuration, you need to tick the box at the back to apply the domain name to the switch during application.	
Address range	IP address	Network number of the address pool
	Network mask	Netmask of the address pool
DHCP client node type	b-node	Broadcast node
	p-node	For point-to-point nodes
	m-node	Used for hybrid nodes to perform point-to-point communication after broadcasting
	h-node	Hybrid nodes that broadcast after peer-to-peer communication
	Designate	Hexadecimal node type, from 0 to 255
Address lease timeout	Infinite	The lease period of the address is unlimited, and the number of days/hours/minutes below do not need to be filled in
	Specified	There is a time limit for the lease of the address. You can rent it according to the lease time filled in below, and it will be automatically recovered if the time is exceeded
Operation	add	Add the above four parameters with check boxes to the switch, the parameters without check boxes will not be operated
	remove	Restore the four parameters with check boxes to the default configuration, and the parameters without check boxes will not be operated



Information display of the currently configured address pool

13.2.1.2. Client's default gateway configuration

The switch DHCP client default gateway configuration, the user configures the gateway parameters of the DHCP address pool.



DHCP pool name	The name of the created address pool	
Gateway0-7	Gateway IP address in dotted decimal format. Gateway 0 has the highest priority. The smaller the number, the higher the priority. The gateway can be set to zero or more, but the setting must start with 0 and no vacancies can appear in the middle, otherwise the gateway will be Ignore the following parameters, such as setting gateway 0-1 and gateway 7, only gateway 0-1 takes effect	
Operation	Add	Add the gateway effectively set above to the currently selected DHCP address pool
	Remove	Clear all gateways and restore to the default state

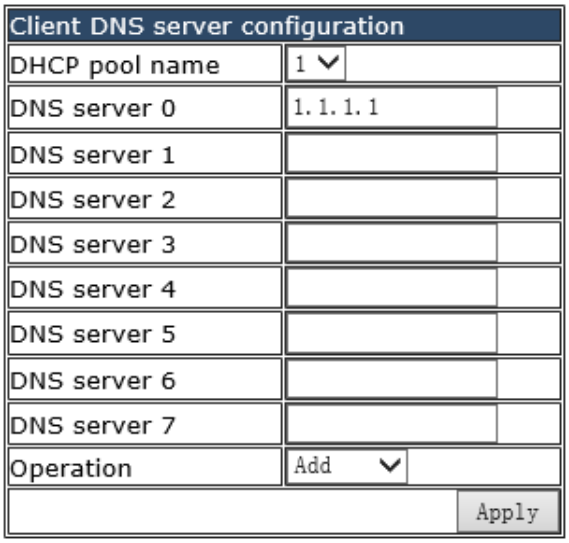
Information feedback window

```
Switch# config t
Switch(config)# ip dhcp pool 1
Switch(dhcp-1-config)# default-router  1.1.1.1
```

Information display after application

13.2.1.3. Client DNS server configuration

The switch DHCP client DNS server configuration, the user configures the DNS server parameters of the DHCP address pool.



DHCP pool name	The name of the created address pool	
DNS server 0-7	For the IP address in dotted decimal format, DNS server 0 has the highest priority. The smaller the number, the higher the priority. The DNS server can be set to zero or more, but the setting must start from 0 and there can be no vacancies in the middle, otherwise the DNS server The following parameters will be ignored, such as setting DNS server 0-1 and DNS server 7, only DNS server 0-1 takes effect	
Operation	Add	Add the DNS server effectively set above to the currently selected DHCP address pool
	Remove	Clear all DNS servers and restore to the default state

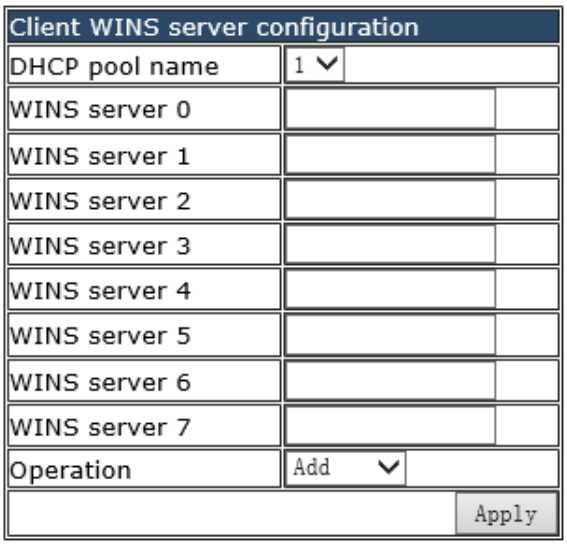
Information feedback window

```
Switch# config t
Switch(config)# ip dhcp pool 1
Switch(dhcp-1-config)# dns-server  1.1.1.1
```

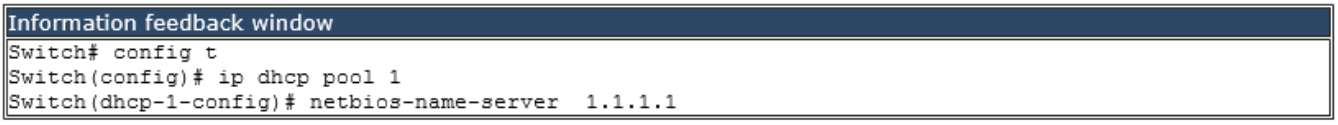
Information display after application

13.2.1.4. Client WINS server configuration

The switch DHCP client WINS server configuration, the user configures the WINS server parameters of the DHCP address pool.



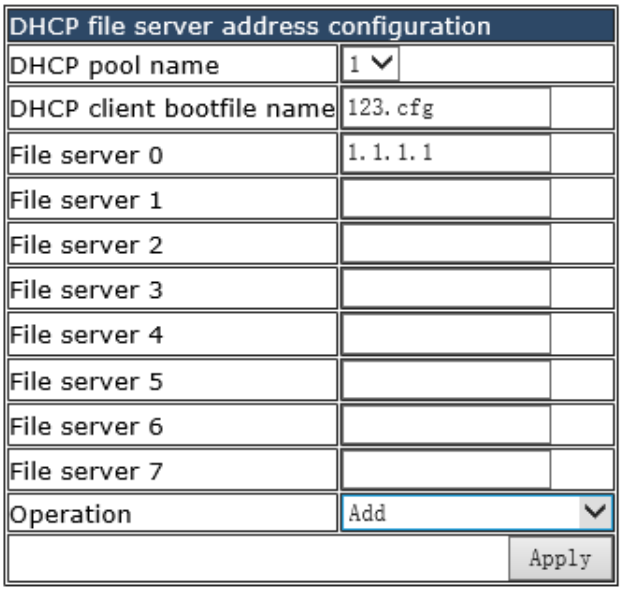
DHCP pool name	The name of the created address pool	
WINS server 0-7	The WINS server IP address in dotted decimal format. WINS server 0 has the highest priority. The smaller the number, the higher the priority. The WINS server can be set to zero or more, but the setting must start from 0 and there can be no vacancies in the middle, otherwise WINS server will ignore the following parameters, such as setting WINS server 0-1 and WINS server 7, only WINS server 0-1 takes effect	
Operation	Add	Add the WINS server effectively set above to the currently selected DHCP address pool
	Remove	Clear all WINS servers and restore them to the default state



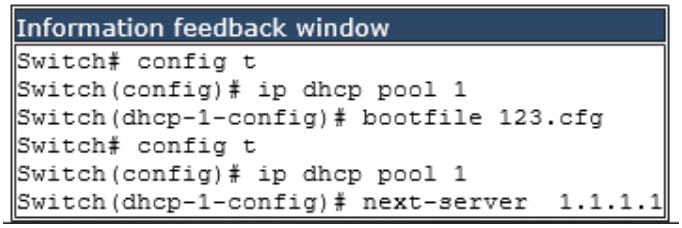
Information display after application

13.2.1.5. DHCP file server address configuration

The switch client import file stores the address configuration, and the user configures the parameters of the DHCP address pool client import file.



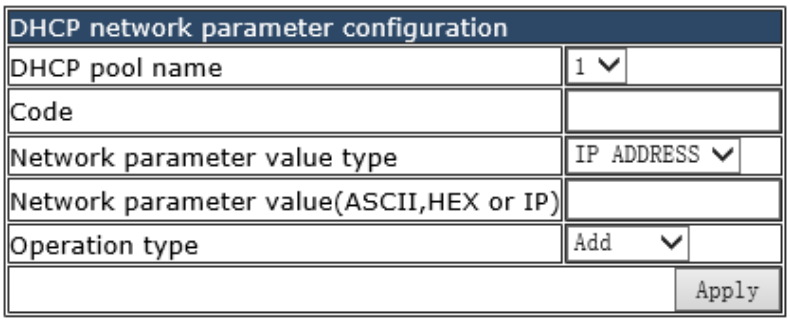
DHCP pool name	The name of the created address pool	
DHCP client bootfile name	Specify the name of the file to be imported for the client. Usually used for diskless workstations, these workstations need to download configuration files from the server at startup.	
File server 0-7	The IP address in dotted decimal format has the highest priority for importing file server 0. The smaller the number, the higher the priority. The importing file server can be set to zero or more, but the setting must start from 0 and there should be no vacancies in the middle, otherwise Importing file server will ignore the following parameters, such as setting import file server 0-1 and import file server 7, only import file server 0-1 takes effect	
Operation	Add	Add the imported file server effectively set above to the currently selected DHCP address pool
	Remove	Clear all imported file servers and restore to the default state



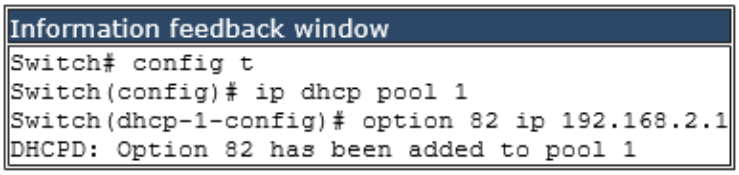
Information display after application

13.2.1.6. DHCP network parameter configuration

Switch network parameter configuration, the user configures the network parameters of the DHCP address pool.



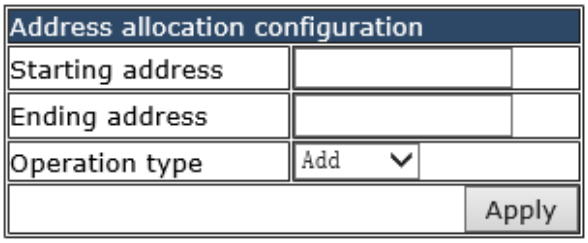
DHCP pool name	The name of the created address pool	
Code	The code range of network parameters is 0-254, and each code corresponds to a different function in DHCP. The definition of option codes is described in detail in RFC2123.	
Network parameter value type	There are three types of network parameter values: ASCII, HEX, and IP ADDRESS.	
Network parameter value （ASCII，HEX or IP）	ASCII string, up to 255 characters; Hexadecimal value, not greater than 510, and must be an even number; IP address in decimal format, up to 63 IP addresses can be configured.	
Operation	Add	Add the network parameters of the selected address pool to the switch
	Remove	Clear the network parameters filled in the selected address pool (delete according to the code of the network parameter)



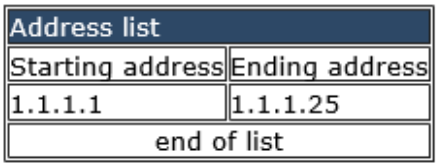
Information display after application

13.2.1.7. Excluded address configuration

Excluding the dynamic allocation address configuration, the user configures the addresses that are not used for dynamic allocation



Starting address	Start address not used for dynamic allocation	
Ending address	End address not used for dynamic allocation	
Operation type	Add	Add the address range that is not used and dynamically allocated to the switch
	Remove	Delete the address range that is not used and dynamically allocated from the switch

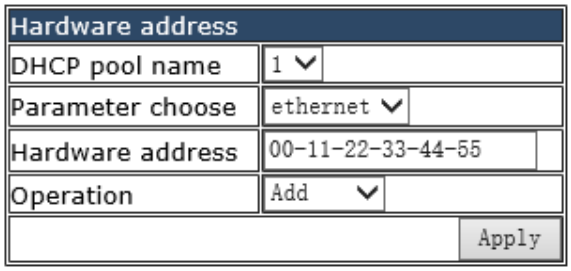


Display the address range currently not used for dynamic allocation

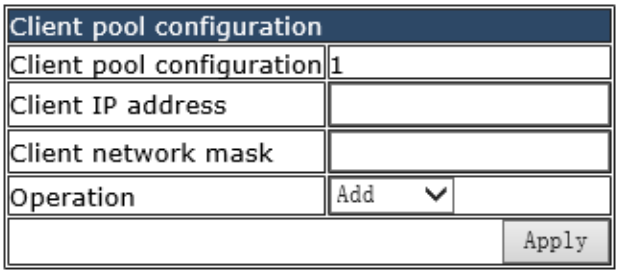
13.2.2. Manual DHCP IP pool configuration

13.2.2.1. Static address pool configuration

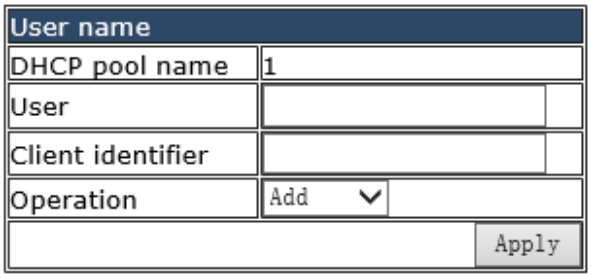
Switch static address pool configuration, and manually bind client parameters.



DHCP pool name	The name of the created address pool	
Parameter choose	The protocol type used by the client is rfc\ethernet\ieee802. RFC ID: RFC protocol number, valid range is 1-255.	
Hardware address	Hardware address	
Operation	Add	Add manually bound hardware address and protocol type
	Remove	Remove the manually bound hardware address and protocol type



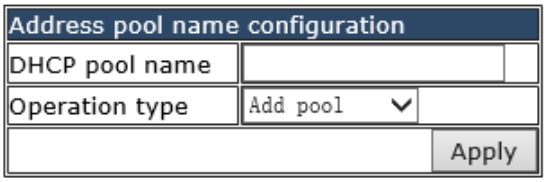
Client pool configuration	The name of the created address pool (modify the selection through the address pool name of the user's hardware address)	
Client IP address	IP address assigned by the DHCP server to the client	
Client network mask	The subnet mask assigned by the DHCP server to the client IP	
Operation	Add	Add manually bound IP address and subnet mask
	Remove	Delete the manually bound IP address and subnet mask



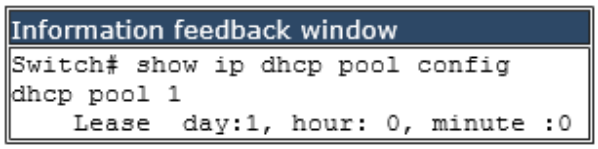
DHCP pool name	The name of the created address pool (modify the selection through the address pool name of the user's hardware address)	
user	Client user name	
Client identifier	The identifier of the client, for example: 44-11-22-33-44-55 (MAC address)	
Operation	Add	Add manually bound client identifier and user name
	Remove	Delete the manually bound client identifier and user name

13.2.3. Address pool name configuration

DHCP server address pool name configuration, user settings add and delete the address pool name.



DHCP pool name	The name of the created address pool	
Operation type	Add pool	Add the address pool of the DHCP server
	Remove pool	Delete the address pool of the DHCP server



Display the address pool of the current DHCP server

13.2.4. DHCP packet statistics

DHCP server data packet statistics, users can view DHCP data packets.

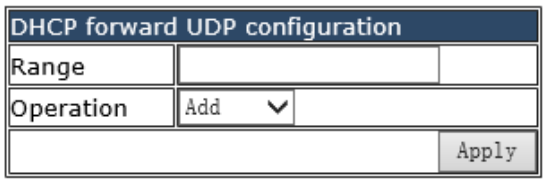
DHCP packet statistics	
Address pool number	1
Proxy database	0
Dynamical assignment address	0
Manual binded address	0
Address conflict	0
Binding exceeding lease time	0
Errors	0
Received DHCP packet statistics	
Received	0
DHCP DISCOVER	0
DHCP REQUEST	0
DHCP DECLINE	0
DHCP RELEASE	0
DHCP INFORM	0
Transmitted DHCP packet statistics	
Transmitted	0
DHCP OFFER	0
DHCP ACK	0
DHCP NAK	0
DHCP RELAY	0
DHCP FORWARD	0
Clear Show	

It can be viewed in real time by clicking "Clear" and "Show"

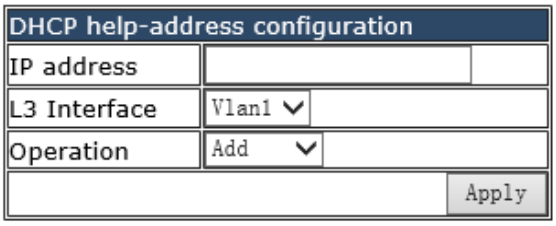
13.3. DHCP relay configuration

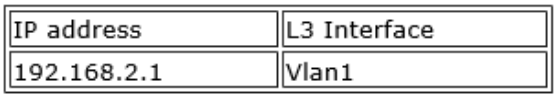
13.3.1. DHCP relay configuration

The switch DHCP relay configuration, the user configures the port range, and the switch sends UDP broadcast messages to the port.



Range	Port used by DHCP to forward UDP packets	
Operation	Add	Add the port used by DHCP to forward UDP packets
	Remove	Delete the port through which DHCP forwards UDP packets





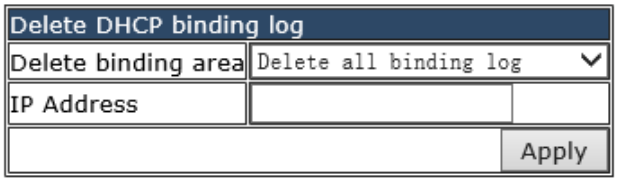
IP address	IP address of the Layer 3 interface	
L3 Interface	Established Layer 3 interface	
Operation	Add	Add a Layer 3 interface for DHCP to forward UDP packets
	Remove	Delete the Layer 3 interface through which DHCP forwards UDP packets

13.4. DHCP debugging

13.4.1. Delete record

13.4.1.1. Delete binding log

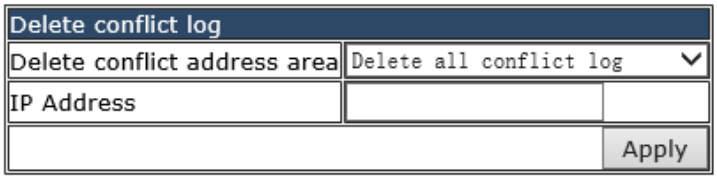
DHCP binding record deletion, users can delete all binding records or delete specified binding records, static binding records need to be deleted in the static address pool configuration.



Delete binding area	Delete all binding log	Delete all binding records, no need to fill in the IP address below
	Delete specify binding log	Delete the specified binding record, fill in the deleted IP in the IP address below
IP Address	IP address in dotted decimal notation	

13.4.1.2. Delete conflict log

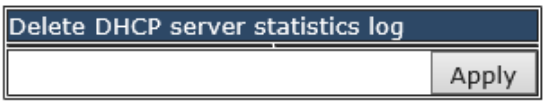
The DHCP conflict record is deleted, and the user can delete all conflict records or delete the specified conflict record.



Delete conflict log	Delete all conflict log	Delete all conflict records, no need to fill in the IP address below
	Delete specify binding log	Delete the specified conflict record, fill in the deleted IP in the IP address below
IP Address	IP address in dotted decimal notation	

13.4.1.3. Delete DHCP server statistics log

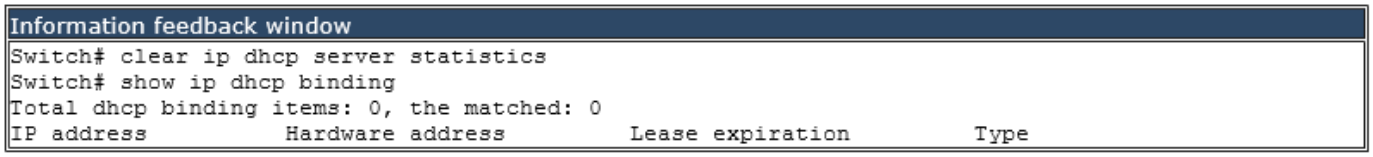
Deleting the statistics records of the DHCP server, the user can delete all the statistics records of the DHCP server.



After deleting the statistical record of the DHCP server, the statistical information of the DHCP packet will be cleared

13.4.2. Show IP-MAC binding

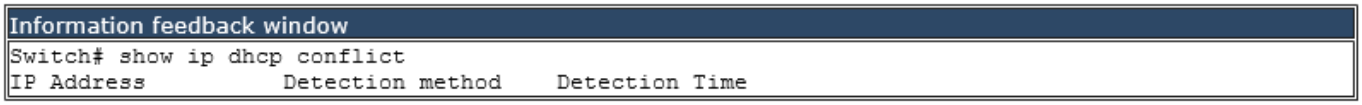
The DHCP server's IP and MAC binding status, the user can view the binding entries and the relationship between the bound IP and MAC.



IP address	Client's IP address	
Hardware address	The hardware address or MAC address of the client	
Lease expiration	Client IP expiration time	
Type	Manual	Manual binding
	Dynamic	Dynamic allocation

13.4.3. Show conflict-logging

The conflict record of the DHCP server, the user can view the conflict situation.



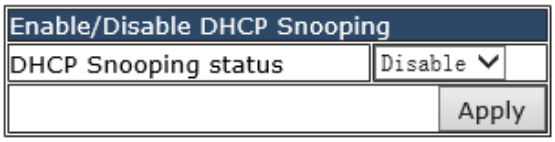
Display info	Description
IP Address	Conflicting IP address.
Detection method	The conflicting method was detected.
Detection Time	The time when the conflict was detected.

14. DHCP Snooping configuration

14.1. DHCP Snooping global configuration

14.1.1. Enable/Disable DHCP Snooping

With the enabling and disabling of the DHCP Snooping module, users can view and operate the status of DHCP Snooping.

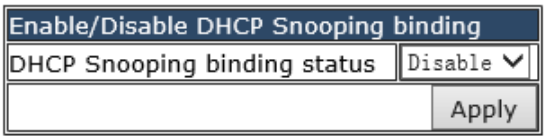


DHCP Snooping status	Disable	Disable DHCP Snooping
	Enable	Enable DHCP Snooping

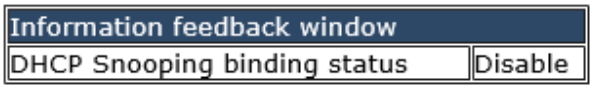
Display the current DHCP Snooping status

14.1.2. DHCP Snooping binding configuration

When DHCP Snooping binding is enabled and disabled, users can view and operate the status of DHCP Snooping. When configuring this binding, users must ensure that the binding status is in the on state.



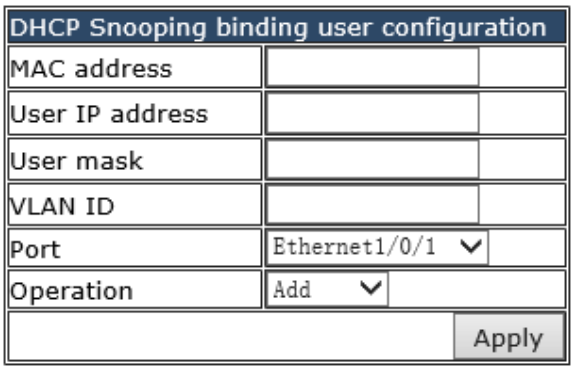
DHCP Snooping binding status	Disable	Disable DHCP Snooping binding function
	Enable	Enable DHCP Snooping binding function



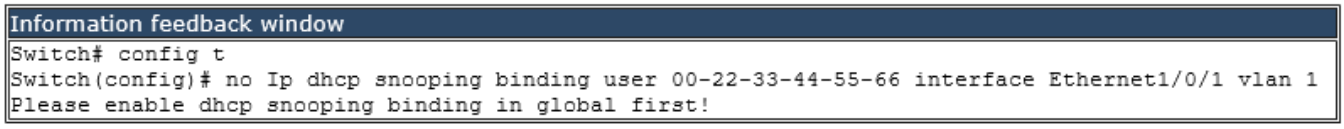
Shows whether the current DHCP Snooping binding status function is enabled.

14.1.3. DHCP Snooping binding user configuration

When DHCP Snooping binding is enabled and disabled, users can view and operate the status of DHCP Snooping. When configuring this binding, users must ensure that the binding status is in the on state.



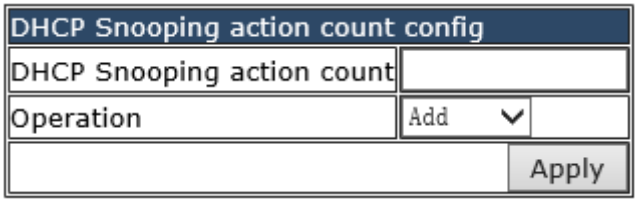
MAC address	The MAC address of the statically bound user is the only index of the bound user	
User IP address	Statically bind the user's IP address	
User mask	Statically bind the user's subnet mask	
VLAN ID	Statically bind the VLAN ID of the user	
Port	Bind the user's access port statically, the port is associated with the VLAN ID, and the port is required to allow the VLAN to pass	
Operation	Add	Add DHCP Snooping binding user relationship
	Remove	Delete DHCP Snooping binding user relationship



Display the process and error messages or results generated during application execution

14.1.4. DHCP Snooping action count config

DHCP Snooping defense action number configuration, if the number of alarm messages is greater than the set number, it will force the restoration of the earliest defense measures to send new defense measures.

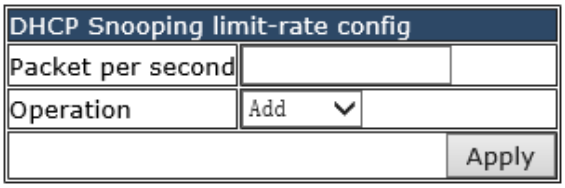


DHCP Snooping action count	Set the maximum number of defense actions to avoid exhaustion of switch resources caused by attacks.	
Operation	Add	Configure the number of defense actions filled in above
	Remove	Reduce the number of defense actions to 10

Display the current number of DHCP Snooping defense actions

14.1.5. DHCP Snooping limit-rata config

DHCP Snooping packet receiving rate limit sets the number of DHCP messages sent per second.

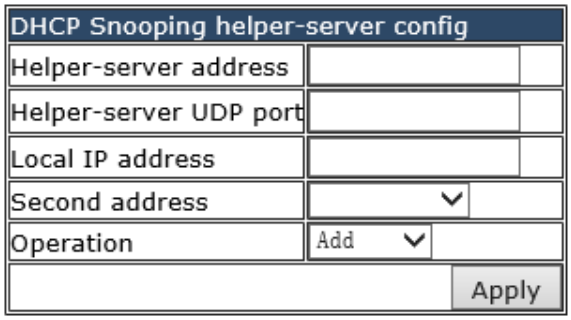


Packet per second	Range: 0-100	
Operation	Add	Configure the number of packets per second
	Remove	Restore the default number of packets per second, the default is 100

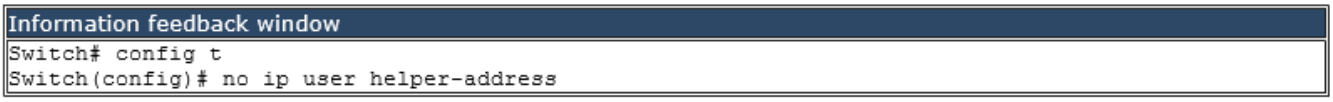
Display the number of packets per second configured for the current DHCP Snooping.

14.1.6. DHCP Snooping helper-server config

DHCP SNOOPING will send the monitored binding information to HELPER SERVER for storage. If the switch starts abnormally, you can recover the bound data from the HELPER SERVER



Helper-server address	HELPER server address	
Helper-server UDP port	DHCP SNOOPING and HELPER SERVER use UDP protocol for communication, the port range is 1-65535.	
Local IP address	The effective management IP address of the switch	
Second address	Two HELPER server addresses are allowed, DHCP SNOOPING will first try to connect to the PRIMARY server. Only when the PRIMARY server cannot be accessed, the switch HELPER server will connect to the SECONDARY server. Set the PRIMARY server before setting up the SECONDARY server.	
Operation	Add	Add HELPER server address
	Remove	Delete the HELPER server address, you can leave it blank when deleting

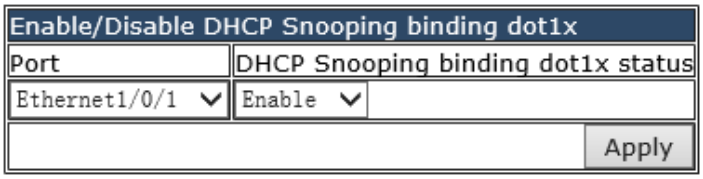


Display the process and error messages or results generated during application execution

14.2. DHCP Snooping port configuration

14.2.1. Enable/Disable DHCP Snooping binding dot1x

DHCP SNOOPING will notify the DOT1X module of the binding information captured by the user controlled by the DOT1X. DHCP Snooping port binding dot1x function needs to enable DHCP Snooping binding configuration first.



Port	Port name	
DHCP Snooping binding dot1x status	Enable	Enable the dot1x status of DHCP Snooping port binding
	Disable	Disable the dot1x binding status of the DHCP Snooping port

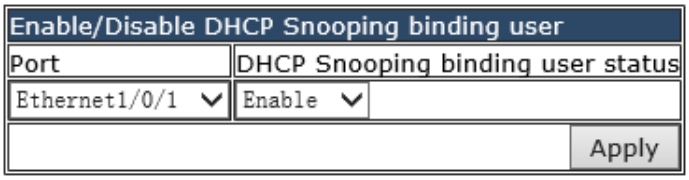
Information feedback window

Port	DHCP Snooping binding dot1x status
Ethernet1/0/1	Disable
Ethernet1/0/2	Disable
Ethernet1/0/3	Disable
Ethernet1/0/4	Disable
Ethernet1/0/5	Disable
Ethernet1/0/6	Disable
Ethernet1/0/7	Disable
Ethernet1/0/8	Disable

Display the dot1x binding status of each DHCP Snooping port of the switch

14.2.2. Enable/Disable DHCP Snooping binding user

When this function is enabled on the port, DHCP SNOOPING will treat the captured binding information as a trusted user who is allowed to access all resources. The DHCP Snooping port binding user status function needs to enable the DHCP Snooping binding configuration first.



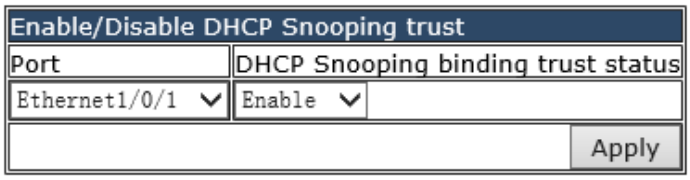
Port	Port name	
DHCP Snooping binding user status	Enable	Enable DHCP Snooping port binding user status
	Disable	Disable DHCP Snooping port binding user status

Information feedback window	
Port	DHCP Snooping binding user status
Ethernet1/0/1	Disable
Ethernet1/0/2	Disable
Ethernet1/0/3	Disable
Ethernet1/0/4	Disable
Ethernet1/0/5	Disable
Ethernet1/0/6	Disable
Ethernet1/0/7	Disable
Ethernet1/0/8	Disable

Display the status of users bound to each DHCP Snooping port of the switch

14.2.3. Enable/Disable DHCP Snooping trust

When a port changes from an untrusted port to a trusted port, the original defense action of the port will be automatically deleted; all security history records will be cleared.



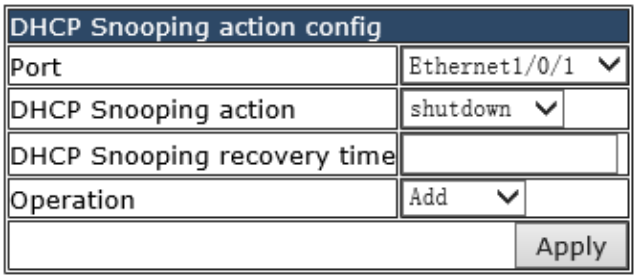
Port	Port name	
DHCP Snooping binding trust status	Enable	Enable DHCP Snooping port trust attribute status
	Disable	Disable the trust attribute status of the DHCP Snooping port

Information feedback window	
Port	DHCP Snooping binding trust status
Ethernet1/0/1	Disable
Ethernet1/0/2	Disable
Ethernet1/0/3	Disable
Ethernet1/0/4	Disable
Ethernet1/0/5	Disable
Ethernet1/0/6	Disable
Ethernet1/0/7	Disable
Ethernet1/0/8	Disable

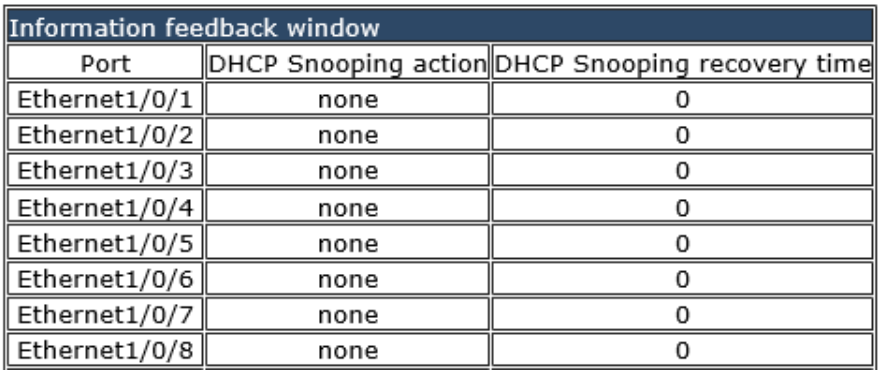
Display the trust attribute status of each DHCP Snooping port of the switch

14.2.4. DHCP Snooping action config

Automatic port defense action, the port will detect the fake DHCP server, and the trusted port will not detect the fake DHCP server, so the corresponding defense action will never be triggered. When a port changes from an untrusted port to a trusted port, the original defense action of the port will be automatically deleted;



Port	Port name	
DHCP Snooping action	shutdown	Automatically close the port
	blackhole	Block traffic from fake DHCP server based on MAC
DHCP Snooping recovery time	The user can set the recovery after performing automatic defense operations	
Operation	Add	Add DHCP Snooping port automatic defense configuration
	Remove	Delete DHCP Snooping port automatic defense configuration

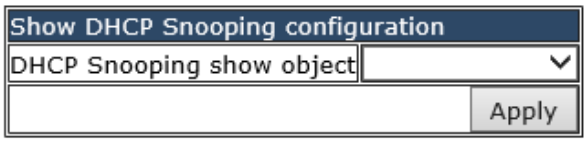


Display the automatic defense configuration of each DHCP Snooping port

14.3. Show DHCP snooping configuration

14.3.1. Show DHCP snooping configuration

Display detailed configuration of DHCP Snooping



DHCP Snooping show object	All	All ports are displayed
	Ethernet1/0/1-28	Only display information about one port

Information feedback window

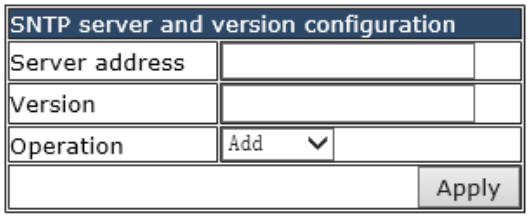
```
Switch# show ip dhcp snooping interface Ethernet1/0/1
interface Ethernet1/0/1 user config:
trust attribute: untrust
action: none
binding dot1x: disabled
binding user: disabled
binding mab guard: disabled
recovery interval:0(s)
Driver user number 0 : Max user number 1024
Alarm info: 0
Binding info: 0
Static Binding info: 0
Static Binding info from shell: 0
Static Binding info from server: 0
flag: D - Dynamic ; U - already upload server ;
S - static binding info from shell; R - static  binding info from server;
O - dhcp ack has option82; X - notify dot1x ok;
L - notify driver ok; E - notify dot1x error
P - binding protect;
Expired Binding: 0
Request Binding: 0
```

Select Ethernet1/0/1, only display the DHCP Snooping information of Ethernet1/0/1

15. SNTP configuration

15.1. SNTP server configuration

SNTP the server settings module, the user can add or delete the specified time server as the clock source.



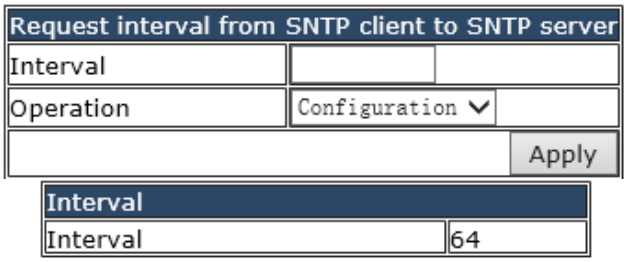
Information feedback window

```
SW1# config t
SW1(config)# show sntp
server address                          version  last receive
```

Server address	The specified time server address decimal point	
Version	Version number, range 1-4, default 4	
Operation	Add	Add operations
	Remove	Delete operations

15.2. Request interval configuration

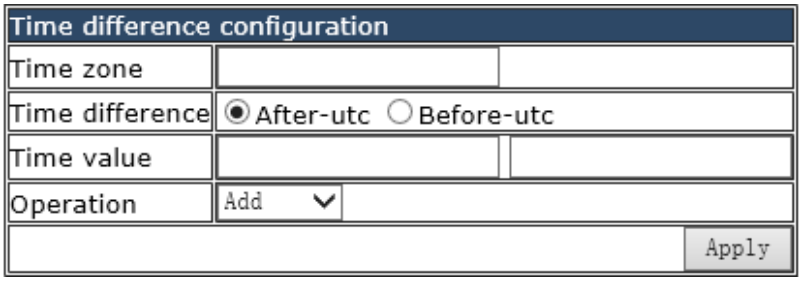
Send request interval setting module, where the user can set the interval SNTP the client sends a request to the NTP/SNTP. By default, the interval is 64 seconds.



Interval	Duration value, range 16-16284 s	
Operation	Configuration	Configuration operations
	Default	Do recovery default (default 64 s)

15.3. Time difference configuration

SNTP the time zone and UTC time difference setting module where the client is located, the user can set the switch's current time zone and name it.



Time zone	Time zone name ,1-16 characters	
Time difference	Add	Increased time zone behavior
	reduce	Reduced time zone behavior
Time value	Time zone specific change hours 0-23	Time zone specific change minute value 0-59
Operation	Add	Add operations
	Remove	Delete operations

15.4. Show sntp

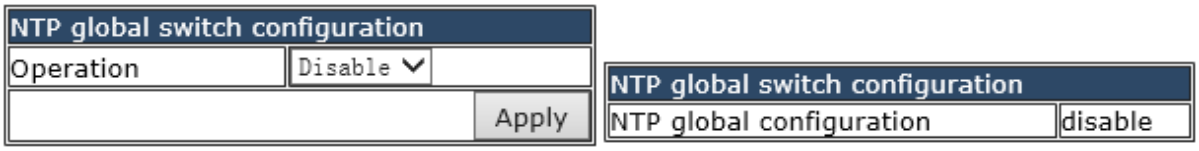
Display SNTP module, where users can view the current information status SNTP the switch.

16. NTP configuration

16.1. NTP global configuration

16.1.1. NTP global switch configuration

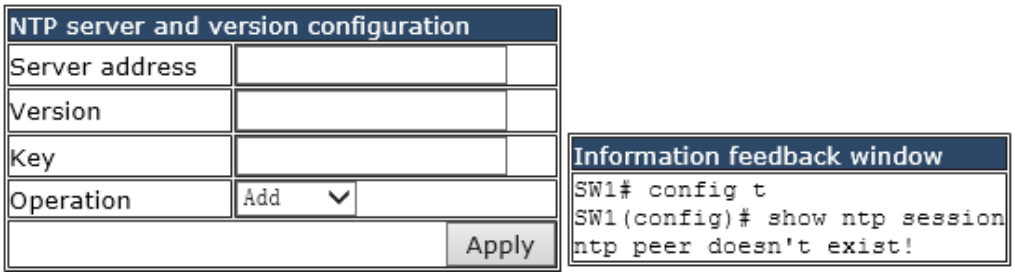
NTP service global switch configuration module, user can NTP service global switch operation.



Operation	Disable	Close operation
	Enable	Start (default)

16.1.2. NTP server configuration

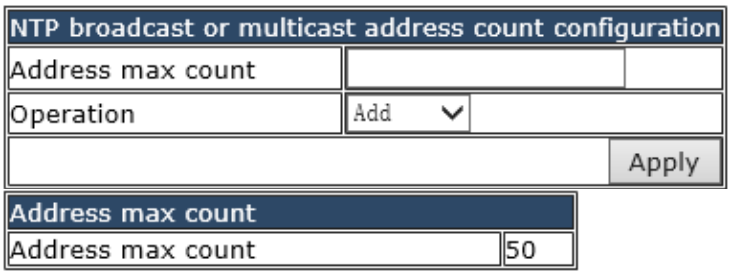
NTP the server configuration module, the user can configure the specified time server of the switch time source in this module.



Server address	The specified time server address decimal point	
Version	Version number, range 1-4, default 4	
Key	Secret key value, range 1-4294967295	
Operation	Add	Add operations
	Remove	Delete operations

16.1.3. NTP broadcast or multicast address count configuration

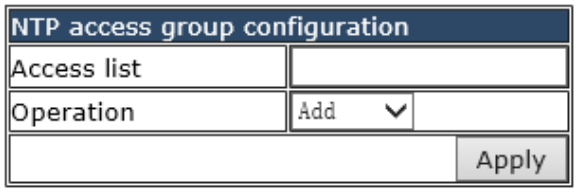
NTP service address number configuration module, the user can configure the maximum number of broadcast or multicast servers supported by the switch NTP client.



Address max count	Maximum number of broadcast or multicast servers supported NTP clients ,1-100(default 50)	
Operation	Add	Add operations
	Remove	Delete operations

16.1.4. NTP access group configuration

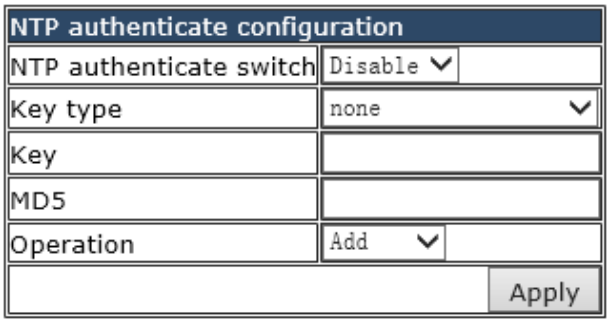
NTP access control list configuration module, where users can configure switch NTP access control list.



Access list	IPv4:1-99；IPv6：50-599	
Operation	Add	Add operations
	Remove	Delete operations

16.1.5. NTP authenticate configuration

NTP verification configuration module, the user can configure the switch NTP authentication related items.

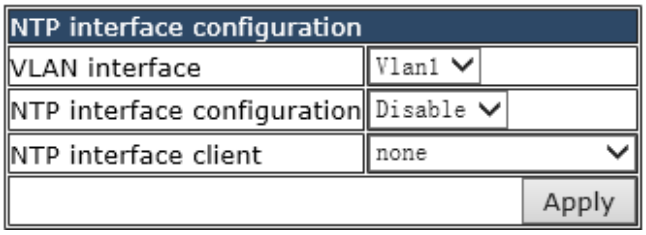


NTP authenticate switch	Disable	Close NTP validation (default)
	Enable	Enable NTP validation
Key type	none	none
	authentication-key	Authentication secret key
	trusted-key	Trust key
Key	Secret key value, range 1-4294967295	
Md5	The MD5 value of the secret key, which ranges from 1-16 of ascii code	
Operation	Add	Add operations
	Remove	Delete operations

16.2. NTP interface configuration

16.2.1. NTP interface switch configuration

NTP service interface switch configuration module, the user can specify the NTP service interface switch operation.



VLAN interface	VLAN1	VLAN interface for current switch configurable
NTP interface configuration	Disable	Close operation
	Enable	Start-up operation
NTP interface client	none	Interface NTP client type
	broadcast	
	no broadcast	
	multicast	
	no multicast	
	ipv6 multicast	
	no ipv6 multicast	

16.3. NTP configuration display

16.3.1. NTP status display

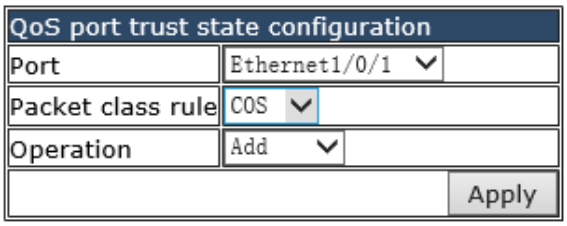
NTP status display module, where users can view NTP service current status information.

17. QOS configuration

17.1. QOS port configuration

17.1.1. QOS port trust state configuration

Configure port trust rules

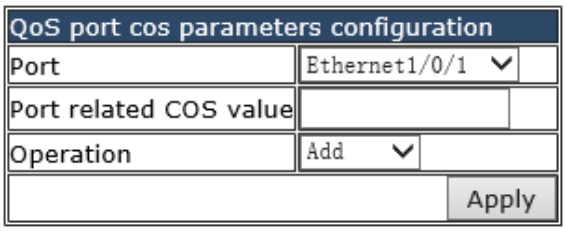


Port	To configure the port name, click to expand the remaining ports	
Packet class rule	COS	Cos to int mapping based on intp field
	DSCP	Intp field based on dscp to intp mapping
Operation	add	Add a trust rule for the port
	Remove	Remove a trust rule for the port

Information feedback window	
Port	Trust class
Ethernet1/0/1	COS
Ethernet1/0/2	COS
Ethernet1/0/3	COS
Ethernet1/0/4	COS
Ethernet1/0/5	COS
Ethernet1/0/6	COS
Ethernet1/0/7	COS
Ethernet1/0/8	COS

17.1.2. QOS port COS parameters configuration

Configure the COS value of the port, regardless of whether the trust rule of the current port is trusted

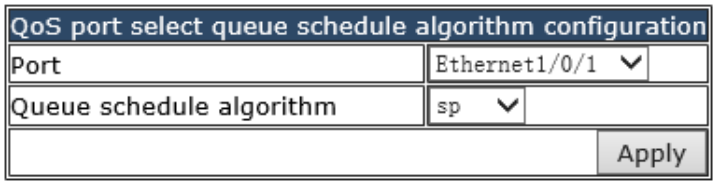


Port	To configure the port name, click to expand the remaining ports	
Port related COS value	The default COS value of the port, range: 0-7	
Operation	Add	Add the COS value of the port
	Remove	Delete the COS value of the port and restore it to 0

Information feedback window	
Port	Port related COS value
Ethernet1/0/1	0
Ethernet1/0/2	0
Ethernet1/0/3	0
Ethernet1/0/4	0
Ethernet1/0/5	0
Ethernet1/0/6	0
Ethernet1/0/7	0
Ethernet1/0/8	0

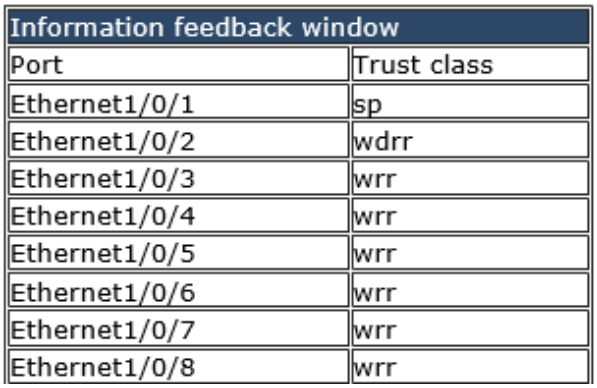
17.1.3. QOS port select queue schedule algorithm configuration

Configure the port to process the priority of packets according to different queue scheduling algorithms



Port	To configure the port name, click to expand the remaining ports	
Queue schedule algorithm	sp	Strict queuing priority, packet transmission in order of priority.
	wrr	Weighted round-robin scheduling. Rotate scheduling between queues to ensure that each queue gets a certain amount of service time

	wdrr	Weighted difference round-robin scheduling, based on message length transmission, based on the combined effect of weight and K value to generate the length of transmission in the message queue

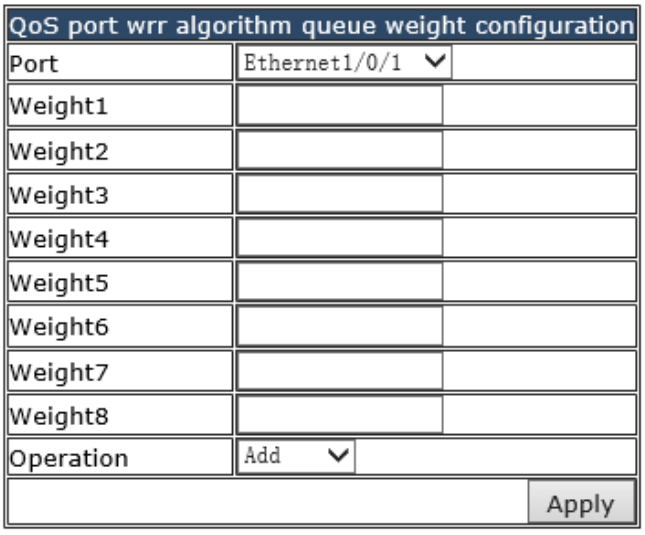


Information feedback window	
Port	Trust class
Ethernet1/0/1	sp
Ethernet1/0/2	wdrr
Ethernet1/0/3	wrr
Ethernet1/0/4	wrr
Ethernet1/0/5	wrr
Ethernet1/0/6	wrr
Ethernet1/0/7	wrr
Ethernet1/0/8	wrr

Display the queue scheduling algorithm trusted by the current port

17.1.4. QOS port wrr algorithm queue weight configuration

Configure the weight value of the eight queues of each port, and allocate the number of packets according to the weight value



QoS port wrr algorithm queue weight configuration	
Port	Ethernet1/0/1
Weight1	
Weight2	
Weight3	
Weight4	
Weight5	
Weight6	
Weight7	
Weight8	
Operation	Add
	Apply

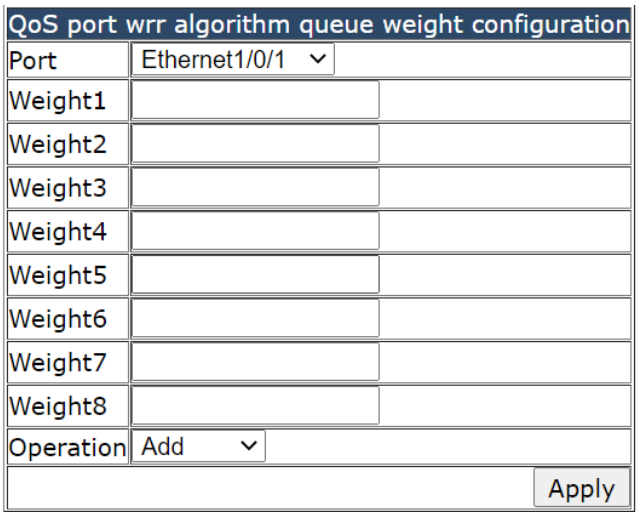
Port	To configure the port name, click to expand the remaining ports	
Weight1	The weight value of queue 1, the range is 0-127	
Weight2	The weight value of queue 2, the range is 0-127	
Weight3	The weight value of queue 3, the range is 0-127	
Weight4	The weight value of queue 4, the range is 0-127	
Weight5	The weight value of queue 5, the range is 0-127	
Weight6	The weight value of queue 6, the range is 0-127	
Weight7	The weight value of queue 7, the range is 0-127	
Weight8	The weight value of queue 8, the range is 0-127	
Operation	Add	Add the weight of each queue to the port, and fill in all the weights of each queue before adding
	Remove	To restore the weight of each queue of the port to the default, you need to add the value of eight queues

Information feedback window	
Port	Queue weight
Ethernet1/0/1	1 2 3 4 5 6 7 8
Ethernet1/0/2	1 2 3 4 5 6 7 8
Ethernet1/0/3	1 2 3 4 5 6 7 8
Ethernet1/0/4	1 2 3 4 5 6 7 8
Ethernet1/0/5	1 2 3 4 5 6 7 8
Ethernet1/0/6	1 2 3 4 5 6 7 8
Ethernet1/0/7	1 2 3 4 5 6 7 8
Ethernet1/0/8	1 2 3 4 5 6 7 8

Information feedback window

17.1.5. QOS port wdrr algorithm queue weight configuration

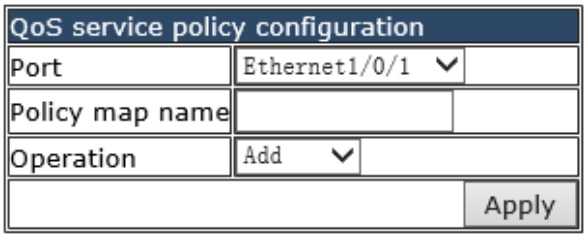
Configure the weight value of the eight queues of each port, transmit based on the length of the message, and generate the transmission length in the message queue based on the combined action of the weight and the K value



Port	To configure the port name, click to expand the remaining ports	
Weight1	The weight value of queue 1, the range is 0-32767	
Weight2	The weight value of queue 2, the range is 0-32767	
Weight3	The weight value of queue 3, the range is 0-32767	
Weight4	The weight value of queue 4, the range is 0-32767	
Weight5	The weight value of queue 5, the range is 0-32767	
Weight6	The weight value of queue 6, the range is 0-32767	
Weight7	The weight value of queue 7, the range is 0-32767	
Weight8	The weight value of queue 8, the range is 0-32767	
Operation	Add	Add the weight of each queue to the port, and fill in all the weights of each queue before adding
	Remove	To restore the weight of each queue of the port to the default, you need to add the value of eight queues

17.1.6. QOS service policy configuration

Configure the port's policy table, and the port will process packets according to the rules of the classification table in the policy table.

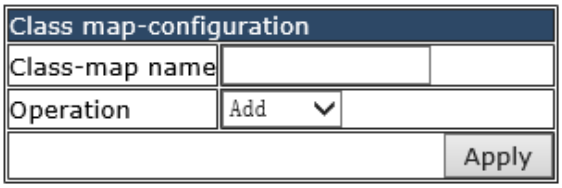


Port	To configure the port name, click to expand the remaining ports	
Policy map name	The name of the policy table, added by the policy table configuration	
Operation	Add	policy for adding ports
	Remove	Delete port policy

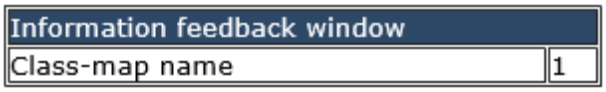
17.2. QOS class-map configuration

17.2.1. Class map-configuration

Create and delete classification tables, view the currently configured classification tables



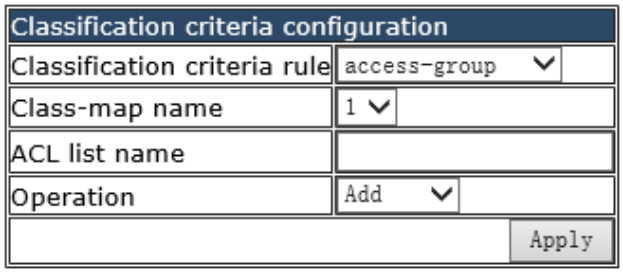
Class-map name	Class-map name， range:1-64 character	
Operation	Add	Add Class-map
	Remove	Remove Class-map



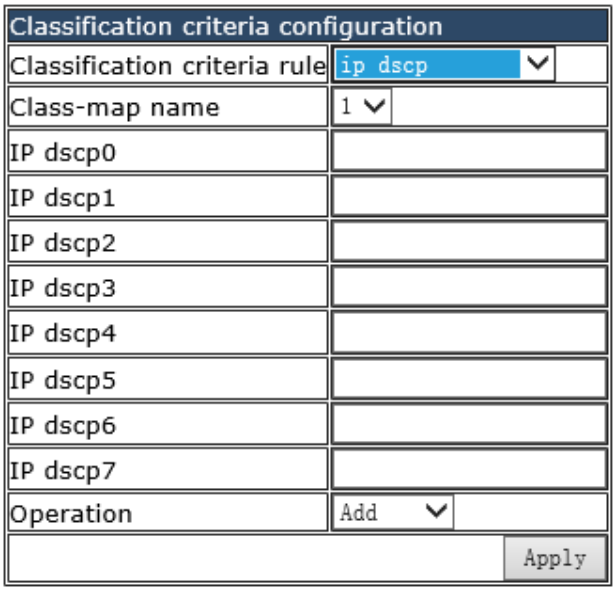
Display the currently created class-map name

17.2.2. Classification criteria configuration

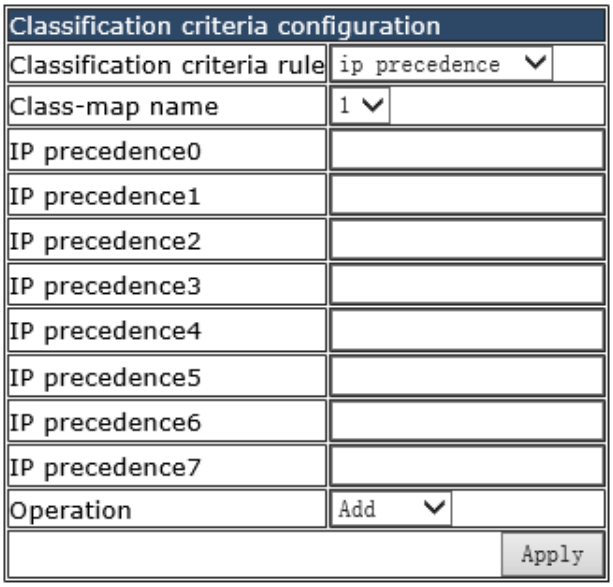
Set the rules and corresponding parameters for classification matching



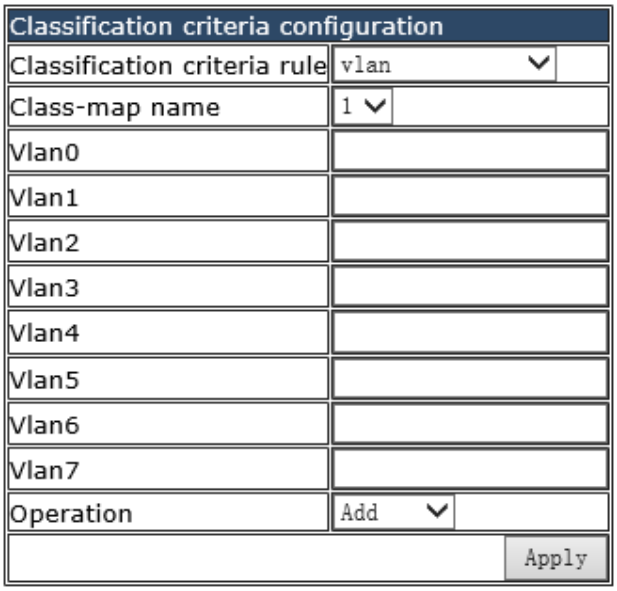
Classification criteria rule	accesss-group	Match the specified IP ACL, MAC ACL or IPv6 standard ACL or MAC-IP ACL
Class-map name	The name of the created class-matching table, select by clicking the drop-down	
ACL list name	Created ACL name, 1-64 characters	
Operation	Add	Add matching rules
	Remove	Remove matching rules



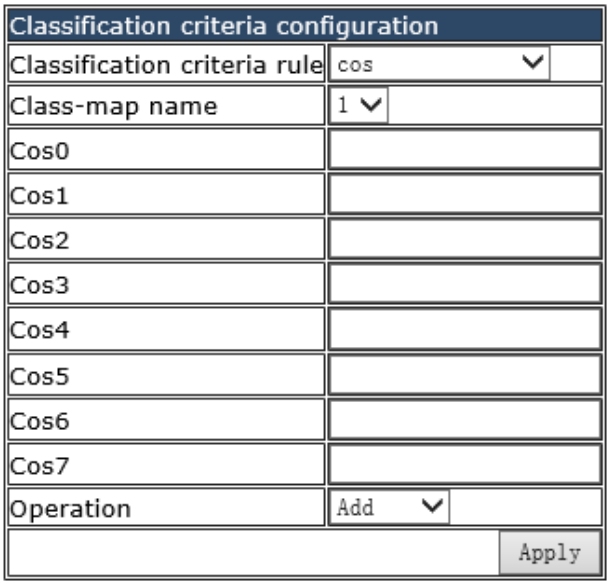
Classification criteria rule	ip dscp	Match the specified DSCP value, this parameter is the DSCP list
Class-map name	The name of the created class-matching table, select by clicking the drop-down	
IP dscp0-7	One or more DSCP values can be set, up to 8 DSCP values can be set, the range is 0~63;	
Operation	Add	Add matching rules
	Remove	Remove matching rules



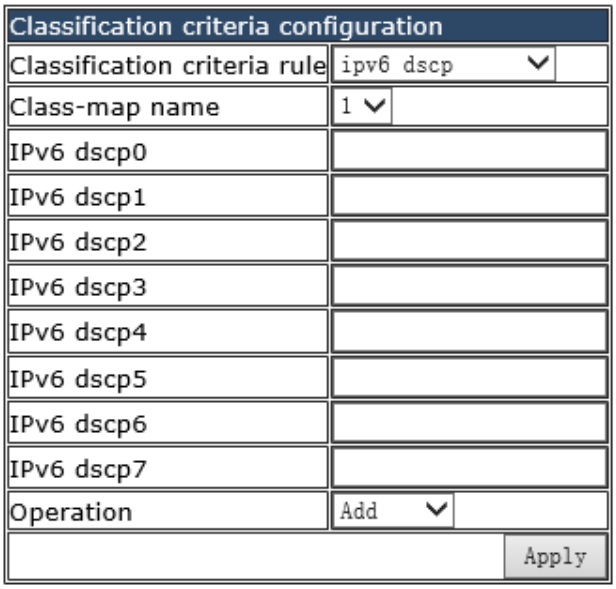
Classification criteria rule	ip precedence	Match the specified ip priority, this parameter is the IP priority list
Class-map name	The name of the created class-matching table, select by clicking the drop-down	
IP precedence0-7	One or more ip priority values can be set, the list contains up to 8 IP priority values, and the valid range is 0~7;	
Operation	Add	Add matching rules
	Remove	Remove matching rules



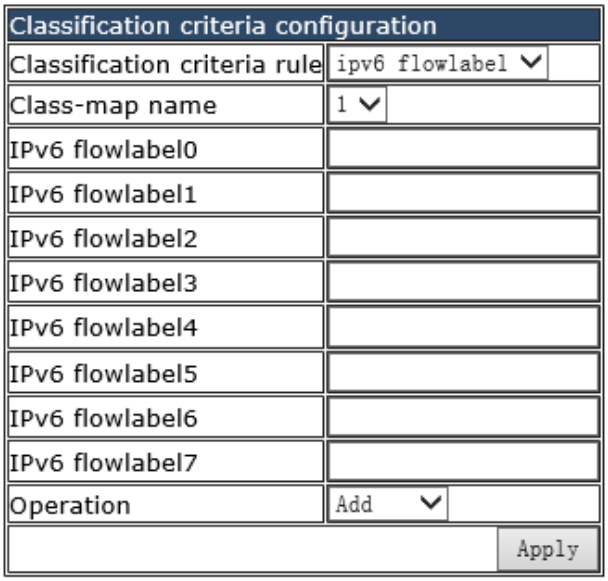
Classification criteria rule	vlan	Match the specified vlan, this parameter is a list of vlan id
Class-map name	The name of the created class-matching table, select by clicking the drop-down	
Vlan0-7	One or more VLAN IDs can be set, including 8 VLAN IDs at most, ranging from 1 to 4094	
Operation	Add	Add matching rules
	Remove	Remove matching rules



Classification criteria rule	cos	Match the specified CoS value, this parameter is a list of vlan id
Class-map name	The name of the created class-matching table, select by clicking the drop-down	
Cos 0-7	One or more cos values can be set, the parameter is a CoS list composed of up to 8 CoS, the range is 0~7;	
Operation	Add	Add matching rules
	Remove	Remove matching rules



Classification criteria rule	ipv6 dscp	Match the specified ipv6 DSCP value, this parameter is the ipv6 DSCP list
Class-map name	The name of the created class-matching table, select by clicking the drop-down	
IPv6 dscp0-7	One or more ipv6 DSCP values can be set, up to 8 DSCP values can be set, the range is 0~63;	
Operation	Add	Add matching rules
	Remove	Remove matching rules



Classification criteria rule	ipv6 flowlabel	Match the specified IPv6 flow label, this parameter is the value of the IPv6 flow label DSCP list
Class-map name	The name of the created class-matching table, select by clicking the drop-down	
IPv6 flowlabel0-7	One or more IPv6 flowlabel values can be set, ranging from 0 to 1048575;	
Operation	Add	Add matching rules
	Remove	Remove matching rules

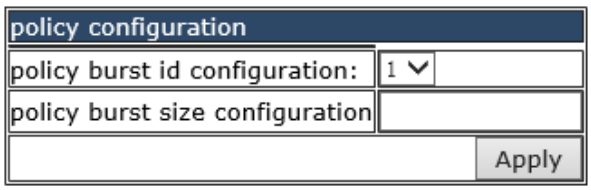
```
Switch# config t
Switch(config)# class-map c1
Switch(config-classmap-c1)# match access-group 1
```

Display configuration application execution process and return result

17.3. QoS policy configuration

17.3.1. QoS policy configuration

Configure the policy table burst-group, provide the policy class-map to use

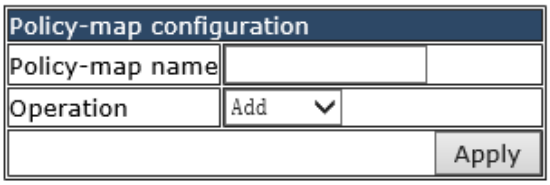


Policy burst id configuration	There are only two IDs, 1 and 2
Policy burst size configuration	The default is 1024, the range that can be set: 1-8192

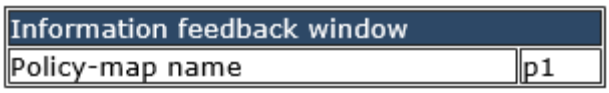
17.4. QOS policy-map configuration

17.4.1. policy-map configuration

Create and delete policy tables, and collaborate with classification tables to create packet in and out rules



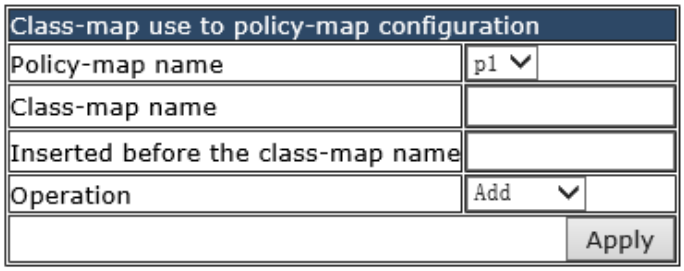
Policy-map name	Policy-map name，range:1-64 character	
Operation	Add	Add policy-map
	Remove	Remove policy-map



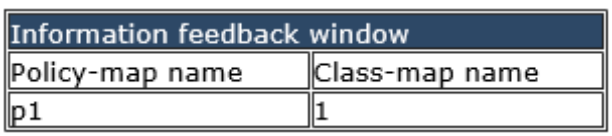
Display the currently created policy-map.

17.4.2. Class-map use to policy-map config

Apply the class-map to the policy-map.



policy-map name	The name of the created policy-map	
class-map name	The name of the classification table created by the classification matching table, this table will be applied to the policy -map	
Inserted before the class-map name	Prior to the insertion of the classification matching table, the name of the classification table that has been applied to the strategy table, and the priority of the newly applied classification matching table is increased	
Operation	Add	Add an association between the strategy table and the classification table
	Remove	Remove an association between the strategy table and the classification table

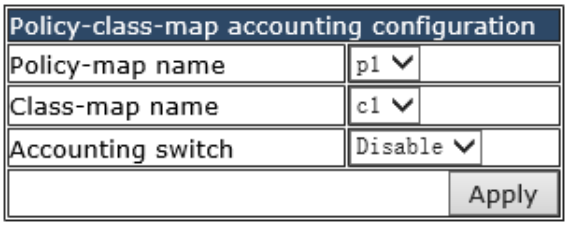


Display the association between the created policy table and the classification matching table

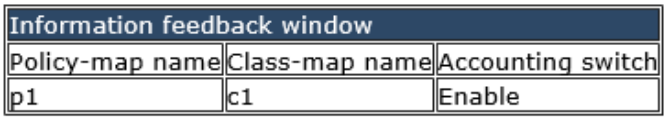
17.5. QoS policy-class-map configuration

17.5.1. Policy-class-map accounting configuration

Configure the statistics switch of the strategy table and the classification matching table, and display the association between the strategy table and the classification matching table.



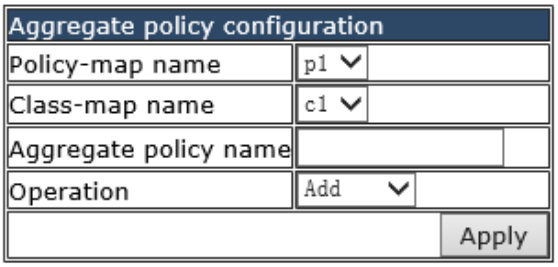
Policy-map name	The name of the policy-map that has been created	
class-map name	The name of the classification matching table that has been created	
accounting switch	disable	Disable the traffic statistics function associated with the policy-map and class-map, and automatically establish an association if there is no association
	enabled	Start the traffic statistics function associated with the policy-map and class-map, and automatically establish an association if there is no association



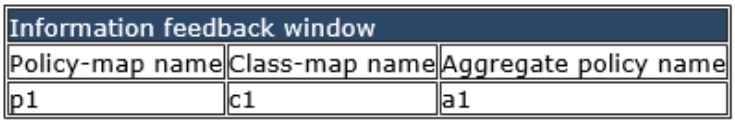
Display the traffic statistics switch information of the associated policy-map and class-map table

17.5.2. Aggregate policy configuration

Configure the set strategy of the associated policy table and classification matching table. The policy mapping refers to the aggregation policy, and the aggregation policy is applied to the classified traffic. The same policy set can be referenced by different policy class mappings.



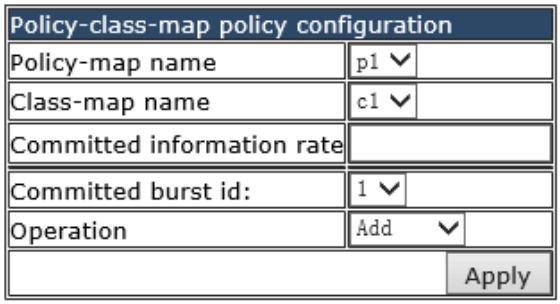
Policy-map name	Name of the created policy table	
Class-map name	Classification match table created	
Aggregate policy name	The name of the aggregation strategy, 1-64 characters in length	
operation	add	Start the set strategy associated with the strategy table and the classification matching table, and automatically establish the association if there is no associated strategy table and the classification matching table
	remove	Close the set strategy associated with the strategy table and the classification matching table, and automatically establish the association between the strategy table and the classification matching table without association



Display the set policy information of the associated policy table and the classification matching table

17.5.3. Policy-class-map policy configuration

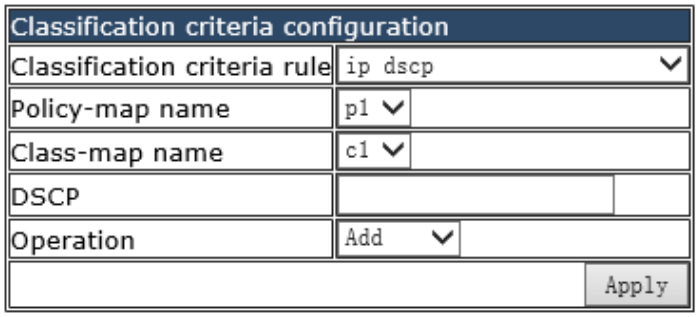
Configure the information rate in the policy mapping configuration mode.



Policy-map name	Name of the created policy table	
Class-map name	Classification match table created	
Committed information rate	Committed Information Rate-CIR (Committed Information Rate), in Kbps, ranging from 1 to 10,000,000;	
Committed burst ID	The burst ID range is 1 and 2, and the main commitment is the burst size	
operation	add	Add the strategy information rate and burst size associated with the strategy table and the classification matching table, and automatically establish the association if there is no associated strategy table and the classification matching table
	remove	Delete the policy information rate and burst size associated with the policy table and the classification matching table, and automatically establish the association if there is no associated policy table and the classification matching table

17.5.4. Policy-class-map set configuration

Configure the priority of packets in the policy mapping configuration mode. Assign a new DSCP and IP priority to the classified traffic. Only the classified traffic that meets the matching criteria will be assigned a new value.

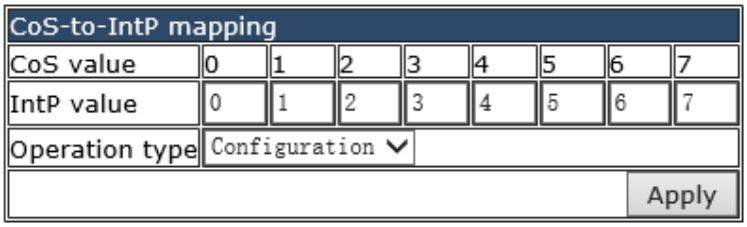


Classification criteria rule	ip dscp	Set the DSCP value again according to the rules defined in the policy-map and class-map
	ip precedence	Set the IP priority again according to the rules defined in the policy-map and class-map
	drop-precedence	Set the discarding priority again according to the rules defined in the policy-map and class-map
	internal-priority	Set the internal priority again according to the rules defined by the policy-map and class-map
	cos	Set the COS value again according to the rules defined by the policy table and the classification matching table
	ipv6 default nexthop vrf	Set the default next hop address again according to the rules defined in the policy table and classification matching table
Policy-map name	The name of the created policy table	
Class-map name	Created classification match table	
DSCP	DSCP value, range: 0-63	
Precedence	IP priority， range:0-7	
Drop-precedence	drop priority, range: 0-2	
Internal-priority	internal priority, range: 0-7	
COS	COS value, range: 0-7	
Vrf	Vrf value, range: 0-252	
IPv6 Address （X:X::X:X）	IPv6 default next hop address	
Operation	add	Add the priority and queue value associated with the strategy table and the classification matching table
	remove	Remove the priority and queue value associated with the strategy table and the classification matching table

17.6. QoS mapping configuration

17.6.1. COS-to-IntP mapping

Configure the value mapped from the COS value to the internal priority (queue).



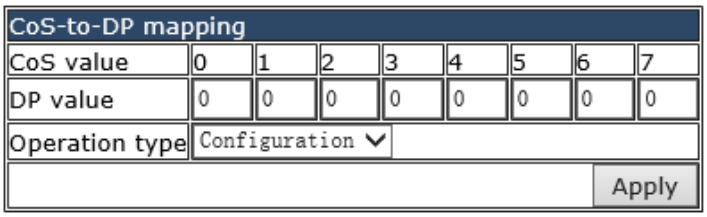
CoS value	The COS value carried in the message or the default COS value assigned when entering	
IntP value	The value of the internal priority (queue) to which the COS value will be mapped	
Operation type	Configuration	Configure the value of COS to IntP
	Default	Restore the mapping relationship to the default state

```
Switch# config t
Switch(config)# mls qos map cos-intp 2 1 2 3 4 5 6 7

Ingress COS-TO-Internal-Priority map:
COS:  0   1   2   3   4   5   6   7
 ----------------------------------------
INTP:  2    1    2    3    4    5    6    7
```

Display the execution process and the current mapping relationship

17.6.2. COS-to-DP mapping

Configure the value mapped from the COS value to the drop priority (queue).



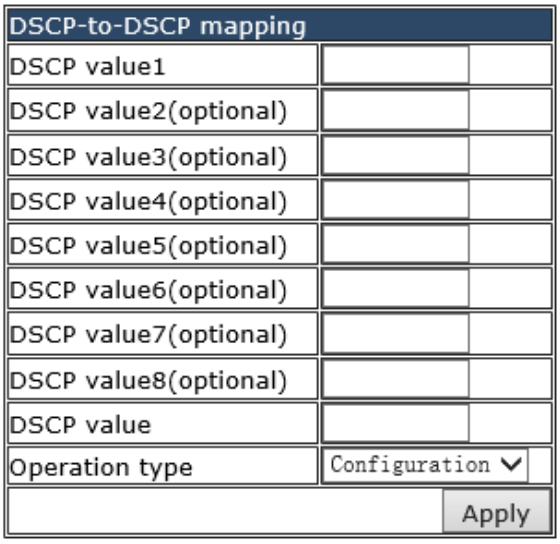
CoS value	The COS value carried in the message or the default COS value assigned when entering	
IntP value	The value of the drop priority (queue) to which the COS value will be mapped	
Operation type	Configuration	Configure COS to drop priority value
	default	Restore the mapping relationship to the default state

```
Ingress COS-TO-Drop-Precedence map:
COS:  0   1   2   3   4   5   6   7
 ----------------------------------------
DP:    0    0    0    0    0    0    0    0
```

Display the execution process and the current mapping relationship

17.6.3. DSCP-to-DSCP mapping

Configure the mapping from DSCP value to DSCP value.



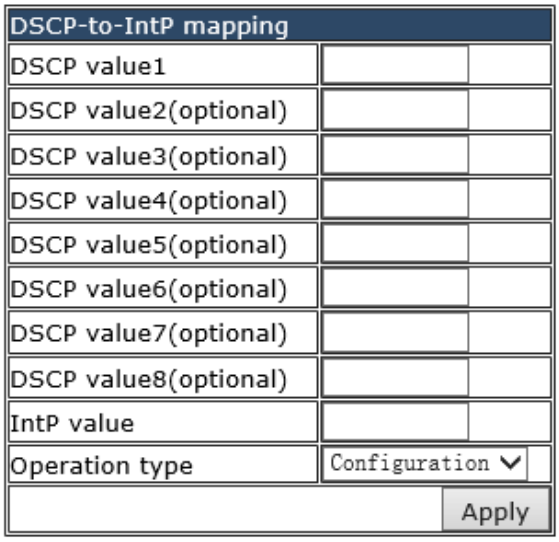
DSCP value1-DSCP value8(optional)	Up to eight DSCP values can be configured to the new DSCP value, among which DSCP value1 is required, DSCP valuce2-8 is optional, range: 0-63	
DSCP value	New DSCP value, range: 0-63	
Operation type	Configuration	Configure DSCP to DSCP value
	default	Restore the mapping relationship to the default state

```
Switch# config t
Switch(config)# mls qos map dscp-dscp 63 60       to 1

Ingress DSCP-TO-DSCP map:
d1 : d2  0   1   2   3   4   5   6   7   8   9
0:        0    1    2    3    4    5    6    7    8    9
1:       10   11   12   13   14   15   16   17   18   19
2:       20   21   22   23   24   25   26   27   28   29
3:       30   31   32   33   34   35   36   37   38   39
4:       40   41   42   43   44   45   46   47   48   49
5:       50   51   52   53   54   55   56   57   58   59
6:        1   61   62    1
```

Shows the execution process and the current mapping relationship. The vertical d1 represents the tens digit of DSCP, and the horizontal d2 represents the single digit of DSCP. The value of the intersection of the two is the mapping value.

17.6.4. DSCP-to-IntP mapping

Configure the value mapped from the DSCP value to the IntP value.



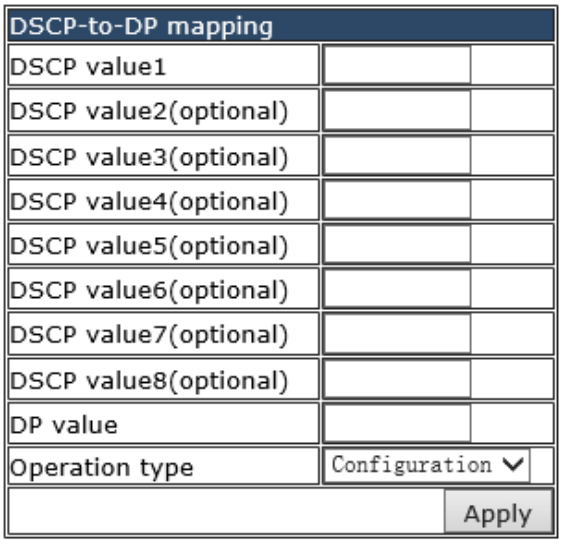
DSCP value1-DSCP value8(optional)	Up to eight DSCP values can be configured to the new IntP value, among which DSCP value1 is required, DSCP valuce2-8 is optional, range: 0-63	
IntP value	New IntP value, range: 0-7	
Operation type	Configuration	Configure DSCP to IntP value
	default	Restore the mapping relationship to the default state

```
Switch# config t
Switch(config)# mls qos map dscp-intp 60 50 31      to 2

Ingress DSCP-TO-Internal-Priority map:
d1 : d2  0   1   2   3   4   5   6   7   8   9
0:       0   0   0   0   0   0   0   0   1   1
1:       1   1   1   1   1   1   2   2   2   2
2:       2   2   2   2   3   3   3   3   3   3
3:       3   2   4   4   4   4   4   4   4   4
4:       5   5   5   5   5   5   5   5   6   6
5:       2   6   6   6   6   6   7   7   7   7
6:       2   7   7   7
```

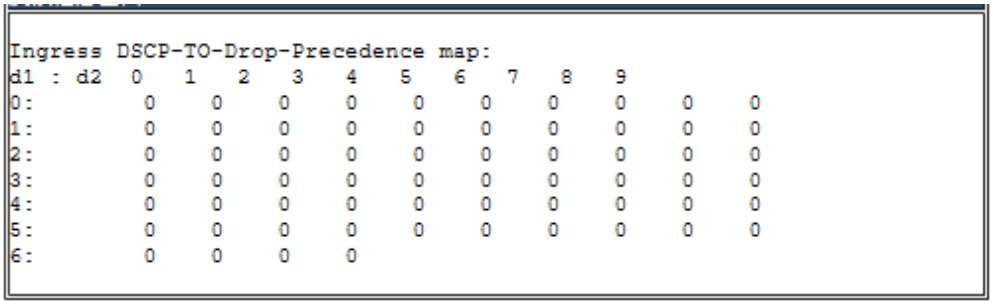
Shows the execution process and the current mapping relationship. The vertical d1 represents the tens digit of DSCP, and the horizontal d2 represents the single digit of DSCP. The value of the intersection of the two is the mapping value.

17.6.5. DSCP-to-DP mapping

Configure the value mapped from the DSCP value to the DP value.



DSCP value1-DSCP value8(optional)	Up to eight DSCP values can be configured to the new DP value, among which DSCP value1 is required, DSCP valuce2-8 is optional, range: 0-63	
DP value	New DP value, range: 0-2	
Operation type	Configuration	Configure DSCP to DP value
	default	Restore the mapping relationship to the default state



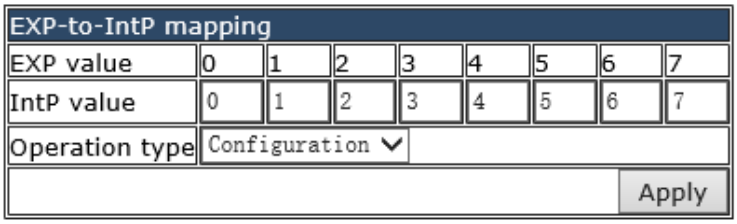
Ingress DSCP-TO-Drop-Precedence map:

d1 : d2	0	1	2	3	4	5	6	7	8	9
0:	0	0	0	0	0	0	0	0	0	0
1:	0	0	0	0	0	0	0	0	0	0
2:	0	0	0	0	0	0	0	0	0	0
3:	0	0	0	0	0	0	0	0	0	0
4:	0	0	0	0	0	0	0	0	0	0
5:	0	0	0	0	0	0	0	0	0	0
6:	0	0	0	0						

Shows the execution process and the current mapping relationship. The vertical d1 represents the tens digit of DSCP, and the horizontal d2 represents the single digit of DSCP. The value of the intersection of the two is the mapping value.

17.6.6. EXP-to-IntP mapping

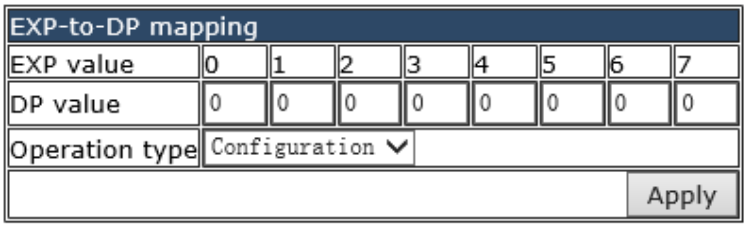
Configure the value mapped from EXP value to IntP.



EXP value	EXP value carried in the message, range: 0-7	
IntP value	New IntP value, range: 0-7	
Operation type	Configuration	Configure DSCP to IntP value
	default	Restore the mapping relationship to the default state

17.6.7. EXP-to-DP mapping

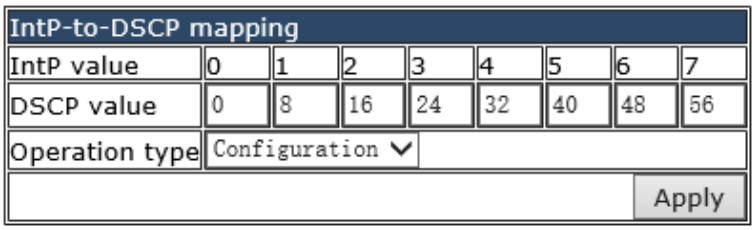
Configure the value mapped from EXP value to DP.



EXP value	EXP value carried in the message, range: 0-7	
DP value	New DP value, range: 0-2	
Operation type	Configuration	Configure EXP to DP value
	default	Restore the mapping relationship to the default state

17.6.8. IntP-to-DSCP mapping

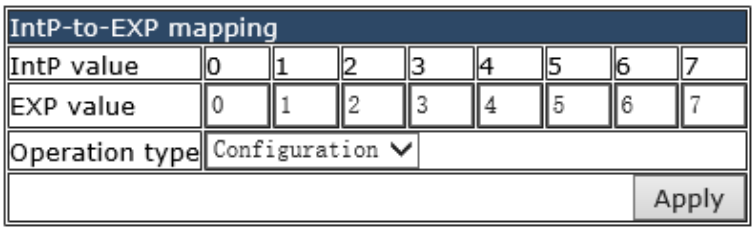
Configure the value mapped from IntP value to DSCP.



IntP value	The value of the internal priority of the message, range: 0-7	
DSCP value	New DSCP value, range: 0-63	
Operation type	Configuration	Configure IntP to DSCP value
	default	Restore the mapping relationship to the default state

17.6.9. IntP-to-EXP mapping

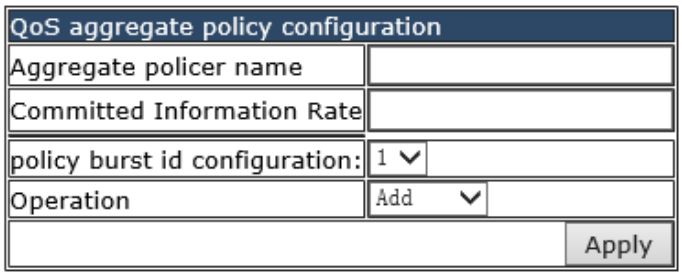
Configure the value mapped from IntP value to EXP.



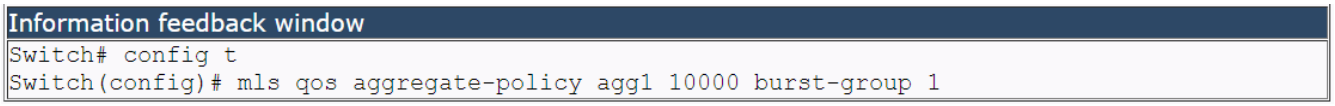
IntP value	The value of the internal priority of the message, range: 0-7	
EXP value	New EXP value, range: 0-7	
Operation type	Configuration	Configure IntP to EXP value
	default	Restore the mapping relationship to the default state

17.7. QoS aggregate policy configuration

Configure the new aggregation strategy and the information rate and burst id of the aggregation strategy.



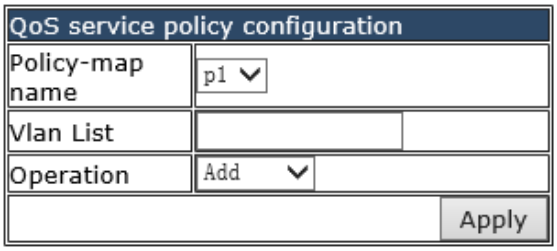
Aggregate policer name	New aggregate policer name, range: 1-64 character.	
Committed Information Rate	Information Rate, range: 1-10000000kbit/s	
Policy burst id configuration	Burst id configuration, range: 1-2	
Operation	Add	Add aggregate policer
	Remove	Remove aggregate policer



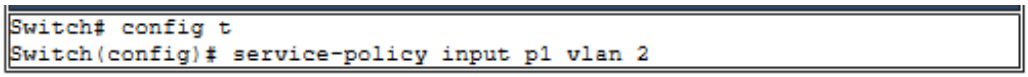
Display the configuration process and results, no error will be reported after normal configuration

17.8. QoS service policy configuration

Configure VLAN Association Policy.



Policy-map name	The name of the created strategy, select by clicking the drop-down	
VLAN List	VLAN ID, range: 1-4094	
Operation	add	Add VLAN-based policy
	remove	remove VLAN-based policy



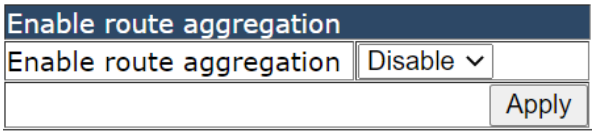
Display the configuration process and results, no error will be reported after normal configuration

18. L3 forward configuration

18.1. IP route Aggregation configuration

18.1.1. Route aggregate configuration

This page is used for enabled or disabled configuration of routing aggregation。
To display the “Route aggregate configuration” page，click L3 forward configuration->IP route Aggregation configuration->Route aggregate configuration，click "Apply" to configure.



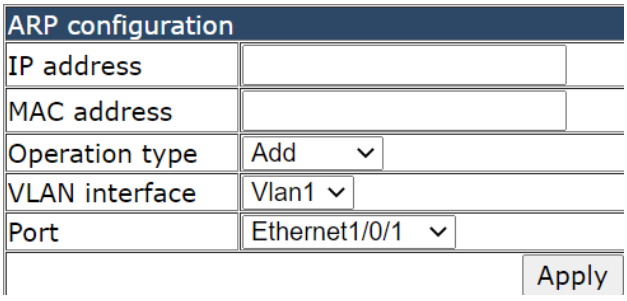
entry	describe
Enable route aggregation	Enable：Enable routing aggregation Disable：Disable routing aggregation

entry	describe
Routing aggregation state	enable：Enable routing aggregation disable：Disable routing aggregation

18.2. ARP configuration

18.2.1. ARP configuration

This page is used to configure ARP static entries.
To display the “ARP configuration” page，click L3 forward configuration->ARP configuration->ARP configuration，click "Apply" to configure.



entry	describe
IP address	IP address, e.g .1.1.1.1
MAC address	MAC address
Operation type	add：Apply the above settings Remove：Delete the above
VLAN interface	VLAN id created
Port	Ethernet port name

18.2.2. Clear ARP cache

This page is used to clear ARP statistics.
To display the “Clear ARP cache” page， click　L3 forward configuration->ARP configuration->Clear ARP cache， click　"Apply" to configure.

18.2.3. Show ARP

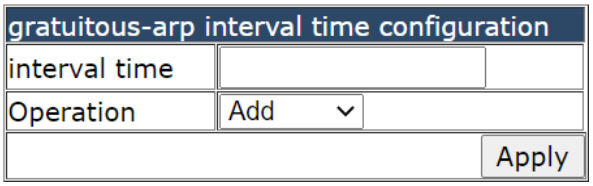
This page is used to view the information of the ARP table.
To display the “Clear ARP cache” page， click　L3 forward configuration->ARP configuration->Clear ARP cache.

ARP list				
Binding IP	Binding MAC	Interface	Port	flag
192.168.2.74	00-0e-c6-bf-ad-7a	Vlan1	Ethernet1/0/14	dynamic
Number of ARP entry				
Number of ARP entry			1	
				Refresh

18.3. Gratuitous Arp config

18.3.1. gratuitous-arp interval time configuration

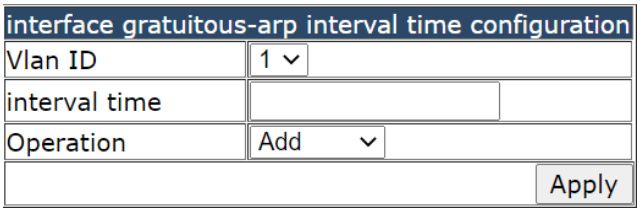
This page is used to configure the global free ARP send time interval. To display the “gratuitous-arp interval time configuration” page， click　L3 forward configuration->Gratuitous arp config->gratuitous-arp interval time configuration， click　"Apply" to configure.



entry	describe
interval time	Range :5-1200 seconds
Operation	Add：Apply the above settings Remove：Recovery default interval 300 seconds

18.3.2. Interface gratuitous-arp interval time configuration

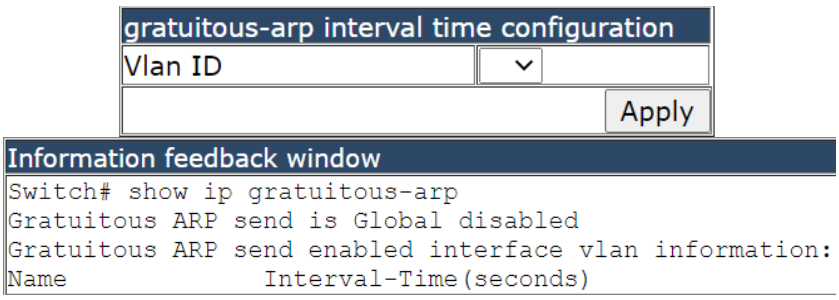
This page is used to set vlan interface free ARP send interval configuration.
To display the “interface gratuitous-arp interval time configuration” page， click　L3 forward configuration->Gratuitous arp config->interface gratuitous-arp interval time configuration， click "Apply" to configure.



entry	describe
VLAN ID	vlan ID created
interval time	Range :5-1200 seconds
Operation	Add： Apply the above settings Remove： Recovery default interval 300 seconds

18.3.3. Show gratuitous-arp configuration

This page is used to view ARP free configuration information.
To display the “show gratuitous-arp configuration” page， click L3 forward configuration->Gratuitous arp config->show gratuitous-arp configuration， click "Apply" to view.

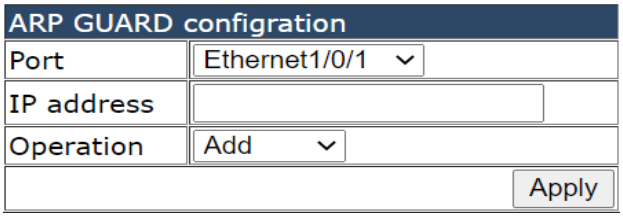


18.4. ARP protection configration

18.4.1. ARP GUARD configration

18.4.1.1. ARP GUARD configration

This page is used for ARP GUARD configuration.
To display the “ARP GUARD configration” page， click L3 forward configuration->ARP protection configration->ARP GUARD configration->ARP GUARD configration， click "Apply" to configure.

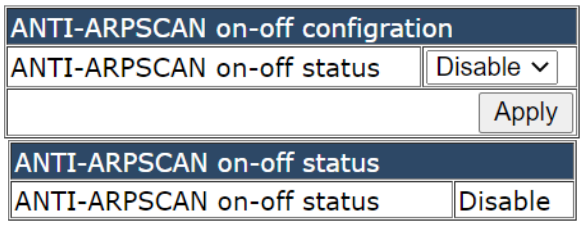


entry	describe
Port	Ethernet port name
IP address	IP address, e.g .1.1.1.1
Operation	Add： Apply the above settings Remove： Delete the above

18.4.2. ANTI-ARPSCAN configration

18.4.2.1. ANTI-ARPSCAN on-off configration

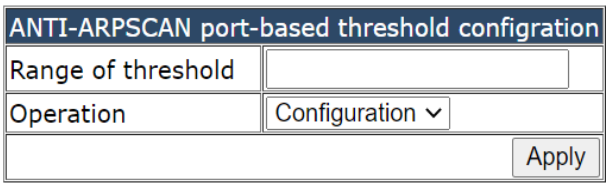
This page is used to configure the anti ARP scan function switch.
To display the “ARP GUARD configration” page， click L3 forward configuration->ARP protection configration->ANTI-ARPSCAN configration->ANTI-ARPSCAN on-off configration， click "Apply" to configure.



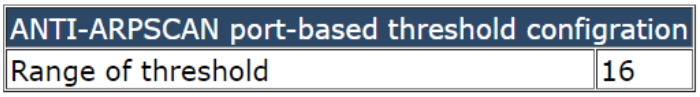
entry	describe
ANTI-ARPSCAN on-off status	Enable： Function Enable Disable： Function disabled

18.4.2.2. ANTI-ARPSCAN port-based threshold configration

This page is available for port-based configuration of anti-scan ARP thresholds.
To display the “ANTI-ARPSCAN port-based threshold configration” page， click L3 forward configuration->ARP protection configration->ANTI-ARPSCAN configration->ANTI-ARPSCAN port-based threshold configration， click "Apply" to configure.



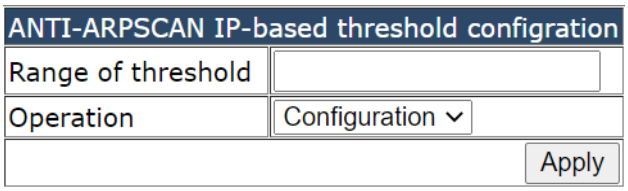
entry	describe
Range of threshold	Size range :2-200, unit pack/s
Operation	Configuration： Application settings Default： Restore default 10 packs/s



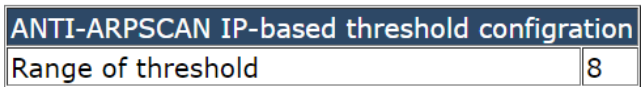
entry	describe
Range of threshold	Current configured threshold, size range : 2-200, unit pack/second

18.4.2.3. ANTI-ARPSCAN IP-based threshold configration

This page is used to configure the IP-based anti ARP scan threshold. To display the “ANTI-ARPSCAN IP-based threshold configration” page，click L3 forward configuration->ARP protection configration-> ANTI-ARPSCAN configration->ANTI-ARPSCAN IP-basedthreshold configration，click "Apply" to configure.



entry	describe
Range of threshold	Size range :2-200, unit pack/s
Operation	Configuration： Application settings Default： Restore default 6 packs/s

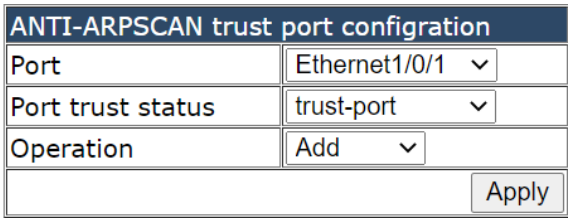


entry	describe
Range of threshold	Current configured threshold, size range : 2-200, unit pack/second

18.4.2.4. ANTI-ARPSCAN trust port configuration

This page is used to set the port to anti ARP scan trust port.

To display the “ANTI-ARPSCAN trust port configration” page，click L3 forward configuration->ARP protection configration->ANTI-ARPSCAN configration->ANTI-ARPSCAN trust port configration，click "Apply" to configure.

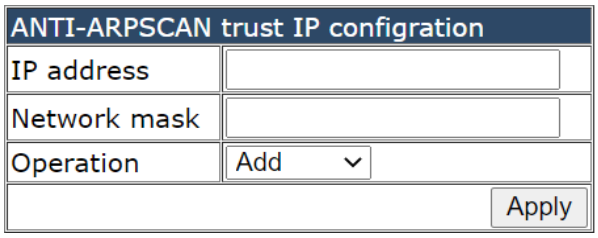


entry	describe
Port	Ethernet port name
Port trust status	trust-port: Trust port supertrust-port: Super trust port iptrust-port: IP trust port
Operation	Add： Application settings Remove： Delete the corresponding settings

18.4.2.5. ANTI-ARPSCAN trust IP configuration

This page can be used to prevent ARP scanning trust IP configuration.

To display the “ANTI-ARPSCAN trust IP configuration” page，click L3 forward configuration->ARP protection configration->ANTI-ARPSCAN configration->ANTI-ARPSCAN trust ip configration，click "Apply" to configure.

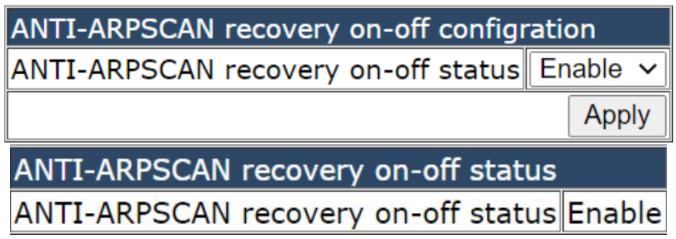


entry	describe
IP address	IP address, e.g .1.1.1.1
Network mask	Corresponding IP address mask
Operation	Add：Application settings Remove：Delete the corresponding settings

18.4.2.6. ANTI-ARPSCAN recovery on-off configuration

This page can be used to prevent ARP scanning automatic recovery switch configuration.

To display the “ANTI-ARPSCAN recovery on-off configuration” page，clickL3 forward configuration->ARP protection configration -> ANTI-ARPSCAN configration->ANTI-ARPSCAN recovery on-off configration，click "Apply" to configure.

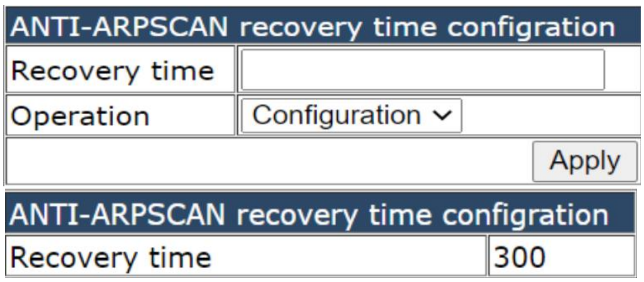


entry	describe
ANTI-ARPSCAN recovery on-off status	Enable：Enable automatic recovery function Disable：Disable automatic recovery function

18.4.2.7. ANTI-ARPSCAN recovery time configration

This page can be used to configure the automatic recovery time against ARP scanning.

To display the “ANTI-ARPSCAN recovery time configuration” page，click L3 forward configuration->ARP protection configration -> ANTI-ARPSCAN configration->ANTI-ARPSCAN recovery time configration，click "Apply" to configure.



entry	describe
Recovery time	Size range :5-86400 per second
Operation	Configuration：Apply the above settings Default：Recovery default auto recovery 300 seconds

18.4.2.8. Show ANTI-ARPSCAN information

This page is used to view anti ARP scan run information.

To display the “Show ANTI-ARPSCAN information” page，click L3 forward configuration->ARP protection configration -> ANTI-ARPSCAN configration->Show ANTI-ARPSCAN information，click "Apply" to view.

Information feedback window

```
Switch# show anti-arpscan
Total port: 28
Name              Port-property  beShut  shutTime(seconds)
Ethernet1/0/1     untrust        N       0
Ethernet1/0/2     untrust        N       0
Ethernet1/0/3     untrust        N       0
Ethernet1/0/4     untrust        N       0
Ethernet1/0/5     untrust        N       0
Ethernet1/0/6     untrust        N       0
Ethernet1/0/7     untrust        N       0
Ethernet1/0/8     untrust        N       0
```

18.5. Show IP Traffic

This page can be used to view statistics for IP packets.

To display the “Show IP Traffic” page，click L3 forward configuration->ARP protection configration -> Show IP Traffic，click "Apply" to view.

Information feedback window

```
Switch# show ip traffic
IP statistics:
  Rcvd:  134947 total, 135005 local destination
         0 header errors, 0 address errors
         0 unknown protocol, 0 discards
  Frags: 0 reassembled, 0 timeouts
         0 fragment rcvd, 0 fragment dropped
         0 fragmented, 0 couldn't fragment, 0 fragment sent
  Sent:  138810 generated, 0 forwarded
         0 dropped, 0 no route
ICMP statistics:
  Rcvd:  0 total 0 errors 0 time exceeded
         0 redirects, 0 unreachable, 0 echo, 0 echo replies
         0 mask requests, 0 mask replies, 0 quench
         0 parameter, 0 timestamp, 0 timestamp replies
  Sent:  0 total 0 errors 0 time exceeded
         0 redirects, 0 unreachable, 0 echo, 0 echo replies
         0 mask requests, 0 mask replies, 0 quench
         0 parameter, 0 timestamp, 0 timestamp replies
TCP statistics:
  TcpActiveOpens          6, TcpAttemptFails          0
  TcpCurrEstab            3, TcpEstabResets           3
  TcpInErrs               0, TcpInSegs           135005
  TcpMaxConn            264, TcpOutRsts               0
  TcpOutSegs         138868, TcpPassiveOpens       1738
  TcpRetransSegs        167, TcpRtoAlgorithm          1
  TcpRtoMax          120000, TcpRtoMin              200
UDP statistics:
  UdpInDatagrams          0, UdpInErrors              0
  UdpNoPorts              0, UdpOutDatagrams          0
```

19. Route configuration

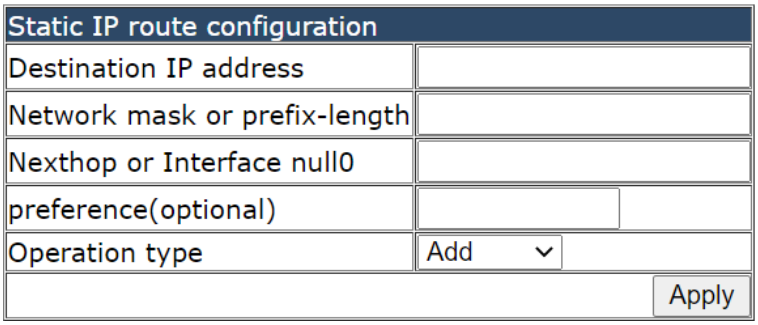
19.1. Policy based routing

The directory function is to be developed.

19.2. Static route configuration

19.2.1. Static route configuration

This page can be used for the basic configuration of static routing.
To display the “Static route configuration” page， click Route configuration ->Static route configuration->Static route configuration， click "Apply" to configure.



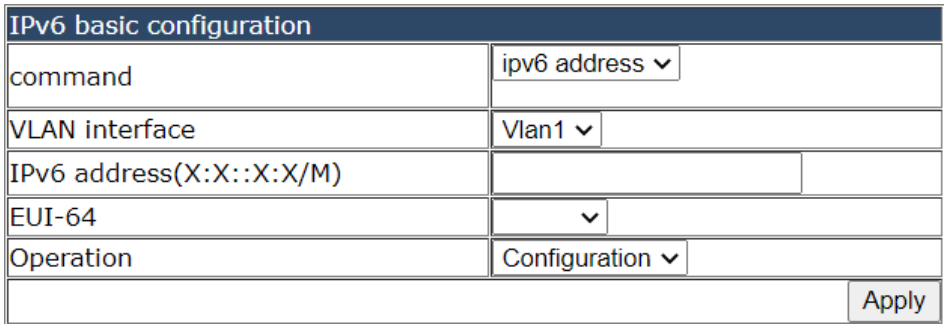
entry	describe
Destination IP address	IP address, format :10.10.11.11
Network mask or prefix-length	Subnet mask in the following format :255.255.255.0; or mask length
Nexthop or Interface null0	IP address, format: 10.10.11.11. or null0
preference(optional)	Range :1-255
Operation type	Add：Add the above settings Remove：Delete the above

20. IPv6 Route configuration

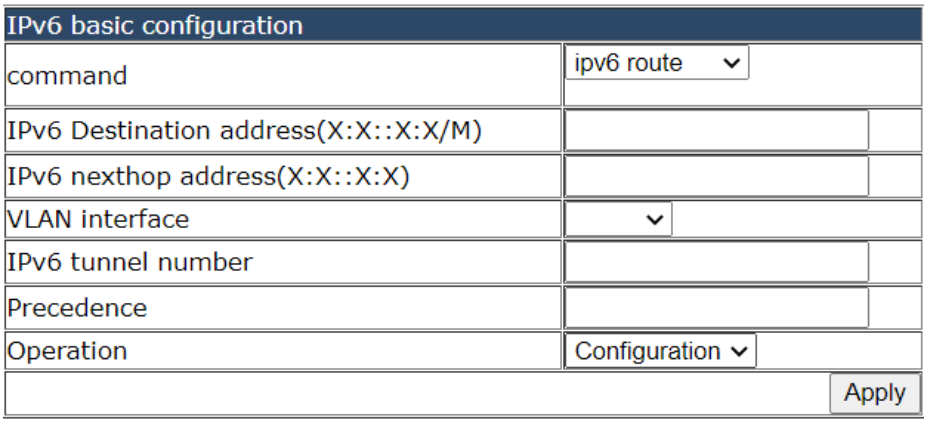
20.1. IPv6 configuration

20.1.1. IPv6 basic configuration

This page is used to vlan the ipv6 address of the interface and the configuration of ipv6 routing.
If you want to display the “IPV6 Basic Configuration” page, Click IPv6 Route configuration->IPv6 configuration->IPv6 basic configuration， Click "Apply" to configure.



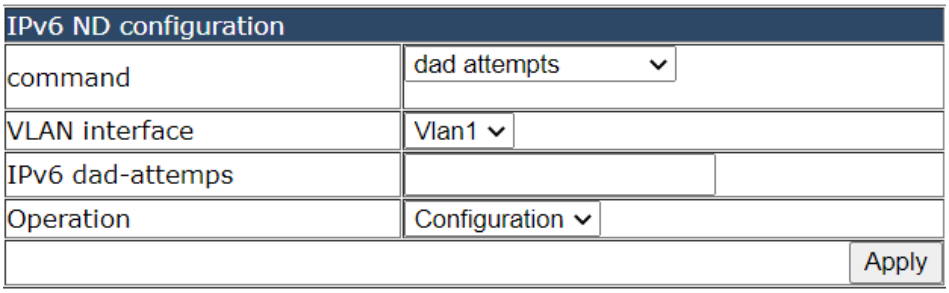
entry	describe
IPV6 address	vlan interface ipv6 address configuration
VLAN interface	vlan created
IPv6 address	example： 2001:3f:ed8::99/64
EUI-64	IPv6 address is automatically generated based on the eui64 interface identifier of the interface
Operation	Configure: User self-configuration Default： Restore default configuration



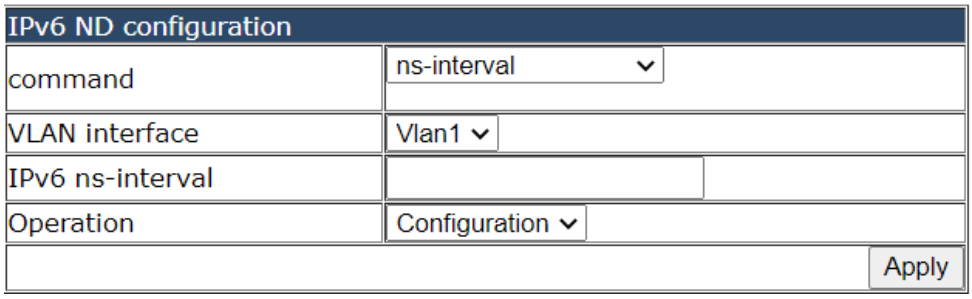
Note: the switch does not support ipv6 routing configuration, the configuration of this page is not effective.

20.1.2. IPv6 ND configuration

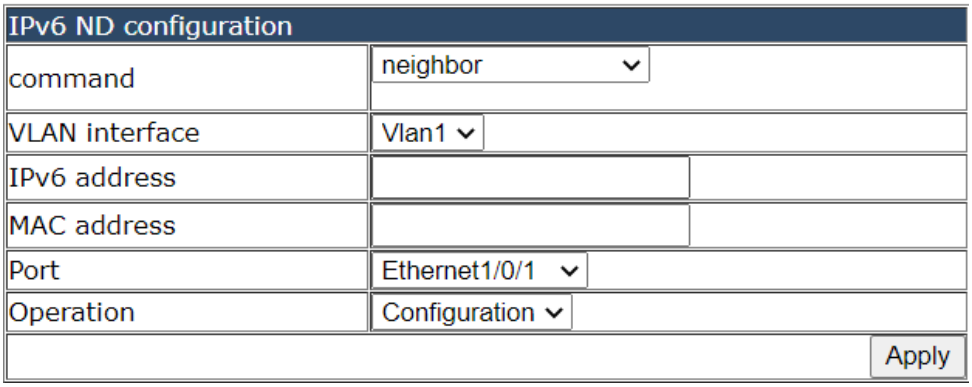
This page is used for settings that can be used for neighbor discovery related functions.
If you display the “IPv6 ND Configuration” page, click IPv6 Route configuration->IPv6 configuration->IPv6 ND Configuration， click "Apply" to configure.



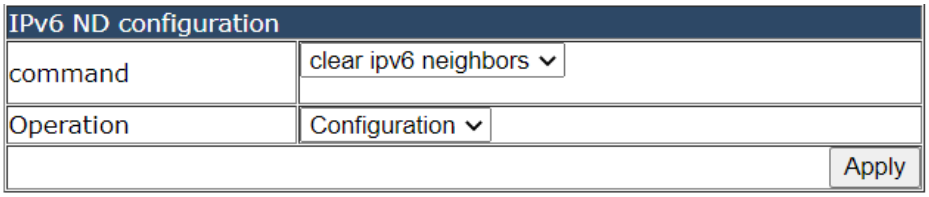
entry	describe
Data attempts	During duplicate address detection, the neighbor request message number continuously sent by the interface is set
VLAN interface	vlan created
IPv6 dad-attemps	Range :0-10
Operation	Configuration: Apply the above settings Default: Default request message number is 1



entry	describe
ns-interval	Time interval setting for neighbor request messages
VLAN interface	vlan created
IPv6 ns-interval	Size range :1-3600 ,per second
Operation	Configuration: Apply the above settings Default: Default request message number is 1 second



entry	describe
Neighbor	Set the Static Neighbor Table Item
VLAN interface	vlan created
IPv6 address	Static Neighbor IPv6 Address
MAC address	Static Neighbor MAC Address
Port	Ethernet port name
Operation	Configuration: Apply the above settings Default: delete the corresponding static neighbor table item

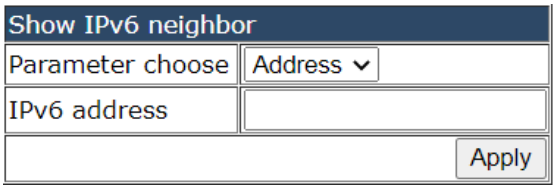


entry	describe
Clear ipv6 neighbor	Clear neighbor table items, but cannot delete static neighbor table items
Operation	Configuration: Delete neighbor table item Default: Delete Neighbor Table Item

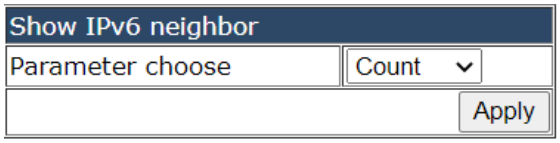
20.1.3. Show IPv6 neighbor

This page is used to view ipv6 neighbor information.

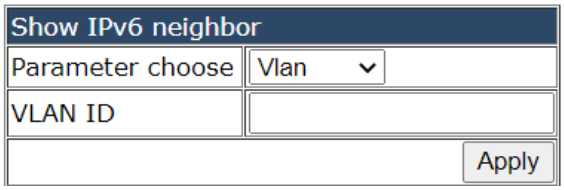
To display the “Show IPv6 neighbor” page， click IPv6 Route configuration->IPv6 configuration->Show IPv6 neighbor， click "Apply" to view.



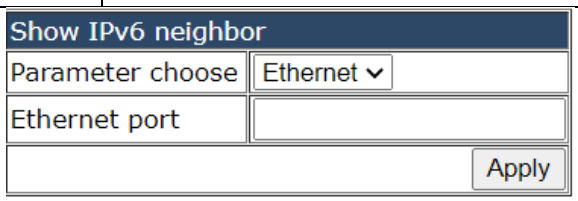
entry	describe
Address	Based on address
IPV6 address	Ipv6 address



entry	describe
Count	Display counter information



entry	describe
Vlan	vlan Based Interface
Vlan id	vlan id created

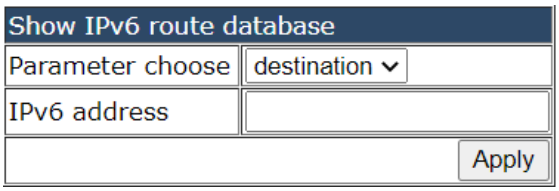


entry	describe
ethernet	Based on Ethernet port
Ethernet port	Physical Port Name

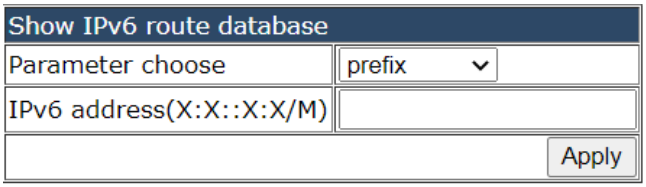
20.2. Show IPv6 route

20.2.1. Show IPv6 route database

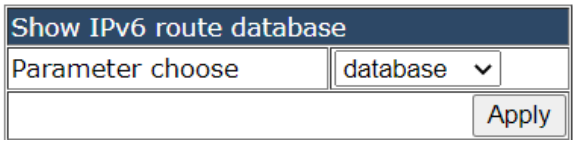
This page is used to view IPv6 routing table database information. To display the “Show IPv6 route database” page，click IPv6 Route configuration->Show IPv6 route->Show IPv6 route database，click "Apply" to view.



entry	describe
Destination	Based on ipv6 address
IPv6 address	ipv6 address in the routing table



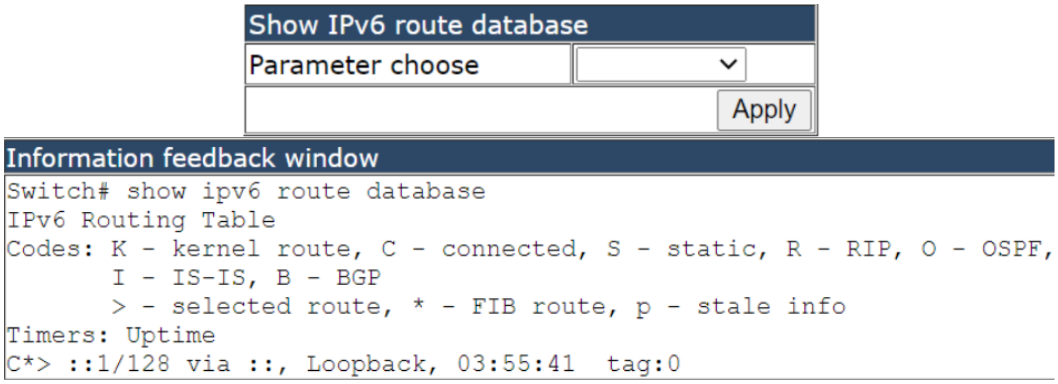
entry	describe
Prefix	Based on ipv6 address
IPv6 address	ipv6 address in the routing table



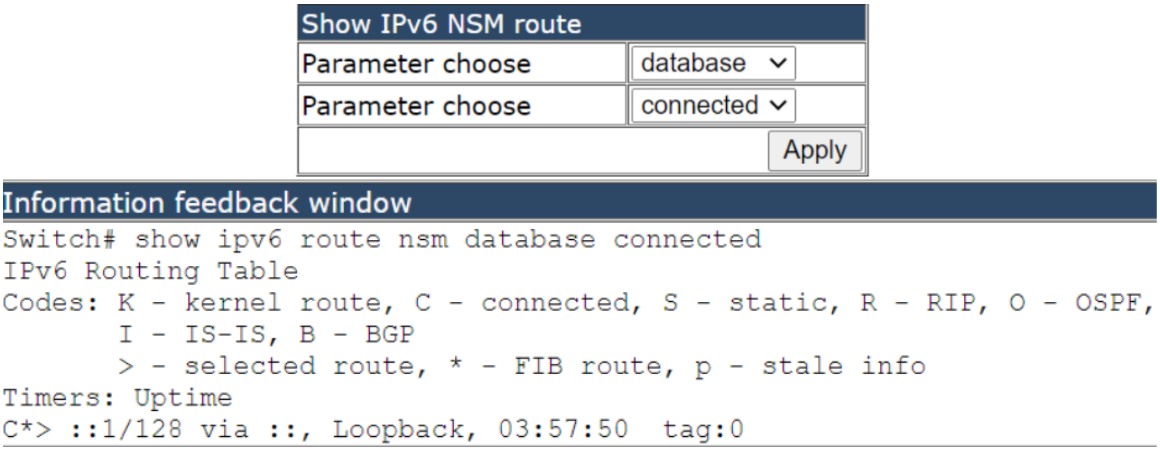
entry	describe
database	Routing table database information

20.2.2. Show IPv6 NSM route

This page is used to view IPV6 NSM routing table information.
To display the “Show IPv6 NSM route” page，click IPv6 Route configuration->Show IPv6 route->Show IPv6 NSM route，click "Apply" to view.



entry	describe
connected	IPv6 routing table information from NSM

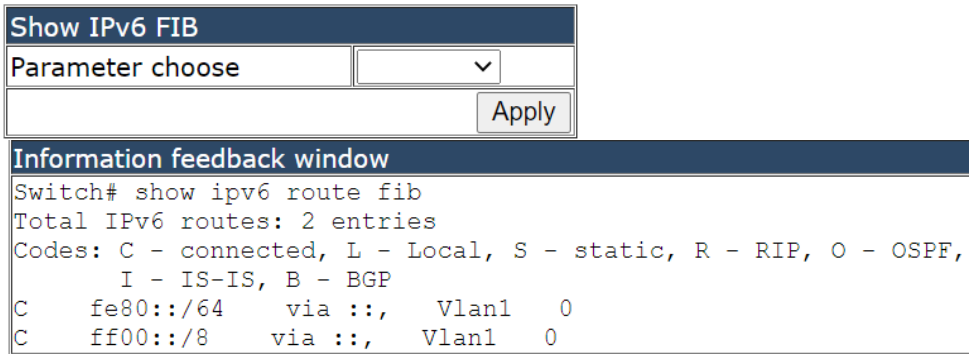


entry	describe
database	IPv6 Routing Table Database
connected	Route table information

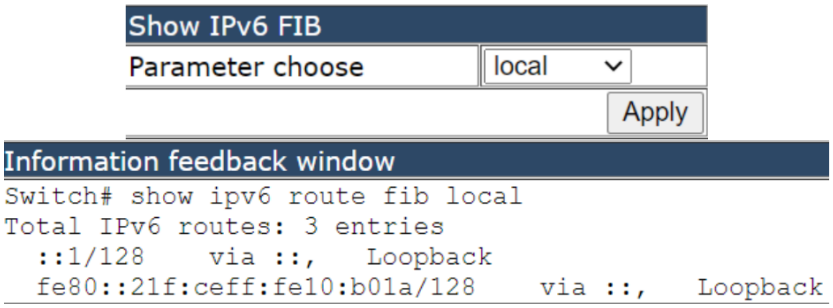
20.2.3. Show IPv6 FIB

This page is used to view IPv6 forward information.

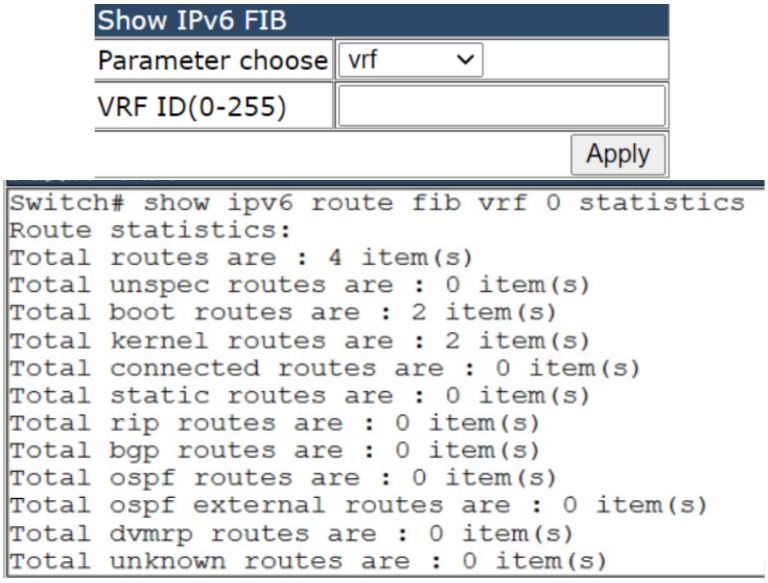
To display the “Show IPv6 FIB” page，click IPv6 Route configuration->Show IPv6 route->Show IPv6 FIB，click "Apply" to view.



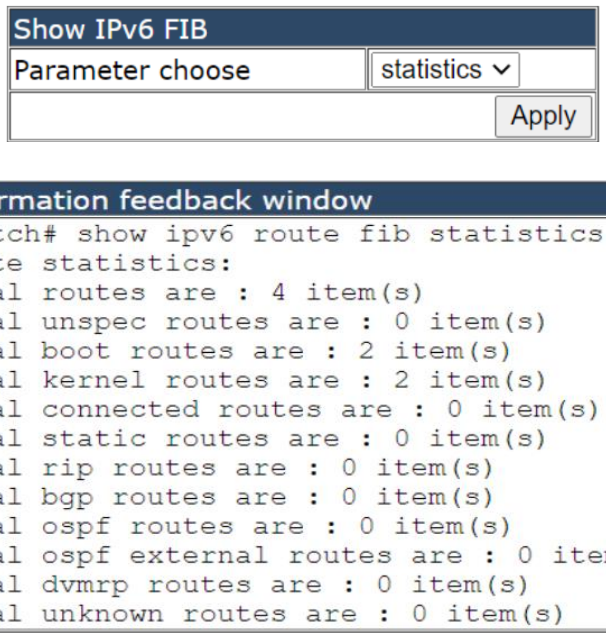
entry	describe
Blank parameters	Forwarding Information Database



entry	describe
Local	Local table



entry	describe
Vrf	Virtual routing transponder
VRF ID(0-255)	Virtual Route Forwarder Number

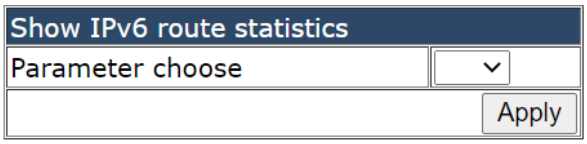


entry	describe
statistics	Routing table statistics

20.2.4. Show IPv6 route statistics

This page is used to view IPv6 routing statistics.

To display the “Show IPv6 route statistics” page，click IPv6 Route configuration->Show IPv6 route->Show IPv6 route statistics "Apply" to view.



Information feedback window

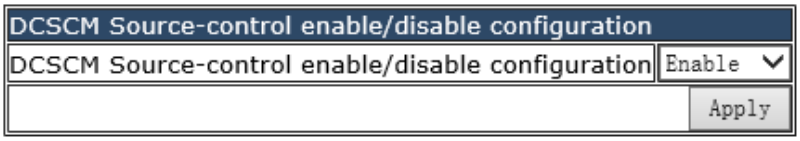
```
Switch# show ipv6 route statistics
Route statistics:
Total routes are : 1 item(s)
Total default routes are : 0 item(s)
Total kernel routes are : 0 item(s)
Total connected routes are : 1 item(s)
Total static routes are : 0 item(s)
Total rip routes are : 0 item(s)
Total bgp routes are : 0 item(s)
Total ospf routes are : 0 item(s)
Total ospf intra area routes are : 0 item(s)
Total ospf inter area routes are : 0 item(s)
Total ospf nssa type 1 routes are : 0 item(s)
Total ospf nssa type 2 routes are : 0 item(s)
Total ospf external type 1 routes are : 0 item(s)
Total ospf external type 2 routes are : 0 item(s)
```

Note: the corresponding function of parameter vrf has not been realized.

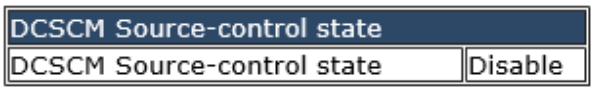
21. DCSCM configuration

21.1. DCSCM Source-control enable/disable configuration

Configure Dcscm multicast source control configuration and view the configuration status.



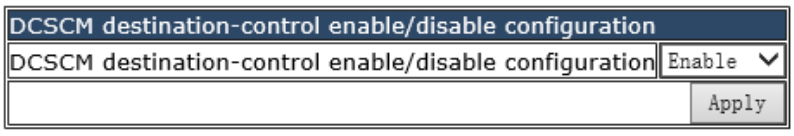
Dcscm Source-control enable/disable configuration	Enable	Enable dcscm multicast source control configuration
	Disable	Disable dcscm multicast source control configuration



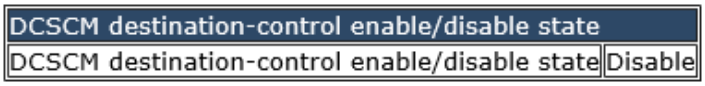
Display the current configuration status

21.2. DCSCM destination-control enable/disable configuration

Configure Dcscm multicast destination control configuration and view configuration status.



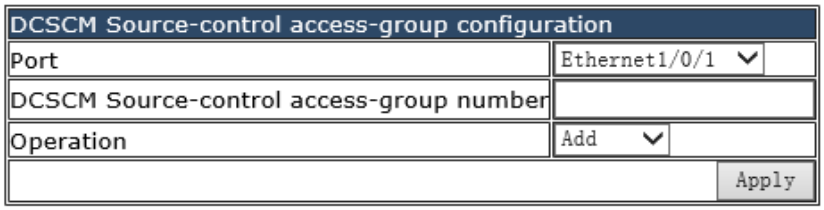
Dcscm destination-control enable/disable configuration	Enable	Enable dcscm multicast destination control configuration
	Disable	Disable dcscm multicast destination control configuration



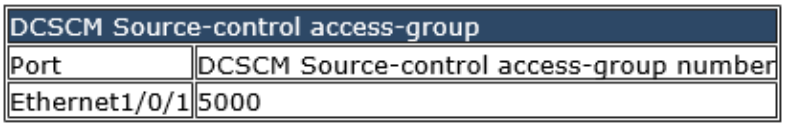
Display the current configuration status

21.3. DCSCM Source-control access-group configuration

Configure Dcscm multicast source control list configuration and view the configuration status of the configuration list.



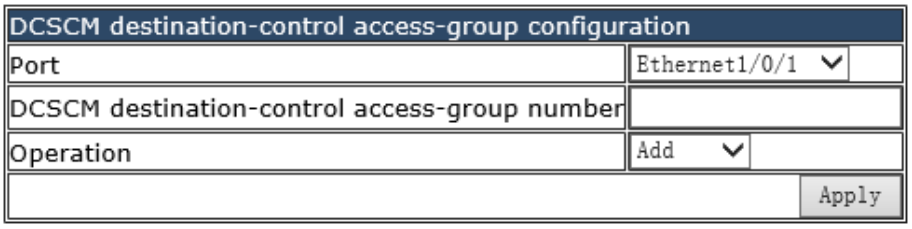
Port	Port name	
DCSCM destination-control access-group number	Match the multicast data message imported from the interface according to the configured source control list number. The source control list number is derived from the ACL multicast source control configuration of ACL multicast control, range: 5000-5099	
Operation	Add	Add source control list number under port
	Remove	Delete the source control list from the port



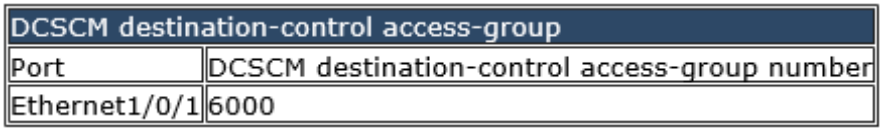
Display the currently configured port and the corresponding source control list number (there is no port configured by default)

21.4. DCSCM destination-control access-group configuration

Configure Dcscm multicast destination control list configuration and view configuration list configuration status.



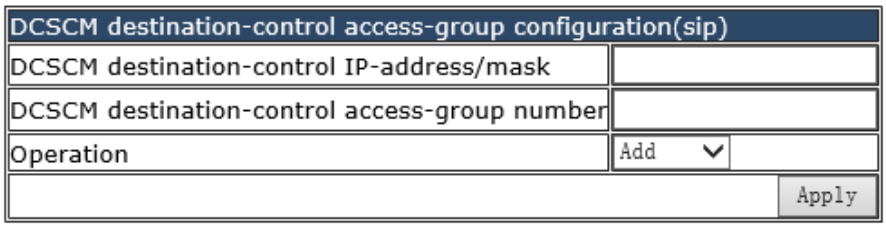
Port	Port name	
DCSCM destination-control access-group number	Match the multicast data message imported from the interface according to the configured destination control list number. The destination control list number is derived from the ACL multicast destination control configuration of ACL multicast control, range: 6000-7999	
Operation	Add	Add the destination control list number under the port
	Remove	Delete the destination control list from the port



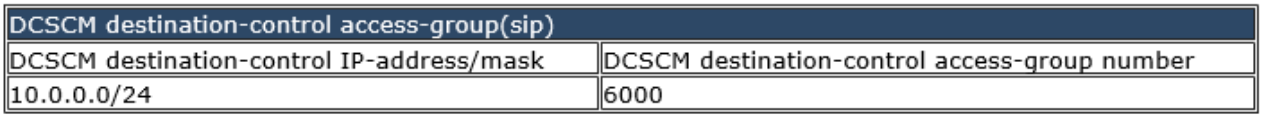
Display the currently configured port and the corresponding destination control list number (there is no port configured by default)

21.5. DCSCM destination-control access-group configuration （sip）

Configure the IP-based Dcscm port multicast destination control list configuration and view the configuration list configuration status.



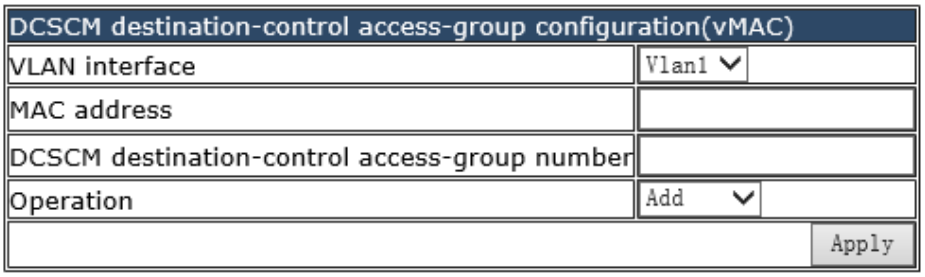
DCSCM destination-control IP-address/mask	Determine the members of the multicast group according to the specified network end and mask. When the multicast group member matches the control list number, the interface can be added, otherwise the interface is not added	
DCSCM destination-control access-group number	Match the multicast data message imported from the specified network according to the configured destination control list number. The destination control list number is configured from the ACL multicast destination control configuration of ACL multicast control, range: 6000-7999	
Operation	Add	Add the destination control list number under the designated network terminal
	Remove	Delete the destination control list from the specified network segment



Display the current configured destination IP address and the corresponding destination control list number (there is no configured port by default)

21.6. DCSCM destination-control access-group configuration （vMAC）

Configure VLAN-MAC based Dcscm multicast source control list configuration and view the configuration list configuration status.



VLAN interface	VLAN interface	
MAC address	Transmit the source MAC address of IGMP-REPORT, the format is "xx-xx-xx-xx-xx-xx"	
DCSCM destination-control access-group number	Match the multicast data message imported from the interface according to the configured destination control list number. The destination control list number is derived from the ACL multicast destination control configuration of ACL multicast control, range: 6000-7999	
Operation	Add	Add the destination control list number to the host corresponding to the MAC address in the VLAN
	Remove	Delete the destination control list from the corresponding MAC address host under the VLAN

DCSCM destination-control access-group(vMAC)		
VLAN interface	MAC address	DCSCM destination-control access-group number
1	01-00-22-33-44-55	6000

Display the mac host and the corresponding destination control list number under the currently configured vlan (there is no configured port by default)

21.7. Multicast policy configuration

Configure multicast policy and view configuration status.

Multicast policy configuration	
Source IP-address/mask	
Destination IP-address/mask	
DCSCM priority	
Operation	Add
	Apply

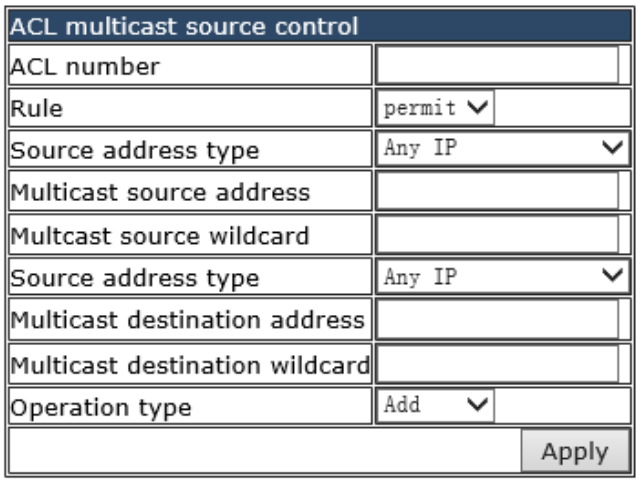
Source IP-address/mask	The source IP address range of multicast data packets, format: 192.168.2.0/24	
Destination IP-address/mask	The destination IP address range of multicast data packets, format: 224.0.0.0/8	
DCSCM priority	Specify priority, range: 0-7	
Operation	Add	Configure the switch matching priority of multicast data packets in a specified range to be modified to a specified value, and TOS is also specified to the same value
	Remove	Delete the priority policy of multicast data in the specified range

Multicast policy
ip multicast-policy 192.168.2.0/24 224.168.2.0/24 cos 1

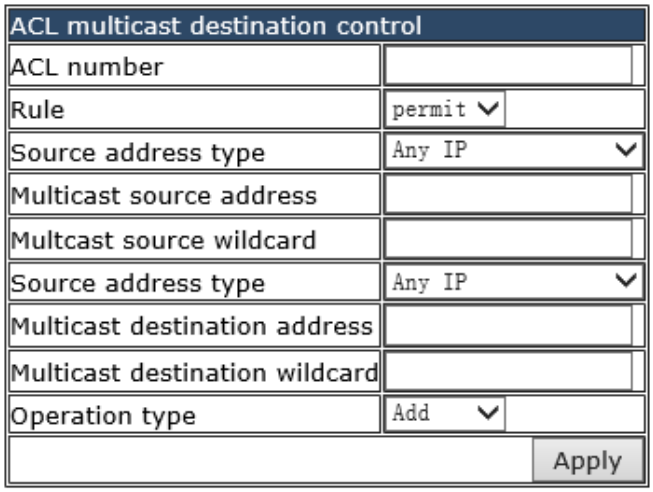
Display the currently configured multicast policy

21.8. ACL multicast source control

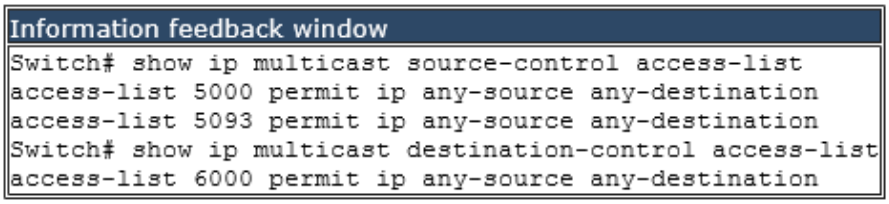
Configure ACL access rules and view the configuration status of the configuration list.



ACL number	ACL number, range: 5000-5099	
Rule	permit	Allow the following rules to pass
	deny	Reject the following rules to pass
Source address type	Specified address	An address range determined by IP addresses and address wildcards
	Any IP	Any host address
	Host Address	A specified address (set in the multicast source/destination IP address)
Multicast source/destination address	The address type is the host address and the IP address set when specifying the address, for example: 10.1.1.0 or 192.168.5.1	
Multcast source/destination wildcard	The address type is the wildcard set when specifying the address, for example: 0.0.0.255	
Operation type	Add	Add the set rules to the ACL number, and other functions use the source control list number to use these rules
	Remove	Delete the rule of ACL number



ACL number	ACL number, range: 5000-5099	
Rule	permit	Allow the following rules to pass
	deny	Reject the following rules to pass
Source address type	Specified address	An address range determined by IP addresses and address wildcards
	Any IP	Any host address
	Host Address	A specified address (set in the multicast source/destination IP address)
Multicast source/destination address	The address type is the host address and the IP address set when specifying the address, for example: 10.1.1.0 or 192.168.5.1	
Multcast source/destination wildcard	The address type is the wildcard set when specifying the address, for example: 0.0.0.255	
Operation type	Add	Add the set rules to the ACL number, and other functions use the ACL number to use these rules
	Remove	Delete the rule of ACL number



Display the currently configured multicast source control list number and multicast destination control list number rules

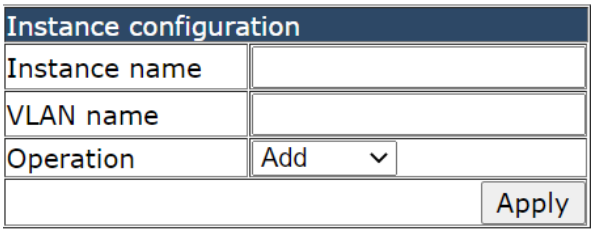
22. Spanning-tree configuration

22.1. Spanning-tree field configuration

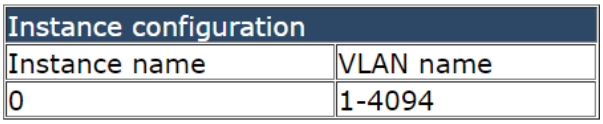
22.1.1. Instance configuration

This page can be used to configure the mapping relationship between the spanning tree instance and the VLAN.

To display the “Instance configuration” page， click Spanning-tree configuration ->Spanning-tree field configuration->Instance configuration， click "Apply" to configure.



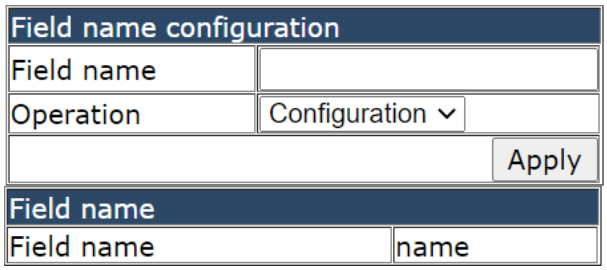
entry	describe
Instance name	Generating tree instance ID， range 0-64
VLAN name	VLAN ID，range ：1-4094
Operation	Add：Add the above configuration information Remove：Delete the above configuration information



entry	describe
Instance name	Generating tree instance ID, size range 0-64
VLAN name	VLAN ID，range ： 1-4094

22.1.2. Field name configuration

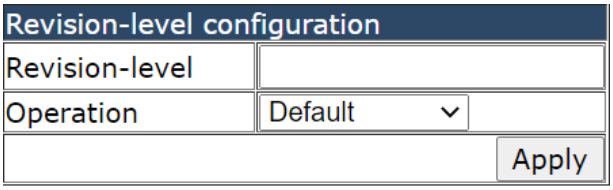
This page can be used to configure MSTP domain name.
To display the “Instance configuration” page， click Spanning-tree configuration ->Spanning-tree field configuration->Field name configuration， click "Apply" to configure.



entry	describe
Field name	MSTP domain name， the length is 1-32 characters
Operation	Configuration： Use the above configuration Default： Default does not match domain name

22.1.3. Revision-level configuration

This page can be used to configure MSTP revision level.
To display the “Instance configuration” page， click Spanning-tree configuration ->Spanning-tree field configuration->Revision-level configuration， click "Apply" to configure.



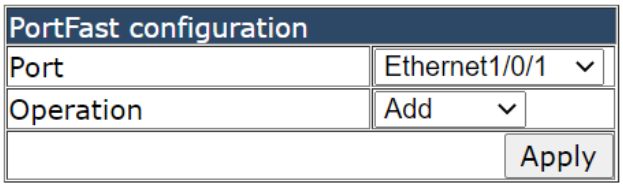
entry	describe
Revision-level	Range :0-65535
Operation	Configuration： Use the above configuration Default： Restore default configuration 0

entry	describe
Revision-level	MSTP revision level with configuration, size range :0-65535

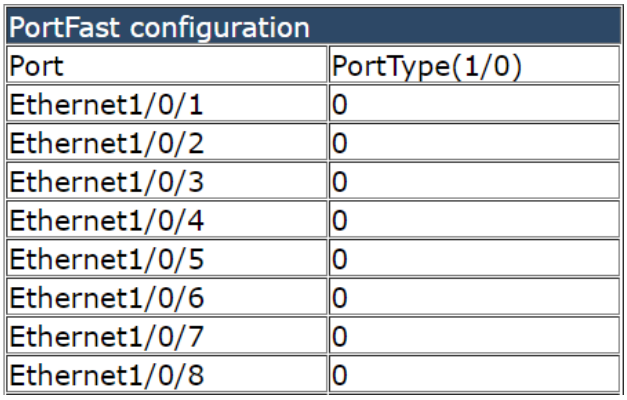
22.2. Spanning-tree Port configuration

22.2.1. PortFast configuration

This page can be used for the configuration of edge ports.
To display the “PortFast configuration” page， click Spanning-tree configuration ->Spanning-tree Port configuration->PortFast configuration， click "Apply" to configure.



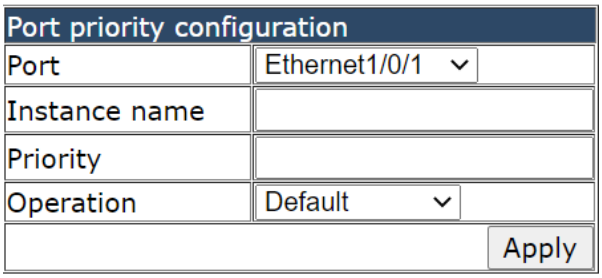
entry	describe
Port	Ethernet port name
Operation	Add： Configure the above port type to an edge port Remove： Configure the above port type to be a non-edge port



entry	describe
Port	Ethernet port name
PortType(1/0)	1： Represents an edge port 0： Represents a non-edge port

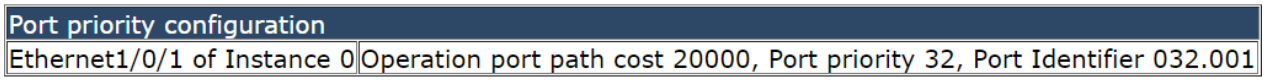
22.2.2. Port priority configuration

This page can be used for configuration of instance port priority. To display the “PortFast configuration” page， click Spanning-tree configuration ->Spanning-tree Port configuration->Port priority configuration， click "Apply" to configure.



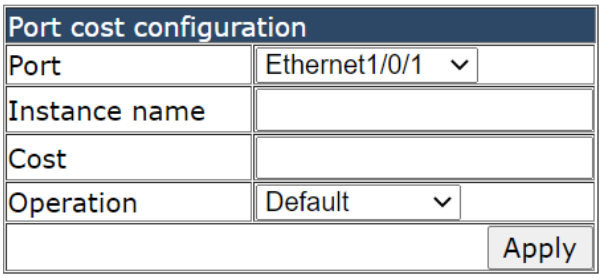
entry	describe
Port	Ethernet port name
Instance name	Generate tree instance name

Priority	The size range is :0-240, multiple of 16
Operation	Configuration： Apply the above configuration Default： Restore default priority 32768



22.2.3. Port cost configuration

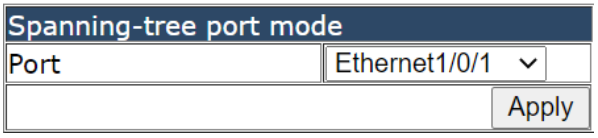
This page can be used to configure port path costs.
To display the “Port cost configuration” page， click Spanning-tree configuration ->Spanning-tree Port configuration->Port cost configuration， click "Apply" to configure.



entry	describe
Port	Ethernet port name
Instance name	Generate tree instance name
Cost	Size range :0-200000000
Operation	Configuration： Apply the above configuration Default： Recovery port default path cost

22.2.4. Spanning-tree port mode

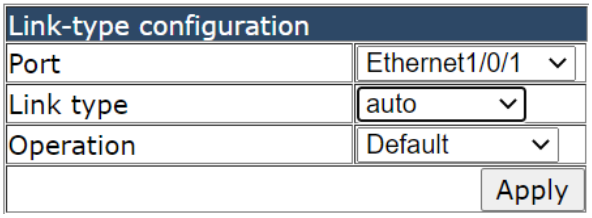
This page can be used to configure the spanning tree running mode where the port is located.
To display the “Spanning-tree port mode” page， click Spanning-tree configuration ->Spanning-tree Port configuration->Spanning-tree port mode， click "Apply" to configure.



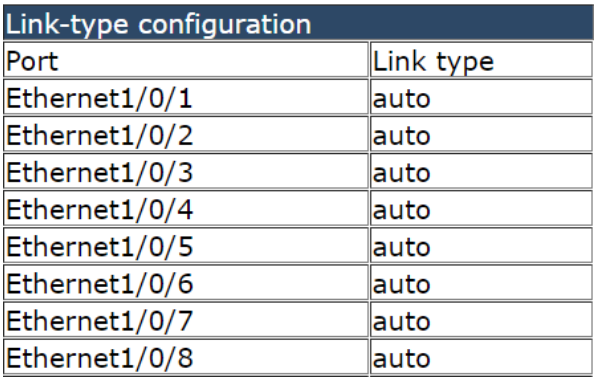
entry	describe
Port	Ethernet port name

22.2.5. Link-type configuration

This page can be used to configure port link types.
To display the “Link-type configuration” page， click Spanning-tree configuration ->Spanning-tree Port configuration->Link-type configuration， click "Apply" to configure.



entry	describe
Port	Ethernet port name
Link type	Auto： Automatic consultations Force-true： Point-to-point type Force-false： Non-point-to-point type
Operation	Configuration： Apply the above configuration Default： Auto is the default link type for the recovery port



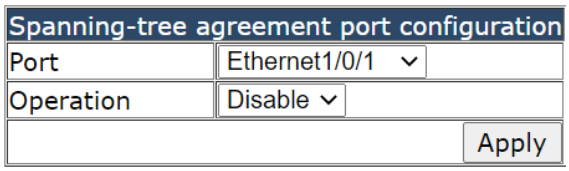
Link-type configuration

Port	Link type
Ethernet1/0/1	auto
Ethernet1/0/2	auto
Ethernet1/0/3	auto
Ethernet1/0/4	auto
Ethernet1/0/5	auto
Ethernet1/0/6	auto
Ethernet1/0/7	auto
Ethernet1/0/8	auto

entry	describe
Port	Ethernet port name
Link type	Auto： Automatic consultations Force-true： Point-to-point type Force-false： Non-point-to-point type

22.2.6. Spanning-tree agreement port configuration

This page can be used to configure enable or disable the tree generation function under the port.
To display the “Spanning-tree agreement port configuration” page， click Spanning-tree configuration -> Spanning-tree Port configuration -> Spanning-tree agreement port configuration， click "Apply" to configure.

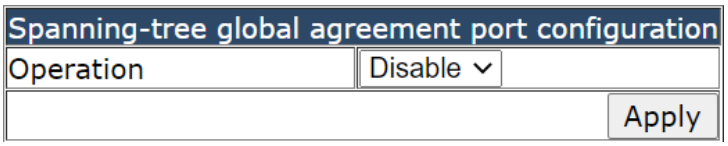


entry	describe
Port	Ethernet port name
Operation	Enable： Port enable spanning tree function Disable： Port disables spanning tree functionality

22.3. Spanning-tree global configuration

22.3.1. Spanning-tree global agreement port configuration

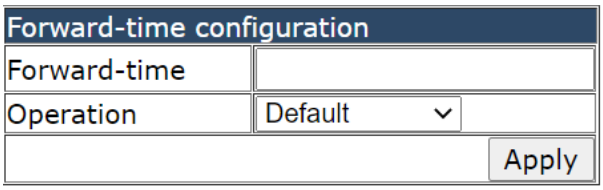
This page uses the build tree function with global enable.
To display the “Spanning-tree global agreement port configuration” page， click Spanning-tree configuration -> Spanning-tree global configuration -> Spanning-tree global agreement port configuration， click "Apply" to configure.



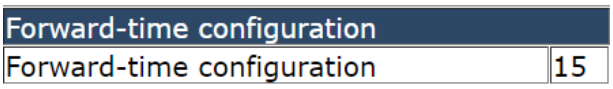
entry	describe
Operation	Enable： enable spanning tree function Disable： disables spanning tree functionality

22.3.2. Forward-time configuration

This page can be used to configure forwarding delay time.
To display the “Forward-time configuration” page， click Spanning-tree configuration -> Spanning-tree global configuration -> Forward-time configuration， click "Apply" to configure.



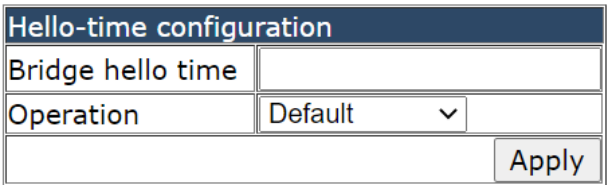
entry	describe
Forward-time	Size range :4-30, in seconds, the following conditions shall be met: 2 * (Bridge_Forward_Delay - 1.0 seconds) >= Bridge_Max_Age Bridge_Max_Age >= 2 * (Bridge_Hello_Time + 1.0 seconds)
Operation	configuration： Configure the above settings Default： Restore default 15s



entry	describe
Forward-time configuration	Configuration of current forwarding delay time

22.3.3. Hello-time configuration

This page can be used to bpdu the configuration of the sending interval.
To display the “Hello-time configuration” page， click Spanning-tree configuration -> Spanning-tree global configuration -> Hello-time configuration， click "Apply" to configure.

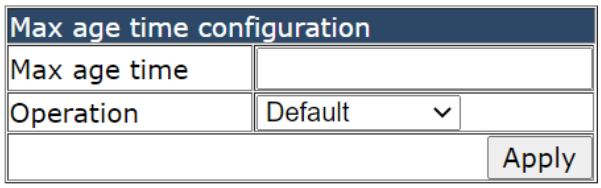


entry	describe
Bridge hello time	Size range :1-10, in seconds, the following conditions shall be met: 2 * (Bridge_Forward_Delay - 1.0 seconds) >= Bridge_Max_Age Bridge_Max_Age >= 2 * (Bridge_Hello_Time + 1.0 seconds)
Operation	configuration： Configure the above settings Default： Restore default 2s

entry	describe
Bridge hello time	Current HELLO Maximum Survival Time Configuration

22.3.4. Max age time configuration

This page can be used to configure the maximum aging time of BPDU messages.
To display the “Max age time configuration” page， click Spanning-tree configuration -> Spanning-tree global configuration -> Max age time configuration， click "Apply" to configure.



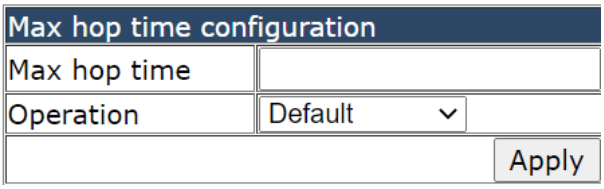
entry	describe
Max age time	Size range :6-40, in seconds, the following conditions shall be met: 2 * (Bridge_Forward_Delay - 1.0 seconds) >= Bridge_Max_Age Bridge_Max_Age >= 2 * (Bridge_Hello_Time + 1.0 seconds)
Operation	configuration： Configure the above settings Default： Restore default 20s

entry	describe
Max age time	Configuration of current maximum ageing time

22.3.5. Max hop time configuration

This page can be used to BPDU the maximum number of hops that packets are forwarded in the spanning tree domain.

To display the “Max hop time configuration” page， click Spanning-tree configuration -> Spanning-tree global configuration -> Max hop time configuration， click "Apply" to configure.



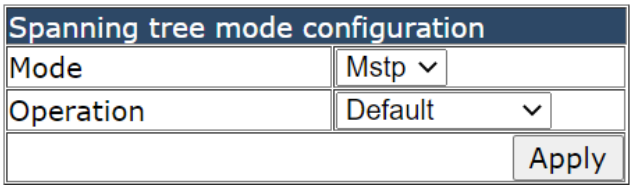
entry	describe
Max hop time	Numerical range :1-40
Operation	configuration： Configure the above settings Default： Restore default 20s

entry	describe
Max hop time	Maximum number of hops currently configured

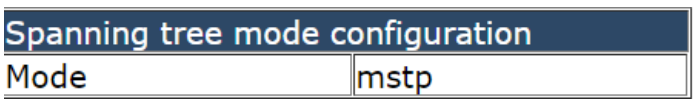
22.3.6. Spanning tree mode configuration

This page is used to set the running mode of the switch spanning tree.

To display the “Spanning tree mode configuration” page， click Spanning-tree configuration -> Spanning-tree global configuration -> Spanning tree mode configuration， click "Apply" to configure.



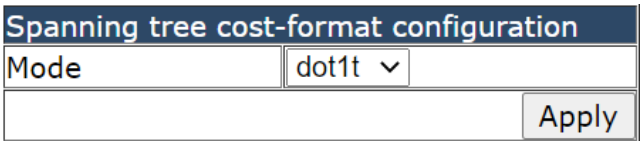
entry	describe
Mode	Generating tree protocol type： Mstp.Stp.Rstp
Operation	Configuration： Configure the above settings Default： Restore default configuration mode to mstp



entry	describe
Mode	Current run spanning tree protocol type

22.3.7. Spanning tree cost-format configuration

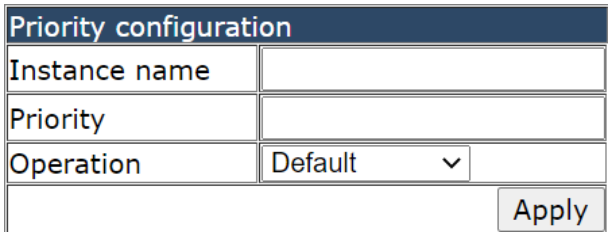
This page is used to set the global configuration path cost format.
To display the “Spanning tree cost-format configuration” page， click Spanning-tree configuration -> Spanning-tree global configuration -> Spanning tree cost-format configuration， click "Apply" to configure.



entry	describe
Mode	Path cost format:Dot1t.Dot1d

22.3.8. Priority configuration

This page is used to set the bridge priority of the spanning tree instance.
To display the “Priority configuration” page， click Spanning-tree configuration -> Spanning-tree global configuration -> Priority configuration， click "Apply" to configure.

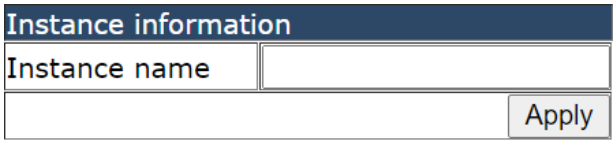


entry	describe
Instance name	Generate tree instance name
Priority	Numerical range :0-61440, and an integer multiple of 4096
Operation	Configuration： Configure the above settings Default： Restore default configuration priority 32768

22.4. Show spanning-tree

22.4.1. Instance information

This page can be used to view information for the specified instance.
To display the “Instance information” page， click Spanning-tree configuration -> Show spanning-tree -> Instance information， click "Apply" to view.



entry	describe
Instance name	Generate tree instance name

Information feedback window

```
Switch# show spanning-tree mst 0 detail
################################ Process 0 ##########################
############################ Instance 0 ############################
vlans mapped: 1-4094
Root Id     : this switch
Root Times  :  Max Age 20, Hello Time 2, Forward Delay 15, Max hops 20
Port 14 (Ethernet1/0/14) of Instance 0 is   DSGN forwarding
Port info:   port id  128.14   priority  128   cost  0
Designated root has priority 32768, address 001f.ce10.b01b
Designated bridge has priority 32768, address 001f.ce10.b01b
BPDU: sent     2348(TCN 0, CONFIG 0, MST 2348)
      received 0(TCN 0, CONFIG 0, MST 0)
```

22.4.2. Revision-Level information

This page can be used to view configuration information for the spanning tree domain.
To display the “Revision-Level information” page，click Spanning-tree configuration -> Show spanning-tree -> Revision-Level information，click "Apply" to view.

Information feedback window

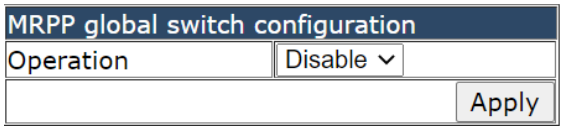
```
Switch# show spanning-tree mst config
Name         name
Revision     0
Instance     Vlans Mapped
---------------------------------
00           1-4094
---------------------------------
```

23. MRPP configuration

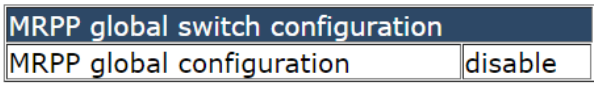
23.1. MRPP global configuration

23.1.1. MRPP global switch configuration

This page is used to enable or disable MRPP protocols.
To display the “MRPP global switch configuration” page，click MRPP configuration->MRPP global configuration->MRPP global switch configuration，click "Apply" to configure.



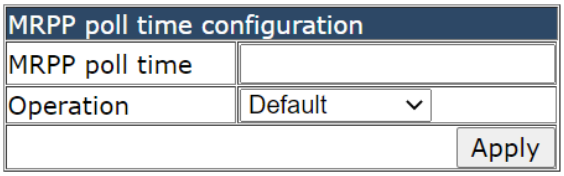
entry	describe
Operation	Enable： Enable MRPP protocol functionality Disable： Close MRPP Protocol Function



entry	describe
MRPP global configuration	disable: Current mrpp protocol status is closed enable: Current mrpp protocol status opens

23.1.2. MRPP poll time configuration

This page can be used to configure MRPP query time.
To display the “MRPP poll time configuration” page， click MRPP configuration->MRPP global configuration->MRPP poll time configuration， click "Apply" to configure.

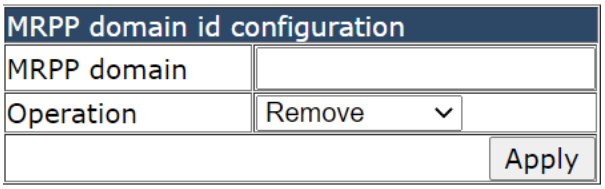


entry	describe
MRPP poll time	range：20-200， unit milliseconds
Operation	Configuration： Apply the above settings Default： Restore default ms 100

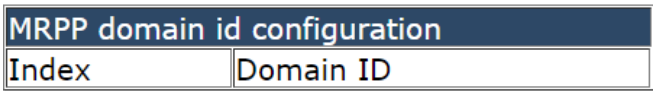
entry	describe
MRPP poll time	Current configured query time

23.1.3. MRPP domain id configuration

This page is used to set the ID number of the MRPP domain.
To display the “MRPP domain id configuration” page， click MRPP configuration->MRPP global configuration->MRPP domain id configuration， click "Apply" to configure.



entry	describe
MRPP domain	ID range :1-4096
Operation	Configuration： Apply the above settings Remove： Delete configured domain ID

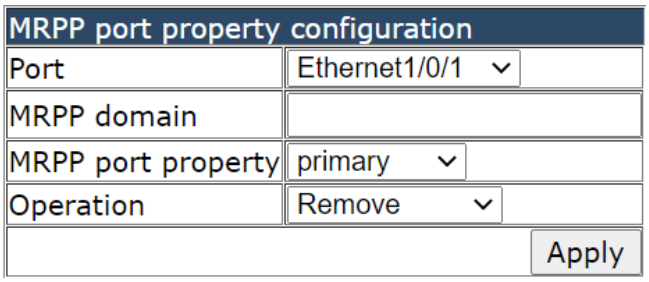


entry	describe
Domain ID	Domain ID range :1-4096

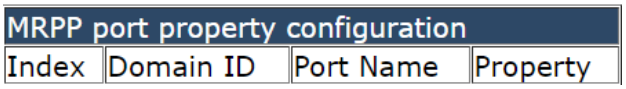
23.2. MRPP port configuration

23.2.1. MRPP port property configuration

This page can be used to configure the primary and secondary ports of the MRPP ring.
To display the “MRPP port property configuration” page， click MRPP configuration->MRPP port configuration->MRPP port property configuration， click "Apply" to configure.



entry	describe
Port	Ethernet port name
MRPP domain	MRPP domain ID, range :1-4096
MRPP port property	Primary: Main port Secondary：Secondary port
Operation	Configuration：Apply the above configuration Remove：Delete the above configuration



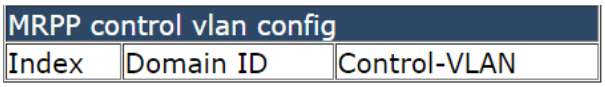
entry	describe
Domain ID	MRPP domain ID, range :1-4096
Port Name	Ethernet port
Property	Primary: Main port Secondary：Secondary port

23.3. MRPP domain configuration

23.3.1. MRPP control vlan config

This page can be used to configure control VLAN for MRPP rings
To display the “MRPP control vlan configuration” page，click MRPP configuration->MRPP domain configuration->MRPP control vlan configuration，click "Apply" to configure.

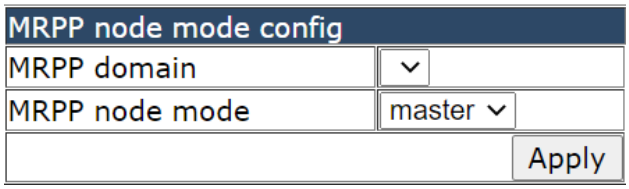
entry	describe
MRPP domain	MRPP domain ID, range created :1-4096
VLAN ID	VLAN ID, range :1-4094
Operation	Configuration： Apply the above configuration Remove： Delete the above configuration



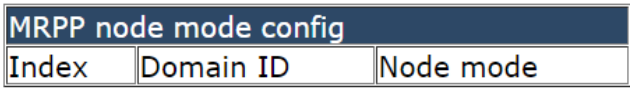
entry	describe
Domain ID	MRPP domain ID, range :1-4096
Control-VLAN	Scope of control VLAN, for current MRPP domain configuration :1-4094

23.3.2. MRPP node mode config

This page can be used to configure MRPP nodes.
To display the “MRPP node mode configuration” page， click MRPP configuration->MRPP domain configuration->MRPP node mode configuration， click "Apply" to configure.



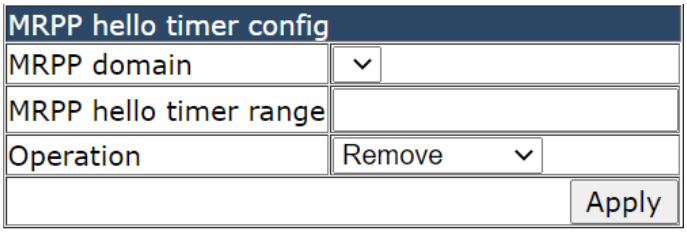
entry	describe
MRPP domain	MRPP domain ID, range :1-4096
MRPP node mode	master: Master node transit： Transmission node



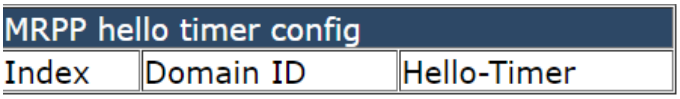
entry	describe
Domain ID	MRPP domain ID, range :1-4096
Node mode	master: Master node transit： Transmission node

23.3.3. MRPP hello timer config

This page can be used to MRPP Hello the configuration of message sending intervals.
To display the “MRPP hello timer configuration” page，click MRPP configuration->MRPP domain configuration->MRPP hello timer configuration，click "Apply" to configure.



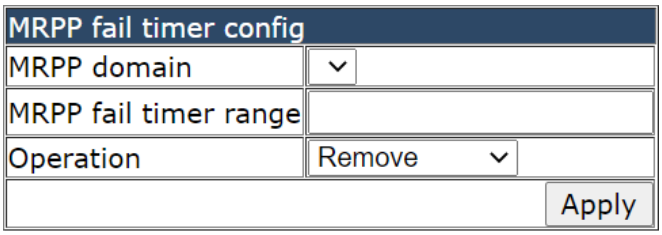
entry	describe
MRPP domain	MRPP domain ID range :1-4096
MRPP hello timer range	Interval time range :1-100 seconds
Operation	Configuration： Apply the above configuration Remove: Delete the above configuration and restore the default configuration to 1 second



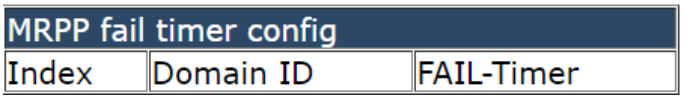
entry	describe
Domain ID	MRPP domain ID range :1-4096
Hello-Timer	Hello message sending interval when the current configuration takes effect

23.3.4. MRPP fail timer config

This page is used MRPP configure the health message receive timeout. To display the “MRPP fail timer configuration” page，click MRPP configuration->MRPP domain configuration->MRPP fail timer configuration，click "Apply" to configure.



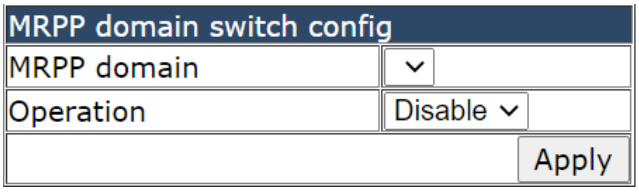
entry	describe
MRPP domain	MRPP domain ID range : 1-4096
MRPP fail timer range	Interval time range :1-300 seconds
Operation	Configuration： Apply the above configuration Remove: Delete the above configuration and restore the default configuration to 3 second



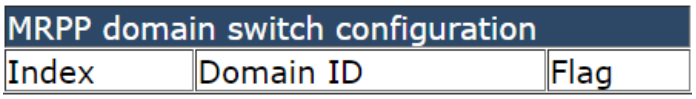
entry	describe
Domain ID	MRPP domain ID range :1-4096
FAIL-Timer	Receive timeout when the current configuration takes effect

23.3.5. MRPP domain switch config

This page can be used to enable or disable MRPP rings.
To display the “MRPP domain switch config” page， click MRPP configuration->MRPP domain configuration->MRPP domain switch config， click "Apply" to configure.



entry	describe
MRPP domain	MRPP domain ID range :1-4096
Operation	Enable： Enable the corresponding MRPP ring Disable： Disable the corresponding MRPP ring

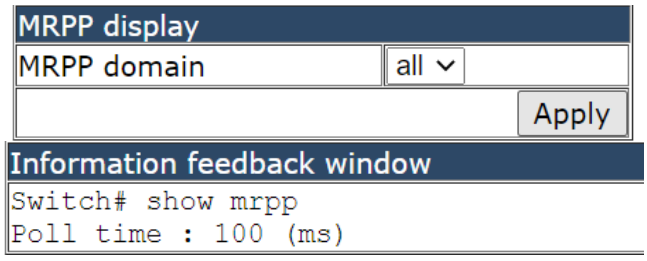


entry	describe
Domain ID	MRPP domain ID range :1-4096
Flag	The enable state disable or enable of the currently configured active MRPP domain

23.4. MRPP configuration display

23.4.1. MRPP display

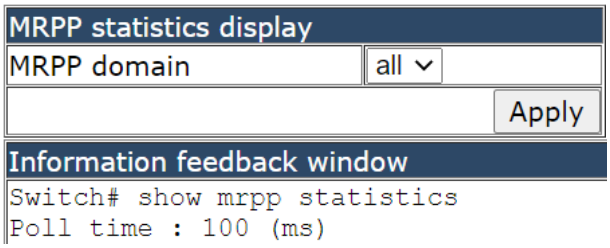
This page can be used to view configuration information for MRPP domains.
To display the “MRPP display” page， click MRPP configuration->MRPP domain configuration->MRPP display， click "Apply" to view.



entry	describe
Domain ID	MRPP domain ID range :1-4096

23.4.2. MRPP statistics display

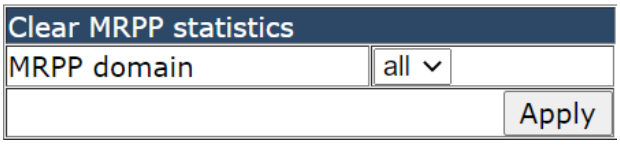
This page can be used to view statistics of MRPP domain data and status changes.
To display the “MRPP statistics display” page， click MRPP configuration->MRPP domain configuration->MRPP statistics display， click "Apply" to view.



entry	describe
Domain ID	MRPP domain ID range :1-4096

23.4.3. Clear MRPP statistics

This page can be used to clear statistics for MRPP domains.
To display the “Clear MRPP statistics” page， click MRPP configuration->MRPP domain configuration->Clear MRPP statistics， click "Apply" to configure.

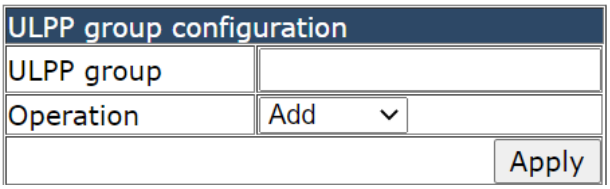


24. ULPP configuration

24.1. ULPP global configuration

24.1.1. ULPP group configuration

This page can be used to add or delete ULPP groups.
To display the “ULPP group configuration” page， ULPP configuration ->ULPP global configuration->ULPP group configuration， click "Apply" to configure.



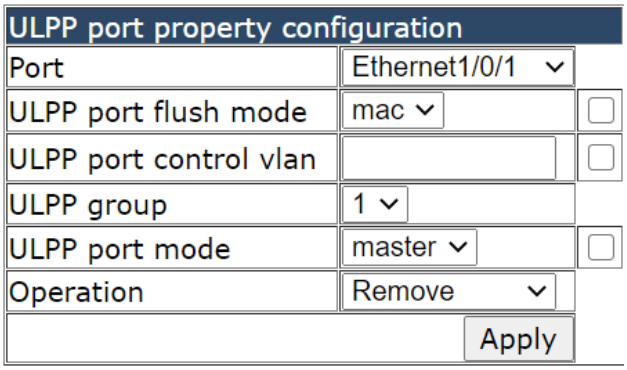
entry	describe
ULPP group	Group ID size range :1-48
Operation	Add： Add ULPP groups Remove： Delete ULPP groups

entry	describe
ULPP group	ULPP groups created

24.2. ULPP port configuration

24.2.1. ULPP port property configuration

This page can be used to set the port as the master-slave port of the ulpp group. It can also enable or disable receiving MAC address and ARP update packets, can also configure a control VLAN for the port.
To display the “ULPP port prperty configuration” page， ULPP configuration ->ULPP port configuration->ULPP port prperty configuration， click "Apply" to configure.

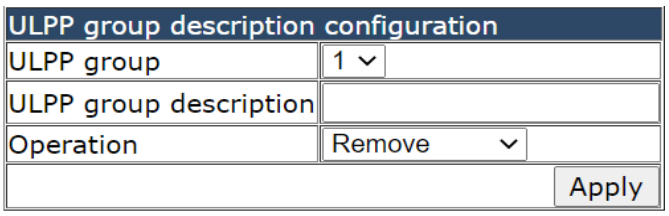


entry	describe
Port	Ethernet port name
ULPP port flush mode	mac: Receive mac update packets arp: Receive arp more packets
ULPP port control vlan	vlan created
ULPP group	ULPP groups created
ULPP port mode	master: Main port slave：Slave port
Operation	Configuration：Apply the above configuration Remove：Delete the above configuration

24.3. ULPP group configuration

24.3.1. ULPP group description configuration

This page can be used to configure the description name for ULPP group.
To display the “ULPP group description configuration” page， ULPP configuration ->ULPP group configuration->ULPP group description configuration， click "Apply" to configure.



entry	describe
ULPP group	ULPP groups created
ULPP group description	1-128 characters in length
Operation	Configuration：Apply the above configuration Remove：Delete the above configuration

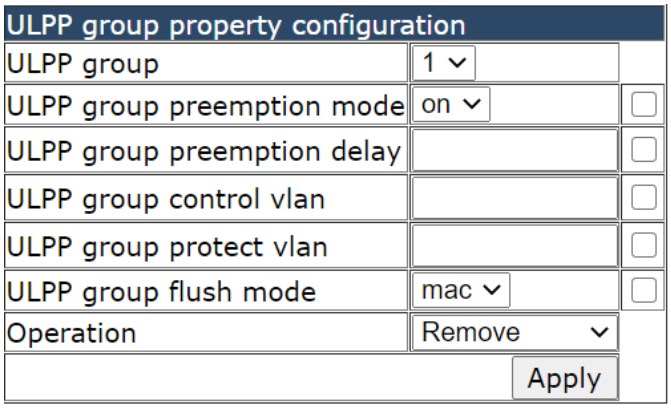
ULPP group description configuration	
ULPP group	ULPP group description
1	

entry	describe
ULPP group	ULPP groups created
ULPP group description	Description of ULPP groups currently set

24.3.2. ULPP group property configuration

This page can be used to configure the ulpp group properties of preemption mode, preemption delay, protection VLAN, control VLAN, flush mode, etc.

To display the “ULPP group description configuration” page， ULPP configuration ->ULPP group configuration->ULPP group property configuration， click "Apply" to configure.



entry	describe
ULPP group	ULPP groups created
ULPP group preemption mode	on: Preemptive mode enabled off： Disable Preemptive Mode
ULPP group preemption delay	Delay time range :1-600, per second
ULPP group control vlan	Created VLAN,VLAN ID between 1-4094
ULPP group protect vlan	MSTP instance list, value range: 1-4094
ULPP group flush mode	mac: Send mac update packet arp： Send arp update packet
Operation	Configuration： Apply the above configuration Remove： Delete the above configuration

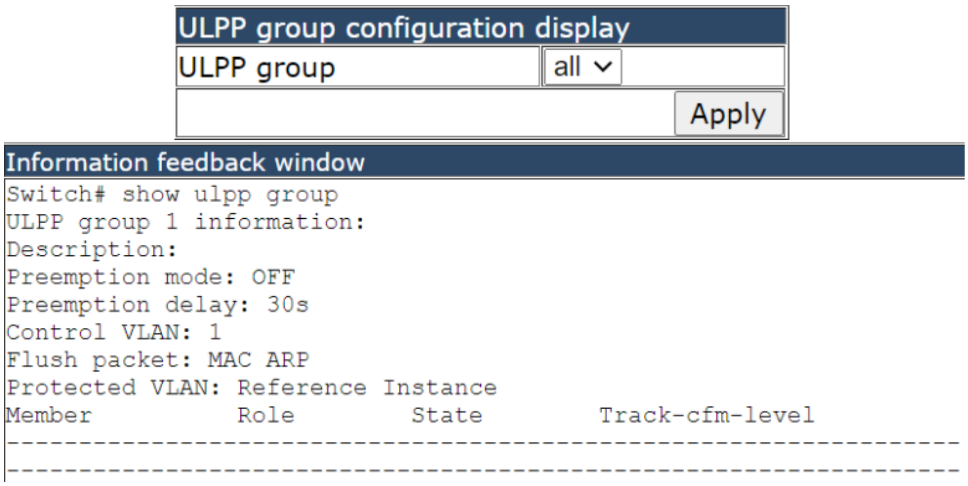
ULPP group property configuration				
ULPP group	ULPP group preemption mode	ULPP group preemption delay	ULPP group control vlan	ULPP group flush mode
1	OFF	30	1	ALL

entry	describe
ULPP group	Ulpp group created
ULPP group preemption mode	on: Preemptive mode enabled off： Disable Preemptive Mode
ULPP group preemption delay	Delay time for current configuration
ULPP group control vlan	ULPP group control VLAN currently set
ULPP group flush mode	mac: Send mac update packet arp： Send arp update packet ALL： Send mac and arp update packet

24.4. ULPP configuration display

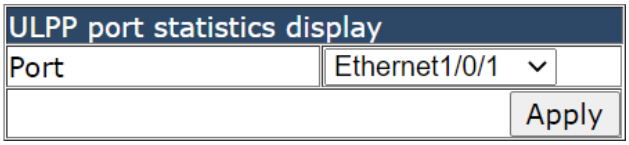
24.4.1. ULPP group configuration display

This page can be used to view configuration information for ULPP groups.To display the “ULPP group description configuration” page， ULPP configuration ->ULPP configuration display->ULPP group configuration display， click "Apply" to view.



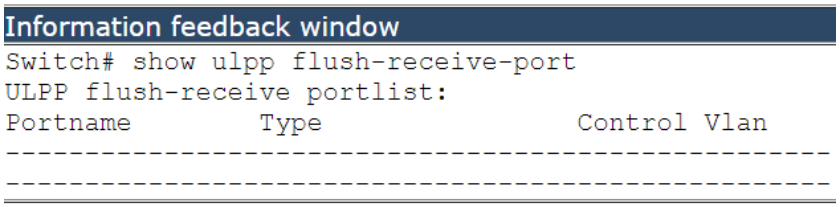
24.4.2. ULPP port statistics display

This page can be used to view ULPP port statistics.
To display the “ULPP group description configuration” page， ULPP configuration ->ULPP configuration display->ULPP port statistics display， click "Apply" to view.



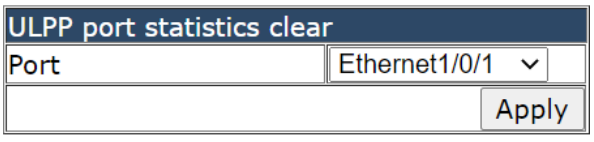
24.4.3. ULPP port property display

This page can be used to view ULPP port configuration information.
To display the “ULPP group description configuration” page， ULPP configuration ->ULPP configuration display->ULPP port property display， click "Apply" to view.



24.4.4. ULPP port statistics clear

This page can be used to clear statistics of ULPP related data on the port.
To display the “ULPP group description configuration” page， ULPP configuration ->ULPP configuration display->ULPP port statistics clear， click "Apply" to view.

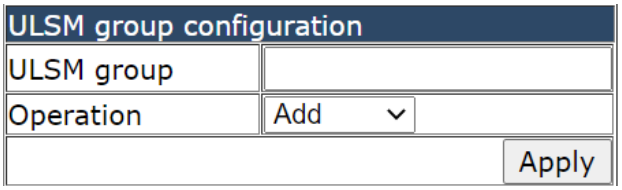


25. ULSM configuration

25.1. ULSM global configuration

25.1.1. ULSM group configuration

This page can be used to create or delete ULSM groups.
To display the “ULSM group configuration” page， click ULSM configuration ->ULSM global configuration->ULSM group configuration， click "Apply" to configure.



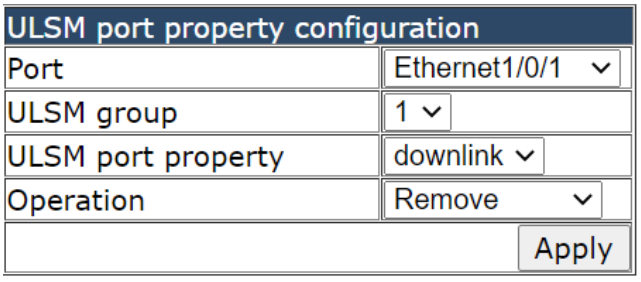
entry	describe
ULSM group	Group ID range :1-32
Operation	Add： Create a ULSM group Remove： Removing ULSM groups of corresponding ID

entry	describe
ULSM group	ULSM groups created

25.2. ULSM port configuration

25.2.1. ULSM port property configuration

This page can be used to add uplink or downlink ports for ULSM groups that have been created.
To display the “ULSM group configuration” page， click ULSM configuration ->ULSM port configuration->ULSM port property configuration， click "Apply" to configure.



entry	describe
Port	Ethernet port name
ULSM group	ULSM groups created
ULSM port property	uplink: Uplink port downlink: Downlink port
Operation	Configuration： Apply the above settings Remove： Delete the above

ULSM port property		
Port	ULSM group	ULSM port property
Ethernet1/0/1	1	uplink

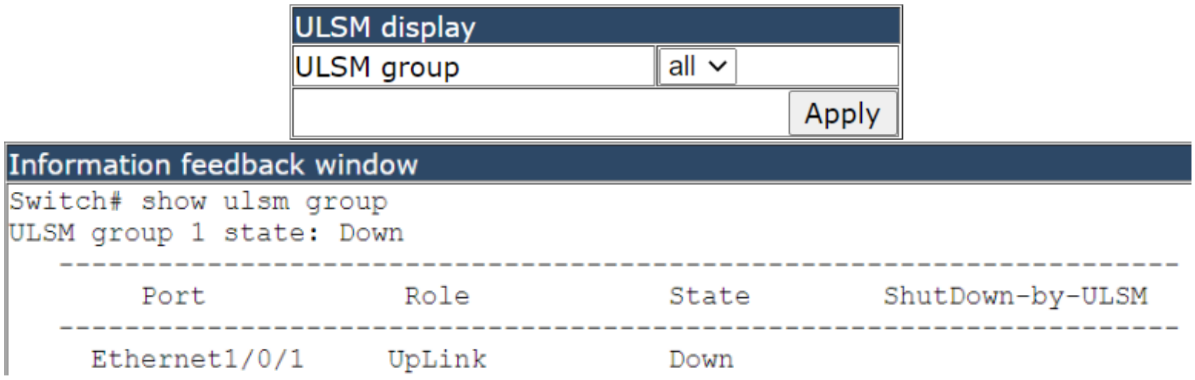
entry	describe
Port	Ethernet port name
ULSM group	ULSM groups created
ULSM port property	Current ULSM groups correspond to configured upper and lower ports uplink: Uplink port downlink: Downlink port

25.3. ULSM configuration display

25.3.1. ULSM display

This page can be used to view the current status of the ULSM group and the status of the upper and lower ports within the group.

To display the “ULSM group configuration” page， click ULSM configuration ->ULSM port configuration->ULSM port property configuration， click "Apply" to view.



26. Authentication configuration

26.1. RADIUS client configuration

26.1.1. RADIUS global configuration

RADIUS global configuration module, users in this module can configure the global RADIUS function services.

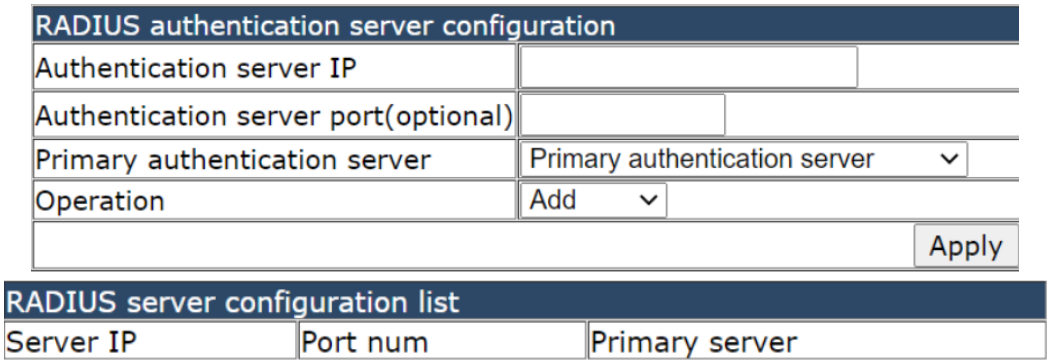
RADIUS configuration	
Authentication status	Disable
Accounting	Disable
Radius key operation	
RADIUS key	
System recovery time	5
RADIUS Retransmit times	3
RADIUS server timeout	3
	Apply

AAA server status		
the status of the aaa	disable	
the status of the radius accounting	disable	
radius-server timeout	3	
radius-server retransmit	3	
radius-server dead-time	5	
radius-server authentication host	192.168.2.200	port:23 primary

Authentication status	Enable	Enable RADIUS certification services
	Disable	Disabling RADIUS certification services
Accounting	Enable	Enable RADIUS billing services
	Disable	Disabling RADIUS billing services
Radius key operation	Add	Add RADIUS key
	Remove	Delete RADIUS key
RADIUS key	Key string ,1-64 characters	
System recovery time	Radius service recovery time from downtime to accessibility, 1-255 minutes	
RADIUS Retransmit times	Radius authentication packet retransmission time, 1-100 seconds	
RADIUS server timeout	The corresponding time of the radius server, 1-100 seconds	

26.1.2. RADIUS authentication configuration

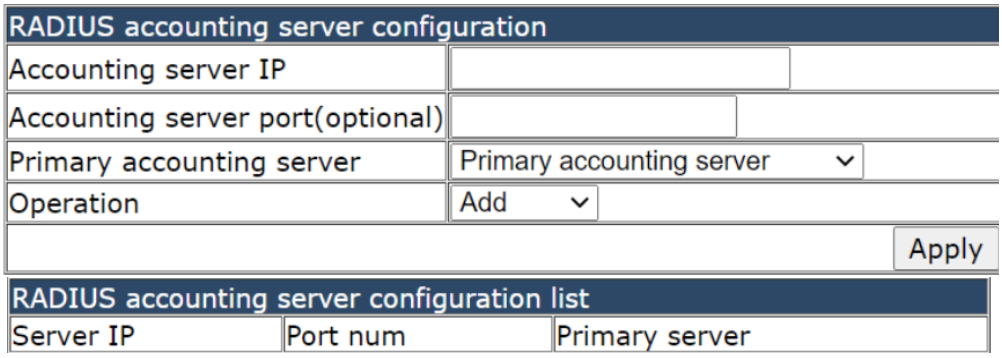
RADIUS authentication configuration module, users in this module can configure the RADIUS authentication server.



Authentication server IP	The address of IPv4 or IPv6 of the radius authentication server	
Authentication server port	Port number of radius authentication server(optional),0-65535	
Primary authentication server	Primary authentication server	Specify radius server as primary authentication server
	Non-Primary authentication server	Specify radius server as non-primary authentication server
Operation	Add	Add operations
	Remove	Delete operations

26.1.3. RADIUS accounting configuration

Radius authentication and accounting module, users in this module can configure the RADIUS billing server.

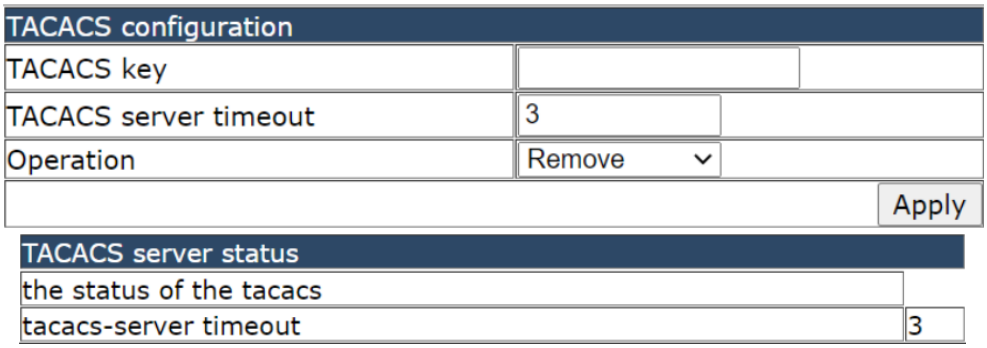


Accounting server IP	Radius authentication server IPv4 or IPv6 address	
Accounting server port	Radius authentication server port number (optional),0-65535	
Primary accounting server	Primary accounting server	Specify radius server as primary accounting server
	Non-Primary accounting server	Specify radius server as non-primary accounting server
Operation	Add	Add operations
	Remove	Delete operations

26.2. TACACS server configuration

26.2.1. TACACS global configuration

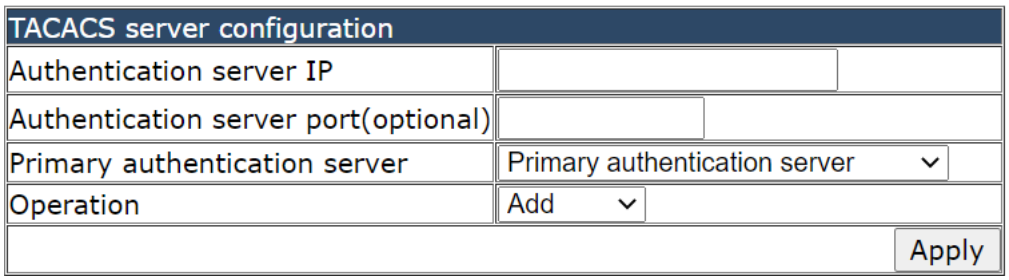
TACACS global configuration module, users in this module can configure the global TACACS function services.



TACACS key	TACACS authentication key ,1-16 characters	
TACACS server timeout	TACACS authentication timeout ,1-60 seconds, default 3 seconds	
Operation	Add	Add operations
	Remove	Delete operations

26.2.2. TACACS server host configuration

TACACS server configuration module, users in this module can configure the TACACS authentication server.



Authentication server IP	TACACS authentication server IPv4 address, decimal point	
Authentication server port	TACACS authentication server port number (optional),0-65535	
Primary authentication server	Primary accounting server	Specify TACACS server as primary accounting server
	Non-Primary accounting server	Specify TACACS server as non-primary accounting server
Operation	Add	Add operations
	Remove	Delete operations

26.3. 802.1x configuration

26.3.1. 802.1x Global configuration

802.1 x Global Configuration Module, users in this module can configure the global 802.1 x function services.

802.1x configuration	
802.1x status	Disable
Maximum retransmission times of EAP-request/identiry	2
Reauthenticate client periodically	Disable
Holddown time for authentication failure	10
Reauthenticate client interval	3600
Resending EAP-request/identity interval	30
EAP relay authentication mode	forbid
Private client	forbid
MAC filtering	forbid
802.1x unicast	Disable
	Apply

802.1x status	Boot or turn off 802.1 x function
Maximum retransmission times of EAP-request/identiry	Scope 1-10
Reauthenticate client periodically	Start or close periodic recertification
Holddown time for authentication failure	Range 1-65535 seconds, default 10 seconds
Reauthenticate client interval	Range 1-65535 seconds, default 3600 seconds
Resending EAP-request/identity interval	Range 1-65535 seconds, default 30 seconds
EAP relay authentication mode	Ban or permit EAP relay authentication
Private client	Prohibit or allow private clients
MAC filtering	Ban or permit MAC address filtering
802.1x unicast	Disable or enable 802.1 x unicast teleport function

26.3.2. 802.1x port authentication configuration

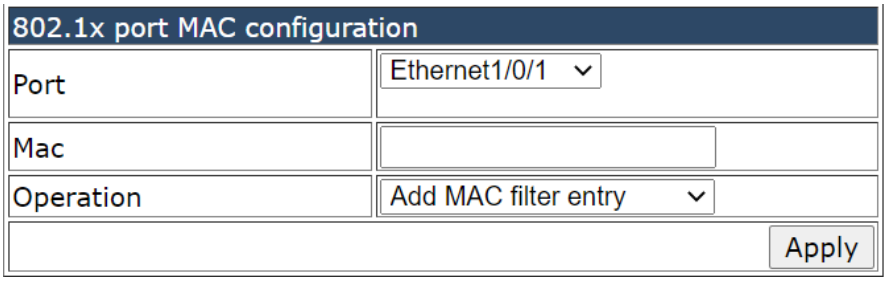
802.1 x port authentication configuration module, in this module, users can configure the 802.1x function of the specified port

802.1x port configuration	
Port	Ethernet1/0/1
802.1x status	Disable
Authentication type	force-unauthorized
Authentication mode	Port-based
Port maximum user	1
Guest VLAN ID	0
	Apply

Port	Designated port number	
802.1x status	Boot or close 802.1 x on this port	
Authentication type	force-unauthorized	Mandatory Unauthorized
	force-authorized	Mandatory authorization
	Auto(802.1x)	automatism (802.1x authorization)
Authentication mode	Port-based	Based on port
	Mac-based	Based on MAC
Port maximum user	Maximum number of users allowed to connect to ports ,1-256, default 1	
Guest VLAN ID	Guest VLAN ,0-4094, default 0	

26.3.3. 802.1x port MAC configuration

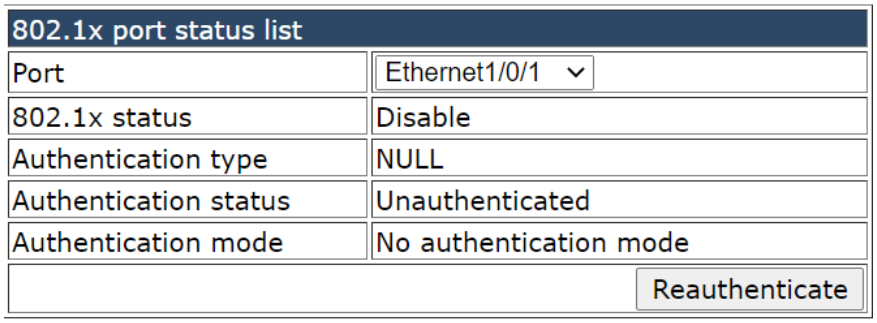
802.1x port MAC configuration module, users in this module can add or delete port 802.1 x functions MAC specified ports.



Port	Specifies the port number
MAC	MAC address to operate
Operation	Add or delete port MAC address filter table items

26.3.4. 802.1x port status list

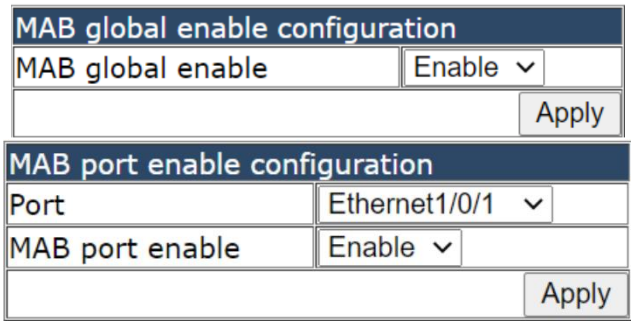
802.1x port MAC status list, the user can view 802.1 status information on x specified port and authenticate 802.1 x in this module.



26.4. MAB configuration

26.4.1. MAB ENABLE configuration

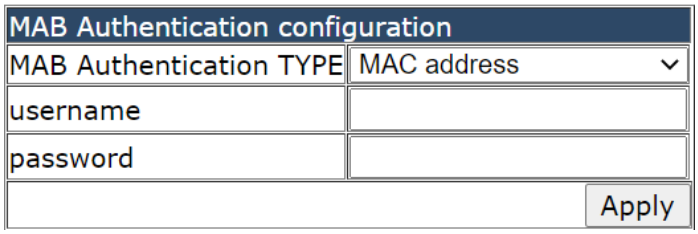
MAB enable configuration module, users in this module can MAB the function of global enable and specified port enable operation.



MAB global enable	Global enable or disable MAB function
Port	Specifies the port number
MAB port enable	Function on or off MAC specified port

26.4.2. MAB Authentication configuration

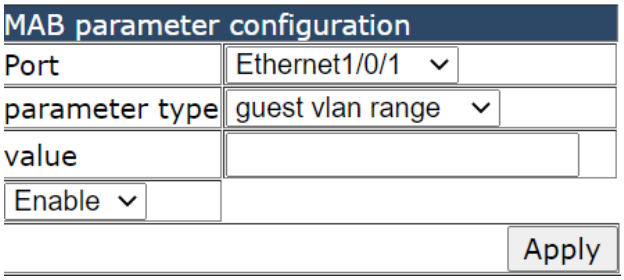
MAB user authentication configuration module, users in this module can configure the MAB user authentication mode.



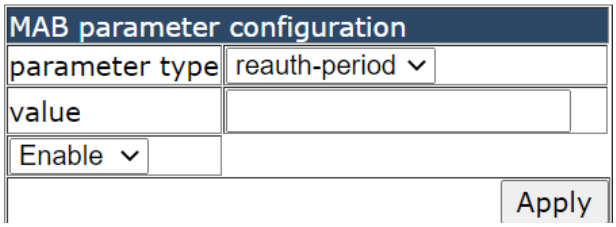
MAB Authentication TYPE	Mac address	Authentication based on MAC address
	Username and password	Authentication based on username and password (to be configured)
username	user name for authentication ,1-32 characters	
password	password for authentication ,1-32 characters	

26.4.3. MAB parameter configuration

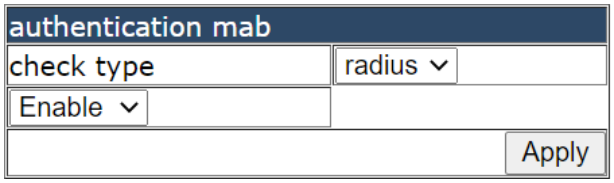
MAB parameter configuration module, users in this module can configure the parameters of the MAB function.



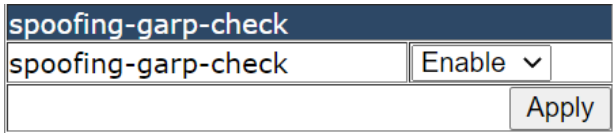
Port	Specify port name	
parameter type	guest vlan range	VLAN operation for guest
	Max binding value	Operation of maximum binding on ports
value	After the parameter type is selected, the corresponding parameter value range can be set	
Enable|Disable	Boot or close port MAB parameter configuration	



parameter type	reauth period	MAB time interval for re-authentication after failed authentication
	Offline-detect	Detect the scan time of each port online status, 0 does not detect
	Quiet-period	Configure the silence time after mAb authentication failure
	Stale-period	Configure the time to delete bound users after the mAb port is closed
	Linkup-period	Configure the restart time range after mAb port shutdown
value	After the parameter type is selected, the corresponding parameter value can be set	
Enable|Disable	Boot or close global MAB parameter configuration	



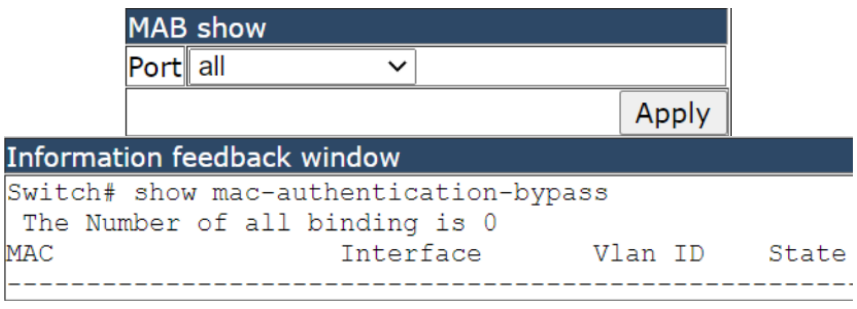
Check type	MAC address authentication uses radius or none to verify user login
Enable|Disable	Start or close validation mode configuration



spoofing-garp-check	Activate or close check fake free ARP configuration

26.4.4. MAB show

MAB display module, users can display mAb status of specified port or all ports in this module

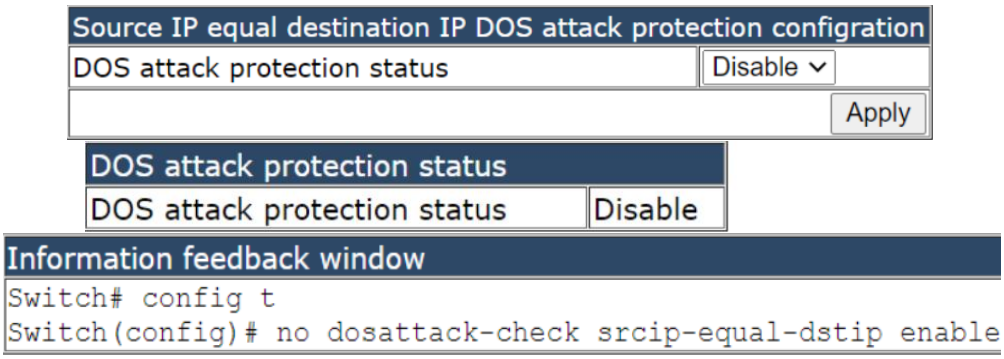


Port	Displays information MAB the specified port or all ports

27. DOS attack protection configration

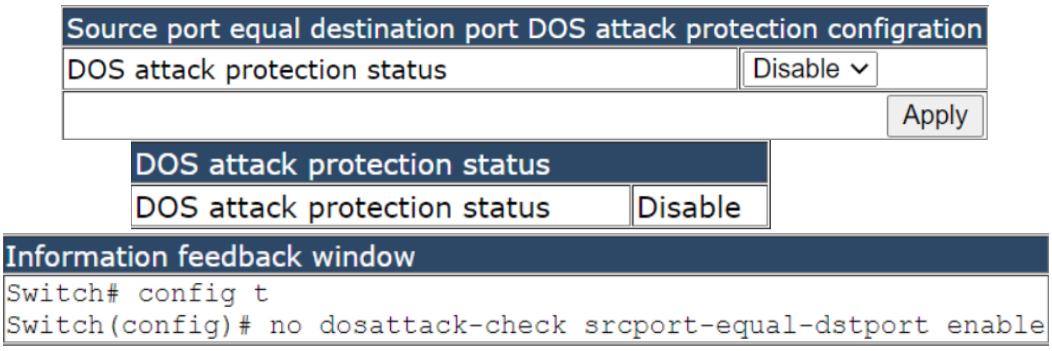
27.1. Source IP equal destination IP DOS attack protection configration

Source IP equal to destination IP anti DoS attack configuration module, the user can start or turn off the DOS attack function IP equal to the destination in this module.



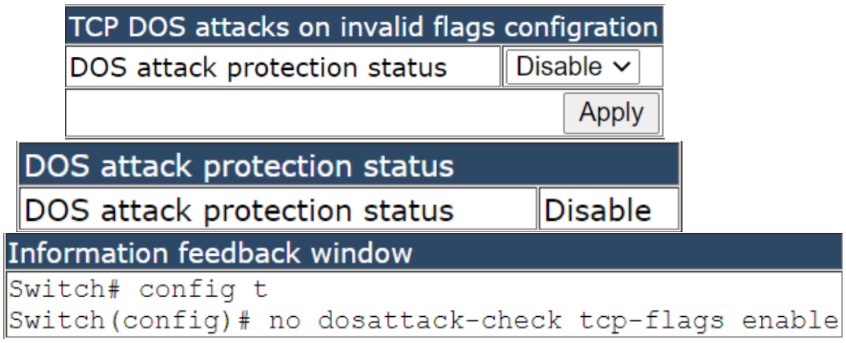
27.2. Source port equal destination port DOS attack protection configration

Source port equal to destination port anti DoS attack configuration module， users in this module can start or close the source port equal to the destination port DOS attack function.



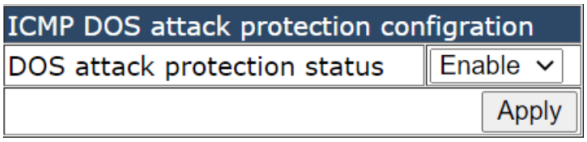
27.3. TCP DOS attacks on invalid flags configration

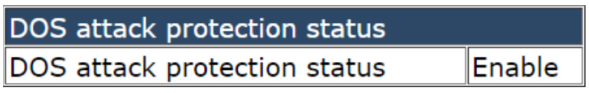
TCP DoS attack invalid flag bit configuration module, users in this module can start or close the DOS attack function to check unauthorized TCP tags.

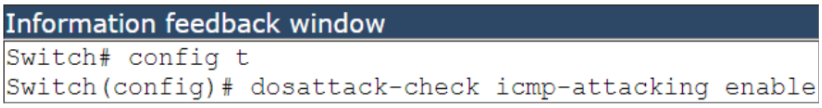


27.4. ICMP DOS attack protection configration

ICMP anti DoS attack configuration module， the user can start or turn off the DOS attack check function of the anti- ICMP fragment in this module.

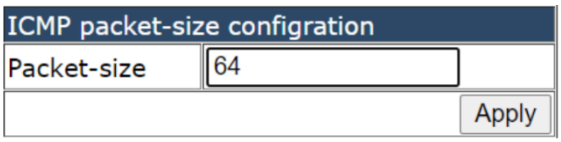


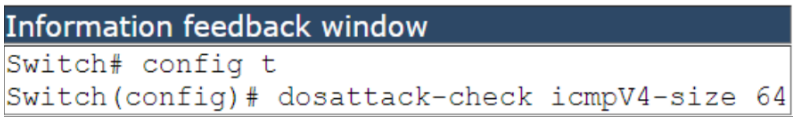




27.5. ICMP packet-size configration

The maximum ICMP message configuration module is allowed, users can configure the maximum net length of icmpv4 packets in this module

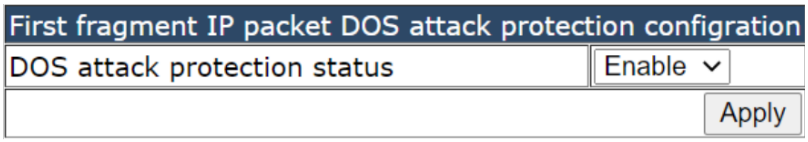


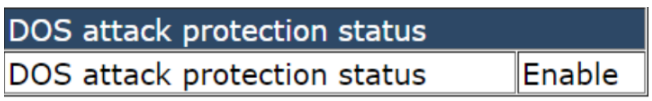


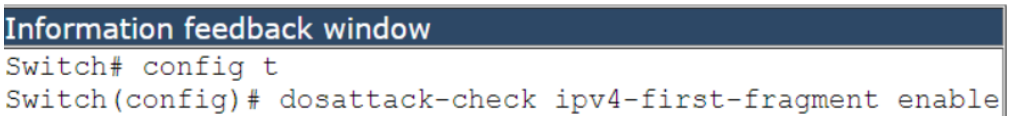
Packet-size	Maximum net length of allowed ICMPv4 packets,64-1023， Default 512

27.6. First fragment IP packet DOS attack protection configration

The first IP packet fragment anti DoS attack configuration module, the user can start or turn off the DOS attack function against the first IP message fragment in this module.



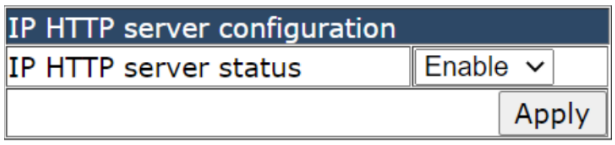


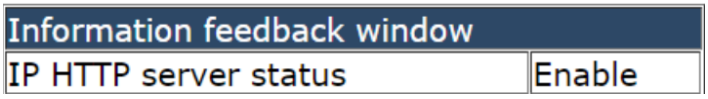


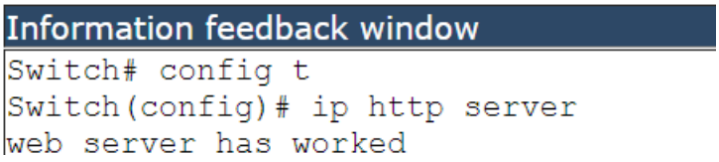
28. SSL config

28.1. IP HTTP server configuration

HTTP server configuration module, the user can start or stop the HTTP service of the switch by using this module again

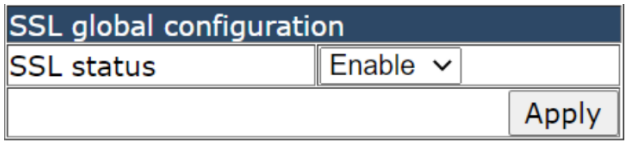


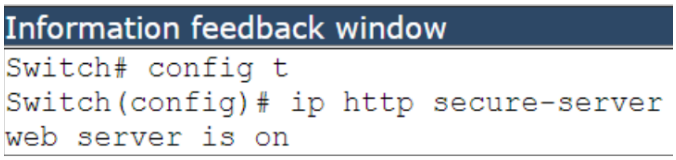




28.2. SSL global configuration

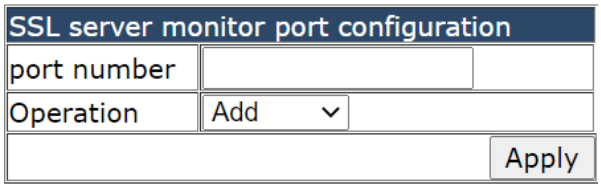
SSL function switch configuration module, users in this module can start or close the switch SSL service function.

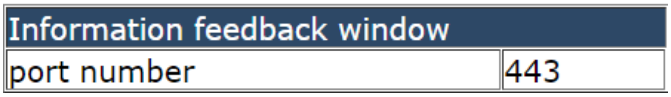




28.3. SSL server monitor port configuration

SSL server monitor port number start configuration module, users can configure SSL server listening port number in this module

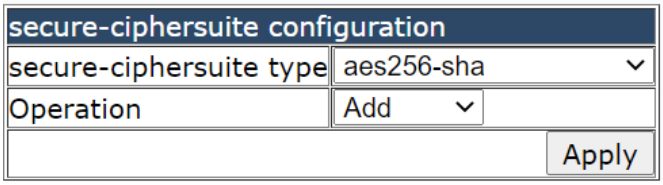


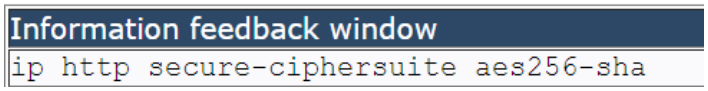


Port	Specifies the port number	
Operation	Add	Add operations
	Remove	Delete operations

28.4. SSL secure-ciphersuite configuration

SSL encryption suite configuration module, users can configure the encryption suite type of SSL service in this module.





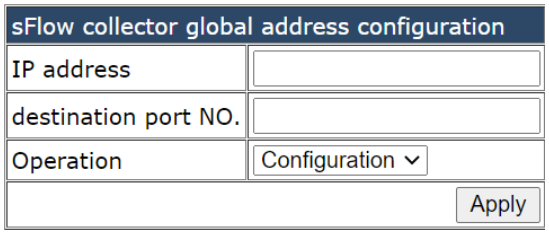
secure-ciphersuite type	aes256-sha	aes256-sha encryption is used
	ecdhe-rsa-aes256-sha	ecdhe-rsa-aes256-sha encryption is used
Operation	Add	Add operations
	Remove	Delete operations

29. sFlow configuration

29.1. sFlow collector global address configuration

This page can be used to configure the global sFlow analyzer address.

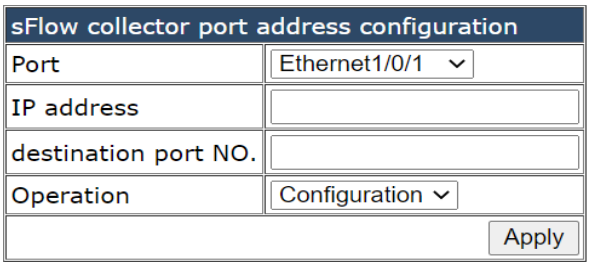
To display the “sFlow collector global address configuration” page， sFlow configuration->sFlow collector global address configuration， click "Apply" to configure.



entry	describe
IP address	sFlow Analyzer Address
Destination port NO.	Range between 1025 and 65535
Operation	Configuration： User self-configuration Default： Restore default configuration

29.2. sFlow collector port address configuration

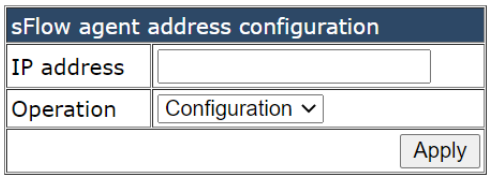
This page can be used to configure port sFlow analyzer address.
To display the “sFlow collector port address configuration” page， sFlow configuration->sFlow collector port address configuration， click "Apply" to configure.



entry	describe
Port	Ethernet port number
IP address	sFlow Analyzer Address
Destination port NO.	Range between 1025 and 65535
Operation	Configuration： User self-configuration Default： Restore default configuration

29.3. sFlow agent address configuration

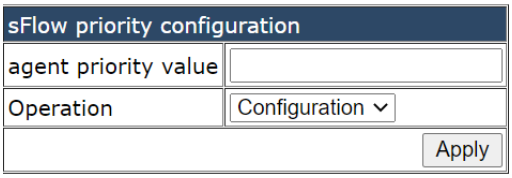
This page can be used for sFlow agent configuration.
To display the “sFlow agent address configuration” page， sFlow configuration->sFlow agent address configuration， click "Apply" to configure.



entry	describe
IP address	sFlow agent address
Operation	Configuration： User self-configuration Default： Restore default configuration

29.4. sFlow priority configuration

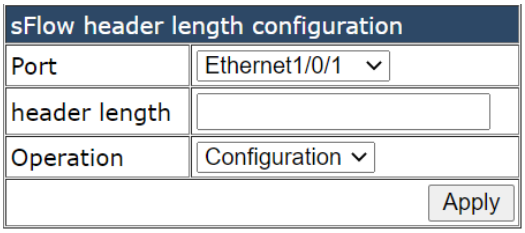
This command is used to set the priority of the sample message.
To display the “sFlow priority configuration” page， sFlow configuration->sFlow priority configuration， click "Apply" to configure.



entry	describe
agent priority value	Range :0-3
Operation	Configuration： User self-configuration Default： Restore default configuration

29.5. sFlow header length configuration

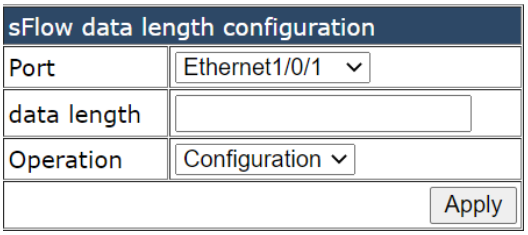
This page can be used to configure the length of header packets copied in sFlow data sampling.
To display the “sFlow header lengh configuration” page， sFlow configuration->sFlow header lengh configuration， click "Apply" to configure.



entry	describe
Port	Ethernet port name
header length	Length range :32-256
Operation	Configuration： User self-configuration Default： Restore default configuration

29.6. sFlow data length configuration

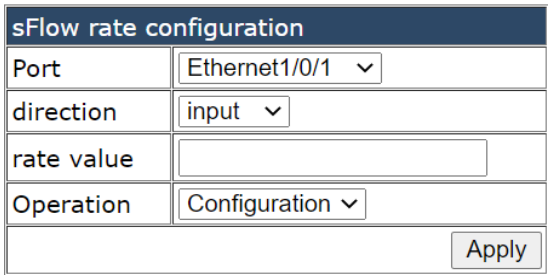
This page is used to configure sflow packet length.
To display the “sFlow header lengh configuration” page， sFlow configuration->sFlow data lengh configuration， click "Apply" to configure.



entry	describe
Port	Ethernet port name
data length	Length range :500-1470
Operation	Configuration： User self-configuration Default: restore default configuration, default value is 1400

29.7. sFlow rate configuration

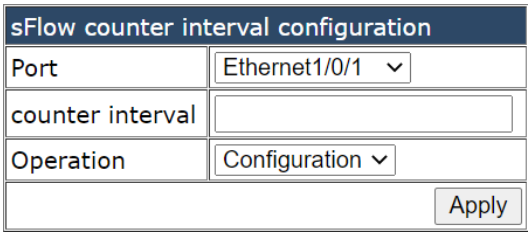
This page can be used to configure port hardware sampling rates.
To display the “sFlow rate configuration” page， sFlow configuration->sFlow rate configuration， click "Apply" to configure.



entry	describe
Port	Ethernet port name
direction	Input：receive data Output：send data
rate value	Rate range :1000-16383500
Operation	Configuration： User self-configuration Default： Restore default configuration

29.8. sFlow counter interval configuration

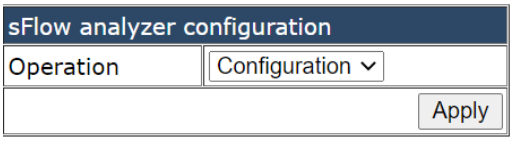
This page can be used to configure sFlow statistical sampling intervals.
To display the “sFlow counter interval configuration” page， sFlow configuration->sFlow counter interval configuration， click "Apply" to configure.



entry	describe
Port	Ethernet port name
counter interval	Sampling interval range :20-120
Operation	Configuration： User self-configuration Default： Restore default configuration

29.9. sFlow analyzer configuration

This page can be used for globally enabled sFlow analyzers.
To display the “sFlow analyzer configuration” page， sFlow configuration->sFlow analyzer configuration， click "Apply" to configure.

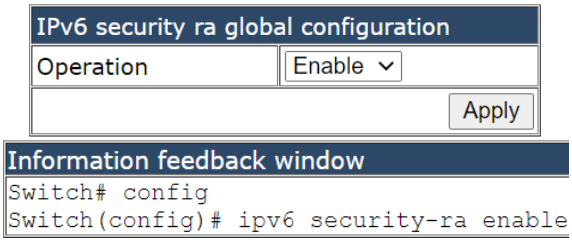


entry	describe
Operation	Configuration： Function Enable Remote： Function disabled

30. IPv6 security ra configuration

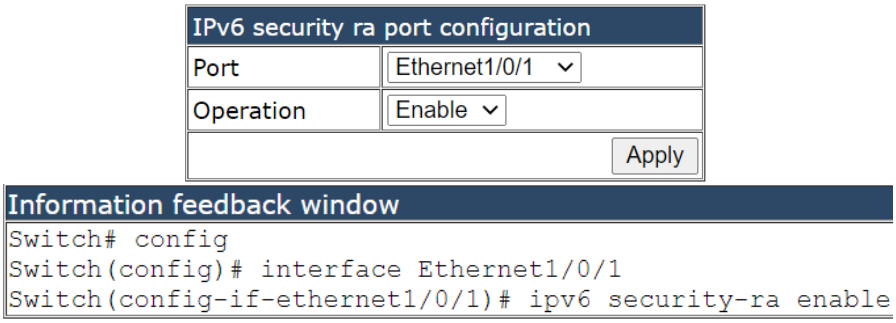
30.1. IPv6 security ra global configuration

Launch the global IPv6 security RA module, the user can start or close the global IPv6 security RA function in this module.



30.2. IPv6 security ra port configuration

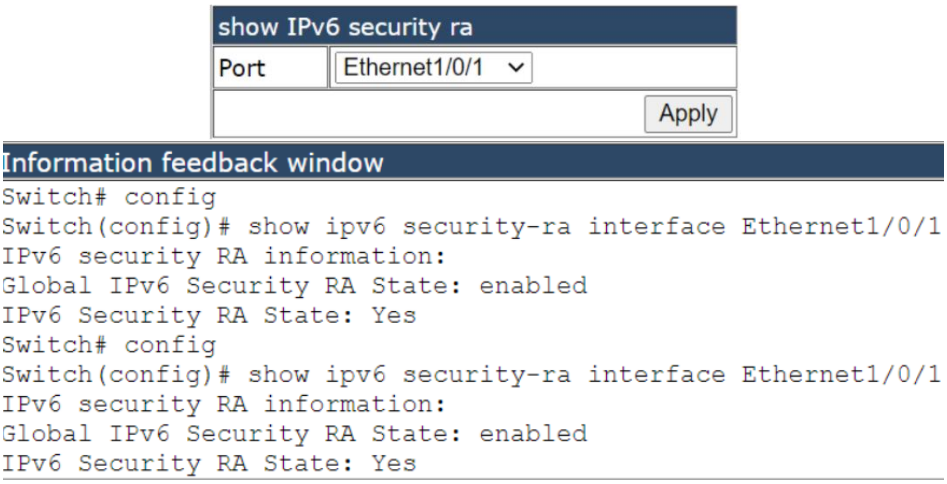
Start port IPv6 security RA module, the user can start or close the security RA function IPv6 the specified port in this module.



Port	Specifies the port number	
Operation	Enable	Start operation
	Disable	Close operation

30.3. Show IPv6 security ra

Show IPv6 security RA configuration module, the user can display the specified port or global IPv6 security RA function configuration information in this module.

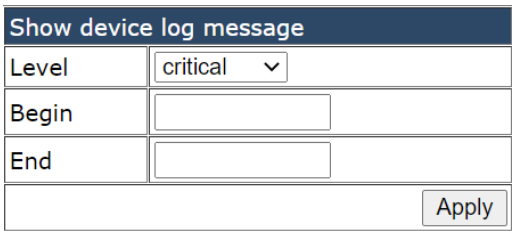


Port	Specifies the port number ALL represents all

31. Device log message

31.1. Show device log message

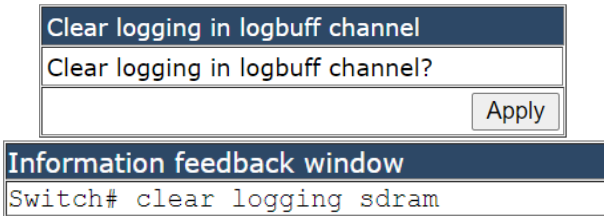
View device log information module, where users can view system key logs and warning logs.



Level	critical	Key-level log information
	warnings	Warning Level Log Information
Begin	To see where the log information starts	
End	To see the end location of the log information	

31.2. Clear logging in logbuff channel

Clears all log message modules in the buffer, users in this module can clear all log messages in the buffer.



CE Mark Warning: This is a Class A product. In home environment, this product may cause radio interference. In this case, the user may be required to take appropriate measures.

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